

Technical specifications

IF characteristics

IF central frequency	70 MHz
IF bandwidth	< 36 MHz @ 3 dB
Impedance	50 Ohms
VSWR	< 1.3

RF characteristics

Frequency	refer to model table
Frequency setting step	1 Hz
Frequency reference	10 MHz, internal or external
Frequency stability	$\pm 2 \cdot 10^{-8}$ in 0° to +50°C $\pm 5 \cdot 10^{-10}$ per day @ 20°C
External reference level	3 dBm \pm 3 dB

Output power (1dB compression)

- UC ■ DC ■ TRK ■ Echo
+10 dBm @ max gain
- Test Translator
0 dBm @ max gain

3rd order intercept point (IP3)

- UC ■ DC ■ TRK ■ Echo
+20 dBm @ max gain
- Test Translator
+10 dBm @ max gain

AM/PM conversion 0.25°/dB @ Pout=-10dBm

Phase Noise (@frequency offset from carrier, typical)

- UC ■ DC ■ TRK ■ Echo
 - 66 dBc/Hz @ 10 Hz
 - 78 dBc/Hz @ 100 Hz
 - 81 dBc/Hz @ 1 kHz
 - 91 dBc/Hz @ 10 kHz
 - 104 dBc/Hz @ 100 kHz
 - 125 dBc/Hz @ 1 MHz
- Test Translator
 - 64 dBc/Hz @ 10 Hz
 - 76 dBc/Hz @ 100 Hz
 - 79 dBc/Hz @ 1 kHz
 - 90 dBc/Hz @ 10 kHz
 - 103 dBc/Hz @ 100 kHz
 - 124 dBc/Hz @ 1 MHz

Impedance	50 Ohms
VSWR	< 1.3

Interfaces

- UC ■ DC ■ TRK ■ Echo
- TT

Rear panel connectors :

RF	N female	N female
IF	BNC female	N female
Ext. 10 MHz ref. input	SMA female	SMA female
RS485 M&C interface	SUBD	SUBD
	9 pins male	9 pins male
Ethernet M&C interface	RJ45	RJ45

Front panel connectors :

Monitor output	SMA female (except DC, TRK, ECHO)	SMA female
LO monitor	SMA female	SMA female

S-band

Synthesized Frequency Converters

MODEL TABLE

Converter S-UP

► Up converter 70MHz → 2025 to 2120 MHz

Converter S-DN

► Down converter 2200 to 2300 MHz → 70MHz

Converter S-TRK

► Tracking Down converter 2200 to 2300 MHz → 70MHz

Converter S-ECHO

► Echo Down converter 2025 to 2120 MHz → 70MHz

Converter S-TLT

► Test Translator 2025 to 2120 MHz → 2200 to 2300 MHz

Transfer characteristics

Common

Conversion sense	Positive - No inversion
Gain control range	31.75 dB
Gain step	0.25 dB
Level stability	± 0.25 dB for $\pm 5^\circ\text{C}$ over 16 MHz bandwidth
Amplitude response	± 0.25 dB over 16 MHz bandwidth
Absolute delay stability	< 0.2 ns @ 25°C $\pm 10^\circ\text{C}$ over 16 MHz bandwidth
Image rejection	> 80 dB
LO leakage	< -70 dBm
Signal related spurious	-60 dBc @ max gain

Specific

	■ DC ■ TRK	■ UC	■ Echo	■ TT
Channel configuration	1, 2 or 2x2	1	1	1
Mute (RF on/off)	-	> 60 dB	-	-
Maximum gain	40 dB	35 dB	35 dB	20 dB
Phase tracking	< 10° rss <small>between any channels</small>	-	-	-
Noise figure @ max gain	12 dB	18 dB	15 dB	15 dB
Group delay over 16 MHz bandwidth	3 ns	2 ns	3 ns	2 ns
Signal independent spurious @ max gain	-60 dBm	-70 dBm	-60 dBm	-65 dBm

Mechanical characteristics

Weight	15 kg nominal
Dimensions	1Ux19"x560 mm rackable
Power consumption	< 150 VA
Power supply	110-240 VAC; 47-63 Hz
Operating temperature	0° to 50°C
Storage temperature	-40° to +70°C
Relative operating humidity	0 to 85%
Relative storage humidity	0 to 95%

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