ACORDE TECHNOLOGIES

ACORDE

X-Band Frequency Synthesizer

Ed.00

ACSINT-X

14/12/09

DESCRIPTION

ACSINT-X 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-X covers required frequency bandwidth for all X-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 @ 25ºC ..... +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 – 10 dB):

- 100 Hz ..... -70 dBc/Hz
- 1 KHz ..... -80 dBc/Hz
- 10 KHz ..... -90 dBc/Hz
- 100 KHz ..... -100 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 – 10 dB):

- 100 Hz ..... -135 dBc/Hz
- 1 KHz ..... -145 dBc/Hz
- 10 KHz ..... -155 dBc/Hz

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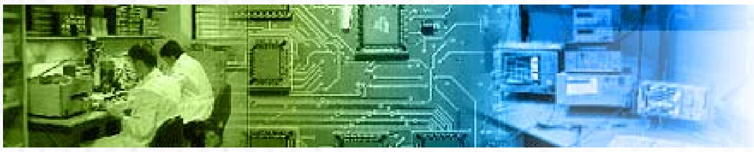

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POWER SUPPLY

DC input voltage 1 .... +7 VDC (1200 mA typ.)
DC input voltage 2 .... +15 VDC (30 mA typ.)

ENVIRONMENTAL SPECIFICATIONS

Storage temperature .... -40 to +80°C
Operating temperature .... 0 to +50°C (-20 to +55°C 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...	147 x 113 x 32 mm	
Weight...	1.1 Kg	

OPTIONS

Frequency band:	Step size [(1)]	Fixed LO frequency [(2)]	Model Number
6.68 to 7.18 GHz	125 KHz	1150 MHz	ACSINT-X-E2-V1-xxx
6.68 to 7.18 GHz	1 KHz	1150 MHz	ACSINT-X-E2-V2-xxx
9.69 to 10.19 GHz	125 KHz	2510 MHz	ACSINT-X-E3-V1-xxx
9.69 to 10.19 GHz	1 KHz	2510 MHz	ACSINT-X-E3-V2-xxx

SY1: .... External 5 MHz Reference
SY2: .... Operating temperature (-20 to +55°C)
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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