

Features

Input Frequency: 100MHz

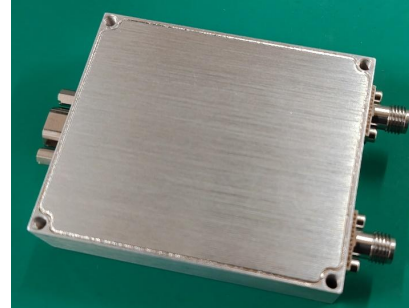
Input Power: (7 ± 3) dBm

Output Frequency: 50MHz~22000MHz

Phase Noise: $-110\text{dBc/Hz}@1\text{KHz}(10\text{GHz})$

Dimension: $60.0\text{mm} \times 50.0\text{mm} \times 15.0\text{mm}$

Operation Temperature: $-40\sim 70^{\circ}\text{C}$

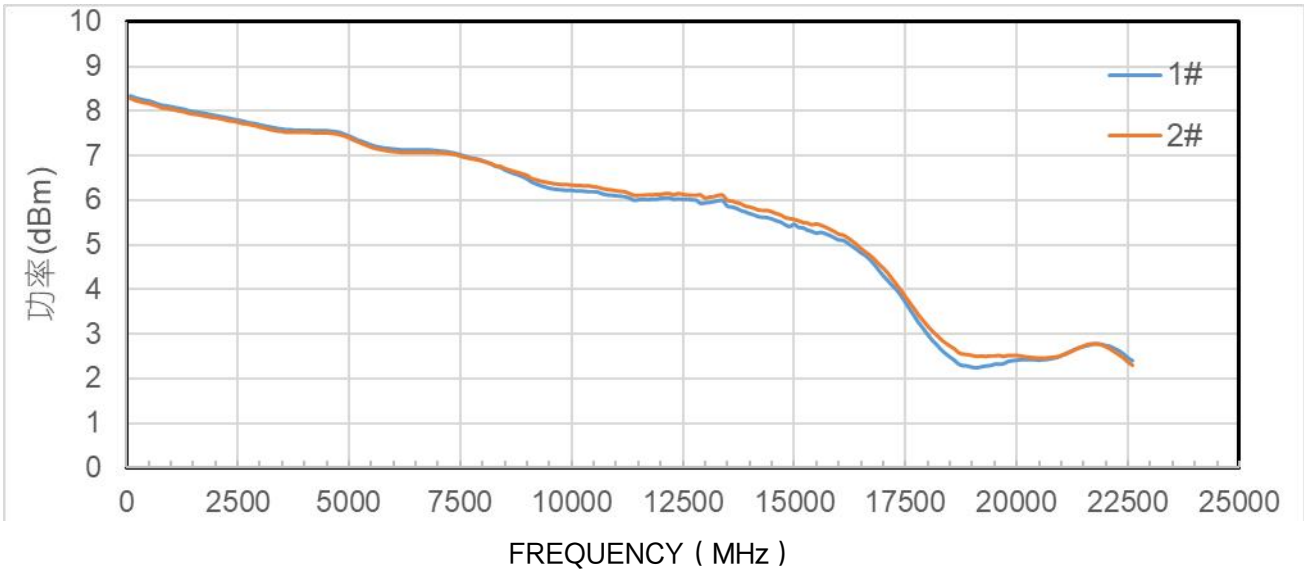


Specification ($T_A=25^{\circ}\text{C}$, $V_{CC}=12\text{V}$, Input Frequency: 100MHz, Input Power: 10dBm, Input Phase Noise: $-156\text{dBc/Hz}@1\text{kHz}$)

