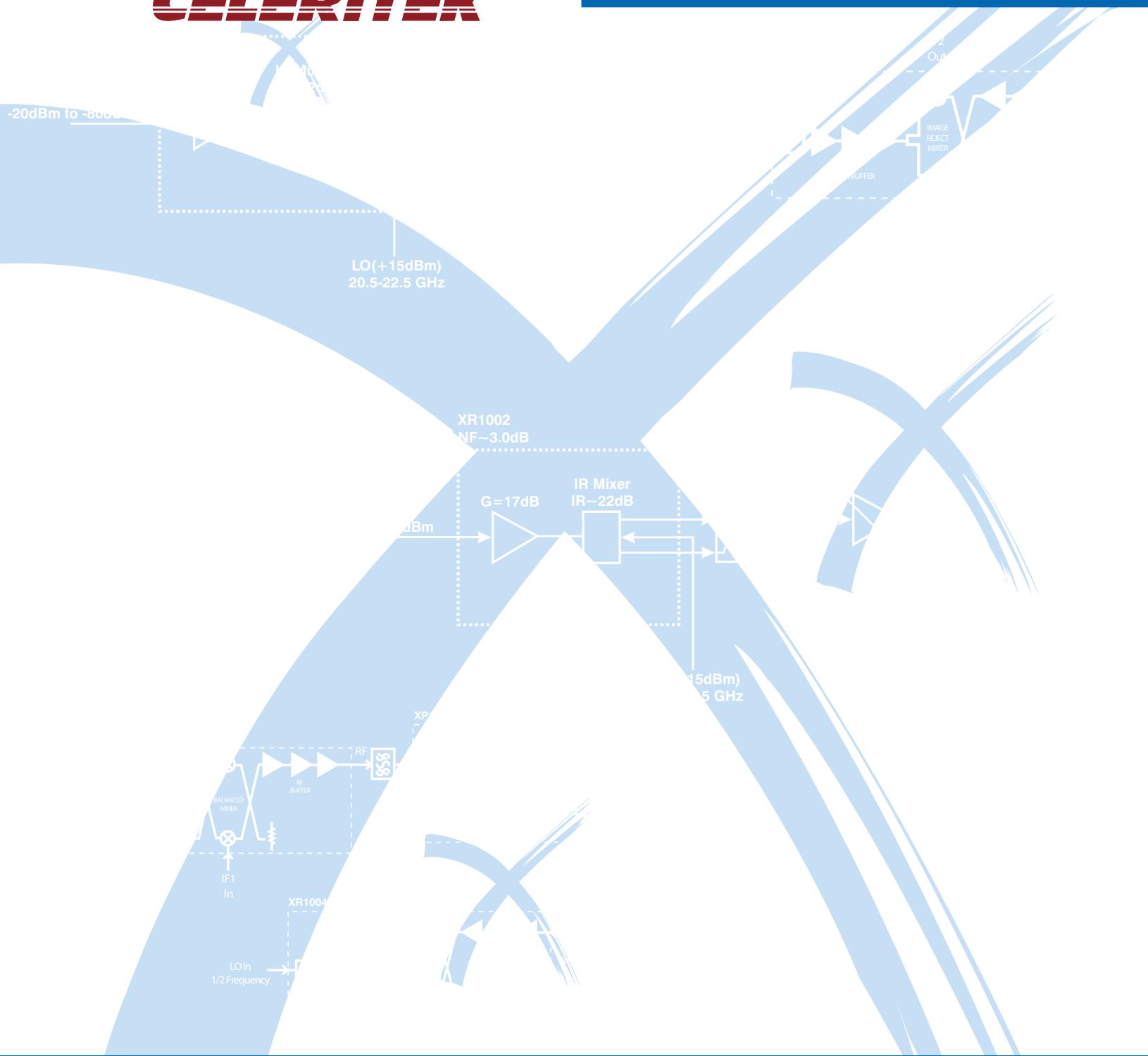


# Mimix

## BROADBAND™

**Celeritek**

May 2006 Short-Form Product Catalog



GaAs Semiconductors

# ABOUT Us

Mimix Broadband, Inc. designs, develops and supplies high performance gallium arsenide (GaAs) semiconductors from DC to 50 GHz for microwave and millimeter-wave wireless communications applications -

**XR1002**  
**NF~3.0dB**

as bare die or in surface mount packages. Our team of world-class technologists has focused on the development of state-of-the-art semiconductors for the last decade. We leverage strategic partnerships for manufacturing, in order to expedite the time-to-market cycle and meet market requirements. Due in part to our recent acquisition of Celeritek, we offer a highly diversified product line that serves the top tier telecom, satellite and defense companies.

**LO(+15dBm)**

**20.5-22.5 GHz**

**Mimix leverages our design capabilities in complete communications systems with semiconductor device expertise to deliver innovative solutions for the most challenging applications.**

## Our Expanded GaAs Solutions -

In 2005 Mimix acquired Celeritek, a supplier of monolithic microwave integrated circuits (MMICs), FETs, low noise amplifiers, gain blocks and power amplifier modules for the semiconductor components market using GaAs based device technology. This acquisition significantly enhanced our product breadth and depth and increased our technical capabilities in designing and packaging semiconductors. The combination of these two companies doubled our size and capability, making Mimix a leading GaAs supplier in the microwave and millimeter-wave industries.

**XR1002**  
**NF~3.0dB**

Using a customer-intimate model of product and technology development, Mimix not only markets standard catalog products, but also designs custom devices that achieve our customers' specifications.

## Products for a Variety of Applications -

Mimix offers a variety of products for telecommunications, satellite and defense applications. Our broad product offering includes: 3-Chip Solutions for digital microwave radio; best in class amplifiers for cellular base stations; broadband MMICs,

FETs and gain blocks for military applications; and

**LO(+15dBm)**

**23.5-25.5 GHz**

Ka-band and Ku-band packaged amplifiers and handset RF modules for satellite communications. We have also developed power amplifiers for the emerging WiMAX market.

**Atten=0-12dB**

**Our Value Proposition** - Mimix has many unique and distinct qualities, which differentiate our company. Most importantly, we combine our background in systems design with semiconductor device expertise to deliver industry-leading, high power and highly integrated GaAs semiconductors from DC to 50 GHz.

Using this expertise, Mimix provides revolutionary solutions to meet the market's requirements with our innovative GaAs IC technology. Our semiconductor devices offer greater power over a broader frequency range, place more functionality on a single chip, and achieve best in class low noise performance. We provide complete semiconductor solutions, such as entire power amplifier modules, 3-Chip Transceiver Solutions and low cost packaging. Our MMIC chipset solutions significantly reduce the cost of semiconductors and even more dramatically lower the variability and cost of manufacturing these high frequency transceivers.

**LO(+15dBm)**

**20.5-22.5 GHz**

We also supply reliable and cost effective packaged solutions that meet the demands of today's bandwidth-hungry network. Mimix packaged solutions deliver what it takes to meet the challenge of cost effective integration from concept to market.

## Value-added Services -

Our ISO 9001 registered facilities have state-of-the-art laboratories to extensively test our GaAs ICs to our customers' specifications for guaranteed performance of our products. Our test capability covers from DC to 50 GHz and includes automated and semi-automated testing and handling of MMIC, module and sub-assembly products.

**LO(+15dBm)**  
**20.5-22.5 GHz**



# TABLE OF CONTENTS

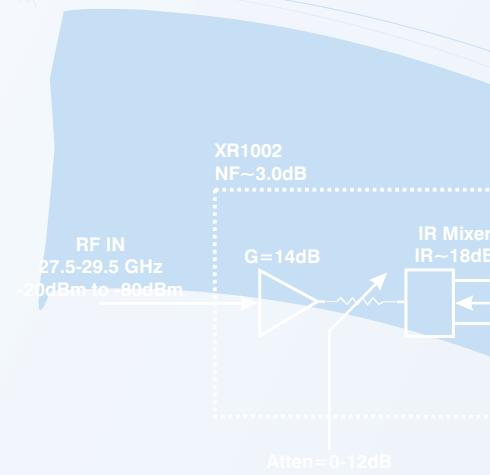
|   |     |
|---|-----|
| <b>About Us</b>                                       | .0  |
| <b>About this Catalog</b>                             | .2  |
| <b>Product Applications Features &amp; Index</b>      | .3  |
| Infrastructure  | .3  |
| Point-to-Point  | .5  |
| SatCom  | .7  |
| Defense   | .9  |
| <b>Products</b>                                       | .11 |
| Buffer Amplifiers                                     | .11 |
| Distributed Amplifiers                                | .12 |
| Gain Blocks   | .13 |
| Low Noise GaAs FETs                                   | .14 |
| Low Noise Amplifiers / Mixers                         | .15 |
| Multipliers / Oscillators                             | .16 |
| Prescalers / Power GaAs FETs                          | .17 |
| Power Amplifiers                                      | .18 |
| Receivers   | .20 |
| Transmitters  | .21 |
| Miscellaneous Control Circuits                        | .21 |
| Attenuators   | .21 |
| Phase Shifters  | .21 |
| Switches  | .21 |
| <b>RoHS Program</b>                                   | .22 |
| <b>Packaging Outlines</b>                             | .23 |
| <b>Handling &amp; Assembly Information</b>            | .25 |
| <b>Evaluation Modules</b>                             | .26 |
| <b>Ordering Information</b>                           | .27 |
| <b>Our Markets</b>                                    | .28 |
| <b>Sales Reps &amp; Distributors</b>                  | .29 |
| <b>Company Contact Information</b>                    | .32 |
| <b>Our Commitment to Quality and Customer Support</b> | .33 |

# ABOUT THIS CATALOG

To help you select and design with Mimix Broadband's GaAs semiconductors, this catalog contains detailed product specifications.

The catalog is divided into sections:

- ✗ About Us
- ✗ About this Catalog
- ✗ Product Applications Features & Index
- ✗ Products
- ✗ RoHS Program
- ✗ Packaging Outlines
- ✗ Handling & Assembly Information
- ✗ Evaluation Modules
- ✗ Ordering Information
- ✗ Our Markets
- ✗ Sales Reps & Distributors
- ✗ Company Contact Information
- ✗ Our Commitment to Quality and Customer Support



Complete datasheets, application notes, Terms and Conditions of sales, and more can be found on our website:

[www.mimixbroadband.com](http://www.mimixbroadband.com).

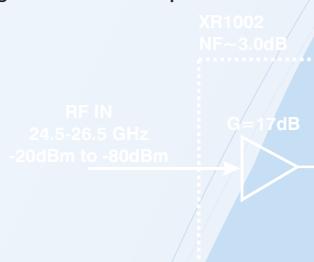
## Our Product Categories

As we strive to provide extensive applications engineering support and customer service, the product development categories for our devices should help design engineers understand our nomenclature.

**■ Production Devices:** Devices produced in high volume with extensive test results. Samples are available by request. Devices are available for delivery from stock-2 weeks ARO. If not available from stock, additional devices can be available 6-8 weeks ARO.

**■ Pre-production Devices:** These devices have been characterized from prototype wafers. Samples are generally available in small quantities by request. Production quantities can be available within 8-12 weeks, and a minimum order may apply.

*Mimix is continuously designing new parts for improved performance and lower cost. From time to time, parts may be upgraded to a new part that is pin-for-pin compatible. Adequate notice and samples will be supplied to existing customers.*



# PRODUCT FEATURES - INFRASTRUCTURE

Leveraging our component and integration experience allows Mimix to provide low cost GaAs semiconductor products to equipment designers that can also significantly reduce board space. Our infrastructure offerings include: gain blocks, linear PAs, LNAs and drivers. Each component covers a wide range of frequencies making them ideal for current or next generation:

- ✗ 2.5 or 3G Base Stations
- ✗ WiMAX
- ✗ Wireless Routers

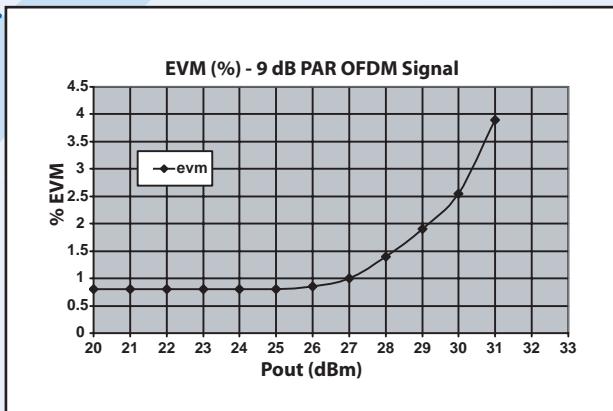
- ✗ Wireless Local Loop (WLL)
- ✗ ISM
- ✗ Broadband Wireless Access

- ✗ Telemetry
- ✗ CATV
- ✗ More!

## New Product Feature for WiMAX: CHV2710

The CHV2710 operates with unique matching at each of the popular WiMAX bands with the inherent repeatability of an InGaP HBT process. Features include:  $ic$  Range=60 dB

- ✗ Internally Matched HBT Device
- ✗ 2.5% EVM at 30 dBm – PAR = 9 dB
- ✗ 40 dBc IMD3 @ 30 dBm/tone
- ✗ 10 dB Nominal Gain
- ✗ Single Bias Supply – 12V
- ✗ Quiescent Current Adjust using Vcntrl
- ✗ Package – QFN 6x6 mm



## Additional WiMAX Product Highlights:

| Description         | Part Number           | Frequency (GHz) | Gain (dB)    | Gain Flatness (dB) | Output P1dB (dBm) | OIP3 (dBm)     | Bias (mA @ V) | Rth Deg/W | Package      |
|---------------------|-----------------------|-----------------|--------------|--------------------|-------------------|----------------|---------------|-----------|--------------|
| Power Amplifier     | CHV2710               | 2.4-2.7         | 10.0         | +/- 0.5            | +37.0             | +51.0          | 550 @ 12.0    | 7         | -QJ (6x6 mm) |
| Power Amplifier     | CHV2711               | 3.4-3.6         | 10.0         | +/- 0.5            | +37.0             | +51.0          | 550 @ 12.0    | 7         | -QJ (6x6 mm) |
| Low Noise Amplifier | XL1006                | 4.9-6.0         | 10.0<br>15.0 | +/- 0.5            | +1.0              | -              | 7.5 @ 3.0     | -         | -QT (3X3 mm) |
| Low Noise Amplifier | XL1007                | 4.9-8.0         | 12.0         | +/- 0.75           | +8.5              | -              | 33 @ 3.0      | -         | -QT (3X3 mm) |
| Low Noise Amplifier | CDQ0303               | DC-10.0         | 23.5         | NF=0.2             | +17.0             | +32.0          | 50 @ 3.0      | -         | -QS          |
| Low Noise Amplifier | CFS0303               | DC-10.0         | 22.4         | NF=0.2             | +17.0             | +32.0          | 60 @ 3.0      | -         | -SB          |
| Driver Amplifier    | CMM0511               | 5.0-11.0        | 20.0         | +/- 1.1            | +12.0             | -              | 75 @ 6.0      | -         | -QT (3x3mm)  |
| Gain Block          | CDQ6004 (per channel) | 0.05-4.0        | 16.5         | NF=2.1             | +23.0             | +41.0 (+44.0*) | 150 @ 5.0     | 52        | -QS          |
| Gain Block          | CGB7389               | DC-2.7          | 23.5         | -                  | +13.0             | +40.5          | 115 @ 5.0     | 35        | -SC          |
| Gain Block          | CGB7014               | DC-8.0          | 23.9         | +/- 3.0            | +20.0             | +35.3          | 78 @ 5.0      | 80        | -SC          |

\*balanced configuration

For the complete list of Mimix Infrastructure Products see page 4.

