0.05-22.6GHz HIGH SPEED ULTRA LOW PHASE NOISE SYNTHESIZER

MSYS005226-200-C

FEATURE

- Wide Operating Temperature Range
- Temp: -40 to +80°C Standard
- Ultra Low Phase-Noise
- Small Size, Low Power Consumption
- Low Cost, Low Profile

APPLICATION

- Radar System
- Electronic warfare
- Communication system
- Test equipment

SPECIFICATIONS:@+25

Parameter		External Reference
Typical Performance Specifications		
Part Number		MSYS005226-200-C
Output Frequency Range		0.05~22.6GHz
Step Size		0.1Hz
Input Power		7±3dBm
Switch Speed		200us(Max)
Output Power		4±5dBm
Output Power Flatness		
Spurious		-70dBc(Typ)/ -65dBc(Max)
Harmonic		≤-5dBc(≤-20dBc(11.3G~22.6GHz 1/2&3/2 Harmonic)
Phase Noise	dBc/Hz@1kHz	-107dBc(Typ)
	dBc/Hz@10kHz	
External/Internal Reference:Available		External:100MHz，Phase Noise：-155dBc/Hz@1KHz
Pulse Modulate:Available		
Digital Frequency Modulate:Available		
DC Power Supply		+12V
Current		0.5A
Connector		RF OUT:2.92mm-F;REF IN:SMA-F;DC Power:53261-0671-7P

ENVIRONMENTAL RATINGS:

Parameter	External Reference
Operating Temperature	-40~+70℃
Non-operating Temperature	-55~+85℃
Dimensions	50*50*13(mm)

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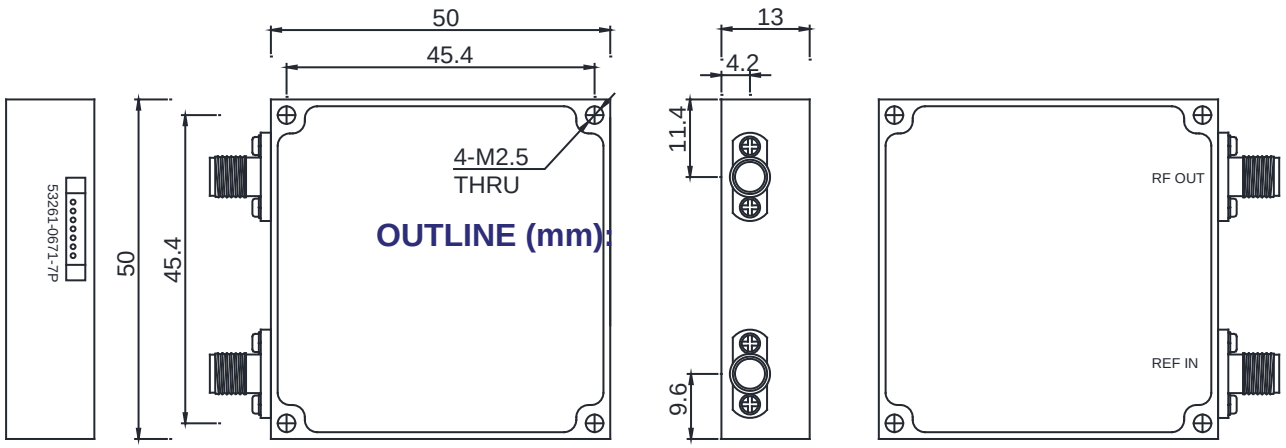
53261-0671-7P PIN ASSIGMENT:

PIN1	PIN2	PIN3	PIN4	PIN5	PIN6	PIN7
+12V	GND	MOSI	LE	MISO	SCK	LD

OUTLINE (mm):