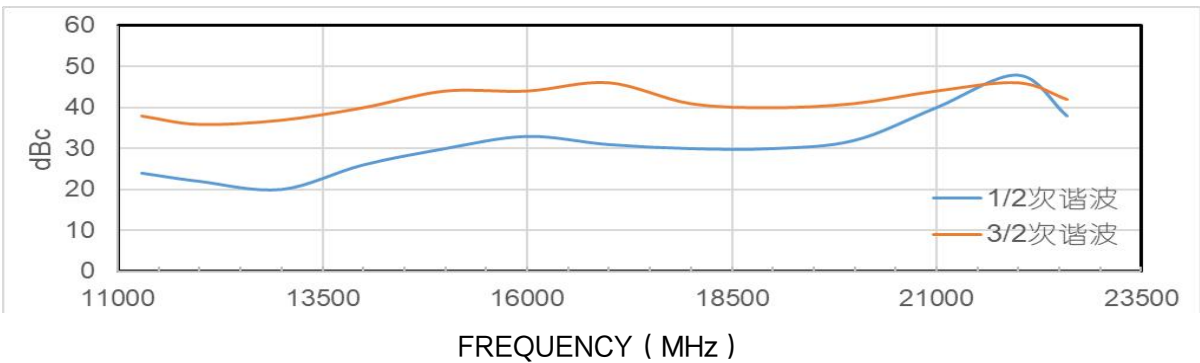
Parameter	Min	Typ	Max	Unit
Output Frequency	50	–	22000	MHz
Frequency Step	–	0.1	–	Hz
Frequency Settint Time	–	–	100	us
Phase Noise (@1KHz@10GHz)	–	–	–110	dBc/Hz
Spur	–	–	–70	dBc
Sub Harmonic (>11.3GHz)	–	–	–20	dBc
Harmonic	–	–	–9	dBc
Output Power	1	–	9	dBm
Current	–	130	150	mA

TYPICAL PERFORMANCE CHARACTERISTICS

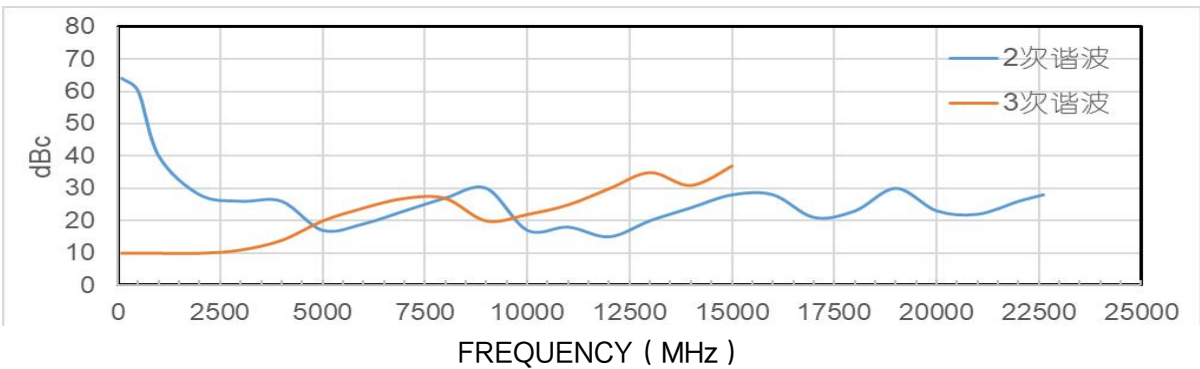
Output Power ($T_A=+25^{\circ}\text{C}$)



1/2 Sub Harmonic & 3/2 Sub Harmonic ($T_A=+25^{\circ}\text{C}$)

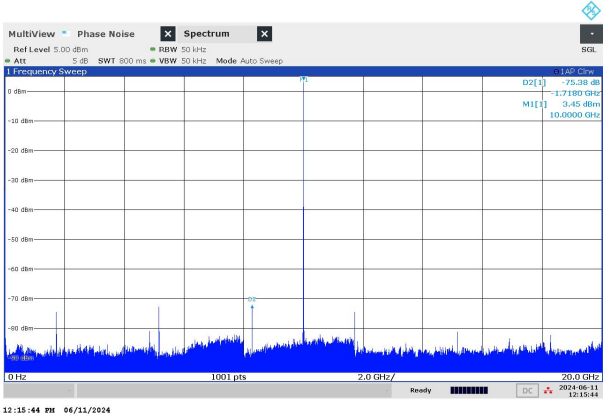


2nd & 3rd Harmonic ($T_A=+25^{\circ}\text{C}$)

