



## MDL - MULTIPOINT DIGITAL LINK

THE MIMOMAX MULTIPOINT DIGITAL LINK (MDL) IS AN ULTRA SPECTRALLY EFFICIENT POINT-TO-MULTIPOINT, FIXED LINKING AND SCADA SOLUTION FOR CRITICAL NETWORK INFRASTRUCTURE. THE MDL HAS VERY HIGH DATA THROUGHPUT RATES, NEAR INSTANTANEOUS REMOTE RADIO ACCESS TIMES AND PROVIDES EXTENSIVE NETWORK COVERAGE.

### KEY FEATURES

- |                              |  |
|------------------------------|--|
| <b>BENEFITS</b>              | ~ Point-to-Multipoint                                    |
| <i>Near Instantaneous</i>    | ~ Very high & scalable data throughput rates             |
| <i>Scalable</i>              | • Up to 360kb/s raw data rate in a 25kHz channel         |
| <i>Very Adaptable</i>        | • Up to 120kb/s raw data rate in a 12.5kHz channel       |
| <i>Robust</i>                | ~ Multipurpose SCADA & Sophisticated IP Linking Solution |
| <i>Excellent Coverage</i>    | ~ Near real time access to data                          |
| <i>Highly Efficient</i>      | ~ Very low latency <25ms                                 |
| <i>Exclusive to User</i>     | ~ Very low power consumption                             |
| <i>Economical</i>            | ~ Capacity to simultaneously poll and interrupt data     |
| <i>Future Defensive</i>      | ~ UHF licensed spectrum                                  |
| <i>Environmentally Sound</i> | ~ Automatic and instantaneous built-in path re-routing   |
|                              | ~ Extensive path redundancy                              |
|                              | ~ Ethernet & Serial interfaces                           |
|                              | ~ Full Duplex  |
|                              | ~ IP Data Encryption & Firewall security                 |
|                              | ~ Advanced software features                             |
|                              | ~ User settable frequency                                |
|                              | ~ User programmable power                                |
|                              | ~ Rack, pole & wall mountable                            |



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RF General		
RF Bands	400MHz	900MHz
RF Frequency Range	420 to 470MHz <sup>(1)</sup>	806 to 960MHz <sup>(1)</sup>
RF Frequency Band Splits	420-430MHz 440-450MHz 450-470MHz	806-869MHz 852-933MHz 896-960MHz
Configuration	2 x 2 MIMO 2 x 4 MIMO	2 x 2 MIMO
Supply Voltage	10.5V DC to 32V DC	10.5V DC to 64V DC
Nominal Channel Bandwidth	12.5kHz & 25kHz (50kHz future)	
Supported Outstations (RRU)	Typically 250 (up to 1020) <sup>(2)</sup>	
Modulation Options <i>(Software Configurable)</i>	QPSK/16/64/256QAM	
Gross Data Rates	25 kHz 12.5 kHz	80/160/240/320kb/s 40/80/120/160kb/s
Symbol Rate	2 x 20k symbols / second	
Maximum Power Consumption	92W Max (at 13.8V) 72W Typical	
Standby Power Consumption (RRU)	<10W Typical	
Ambient Temp. Range	-25°C to +60°C	
Mounting	2U high Rack Mount	
	Pole Mount Unit	
	Wall Mount Unit	
Dimensions (W x H x D)	Rack mount option	440 x 84.5 x 382mm <i>box size</i> 481 x 86 x 392mm <i>incl. protrusions</i>
	Wall/pole mount option	262 x 393 x 86.5mm, <i>radio unit only, excl. mounting</i>
Weight	6.8kg <i>radio unit only, excl. mounting</i>	

Transmitter	
Modulation	QPSK/16/64/256QAM
RF Power Output	2 x +30dBm (1 Watt) average
RF Power Control Range	>20dB
Frequency Step Size	5kHz & 6.25kHz Adjustable
Frequency Accuracy and Stability	≤2ppm

Receiver / Diversity Receiver		
Modulation	QPSK/16/64/256QAM	
Typical RF Sensitivity for 10-4 BER	25 kHz	<-102/-99/-94/-87dBm
	12.5 kHz	<-106/-102/-97/-90dBm
Typical RF Sensitivity for 10-7 BER	25 kHz	<-101/-98/-92/-85dBm
	12.5 kHz	<-105/-101/-95/-88dBm
Frequency Step Size	5kHz & 6.25kHz Adjustable	
Frequency Accuracy and Stability	≤2ppm	

Duplexer (Internal)		
RF Bands	400MHz	900MHz
Bandwidth	>500kHz <i>(Stop Band)</i>	>4MHz <i>(Pass Band)</i>
Tx / Rx Split	5MHz minimum	24-76MHz
Stop Band Attenuation	>70dB	
Insertion Loss	<2dB	

## Internal Digital Interfaces (Data & Analogue)

ETHERNET	
Format	10BaseT (400MHz)
	10/100BaseT (900MHz)
Connector	RJ45
Supported Bit Rates	Up to 280 kb/s <sup>(3)</sup>
FIBRE	
Format	C37.94
Connector	ST
ASYNCHRONOUS SERIAL <sup>(4)</sup>	
Format	Single & Dual <sup>(5)</sup> RS232
Connector	RJ45
Baud Rate	300 - 115,200 baud

Compliances		
RF Bands	400MHz	900MHz <sup>(6)</sup>
Radio Performance	AMCA <i>AS/NZS 4768 &amp; AS/NZS 4295-2004</i>	AMCA <i>AS/NZS 4768 &amp; EN 300 113</i>
	FCC 47CFR part 90 <i>FCC: XMK-MMXRUDHB002</i>	FCC 47CFR part 101
	RSS-Gen <i>RSS-119</i>	RSS-Gen <i>RSS-119</i>
IC Canada <i>8587A-RUBFDHB2</i>	EN 302 217 <i>EN302 217-2-2 V1.2.3 &amp; EN302 326-2 V1.2.2</i>	
	EN 302-113 <i>EN 300-113-2 V1.4.1</i>	
	EMC <i>AS/NZS/CISPR22</i>	
EN 301 489 <i>EN 301 489-1 V1.8.1 &amp; EN301 489-4 V1.3.1</i>	FCC 47CFR part 15	
	ICES-003	
	Environmental <i>EN 300 019 Sections 3.3 &amp; 4.2H</i>	
Safety	EN 60950 (2006)	

- (1) Other frequencies available on request
- (2) The number of RRUs supported depends on individual requirements  
Please contact MiMOMax Wireless Ltd for further details
- (3) The total aggregate data rate is 70, 140, 210 or 280kbp/s, dependent on the configuration and signal path
- (4) Please contact MiMOMax Wireless Ltd directly for more information on individual configuration requirements
- (5) The Dual RS232 does not include hardware flow control
- (6) Designed to be compliant with listed standards



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