

VALIANT COMMUNICATIONS LIMITED



VCL - 8 x E1 Digital Microwave Radio (DSSS, 5.8 GHz for un-licensed frequency band)

Product Brochure & Data Sheet

VALIANT COMMUNICATIONS LIMITED

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Product Description

E1 Digital Microwave solution for 5.8 GHz, un-licenced frequency band wireless transmission

Valiant's offers a rugged and a very reliable Wireless Digital-Microwave solution which may be used to transmit up to 8 E1 channels (or E1 channels plus an Ethernet Channel) up to a distance of 40 KM in a "line-of-sight" installation.

Valiant's Digital-Microwave Radio solution consists of a 1U, 19-Inch Rack-Mountable Indoor Unit (IDU) and a very compact, pole-mountable Out-Door Unit (ODU).

The 1U, 19-Inch Rack-Mountable Indoor Unit (IDU) may be powered from a nominal - 48V DC power input (acceptable DC voltage input range is - 40V DC to - 60 V DC).

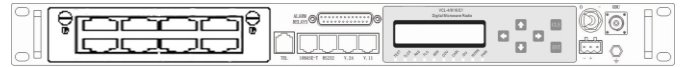
The ODU (Out-Door Unit) is packaged in a weather-proof, rugged pole-mountable units which is powered from the IDU (Indoor Unit) through it's single antenna cable.

Valiant's Digital-Microwave Radio solution is provided with advanced internal diagnostics capabilities which enables it to offer reliable performance even under the most difficult and harsh conditions. The equipment is also available (optionally) in a 1+1 protected package.

Features

- Operates in 5.8 GHz, DSSS un-licenced frequency band
- Scalable transmission capacities from 2Mbps (one E1) to upto 8 E1s
- Offers 1xE1, 2xE1, 4xE1 and 8xE1 Ethernet network interfaces via flexible plug-in modules
- User Programmable Output Power Level
- Software-selectable frequency, ungradable capacity
- Adaptive Reed-Solomon Forward Error Correction (FEC) to ensure error-free transmission
- Automatic Transmit Power Control (ATPC)
- Integrated WEB server
- SNMP based Network Management System
- Comprehensive, integrated performance monitoring and logging
- Available in 1+1 protected, or 1+0 unprotected configurations
- Reliable Link performance
- High reliability

VCL - 8 x E1 Digital Microwave Radio



Front View

Technical Specifications:**General Specifications:**

Radio Type	VCL- 8 x E1 Digital Microwave Radio, 5.8 GHz for un-licenced frequency band
Frequency Source	Synthesizer
System Configuration	Non-Protected (1+0) 1+1 hot standby system Space and frequency diversity
RF Channel Selection	IDU Controlled, or via NMS
Modulation	DSSS CCK, QPSK
User Interface options	E1 - 120 Ohms - Balanced, (1E1,2E1s, 4E1s, 8E1s)
Intermediate Frequency	310MHz / 70MHz
Unfaded BER	10^{-11} or better
Loopback Test Options	Port Loopback, Frame Loopback, Interface Loopback, Remote Line Loopback
Alarm Input	4 x TTL Inputs
Relay Output	5 x Form "C" Relays
MTBF	180,000 Hours
Frequency	5.725 GHz - 5.825 GHz

Spectrum / Bandwidth Requirements:

Transmission bandwidth requirement with QPSK modulation option	Modulation - QPSK	Required Spectrum
	1xE1	1.75 MHz
	2xE1	3.5 MHz
	4xE1	7 MHz
	8xE1	14 MHz

Transmit and Receive Power:

Transmitter	
Output Power	20dBm
Frequency Stability	± 5ppm
Receiver	
Noise Figure	< 4.0 dB
Overload	-30 dBm
Receiver threshold (1×10^{-6} BER)	QPSK Modulation - Receiver threshold: 1xE1 - 90 dBm 2xE1 - 90 dBm 4xE1 - 87 dBm 8xE1 - 84 dBm

Mechanical:

Dimension	Indoor Unit: 482mm x 44mm x 265mm Outdoor Unit: 265mm x 265mm x110mm
Weight	Indoor Unit: 3.5 kg Outdoor Unit: 5.5 kg
Indoor Unit - Outdoor Unit Interconnection	Single Cable, RG-8 Type, 50 Ohms - unbalanced Recommended Cable: Times-Microwave LMR400, or Belden 9913 Maximum Distance: Up to 1000 Ft. (300 m) Outdoor Unit Connector Type: "N" Male Indoor Unit Connector Type: "TNC" Male

Operating Conditions - Environmental:

Temperature Range	Operating Temperature Range: Indoor Unit: -5~+50°C Outdoor Unit: -33~+65°C
Relative Humidity	Relative Humidity (non-condensing): Indoor Unit: 20%~90% Outdoor Unit: 0%~100%

Service Channels - Voice:

Engineering Order Wire (EOW)	Frequency Response: 300-3400 Hz Impedance: 600 balanced Interface RJ-11: RJ-11
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Service Channels - Data:

Digital Data Channel 1	0~9600bps, RS232C Serial Interface: (RJ-45 Connector)
Digital Data Channel 2	0~9600bps, RS422 Interface Serial Interface: (RJ-45 Connector)

Management Interfaces:

NMS - Data Channel 1	Serial Interface - 9600bps, RS232C Interface (RJ-45 Connector)
NMS - Data Channel 2	Ethernet Interfaces - 10Mbps, 10BASE-T Interface (RJ-45 Connector)

Power Supply:

Input DC Voltage	- 48V DC Volts +/- 24V DC Volts (Optional)
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Power Consumption:

Power Consumption	Indoor Unit 10 Watts Outdoor Unit 25 Watts
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Ordering Information:

VCL- 8 x E1 Digital Microwave Radio		
S.No	Product Description	Qty
1.	VCL- 8 x E1 Digital Microwave Radio, 5.8 GHz DSSS for un-licensed frequency band	1

Technical specifications are subject to changes without notice.
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