■ Production Devices

■ Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

# PRODUCT INDEX - INFRASTRUCTURE

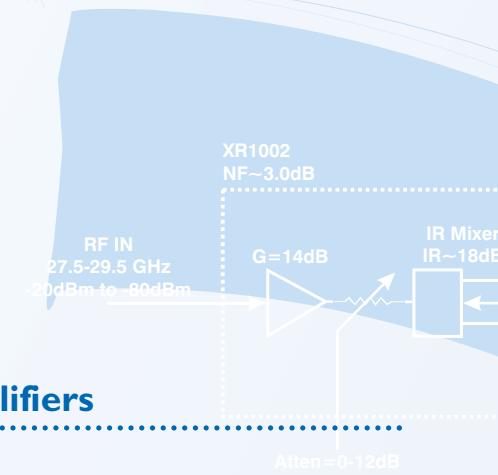
## Gain Blocks / Buffer Amplifiers

CGB7001  
CGB7003  
CGB7004  
CGB7005  
CGB7006  
CGB7007  
CGB7008  
CGB7009  
CGB7010  
CGB7011  
CGB7012  
CGB7014  
CGB7015  
CGB7016  
CGB7017  
CGB7289  
CGB7389  
CMM0511-QT  
CMM1200  
CMM-2  
CMM2306-AJ  
CMM2308-AJ  
CMM-5  
CMM6001-SC  
CMM6003-SC  
CMM6004-AH  
CDQ6004-QS  
CMM6004-SC  
CMM-9



## Low Noise GaAs FETs, Packaged

CDQ0303-QS  
CFB0101  
CFB0103  
CFB0301  
CFB0303  
CFK0301  
CFP0103-SP  
CFP0303-SP  
CFS0103-SB  
CFS0303-SB



## Low Noise Amplifiers

CMMI100  
CMMI100-QT  
CMMI110  
CMM4000  
XL1006-QT  
XL1007-QT



## Power GaAs FETs, Packaged

CFH2162-PI  
CFH2162-P3  
CFH2162-P5  
CFK2062-PI  
CFK2062-P3  
CFK2062-P5  
CFK2162-PI  
CFK2162-P3  
CFK2162-P5



## Power Amplifiers

CHV2710-QJ  
CHV2711-QJ  
CMM3566-LC

## Low Noise GaAs FETs, Die

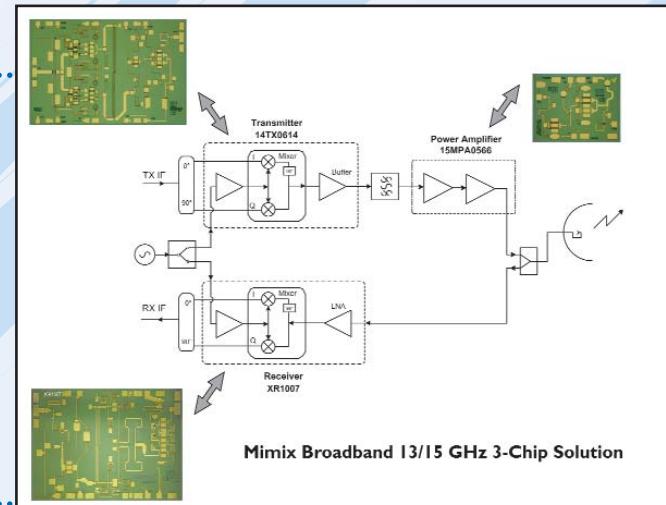
CF001-01  
CF001-03  
CF003-01  
CF003-03  
CF004-01  
CF004-03  
CF007-01

# PRODUCT FEATURES - POINT-TO-POINT

New wireless mobile services and the evolution of interactive media services are driving demand for higher bandwidths and data rates in backhaul telecommunications systems, along with lower costs. MMIC chipsets for providers of point-to-point and point-to-multipoint systems form a large part of the cost. Mimix combines our semiconductor device expertise and communications systems background to offer our innovative 3-Chip Transceiver Solution, consisting of a transmitter, receiver and power amplifier, that lowers material and assembly costs and increases reliability and manufacturability of products.

## New Product Feature: 13/15 GHz 3-Chip Solution

- Printed
- ✓ Lowers Cost & Variability of Transceivers
- ✓ Uses Fewer Parts & Smaller Footprint Area
- ✓ Well-Suited for Wireless Communications Applications
- ✓ Integrates Many Functions into Single MMIC
- ✓ Increases Performance & Functionality
- ✓ Combines Highly Integrated Receiver, Up-Converter & Power Amplifier to Meet Requirements for Complete Transceiver



## Additional Product Highlights, Packaged Devices:

### Doublers

| Description   | Part Number | RF In (GHz) | RF Out (dB) | Pin (dBm) | Pout (dBm) | Bias (mA @ V)         | Package      |
|---------------|-------------|-------------|-------------|-----------|------------|-----------------------|--------------|
| Doubler (QFN) | XX1000-QT   | 7.5-22.5    | 15.0-45.0   | +6.0      | +15.0      | 200 @ 5.0 / 25 @ -2.0 | -QT (3x3 mm) |

### Receivers & Transmitters

| XU1004                |             |                    |                    |                    |                      |                   |                       |                      |                   |                  |                     |
|-----------------------|-------------|--------------------|--------------------|--------------------|----------------------|-------------------|-----------------------|----------------------|-------------------|------------------|---------------------|
| Description           | Part Number | RF Frequency (GHz) | LO Frequency (GHz) | IF Bandwidth (GHz) | Conversion Gain (dB) | Noise Figure (dB) | Image Rejection (dBc) | LO Input Power (dBm) | Output P1dB (dBm) | Output IP3 (dBm) | Bias (mA @ V)       |
| Receiver (7x7 mm QFN) | XR1007-QD   | 11.0-17.0          | 8.0-20.0           | DC-3.0             | 13.5                 | 2.5               | 20.0                  | +3.0                 | -                 | -                | 150 @ 5.0           |
| Receiver (7x7 mm QFN) | XR1006-QD   | 18.0-25.0          | 7.0-11.5           | DC-3.0             | 8.0                  | 3.0               | 15.0                  | +2.0                 | -                 | -                | 250 @ 4.0           |
| Receiver (7x7 mm QFN) | XR1005-QD   | 19.0-26.0          | 8.0-14.5           | DC-3.0             | 8.0                  | 3.0               | 20.0                  | +2.0                 | -                 | -                | 250 @ 4.0           |
| Transmitter (QFN)     | XU1002-QD   | 18.0-25.0          | 7.0-11.5           | DC-3.0             | 10.0                 | LO In Frequency   | +2.0                  | +12.0                | +20.0             | 350 @ 4.0        | IR Mixer<br>IR~22dB |
| Transmitter (QFN)     | XU1003-QD   | 19.0-26.0          | 8.0-14.5           | DC-3.0             | 10.0                 | -                 | +2.0                  | +12.0                | +20.0             | 350 @ 4.0        | IR Mixer<br>IR~22dB |

### Power Amplifiers

| Description     | Part Number  | Frequency (GHz) | Gain (dB) | Gain Flatness (dB) | Output P1dB (dBm) | OIP3 (dBm) | Bias (mA @ V) | Package      |
|-----------------|--------------|-----------------|-----------|--------------------|-------------------|------------|---------------|--------------|
| Power Amplifier | XP1013-QD    | 17.0-26.0       | 19.0      | +/- 2.0            | +23.0 (Psat)      | -          | 320 @ 6.0     | -QD (7x7 mm) |
| Power Amplifier | 15MPA0566-QE | 11.0-19.0       | 19.0      | +/-1.0             | +26.0 (Psat)      | -          | 380 @ 5.0     | -QE (3x3 mm) |

For the complete list of Mimix Point-to-Point Products see page 6.

■ Production Devices

■ Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

# PRODUCT INDEX - POINT-TO-POINT

## Buffer Amplifiers

CMM4000  
XB1002  
XB1004  
XB1005  
XB1006

## Low Noise Amplifiers

CMM1100  
CMM1100-QT  
CMM1110  
XB1004  
XB1005  
XL1003  
XL1004  
XL1005

## Mixers

18KWR0327  
22IRM0324  
26BAM0545  
27IRM0339  
38IRM0363  
40IRM0540  
XM1000  
XM1001  
XM1002

## Multipliers

I2DBL0409  
20DBL0451  
20DBL0629  
20DBL0629-QB  
30DBL0537  
30DBL0537-QC  
XX1000  
XX1000-QT  
XX1002  
XX1002-QH

## Oscillators

6OSC0460  
6OSC0461

7OSC0462  
7OSC0463  
8OSC0464  
14OSC0501  
15OSC0502

## Prescalers & Dividers

8SDV0500

## Power Amplifiers

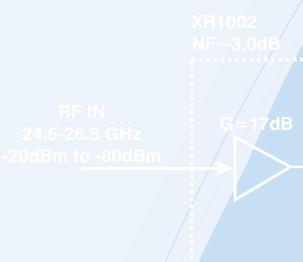
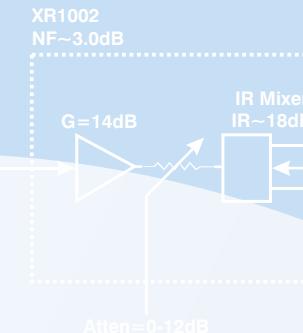
15MPA0566  
18MPA0567  
20DBL0629  
28MPA0304  
29MPA0373  
44MPA0478  
  
XP1000  
XP1003  
XP1005  
XP1008  
XP1009  
XP1010  
XP1011  
XP1012  
XP1013  
XP1013-QD  
XP1015  
XP1016  
XP1018  
XP1019

## Receivers

26REC0689  
XR1000  
XR1001  
XR1002  
XR1004  
XR1004-QB  
XR1005  
XR1005-QD  
XR1006  
XR1006-QD  
XR1007  
XR1007-QD

## Transmitters

14TX0614  
26TX0555  
26TX0684  
27TRX0357  
38TX0688  
XUI1000  
XUI1001  
XUI1002 RF IN 27.5-29.5 GHz -80dBm  
XUI1002-QD Atten=0-12dB  
XUI1003  
XUI1003-QD  
XUI1004



# PRODUCT FEATURES - SATCOM

In the past several years, a number of companies have developed satellite-based commercial communications systems that provide voice and data services across large geographic areas. While some services have provided global communications for many years, the required equipment has traditionally been bulky and expensive, limiting their applications to high-priority use. A new breed of satellite communications systems promises to bring receiver equipment, services and costs into the same realm as today's ground-based service providers. The high power and low noise requirements of satellite communications applications are well served by our industry-leading product offerings.

## New Product Feature for Ku-Band: CMQ1432-QH

- Printed
- +32 dBm Saturated Power Amplifier
- 32 dB Linear Gain
- On-Chip ESD Protection
- Unconditionally Stable
- AGC Control
- Low Cost, Surface Mount Package
- 4x4x1.4 mm
- 7V, 770 mA
- 23.5-25.5 GHz

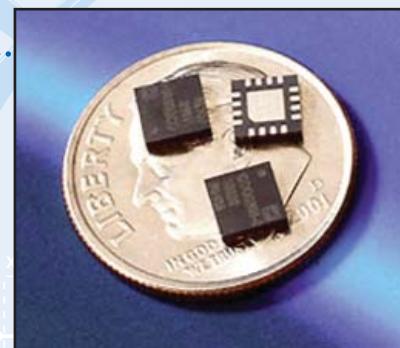
**X** RoHS



## New Product Feature for Ku-Band: CMM1118-QT

- 20 dB Gain Driver Amplifier
- +14 dBm P1dB
- 3x3 QFN Package
- Single Power Supply
- 5-7 V, 90 mA Self Bias
- On-Chip ESD Protection

**X** RoHS



## Additional Ku-Band & Ka-Band Product Highlights:

| Description                | Part Number | Frequency (GHz) | Gain (dB) | Gain Flatness (dB) | Output P1dB (dBm) | Bias (mA @ V) | Package      |
|----------------------------|-------------|-----------------|-----------|--------------------|-------------------|---------------|--------------|
| Power Amplifier            | CMM1331-SM  | 12.7-13.5       | 30.0      | +/- 0.5            | +31.0 (Psat)      | 770 @ 7.0     | -QH (4x4 mm) |
| Power Amplifier            | CMQ1631-QH  | 13.0-18.0       | 21.0      | +/- 0.5            | +29.0 (Psat)      | 770 @ 7.0     | -QH (4x4 mm) |
| Power Amplifier            | CMM1434-SM  | 13.5-14.5       | 31.0      | +/- 1.0            | +34.5 (Psat)      | 1.5 A @ 6.0   | -SM (6x6 mm) |
| Power Amplifier            | CMM1631-SM  | 16.0-18.0       | 26.0      | +/- 0.5            | +32.0 (Psat)      | 800 @ 7.0     | -SM (6x6 mm) |
| Power Amplifier            | 30SPA0553   | 27.0-32.0       | 22.0      | +/- 1.0            | +33.0             | 1.0 A @ 6.0   | DIE          |
| Power Amplifier (Balanced) | 30SPA0536   | 27.0-33.0       | 21.0      | +/- 1.0            | +35.0 (Psat)      | 2.1 A @ 6.0   | DIE          |

LO In (Local)  
20.5-22.5 GHz

For the complete list of Mimix SatCom Products see page 8.

■ Production Devices

■ Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

# PRODUCT INDEX - SATCOM

## Driver Amplifiers

CMMI100-QT  
CMMI118-QT

## Multipliers

20DBL0629  
20DBL0629-QB  
30DBL00537  
30DBL0537-QC  
XX1000  
XX1002



## Power Amplifiers

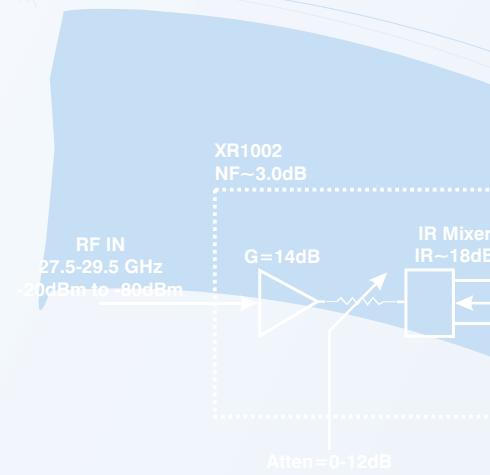
15MPA0566-QE  
28MPA0304  
30MPA0562  
30SPA0536  
30SPA0553  
CMMI331-BD  
CMMI331-SM  
CMMI431-BD  
CMMI431-SM  
CMMI434-BD  
CMMI434-SM  
CMMI631-SM  
CMQ1432-BD  
CMQ1432-QH  
CMQ1631-BD  
CMQ1631-QH

## Receivers

XR1007  
XR1007-QD

## Transmitters

I4TX0614

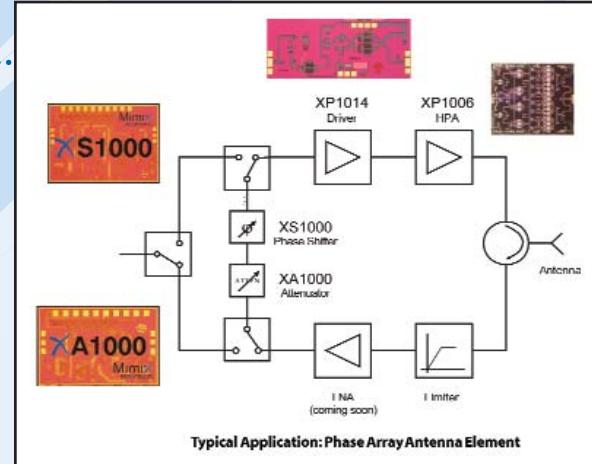


# PRODUCT FEATURES - DEFENSE

Mimix's acquisition of Celeritek in June 2005 allowed us to apply twenty years of product development history to serve the defense and aerospace markets. This is a diverse marketplace, encompassing applications from satellite and signal intelligence to defense systems and aircraft platforms. Mimix has long been a leading supplier of power amplifier MMICs and modules with a tradition of advanced technology and superior quality. Within the next ten years, defense electronics products must satisfy a number of requirements, not the least of which will be high performance at a practical cost. Today, we are able to leverage our volume commercial products and technologies to offer our customers the best overall value in microwave and millimeter-wave ICs, space-qualified devices, and amplifier-based modules.

## New Product Feature: X-Band Radar Chipset

- Cost Competitive, Superior Performance Chipset
- Includes Digital Attenuator, Phase Shifter, Driver & Power Amplifier
- Excellent Linearity Performance
- Low Phase & Attenuation Errors
- XP1006: 10W+ Power Amplifier
- XP1014: 1W Buffer Amplifier to Drive XP1006
- XA1000: Digital Attenuator
- XS1000: Phase Shifter
- Available as Bare Die or in Packages



## Additional Defense Product Highlights:

| Description                         | Part Number | Frequency (GHz) | Gain (dB) | Gain Flatness (dB) | Output P1dB (dBm) | OIP3 (dBm) | Bias (mA @ V)       | Rth Deg/W | Package      |
|-------------------------------------|-------------|-----------------|-----------|--------------------|-------------------|------------|---------------------|-----------|--------------|
| Power Amplifier                     | XP1006      | 8.5-11.0        | 21.0      | +/- 0.5            | +40.0 (Psat)      | -          | 4.2 A @ 8.0         | -         | DIE          |
| Power Amplifier                     | XP1006-FA   | 8.5-11.0        | 21.0      | +/- 0.5            | +40.0 (Psat)      | -          | 4.2 A @ 8.0         | -         | -FA (Flange) |
| Power Amplifier                     | XP1014      | 8.5-11.0        | 18.0      | +/- 1.0            | +31.0 (Psat)      | -          | 450 @ 8.0           | -         | DIE          |
| Low Noise Amplifier (Single Supply) | XL1000      | 20.0-40.0       | 20.0      | +/- 4.0            | -                 | +16.0      | 35 @ 3.0 / 50 @ 5.0 | -         | DIE          |
| Distributed Amplifier               | CMM3020     | .0003-20.0      | 10.0      | +/- 0.5            | +23.0             | +30.0      | 250 @ 8.0           | 18        | DIE          |
| Distributed Amplifier               | CMM0014     | 2.0-22.0        | 11.0      | +/- 0.8            | +24.0             | +37.5      | 300 @ 8.0           | 33        | DIE          |
| Distributed Amplifier               | CMM0015     | 2.0-22.0        | 10.5      | +/- 0.5            | +27.0             | +35.0      | 350 @ 12.0          | 54        | DIE          |
| Power Amplifier                     | CMM0016     | 2.0-22.0        | 10.0      | +/- 0.5            | +29.0             | +37.0      | 690 @ 12.0          | 15        | DIE          |
| Distributed Amplifier               | CMM0618     | 6.0-18.0        | 10.0      | +/- 1.0            | +29.0             | +36.0      | 750 @ 6.0           | -         | DIE          |
| Buffer Amplifier                    | CMM4000     | 2.0-18.0        | 8.0       | +/- 0.5            | +19.0             | +29.0      | 115 @ 5.0           | -         | DIE          |
| Low Noise Amplifier                 | CMM1100     | 2.0-18.0        | 17.0      | +/- 0.5            | +16.0             | +24.0      | 110 @ 5.0           | -         | DIE          |

LO(+15dBm)  
20.5-22.5 GHz

For the complete list of Mimix Defense Products see page 10.

