



DILINK

4 GHz / 20 GHz fiber optic links



DiLink offers the industry's smallest Microwave-over-Fiber Transmitter and Receiver Link modules, extending directly-modulated wideband frequency response to 20 GHz.

Business-card footprint modules are easily integrated into communications systems for a variety of applications including antenna remoting, radio-over-fiber, network infrastructure and multicarrier/ subcarrier multiplexed analog transport.

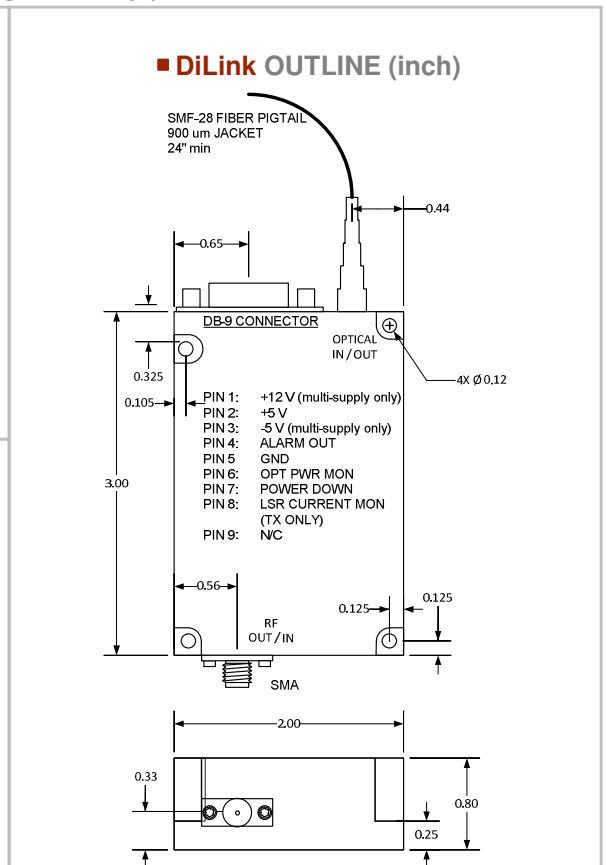
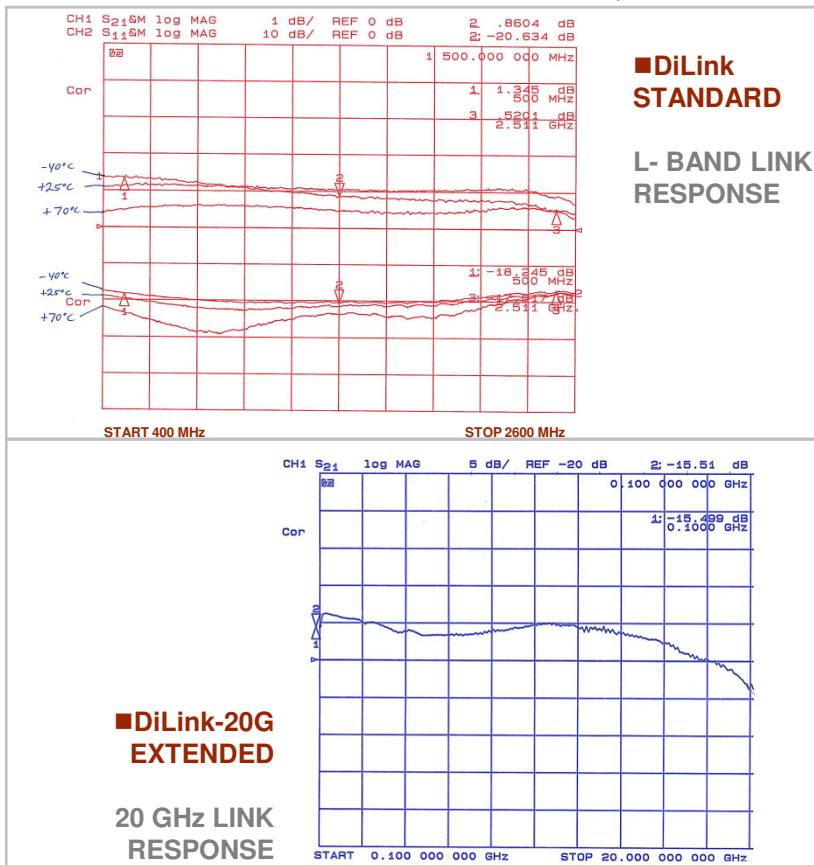
Standard DiLink Modules operate to 4 GHz, and are available in Wideband/Low Noise and High Dynamic Range options.

