

CFIP FCC series



III Digital Microwave Radio Unit

III CFIP FODU TECHNICAL SPECIFICATION

Frequencies (GHz)	CFIP-11	CFIP-18	CFIP-23	CFIP-24 UL**	CFIP-38**
Channel bandwidths (MHz)***	5, 10, 20, 30				
Modulation	QPSK / 16APSK / 32APSK / 64QAM / 128QAM				
Max. capacity (Mbps)	100; 106 with 4xT1 wayside channels				

III PERFORMANCE

Configuration	1+0, Ring/Mesh (with STP), 2+0 (Ethernet aggregation with external switch)
Frequency stability (ppm)	+/-7
Traffic Interfaces	100Mbps Fast Ethernet (RJ-45) 4xT1 (18-pin connector)
Guaranteed max Tx power (dBm)	(see 2 nd page for details)
RSL Threshold at BER 10-6, 30MHz, 32APSK, 106Mbps (dBm)	(see 2 nd page for details)
Adaptive Coding and Modulation (ACM)	Hitless

III PORTS

Flange	UBR 100	UBR 220	UBR 220	Circular 10mm	UBR 320
Ethernet with power over Ethernet cable	RJ-45 (data traffic, management port, power)				
4xT1	18-pin connector (bal. 120 Ohm)				
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, T1, modem, IF loopback

III ETHERNET

Switch Type	Managed Fast Ethernet Layer 2
Max frame size	1916 bytes
MAC table	1K entries; automatic learning and aging
Packet buffer	32KB; non-blocking store&forward
Flow Control	802.3x
VLAN support	802.1Q (up to 15 concurrent traffic VLANs)
QoS	64 level DiffServ (DSCP) or 8 level 802.1p mapped in 4 prioritization queues with VLAN support
Spanning Tree Protocol	802.1D-2004 RSTP



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III MECHANICAL & ELECTRICAL

Temperature range	-27.4°F to 131°F
Dimensions: HxWxD, inches / weight, lbs	11.2x11.2x3.1 / 7.7
Input DC voltage	-48 V DC ±10%
Max. power consumption	19-26W (Standard Tx power); 19-35W (High Tx power)

III RSL AT 10⁶ BER (dBm) AND TOTAL PAYLOAD CAPACITY (MBPS)

Modulation	FEC****	Channel bandwidth (MHz)							
		5		10		20		30	
		RSL dBm	Bit rate Mbps	RSL dBm	Bit rate Mbps	RSL dBm	Bit rate Mbps	RSL dBm	Bit rate Mbps
QPSK	Strong	-94	5.9	-94	12.4	-90	25.1	-88	38.3
	Weak	-92	6.8	-92	14.3	-87	30.3	-86	44.2
16APSK	Strong	-87	11.9	-87	24.9	-84	50.2	-82	75.4
	Weak	-85	14.0	-84	28.6	-81	60.6	-79	89.4
32APSK	Strong	-84	15.1	-84	31.1	-81	63.4	-79	96.2
	Weak	-80	17.5	-82	35.1	-77	74.6	-75	106.2
64QAM	Strong	-81	19.9	-81	40.9	-77	83.4		*
	Weak	-78	22.0	-79	44.6	-74	93.8		*
128QAM	Strong		*	-76	49.0	*	*		*
	Weak		*	-72	52.7	*	*		*

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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	-20...0	+12
16APSK	+18 / +26	+18 / +24	+18	-20...-1	+11
32APSK	+17 / +25	+17 / +23	+17	-20...-2	+10
64QAM	+15 / +23	+15 / +21	+15	-20...-4	+8
128QAM	+15 / +23	+15 / +21	+15	-20...-4	+8

* Under development

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

*** According to FCC channel plan

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



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