■ Production Devices

■ Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

# PRODUCT INDEX - DEFENSE

## Buffer Amplifiers

CMM0511-QT  
CMM1200  
CMM-2  
CMM4000  
CMM-5  
CMM-9  
CMM9000-QT  
XB1005  
XB1006

## Distributed Amplifiers

22DSBA0423  
CMM0014  
CMM0015  
CMM0016  
CMM0618  
CMM2030  
CMM3020  
CMM3030  
XD1001  
XD1002

## Gain Blocks

CGB7001  
CGB7003  
CGB7004  
CGB7005  
CGB7006  
CGB7007  
CGB7008  
CGB7009  
CGB7010  
CGB7011  
CGB7012  
CGB7014  
CGB7015  
CGB7016  
CGB7017

## Low Noise GaAs FETs, Die

CF001-01  
CF001-03  
CF003-01  
CF003-03  
CF004-01  
CF004-03  
CF007-01

## Low Noise GaAs FETs, Packaged

CDQ0303-QS  
CFB0101  
CFB0103  
CFB0301  
CFB0303  
CFK0301  
CFP0103-SP  
CFP0303-SP  
CFS0103-SB  
CFS0303-SB

## Low Noise Amplifiers

CMM1100  
CMM1100-QT  
CMM1110  
XB1005  
XL1000  
XL1001  
XL1002  
XL1003  
XL1004  
XL1005

## Mixers

18KWR0327  
26BAM0545  
XM1001

## Multipliers

I2DBL0409  
20DBL0451  
XX1000  
XX1000-QT

## Oscillators

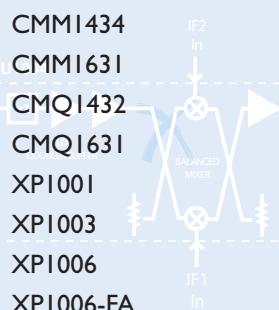
6OSC0460  
6OSC0461  
7OSC0462  
7OSC0463  
8OSC0464  
14OSC0501  
15OSC0502

## Prescalers & Dividers

8SDV0500

## Power Amplifiers

28MPA0304  
29MPA0373  
30MPA0562  
30SPA0536  
30SPA0553  
44MPA0478  
CMM0014  
CMM0015  
CMM0016  
CMM0618  
CMM1331  
CMM1431  
CMM1434  
CMM1631  
CMQ1432  
CMQ1631  
XP1001  
XP1003  
XP1006  
XP1006-FA  
XP1014  
XP1015  
XP1016  
XP1017



## Receivers

26REC0689  
XR1002  
XR1004  
XR1004-QB  
XR1005  
XR1005-QD  
XR1007  
XR1007-QD

## Transmitters

26TX0555  
26TX0684

## Miscellaneous Control Circuits

Digital Attenuators  
XA1000

## Phase Shifters

XS1000

## Switches

CSW0118-BD

## Space Qualified Products

Mimix Broadband offers GaAs MMICs qualified for high reliability applications. To learn more about the standard process adopted by Mimix in qualifying a GaAs MMIC product to Class K reliability level, please request the Space Qualification Process application note from Product Management at 281-988-4600 or visit the website at [www.mimixbroadband.com/spacequal.html](http://www.mimixbroadband.com/spacequal.html).

# BUFFER AMPLIFIERS

Our MMIC Product Matrix contains a snapshot view of our current product line. As Mimix strives to provide extensive applications engineering support and customer service, the product development categories for our MMIC devices should help design engineers understand our nomenclature.

 Production Devices

 Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

To obtain a complete datasheet of any product, please visit [www.mimixbroadband.com](http://www.mimixbroadband.com) or contact us via email at [info@mimixbroadband.com](mailto:info@mimixbroadband.com) to request a copy. For more information call 281.988.4600.

## Buffer Amplifiers

| Description                               | Part Number  | Frequency (GHz) | Gain (dB)   | Gain Flatness (dB) | Noise Figure (dB) | Output P1dB (dBm) | OIP3 (dBm)    | Bias (mA @ V)         | Package | Applications |
|---|--|-----------------|-------------|--------------------|-------------------|-------------------|---------------|-----------------------|---------|--------------|
| Buffer Amplifier / Gain Block             | CMM-5<br>     | 2.0-6.0         | 16.5        | +/- 1.0            | 5.5               | +18.0             | +28.0         | 100 @ 6.0             | DIE     | I / D        |
| Buffer Amplifier / Low Noise / Gain Block | CMM1200<br>   | 2.0-6.0         | 17.5        | +/- 0.5            | 3.3               | +15.5             | +25.5         | 100 @ 5.0             | DIE     | I / D        |
| Buffer Amplifier / Gain Block             | CMM-9<br>     | 2.0-9.0         | 14.5        | +/- 1.1            | 5.5               | +17.0             | +27.0         | 80 @ 6.0              | DIE     | I / D        |
| Buffer Amplifier / Gain Block             | CMM-2<br>    | 2.0-10.0        | 13.0        | +/- 1.1            | 5.5               | +10.0             | +20.0         | 35 @ 8.0              | DIE     | I / D        |
| Buffer Amplifier (Power)                  | CMM4000<br> | 2.0-18.0        | 8.0         | +/- 0.5            | 4.5               | +19.0             | +29.0         | 115 @ 5.0             | DIE     | P / D        |
| Buffer Amplifier / Driver                 | CMM0511<br> | 5.0-11.0        | 20.0        | +/- 1.1            | -                 | +12.0             | -             | 75 @ 6.0              | -QT     | I / D        |
| Buffer Amplifier (Driver/Power)           | CMM1118<br> | 11.0-20.0       | 20.0        | +/- 2.0            | -                 | +14.0             | -             | 90 @ 5.0              | -QT     | S / P / D    |
| Buffer Amplifier (Low Noise/Power)        | XB1004<br>  | 16.0-30.0       | 20.0 / 21.0 | +/- 1.0            | 2.2 / 3.2         | +14.0 / +19.0     | +24.0 / +29.0 | 90 @ 4.0 / 180 @ 6.0  | DIE     | P            |
| Buffer Amplifier (Low Noise/Power)        | XB1006<br>  | 18.0-38.0       | 21.0        | +/- 2.0            | 3.2 / 4.5         | +9.0 / +15.0      | +19.0 / +25.0 | 50 @ 3.5 / 100 @ 5.5  | DIE     | P / D        |
| Buffer Amplifier (Low Noise/Power)        | XB1005<br>  | 35.0-45.0       | 19.0 / 23.0 | +/- 1.0            | 2.7 / 3.7         | +13.0 / +16.0     | +23.0 / +26.0 | 50 @ 3.5 / 154 @ 4.5  | DIE     | P / D        |
| Buffer Amplifier (Low Noise/Power)        | XB1002<br>  | 36.0-43.0       | 24.0        | +/- 2.5            | 4.0               | +14.0 / +17.0     | +24.0 / +27.0 | 110 @ 3.0 / 220 @ 5.5 | DIE     | P            |

 Production Devices

 Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

# DISTRIBUTED AMPLIFIERS

## Distributed Amplifiers

| Description                          | Part Number     | Frequency (GHz) | Gain (dB) | Gain Flatness (dB) | Noise Figure (dB) | Output P1dB (dBm) | OIP3 (dBm) | Bias (mA @ V) | Package | Applications |
|--------------------------------------|-----------------|-----------------|-----------|--------------------|-------------------|-------------------|------------|---------------|---------|--------------|
| Distributed Amplifier                | CMM3020<br>■    | .0003-20.0      | 10.0      | +/- 0.5            | 6.5               | +23.0             | + 30.0     | 250 @ 8.0     | DIE     | D            |
| Distributed Amplifier                | CMM3030<br>■    | .0003-30.0      | 9.0       | +/- 0.5            | 4.5               | +23.0             | + 33.0     | 275 @ 8.0     | DIE     | D            |
| Distributed Amplifier                | CMM2030<br>■    | .0003-32.0      | 12.0      | +/- 0.5            | 4.5               | +18.0             | + 31.0     | 100 @ 5.0     | DIE     | D            |
| Distributed Amplifier (Gain Control) | XD1002<br>■     | 0.05-50.0       | 9.0       | +/- 1.5            | 5.0               | +9.0              | + 17.0     | 120 @ 8.5     | DIE     | D            |
| Distributed Amplifier                | CMM0016<br>■    | 2.0-20.0        | 10.0      | +/- 0.5            | 7.5               | +29.0             | + 37.0     | 690 @ 12.0    | DIE     | D            |
| Distributed Amplifier                | CMM0014<br>■    | 2.0-22.0        | 11.0      | +/- 0.5            | 7.0               | +24.0             | + 33.0     | 295 @ 8.0     | DIE     | D            |
| Distributed Amplifier                | CMM0015<br>■    | 2.0-22.0        | 10.5      | +/- 0.5            | 7.5               | +27.0             | + 35.0     | 350 @ 12.0    | DIE     | D            |
| Distributed Amplifier                | CMM0618<br>■    | 6.0-18.0        | 10.0      | +/- 1.0            | 7.5               | +29.0             | + 36.0     | 775 @ 6.5     | DIE     | D            |
| Distributed Amplifier                | 22DSBA0423<br>■ | 10.0-40.0       | 17.0      | +/- 2.5            | 5.0               | -                 | -          | 115 @ 5.0     | DIE     | D            |
| Distributed Amplifier (Gain Control) | XD1001<br>■     | 18.0-50.0       | 17.0      | +/- 1.0            | 5.0               | +15.0             | + 23.0     | 160 @ 5.0     | DIE     | D            |

■ Production Devices

■ Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

## Gain Blocks

| Part Number              | Freq (GHz) | P1dB (dBm) | Gain (dB) | OIP3 (dBm)        | NF (dB) | Icc (mA) | Vc Volts | Rth Deg/W | Bare Die | Package    | Applications  |
|--------------------------|------------|------------|-----------|-------------------|---------|----------|----------|-----------|----------|------------|---------------|
| CMM6003                  | 0.05-0.9   | +22.0      | 17.0      | +41.0             | 1.9     | 150      | 3 to 5V  | 59        | -BD      | -SC        | I / S / P / D |
| CDQ6004<br>(per channel) | 0.05-4.0   | +23.0      | 16.5      | +41.0<br>(+44.0*) | 2.1     | 150      | 3 to 5V  | 52        | -        | -QS        | I / S / P / D |
| CGB7289<br>(@ 2140 MHz)  | DC-2.5     | +23.7      | 13.3      | +41.0             | 5.5     | 115      | 5V       | 35        | -BD      | -SC        | I / S / P / D |
| CGB7389<br>(@ 2450 MHz)  | DC-2.7     | +23.5      | 13.0      | +40.5             | 4.5     | 115      | 5V       | 35        | -BD      | -SC        | I / S / P / D |
| CGB7001                  | DC-6.0     | +14.2      | 20.5      | +28.0             | 3.3     | 35       | 5V       | 110       | -BD      | -SP<br>-SC | I / S / P / D |
| CGB7003                  | DC-6.0     | +16.6      | 20.7      | +31.5             | 2.9     | 50       | 5V       | 85        | -BD      | -SP<br>-SC | I / S / P / D |
| CGB7004                  | DC-6.0     | +17.0      | 16.0      | +32.0             | 3.6     | 62       | 5V       | 85        | -BD      | -SC        | I / S / P / D |
| CGB7005                  | DC-6.0     | +17.6      | 21.0      | +31.0             | 3.2     | 63       | 5V       | 85        | -BD      | -SP<br>-SC | I / S / P / D |
| CGB7006                  | DC-6.0     | +18.0      | 15.2      | +32.0             | 5.3     | 68       | 5V       | 80        | -BD      | -SC        | I / S / P / D |
| CGB7007                  | DC-6.0     | +18.8      | 19.0      | +34.0             | 4.5     | 67       | 5V       | 90        | -BD      | -SC        | I / S / P / D |
| CGB7008                  | DC-6.0     | +18.8      | 21.2      | +33.5             | 3.2     | 64       | 5V       | 80        | -BD      | -SP<br>-SC | I / S / P / D |
| CGB7009                  | DC-6.0     | +19.2      | 16.8      | +33.8             | 3.9     | 69       | 5V       | 80        | -BD      | -SC        | I / S / P / D |
| CGB7010                  | DC-6.0     | +20.3      | 21.5      | +35.5             | 3.2     | 75       | 5V       | 80        | -BD      | -SP<br>-SC | I / S / P / D |
| CGB7011                  | DC-6.0     | +21.0      | 21.7      | +36.0             | 3.4     | 82       | 5V       | 80        | -BD      | -SP<br>-SC | I / S / P / D |
| CGB7012                  | DC-6.0     | +20.3      | 15.7      | +36.0             | 4.3     | 86       | 5V       | 80        | -BD      | -SC        | I / S / P / D |
| CGB7014                  | DC-8.0     | +20.0      | 24.5      | +36.0             | 3.5     | 78       | 5V       | 80        | -BD      | -SC        | I / S / P / D |
| CGB7015                  | DC-8.0     | +21.1      | 24.2      | +36.6             | 4.2     | 90       | 5V       | 80        | -BD      | -SC        | I / S / P / D |
| CGB7016                  | DC-8.0     | +17.7      | 22.5      | +33.5             | 4.1     | 63       | 5V       | 85        | -BD      | -SC        | I / S / P / D |
| CGB7017                  | DC-8.0     | +18.2      | 23.1      | +33.8             | 3.3     | 70       | 5V       | 85        | -BD      | -SC        | I / S / P / D |
| CMM6004                  | 0.3-3.0    | +23.0      | 16.5      | +41.0             | 1.8     | 150      | 3 to 5V  | 52        | -BD      | -SC        | I / S / P / D |
| CMM6004                  | 0.3-6.0    | +23.0      | 18.5      | +41.0             | 1.7     | 150      | 3 to 5V  | 50        | -BD      | -AH        | I / S / P / D |
| CMM6001                  | 0.5-3.0    | +20.5      | 12.5      | +37.0             | 2.8     | 75       | 3 to 5V  | 65        | -BD      | -SC        | I / S / P / D |
| CMM2308                  | 1.0-2.7    | +17.0      | 19.0      | +27.0             | 2.2     | 75       | 3 to 6V  | 55        | -        | -AJ        | I / S / P / D |
| CMM2306                  | 1.5-2.5    | +17.0      | 20.0      | +26.0             | 3.5     | 75       | 3 to 6V  | 55        | -        | -AJ        | I / S / P / D |

\*balanced configuration

Unless otherwise specified, data is @ 900 MHz

■ Production Devices

■ Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

# Low Noise GaAs FETs

## Low Noise GaAs FETs, Die

| Part Number   | Freq (GHz) | P1dB (dBm) | MSG (dB) | OIP3 (dBm) | NF (dB) | Idss (mA) | Test Volts | Rth Deg/W | Die Size (um) | Gate W/L (um)     | Applications  |
|---------------|------------|------------|----------|------------|---------|-----------|------------|-----------|---------------|-------------------|---------------|
| CF001-01<br>■ | DC-32.0    | +19.0      | 17.5     | +29.0      | 1.6     | 60        | 3 to 6V    | 150       | 400x250       | 300/0.3           | I / S / P / D |
| CF001-03<br>■ | DC-40.0    | +17.0      | 18.5     | +27.0      | 0.8     | 60        | 3 to 6V    | 150       | 400x250       | 300/0.3           | I / S / P / D |
| CF003-01<br>■ | DC-26.0    | +22.0      | 15.0     | +32.0      | 1.8     | 180       | 3 to 6V    | 80        | 720x250       | 600/0.3           | I / S / P / D |
| CF003-03<br>■ | DC-34.0    | +20.0      | 15.5     | +30.0      | 1.0     | 180       | 3 to 6V    | 80        | 720x250       | 600/0.3           | I / S / P / D |
| CF004-01<br>■ | DC-40.0    | +15.0      | 15.0     | +25.0      | 2.2     | 30        | 3 to 6V    | 300       | 230x250       | 150/0.3           | I / S / P / D |
| CF004-03<br>■ | DC-45.0    | +13.0      | 16.0     | +23.0      | 1.5     | 30        | 3 to 6V    | 300       | 230x250       | 150/0.3           | I / S / P / D |
| CF007-01<br>■ | DC-20.0    | +16.0      | 18.9     | +27.0      | 2.2     | 60        | 3 to 5.5V  | 150       | 420x250       | Dual Gate 300/0.5 | I / S / P / D |