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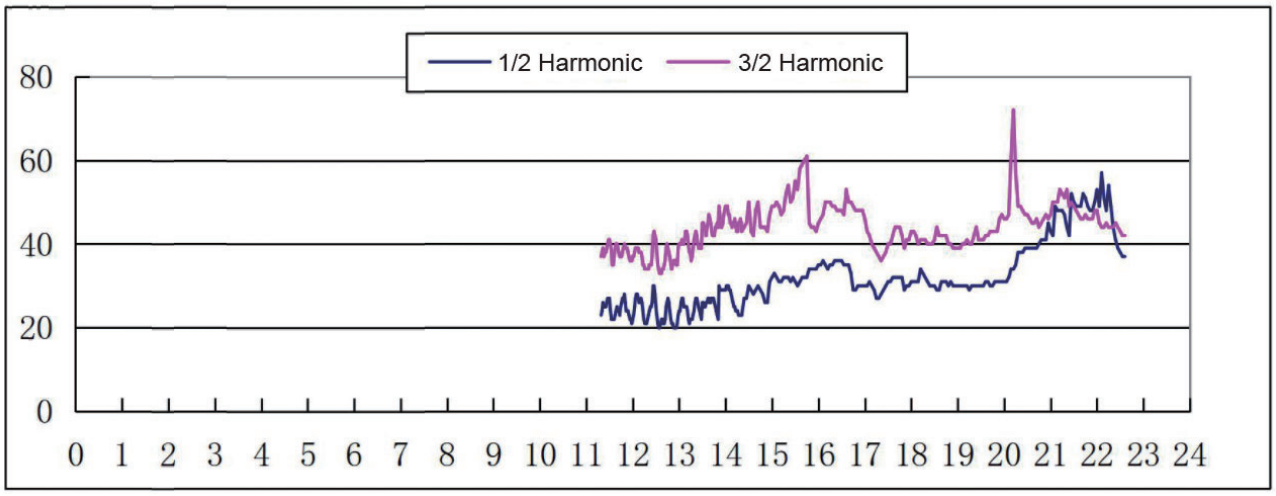
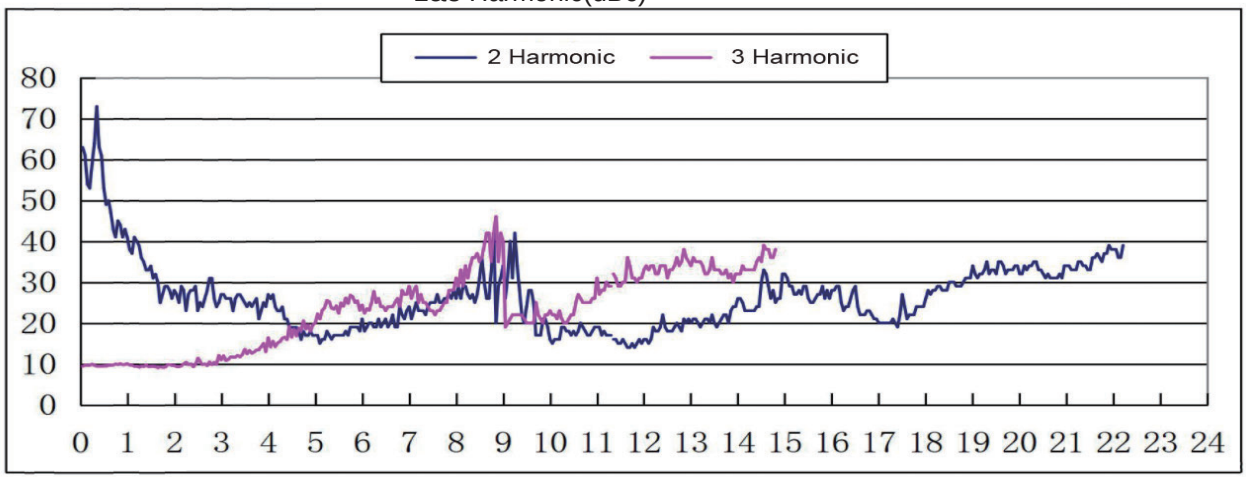
TEST DATA:

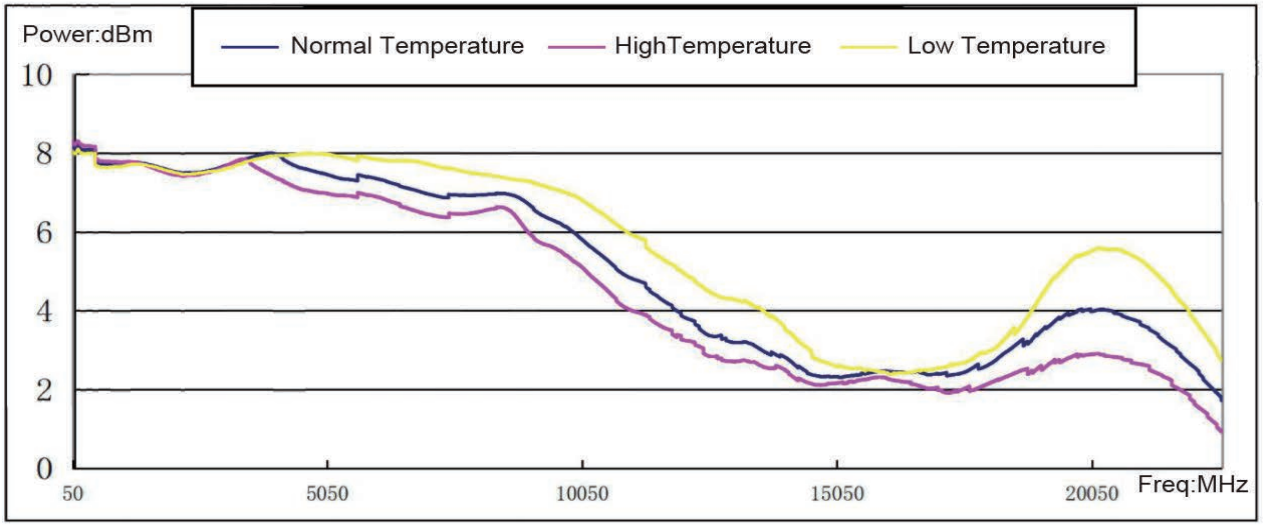
1/2&3/2 Harmonic(dBc)



2&3 Harmonic(dBc)



