

## RF-over-Fiber RFoF6 – 6 GHz LN

### Description

The RF-over-Fiber Low Noise Module (RFoF6 – 6GHz LN) converts analog RF signals into Fiber signals; and also converts Fiber signals to RF signals. The module offers a wide frequency range up to 6 GHz, with best-in-class noise performance as well as excellent stability and frequency jitter. Ideal for high-tech applications requiring specific low noise attributes.

### Features

- Wide bandwidth from 300 MHz to 6 GHz
- Single Mode with a max. distance of >100 km
- No external control circuits required
- Analog Signal to Optical convert and back

### Applications

- Defence applications
- Test environments



### Order Information

Item Description	Item Number
RFoF6 – 6 GHz LN (TX)	85074581
RFoF6 – 6 GHz LN (RX)	85074578

### Electrical Data

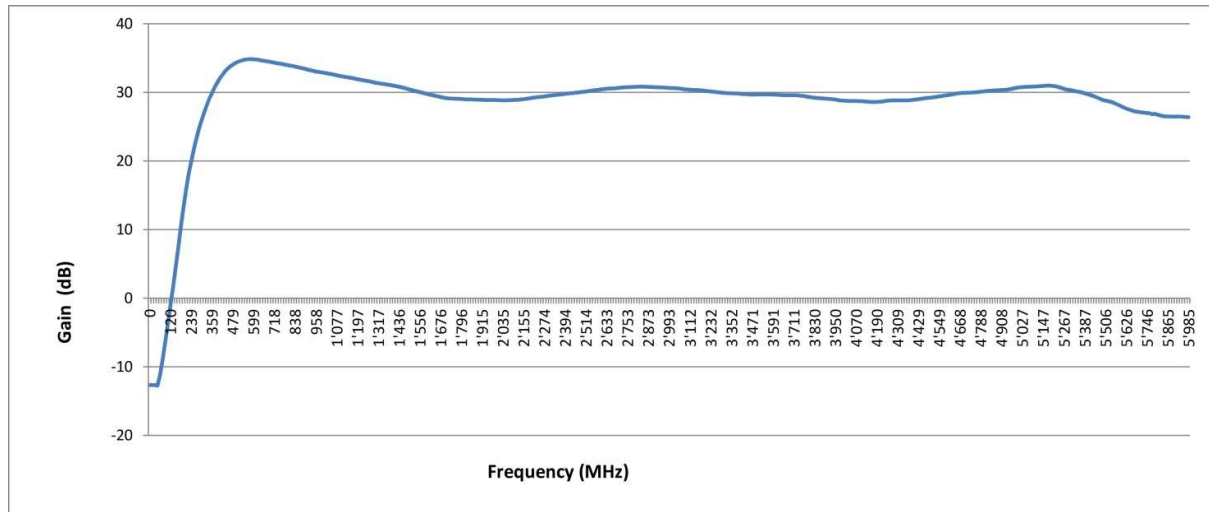
Parameters		Value					Remarks
All specifications at 25°C case Temperature T <sub>c</sub> , unless otherwise specified							
Frequency range	MHz	500	1000	2500	4000	6000	
Gain	dB	34	33	30	28.5	26	
Gain flatness	dB/100MHz	<2	<0.7	<0.7	<0.4	<0.6	
Noise figure	dB	7.0	7.0	8.0	10.0	19	
Spurious-free dynamic range	dB Hz <sup>2/3</sup>	110	108	105	100	100	
Max. input at 1dB compression	dBm	-30	-30	-30	-30	-30	
Max. input power for no damage	dBm	+10	+10	+10	+10	+10	
VSWR (input and output)	dB	1.9	1.9	1.9	1.9	1.9	
OIP3	dBm	+17	+14	+5.0	+4.0	+0	
Time Delay	ns	12	12	12	12	12	
Supply voltage Transmitter	VDC	+12					Max. 750 mA
Supply voltage Receiver	VDC	+12					Max. 500 mA
Temperature range Operating	°C	-40 to +85					
RF input impedance	ohm	50					
Module weight	kg	1.1					Transmitter and Receiver
Module dimensions	mm	220x100x34					Transmitter and Receiver
RF connectors		QMA / SMA female					Alternative connectors possible