Unless otherwise specified, data is @ 12 GHz

## Low Noise GaAs FETs, Packaged

| Part Number  | Frequency (GHz) | Gain (dB) | Noise Figure (dB) | Output P1dB (dBm) | OIP3 (dBm) | Bias (mA @ V) | Package       | Applications |
|--------------|-----------------|-----------|-------------------|-------------------|------------|---------------|---------------|--------------|
| CFP0103<br>■ | DC-10.0         | 22.0      | 0.5               | +17.0             | +29.0      | 40 @ 3.0      | -SP           | I / D        |
| CFP0303<br>■ | DC-10.0         | 22.0      | 0.5               | +17.0             | +32.0      | 60 @ 3.0      | -SP           | I / D        |
| CFS0103<br>■ | DC-10.0         | 22.0      | 0.5               | +17.0             | +29.0      | 40 @ 3.0      | -SB           | I / D        |
| CFS0303<br>■ | DC-10.0         | 22.4      | 0.2               | +17.0             | +32.0      | 60 @ 3.0      | -SB           | I / D        |
| CDQ0303<br>■ | DC-10.0         | 23.5      | 0.5               | +17.0             | +32.0      | 50 @ 3.0      | -QS           | I / D        |
| CFB0101<br>■ | DC-15.0         | 21.5      | 1.0               | +18.5             | +28.0      | 40 @ 6.0      | -B            | I / D        |
| CFB0103<br>■ | DC-15.0         | 22.0      | 0.7               | +19.0             | +29.0      | 15 @ 3.0      | -B            | I / D        |
| CFB0301<br>■ | DC-15.0         | 17.0      | 0.8               | +21.0             | +34.0      | 70 @ 4.0      | -B            | I / D        |
| CFB0303<br>■ | DC-15.0         | 20.0      | 0.5               | +21.0             | +34.0      | 75 @ 4.0      | -B            | I / D        |
| CFK0301<br>■ | DC-15.0         | 23.5      | 0.8               | +19.5             | +31.0      | 70 @ 4.0      | -AK           | I / D        |
| CFC0301<br>■ | DC-18.0         | 10.0      | 2.6               | +23.0             | +34.0      | 80 @ 6.0      | -C (Hermetic) | I / D        |

Unless otherwise specified, data is @ 2 GHz

■ Production Devices

■ Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

# LOW NOISE AMPLIFIERS / MIXERS

## Low Noise Amplifiers

| Description                                  | Part Number | Frequency (GHz) | Gain (dB)    | Gain Flatness (dB) | Noise Figure (dB) | Output P1dB (dBm) | OIP3 (dBm) | Bias (mA @ V)       | Package      | Applications  |
|--|-------------|-----------------|--------------|--------------------|-------------------|-------------------|------------|---------------------|--------------|---------------|
| Low Noise Amplifier                          | CMM1100     | 2.0-18.0        | 17.0         | +/- 0.5            | 3.5               | +16.0             | +24.0      | 110 @ 5.0           | DIE          | I / S / P / D |
| Low Noise Amplifier                          | CMM1100     | 2.0-18.0        | 16.0         | +/- 0.5            | 4.0               | +15.0             | +23.0      | 110 @ 5.0           | -QT (3x3 mm) | I / S / P / D |
| Low Noise Amplifier                          | CMM1110     | 2.0-18.0        | 16.0         | +/- 0.5            | 2.5               | +14.0             | +22.0      | 70 @ 8.0            | DIE          | I / S / P / D |
| Low Noise Amplifier                          | CMM4000     | 2.0-18.0        | 8.0          | +/- 0.5            | 4.5               | +19.0             | +29.0      | 115 @ 5.0           | DIE          | I / S / D     |
| Low Noise Amplifier                          | XL1006      | 4.9-6.0         | 10.0<br>15.0 | +/- 0.5            | 2.2               | +1.0              | -          | 7.5 @ 3.0           | -QT (3x3 mm) | I             |
| Low Noise Amplifier                          | XL1007      | 4.9-8.0         | 12.0         | +/- 0.75           | 1.3               | +8.5              | -          | 33 @ 3.0            | -QT (3x3 mm) | I             |
| Low Noise Amplifier (Balanced/Single Supply) | XL1005      | 5.0-20.0        | 13.0         | +/- 2.0            | 2.2               | +16.0             | +24.0      | 30 @ 5.0            | DIE          | P / D         |
| Low Noise Amplifier (Low Noise/Power)        | XB1004      | 16.0-30.0       | 20.0         | +/- 1.0            | 2.2               | +14.0             | +24.0      | 90 @ 4.0            | DIE          | P             |
| Low Noise Amplifier (Balanced/Single Supply) | XL1001      | 17.0-35.0       | 14.0         | +/- 1.5            | 2.5               | +4.0              | +16.0      | 55 @ 5.0            | DIE          | D             |
| Low Noise Amplifier (Balanced/Single Supply) | XL1002      | 20.0-36.0       | 23.0         | +/- 1.5            | 2.6               | +4.0              | +16.0      | 85 @ 5.0            | DIE          | D             |
| Low Noise Amplifier (Single Supply)          | XL1000      | 20.0-40.0       | 20.0         | +/- 4.0            | 2.0               | +8.0              | +16.0      | 35 @ 3.0 / 50 @ 5.0 | DIE          | D             |
| Low Noise Amplifier (Balanced/Single Supply) | XL1003      | 24.0-40.0       | 15.0         | +/- 3.5            | 1.7               | +11.0             | +19.0      | 65 @ 5.0            | DIE          | P / D         |
| Low Noise Amplifier (Balanced/Single Supply) | XL1004      | 35.0-45.0       | 18.0         | +/- 2.0            | 2.0               | +6.0              | +14.0      | 85 @ 4.0            | DIE          | P / D         |
| Low Noise Amplifier (Low Noise/Power)        | XB1005      | 35.0-45.0       | 19.0         | +/- 1.0            | 2.7               | +13.0             | +23.0      | 50 @ 3.5            | DIE          | P / D         |

## Mixers

| Description           | Part Number | RF Frequency (GHz) | LO Frequency (GHz) | IF Frequency (GHz) | Conversion Loss (dB) | IIP3 (dBm) | LO Input Power (dBm) | Applications |
|-----------------------|-------------|--------------------|--------------------|--------------------|----------------------|------------|----------------------|--------------|
| Image Reject          | XM1001      | 12.0-40.0          | 8.0-42.0           | DC-4.0             | 8.0                  | +24.0      | +12.0                | P / D        |
| Image Reject          | 18KWR0327   | 13.0-25.0          | 11.0-29.0          | DC-4.0             | 7.0                  | +19.0      | +16.0                | P / D        |
| Balanced              | 26BAM0545   | 18.0-40.0          | 14.0-44.0          | DC-4.0             | 9.0                  | +25.0      | +12.0                | P / D        |
| Image Reject          | 22IRM0324   | 20.0-28.0          | 10.0-15.0          | DC-4.0             | 8.0                  | +16.0      | +15.0                | P            |
| Image Reject          | 27IRM0339   | 27.0-38.0          | 12.0-20.0          | DC-4.0             | 8.0                  | +15.0      | +15.0                | P            |
| Image Reject          | 38IRM0363   | 32.0-42.0          | 15.0-23.0          | DC-4.0             | 9.0                  | +14.0      | +12.0                | P            |
| Balanced              | XM1000      | 32.0-46.0          | 29.0-47.0          | DC-3.0             | 7.0                  | +25.0      | +15.0                | P            |
| Image Reject          | XM1002      | 34.0-46.0          | 30.0-50.0          | DC-4.0             | 8.0                  | +24.0      | +12.0                | P            |
| Balanced Image Reject | 40IRM0540   | 37.0-46.0          | 33.0-50.0          | DC-4.0             | 12.0                 | +27.0      | +15.0                | P            |

■ Production Devices

■ Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

# MULTIPLIERS / OSCILLATORS

## Multipliers

| Description   | Part Number       | RF In (GHz) | RF Out (dB) | Pin (dBm) | Pout (dBm) | Bias (mA @ V)         | Package      | Applications  |
|---------------|-------------------|-------------|-------------|-----------|------------|-----------------------|--------------|---------------|
| Doubler       | XX1002<br>■       | 2.5-6.0     | 5.0-12.0    | -3.0      | +16.0      | 125 @ 5.0             | DIE          | I / S / P / D |
| Doubler (QFN) | XX1002-QH<br>■    | 2.5-6.0     | 5.0-12.0    | -3.0      | +16.0      | 125 @ 5.0             | -QH (4x4 mm) | I / S / P / D |
| Doubler       | XX1000<br>■       | 7.5-25.0    | 15.0-50.0   | +0.0      | +15.0      | 200 @ 5.0 / 25 @ -2.0 | DIE          | I / S / P / D |
| Doubler (QFN) | XX1000-QT<br>■    | 7.5-22.5    | 15.0-45.0   | +6.0      | +15.0      | 200 @ 5.0 / 25 @ -2.0 | -QT (3x3 mm) | I / S / P / D |
| Doubler       | 20DBL0451<br>■    | 8.0-12.0    | 16.0-24.0   | +12.0     | +16.0      | 135 @ 3.5             | DIE          | I / S / P / D |
| Doubler       | 12DBL0409<br>■    | 10.0-13.0   | 20.0-26.0   | +9.0      | +15.0      | 70 @ 3.5              | DIE          | I / S / P / D |
| Doubler       | 30DBL0537<br>■    | 14.5-17.0   | 29.0-34.0   | +2.0      | +20.0      | 190 @ 5.0             | DIE          | I / S / P / D |
| Doubler (QFN) | 30DBL0537-QC<br>■ | 14.0-16.0   | 28.0-32.0   | +4.0      | +20.0      | 200 @ 5.0             | -QC (5x5 mm) | I / S / P / D |
| Doubler       | 20DBL0629<br>■    | 18.0-21.0   | 36.0-42.0   | +0.0      | +26.0      | 530 @ 4.5             | DIE          | I / S / P / D |
| Doubler (QFN) | 20DBL0629-QB<br>■ | 18.0-21.0   | 36.0-42.0   | +0.0      | +25.0      | 530 @ 4.5             | -QB (7x7 mm) | I / S / P / D |

## Oscillators

| Description                        | Part Number    | Output Frequency (GHz) | Output Power (dBm) | 10kHz SSB Phase Noise (dBc/Hz) | 100kHz SSB Phase Noise (dBc/Hz) | Bias (mA @ V) | Applications |
|------------------------------------|----------------|------------------------|--------------------|--------------------------------|---------------------------------|---------------|--------------|
| Integrated VCO                     | 6OSC0460<br>■  | 5.5-6.5                | +4.5               | -77                            | -97                             | 20 @ -5.0     | P / D        |
| Integrated VCO                     | 6OSC0461<br>■  | 5.8-6.9                | +5.0               | -77                            | -97                             | 20 @ -5.0     | P / D        |
| Integrated VCO                     | 7OSC0462<br>■  | 6.4-7.4                | +5.0               | -77                            | -97                             | 20 @ -5.0     | P / D        |
| Integrated VCO                     | 7OSC0463<br>■  | 6.8-7.9                | +4.5               | -77                            | -97                             | 20 @ -5.0     | P / D        |
| Integrated VCO                     | 8OSC0464<br>■  | 7.4-8.6                | +5.0               | -77                            | -97                             | 20 @ -5.0     | P / D        |
| Integrated VCO (On-chip Prescaler) | 14OSC0501<br>■ | 14.2-15.2              | +6.0               | -                              | -88                             | 110 @ +4.0    | P / D        |
| Integrated VCO (On-chip Prescaler) | 15OSC0502<br>■ | 14.7-15.7              | +5.0               | -                              | -88                             | 110 @ +4.0    | P / D        |

\* 200 MHz tuning range

# PRESCALERS / POWER GaAs FETs

## Prescalers & Dividers

| Description    | Part Number   | RF In (GHz) | RF Out (GHz) | Pin (dBm) | Pout (dBm) | Bias (mA @ V) | Applications |
|----------------|---------------|-------------|--------------|-----------|------------|---------------|--------------|
| Divide-by-Four | 8SDV0500<br>■ | 2.0-16.0    | 0.5-4.0      | -20.0-0.0 | +5.0       | 100 @ 5.0     | P / D        |

## Power GaAs FET Die

| Part Number   | Freq (GHz) | P1dB (dBm) | MSG (dB) | OIP3 (dBm) | Idss (mA) | Test Volts | Rth Deg/W | Die Size (um) | Gate W/L (um) | Applications  |
|---------------|------------|------------|----------|------------|-----------|------------|-----------|---------------|---------------|---------------|
| CF005-01<br>■ | DC-24.0    | +25.0      | 15.5     | +35.0      | 310       | 6V         | 50        | 470 x 320     | 1200≤0.5      | I / S / P / D |
| CF010-01<br>■ | DC-22.0    | +28.0      | 15.0     | +38.0      | 700       | 6V         | 25        | 850 x 320     | 2400≤0.5      | I / S / P / D |
| CF015-11<br>■ | DC-24.0    | +25.0      | 16.0     | +33.0      | 310       | 6V         | 40        | 1350 x 250    | 1200≤0.3      | I / S / P / D |

## Power GaAs FETs, Packaged

| Part Number     | Freq (GHz) | P1dB (dBm) | Gain (dB) | OIP3 (dBm) | Padded Eff % | Icc (mA) | Test Volts | Rth Deg/W | Package | Applications |
|-----------------|------------|------------|-----------|------------|--------------|----------|------------|-----------|---------|--------------|
| CFK2062-P1<br>■ | 0.8-1.0    | +30.0      | 20.0      | +40.0      | 42           | 400      | 8V         | 12        | -AK     | I            |
| CFK2162-P1<br>■ | 0.8-1.0    | +34.0      | 20.0      | +44.0      | 43           | 800      | 8V         | 9         | -AK     | I            |
| CFH2162-P1<br>■ | 0.8-1.0    | +36.0      | 19.0      | +47.0      | 43           | 1300     | 8V         | 7.5       | -H      | I            |
| CFK2062-P3<br>■ | 1.8-2.2    | +31.0      | 13.5      | +41.0      | 40           | 400      | 8V         | 12        | -AK     | I            |
| CFK2162-P3<br>■ | 1.8-2.2    | +34.0      | 14.0      | +44.0      | 43           | 800      | 8V         | 9         | -AK     | I            |
| CFH2162-P3<br>■ | 1.8-2.2    | +36.0      | 13.0      | +47.0      | 43           | 1300     | 8V         | 7.5       | -H      | I            |
| CFK2062-P5<br>■ | 2.3-2.5    | +30.5      | 12.0      | +41.0      | 40           | 400      | 8V         | 12        | -AK     | I            |
| CFK2162-P5<br>■ | 2.3-2.5    | +33.5      | 12.0      | +44.0      | 43           | 800      | 8V         | 9         | -AK     | I            |
| CFH2162-P5<br>■ | 2.3-2.5    | +35.5      | 10.0      | +46.0      | 42           | 1300     | 8V         | 7.5       | -H      | I            |

