



III CFIP Lumina FODU technical specification									
Frequency range (GHz)	6	7/8	10/11	13/15	17	18/23	24	26	38
Channel Bandwidths (MHz) <sup>3</sup>	14, 28, 40, 56								
Modulation	4QAM / 16QAM / 32QAM / 64QAM / 128QAM / 256QAM								
Capacity (Mbps)	34 – 366								
III Performance									
Configuration	1+0, Ring/Mesh (with RSTP), 2+0 (built-in Ethernet aggregation), 1+1 (Hot Stand-By)								
Frequency stability (ppm)	+/- 7								
Traffic Interfaces	1 or 2 Gigabit Ethernet (electrical or optical)								
III Ports									
Flange	N-type	UBR84	UBR100	UBR140	Circular 13mm	UBR220	Circular 10mm	UBR260	UBR320
Ethernet	Optical 1 or 2 ODC ports Electrical 1 or 2 RJ-45 Hybrid 1 ODC and 1 RJ-45								
DC power connector	2-pin waterproof circular								
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									
Management port	Ethernet VLAN or Separate Ethernet (RJ-45 or ODC)								
SNMP	Yes, SNMP traps, MIB, SNMP v1/v2c								
EMS	Web based, HTTP								
ATPC feature	Yes								
ACM feature	Hitless 0ms								
Loopbacks	Yes, modem, IF loopback								
III Ethernet									
Switch type	Managed Gigabit Ethernet Layer 2								
Max frame size	9728 bytes								
MAC table	4K entries; automatic learning and aging								
Packet buffer	128KB; non-blocking store&forward								
Flow Control	802.3x								
VLAN support	802.1Q (up to 4K VLAN entries)								
QinQ (Double Tagging)	Yes								
QoS	64 level DiffServ (DSCP) or 8 level 802.1p mapped in 4 prioritization queues with VLAN support								
QoS queuing	Fixed or weighted (configurable ratio)								
Spanning Tree Protocol	802.1D-2004 RSTP, 802.1Q-2005 MSTP								
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 / 3.9								
Built-in DC port surge protection	Conforms to ETSI EN 301 489-1; EN 61000-4-5; IEC 61000-4-5								
Input DC voltage	-40.5V to -57V DC (conforms to ETSI EN 300 132-2)								
Max. power consumption	SP: 25-40 W; HP: 29-52 W								

