Ultra Wideband Signal Source Module



Description:

Corech Microwave's Ultra-Wideband Signal Generators Module operates from 10MHz to 6GHz, featured with ultra wideband, CW/Pulse mode, ultra low noise of -130dBc/Hz@10kHz at 1GHz , low spurious and low consumption. They are very rugged and stable to be integrated in various systems.

PN:

PN	Description	Option
MSG10M6G	Frequency Range : 9kHz to 6GHz	

Key Specifications:

- Frequency Range: 10MHz to 6GHz
- Frequency Steps: 0.001Hz
- Output Power: 0dBm ~ +15dBm
- Setting Time: 300us
- Spurious: 60dBc
- Phase Noise: -130dBc/Hz@10kHz at 1GHz
- External Reference:10MHz
- Internal Reference: 100MHz
- RF Ouput Waveform: Sine wave / pulse modulation
- External Pulse Input: LVTTL

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• Electrical Specifications

External Reference (50Ω)

Parameter	Min.	Typ.	Max.	Note
Input Frequency		10MHz		
Input Power	0dBm		+5dBm	
Phase Noise			-150dBc/Hz@1kHz	

Internal Reference (50Ω)

Parameter	Min.	Typ.	Max.	Note
Frequency		100MHz		
Frequency stability		0.1ppm		
Temperature stability		0.1ppm		
Phase Noise			-155dBc/Hz@1kHz	

Reference Output

Parameter	Min.	Typ.	Max.	Note
Output Frequency	10MHz, 100MHz			
Output Power	0dBm			10MHz
	0dBm			100MHz
Phase Noise			-140dBc/Hz@1kHz	10MHz
			-145dBc/Hz@1kHz	100MHz

• Electrical Specifications

Parameter	Min.	Typ.	Max.	Note
Frequency Range	10MHz		6GHz	
Frequency Steps		0.001Hz		
Output Power	0dBm		+15dBm	25℃
Power Steps			0.5dB	
Output Power Resolution			±2dB	
Setting Time		300us	500us	#1
Harmonics				
10MHz~6GHz		-35dBc	-30dBc	
1/2 Harmonics				
10MHz~6GHz			-70dBc	
Spurious (Frequency Offser ≥5kHz)				
10MHz~6GHz		-70dBc	-65dBc	

#1, Setting Time：500ns (Excluding communication time)

• Electrical Specifications

SSB Phase Noise (Type)

Parameters	100Hz	1kHz	10kHz	100kHz	1MHz
dBc/Hz@1GHz	-104	-126	-130	-130	-131

• Option 1 （Pulse Generator and Modulation)

Pulse Modulation

Parameters	Min.	Typ.	Max.
On/ Off Ratio		-60dBc	
Min. Pulse Width		100ns	
Min. Period		110ns	
External Pulse Input			
LVTTL		+3.3V	
Internal Pulse Generator			
Square Wave Speed Rate	0.1Hz		10MHz
Period	110ns		100s
Pulse Width	100ns		99.999999s
Rise Time / Fall Time		25ns / 25ns	＞100MHz
		150ns / 150ns	≤100MHz
Resolution		100ns	
Delay	20ns		100s