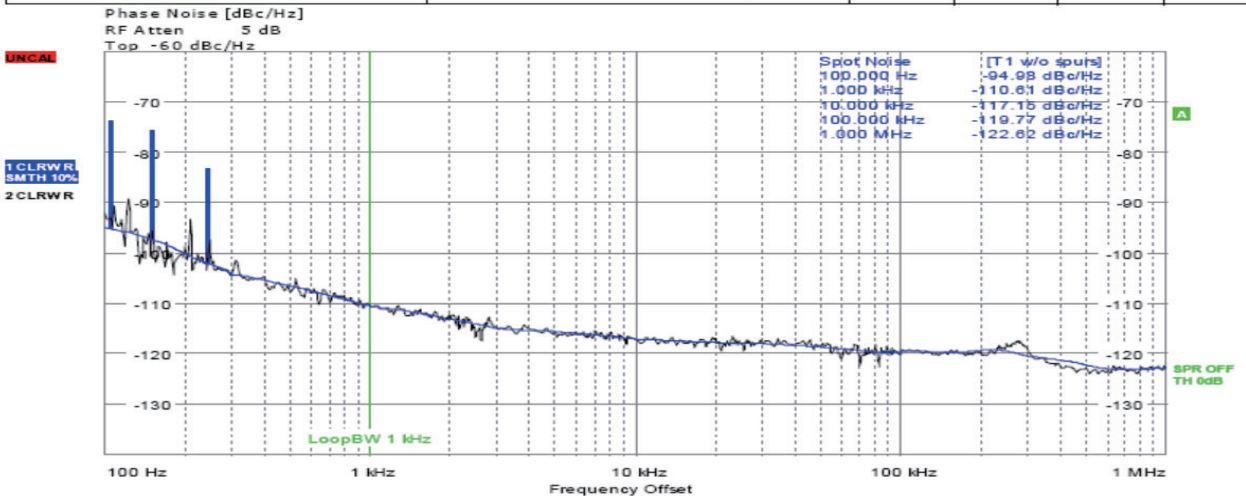
Output Power(dBm



Phase Noise@10GHz

R&S FSUP 50 Signal Source Analyzer — LOCKED

Settings		Residual Noise [T1 w/o spurs]		Phase Detector +0 dB			
Signal Frequency:	10.000000 GHz	Int PHN (100.0 .. 1.0 M)	-60.9 dBc				
Signal Level:	4.7 dBm	Residual PM	72.895 m°				
Cross Corr Mode	Harmonic 1	Residual FM	608.224 Hz				
Internal Ref Tuned	Internal Phase Det	RMS Jitter	0.0202 ps				



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0.05-22.6GHz HIGH SPEED ULTRA LOW PHASE NOISE SYNTHESIZER

MSYS005226-400-C

FEATURE

- Wide Operating Temperature Range
- Temp: -40 to +80°C Standard
- Ultra Low Phase-Noise
- Small Size, Low Power Consumption
- Low Cost, Low Profile

APPLICATION

- Radar System
- Electronic warfare
- Communication system
- Test equipment

SPECIFICATIONS:@+25

Parameter		External Reference
Typical Performance Specifications		
Part Number		MSYS005226-400-C
Output Frequency Range		0.05~22.6GHz
Step Size		0.1Hz
Input Power		7±3dBm
Switch Speed		400us(Max)
Output Power		4±5dBm
Output Power Flatness		
Spurious		-70dBc(Typ)/ -65dBc(Max)
Harmonic		≤-5dBc(≤-20dBc(11.3G~22.6GHz 1/2&3/2 Harmonic)
Phase Noise	dBc/Hz@1kHz	-107dBc(Typ)
	dBc/Hz@10kHz	
External/Internal Reference:Available		External:100MHz，Phase Noise：-155dBc/Hz@1KHz
Pulse Modulate:Available		
Digital Frequency Modulate:Available		
DC Power Supply		+12V
Current		0.5A
Connector		RF OUT:2.92mm-F;REF IN:SMA-F;DC Power:53261-0671-7P

ENVIRONMENTAL RATINGS:

Parameter	External Reference
Operating Temperature	-40~+70℃
Non-operating Temperature	-55~+85℃
Dimensions	50*50*13(mm)

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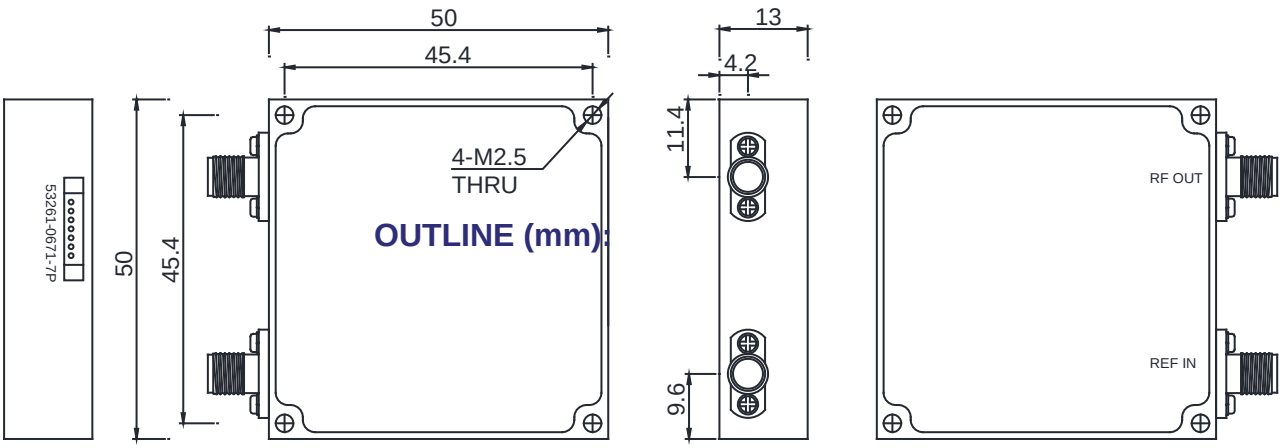
53261-0671-7P PIN ASSIGMENT:

PIN1	PIN2	PIN3	PIN4	PIN5	PIN6	PIN7
+12V	GND	MOSI	LE	MISO	SCK	LD

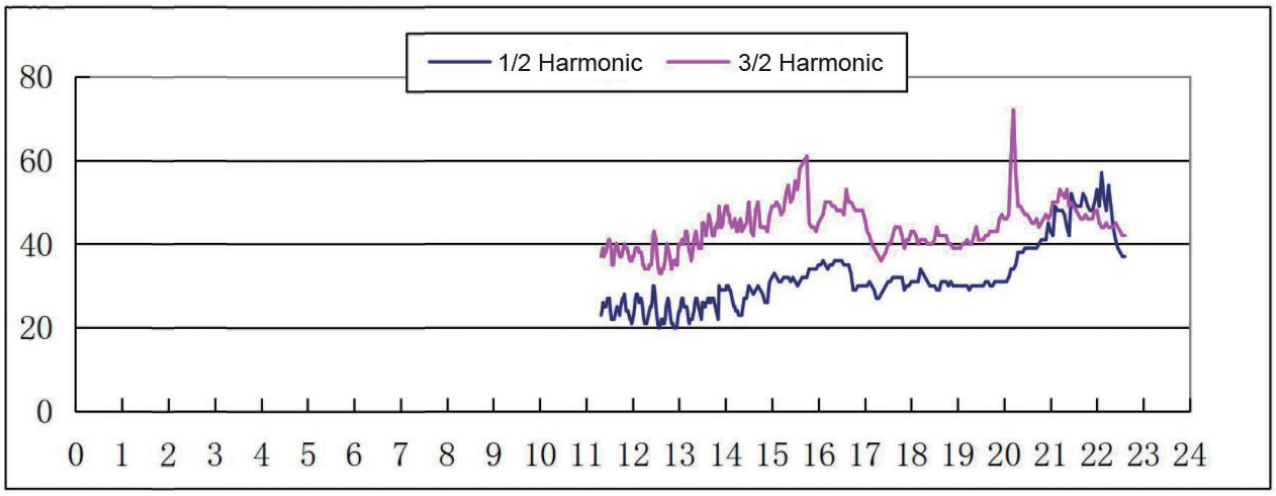
OUTLINE (mm):



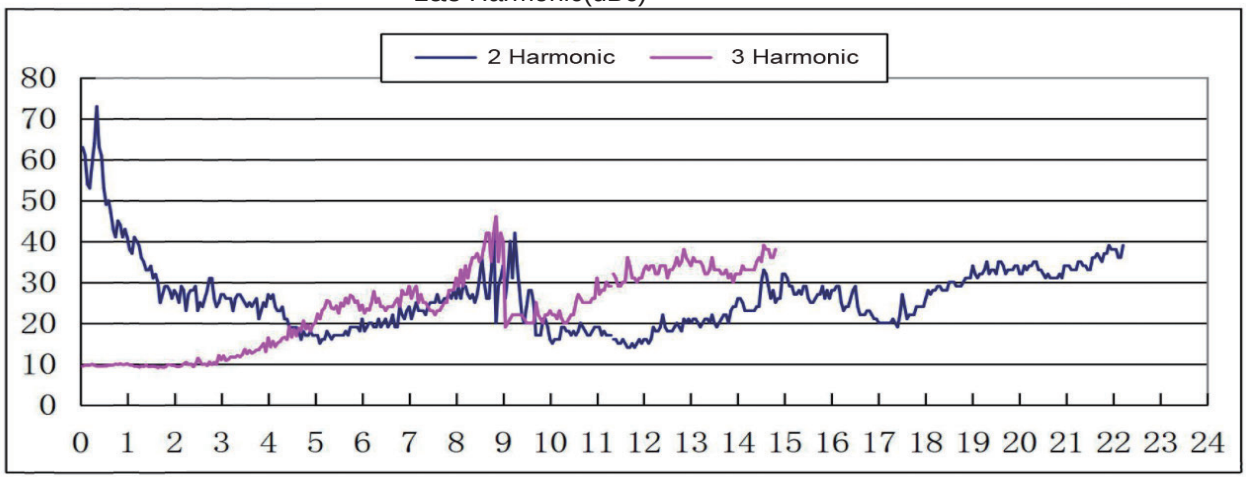
FS14

TEST DATA:

