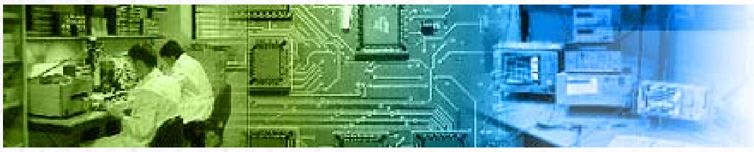

ACORDE TECHNOLOGIES

Ku-Band Frequency Synthesizer
Ed.00

ACSINT-Ku
14/12/09

DESCRIPTION

ACSINT-Ku is a state of art frequency synthesizer designed to meet the hardest requirements of the modern satellite communication systems. Leading the customer's needs, ACORDE Technologies has complied requirement of 1 KHz frequency step, wide bandwidth with an excellent spurious rejection. ACSINT-Ku covers required frequency bandwidth for all Ku-band Rx/Tx frequency converters. Synthesizer can be operated via remote control RS232 and RS422/485. Operating temperature range is 0ºC to +50ºC (-20ºC to +55ºC option in outdoor enclosure is also available).

SYNTHESIZER SPECIFICATIONS

Output impedance .... 50 Ω
Output power @ 25°C .... +13 dBm min
Output flatness .... ± 1.0 dB over the whole bandwidth
Output stability vs temperature .... ± 1.0 dB over the whole range
Output sample ports....................................... -20 dBc

Frequency step .... 1 KHz (See options)
Frequency accuracy .... < 0.001Hz

RF 2nd Harmonic suppression .... < -25dBc
Fixed PLO 2nd Harmonic suppression .... < -60dBc
Spurious in-band .... < -60dBc
Spurious out-of-band .... < -70dBc

Output phase noise (IESS-308/309 – 5 dB):
- 100 Hz .... -65 dBc/Hz
- 1 KHz .... -75 dBc/Hz
- 10 KHz .... -85 dBc/Hz
- 100 KHz .... -95 dBc/Hz

Reference frequency .... 10 MHz (5 MHz as option)
Reference input level .... 0 dBm ± 5 dB
LO frequency stability..................................... same as external reference
Acquisition time (to phase lock) .... 500 ms max.

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

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POWER SUPPLY

DC input voltage 1 ..... +7 VDC (1400 mA typ.)
DC input voltage 2 ..... +15 VDC (30 mA typ.)

ENVIRONMENTAL SPECIFICATIONS

Storage temperature ..... -40 to +80ºC
Operating temperature ..... 0 to +50ºC (-20 to +55ºC could be selected as option)
Relative humidity ..... up to 100%
Operating altitude ..... up to 3500 m

MECHANICAL SPECIFICATIONS

Interfaces	RF output:	SMA female 50 Ω
	RF monitor:	SMA female 50 Ω
	Fixed LO output:	SMA female 50 Ω
	Fixed LO monitor:	SMA female 50 Ω
	Reference input:	SMA female 50 Ω
	Serial port RS485:	S6B-PH-SM4-TB
	Power supply +7VDC:	Feedthrough 7A
	Power supply +15 VDC:	Feedthrough 7A

Cooling system ..... None
Dimensions for E1 ..... 147 x 113 x 32 mm
Dimensions for E2 ..... 147 x 150 x 32 mm
Weight for E1 ..... 1.1 Kg
Weight for E2 ..... 1.3 Kg

OPTIONS

Frequency band:	Step size [1]	Fixed LO frequency [2]	Model Number
12.53 to 13.28 GHz	125 KHz	1150 MHz	ACSINT-Ku-E2-V1-xxx
12.53 to 13.28 GHz	1 KHz	1150 MHz	ACSINT-Ku-E2-V2-xxx
13.14 to 15.19 GHz	125 KHz	2510 MHz	ACSINT-Ku-E4-V1-xxx
13.14 to 15.19 GHz	1 KHz	2510 MHz	ACSINT-Ku-E4-V2-xxx

SY1: ..... External 5 MHz Reference
SY2: ..... Operating temperature (-20 to +55ºC)
SCC: ..... Custom Design

Note [1] → Other frequency steps up to 1 Hz upon request
Note [2] → Fixed LO frequency available at L and S band in 5 MHz step

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