■ Production Devices

■ Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

# POWER AMPLIFIERS

## Power Amplifiers

| Description                | Part Number       | Frequency (GHz) | Gain (dB) | Gain Flatness (dB) | Output P1dB (dBm) | OIP3 (dBm) | Bias (mA @ V) | Package      | Applications |
|----------------------------|-------------------|-----------------|-----------|--------------------|-------------------|------------|---------------|--------------|--------------|
| Power Amplifier            | CMM0014<br>■      | 2.0-22.0        | 11.0      | +/- 0.5            | +24.0             | +33.0      | 295 @ 8.0     | DIE          | D            |
| Power Amplifier            | CMM0015<br>■      | 2.0-22.0        | 10.5      | +/- 0.5            | +27.0             | +35.0      | 350 @ 12.0    | DIE          | D            |
| Power Amplifier            | CMM0016<br>■      | 2.0-22.0        | 10.0      | +/- 0.5            | +29.0             | +37.0      | 690 @ 12.0    | DIE          | D            |
| Power Amplifier            | CMM2321<br>■      | 2.3-2.5         | 20.0      | +/- 0.5            | +30.0             | -          | 675 @ 5.0     | -AK          | I            |
| Power Amplifier            | CHV2710<br>■      | 2.4-2.7         | 10.0      | +/- 0.5            | +37.0             | +51.0 *    | 550 @ 12.0    | -QJ (6x6 mm) | I            |
| Power Amplifier            | CHV2711<br>■      | 3.4-3.6         | 10.0      | +/- 0.5            | +37.0             | +51.0 *    | 550 @ 12.0    | -QJ (6x6 mm) | I            |
| Power Amplifier            | CMM3566<br>■      | 3.4-3.5         | 28.0      | +/- 0.5            | +29.0             | -          | 520 @ 7.0     | 4x4 mm LCC   | I            |
| Power Amplifier            | CMM0618<br>■      | 6.0-18.0        | 10.0      | +/- 1.0            | +29.0             | +36.0      | 775 @ 6.5     | DIE          | D            |
| Power Amplifier            | XP1006<br>■       | 8.5-11.0        | 21.0      | +/- 0.5            | +40.0 (Psat)      | -          | 4.2 A @ 8.0   | DIE          | D            |
| Power Amplifier (Flange)   | XP1006-FA<br>■    | 8.5-11.0        | 21.0      | +/- 0.5            | +40.0 (Psat)      | -          | 4.2 A @ 8.0   | -FA (Flange) | D            |
| Power Amplifier            | XP1014<br>■       | 8.5-11.0        | 18.0      | +/- 1.0            | +31.0 (Psat)      | -          | 450 @ 8.0     | DIE          | D            |
| Power Amplifier            | XP1008<br>■       | 11.0-16.0       | 31.0      | +/- 0.5            | +30.0             | +38.5      | 925 @ 5.0     | DIE          | P            |
| Power Amplifier            | 15MPA0566<br>■    | 11.0-19.0       | 20.0      | +/- 1.0            | +27.0 (Psat)      | -          | 380 @ 5.0     | DIE          | P            |
| Power Amplifier            | 15MPA0566-QE<br>■ | 11.0-19.0       | 19.0      | +/- 1.0            | +26.0 (Psat)      | -          | 380 @ 5.0     | -QE (3x3 mm) | P            |
| Power Amplifier            | CMM1331<br>■      | 12.7-13.5       | 30.0      | +/- 0.5            | +31.0 (Psat)      | -          | 770 @ 7.0     | -SM (6x6 mm) | S / D        |
| Power Amplifier            | CMQ1631<br>■      | 13.0-18.0       | 21.0      | +/- 0.5            | +29.0             | -          | 770 @ 7.0     | -QH (4x4 mm) | S / D        |
| Power Amplifier            | CMM1631<br>■      | 13.0-18.0       | 26.0      | +/- 0.5            | +32.0 (Psat)      | -          | 770 @ 7.0     | -QH (4x4 mm) | S / D        |
| Power Amplifier            | CMM1431<br>■      | 13.7-14.5       | 30.0      | +/- 0.5            | +31.5             | -          | 770 @ 7.0     | -SM (6x6 mm) | S / D        |
| Power Amplifier            | CMM1434<br>■      | 13.5-14.5       | 31.0      | +/- 1.5            | +34.5 (Psat)      | -          | 1.5 A @ 6.0   | -SM (6x6 mm) | S / D        |
| Power Amplifier            | CMQ1432<br>■      | 13.5-15.5       | 32.0      | +/- 2.0            | +32.0 (Psat)      | -          | 770 @ 7.0     | -QH (4x4 mm) | S / D        |
| Power Amplifier (Detector) | XP1019<br>■       | 16.0-24.0       | 18.0      | +/- 1.0            | +27.0 (Psat)      | -          | 500 @ 5.0     | DIE          | P            |
| Power Amplifier            | XP1009<br>■       | 17.0-21.0       | 20.0      | +/- 0.5            | +29.5             | +38.0      | 900 @ 5.0     | DIE          | P            |
| Power Amplifier            | 18MPA0567<br>■    | 17.0-22.0       | 22.0      | +/- 0.5            | +27.0 (Psat)      | -          | 450 @ 5.0     | DIE          | P            |
| Power Amplifier (Detector) | XP1000<br>■       | 17.0-24.0       | 19.0      | +/- 1.0            | +25.0             | +36.0      | 430 @ 5.5     | DIE          | P            |
| Power Amplifier            | XP1013<br>■       | 17.0-26.0       | 20.0      | +/- 2.0            | +24.0 (Psat)      | -          | 320 @ 6.0     | DIE          | P            |

\* EVM = 2.5% @ 1W

Power Amplifiers.....con't page 19

# POWER AMPLIFIERS

## Power Amplifiers...con't. from page 18

| Description                | Part Number       | Frequency (GHz)                     | Gain (dB) | Gain Flatness (dB) | Output P1dB (dBm) | OIP3 (dBm) | Bias (mA @ V) | Package      | Applications |
|----------------------------|-------------------|-------------------------------------|-----------|--------------------|-------------------|------------|---------------|--------------|--------------|
| Power Amplifier            | XP1013-QD<br>■    | 17.0-26.0                           | 19.0      | +/- 2.0            | +23.0 (Psat)      | -          | 320 @ 6.0     | -QD (7x7 mm) | P            |
| Power Amplifier (Doubler)  | 20DBL0629<br>■    | 18.0-21.0 (fin)<br>36.0-42.0 (fout) | 26.0      | +/- 0.5            | +26.0 (Psat)      | -          | 530 @ 4.5     | DIE          | P            |
| Power Amplifier (Doubler)  | 20DBL0629-QB<br>■ | 18.0-21.0 (fin)<br>36.0-42.0 (fout) | 25.0      | +/- 0.5            | +25.0 (Psat)      | -          | 530 @ 4.5     | -QB (7x7 mm) | P            |
| Power Amplifier            | XP1010<br>■       | 21.0-24.0                           | 19.0      | +/- 0.5            | +30.0             | +39.0      | 950 @ 5.0     | DIE          | P            |
| Power Amplifier            | 28MPA0304<br>■    | 24.0-34.0                           | 16.0      | +/- 1.0            | +24.0 (Psat)      | -          | 320 @ 6.0     | DIE          | S / P / D    |
| Power Amplifier            | 29MPA0373<br>■    | 26.0-31.0                           | 32.0      | +/- 1.0            | +26.0             | +36.0      | 1.1 A @ 4.5   | DIE          | P / D        |
| Power Amplifier (Detector) | XP1001<br>■       | 26.0-40.0                           | 11.0      | +/- 1.0            | +21.0             | +31.0      | 430 @ 5.5     | DIE          | D            |
| Power Amplifier            | 30SPA0553<br>■    | 27.0-32.0                           | 22.0      | +/- 1.0            | +33.0             | -          | 1.0 A @ 6.0   | DIE          | S / D        |
| Power Amplifier (Balanced) | 30SPA0536<br>■    | 27.0-33.0                           | 21.0      | +/- 1.0            | +35.0 (Psat)      | -          | 2.1 A @ 6.0   | DIE          | S / D        |
| Power Amplifier (Detector) | XP1003<br>■       | 27.0-35.0                           | 15.0      | +/- 1.0            | +24.0             | +34.0      | 440 @ 4.5     | DIE          | P / D        |
| Power Amplifier            | 30MPA0562<br>■    | 28.0-31.0                           | 27.0      | +/- 1.0            | +30.0 (Psat)      | -          | 420 @ 5.0     | DIE          | S / D        |
| Power Amplifier (Detector) | XP1017<br>■       | 30.0-36.0                           | 16.0      | +/- 0.5            | +24.0             | +33.0      | 440 @ 4.5     | DIE          | D            |
| Power Amplifier (Balanced) | XP1005<br>■       | 35.0-43.0                           | 26.0      | +/- 2.0            | +24.0 (Psat)      | -          | 500 @ 4.5     | DIE          | P            |
| Power Amplifier            | XP1018<br>■       | 35.0-45.0                           | 23.0      | +/- 1.0            | +25.0             | +34.0      | 475 @ 5.0     | DIE          | P            |
| Power Amplifier            | XP1011<br>■       | 36.0-40.0                           | 21.0      | +/- 0.5            | +27.0             | +36.0      | 640 @ 5.0     | DIE          | P            |
| Power Amplifier            | XP1012<br>■       | 37.0-40.0                           | 15.0      | +/- 0.5            | +28.0             | +37.0      | 1080 @ 5.0    | DIE          | P            |
| Power Amplifier (Balanced) | XP1015<br>■       | 43.5-46.5                           | 13.0      | +/- 1.0            | +31.0             | -          | 2.8 A @ 5.0   | DIE          | P / D        |
| Power Amplifier            | XP1016<br>■       | 43.5-46.5                           | 14.0      | +/- 1.0            | +24.0             | -          | 720 @ 5.0     | DIE          | P / D        |
| Power Amplifier            | 44MPA0478<br>■    | 43.5-46.5                           | 14.0      | +/- 1.0            | +29.0             | -          | 1.4 A @ 5.0   | DIE          | P / D        |

■ Production Devices

■ Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

# RECEIVERS

## Receivers

| Description           | Part Number | RF Frequency | LO Frequency | IF Bandwidth | Conversion Gain | Noise Figure | Image Rejection | LO Input Power | Bias (mA @ V)             | Package | Applications |
|-----------------------|-------------|--------------|--------------|--------------|-----------------|--------------|-----------------|----------------|---------------------------|---------|--------------|
| Receiver (LO Buffer)  | XR1007      | 11.0-17.0    | 8.0-20.0     | DC-3.0       | 13.5            | 2.2          | 20.0            | +3.0           | 150 @ 5.0                 | DIE     | P / D        |
| Receiver (QFN)        | XR1007-QD   | 11.0-17.0    | 8.0-20.0     | DC-3.0       | 13.5            | 2.5          | 20.0            | +3.0           | 150 @ 5.0<br>-QD (7x7 mm) | P / D   |              |
| Receiver              | XR1000      | 17.0-27.0    | 15.0-29.0    | DC-2.0       | 10.0            | 3.5          | 15.0            | +15.0          | 90 @ 3.0                  | DIE     | P            |
| Receiver (LO Buffer)  | XR1006      | 18.0-25.0    | 7.0-11.5     | DC-3.0       | 8.0             | 2.5          | 15.0            | +2.0           | 250 @ 4.0                 | DIE     | P            |
| Receiver (QFN)        | XR1006-QD   | 18.0-25.0    | 7.0-11.5     | DC-3.0       | 8.0             | 3.0          | 15.0            | +2.0           | 250 @ 4.0<br>-QD (7x7 mm) | P       |              |
| Receiver (Attenuator) | XR1002      | 18.0-34.0    | 14.0-38.0    | DC-4.0       | 2.0-14.0        | 3.0          | 25.0            | +15.0          | 135 @ 4.5                 | DIE     | P / D        |
| Receiver (LO Buffer)  | XR1005      | 19.0-26.0    | 8.0-14.5     | DC-3.0       | 8.0             | 2.5          | 20.0            | +2.0           | 250 @ 4.0                 | DIE     | P / D        |
| Receiver (QFN)        | XR1005-QD   | 19.0-26.0    | 8.0-14.5     | DC-3.0       | 8.0             | 3.0          | 20.0            | +2.0           | 250 @ 4.0<br>-QD (7x7 mm) | P / D   |              |
| Receiver (LO Buffer)  | 26REC0689   | 12.0-36.0    | 6.0-18.0     | DC-3.5       | 10.0            | 3.0          | 20.0            | +4.0           | 180 @ 4.0                 | DIE     | P / D        |
| Receiver (LO Buffer)  | XR1004      | 30.0-46.0    | 15.0-25.0    | DC-4.0       | 9.0             | 3.5          | 18.0            | +2.0           | 200 @ 4.0                 | DIE     | P / D        |
| Receiver (QFN)        | XR1004-QB   | 30.0-46.0    | 15.0-25.0    | DC-4.0       | 9.0             | 3.5          | 18.0            | +2.0           | 200 @ 4.0<br>-QB (7x7 mm) | P / D   |              |
| Receiver              | XR1001      | 33.0-40.0    | 15.5-21.5    | DC-3.0       | 9.0             | 4.0          | 12.0            | +12.0          | 30 @ 3.0                  | DIE     | P            |

■ Production Devices

■ Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

# TRANSMITTERS / MISC.

## Transmitters

| Description                 | Part Number | RF Frequency (GHz) | LO Frequency (GHz) | IF Bandwidth (GHz) | Conversion Gain (dB) | LO Input Power (dBm) | Output P1dB (dBm) | Output IP3 (dBm) | Bias (mA @ V)           | Applications |
|-----------------------------|-------------|--------------------|--------------------|--------------------|----------------------|----------------------|-------------------|------------------|-------------------------|--------------|
| Transmitter (LO Buffer, IR) | 14TX0614    | 10.0-18.0          | 7.0-21.0           | DC-3.0             | 9.0                  | +6.0                 | -                 | +17.0            | 350 @ 5.0<br>140 @ -5.0 | P            |
| Transmitter                 | XU1000      | 17.0-27.0          | 15.0-29.0          | DC-2.0             | 0.0                  | +12.0                | +2.0              | +12.0            | 23 @ 3.0                | P            |
| Transmitter (LO Buffer, IR) | XU1002      | 18.0-25.0          | 7.0-11.5           | DC-3.0             | 10.0                 | +2.0                 | +12.0             | +20.0            | 350 @ 4.0               | P            |
| Transmitter (QFN)           | XU1002-QD   | 18.0-25.0          | 7.0-11.5           | DC-3.0             | 10.0                 | +2.0                 | +12.0             | +20.0            | 350 @ 4.0               | P            |
| Transmitter (LO Buffer, GC) | 26TX0555    | 18.0-36.0          | 7.0-20.0           | DC-4.0             | 9.0                  | +2.0                 | +16.0             | +25.0            | 515 @ 5.0               | P / D        |
| Transmitter (LO Buffer, GC) | 26TX0684    | 18.0-36.0          | 7.0-20.0           | DC-4.0             | 10.0                 | +2.0                 | +13.0             | +22.0            | 380 @ 5.0               | P / D        |
| Transmitter (LO Buffer, IR) | XU1003      | 19.0-26.0          | 8.0-14.5           | DC-3.0             | 10.0                 | +2.0                 | +12.0             | +20.0            | 350 @ 4.0               | P            |
| Transmitter (QFN)           | XU1003-QD   | 19.0-26.0          | 8.0-14.5           | DC-3.0             | 10.0                 | +2.0                 | +12.0             | +20.0            | 350 @ 4.0               | P            |
| Transmitter (LO Buffer, IR) | 27TRX0357   | 27.0-36.0          | 11.5-20.0          | DC-4.0             | 9.0                  | +2.0                 | +13.0             | +21.0            | 370 @ 4.0               | P            |
| Transmitter (Image Reject)  | XU1001      | 33.0-40.0          | 15.5-21.5          | DC-3.0             | 8.0                  | +12.0                | +11.0             | +20.0            | 30 @ 3.0                | P            |
| Transmitter (LO Buffer)     | XU1004      | 35.0-45.0          | 16.0-25.0          | DC-4.0             | 5.0                  | +4.0                 | +6.0              | +14.0            | 300 @ 4.0               | P            |
| Transmitter (LO Buffer)     | 38TX0768    | 35.0-45.0          | 16.0-25.0          | DC-4.0             | 3.0                  | +4.0                 | +12.0             | +20.0            | 230 @ 4.0               | P            |

## MISCELLANEOUS CONTROL CIRCUITS

### Digital Attenuators

| Description              | Part Number | Freq (GHz) | Att. Range (dB) | Step Size (dB) | Insertion Loss (dB) | Return Loss (dB) | Bias (mA @ V) | Applications |
|--------------------------|-------------|------------|-----------------|----------------|---------------------|------------------|---------------|--------------|
| 5-Bit Digital Attenuator | XA1000      | DC-18.0    | 28              | 0.9            | 3-7                 | 15               | 9 @ -7.5      | D            |

### Phase Shifters

| Description                 | Part Number | Freq (GHz) | Insertion Loss (dB) | Return Loss (dB) | Input P1dB (dBm) | Bias (mA @ V) | Applications |
|-----------------------------|-------------|------------|---------------------|------------------|------------------|---------------|--------------|
| 6-Bit Digital Phase Shifter | XS1000      | 7.0-13.0   | 6                   | 15               | +25              | 9 @ -7.5      | D            |

### Switches

| Description | Part Number | Freq (GHz) | Insertion Loss (dB) | Input P1dB (dBm) | Isolation (dB) | VSWR (dB) | Bias (mA @ V) | Applications |
|-------------|-------------|------------|---------------------|------------------|----------------|-----------|---------------|--------------|
| Switch      | CSW0118     | 0.5-18.0   | 1.8                 | +20.0            | -30            | 1.5:1     | 150 @ 3.0     | D            |

■ Production Devices

■ Pre-production Devices

I - Infrastructure

S - SatCom

P - Point-to-Point

D - Defense

# RoHS PROGRAM

## Mimix Lead-Free RoHS Compliant Program

Mimix has an active program in place to meet customer and governmental requirements for eliminating lead (Pb) and other environmentally hazardous materials from our products. All Mimix RoHS compliant components are form, fit and functional replacements for their non-RoHS equivalents. Finish of our RoHS compliant parts is 100% matte tin (Sn) over copper alloy and is backwards-compatible with current standard SnPb low temperature reflow processes, as well as higher temperature (260°C reflow) "Pb Free" processes. We also offer NiPdAu plated parts as a lead-free solution. All bare die products are RoHS compliant.

## Part Numbering Designator

For Mimix lead-free products, the letter "G" will be used in the part number for Matte Tin plated RoHS Compliant components and "L" will be used in the part number of NiPdAu plated RoHS Compliant components in the second position of the part number suffix, as shown below:

Example A: CXX1234-XX-0G00 = component bulk quantity Matte Tin plated RoHS compliant parts

Example B: CXX1234-XX-0L0T = component in tape and reel NiPdAu plated RoHS parts

For those customers not making the change at this time, Mimix will maintain production of current configurations. For questions and comments e-mail: [ourearth@mimixbroadband.com](mailto:ourearth@mimixbroadband.com).