Extended DiLink-20G Modules provide bandwidth to 20 GHz, with gain and dynamic range options to fit most system requirements.

All modules are easy to use, requiring no external tuning or alignment. They featuring a single RF connector, a pigtailed optical connector, and a single DB-9 for power, control, and status/Built-in-Test (BIT) functions.

Environmentally sealed, fully qualified mil-compliant packaging options ensures high reliability performance in extreme environments.

- ANALOG TRANSPORT TO 20 GHz**
- BUSINESS CARD FOOTPRINT**
- HIGH DYNAMIC RANGE**
- WIDEBAND/LOW NOISE**
- MIL SPEC VERSIONS AVAILABLE**



DiLINK standard 4 GHz

DiLink STANDARD 4 GHz PERFORMANCE (1 km Link)

DiLink is offered in a variety of options to suit most system applications. The standard list (below) highlights the expected link performance with Transmit and Receive modules. For custom solutions just give us a call.

Style	Gain	Freq	Link Gain @ centerband	Gain Flatness Full Band	Gain Flatness any 250 MHz	RF Input Compression	RF Input IP3	Link Noise Figure	SFDR3 typical	Transmitter DC Power	Receiver DC Power
W	0	2 to 500	0 +/- 2	+/- 1 dB		0	15	30	107	3 W max	3.5 W max
W	0	100 to 1000	0 +/- 2	+/- 1 dB	+/- 0.25 dB	0	15	30	107	3 W max	3.5 W max
W	0	500 to 2500	0 +/- 2	+/- 1 dB	+/- 0.25 dB	0	15	30	107	3 W max	3.5 W max
W	0	1000 to 4000	0 +/- 2	+/- 1 dB	+/- 0.25 dB	0	12	30	105	3 W max	3.5 W max
W	15	2 to 500	15 +/- 2	+/- 1 dB	+/- 0.25 dB	-6	10	30	104	3 W max	3.5 W max
W	15	100 to 1000	15 +/- 2	+/- 1 dB	+/- 0.25 dB	-6	10	30	104	3 W max	3.5 W max
W	15	500 to 2500	15 +/- 2	+/- 1 dB	+/- 0.25 dB	-6	10	30	103	3 W max	3.5 W max
W	15	1000 to 4000	15 +/- 2	+/- 1 dB	+/- 0.25 dB	-6	6	30	101	3 W max	3.5 W max
N	0	2 to 100	0 +/- 2	+/- 1 dB		5	17	29	109	3 W max	3.5 W max
N	0	100 to 500	0 +/- 2	+/- 1 dB	+/- 0.25 dB	5	17	29	109	3 W max	3.5 W max
N	0	900 to 2250	0 +/- 2	+/- 1 dB	+/- 0.25 dB	4	17	30	108	3 W max	3.5 W max
N	0	2000 to 3400	0 +/- 2	+/- 1 dB	+/- 0.25 dB	2	12	28	106	3 W max	3.5 W max
N	15	2 to 100	15 +/- 2	+/- 1 dB		3	13	29	106	3 W max	3.5 W max
N	15	100 to 500	15 +/- 2	+/- 1 dB	+/- 0.25 dB	3	13	29	106	3 W max	3.5 W max
N	15	900 to 2250	15 +/- 2	+/- 1 dB	+/- 0.25 dB	-1	13	30	105	3 W max	3.5 W max
N	15	2000 to 3400	15 +/- 2	+/- 1 dB	+/- 0.25 dB	-1	8	28	103	3 W max	3.5 W max
I	0	2 to 100	0 +/- 2	+/- 1 dB		17	30	43	108	3 W max	3.5 W max
I	0	100 to 500	0 +/- 2	+/- 1 dB	+/- 0.25 dB	17	30	43	108	3 W max	3.5 W max
I	0	900 to 2250	0 +/- 2	+/- 1 dB	+/- 0.25 dB	14	29	43	107	3 W max	3.5 W max
I	0	2000 to 3400	0 +/- 2	+/- 1 dB	+/- 0.25 dB	12	22	43	103	3 W max	3.5 W max

