

RM-ULTRA

WIRELESS BROADBAND RADIO

- MIMO & OFDMA Technologies
- License Exempt Frequencies (2.4 and 5.8 GHz) with Security
- Net Aggregate User Throughput of Up to 50 Mbps
- Centralized Management using VNL NMS
- Low Power Consumption



*RM-ULTRA with
External Antenna*



*RM-ULTRA with
Integrated antenna*

RM-ULTRA

DETAILS

AFFORDABLE MEDIUM CAPACITY OPTIMIZED IP BACKHAUL

This platform deploys reliable and secure high-speed wireless IP connections between multiple remote locations. Available in multiple frequency bands and configurations.

Shyam's Wireless Broadband IP Radio Modem incorporates the latest technologies such as OFDM with Shyam's proprietary protocols. The Carrier Grade Solution ensures 24/7 connectivity with zero network downtime.

RM-ULTRA device can be configured to work in multiple deployment modes i.e. Point-to-Point & Point-to-Multipoint Subscriber Unit. When deployed as Point-to-Multipoint Subscriber Unit, RM-ULTRA can inter-work with RM series Base Station.

FEATURES

- **Optimized Transmission Cost:** Control your transmission cost by avoiding the need to use fiber and leased lines. Significantly reduces CAPEX and OPEX.
- **Rapid Deployment:** This solution is provided as a Plug and Play solution for rapid deployment. Dismantling and redeployment of the unit is speedy as well.
- **Seamless migration:** RM-ULTRA offers Ethernet and native TDM thus enabling seamless migration from TDM to all IP networks. Also have support for 1+1 redundancy thus offering maximum service availability.
- **Seamless migration:** RM-ULTRA offers Ethernet and native TDM thus enabling seamless migration from TDM to all IP networks. Also have support for 1+1 redundancy thus offering maximum service availability.
- **Sensible Business Case:** The unit directly contributes to your bottom line as it offers the most cost-effective way to provide high bandwidth as well as network expansion.
- **Single Integrated Voice and Data Solution:** Can connect routers via ethernet to provide a Single Voice & Data Link for customers. The revenue generating potential for this application is immense.
- **All Weather Reliability:** Our system is outdoor capable and rugged enough to withstand extreme weather conditions.

HIGHLIGHTS

- *Aggregate User Throughput of Up to 50 Mbps*
- *Low Power Consumption*
- *Options for External or Integrated Antenna with MIMO capability*
- *Based on OFDM technology*
- *Flexible Architecture: Point-to-Point and Point-to-Multipoint Subscriber Unit*
- *Simple Installation and Maintenance*
- *Power through PoE*
- *TDD - TDMA Duplex Technique Suitable for Both TDM and Ethernet Services*
- *License Exempt Frequencies (2.4 and 5.8 GHz)*
- *Advanced Networking Features*
- *Enhanced Security – AES Encryption*
- *Traffic Prioritization*
- *Interoperable with Shyam E1 IDU*
- *Centralized Management using Shyam UNMP*
- *Inter Operable with E1 IDU*

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SPECIFICATIONS

SYSTEM	
Type	Outdoor
Link Topology	Point-to-Point, Point-to-Multipoint Subscriber Unit
Frequency Bands	2.4 - 2.5 GHz 5.125 - 5.875 GHz
Channel Bandwidth	5/10/20/40 MHz
RF Output (dBm)	Up to 23 dbm (Configurable)
Rx Sensitivity (dBm) 2.4/5.8 GHz	BPSK : -88 QPSK: -85 16 QAM : -82 64 QAM : -72
Data Rate	Aggregate User throughput of Up to 50 Mbps
Latency	4 msec (Typical)
Duplex Technique	TDD
Dimension (H x W x D) in mm	240 x 105 x 55 (Radio with External Antenna) 240 x 105 x 60 (Radio with Integrated Antenna)
Weight (Kg)	With Integrated Antenna: 0.6 Without Antenna: 0.5

FEATURES	
Modulation	OFDM - BPSK/QPSK/16QAM/64QAM
FEC	1/2, 2/3, 3/4, 5/6
Encryption	AES 128
Adaptive Coding & Modulation	Supported
Automatic Channel Switching	Supported
Bridging	Self-Learning Up to 2047 MAC Addresses IEEE 802.1Q
Maximum Frame Size	1536 bytes
VLAN	802.1Q, QinQ Tagging
Management VLAN	Supported
IP/MAC Filtering	Supported
DFS	Supported
Installation and Maintenance Tools	Built in RF Analyzer, Ethernet Test Tool, Ping Test, Buzzer for Alignment

POWER	
Power Supply	AC or DC (via PoE)
Max Power Consumption	8 W

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SPECIFICATIONS

INTERFACES		
ETHERNET		
Type	10/100 Base-T Interface with Auto-Negotiation (IEEE 802.3)	
Number of Ethernet Ports	2	
Connector	RJ-45	
ANTENNA		
Antenna Port	SMA connector (Only for Unit with External Antenna Option)	
Polarization	Dual	
Frequency Band	2.4 - 2.5 GHz	5.125 - 5.875 GHz
Integrated Antenna Gain	9 dBi	13 dBi
Beam Width	70° (Typical)	40° (Typical)

MANAGEMENT	
Management Interface	SSH, Web Server and SNMP
Firmware Upgrade	Local & Remote
Network Management	Shyam's Unified Network Management (UNMP)

ENVIRONMENT	
Water & Dust Protection	IP55
Operating Temperature	-10° to 60° C (-14° to 140° F)
Humidity	Up to 95% (Non-Condensing)

REGULATION	
RADIO (FCC : 47CFR)	Part 15, Subpart C
C&B (IC)	RSS-210
SAFETY (TUV)	60950, According to UL 60950
SAFETY (CAN-CSA)	C22.2 No. 60950
EMI/EMC	CISPR-22
ENVIRONMENTAL	Category D of QM333

RM-ULTRA MODELS

MODEL NO.	PRODUCT DESCRIPTION
RMU-2400	PTP RM Ultra,2.4 GHz,50 Mbps throughput with 2XSMA Ext. Antenna option, 1 PoE in and 1 FE port
RMU-2409	PTP RM Ultra,2.4 GHz,50 Mbps throughput with 9 dBi integrated antenna, 1 PoE in and 1 FE port
RMU-5800	PTP RM Ultra,5.8 GHz,50 Mbps throughput with 2XSMA Ext. Antenna option, 1 PoE in and 1 FE port
RMU-5813	PTP RM Ultra,5.8 GHz,50 Mbps throughput with 13 dBi integrated antenna, 1 PoE in and 1 FE port

ABOUT VNL

VNL makes WorldGSM™, a complete GSM and Broadband Solution that helps mobile operators reach rural markets profitably. It is completely solar powered and optimized for rural markets. For the first time, mobile operators can build profitable businesses serving low-ARPU users in rural and remote communities.

The microtelecom revolution is ready to begin and VNL is leading the charge.

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