# CFIP Lumina series

## High capacity - Full Outdoor - Microwave Radio Systems



### III CFIP Lumina Rx sensitivity, payload capacity

Bandwidth <sup>1</sup> , MHz	Modulation	FEC <sup>2</sup>	6 GHz	7 GHz	8 GHz	10 GHz	11 GHz	13 GHz	15 GHz	17 <sup>4</sup> /18 GHz	23 GHz	24 <sup>4</sup> GHz	26 GHz	38 GHz	Capacities, Mbps
14	4QAM	Strong	-93.5	-92.5	-92	-91.5	-92.5	-92.5	-92	-93	-92	-92	-94	-88	18
	16QAM	Strong	-86	-86	-86	-85.5	-86.5	-86.5	-86	-87	-84.5	-84.5	-88	-80.5	37
	32QAM	Strong	-82.5	-82.5	-82	-82	-82.5	-82.5	-82	-83	-81	-81	-84	-77.	49
	64QAM	Strong	-80.5	-79.5	-79	-79	-79.5	-79.5	-79	-80	-79	-79	-81.5	-75	62
	128QAM	Strong	-77.5	-76.5	-76	-75.5	-76.5	-76.5	-76	-77	-76	-76	-78	-72	74
	256QAM	Strong	-74	-72.5	-72.5	-72	-72.5	-73.5	-72.5	-73.5	-72.5	-72.5	-74.5	-68.5	86
		Weak	-72.5	-68.5	-68	-69	-69.5	-69.5	-69	-70	-71	-71	-71	-67	93
28	4QAM	Strong	-90.5	-89.5	-89	-88.5	-89.5	-89.5	-89	-90	-89	-89	-91.5	-85	35
	16QAM	Strong	-84.5	-83	-83	-82.5	-83.5	-83.5	-83	-84	-83	-83	-85	-79	69
	32QAM	Strong	-81.5	-80	-80	-80	-80.5	-80.5	-80.5	-80.5	-80	-80	-82	-76	88
	64QAM	Strong	-79	-77.5	-77.5	-77	-78	-77.5	-77	-78	-77.5	-77.5	-79.5	-73.5	115
	128QAM	Strong	-75.5	-74.5	-74	-73.5	-74.5	-74.5	-74	-75.5	-74	-74	-76.5	-70	139
	256QAM	Strong	-72.5	-71	-70.5	-70.5	-71	-71	-70.5	-72	-71	-71	-73	-67	162
		Weak	-69	-67	-66	-66	-67	-67	-66.5	-69	-67.5	-67.5	-70	-63.5	175
40	4QAM	Strong	-89	-87.5	-88	-87.5	-88	-88	-88	-88	-87.5	-87.5	-89.5	-83.5	50
	16QAM	Strong	-82.5	-81.5	-81.5	-81	-82	-82	-81.5	-82.5	-81	-81	-83.5	-77	98
	32QAM	Strong	-80	-78.5	-79	-78.5	-79.5	-79.5	-79	-79.5	-78.5	-78.5	-80.5	-74.5	127
	64QAM	Strong	-77	-76	-75.5	-75.5	-76.5	-76	-76	-77	-75.5	-75.5	-78	-71.5	164
	128QAM	Strong	-74	-73	-72.5	-72.5	-73.5	-73	-72.5	-73.5	-72.5	-72.5	-74.5	-68.5	196
	256QAM	Strong	-70.5	-69.5	-69	-68.5	-69.5	-69.5	-69	-70.5	-69	-69	-71	-65	229
		Weak	-68	-67	-64.5	-64.5	-65.5	-65	-65	-67.5	-66.5	-66.5	-68.5	-62.5	245
56	4QAM	Strong	-87	-85.5	-86	-85.5	-87	-86.5	-86	-87	-85.5	-85.5	-88	-81.5	72/67 <sup>3</sup>
	16QAM	Strong	-81	-80	-79.5	-79.5	-80.5	-80	-79.5	-80.5	-79.5	-79.5	-82	-75.5	145/135 <sup>3</sup>
	32QAM	Strong	-78	-77	-77.5	-77	-78	-77.5	-77	-77.5	-76.5	-76.5	-79	-72.5	186
	64QAM	Strong	-75.5	-74.5	-74	-73.5	-74.5	-74.5	-74	-75.5	-74	-74	-76	-70	241
	128QAM	Strong	-72	-71	-71	-70.5	-71.5	-71.5	-71	-72	-70.5	-70.5	-73	-66.5	289
	256QAM	Strong	-68.5	-67.5	-67	-66.5	-68	-67.5	-67	-68.5	-67	-67	-69.5	-63	337
		Weak	-64	-63	-63	-62.5	-63.5	-63	-62.5	-64.5	-62.5	-62.5	-65	-58.5	366

<sup>1</sup> According to ETSI channel plan

<sup>2</sup> Forward Error Correction (FEC) can be optimized either for sensitivity (Strong FEC) or for capacity (Weak FEC)

<sup>3</sup> Higher capacity is available in 16QAM and 4QAM if using 32QAM-256QAM with ACM enabled

<sup>4</sup> For non-degraded Rx sensitivity refer to Technical Description (TD) for maximum Tx level according to Rx level observed.



# CFIP Lumina series

High capacity - Full Outdoor - Microwave Radio Systems



## III CFIP Lumina Tx power

Modulation	Standard/High Tx Power, dBm					
	6, 7, 8 GHz	10, 11, 13, 15 GHz	17 GHz <sup>4,5</sup>	18, 23, 26 GHz	24 GHz <sup>4,5,6</sup>	38 GHz
4QAM	+19 / +27	+19 / +25	-25...+5	+19	-20...0	+17
16QAM	+18 / +26	+18 / +24	-25...+4	+18	-20...-1	+16
32QAM	+17 / +25	+17 / +23	-25...+3	+17	-20...-2	+15
64QAM	+15 / +23	+15 / +21	-25...+1	+15	-20...-4	+13
128QAM	+15 / +23	+15 / +21	-25...+1	+15	-20...-4	+13
256QAM	+12 / +20	+12 / +18	-25...-2	+12	-20...-7	+10

## CFIP Lumina Labeling

The label can be found on the front side of the unit.

The label contains the following information (see sample in the picture below):

- Model name ("CFIP Lumina").
- Product Number (I18GLT02HB).
- Unit Serial Number (3203001 00002); serial number uniquely identifies the FODU.



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MADE IN LATVIA

**CFIP Lumina**

Product Name

Tx: 19198.00 - 19693.00 MHz  
Rx: 18188.00 - 18683.00 MHz

P/N: I18GLT02HB

Product Number

S/N: 3203001 00002

Serial Number



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<sup>4</sup> For non-degraded Rx sensitivity refer to Technical Description (TD) for maximum Tx level according to Rx level observed.

<sup>5</sup> Tx power should not exceed EIRP limitation. Please consult the local spectrum regulating authority.

<sup>6</sup> Output Tx range may differ for previous hardware and software versions.

