Analog Fiber Optic Link 2 MHz to 8 GHz

N8 - SERIES

Features :

- Bandwidth 2 MHz to 8 GHz
- No external control circuits required
- Small and compact size

Applications:

- Antenna remoting
- GPS signal in house distribution
- Communication links
- Reference Signal distribution
- Time synchronization

The Analog Fiber Optic Link N8 (NET8/NFR8) offers a very high stability in addition to excellent performance in phase noise and frequency jitter, for applications like ultra low noise reference frequency distribution (for Free Electron Lasers), remote antenna connection in communication systems, radar, GPS and others.

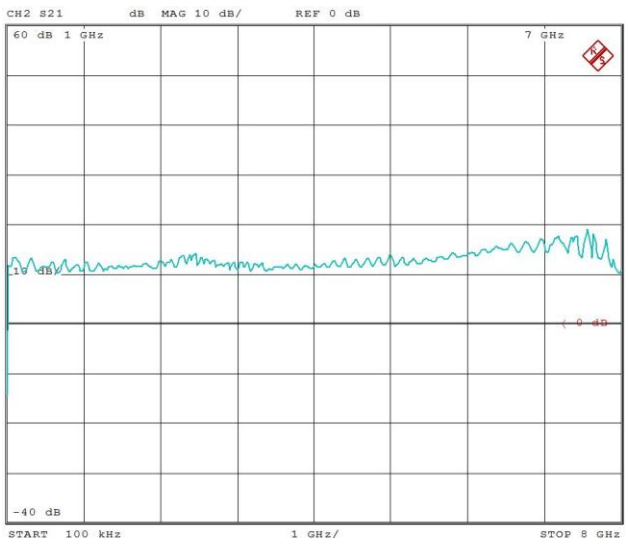
Parameter Electrical		Value			Remarks
		Min.	Typ.	Max.	
Frequency Range		2 MHz to 8 GHz			NET8 / NFR8
Gain	dB		10-16		Impedance: 50Ohm
Gain flatness	dB		< +/-3		
Noise figure	dB	17	18	19	
Spurious-free dynamic range	dB		> 130		
Dynamic range	dB		> 140		
Max. Input power for no damage	dBm			+ 13	
Supply voltage	VDC	+ 11,5	+ 12	+ 15	< 180 mA
Temperature range	°C	- 20		+ 70	
weigth	g	95			NET8 + NFR8
Dimensions	mm	45 x 35 x 12,6			
RF Connector		SMA female			
Parameter Optical		**Value**			**Remarks**
		Min.	**Typ.**	**Max.**	
Fiber optic connectors		SC and FC / APC, UPC			other on request
Fiber		Mono mode fiber 9/125µm			
Optical wavelength transmitter	nm		1310		receivers: 880…1650nm
Output Power CW	mW	2	10	20	Optional: pulse up to 60mW

Laser safety : the NET8 is a class IIIb Laser product with wavelength of 1310nm and maximum output power of 50mW.
The internal laser diode meets the appropriate standard in title 21 of the code of Federal Regulations (CFR). FDA/CDRH class IIIb laser product. This device has been classified with the FDA/CDRH under accession number 0220191. Invisible radiation is emitted from the fiber connector, do not view directly or with optical instruments !

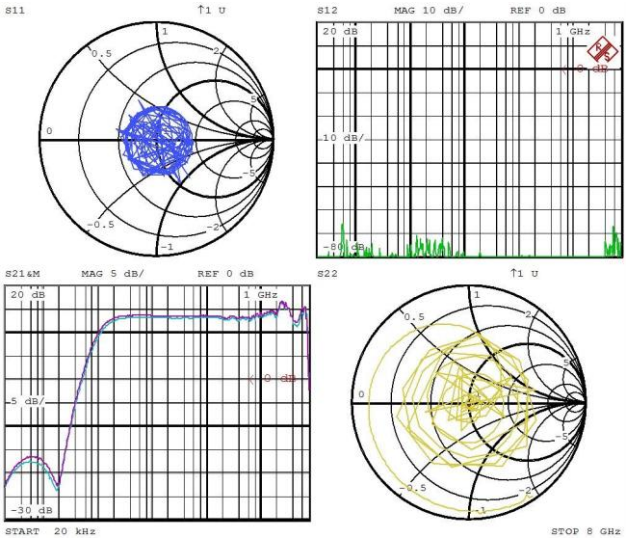
Example order information	RF to fiber converter / transmitter 8 GHz version	NET8
	Fiber to RF converter / receiver 8 GHz version	NFR8