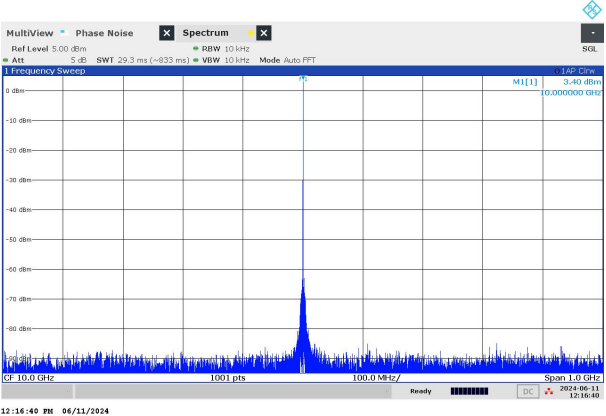


Broadband Low Phase Noise Source

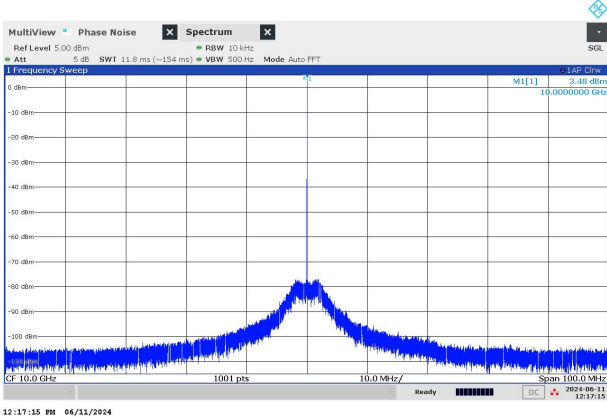
Spur @10.0GHz (Span 20.0GHz) ($T_A=+25^{\circ}\text{C}$)



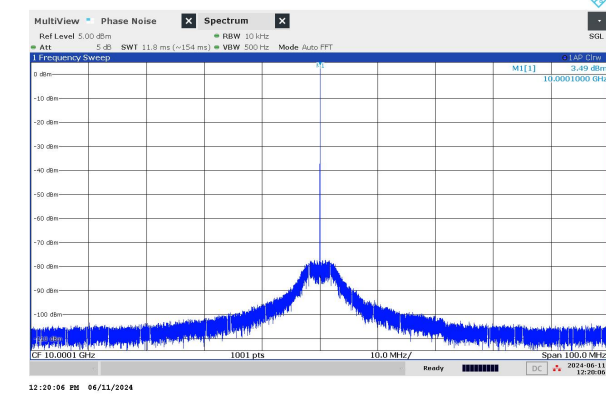
Spur @10.0GHz (Span 1.0GHz) ($T_A=+25^{\circ}\text{C}$)



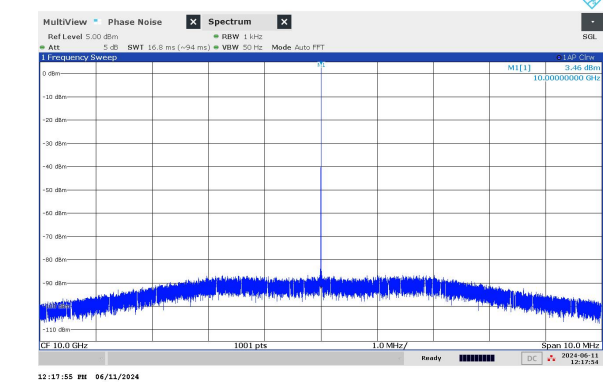
Spur @10.0GHz (Span 100MHz) ($T_A=+25^{\circ}\text{C}$)