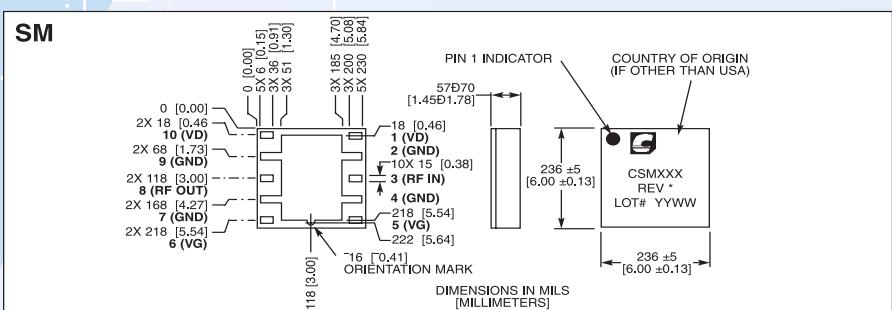
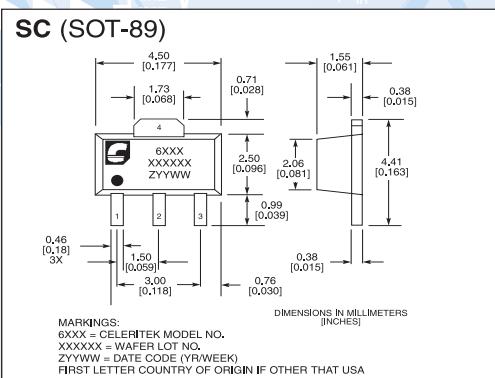
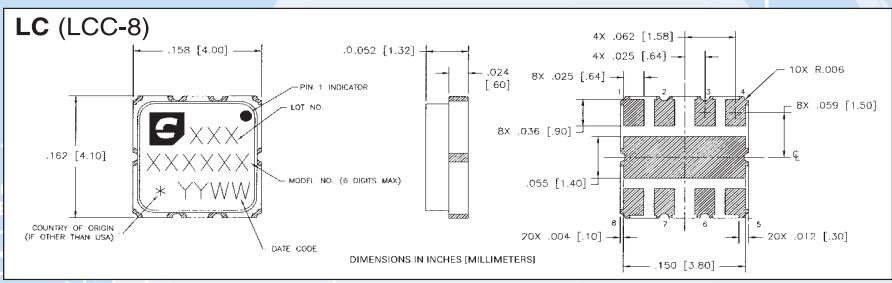
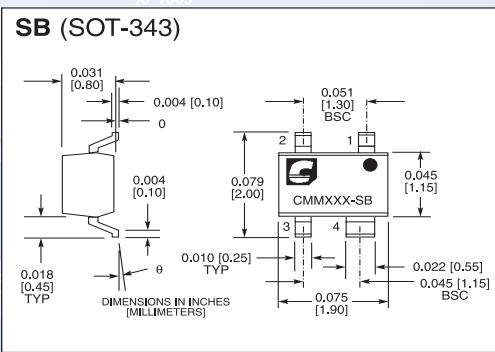
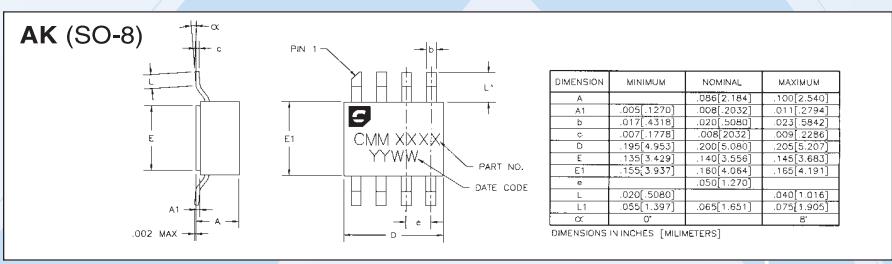
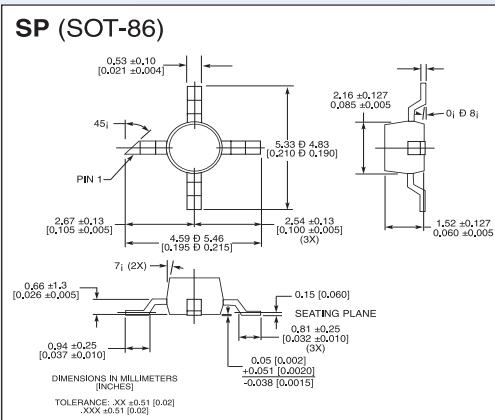
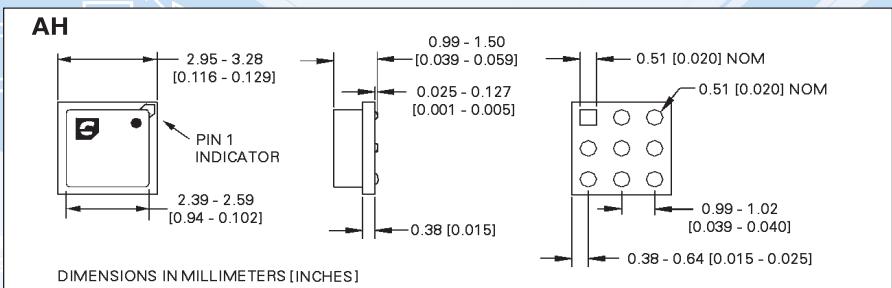
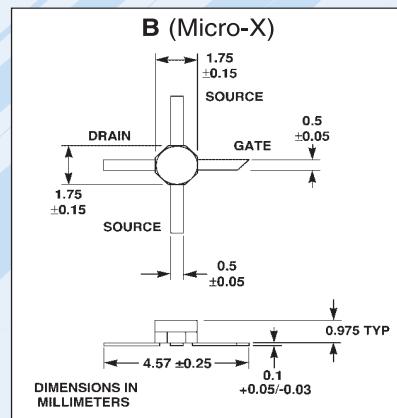
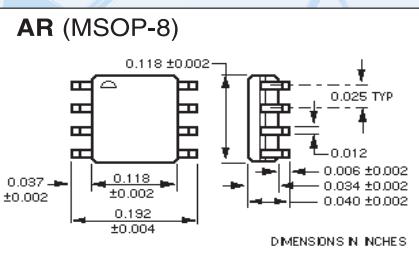
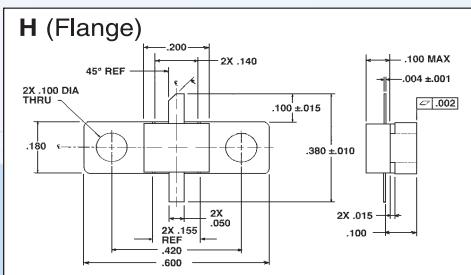
## RoHS Compliant Parts

|                |               |            |
|----------------|---------------|------------|
| 15MPA0566-QE   | CMM0330-AK    | CMM6004-AH |
| 20DBL0629-QB   | CMM0331-AK    | CMM6004-SC |
| 30DBL0537-QC   | CMM0333-AK    | CMQ1432-QH |
| CDQ0303-QS     | CMM0335-AK    | CMQ1631-QH |
| CDQ6004-QS     | CMM0336-AK    | XL1006-QT  |
| CFB0101        | CMM0511-QT    | XL1007-QT  |
| CFB0103        | CMM0530-AK    | XP1006-FA  |
| CFB0301        | CMM0530-LC/BT | XP1013-QD  |
| CFB0303        | CMM1100-QT    | XR1004-QB  |
| CFC0301        | CMM1118-QT    | XR1005-QD  |
| CFH2162-PI     | CMM1330-AK    | XR1006-QD  |
| CFH2162-P3     | CMM1331-SM    | XR1007-QD  |
| CFH2162-P5     | CMM1333-AK    | XU1002-QD  |
| CFK0301-AK     | CMM1335-AK    | XU1003-QD  |
| CFK2062-PI     | CMM1337-AK    | XX1000-QT  |
| CFK2062-P3     | CMM1431-SM    | XX1002-QH  |
| CFK2062-P5     | CMM1434-SM    |            |
| CFK2162-PI     | CMM1530-CK    |            |
| CFK2162-P3     | CMM1530-LC/BT |            |
| CFK2162-P5     | CMM1631-SM    |            |
| CFP0103-SP     | CMM2306-AJ    |            |
| CFP0303-SP     | CMM2308-AJ    |            |
| CFS0103-SB     | CMM2321-AK    |            |
| CFS0303-SB     | CMM2322-AK    |            |
| GGB7XXX-Series | CMM3566       |            |
| CHV2710-QJ     | CMM6001-SC    |            |
| CHV2711-QJ     | CMM6003-SC    |            |

# PACKAGING OUTLINES

## PACKAGE OUTLINE DRAWINGS

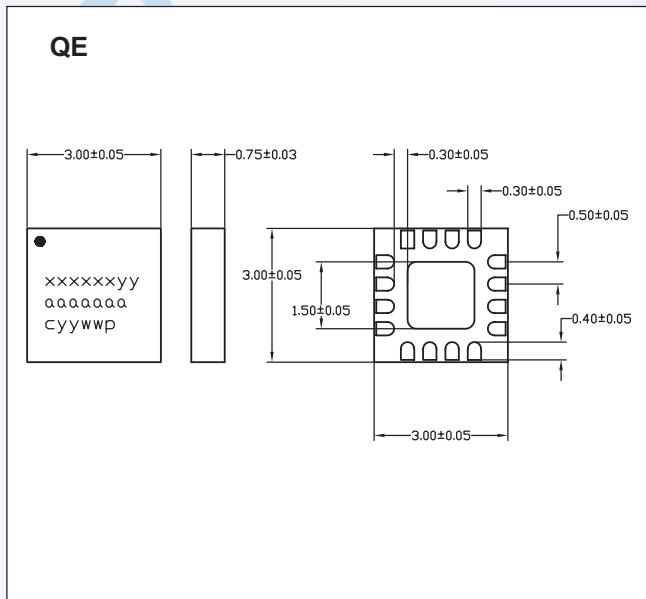
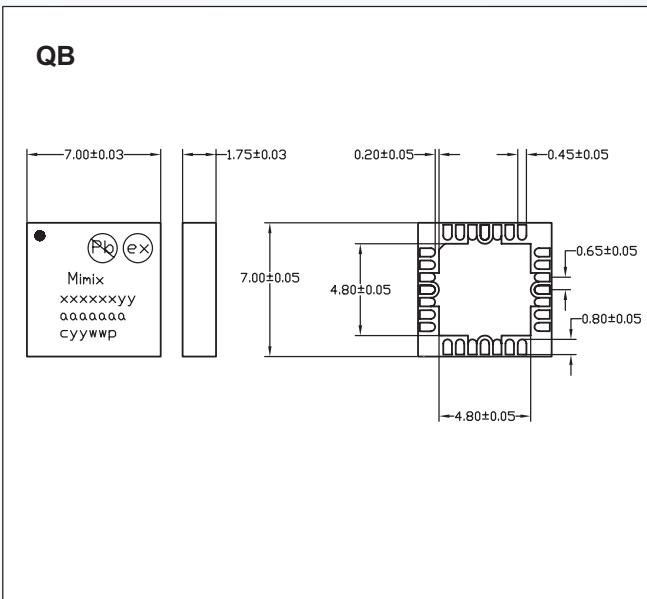
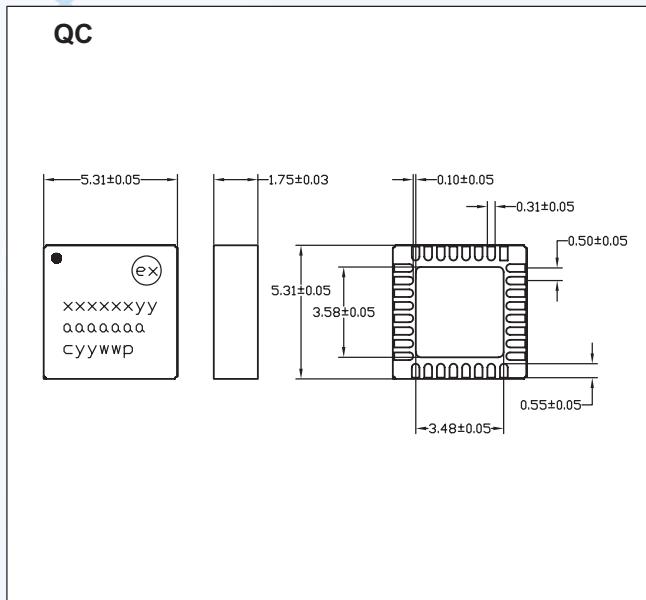
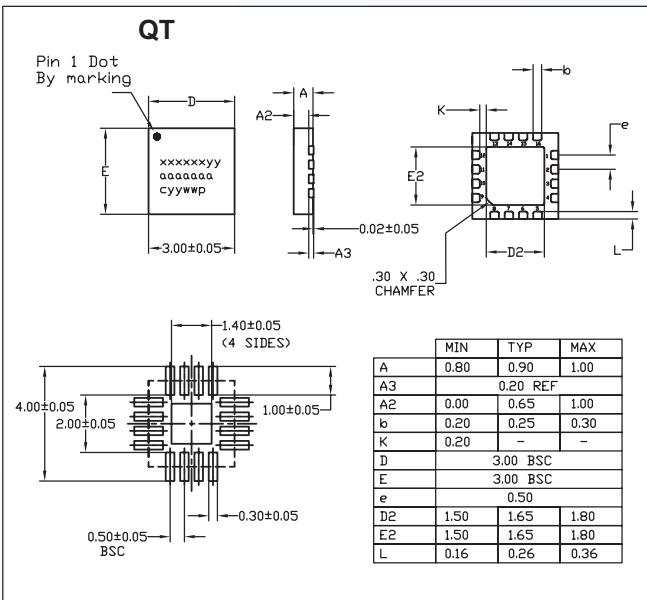
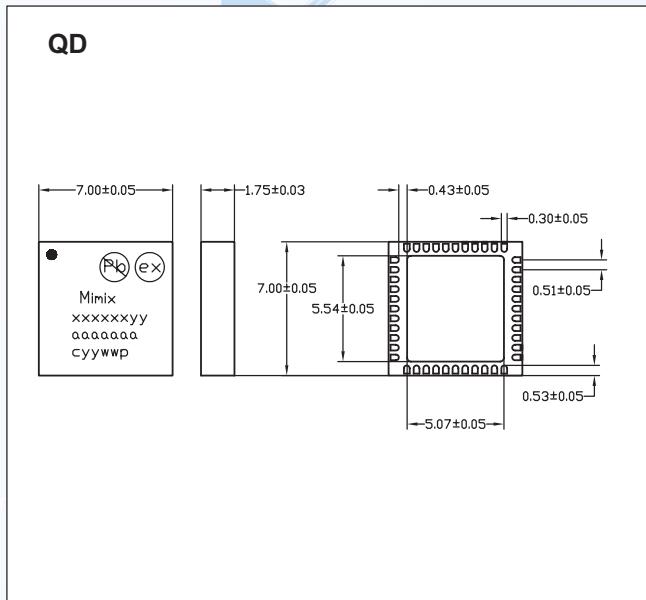
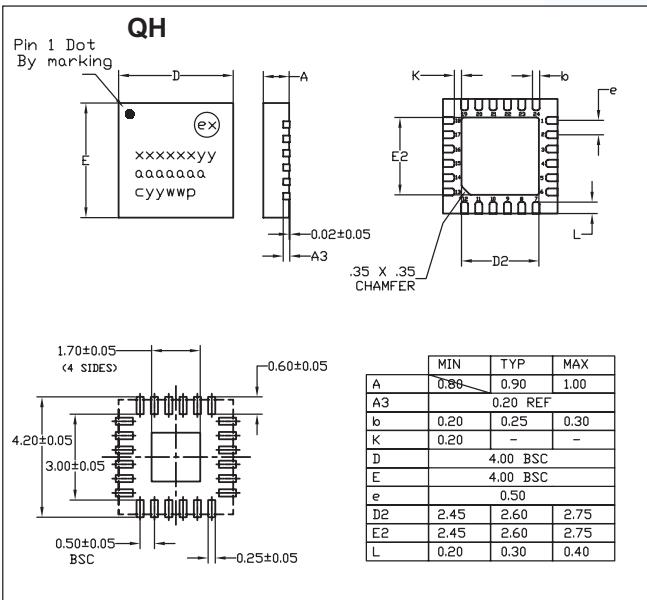
(Not to scale. Refer to individual product datasheets for complete package information.)



All semiconductor product datasheets  
are available by visiting our Web site:  
**[www.mimixbroadband.com](http://www.mimixbroadband.com)**

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# PACKAGING OUTLINES



IR Mixer  
IR~18dB

+12dB

XR1002  
NF~3.0dB

G=17dB

# HANDLING & ASSEMBLY INFORMATION

**CAUTION!** - Mimix Broadband MMIC Products contain gallium arsenide (GaAs) which can be hazardous to the human body and the environment. For safety, observe the following procedures:

- Do not ingest.
- Do not alter the form of this product into a gas, powder, or liquid through burning, crushing, or chemical processing as these by-products are dangerous to the human body if inhaled, ingested, or swallowed.
- Observe government laws and company regulations when discarding this product. This product must be discarded in accordance with methods specified by applicable hazardous waste procedures.