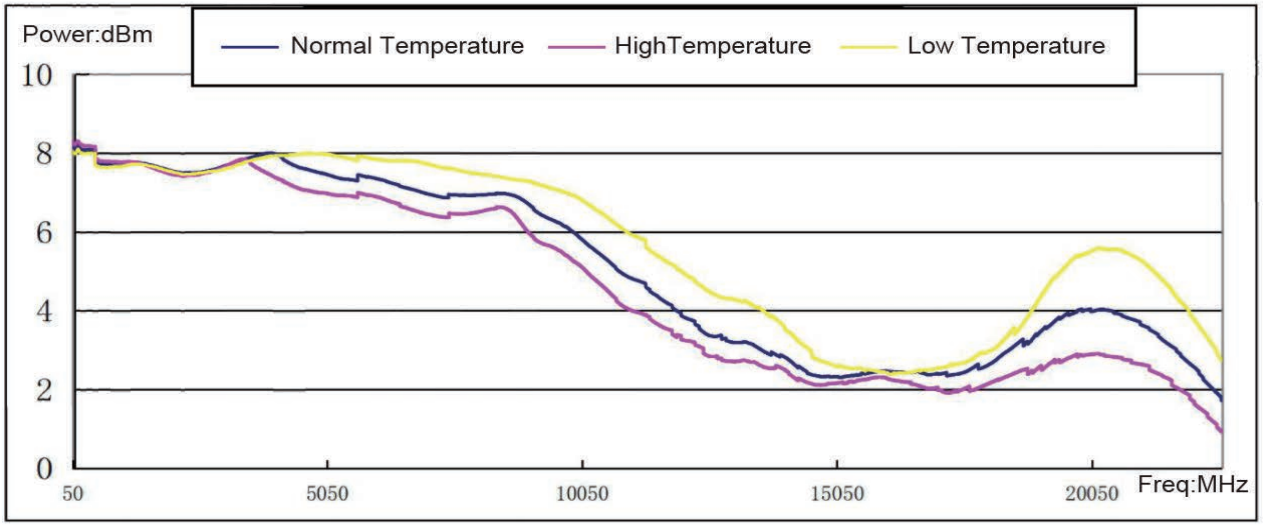
1/2&3/2 Harmonic(dBc)



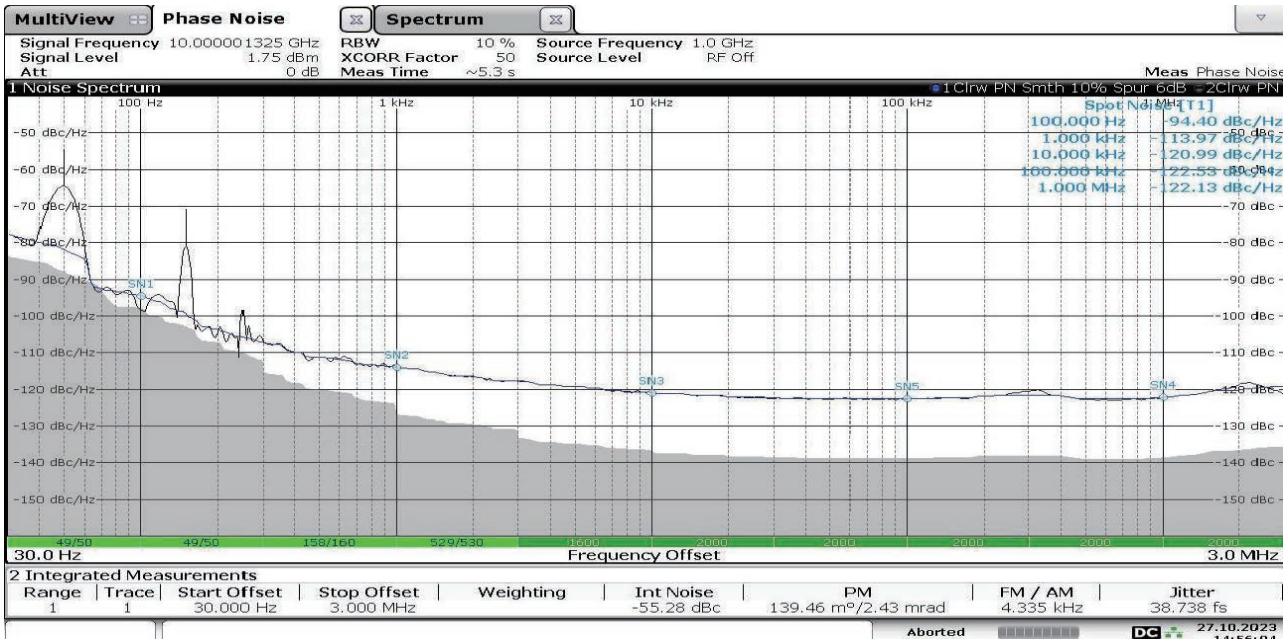
2&3 Harmonic(dBc)



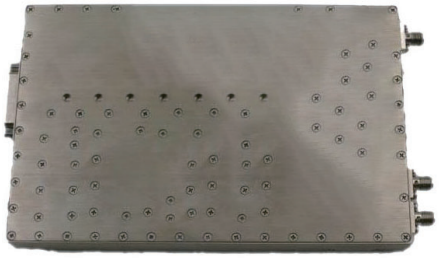
Output Power(dBm



Phase Noise@10GHz



1.25-20GHz HIGH SPEED ULTRA LOW PHASE NOISE SYNTHESIZER
MSYS012200 SERIES



FEATURE
- ●Wide Operating Temperature Range
- ●Temp: -40 to +80°C Standard
- ●Ultra Low Phase-Noise
- ●Small Size, Low Power Consumption
- ●Low Cost, Low Profile

APPLICATION
- ●Radar System
- ●Electronic warfare
- ●Communication system
- ●Test equipment

SPECIFICATIONS:@+25

Parameter	External Reference
Typical Performance Specifications	
Part Number	MSYS012200-X-X-C
Output Frequency Range	1.25-20GHz
Step Size	10KHz
Input Power	0-10dBm
Switch Speed	300ns(Max)
Output Power	≥13dBm
Frequency Stability	2×10^{-7} (same as external reference when using external reference)
Frequency Accuracy	2×10^{-7} (same as external reference when using external reference)
Spurious	≤ -65dBc/ -60dBc(Typ/Max)
Harmonic	≤ -5dBc
External/Internal Reference:Available	External:10MHz&100MHz/Internal
Pulse Modulate:Available	
Modulation Depth	≥60dBc (Test : +10dBm@1.25~20GHz)
Pulse Modulation Width	100ns~10ms
Rise Time/Fall Time	≤ 30ns/50ns
DC Power Supply	+12V
Current	1.8A (Startup)/1.6A (Stable)
Connector	RF Interface: SMA-F Control Interface: J30J-31ZKP