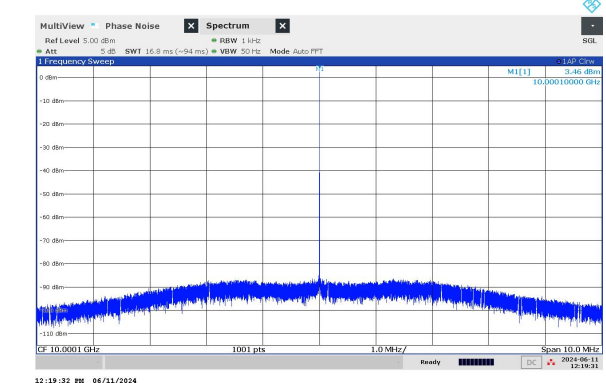
Spur@10.0GHz+100KHz (Span 100MHz)
($T_A=+25^{\circ}\text{C}$)



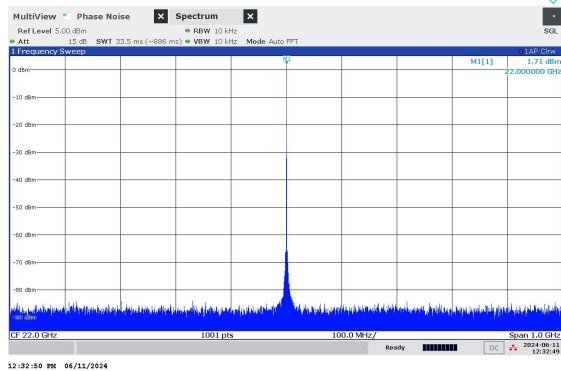
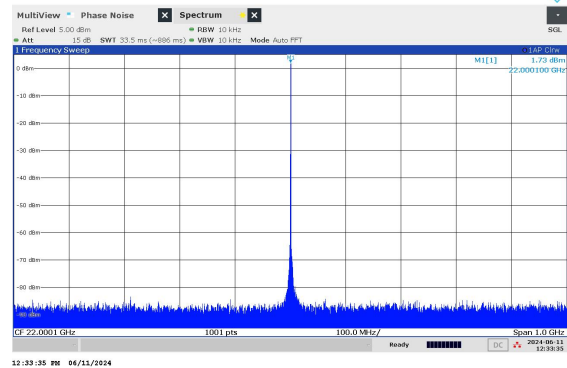
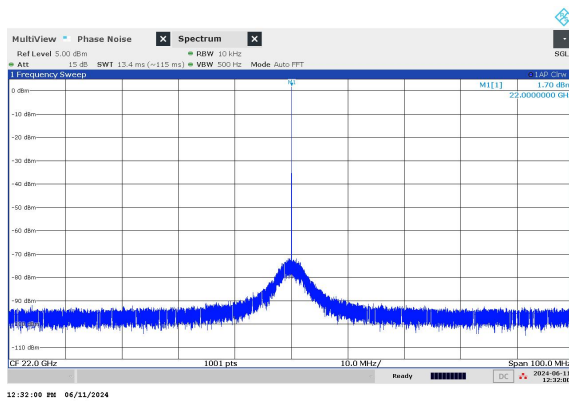
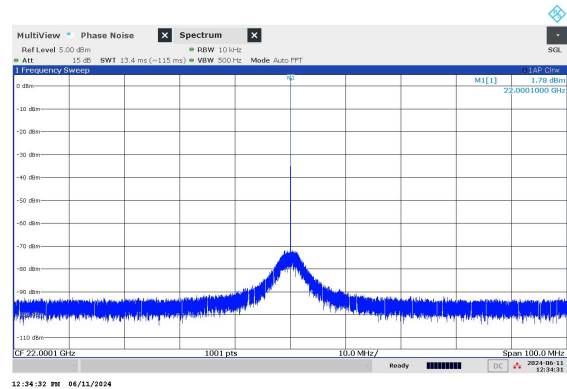
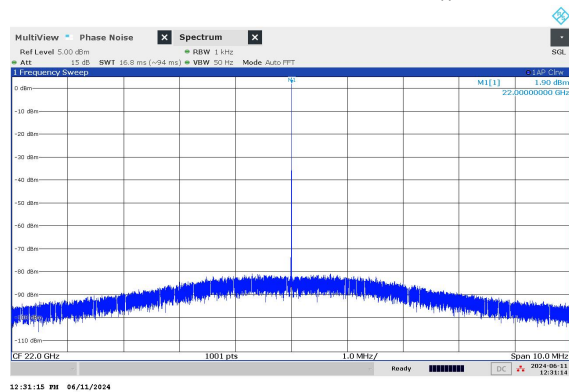
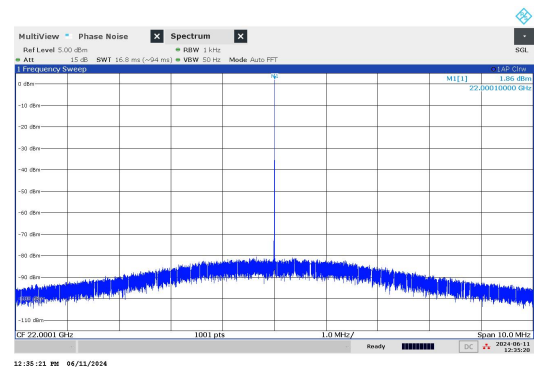
Spur @10.0GHz (Span 10MHz) ($T_A=+25^{\circ}\text{C}$)



