



PacketMAX® Base Station Radio (5 GHz)

Carrier Class WiMAX BSR

Aperto's PacketMAX® series Base Station is the world's first carrier grade WiMAX system operating in licensed and license-exempt frequency bands.

Product Specification

PacketMAX 5 GHz Base Station Radio

Aperto Networks expands the industry-leading PacketMAX product family with the introduction of an economical series of base station radios operating in the 5.4 GHz and 5.8 GHz bands. PacketMAX is the first system offering Dynamic Frequency Selection (DFS) compliant with US and ETSI standards and operating within the WiMAX profile. Subscribers enjoy the benefits of enhanced link-reliability even under interference conditions. Service providers and network operators can generate aggressive return of investment (RoI) from the use of license-exempt 5 GHz frequency band.

As with all PacketMAX fixed WiMAX products, the 5 GHz base station radios are in full compliance with WiMAX standards including IEEE 802.16- 2004, operate OFDM 256 FFT PHY in TDD mode.

The PacketMAX base station system has two components: the all-outdoor base station radio (BSR) and the indoor chassis. The BSR transceiver will accept an OFDM signal at 70 MHz from the PacketMAX 5000 or PacketMAX 3000 WiMAX base stations. A single cable connects the outdoor radio with the PM 5000 or PM 3000 IDU supplying power, 20 MHz reference along with 70 MHz intermediate frequency TDD, and telemetry. The unit is moisture sealed and operates in inclement and extreme weather conditions.

Aperto Networks also offers base station radios in the 2.5 GHz, 3.3 GHz, 3.5 GHz licensed bands. All Aperto products are environmentally conscious and are RoHS-compliant.



Base Station Radio (5 GHz)

Typical Applications

- Rapid and low-cost deployments in residential and enterprise/campus networks
- Largescale public safety and municipal networks in the license-free band
- Reliable, high-speed backhaul links for wireless and wired
- Bandwidth-hungry video and data applications requiring low latency and predictable performance

Interface and Connectors

PacketMAX Part Number	PM-BSR-58; PM-BSR-56; PM-BSR-52	
Interface Type	IF	Antenna
Interface Spec/Standard	IF Port, 70 MHz	RF Antenna Port
Connector Type and Spec	Type-F, Male, 75 Ohm	Type-N, Female, 50 Ohm



Wireless to the MAX

PacketMAX 5 GHz WiMAX BSR System Specifications

Aperto Part Number	PM-BSR-58, PM-BSR-56, PM-BSR-52																																																		
Description	5.8 GHz, 5.6 GHz, and 5.2 GHz Base Radio Station Radio																																																		
SYSTEM OVERVIEW	Frequency Range	5.725 to 5.925 GHz, 5.470 to 5.725 GHz, , 5.150-5.350 GHz																																																	
	Channel Bandwidth RX / TX Switching Time Access Method	3.5 MHz, 5.0 MHz, 7.0 MHz 4 us TDD; OFDM 256 FFT																																																	
TX	Output Power Modulation Transmit Power Accuracy Manual SW TX Attenuation Frequency Stability Frequency Step Size	20dBm QPSK, 16QAM3/4, 64QAM3/4 +/-1dB @ Max output power; +/-3dB over full range 30dB +- 4 ppm 500 kHz																																																	
	RX	<table border="1"> <tr> <td>Rx Input Dynamic Range</td> <td colspan="3">60 dB</td> </tr> <tr> <td>Max Rx Input Power, Operational</td> <td colspan="3">-35 dBm (operational)</td> </tr> <tr> <td>Rx Input Dynamic Range</td> <td colspan="3">60 dB</td> </tr> <tr> <td>Rx Noise Figure</td> <td colspan="3">@ Hi signal input (-30 dBm) 36 dB @ Lo signal input (-70 dBm) 8 dB</td> </tr> <tr> <td rowspan="8">Sensitivity (dBm @ BER 10-6)</td> <td></td> <td>3.5 MHz</td> <td>5 MHz</td> <td>7.0 MHz</td> </tr> <tr> <td>BPSK-1/2</td> <td>-92</td> <td>-98</td> <td>-94</td> </tr> <tr> <td>QPSK-1/2</td> <td>-89</td> <td>-96.2</td> <td>-92.4</td> </tr> <tr> <td>QPSK-3/4</td> <td>-86</td> <td>-94.3</td> <td>-89.1</td> </tr> <tr> <td>16QAM-1/2</td> <td>-83</td> <td>-90.5</td> <td>-86.6</td> </tr> <tr> <td>16QAM-3/4</td> <td>-80</td> <td>-87.4</td> <td>-82.3</td> </tr> <tr> <td>64QAM-2/3</td> <td>-76</td> <td>-83.6</td> <td>-78.2</td> </tr> <tr> <td>64QAM-3/4</td> <td>-74</td> <td>-81.4</td> <td>-73.7</td> </tr> </table>		Rx Input Dynamic Range	60 dB			Max Rx Input Power, Operational	-35 dBm (operational)			Rx Input Dynamic Range	60 dB			Rx Noise Figure	@ Hi signal input (-30 dBm) 36 dB @ Lo signal input (-70 dBm) 8 dB			Sensitivity (dBm @ BER 10-6)		3.5 MHz	5 MHz	7.0 MHz	BPSK-1/2	-92	-98	-94	QPSK-1/2	-89	-96.2	-92.4	QPSK-3/4	-86	-94.3	-89.1	16QAM-1/2	-83	-90.5	-86.6	16QAM-3/4	-80	-87.4	-82.3	64QAM-2/3	-76	-83.6	-78.2	64QAM-3/4	-74	-81.4
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ELEC AND MECH	Dimensions (w*h*d) Average Power Consumption IF Frequency Operating Temperature Water	11.75 X 11.75 X 2.75 inches 30 Watts 70 MHz -35 to +60 °C IP65																																																	
IDU COMPATIBILITY		PM5000-WSC-S-24; PM5000-WSC-48; PM3000 (All IDUs)																																																	
REGULATORY	Safety Standards EMI Standards RoHS Compliance FCC ID Industry Canada ID	EN 609501-1: 2002 EN300 385[14], Class A Yes PS6PM52-BS; PS6PM56-BS; PS6PM58-BS 4098A-PM52BS; 4098A-PM56BS; 4098A-PM58BS																																																	

About Aperto Networks

Aperto Networks helps leading service providers deliver affordable wireless voice and broadband profitably by building the world's most advanced WiMAX base stations and subscriber units. Aperto fundamentally changes the economics of delivering voice and broadband services through IP-rich, point-to-point and point-to-multipoint networks, allowing carriers to offer a wider variety of services to more customers using less equipment. Its carrier-class WiMAX technology offers industry-leading subscriber density, quality of service, ease of use and reliability. Aperto is a founding board member of the WiMAX Forum as well as a founder and lead contributor to IEEE 802.16 and the ETSI-BRAN standards. Serving more than 400 customers in over 90 countries, Aperto Networks is based in Milpitas, California. For more information on Aperto Networks, go to www.apertonet.com.