



RADITEK INC.

Synthesizer, 450-600MHz, Spilt Bands

code-L1

1 or 50MHz Step Size, SMA Female Connectors, Internal or External Reference RSYNTH-L515 Series

Raditek's L515 Series is a state-of-art UHF (450-600 MHz) Wideband digital frequency synthesizer with a phase noise performance exceeded the requirement of European Standard DVB-T, specifically designed and developed for digital TV broadcasting applications. The product incorporate Raditek's unique technologies and accumulated development experience to achieve one hertz frequency resolution with extremely low phase noise less than -115 dBc at one megahertz offset. One 10 MHz reference input is used. 50MHz step is controlled by a DDS. Raditek's two high performance VCOs are used within the phase lock loop to control and achieve extremely low phase noise of this Synthesizer.

Features:

- Wide Frequency Range450 ~ 600 MHz
- Compact Size, Attractive Price , Short Lead Time.....41Wx36Lx10H (mm)

**Order Examples: RSYNTH-L515-450-600M-50MHz-Sf-10d15v-ER10M-L1
RSYNTH-L515-525-555M-1MHz-Sf-7d5v-IR10M-L1**

Electrical Performance			Units
Frequency Range :	450-600	525-555	MHz
Step Size	50	1	MHz
Output Power :	+10dBm ±0.5dB @50 ohm	+7 dBm min	
SSB Phase Noise:			
• 50Hz offset:	≤-75		dBc/Hz Max
• 100Hz offset:	≤-75	≤-90	dBc/Hz Max
• 1 kHz offset :	≤-95	≤-100	dBc/Hz Max
• 10 kHz offset :	≤-100	≤-100	dBc/Hz Max
• 100 kHz offset :	≤-110	≤-120	dBc/Hz Max
• 1 MHz offset :	≤-125		dBc/Hz Max
• 10 MHz offset:	≤-125		dBc/Hz Max
Spurious:			
• Harmonics	≤-30	-60	dBc Max
• Non-Harmonics (F>100 Hz)	≤-70	-60	dBc Max
Internal Reference :		10	MHz
Frequency Stability :		± 5 ppm at 0 to +70°C	
External Reference In.			
• Frequency	10		MHz
• Level	+0 ±3		dBm @50 ohm
Frequency control	Parallel 2 bits, TTL Strobe 1 bits, TTL	2 bits parallel 1 bit enable 00: 525MHz, 01: 535MHz 10: 545MHz, 11: 555MHz	
Alarm Out	TTL-Hi	TTL-Hi	
• Lock :	TTL-Hi	TTL-Hi	
• Un-Lock :	TTL-Lo	TTL-Lo	

RSYNTH-L515-450-600M ER-IR Series-L1

Specifications may be subject to change

05/12/10

WORLD HQ: 1702L Meridian Ave. Suite 127, San Jose, Ca 95125, U.S.A.

Telephone: (408) 266-7404 FAX: (408) 266-4483

WEB: www.raditek.com , E-mail: sales@raditek.com

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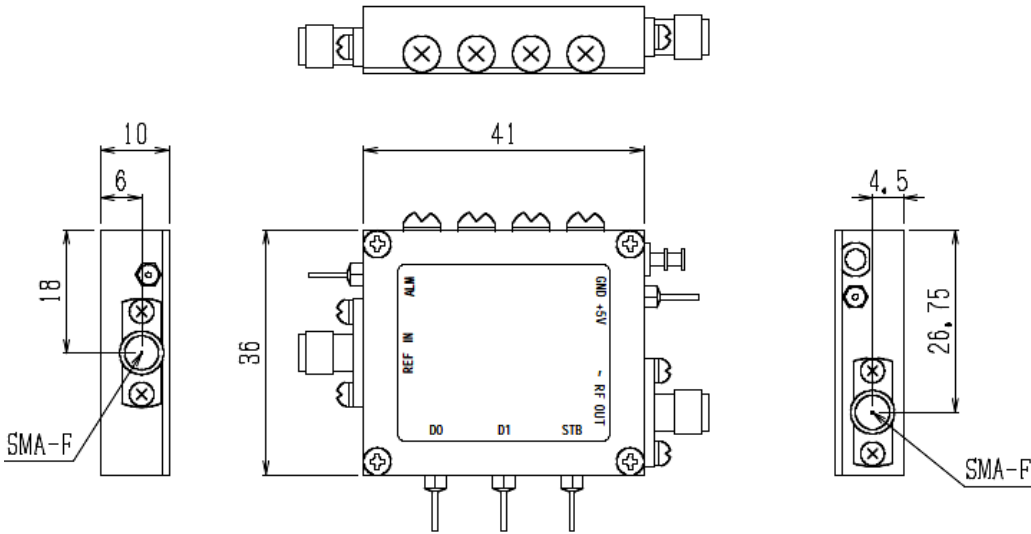
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Electrical Performance			Units
Lock up Time	≤1 msec (f±1kHz)	≤1 msec (f±1kHz)	msec max
DC Bias	≤300mA at 15V	+5V ±5%@ 100mA Max	
Supply Voltage	+15 ± 0.5 +5 ± 0.25	+15 ± 0.5 +5 ± 0.25	V @ 0.3A max
Environmental Conditions			
• Operating Temperature	-10 ~ +70	0 ~ +70	°C
• Storage Temperature Range	-22 ~ +85	-22 ~ +85	°C
Package Connectors			
• Dimensions	41 x 36 x 10 1.614 x 1.417 x 0.394	41 x 36 x 10 1.614 x 1.417 x 0.394	mm Inch
• Weight	100	100	g Max.
• Connectors RF Control	SMA (F)	SMA (F)	
• DC- Bias	feed through	feed through	

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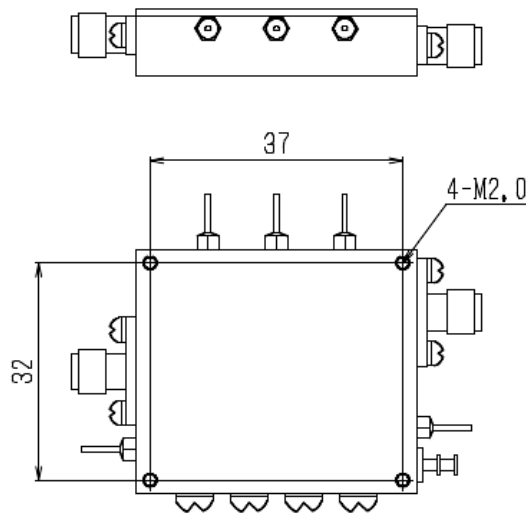
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D1	D0	Frequency
0	0	525MHz
0	1	535MHz
1	0	545MHz
1	1	555MHz

0 : TTL-Low
 1 : TTL-High



(0 :TTL Lo , 1 :TTL Hi)

No	Band	A3	A2	A1	A0	HEX	(MHz)
1	VHF	0	0	0	0	00	450.0
2	VHF	0	0	0	1	01	500.0
3	VHF	0	0	1	0	02	550.0
4	VHF	0	0	1	1	03	600.0