## Printed BPF Life Support Policy

Mimix Broadband's products are not authorized for use as critical components in life support devices or systems without the express written approval of the President and General Counsel of Mimix Broadband. As used herein: (1) Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user. (2) A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

## ESD

Gallium Arsenide (GaAs) devices are susceptible to electrostatic and mechanical damage. Die are supplied in antistatic containers, which should be opened in clean room conditions at an appropriately grounded anti-static workstation. Devices need careful handling using correctly designed collets, vacuum pickups or, with care, sharp tweezers.

## Die Attachment

GaAs Products from Mimix Broadband are 0.100 mm (0.004") thick and have vias through to the backside to enable grounding to the circuit. Microstrip substrates should be brought as close to the die as possible. The mounting surface should be clean and flat. If using conductive epoxy, recommended epoxies are Ablestick 84-1LMI or 84-1LMIT or Tanaka TS3332LD cured in a nitrogen atmosphere per manufacturer's cure schedule. Apply epoxy sparingly to avoid getting any on to the top surface of the die. An epoxy fillet should be visible around the total die periphery. If eutectic mounting is preferred, then a fluxless gold-tin (AuSn) preform, approximately 0.001" thick, placed between the die and the attachment surface should be used. A die bonder that utilizes a heated collet and provides scrubbing action to ensure total wetting to prevent void formation in a nitrogen atmosphere is recommended. The gold-tin eutectic (80% Au 20% Sn) has a melting point of approximately 280°C (Note: Gold Germanium should be avoided). The work station temperature should be 310°C±10°C. Exposure to these extreme temperatures should be kept to minimum. The collet should be heated, and the die pre-heated to avoid excessive thermal shock. Avoidance of air bridges and force impact are critical during placement.

## Wire Bonding

Windows in the surface passivation above the bond pads are provided to allow wire bonding to the die's gold bond pads. The recommended wire bonding procedure uses 0.076 mm x 0.013 mm (0.003" x 0.0005") 99.99% pure gold ribbon with 0.5-2% elongation to minimize RF port bond inductance. Gold 0.025 mm (0.001") diameter wedge or ball bonds are acceptable for DC Bias connections. Aluminum wire should be avoided. Thermo-compression bonding is recommended though thermosonic bonding may be used providing the ultrasonic content of the bond is minimized. Bond force, time and ultrasonics are all critical parameters. Bonds should be made from the bond pads on the die to the package or substrate. All bonds should be as short as possible.

# EVALUATION MODULES

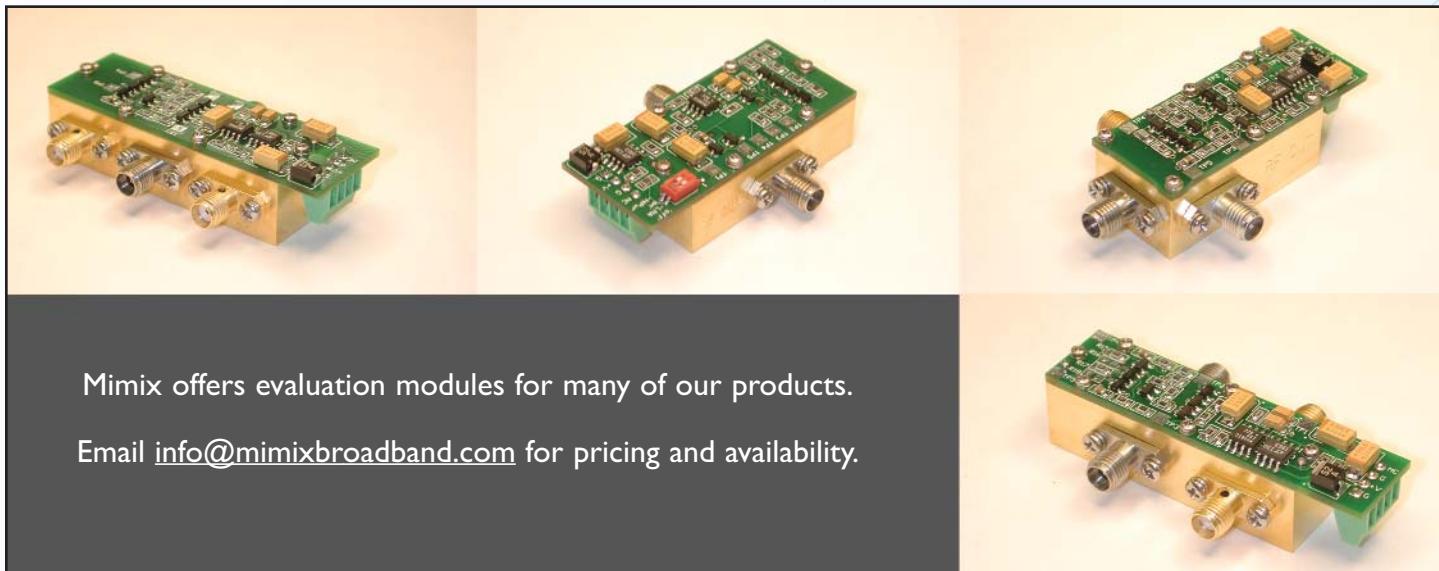
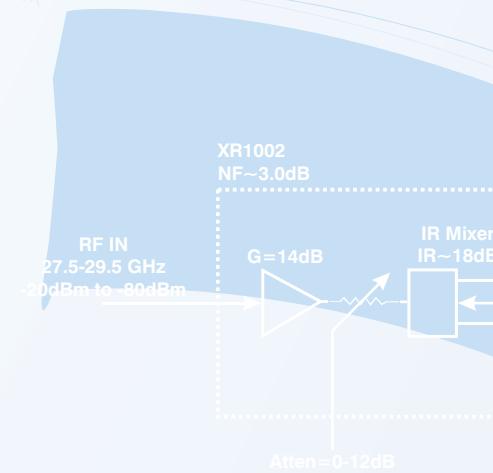
Multiple modules can be used together to provide a brass board proof of concept.

## Evaluation Modules

Provide a fast and convenient means of testing the performance of our devices.

### Example of an Evaluation Module: XP1000

- ✗ Single-Ended with Power Detector Output
- ✗ Input/Output Return Loss Comparable to Die Itself
- ✗ K-Connector Interface for RF In/Out Ports
- ✗ Utilizes Active Biasing and Voltage Sequencing
- ✗ Open Access to Bias Board for Easy Adjustment
- ✗ Built-In Regulator and Negative Voltage Generator
- ✗ Single 8V Input Voltage



Mimix offers evaluation modules for many of our products.

Email [info@mimixbroadband.com](mailto:info@mimixbroadband.com) for pricing and availability.



# ORDERING INFORMATION

Mimix Broadband offers three options for shipment of our MMIC die orders: (1) Grip Ring for complete wafers; (2) Waffle Tray for die; and (3) Vacuum Release "Gel" Pack for die. When placing orders, designate which option is required for each order. Please make this designation on the purchase order by adding the following suffixes to the part number:

R – Grip Ring;

T – Waffle Tray; or

V – Vacuum Release "Gel" Package.

For example, should you want to order a wafer of XP1005 devices, the purchase order should include the part number XP1005-R.

Alternatively, if you want to order XP1005 devices packaged in a Gel Pack, then the purchase order should include the part number

XP1005-V.

## Part Number for Ordering Packaged Products

XX1002-QH-0G00 Range = Matte Tin plated RoHS compliant QFN 4x4 24L surface mount package in bulk quantity

XX1002-QH-0G0T Matte Tin plated RoHS compliant QFN 4x4 24L surface mount package in tape and reel

PB-XX1002-QH-0000 XX1002-QH evaluation board

23.5-25.5 GHz

We also offer parts with alternative plating. Please contact your regional sales manager for more information regarding different plating types.

For packaged products, please refer to each datasheet for part number ordering information.

## General Company Information

Julie Teinert

Vice President Marketing

Tel: 281.988.4600

Fax: 281.988.4615

[jteinert@mimixbroadband.com](mailto:jteinert@mimixbroadband.com)

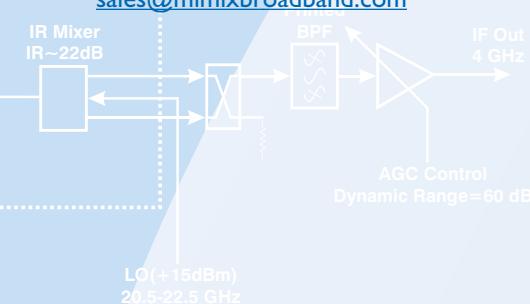
## Applications and Technical Support

Ask for one of our Product Managers

Tel: 281.988.4600

Fax: 281.988.4615

[sales@mimixbroadband.com](mailto:sales@mimixbroadband.com)



# OUR MARKETS

Mimix targets the microwave and millimeter-wave markets, including digital microwave radio, cellular and wireless infrastructure, military and satellite communications applications.

As networks continue to demand higher bandwidths, frequencies must move up to the microwave and millimeter-wave range in order to achieve these bandwidths. This development is true for a variety of wireless and optical systems. Mimix is positioned to meet the market's requirements by providing higher frequency microwave and millimeter-wave devices used in these applications. Our designers have focused on the development of state-of-the-art GaAs semiconductors for the last decade.

We support these markets with innovative technology. Our semiconductor devices offer more power over a broader frequency range, place more functionality on a single chip, and achieve best in class low noise performance. We provide complete semiconductor solutions, such as entire power amplifier modules, 3-Chip Solutions and low cost packaging.

In addition to offering standard catalog products, we can develop custom designs according to our customers' requirements. Mimix is continuously developing new products, so please do not hesitate to inquire about a product that you do not find in this catalog, as we may already have such a product in development.

## Mimix Meets Market Requirements With High Frequency Devices

Automotive Radar Systems,  
Defense Systems



77 GHz

Optical Networking, PTP  
PTMP Systems  
High Data Rate Satcom



40 GHz

Direct TV, Ku-Band Sat  
Military & Other Satcom  
Systems

18 GHz

Wireless RF Networking  
WLAN Infrastructure, WLL



6 GHz

Data & Voice Terminals,  
Infrastructure and  
ISM Band Products



DC-2 GHz

# SALES REPS & DISTRIBUTORS

## Eastern United States

### FLORIDA, UPSTATE NEW YORK

#### Microwave Component Marketing (MCM)

##### Florida Office

4060 S. Tropical Trail  
Merritt Island, FL 32952  
Tel: 321-452-0358  
Fax: 321-452-0346  
Cellular: 508-662-9188  
Email: cmjones@mcm-inc.net  
Website: www.mcm-inc.net

**Upstate New York Office**  
4 Harrison Avenue  
Fitchburg MA 01420  
Tel/Fax: 978-343-4078  
Mobile: 978-790-4650  
Email: ssommala@verizon.net

### GEORGIA, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, ALABAMA, MISSISSIPPI

#### Electronic Marketing Associates

185 Wind Chime Court, Suite 103  
Raleigh, NC 27615  
Tel: 919-847-8800  
Fax: 919-848-1787  
Email: rdenny@emarep.com  
Website: www.emarep.com

**Georgia Office**  
8820 N Mount Drive, Suite B  
Alpharetta, Ga 30022-5429  
Tel: 770-448-1215  
Fax: 770-558-2020  
Email: bbyron@emarep.com  
Website: www.emarep.com

**Alabama Office**  
7500 S Memorial Pkwy, Suite 215 K  
Huntsville, AL 35802  
Tel: 256-880-8050  
Fax: 256-880-8054  
Email: djones@emarep.com  
Website: www.emarep.com

### ILLINOIS, INDIANA, OHIO (EXCLUDING CLEVELAND AND COLUMBUS), MICHIGAN, WISCONSIN, NORTH DAKOTA, SOUTH DAKOTA

**Dytec, Inc.**  
7212 N. Shadeland Ave., #220  
Indianapolis, IN 46250  
Tel: 317-578-0474  
Toll Free: 800-872-5746  
Fax: 371-578-0476  
Email: sales@dytecinc.com  
Website: www.dytecinc.com

### MAINE, MASSACHUSETTS, NEW HAMPSHIRE, RHODE ISLAND, VERMONT

#### High Tech Sales

20 Trafalgar Square  
Suite 427  
Nashua, NH 03063  
Tel: 603-598-4402  
Fax: 603-598-9307  
Email: hightech.ma.ultranet@rcn.com  
Website: www.htssales.com

### NEW YORK (LONG ISLAND, NEW YORK METRO), NEW JERSEY, PENNSYLVANIA, DELAWARE

**SJ Associates** (Territory covered: Long Island, New York Metro, New Jersey)

500 N.Broadway,  
Jericho Atrium, Suite 159  
Jericho, NY 11753  
Tel: 516-942-3232  
Fax: 516-216-4943  
(Parsippany NJ)  
Tel: 973-331-8080,  
Fax: 973-331-8083  
Website: www.sjassoc.com

**Mid-Atlantic Office** (Territory covered: So. New Jersey, E. Pennsylvania, Delaware)

131-D Gaither Drive  
Mt. Laurel, NJ 08054  
Phone: 856-866-1234  
Fax: 856-866-8627  
Email: drysz@sjassoc.com  
Website: www.sjassoc.com

### TEXAS, LOUISIANA, OKLAHOMA

#### TriTex Technical Sales

**Dallas Office**  
4208 Oak Mount Dr.  
Carrollton, Tx 75010  
Tel: 972-492-2621  
Fax: 214-731-1548  
Mobile: 214-850-9860  
Email: dpgrand@worldnet.att.net

#### Austin Office

TriTex Technical Sales C/O Len Doiron  
9426 Meadow Vale East  
Austin, TX 78758  
Tel / Fax: 512-339-7523  
Mobile: 512-663-8321  
Email: tritex@austin.rr.com

### WASHINGTON DC, VIRGINIA, WEST VIRGINIA, MARYLAND

#### Marktron

1688 East Gude Dr.  
Rockville, MD 20850  
Tel: 301-251-8990  
Email: sales@marktron.com  
Website: www.marktron.com

## Western United States

### ARIZONA, NEW MEXICO, NEVADA

#### Thorson Desert States, Inc. (TDSI)

14350 N Frank Lloyd Wright Blvd., Suite 1  
Scottsdale, AZ 85260  
Tel: 480-998-2444  
Fax: 480-998-1236  
Email: info@tdsiaz.com  
Website: www.tdsiaz.com

### NORTHERN CALIFORNIA (CALIFORNIA: MONTEREY, INYO, TULARE, KING COUNTIES; OREGON: GRANTS PASS; and NEVADA: RENO)

#### Jay Stone and Associates

2109 O'Toole Ave. Suite M  
San Jose, CA 95131  
Tel: 408-428-2500  
Fax: 408-428-9000  
Email: shannono@jsarep.com  
Website: www.jsarep.com

### SOUTHERN CALIFORNIA, BAJA MEXICO

#### KSA Electronics

1081 Camino Del Rio South, Suite 205  
San Diego, CA 92108  
Tel: 619-858-0770  
Fax: 619-858-0773  
Website: www.ksa.com  
Email: peter@ksa.com

### WASHINGTON

#### mmWave Technologies Inc.

**Seattle**  
800 Bellevue Way N.E., 4th Floor  
Bellevue, WA 98004  
Phone: (425) 646-2370  
Fax: (425) 462-5638  
Email: seattle@mmwave.com

### Canada

#### TORONTO, CALGARY, OTTAWA, MONTREAL, VANCOUVER

#### mmWave Technologies Inc.

**Toronto(Head Office)**  
6695 Millcreek Dr., Unit #8  
Mississauga, ON L5N 5R8  
Phone: (905) 363-1012  
Fax: (905) 363-1018  
Email: toronto@mmwave.com  
Website: www.mmwave.com

#### Ottawa

300 March Road, Suite 406  
Kanata, ON K2K 2E2  
Phone: (613) 271-9442  
Fax: (613) 599-8067  
Email: vmathew@mmwave.com

# SALES REPS & DISTRIBUTORS

## Calgary

#303-6707 Elbow Drive S.W.  
Calgary, AB T2V 0E5  
Phone: (403) 275-9855  
Fax: (403) 275-3609  
Email: calgary@mimwave.com

## Montreal

1868 boul. des Sources, Ste. 404  
Pointe-Claire, QC H9R 5B1  
Phone: (514) 426-8445  
Fax: (514) 426-8398  
Email: montreal@mimwave.com

## Vancouver

315 Lonsdale Ave.  
North Vancouver, BC V7M 2G6  
Phone: (604) 904-9701  
Fax: (604) 904-9747  
Email: vancouver@mimwave.com

## Europe & Middle East

### FRANCE

#### Elexience

9, rue des petits-ruisseaux  
BP 61 91371  
Verrières-le-buisson Cedex  
FRANCE  
Tel : 33-1 69.53.80.00  
Fax: 33-1 60.11.98.09  
Email: info@elexience.fr  
Website: www.elexience.fr

### GERMANY, AUSTRIA, SWITZERLAND

**Omecon Electronic GmbH**  
Raiffeisenstr. 12  
D-83607, Holzkirchen  
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Tel: +49 (0)8024-6408-0  
Fax: +49 (0)8024-6408-70  
Email: abc@omecon.de  
Website: www.omecon.de

### ISRAEL

**Mti Engineering Ltd**  
111 Hamelacha St.  
Afek Industrial Park  
ROSH HA'AYIN 48091, Israel  
Phone: 972-3-9008900  
Fax: 972-3-9008902  
Email: info@mti-group.co.il  
Website: www.mti-group.co.il

