Datasheet

WIRELESS EXCELLENCE

Pre-WiMAX OFDM Radio

Integrated Client Radio

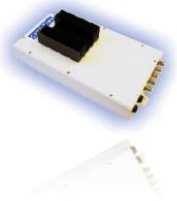
Overview

IHPR/IMPR/ICR Bundle

ICR Radio Unit

MPR Radio Unit

HPR Radio Unit



IHPR-DP Bundle

About Wireless Excellence

Founded in 1995 and with headquarters in Oxford UK, Wireless Excellence Limited is a leading designer and supplier of outdoor and indoor Broadband Wireless communication products.

With a complete range of solutions including Radio, Microwave, Millimetre-Wave, Free Space Optics, WiFi and WiMax solutions, customers in over 60 countries have chosen Wireless Excellence as the "one stop shop" solution of choice for dependable wireless networking.

About Our OFDM Range

Wireless Excellence Broadband solutions deliver the power, connectivity, high-demand services and cost-effectiveness that are crucial to increased return on investment whilst offering the flexibility to support virtually any wireless broadband network. The platform combines superior access performance with the flexibility to facilitate a wide range of applications.

The technology is designed to speed deployment and time to market, while helping control equipment, management and installation costs.

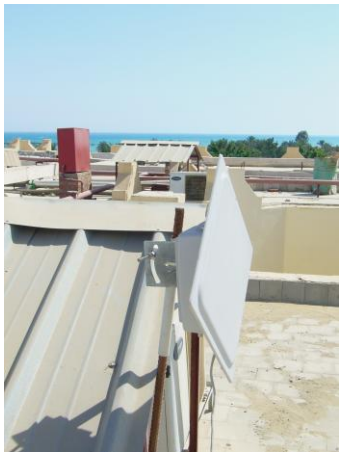
System Features

- Pre-WiMax OFDM Radio Solution
- Integrated Client Radio (ICR) ideal as CPE
- Raw data rates up to 108Mbps
- Versions for either 2.3-2.5 or 5.1-5.8GHz ISM band
- Optional 5.4GHz band support
- Range up to 15km*
- Data Throughput up to 10Mbps (and 30Mbps**)
- Carrier-class OS with NAT, filtering, full management features
- Power-over-Ethernet technology
- No RF cables – single Cat 5 carries power + network data
- Rugged environmental IP66 waterproof enclosure

*Depends on radio environment and choice of base-station antennas
** Only with 266MHz CPU option

Applications

- Ideal CPE for Wireless ISP deployments
- Point-to-Point or Point-to-Multipoint Data network segments
- Wireless ISP
- Fast Roll-out & Temporary Deployment



Embedded Router Platform

Wireless Excellence broadband radios are not cheap enterprise-grade WLAN components. They embody powerful carrier-class routers with advanced features normally not found in wireless bridges or access points. Such features include:

- 266MHz CPU
- IP Bridging
- Layer3 IP Routing
- Border Gateway Protocol (BGP)
- Ethernet-over-IP (EoIP) interfaces
- Virtual Router Redundancy Protocol (VRRP)
- WISP & hotspot –specific features including Walled Garden, Cookies, RADIUS authentication, accounting, control of connection time
- uplink and downlink bandwidth control on a per-user basis
- DHCP Client and Server
- Network Address Translation (NAT), supports TDD transmission

Enhanced Wireless Performance

Wireless Excellence Integrated Client radios offer major advantages over competing radio products. Examples are:

- Highly configurable – up to 2 radio cards – 'mix and match' 2.4 or 5.3/5.8GHz
- Software-selectable 5, 10, 20, 40MHz channel widths.
- OFDM and DSSS Software-defined radio – 'state-of-the art' radio using powerful DSP technology
- Optional proprietary 'Nstreme' wireless protocol - improves P2P and P2MP wireless links beyond the WiFi 802.11x standard through packet optimisation. No protocol/speed degradation for long link distances. Added security layer.
- Sophisticated RadioOS software platform