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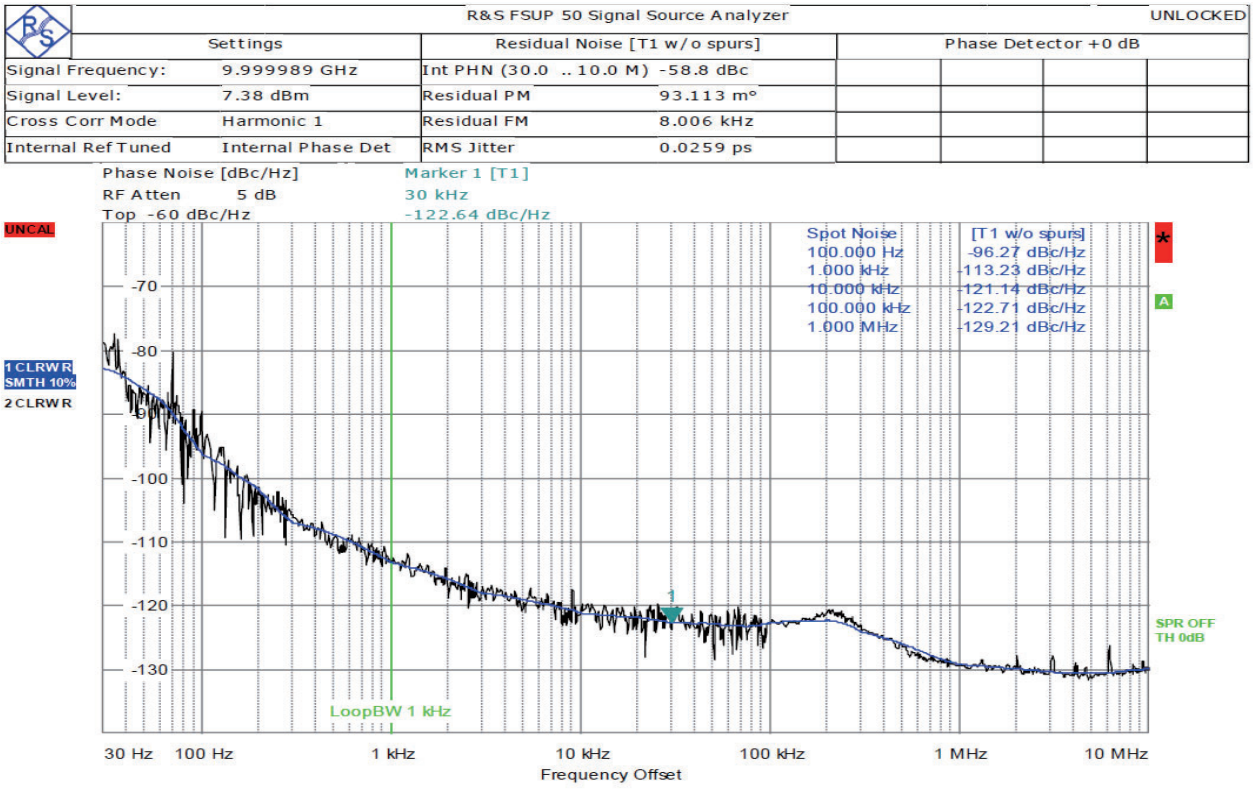
Phase Noise

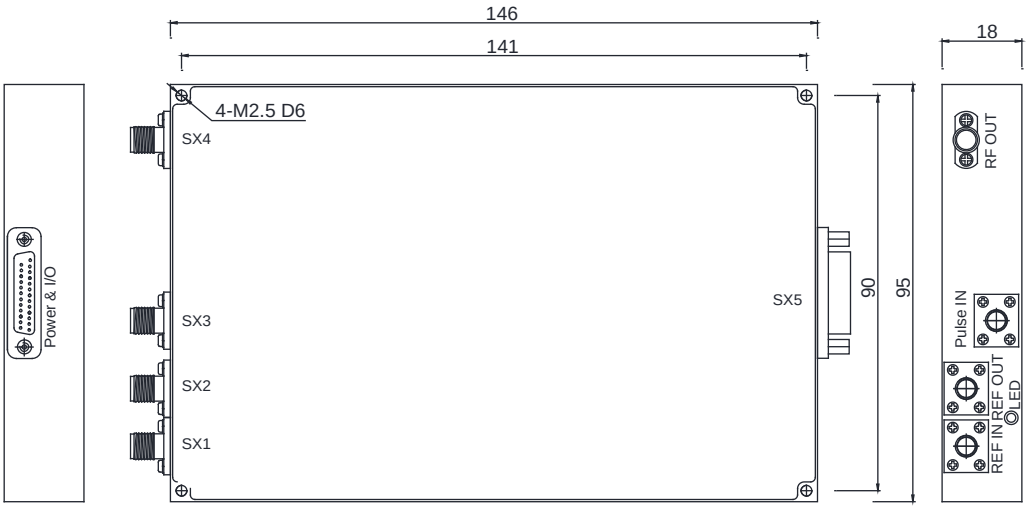
Phase Noise	Output Frequency		
	1.25GHz	10GHz	20GHz
100Hz	≤-110	≤-90	≤-84
1kHz	≤-128	≤-110	≤-104
10kHz	≤-135	≤-118	≤-112
100kHz	≤-135	≤-118	≤-112
1MHz	≤-143	≤-126	≤-120