### Optical Data

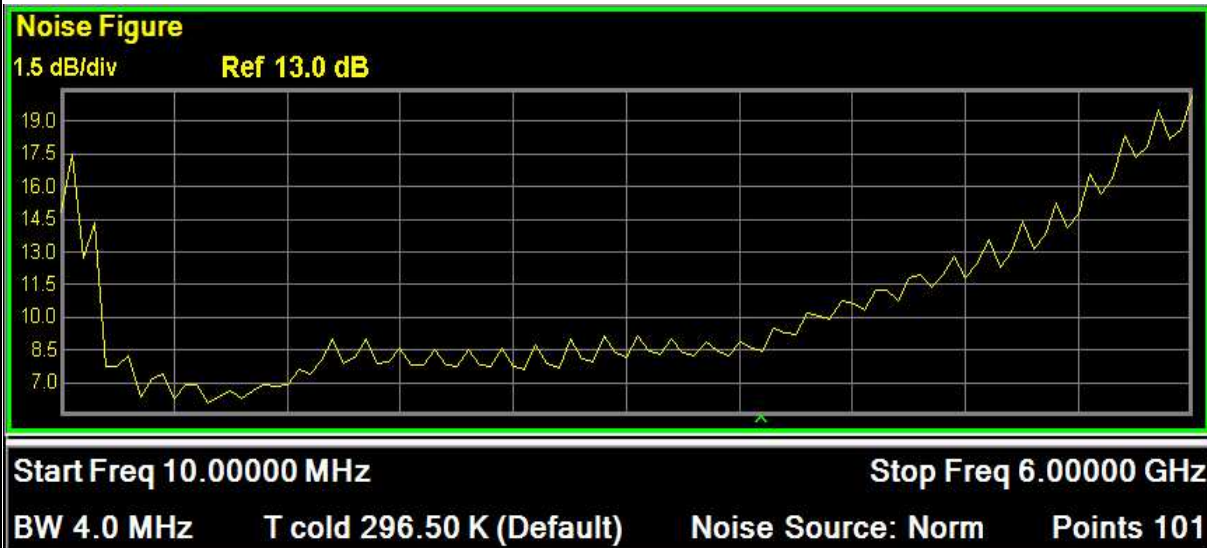
Parameters				Value			Remarks
All specifications at 25°C case Temperature T <sub>c</sub> , unless otherwise specified							
				Min.	Typ.	Max.	
Fiber power loss	dB/km				0.4		
Optical power in fiber	mW			3	6	10	
Side mode suppression ratio	dB			30	40		
Fiber optic connectors		Q-ODC 12					Alternative connectors possible.
Fiber		Single mode fiber 9/125 um					

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### Typical Frequency Response (based on 3 random samples)



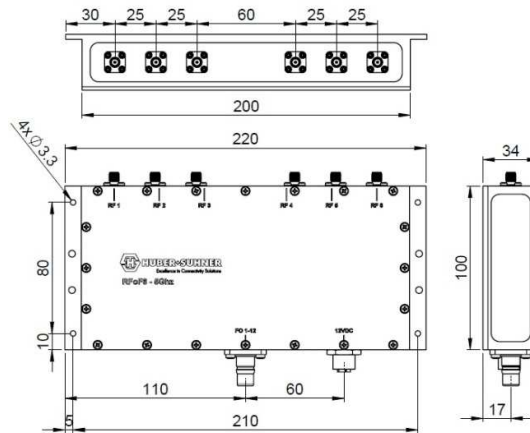
### Typical Noise Figure



# Data Sheet

## RF-over-Fiber RFoF6 – 6 GHz LN

### Dimensions (mm)



### Additional Information

- All modules are RoHS Compliant.
- All modules are EMC protected.
- DIN 35 brackets are delivered with each module. Other brackets available upon request.
- MIL and other certifications are possible upon request.
- Various racks and enclosures available.

### Application Notes

#### Potential Applications

- Aerospace+Defense applications such as radar systems, naval systems, UAV's and airframe cable systems for aircraft and helicopters.
- Specialised test environments.
- SATCOM.

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