DATASHEET

infonX 18

18 GHz Link System

Features

- Frequency range 1-18 GHz
- Highly configurable
- High SFDR
- Very low noise
- Negligible signal degradation
- CWDM / DWDM wavelengths
- Front panel LCD display
- Full Ethernet remote management
- Dual redundant, user replaceable, hot-swappable power supply units
- Integrated thermally-controlled cooling fans
- Designed for wideband applications
- 5-year warranty

Applications

- Native frequency transport
- Signals Intelligence
- Telemetry, Tracking and Command
- Electronic Warfare & Electronic Countermeasure Systems
- Secure Tactical Links over Fiber
- Rain fade diversity systems
- Fixed satcom earth stations/teleports
- Marine antennas

Options

- Bandwidth, Noise figure, Gain and linearity optimisation
- Single/Dual Rx, Single/Dual Tx, TRx Rack cards
- SC/APC, LC/APC, FC/APC Optical connectors
- RJ45 Ethernet, Optical LC/APC control connectors

About *infonX*

infonX is an RF over Fiber link system available from the ViaLiteAIR portfolio, providing high frequency signal transport up to Q/V band. The system transports RF signals, with exceptional signal quality over the entire bandwidth.

The ***infonX*** link system delivers excellent spurious free dynamic range (SFDR) with very low noise, a crucial pairing which enables the reception and accurate processing of weak signals, even in crowded spectral environments. Maintaining this high level of performance ensures that the system successfully distributes a wide selection of RF signals.

infonX is highly flexible, with one or two rack cards installed within its 1U chassis, supplied fully integrated and configured. Rack cards are available in single Tx, dual Tx, single Rx, dual Rx and TRx configurations.

infonX is supplied with two power supplies and includes an integrated Monitoring and Control (M&C) module, enabling the operator to control the link system using a web interface. Access to the interface is granted either via an RJ45 Ethernet connection, or an optional optical connection.

Configurability

Each rack card within ***infonX*** can be initially optimized to ensure peak performance is achieved over the entire RFoF link. Key parameters that can be configured include:

- Bandwidth
- Noise figure
- Gain
- Linearity

infonX is also available with standard configuration settings for these key parameters, which are fully detailed within the technical specification for the standard ***infonX*** 18 GHz link system.

