

CFIP series

III Digital Microwave Radio Unit



III CFIP FODU TECHNICAL SPECIFICATION

Frequency range (GHz)	7/8/10/11/13/15/18/23/24/26*/38
Channel bandwidth (MHz)**	3.5, 7, 13.75/14, 27.5/28
Modulation	QPSK / 16APSK / 32APSK / 64QAM / 128QAM
Capacity (Mbps)	100; 108 with 4xE1 wayside channels

III PERFORMANCE

Configuration	1+0, 2+0 Frequency Diversity
Frequency stability (ppm) incl. aging	+/-7
Traffic Interfaces	100Mbps Fast Ethernet (RJ-45) / 4xE1 (18-pin connector)
Guaranteed max Tx power (dBm)	(see 2 nd page for details)
RSL Threshold at BER 10 ⁻⁶ , 28MHz, 32APSK, 108Mbps (dBm)	(see 2 nd page for details)
Adaptive Coding and Modulation (ACM)	Hitless

III PORTS

Flange	CFIP-7 and CFIP-8: UBR84 CFIP-10 and CFIP-11: UBR100 CFIP-13 and CFIP-15: UBR140 CFIP-18 and CFIP-23: UBR220 CFIP-24: Circular 10mm CFIP-26: UBR260 CFIP-38: UBR320
Ethernet with power over Ethernet cable	RJ-45 (data traffic, management port, power)
4xE1	18-pin connector
RSL port, RSSI, BNC connector	Output voltage vs RSL: 0 to 1.4V vs -90 to -20dBm
Serial port for configuration	RS-232, Twin BNC connector

III MANAGEMENT FEATURES

TCP/IP	WEB, SNMP, Telnet - local and remote
ASCII Terminal	Serial via Twin-BNC
Monitoring	Via Telnet, WEB GUI, SAF NMS, SNMP Manager
Loopbacks	Yes, E1, modem, IF loopback

III ETHERNET

QoS	64 level DiffServ (DSCP) or 8 level 802.1p mapped in 4 prioritization queues with VLAN support
Max frame size	1916 bytes
Flow Control	Yes
802.1q VLAN support	Up to 15 concurrent traffic VLANs

III MECHANICAL & ELECTRICAL

Stationary use	Ref. ETSI EN 300 019-2-4, class 4.1E; non weather-protected locations
Temperature range	-33° C to +55° C
Dimensions: HxWxD, mm / weight, kg	288x288x80 / 3.5
Input DC voltage	-48 V DC ±10%
Max. power consumption	19-25W



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III RSL AT 10⁻⁶ BER (DBM) AND TOTAL PAYLOAD CAPACITY (MBPS)

Modulation	FEC***	Channel bandwidth (MHz)							
		3.5		7		14		28	
		RSL dBm	Bit rate Mbps	RSL dBm	Bit rate Mbps	RSL dBm	Bit rate Mbps	RSL dBm	Bit rate Mbps
QPSK	Strong	-97	3.5	-93.0	8.7	-91	17.2	-87.0	34.5
	Weak	-93	4.4	-91	10.4	-88	21.1	-84	43.2
16APSK	Strong	-90	7.0	-87	17.3	-84	34.5	-81	69
	Weak	-85	8.6	-84	20.5	-81	41.7	-78	84.8
32APSK	Strong	-86	8.8	-84	21.6	-81	43.2	-77.0	100
	Weak	-80	9.6	-80	25.8	-74.5	55.4	-75.0	108
64QAM	Strong	-83	11.7	-81	28.8	-78	52.1		
	Weak			-77	32.4	-78	65		*
128QAM	Strong		*		*	-75	69		
	Weak					-71	75.4		

III CFIP Tx POWER

Modulation	Standard/High Tx Power, dBm				
	7, 8 GHz	10, 11, 13, 15 GHz	18, 23, 26* GHz	24**** GHz	38 GHz
QPSK	+19 / +27	+19 / +25	+19	-30 ... +3	+17
16APSK	+18 / +26	+18 / +24	+18	-30 ... +2	+16
32APSK	+17 / +25	+17 / +23	+17	-30 ... +1	+15
64QAM	+15 / +23	+15 / +21	+15	-30 ... -1	+13
128QAM	+15 / +23	+15 / +21	+15	-30 ... -1	+12

* Under development

** According to ETSI channel plan

*** Forward Error Correction (FEC) can be optimized either for sensitivity (Strong FEC) or for capacity (Weak FEC)

**** Output Tx range may differ for previous hardware and software versions



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