Measurement of bandwidth (from SMA connector transmitter to SMA connector receiver) :

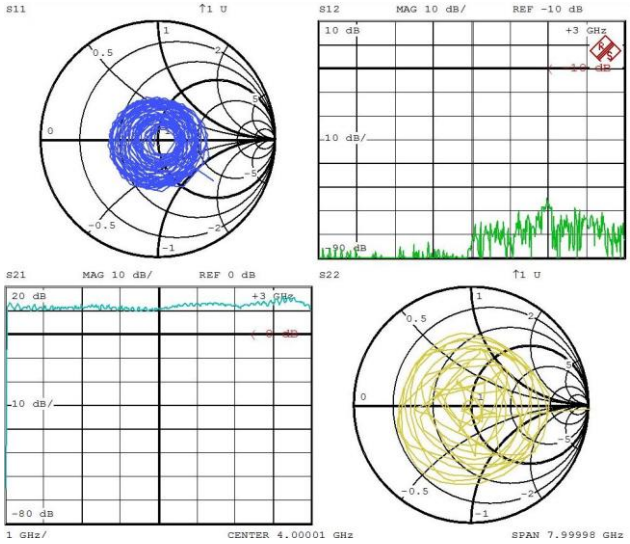
INPUT : -10dBm

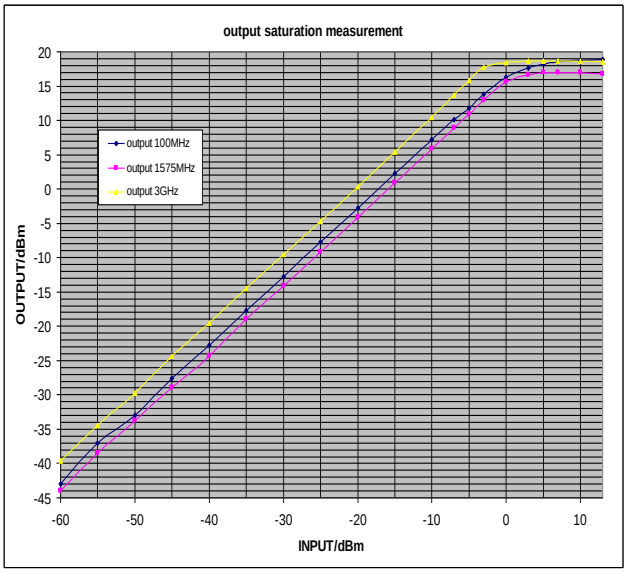


INPUT : -20dBm



INPUT : -10dBm





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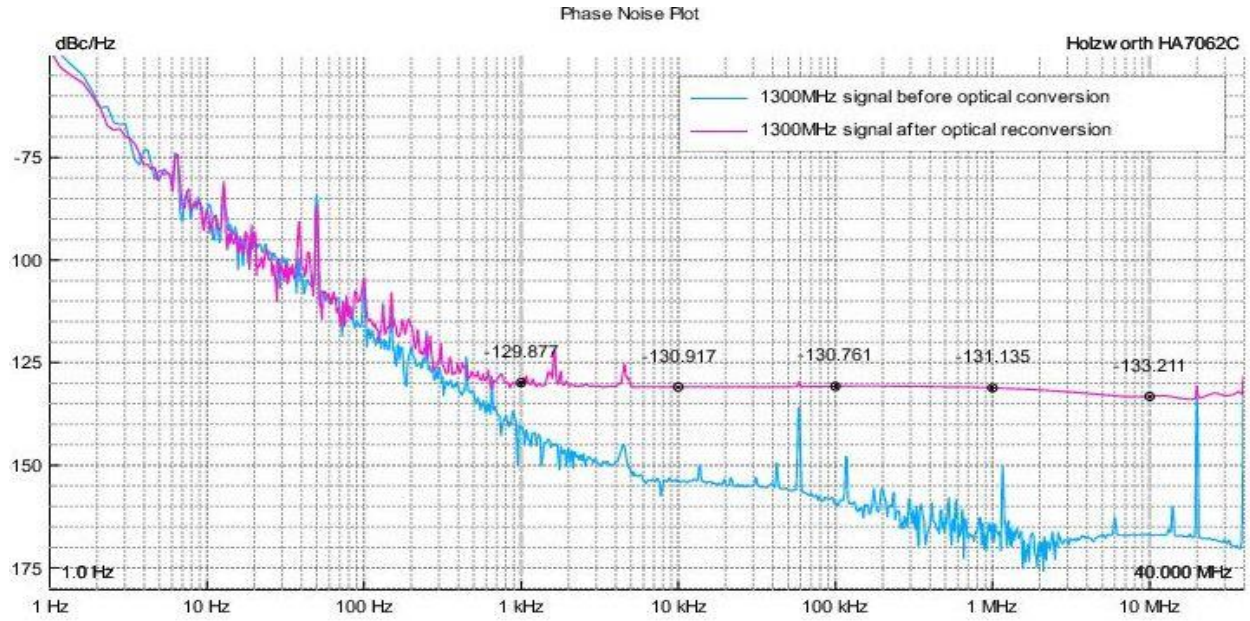
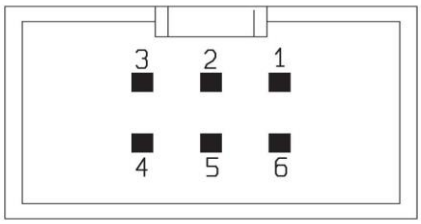
Measurement of dynamic range by Phase Noise Analyzer (Signal levels : 11.9dBm and 10.6dBm) :



1300MHz signal before optical conversion #3	DUT Info	Jitter Stats	Marker Freq	Value [dBc/Hz]	Spur Freq	Value [dBc]
S/N: HA7062C-057	Type: Absolute	Start Freq: 1.00 kHz	1.00 kHz	-140.87	50.3 Hz	-96.68
Date: 2018-06-27	Freq: 1.3000 GHz	Stop Freq: 10.000	10.00 kHz	-153.78	58.17 kHz	-88.30
Time: 19:40:33	Power: 11.888	MHz	100.00 kHz	-159.29	1.160 MHz	-78.55
Acq: 107.374 s	dBm	Jitter: 3.1385e-15°	1.000 MHz	-166.21	20.020 MHz	-37.84
Temp: -°C	Gain: Auto	Noise: 1.4688e-03°	10.000 MHz	-166.74		

1300MHz signal after optical reconversion by NFR1 #3	DUT Info	Jitter Stats	Marker Freq	Value [dBc/Hz]	Spur Freq	Value [dBc]
S/N: HA7062C-057	Type: Absolute	Start Freq: 1.00 kHz	1.00 kHz	-129.88	50.3 Hz	-99.31
Date: 2018-06-27	Freq: 1.3000 GHz	Stop Freq: 10.000 MHz	10.00 kHz	-130.92		
Time: 19:44:05	Power: 10.620	Jitter: 1.3028e-13°	100.00 kHz	-130.76		
Acq: 107.374 s	dBm	Noise: 6.0969e-02°	1.000 MHz	-131.14		
Temp: -°C	Gain: Auto		10.000 MHz	-133.21		

Pin Configuration :



GROUND : PIN 4, 5, 6
+VDC (+12V) : PIN 1
TRANSMITTER :
10k NTC inbetween PIN 3 + 2
(for thermal control circuits)
RECEIVER :
PIN 2 not connected
PIN 3 to GND : 0…10V aquivalent to
0…10mA Photodiode current

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Delivery case :