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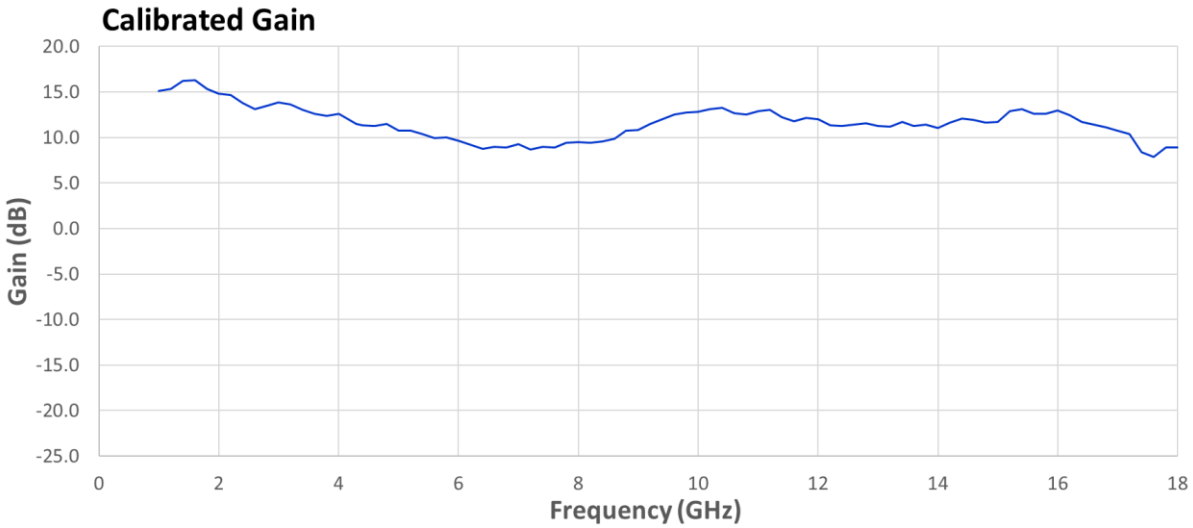
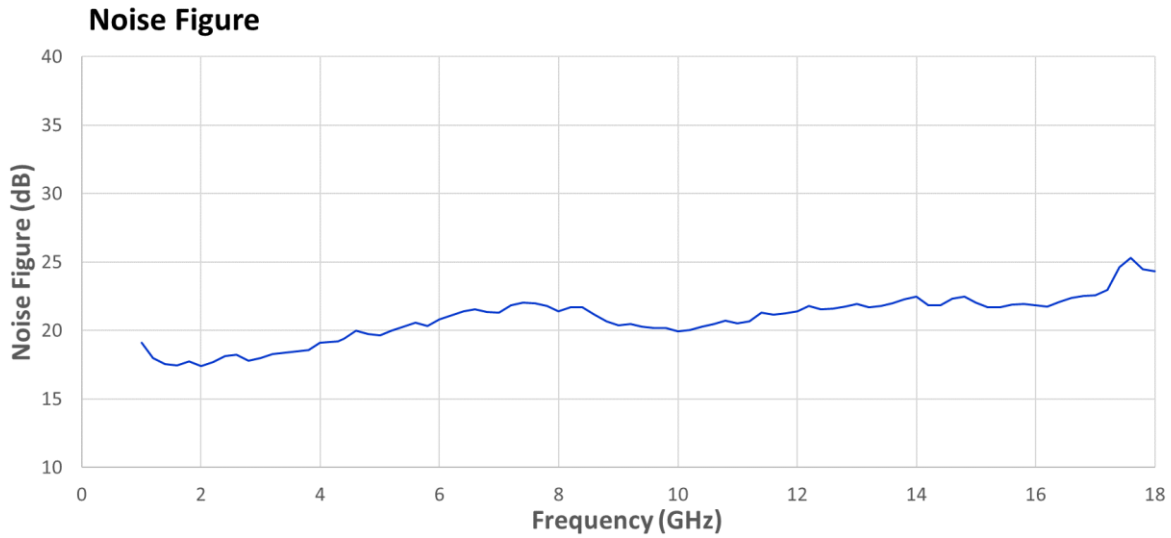
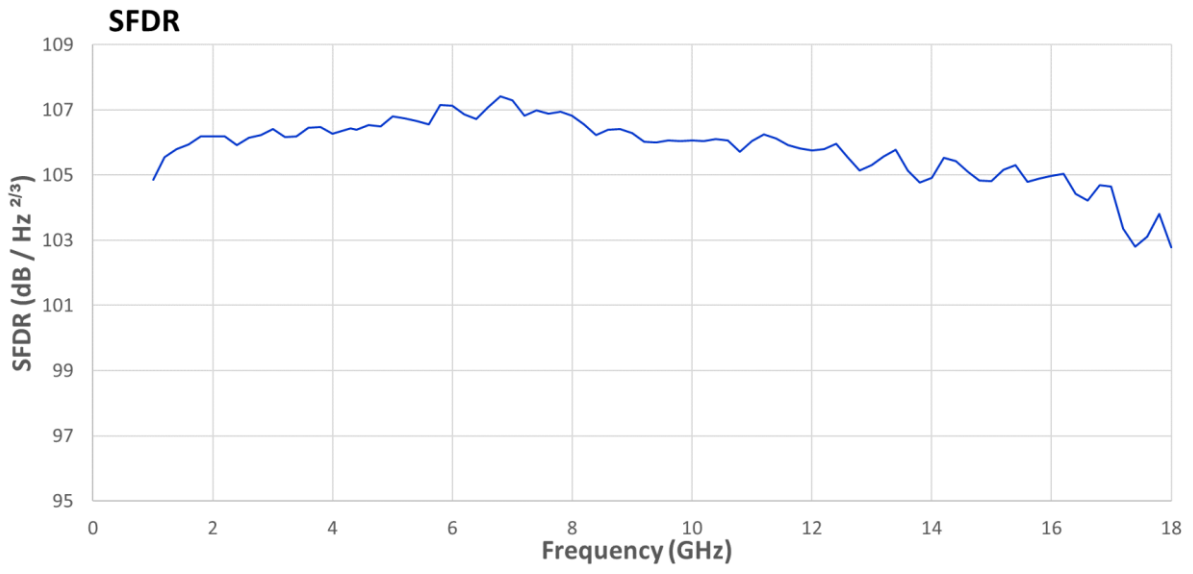
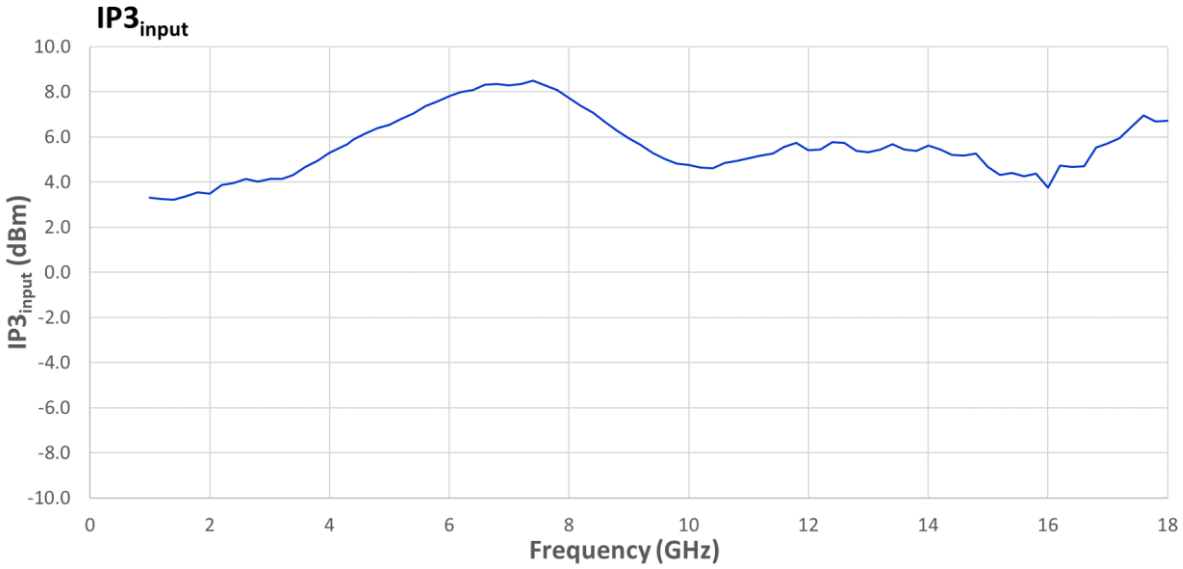
Typical performance of *infonX* 18