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Specifications

System Variant	W2GICRO (2.4GHz) and W5GICRO (5.3/5.8GHz)
Performance	
Range	Up to 15km (depends on base station antennas)
Bandwidth	Up to 54Mbps (108Mbps Turbo mode)
Power Consumption	10W; 48V fed from Power-over-Ethernet injector; 115/230Vac; optional Uninterruptible Power Supply (UPS)
Operating Temperature	-20...+60 deg C
Wireless	
Frequency	2.4GHz: 2.412-2.472 (5 MHz step, channels 1-13), 2484 (channel 14) 2.512-2.732 (20 MHz step, channels 15-26) - optional license required 5GHz: 5.150-5.350 (5 MHz step) 5.725-5.825 (5 MHz step) 5.47-5.725 GHz - optional license required. Please contact CableFree for further details.
Radio Type	Direct Sequence Spread Spectrum (DSSS)
Modulation	2.4GHz: CCK (11, 5.5Mbps), DQPSK (2Mbps), DBPSK (1Mbps); OFDM for data rate >20 Mbps 5GHz: OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Operation Channels	13
RF Output Power	18dBm (125mW) – under software control
Sensitivity @FER=0.08:	54 Mbps OFDM -73 dBm; 48 Mbps OFDM -76 dBm; 36 Mbps OFDM -82 dBm; 24 Mbps OFDM -85 dBm; 18 Mbps OFDM -88 dBm; 12 Mbps OFDM -89 dBm; 11 Mbps OFDM -91 dBm; 9 Mbps OFDM -90 dBm; 6 Mbps OFDM -91 dBm; 5.5Mbps OFDM -92 dBm; 2 Mbps OFDM -93 dBm; 1 Mbps OFDM -94 dBm
Radio Data Rate	2.4GHz-b: 11, 5.5, 2, 1 Mbps, auto-fallback, 2.4GHz-g (Normal mode): 54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1 Mbps, auto-fallback, 2.4GHz-g (Turbo mode): 108,96,72,48,36,24,18,12 Mbps, auto-fallback, 5GHz (Normal mode): 54, 48, 36, 24, 18, 12, 9, 6 Mbps, auto-fallback, 5GHz (Turbo mode): 108, 96, 72 48, 36, 24, 18, 12 Mbps, auto-fallback
Compatibility	Proprietary modes plus back compatibility fully interoperable with IEEE 802.11a/b/g compliant products
Radio Architecture	Support ad-hoc, peer-to-peer networks and infrastructure communication to wired Ethernet networks via Access Point
Security	64/128-bit WEP data encryption; WPA; Proprietary mode
Integrated Antenna	
CPU	2.4GHz: 2.4-2.7 GHz, 17dBi, VSWR 1.5:1, Linear H/V Polarisation, 20degree beamwidth, 10W power handling. 5GHz: 5.15-5.875 GHz, 23dBi, VSWR 1.5:1, Linear H/V Polarisation, 10.5degree beamwidth, 24dB cross-polarisation, 10W power handling, 35dB Front-to-Back ratio. 15 Degree Coverage Version Available On Request
Router Platform	
CPU	AMD x86-class 133MHz or 266MHz; 8MB SRAM; 64MB FLASH
System Software	RadioOS 8.1; Choice of license levels 1-6; Remotely Upgradeable via TFTP
Management	Local and Remote configuration, control and administration via RS232, Telnet, HTTP, SNMP and Proprietary protocols
Resilience Features	Virtual Router Redundancy Protocol (VRRP) allows two complete radio ODUs to be configured with one in 'hot standby' for high-availability applications
Mechanical	
Dimensions (mm)	305x305x15mm (diamond shape)
Connectors	Internal: RS232 console: DB9 External: 10/100 Ethernet with auto MDI/MDIX: Waterproof RJ45
Environmental	IP66
Weight	3kg