

# RM-COMPACT

## WIRELESS BROADBAND RADIO

- Carrier Grade Performance
- 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



*Carrier Grade Wireless Broadband IP Radio  
with Integrated/External Antenna*

# RM-COMPACT

## DETAILS

### MEDIUM CAPACITY LONG RANGE 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, it covers a distance of more than 100 kms.

VNL's Wireless Broadband IP Radio Modem incorporates the latest technologies such as OFDM with VNL's proprietary protocols.

The Carrier Grade Solution ensures 24/7 connectivity with zero network downtime.

RM-COMPACT device can be configured to work in multiple deployment modes i.e. Point-to-Point, Multiple-Point-to-Point & Point-to-Multipoint Subscriber Unit. When deployed as Point-to-Multipoint Subscriber Unit, RM-COMPACT 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-COMPACT 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

- *Carrier Grade Performance*
- *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, Multiple-Point-to-Point and Point-to-Multipoint Subscriber Unit*
- *Long Range - More than 100 kms (Depending on Terrain, Frequency, etc.)*
- *Operational in nLOS, High Interference and Harsh Weather Conditions*
- *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 VNL E1 IDU*
- *Optional Co-location Interference Avoidance*
- *Centralized Management using VNL UNMP*
- *Inter Operable with E1 IDU*

# RM-COMPACT

## SPECIFICATIONS

SYSTEM	
Type	Outdoor
Link Topology	Point-to-Point, Multiple-Point-to-Point (Only in Sync Enabled Hardware), Point-to-Multipoint Subscriber Unit
Frequency Bands	2.4 - 2.5 GHz 5.125 - 5.875 GHz 4.9 - 6.0 GHz ( Optional)
Channel Bandwidth	5/10/20/40 MHz
RF Output (dBm)	Up to 25 dbm (Configurable)
Rx Sensitivity (dBm) 2.4/5.8 GHz	BPSK: -90 QPSK: -88 16QAM: -85 64QAM: -75
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	292 x 139 x 66 (Radio with External Antenna) 370 x 370 x 88 (Radio with Integrated Antenna)
Weight (Kg)	With Integrated Antenna: 2.5 Without Antenna: 1.5

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
Site Synchronization	Supported (Only in Sync Enabled Hardware)
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

# RM-COMPACT

## SPECIFICATIONS

POWER	
Power Supply	AC or DC (via PoE)
Max Power Consumption	9 W

INTERFACES	
ETHERNET	
Type	10/100 Base-T Interface with Auto-Negotiation (IEEE 802.3)
Number of Ethernet Ports	1 (Unit with Sync Option) 2 (Units without Synch Option)
Connector	RJ-45
ANTENNA	
Antenna Port	N-Type (Only for Unit with External Antenna Option)
Polarization	Dual
Frequency Band	2.4 - 2.5 GHz      5.125 - 5.875 GHz
Integrated Antenna Gain	19 dBi      23 dBi
Beam Width	25° (Typical)      8° (Typical)

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

ENVIRONMENT	
Water & Dust Protection	IP66
Operating Temperature	-20° to 70° C (-4° to 158° 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-COMPACT MODELS

MODEL NO.	PRODUCT DESCRIPTION
RMC-2400	PTP RM Compact, 2.4 GHz, 50 Mbps throughput with 2XN Ext. Antenna Option, 1 PoE in and 1 FE Port
RMC-2400-SYNC	PTP RM Compact, 2.4 GHz, 50 Mbps throughput with 2XN Ext. Antenna Option, 1 PoE in and 1 SYNC Port
RMC-2419	PTP RM Compact, 2.4 GHz, 50 Mbps throughput with 19 dBi Integrated Antenna, 1 PoE in and 1 FE Port
RMC-2419-SYNC	PTP RM Compact, 2.4 GHz, 50 Mbps throughput with 19 dBi Integrated Antenna, 1 PoE in and 1 SYNC Port
RMC-5800	PTP RM Compact, 5.8 GHz, 50 Mbps throughput with 2XN Ext. Antenna Option, 1 PoE in and 1 FE Port
RMC-5800-SYNC	PTP RM Compact, 5.8 GHz, 50 Mbps throughput with 2XN Ext. Antenna Option, 1 PoE in and 1 SYNC Port
RMC-5823	PTP RM Compact, 5.8 GHz, 50 Mbps throughput with 23 dBi Integrated Antenna, 1 PoE in and 1 FE Port
RMC-5823-SYNC	PTP RM Compact, 5.8 GHz, 50 Mbps throughput with 23 dBi Integrated Antenna, 1 PoE in and 1 SYNC 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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