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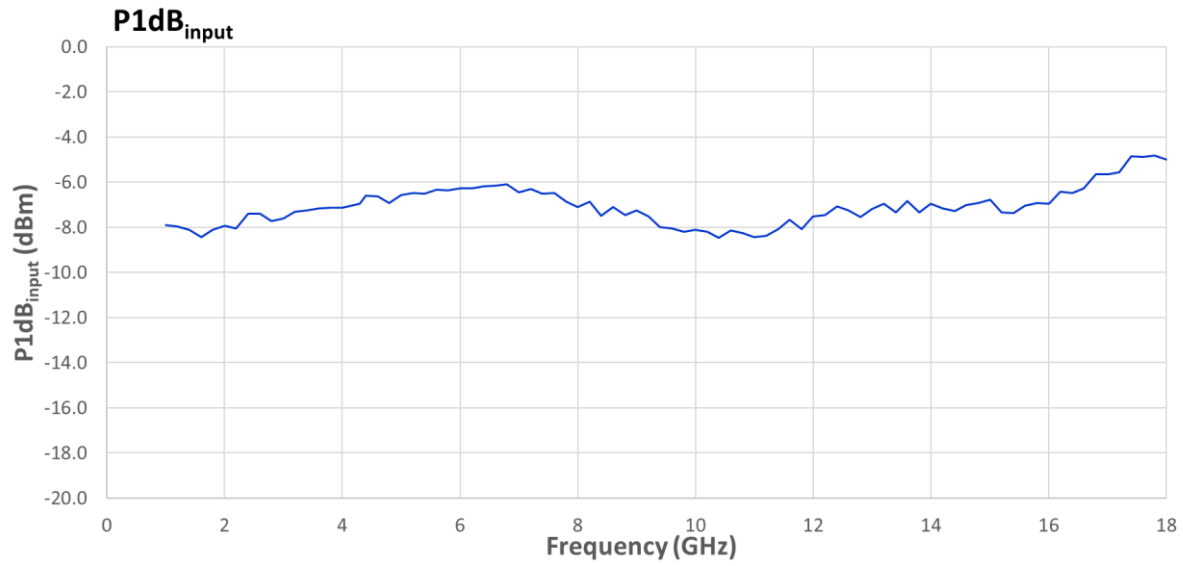
10.0
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
-10.0
IP3input (dBm)
0
2
4
6
8
10
12
14
16
18
Frequency (GHz)