ENVIRONMENTAL RATINGS:

Parameter	External Reference
Operating Temperature	-40~+70℃
Non-operating Temperature	-55~+85℃
Dimensions	146*95*18(mm)
Control Method	Parallel Port
Weight	≤ 0.65kg

OUTLINE (mm):



FS16

Connector Definitions					
XS1	REF IN	SMA-F	XS2	100M OUT	SMA-F
SX3	PULSE	SMA-F	SX4	RF OUT	SMA-F
SX5	Power Supply & Control	J30J-31			

Power & Control Pin Definitions (Parallel Port Communication Interface Definitions)					
1	+12V	2	LD (Lock Indicator)	3	+12V
4	NC	5	GND	6	N1 Parallel Port Control Code Low Byte
7-26	N2 to N21 Parallel Port Control Codes	27	PULSE(Pulse Modulation Input)	28	N22 Parallel Port Control Code High Byte
29	NC	30	LE (Latch)	31	NC

How To Order:

Specify Part Number MSYS012200-X-X-C

External:

A=10MHz External Reference
B=100MHz External Reference
Blank:Internal reference

Reference:

E=External Reference
I=Internal Reference

Example: To order a 1.25-20GHz External Reference:10MHz, so the specify :MSYS012200-10-E-C.
To order a 1.25-20GHz Internal Reference, so the specify :MSYS012200-I-C.

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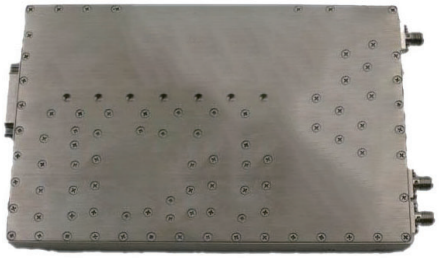
1.25-40GHz HIGH SPEED ULTRA LOW PHASE NOISE SYNTHESIZER
MSYS012400 SERIES



FEATURE
- ●Wide Operating Temperature Range
- ●Temp: -40 to +80°C Standard
- ●Ultra Low Phase-Noise
- ●Small Size, Low Power Consumption
- ●Low Cost, Low Profile

APPLICATION
- ●Radar System
- ●Electronic warfare
- ●Communication system
- ●Test equipment

SPECIFICATIONS:@+25

Parameter	External Reference
Typical Performance Specifications	
Part Number	MSYS012400-X-X-C
Output Frequency Range	1.25-40GHz
Step Size	10KHz
Input Power	0-10dBm
Switch Speed	≤ 300ns
Output Power	≥13dBm
Frequency Stability	2×10^{-7} (same as external reference when using external reference)
Frequency Accuracy	2×10^{-7} (same as external reference when using external reference)
Spurious	≤-65dBc/-60dBc(Typ/Max)@1.25-20GHz; ≤-60dBc/-65dBc(Typ/Max)@20-40GHz
Harmonic	≤ -5dBc
External/Internal Reference:Available	External:10MHz&100MHz/Internal
Pulse Modulate:Available	
Modulation Depth	≥60dBc (Test: +10dBm@1.25~20GHz); ≥55dBc (Test : +10dBm@20~40GHz)
Pulse Modulation Width	100ns~10ms
Rise Time/Fall Time	≤ 30ns/50ns
DC Power Supply	+12V
Current	1.8A (Startup)/1.6A (Stable)
Connector	RF Interface: SMA-F/2.92mm-M Control Interface: J30J-31ZKP