ALL UNITS:

Gain Variation over Temp	+/- 1 dB
RF Input/Output Return Loss	10 dB min
RF Connector	SMA Female

DiLink STANDARD 4 GHz ORDERING INFORMATION

D L m w s f g c v t	m Module Type T Transmitter R Receiver	g Link Gain 0 0 dB 1 15 dB C custom
	w Wavelength 3 1310 5 1550 C custom	c Connector F FC/APC S SC/APC C custom
example: DLT3W40FMM Transmitter 1310 nm Wideband 1000 to 4000 MHz 0 dB Link Gain FC/APC Multiple Supply -40 to +70	s Style W Wideband N HDN/LN I HDN/HIP3	v Voltage M multiple supply +12, +5, -5 V S single supply +5 V (W/N style only)
	f Frequency Range 1 2 to 500 (W style only) 2 100 to 1000 (W style only) 3 500 to 2500 (W style only) 4 1000 to 4000 (W style only) 5 2 to 100 6 100 to 500 7 900 to 2250 8 2000 to 3400 C custom	t Temp Range C 0 to 50 M -40 to +70

DiLINK-20G extended 20 GHz

DiLink-20G extends the frequency response of the standard DiLink up to 20 GHz. These modules are offered in a variety of options to suit most system applications. For custom solutions just give us a call.

■ DiLink-20G PERFORMANCE (1 km Link)

Link Performance 0.1 - 2 GHz					
Input Level type (p)	RF Input Compression (dBm)	RF Input IP3 (dBm)	Noise Figure (dB)	Gain Level type (g)	Link Gain (dB)
N	-9	9	17	N	-4
				H	10
M	6	24	29	N	-16
				H	-2
H	18	36	44	N	-30
				H	-16

Link Performance 2 - 12 GHz					
Input Level type (p)	RF Input Compression (dBm)	RF Input IP3 (dBm)	Noise Figure (dB)	Gain Level type (g)	Link Gain (dB)
N	-6	-1	27	N	-6
				H	8
M	9	14	39	N	-18
				H	-4
H	21	26	54	N	-32
				H	-18

Link Performance 12 - 18 GHz					
Input Level type (p)	RF Input Compression (dBm)	RF Input IP3 (dBm)	Noise Figure (dB)	Gain Level type (g)	Link Gain (dB)
N	-9	-2	33	N	-8
				H	6
M	6	13	45	N	-20
				H	-6
H	18	25	59	N	-34
				H	-20

Link Performance 18 - 20 GHz					
Input Level type (p)	RF Input Compression (dBm)	RF Input IP3 (dBm)	Noise Figure (dB)	Gain Level type (g)	Link Gain (dB)
N	-9	2	36	N	-13
				H	1
M	6	17	48	N	-25
				H	-11
H	18	29	62	N	-39
				H	-25

DC Power (temperature type C)			
Transmitter		Receiver	
type (p)	Power	type (g)	Power
N	5V / 1.5 A	N	5V / 20 mA
M	5V / 1.4 A	H	5V / 300 mA
H	5V / 1.0 A		

ALL UNITS:	
RF Input/Output Return Loss	10 dB min
RF Connector	SMA
DC Connector	DB-9
Optical Pigtail	1 m (typ) SMF 900 um

■ DiLink-20G ORDERING INFORMATION

D	H	m	f _L	f _H	p	g	c	t
---	---	---	----------------	----------------	---	---	---	---

m Module Type
 T Transmitter
 R Receiver

f_L Frequency Range (Low)
 N 2 GHz
 L 100 MHz
 C Custom

f_H Frequency Range (High)
 1 12 GHz
 2 20 GHz
 C Custom

p Transmit Input Level (refer to spec tables)
 N Normal
 M Moderate
 H High

g Receive Gain Level (refer to spec tables)
 N Normal
 H High

c Connector
 F FC/APC
 S SC/APC
 L LC/APC
 C Custom

t Temperature Range
 C 0 to 50 C
 M -10 to 65 C

example:

DHTL2MNFC
 Transmit Module
 100 MHz to 20 GHz
 Moderate Input Level
 +6 dBm compression, 2-12 GHz
 Normal Gain
 -18 dB, 2-12 GHz
 FC/APC
 0 to 50 C