Spur@10.0GHz+100KHz(Span
10MHz)($T_A=+25^{\circ}\text{C}$)

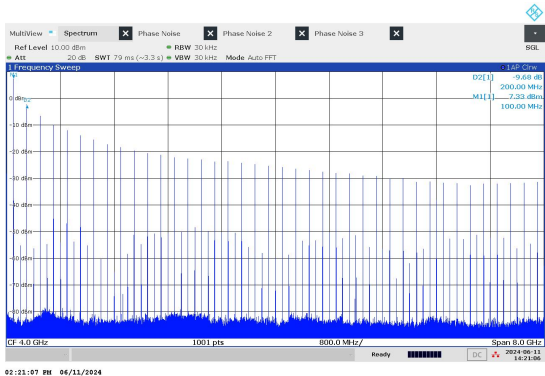


Broadband Low Phase Noise Source

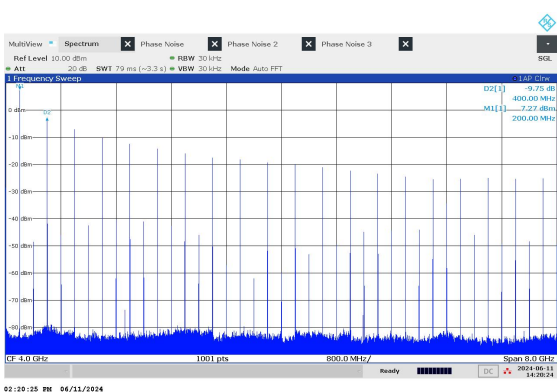
Spur @22.0GHz (Span 1GHz) ($T_A=+25^\circ\text{C}$)Spur@22.0GHz+100KHz (Span 1GHz) ($T_A=+25^\circ\text{C}$)Spur @22.0GHz (Span 100MHz) ($T_A=+25^\circ\text{C}$)Spur@22.0GHz+100KHz (Span 100MHz)
($T_A=+25^\circ\text{C}$)Spur @22.0GHz (Span 10MHz)($T_A=+25^\circ\text{C}$)Spur@22.0GHz+100KHz (Span 10MHz)
($T_A=+25^\circ\text{C}$)