### ITALY

**RFWave s.r.l.**  
via Marconi 8/F  
20053 Muggiò (MI)  
Italy  
Tel: +39-039-5962631  
Mobile: +39-334-1872131  
Fax: +39-039-9716649  
Email: info@rfwave.it  
Website: www.rfwave.it

## NORWAY

#### Datamatik as

Jerikova 16  
1067 Oslo, Norway  
Tel: +47-22301730  
Fax: +47-22300273  
Email: bjorn.backe@datamatik.no  
Website: www.datamatik.no

## RUSSIA

#### May Ltd.

77/79 Shelkovskoe Ave.  
Moscow, Russia 107497  
Tel: +7 4959135161  
Fax: +7 4959135160  
Email: import@may.ru  
Website: www.may.ru

## SPAIN

#### Aspid Comunicaciones

General Aranaz 49  
28027 Madrid  
SPAIN  
Tel: +34 91 371 77 56  
Fax: +34 91 320 10 18  
Email: aspidcom@aspidcom.com  
Website: www.aspidcom.com

## SWEDEN, FINLAND, DENMARK

#### OEM Electronics AB

P O Box 8100  
SE-163 08 SPÅNGA  
SWEDEN  
Tel +46 8 555 149 00  
Fax + 46 8 587 067 39  
E-mail: peter.fagerstrom@oemelectronics.se  
Website: www.oemelectronics.se

## UK & EIRE

#### Melcom Electronics Ltd.

Elliott House  
Gogmore Lane  
Chertsey  
Surrey KT16 9AF  
England  
Tel: +44 (0)1932 565544  
Fax: +44 (0)1932 569988  
Email: melcomsales@melcom.co.uk  
Website: www.melcom.co.uk

## Asia

### CHINA

#### Skypeak

B-2917, Jinhui Building  
#1009 Nanyou Blvd.  
Nanshan District  
Shenzhen 518054, P.R. China  
Tel: +86-755-2645-8326  
Fax: +86-755-2645-8327  
Email: wyru@public.szptt.net.cn

## Nanjing Office

3-07, Yan Qing Yuan,  
Yan Ming Villa,  
Xi Xia District,  
Nanjing , P.R. China  
Tel/Fax: +86-25-8589-5669

## Chengdu Office

Room22 City Sunny Building  
No.22 Xi Mian Qiao Street  
Chengdu, P.R. China  
Tel: +86-28-85581670  
Fax:+86-28-85581670

## Beijing Office

RF IN  
Room 19A-B, No.2 Building,  
International Incubator Park  
No. 2 Shangdi Information Road,  
Haidian District  
Beijing, P.R. China  
Tel : +86-10-82894048  
Fax : +86-10-82894047

## Weisher Technologies Co. Ltd

**ShenZhen Office**  
RM 1602-1604, Huaying Building  
Nanshan Road, Nanshan District  
Shenzhen, P.R. China 518054  
E-mail: bill@weisher.com  
Website: www.weisher.com  
Tel : +86 755 86195636/86195748  
Fax: +86 755 86195626

## Beijing Office

Room312, MiYang Building  
YongAnDongLi,JianGuoMenWai Avenue, ChaoYang  
District,  
Beijing, P.R. China 100022  
E-mail: kevin@weisher.com  
Website: www.weisher.com  
Tel : +86 10 65676906/65678904  
Fax: +86 10 65678904

## Nanjing Office

B4/11F HuaYing International Mansion  
No.9, Jinluan Lane, Huhai Road,  
Nanjing, P.R. China 210002  
E-mail: kevin@weisher.com  
Website: www.weisher.com  
Tel : +86 25 84202876  
Fax: +86 25 84206115

## Chengdu Office

RF IN  
B-10-2, LanSeGangWan Plaza,  
59 TianXiang Street  
ChengDu, P.R. China 610061  
E-mail: bill@weisher.com  
Website: www.weisher.com  
Tel : +86 28 68096047/ 84300776  
Fax: +86 28 84330458

## Well Genius

Unit G, 17/F, Somerset House  
Taikoo Place  
979 King's Road  
Quarry Bay, Hong Kong  
Tel: +852-2884-4128  
Fax: +852-2885-0113  
Email: sales@wellgenius.com  
Website: www.wellgenius.com

# SALES REPS & DISTRIBUTORS

**Shanghai Office**  
 9/F, Block B, Hi-Tech Building  
 No. 900 Yi Shan Road  
 Shanghai 200233, P.R. China  
 Tel: +86 21 6495 8888  
 Fax: +86 21 5423 5889

**Nanjing Office**  
 2/D, No. 28 Da Guang Road  
 Nanjing 210007, P.R. China  
 Tel: +86 25 8458 6650  
 Fax: +86 25 8461 8979

**Beijing Office**  
 Printed  
 5C, Section D, Fuhua Mansion  
 No. 8 Chaoyangmen Street  
 Dongcheng District  
 Beijing 100027, P.R. China  
 Tel: +86 10 6554 6663  
 Fax: +86 10 6554 7811  
 Dynamic Range=60 dB  
 I<sub>C</sub> Control  
 LO(+15dBm)  
 23.5-25.5 GHz

**Chengdu Office**  
 Unit F, 4/F, Vancouver Plaza  
 No. 1 Qing Jiang East Road  
 Chengdu 610072, P.R. China  
 Tel: +86 28 8773 8736  
 Fax: +86 28 8777 4058

**Xi'an Office**  
 Room 4401, Section 19, WANGUO Garden  
 Electronic 2nd Street  
 Yanta District  
 Xi'an 710065, P.R. China  
 Tel: +86 29 8821 4391  
 Fax: +86 29 8821 4391

**Shenzhen Office**  
 Unit E, 20/F, No. 6 Building, Zhonghai Shenzhen Bay  
 Garden  
 Shennan Blvd. North  
 Nanshan District  
 Shenzhen 518053, P.R. China  
 Tel: +86 755 2600 1581  
 Fax: +86 755 2600 1561

## JAPAN

**Midoriya Electric Co., Ltd.**  
**Tokyo Office**  
 2-7-19 Kyobashi, Chuo-ku  
 Shuzui Bldg.  
 Tokyo  
 Japan  
 104-8307  
 Tel: +81-3-3561-5763  
 Fax: +81-3-3561-5794  
 Website: [www.midoriya.co.jp](http://www.midoriya.co.jp)

**Osaka Office**  
 3-5-24 Miyahara, Yodogawa-ku  
 Shinosaka Daiichiseimei Bldg.  
 Osaka  
 Japan  
 532-0003  
 Tel: +81-6-6395-5509  
 Fax: +81-6-6395-5519  
 Website: [www.midoriya.co.jp](http://www.midoriya.co.jp)

## SOUTH KOREA

**HM Device Korea Inc.**  
 3F Daejin Bldg., 522-4  
 3ga Dangsan-dong  
 Youngdungpo-gu, Seoul,  
 150-084, Korea  
 Tel: +82-2-2676-0036  
 Fax: +82-2-2676-5225  
 Website: [www.hmdkorea.com](http://www.hmdkorea.com)

**S-TEC Int'l. Co., Ltd.**  
 Room# 1301-I  
 Youido Department Building, Yeoungdeungpo-Gu  
 150-749 Seoul Korea  
 Tel: 82-2-784-9898  
 Fax: 82-2-784-8600  
 Email: [stecint@stecint.co.kr](mailto:stecint@stecint.co.kr)  
 Website: [www.stecint.co.kr](http://www.stecint.co.kr)

## SOUTHEAST ASIA (Singapore, Malaysia, Thailand, Indonesia, Vietnam)

**Emerges-Lite Pte. Ltd.**  
 6 Ubi Road 1, #05-07  
 Wintech Centre  
 Singapore 408726  
 Tel: +65-6749-6818  
 Fax: +65-6749-1082  
 Website: [www.emerges.com.sg](http://www.emerges.com.sg)

## WORLDWIDE SALES DISTRIBUTOR

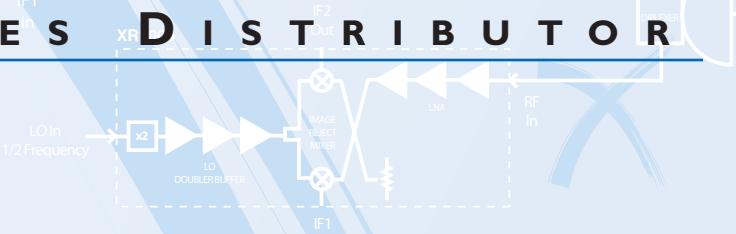
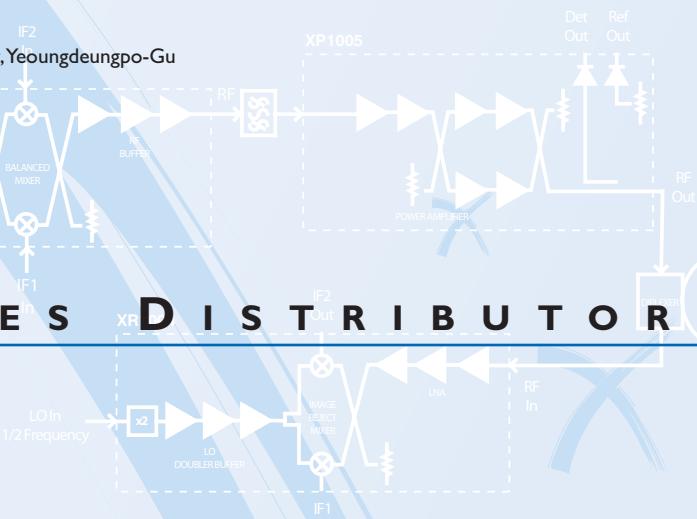
### Richardson Electronics

Toll Free: 1-800-348-5580  
 Email: [info@rell.com](mailto:info@rell.com)  
 Website: [www.rell.com](http://www.rell.com)

IR Mixer  
 IR~22dB  
 LO(+15dBm)  
 20.5-22.5 GHz

IF Out  
 4 GHz

AGC Control  
 Dynamic Range=60 dB



# COMPANY CONTACT INFORMATION

## Sales Contacts:

### Western North America

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Fax: 281.988.4615  
[jteinert@mimixbroadband.com](mailto:jteinert@mimixbroadband.com)

## Quality Assurance Contact:

[ContactQualityAssurance@mimixbroadband.com](mailto>ContactQualityAssurance@mimixbroadband.com)

## All other inquiries:

[info@mimixbroadband.com](mailto:info@mimixbroadband.com)



# OUR COMMITMENT TO QUALITY AND CUSTOMER SUPPORT

Mimix Broadband, Inc. announced in November 2001 that the Company had been registered to ISO 9001. As part of the industry's total quality management standard, this certification demonstrates our commitment to quality. Furthermore, the Company regards total quality management as a primary and continuous initiative and business practice.

## Quality Assurance

At Mimix, we've integrated quality into all of our business processes. Beginning with our ISO 9001-registered Quality Management System, which includes our comprehensive design and manufacturing processes, and extending throughout the company, each employee is empowered to continually identify and implement improvements enhancing product quality and customer satisfaction. We extend this same philosophy to our subcontractors, including our ISO 9001-registered foundries and our packaging providers.

## Quality Assurance in Design

Mimix's design methodology takes advantage of our world-class scientists' expertise in creating products that make maximum utilization of today's technology and tomorrow's technological advances. The products of this expertise are devices capable of spanning wide performance windows as well as targeted high performance applications.

The design process uses a Plan Do Check Act (PDCA) cycle to drive designs from prototyping to their intended performance targets. The engineering team improves reproducibility of the design during fabrication to reduce variability and to improve yields, reliability, and on-time delivery. The integrity of the design evaluation and device screening processes assures that our published product specifications accurately represent the true device characteristics.

## Quality Assurance in Production

While the devices we fabricate are designed to provide greater test yields and increased manufacturability, our post-fabrication processing of devices allows for even greater assurance that delivered products give 100% satisfaction to the customer.

### Some of the features of this processing are:

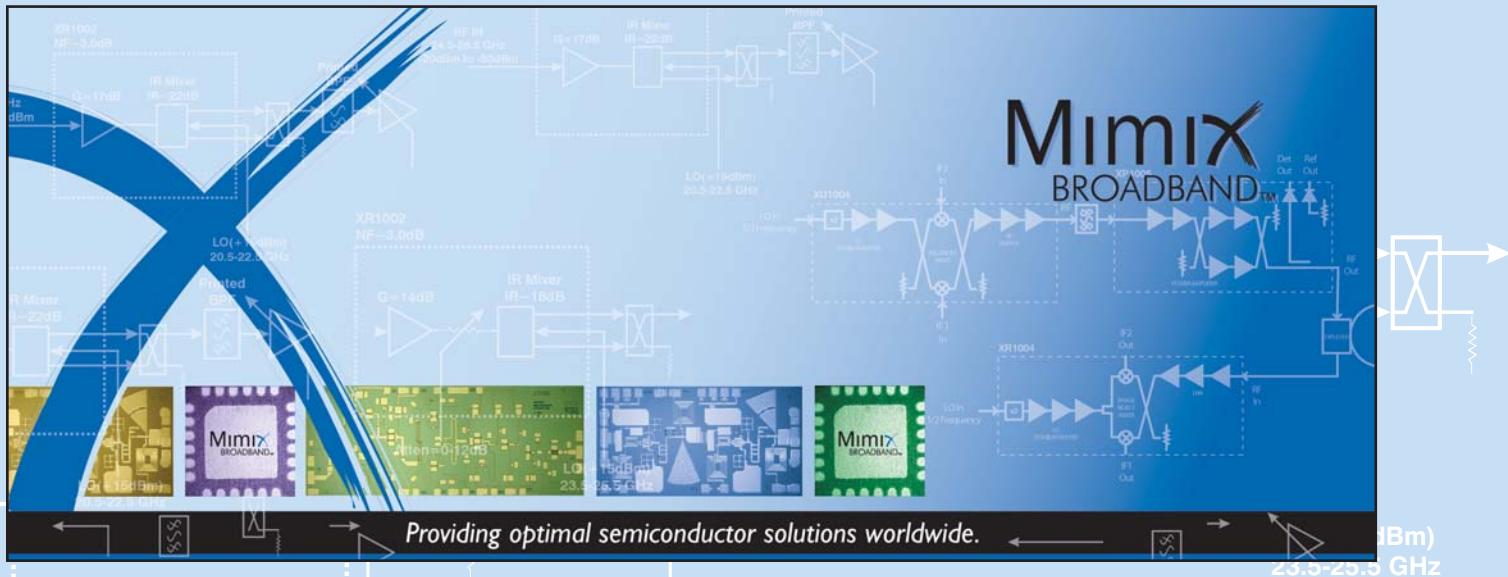
- ✗ Automated handling for every phase of fabrication, testing, inspection, and packaging;
- ✗ Laser scribe & break process for MIL-STD-883 Method 2010 visual compliance;
- ✗ 100% testing and inspection of devices with traceability from wafer to device; and
- ✗ Tailored processes to meet customer-specified requirements.

## Quality Assurance in Customer Support

Mimix utilizes systems engineering expertise for unsurpassed customer support in applications engineering. Our Product Management group strives to develop unique customer-supplier relationships that enable efficient communication between Mimix and our customers. These relationships allow us to be responsive to customer requests for support or other needs, so that our customers know they remain our number one priority.

## Reliability Reports

MTTF data can be found for each product in its respective datasheet. All datasheets are available for download at [www.mimixbroadband.com](http://www.mimixbroadband.com).



Mimix Broadband supplies high performance GaAs semiconductors from DC to 50 GHz for wireless communications applications.

High output and high linearity power amplifiers,  
available as bare die SMT packages or modules

## Buffer Amplifiers

**Outstanding LO driver/buffer amplifiers  
with low noise and power bias configurations.**

**RF IN**  
24.5-26.5 GHz  
**LNA Devices**  
Balanced and self biased configurations,  
providing excellent noise figure and input/output match.

#### Distributed & Wideband Amplifiers

Ultra broadband performance, providing versatile solutions for low noise, gain block and driver stage requirements.

**NF~3.0dB** Broadband, balanced and image reject mixers, providing excellent linearity and low conversion loss.

**G=14dB**      **IR Mixer**      **IR~18dB**      **Multipliers**

Ultra broadband and narrowband active doublers with high output power, available in die and SMT packages.

## **Multiplication**

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## Receivers

Fully integrated wideband low noise solutions with flat gain and integrated LO buffer/doublers.

## Transmitters

Fully integrated solutions offering low DC power consumption and optional power bias.

**Gain Block Amplifiers**  
High gain and broad bandwidth  
guaranteed reliable performance

MESEET Gain Blocks

High dynamic range MESFETs, with excellent low noise, high IP<sub>3</sub> and guaranteed performance, available as bare die or in packages.

FETs

Best in class, low noise, medium and high power FETs, from DC-45 GHz, available as bare die or in packages.

## Miscellaneous

VCOs, phase shifters, attenuators, switches and passive components to cover all your semiconductor needs!

To learn more about us, visit [www.mimixbroadband.com](http://www.mimixbroadband.com)

*Devices shown are enlarged and are not actual size or to scale*