PRODUCTS + SERVICES

COFDM IP MESH RADIOS

Our IMP2 range of COFDM IP Radios is suitable for use by professional security services for bi-directional Point to Point and Multi-point to Multipoint Video and Control applications

LINEAR RF AMPLIFIERS

We design a low and medium power linear RF Power Amplifiers for COFDM and CDMA systems

RF DOWNCONVERTERS

Our L-Band and S-Band Dual Downconverters offer two channel receive diversity and gain with phantom power feed for COFDM diversity receivers

BATTERY MANGEMENT

We design Battery Management Systems for maintaining, charging and gauging NiMH and Lithium Ion/Polymer batteries for portable products

DESIGN SERVICES

Our highly experienced design team can provide RF and general electronics design services to to your requirements at competitive prices.

For further information and pricing please contact us at:

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Mail: sales@adaptiveRF.com

adaptiveRF
expertise in wireless design

10 WATT LINEAR FRONT END MODULE

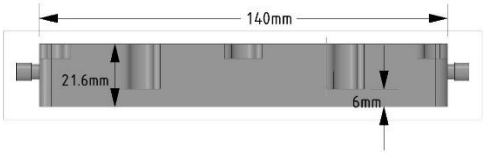
The FEM-10W-PA (FEM) is an advanced L-Band Duplex Front End Module designed for use with high modulation rate TDD COFDM radios.

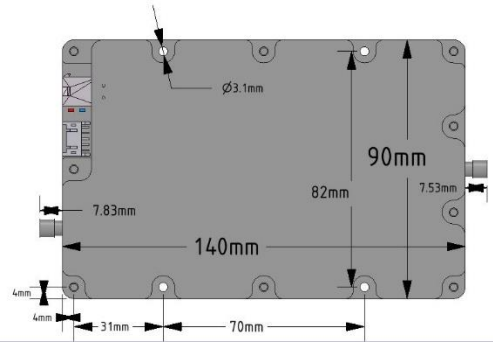
The FEM contains an LNA in the receive path and a 90 Watt peak PA stage in the transmit path. Switching between RX and TX mode is via a logic level control line. The PA is capable of providing in excess of 10Watt (+40dBm) average linear power into 50 Ohms at 1.4GHz. Other frequencies can also be requested.

The FEM typically requires an RF input of +24dBm to achieve the maximum linear output and a power source with voltages between 12 to 28V dc, capable of supplying up to 60 Watts continuos power.

The FEM is housed in a high quatity milled aluminium casing which should be bolted to an additional heatsink, or bulkhead for cooling purposes. A logic level temperature controlled fan output is provided if additional forced cooling if required.

- L Band Duplex Front End Module combines a 10Watt (+40dBm Ave) linear PA and LNA in a compact milled case. (L140mm x W90mm x H21.6mm).
- 50 Ohm input and outputs (SMA connectors).
  TX Gain 16dB typical @1.4GHz
  RX Gain 17dB typical @1.4GHz
  Switching time <1uS
- 12V to 28V Operation (built-in regulation). Reverse, Under and Overvoltage protection.
  Temperature and Supply monitoring with PWM Fan control output.





Designed and Manufactured in The United Kingdom by adaptiveRF Ltd
Company Registered in England No: 6478529, VAT Registration No: GB 926 425 617
Vist us at http://www.adaptiveRF.com

SPECIFICATIONS (-40 to +60°C Ambient, 1375-1425MHz, 50Ohm unless noted)

DC Characteristics

PARAMETER	MIN	TYP	MAX	UNITS	NOTES
Supply Input Voltage	10	24	30	V	At Connector
Supply Input lockout Thresholds	<8		>34	V	No Operation
Supply Over Voltage Protection			60	V	No Damage
Supply Reverse Polarity Tolerance	-40			V	No Damage
Supply Power Consumtion For Max RF Power			60	W	+40dBm (Ave)
Internal Switch Mode Supply Efficiency	95	97		%	

RF Characteristics

PARAMETER	MIN	TYP	MAX	UNITS	NOTES
Operating frequency range	1375		1425	MHz	Standard tuning
TX Power Gain RF IN = +20dBm	15	16	17	dB	W-CDMA test signal
TX OUT Power	+39	+40	+41	dBm	W-CDMA test signal
TX OUT flatness RF IN = +20dBm	-1	0	+1	dB	W-CDMA test signal
Spurious Emissions RF OUT			-30	dBm	
Adjacent Channel Power +5MHz		-45	-40	dB	RF OUT=+40dBm
RF IN Power for RF OUT=+40dBm	0	+24	+25	dBM	COFDM signal
RX LNA Power Gain	16	17	18	dB	Gain can be adjusted with PCB attenuator
RX Noise Figure		2	3	dB	

Environmental

PARAMETER	MIN	TYP	MAX	UNITS	NOTES
Ambient Operating Temperature	-40		+60	ªC	Limited By Base Temperature
Relative Humidity	0		90	%	non-condensing
Base Plate Temperature	-40		100	ªC	For specified operation
Shut Down temperature	110		120	ªC	
Shut Down Recover Hysteresis		10		ªC	
Weight		580		grams	
Approvals					TBC

Disclaimer

This product is for use by professional security services only.
Users must comply with any local frequency licensing laws/regulations

adaptiveRF Ltd will not be liable for claims arising from improper/illegal use,
nor technical or editorial errors or omissions.
All product specifications are subject to change without notice

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