Broadband Low Phase Noise Source

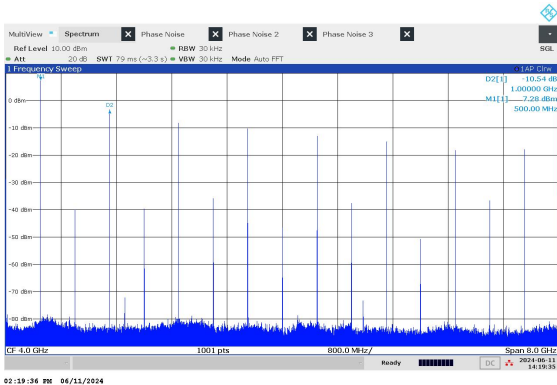
Harmonic@100Mz



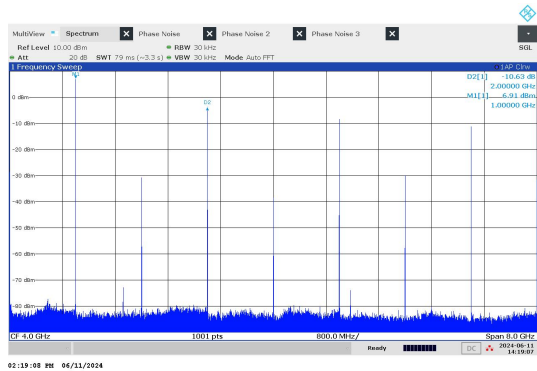
Harmonic@200MHz



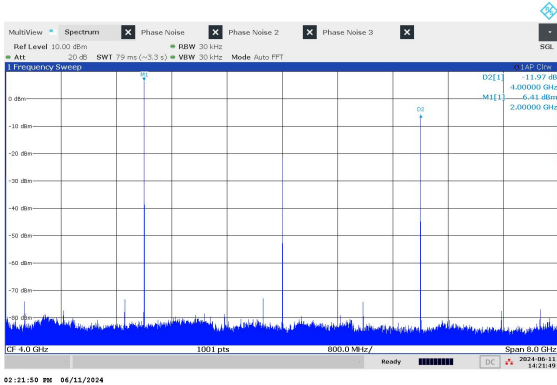
Harmonic@500MHz



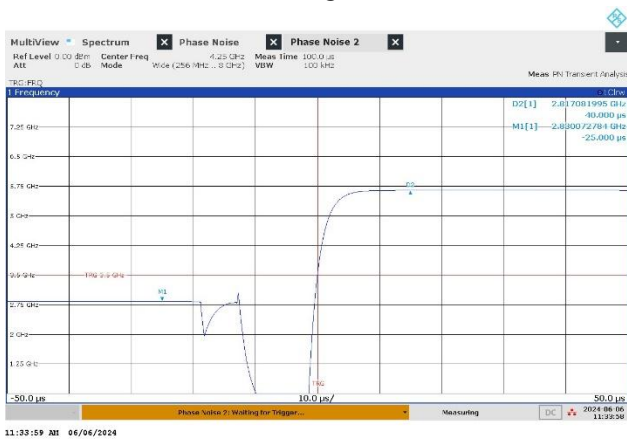
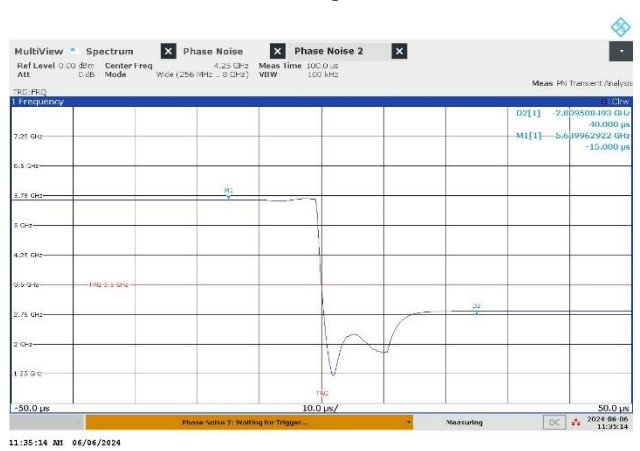
Harmonic@1GHz