- **Option 2 （Sweep)**

Sweep

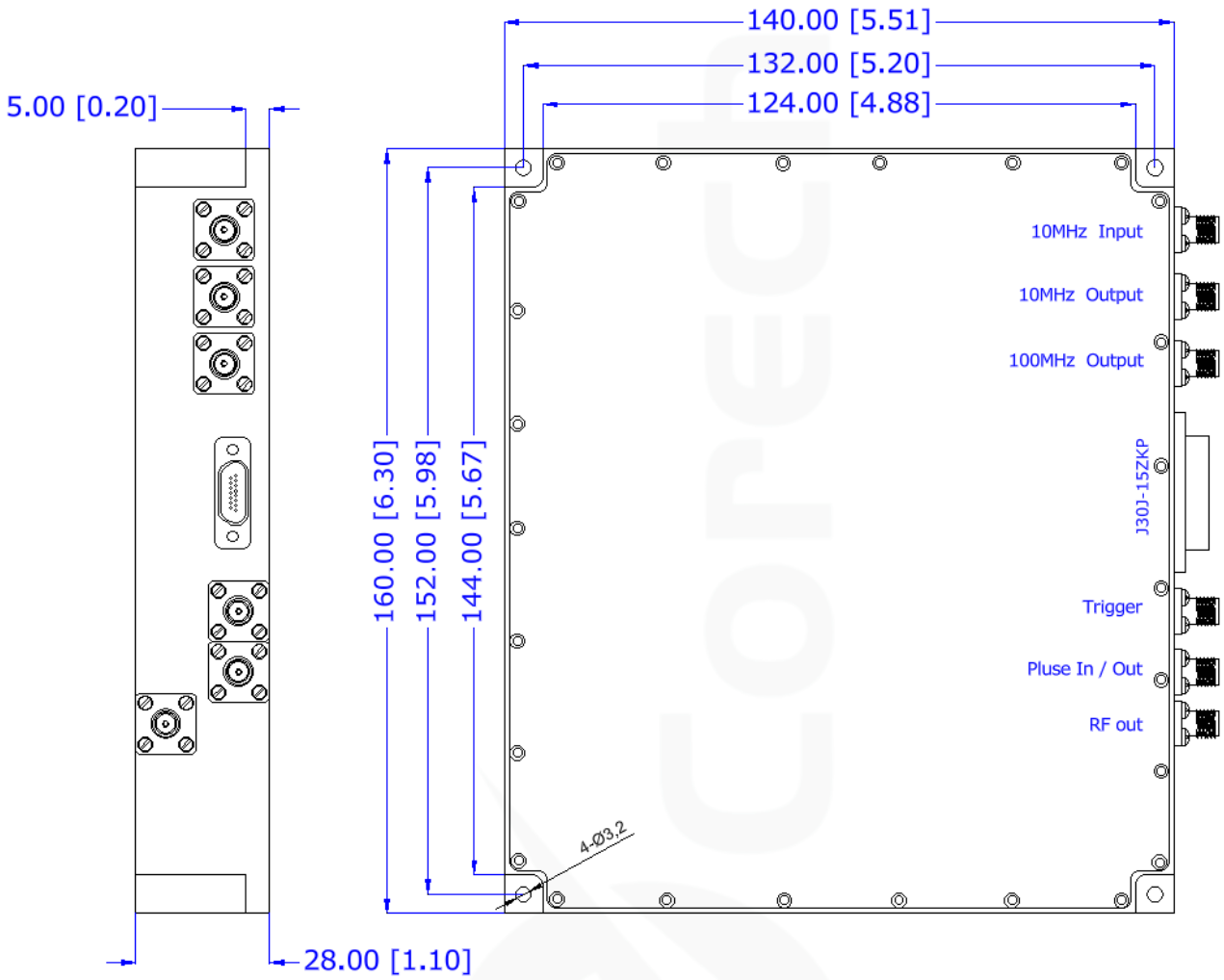
Parameters	Min.	Typ.	Max.
Operating Mode	Step Sweep		
Sweep Range	10MHz		6GHz
Dwell Tine	10ms		10s
Time Resolution		1ms	
Switching Speed	300us typ. @ Internal Source		

- **Generel Specifications**

Parameters	Min.	Typ.	Max.
Supply Current (Vcc=+24V)			2A
Communication	RS422, Baud Rate: 1Mbps *		
RF Out Connector	SMA-Female		
Reference Input/Output	SMA-Female		
Synchronization Signal	SMA-Female		
Power and Control Interface	J30J-15ZP		
Operating Temperature	-20 ~ +40 ℃		
Storage Temperature	-40 ~ +70 ℃		

* Communication protocol will be discussed and agreed upon subsequently

- **Dimensions:**


140.00 [5.51]
132.00 [5.20]
124.00 [4.88]
5.00 [0.20]
160.00 [6.30]
152.00 [5.98]
144.00 [5.67]
10MHz Input
10MHz Output
100MHz Output
J30J-15ZKP
Trigger
Pluse In / Out
RF out
4-Ø3.2
28.00 [1.10]

Dimensions:

Table 1: J30J-15ZKP Interface Definition

J30J Pin	Definition	J30J Pin	Definition
1	+24V	9	TX+
2	+24V	10	TX-
3	+24V	11	RX+
4	+24V	12	RX-
5	GND	13	NC
6	GND	14	NC
7	GND	15	NC
8	GND		