

Outdoor Unit for Digital MW Radio Systems 4 to 38GHz Frequency Range



> ODU

Main Features

- High Linearity allowing highest order modulation schemes..
- Very low power Consumption.
- Compact and Lightweight.
- Very low Phase Noise.
- SW Selectable BW.
- Superior reliability – High MTBF.
- Fully Calibrated over the temperature range.
- Proprietary quick release WG Antenna Interface.

Options

- HP version (available up to 13GHz)
- WB version for 56 ch. BW operation
- -50 °C (-58 °F) Operational.
- Customized IF Frequency / Telemetry Interface.
- Customer Specific IDU Interface.
- 17 & 24GHz cross polarization versions for licence-exempt ISM bands

The Outdoor Unit provides a flexible and cost-effective solution to System Integrators for PDH and SDH radio systems; operating in the licensed bands from 4 to 38 GHz, the ODU Family is the best solution for fast time to market, highest performances and reliability.

The 17 and 24 GHz Cross ODU are specifically designed to meet the requirements of the ISM bands. They operate with Tx and Rx Crosspolarized through an OMT into a circular Waveguide.

The ODU is SW configurable ODU, settings and readings are available through Customer Specific Telemetry Protocol. A built in microcontroller provides full calibration of Transmit Power and Receive Signal Level (RSL) by means precise and reliable algorithms. Additionally, the ODU enhanced software allows inventory modules ID, setting and fine tuning of several parameters and downloadable field upgrades.

The advanced features and enhanced capabilities of the ODU make it the ideal solution for Radio Links from 2 to 310 Mbps capacity, with modulation schemes from QPSK to 128 QAM and channel BW from 3.5 to 56 MHz.

The small size of the modules allows to eventually fit them into the customer standard ODU housing, upon request.

Default

Option

Hardware Available configurations

STANDARD
28 MHz Ch BWWIDE BAND
56 MHz Ch BW

Full Duplex

Half Duplex
TX or RXTX Power
Standard or High

FREQUENCY SPECIFIC ODU PARAMETERS

Frequency	Standard	Operating Frequency (GHz)	TX Output Power dBm - STD (HI)			Noise Figure
			QPSK	16, 32, 64QAM	128, 256QAM	
4GHz	ETSI/FCC	3,80 to 5,80	+27 (+32)	+24 (+29)	+22 (+27)	<4 dB
6GHz	ETSI/FCC	5.90 to 6.40				
7/8GHz	ETSI	7,10 to 8.50				
10/11GHz	ETSI/FCC	10.00 to 10.70	+26 (+31)	+23 (+28)	+21 (+26)	<4,5 dB
11GHz	ETSI/FCC	10.70 to 11.70				
13GHz	ETSI	12.75 to 13.25				
15GHz	ETSI	14.40 to 15.35	+25	+22	+20	<4.5 dB
18GHz	ETSI/FCC	17.70 to 19.70	+23	+21	+18	<5.5 dB
23GHz	ETSI/FCC	21.20 to 23.60	+22	+19	+17	<5.5 dB
26GHz	ETSI/FCC	24.50 to 26.50	+21	+18	+16	<6.0 dB
38GHz	ETSI/FCC	37.00 to 39.50	+18	+15	+13	<6.5 dB

17GHz	ISM band	17.10 to 17.30	adjustable from -24 to +7			<5.0 dB
24GHz	Unlicensed	24.00 to 24.25	adjustable from -24 to +5			<5.0 dB

Note: HP Option output power between brackets

ODU PARAMETERS

TX IF interface	350 MHz, -5 to -33dBm	
Rx IF Interface	140 MHz, -12 +/-2 dB over the AGC Range	
Telemetry Interface	Customer specific	
Power control Range	>25 dB	
Power setting resolution	0,5 dB	
Power setting accuracy	2 dB	
Rx AGC Range	-20 to -90 dBm	
SSB tx/rx Phase Noise	4 - 6 - 7 - 8 GHz	11 - 13 - 15 GHz
dBc@10KHz	-82	-80
dBc@100KHz	-103	-100
dBc@1MHz	-123	-120
Synthesizer Step	0,25 MHz	
Frequency Stability	2,5 ppm	
Standard Compliance	Radio ESTI EN 302 217, EN 301 216, EN 301 128, EN 300 198	
	Power Supply ETSI EN 300 132-2	
	EMC / Safety ETSI EN 301 489 / IEC EN 60950	

MECHANICAL / ENVIRONMENTAL

Dimensions	D 260mm, H 160mm
Weight	6.0 kg
Operating Temperature	-33° to +55°C
Altitude	Up to 4500 meters
Humidity	100% all weather
Power Input	-48V DC (-36 to -62V DC)
Power Consumption	<25watts, <35W for HP option
Cooling	Natural convection
Coaxial Interfaces	N-type female
IDU-ODU Cable	Belden 9913/RG-8, up to 300m
Antenna interface	Coaxil N-type connector (6-11 GHz); proprietary direct mount (13 GHz and above)
Standards Compliance	ETSI ETS 300 019