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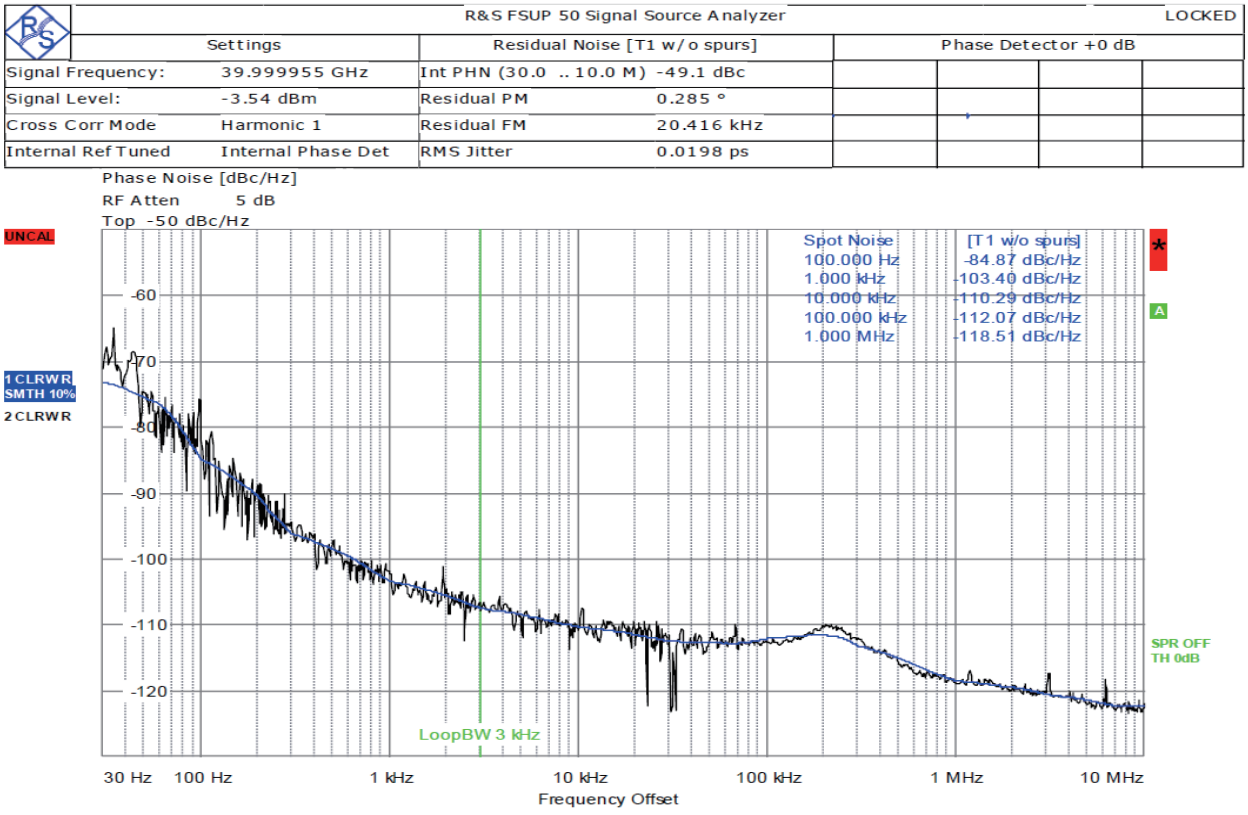
Phase Noise

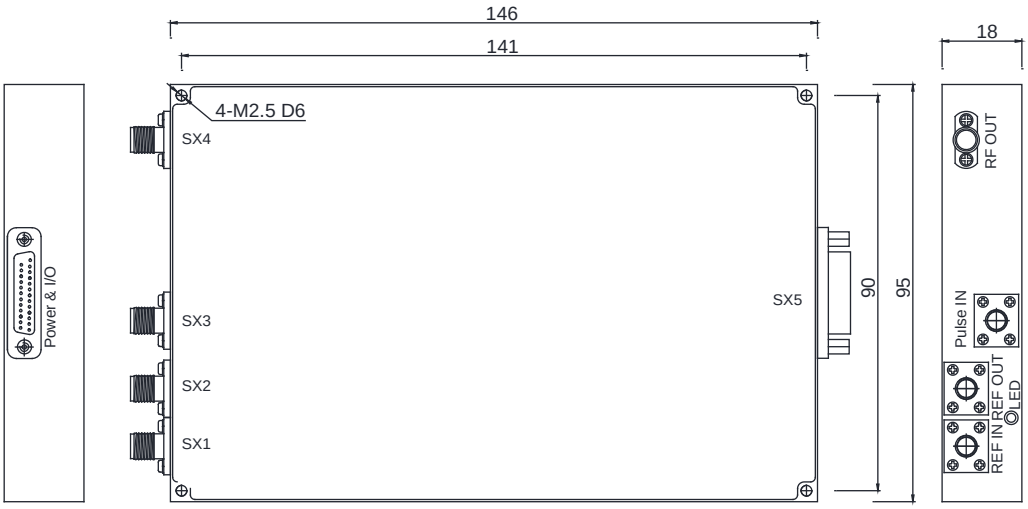
Phase Noise	Output Frequency			
	1.25GHz	10GHz	20GHz	40GHz
100Hz	≤-110	≤-90	≤-84	≤-76
1kHz	≤-128	≤-110	≤-104	≤-98
10kHz	≤-135	≤-118	≤-112	≤-106
100kHz	≤-135	≤-118	≤-112	≤-106
1MHz	≤-143	≤-126	≤-120	≤-114



ENVIRONMENTAL RATINGS:

Parameter	External Reference
Operating Temperature	-40~+70℃
Non-operating Temperature	-55~+85℃
Dimensions	146*95*18(mm)
Control Method	Parallel Port
Weight	≤ 0.65kg

OUTLINE (mm):



FS16

Connector Definitions					
XS1	REF IN	SMA-F	XS2	100M OUT	SMA-F
SX3	PULSE	SMA-F	SX4	RF OUT	2.92mm-M
SX5	Power Supply & Control	J30J-31			

Power & Control Pin Definitions (Parallel Port Communication Interface Definitions)					
1	+12V	2	LD (Lock Indicator)	3	+12V
4	NC	5	GND	6	N1 Parallel Port Control Code Low Byte
7-26	N2 to N21 Parallel Port Control Codes	27	PULSE(Pulse Modulation Input)	28	N22 Parallel Port Control Code High Byte
29	NC	30	LE (Latch)	31	NC

How To Order:

Specify Part Number MSYS012400-X-X-C

External:
A=10MHz External Reference
B=100MHz External Reference
Blank:Internal reference

Reference:
E=External Reference
I=Internal Reference

Example: To order a 1.25-40GHz External Reference:10MHz, so the specify :MSYS012400-10-E-C.
To order a 1.25-40GHz Internal Reference, so the specify :MSYS012400-I-C.

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