P1dBinput
0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
P1dBinput (dBm)
0
2
4
6
8
10
12
14
16
18
Frequency (GHz)

Technical specification

RF link parameters	RF specification
Frequency range	1 to 18 GHz
Receiver gain setting, default (nominal)	+20 dB
Transmitter gain setting, default (nominal)	-10 dB
Link gain (typical @ 10 GHz)	+13 dB
Link gain flatness, peak-to-peak over 1-18GHz (typical)	6 dB
Gain stability over temperature range (maximum)	3 dB
Gain stability, constant temperature, over 24 hours (typical)	0.25 dB
Gain adjustable range (typical)	30 dB
$P1dB_{input}$ (typical @ 10 GHz)	-8 dBm
$IP3_{input}$, at default gain (typical @ 10 GHz)	+4.5 dBm
Noise figure, at default gain (typical @ 10 GHz)	20 dB
SFDR (Spurious Free Dynamic Range) (typical @ 10 GHz)	106 dB / Hz ^{⅔}
RF impedance (nominal)	50 Ω
VSWR (typical)	< 2:1
Maximum RF input power without damage	+15 dBm

Optical parameters	Optical specification
CWDM optical wavelengths	1310 ± 3 nm, 1550 ± 3 nm (depending on part number configuration)
Optional DWDM optical wavelengths	DWDM ITU 50 / 100 GHz grid ± 0.1 nm
Laser type	DML (Directly Modulated Laser)
Optical power output (typical)	10 mW

Power parameters	Power specification
Supply voltage, frequency	100 to 240 VAC, 50 / 60 Hz
AC power consumption, with two power supplies and two E/O link cards, exc. external LNB power	20 W, 0.4PF

Mechanical / Environmental parameters	Specification
Optical connector options	SC/APC, LC/APC, FC/APC narrow key
RF connector	K-type (2.92 mm)
Ethernet socket (chassis management)	RJ45
Optical socket option (chassis management)	LC/APC
AC power socket	IEC C14
Weight, with two power supplies and two E/O link cards	4.2 kg
Width	483 mm (19” rack mounted equipment)
Height	44 mm (1U)
Depth	344 mm (behind rack mounting lugs)
Operating temperature range	0 °C to +50 °C
Storage temperature range	-40 °C to +70 °C
Relative humidity (non-condensing)	0 to 95 %