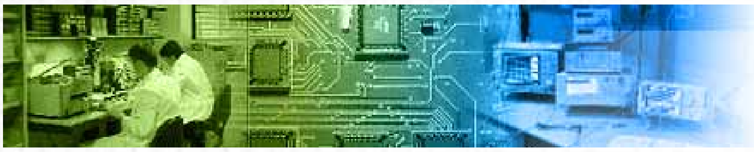

ACORDE TECHNOLOGIES

ACRC-RX-TB

Ed.04

SYNTHESIZED TRI-BAND DOWN CONVERTER

18/08/09

DESCRIPTION

ACORDE Synthesized Tri-Band frequency down converter is integrated in rack along with synthesizers and the rest of necessary elements, such as control card and power supply. This converter is designed for advanced satellite communication systems. Specifications have been optimised to provide user an efficient frequency conversion. It also enables the configuration of desired frequency and gain level of the converter.

FEATURES

- Automatic 10 MHz internal/external reference selection
- Remote Control via serial interface (RS485/RS232)
- RF signal monitor port
- Low intermodulation distortion
- IESS-308/309 – 5dB compliant phase noise
- Compact rackmount package

RECEIVER SPECIFICATIONS

Input RF frequency	3.4 – 4.2 GHz
	7.25 – 7.75 GHz
	10.7 – 12.75 GHz
Input level (no damage)	0 dBm
Input VSWR	< 1.5:1
Input impedance	50 Ω
Output IF frequency	70 ± 20 MHz / 140 ± 40 MHz
Output VSWR	< 1.3:1
Output impedance	50 Ω (75Ω as option)
Output P1dB	> +10 dBm
Spurious in band	< -60 dBc at 0 dBm output
Spurious signal independent	< -50 dBm
Conversion Gain	40 ± 1 dB @ maximum gain setting
Gain adjustment range	20 dB (30 dB as option)
Gain adjustment step	0.5 dB (0.1 dB as option)
Gain flatness	± 0.5 dB over 36 MHz
	± 0.75 dB over 72 MHz
	± 1.5 dB over the whole bandwidth
Gain stability in 24 hours	± 0.25 dB at constant temperature
Gain stability vs temperature	± 1 dB over the whole range
Noise figure	< 15 dB @ maximum gain setting
Image Rejection	< 60 dB
Signal monitor IF	-20 ± 2 dBc
Carrier to intermodulation ratio	-60 dBc (two carriers -10 dBm each)
Group Delay	Linear → 0.03 nsec/MHz max.
	Parabolic → 0.01 nsec/MHz^2
	Ripple → 1 nsec pp max.

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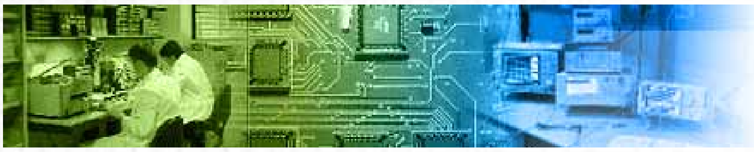

ACORDE TECHNOLOGIES

LOCAL OSCILLATOR

Frequency set step.. 125 KHz (1 KHz as option)
Output phase noise (IESS-308/309 – 5dB):
- 100 Hz .... -65 dBc/Hz
- 1 KHz .... -75 dBc/Hz
- 10 KHz .... -85 dBc/Hz
- 100 KHz .... -95 dBc/Hz
- 1 MHz .... -105 dBc/Hz

Reference frecuency .... 10 MHz (*1)
Reference mode .... Internal (automatic external selection on presence)
Reference input level .... 0 dBm ± 3 dB
Reference stability .... ± 1x10^{-9} max/day, after 24 hours on time
± 5x10^{-8} max/year
± 5x10^{-8} max. for all temperature range

Minimum reference to compliant typical phase noise (IESS-308/309 – 5dB):
- 100 Hz .... -135 dBc/Hz
- 1 KHz .... -145 dBc/Hz
- 10 KHz .... -155 dBc/Hz

POWER SUPPLY

AC input voltage .... 85-264 VAC autoranging (47-63 Hz)
Power consumption.. 50 W (typ.)

ENVIRONMENTAL SPECIFICATIONS

Storage temperature .... -40 to +80ºC
Operating temperature .... 0 to +50ºC
Relative humidity.. up to 95%
Operating altitude .... up to 3500 m

MECHANICAL SPECIFICATIONS

Interfaces .... RF input → SMA female
IF output → BNC female
IF monitor → SMA female
Serial port → D – Sub9 RS485
Serial to PC → D – Sub9 RS232
AC line → IEC 603320 10A
Front panel → Display and keyboard
Ext. reference → BNC female

Dimensions.. 1 RU 19" rack
Weight.. 9 Kg

OPTIONS

Input frequency band:	IF-band output	Model Number
3.4 - 4.2 GHz | | 7.25 - 7.75 GHz | | 10.7 - 12.75 GHz	70 ± 20 MHz	ACRC-RX-TB-E1-xxx
3.4 - 4.2 GHz | | 7.25 - 7.75 GHz | | 10.7 - 12.75 GHz	140 ± 40 MHz	ACRC-RX-TB-E2-xxx

DC1: .... 48 VDC Power supply (MS3112E12-3P connector)
DC2: .... Output IF impedance 75 Ω
DC3: .... Gain adjustment range 30 dB
DC4: .... Gain adjustment step 0.1dB
DC5: .... Frequency set step 1 KHz
DC6: .... 10 Base-T Ethernet interface
DCC: .... Custom design

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