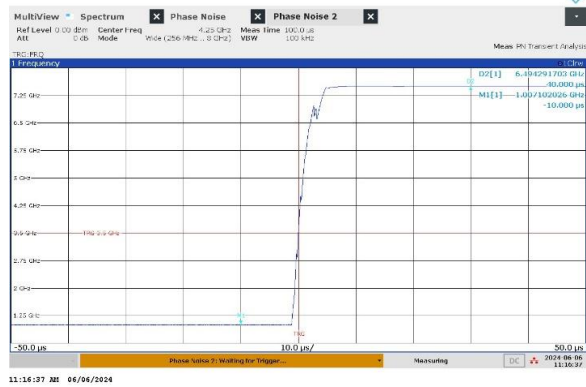
Harmonic@2GHz



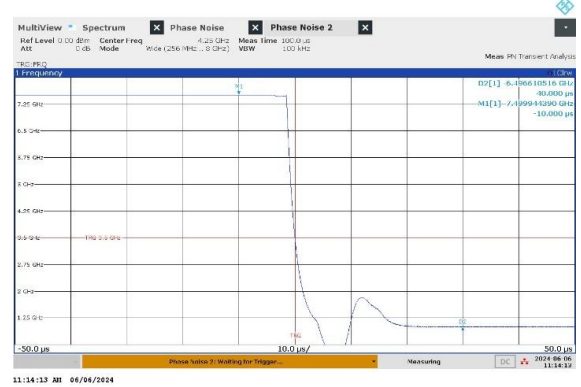
Broadband Low Phase Noise Source

Frequency Setting time (5660MHz to 11280MHz)
Test through Div-2Frequency Setting time (11280MHz to 5640MHz)
Test through Div-2

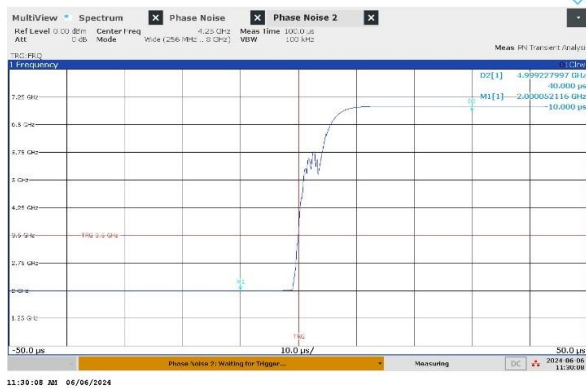
Frequency Setting time (1000MHz to 7500MHz)



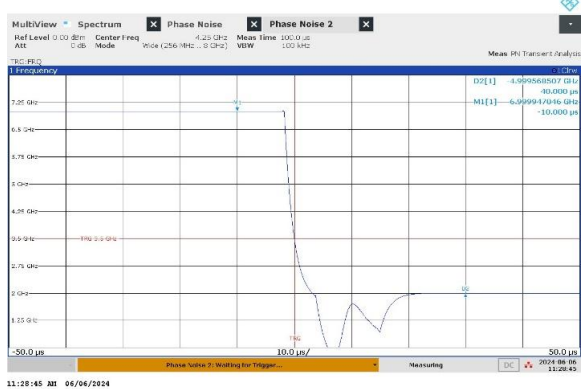
Frequency Setting time (7500MHz to 1000MHz)



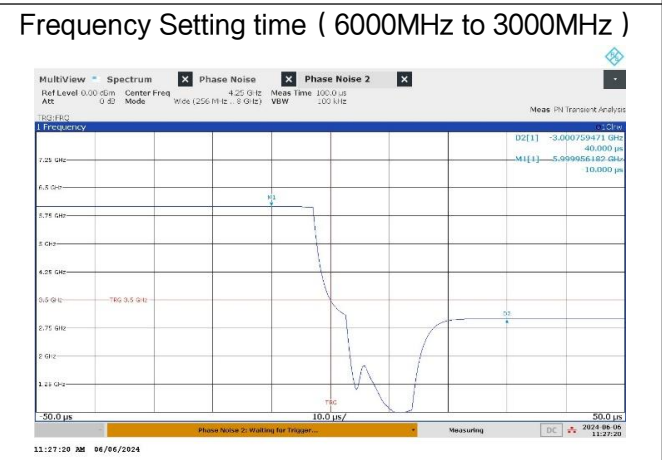
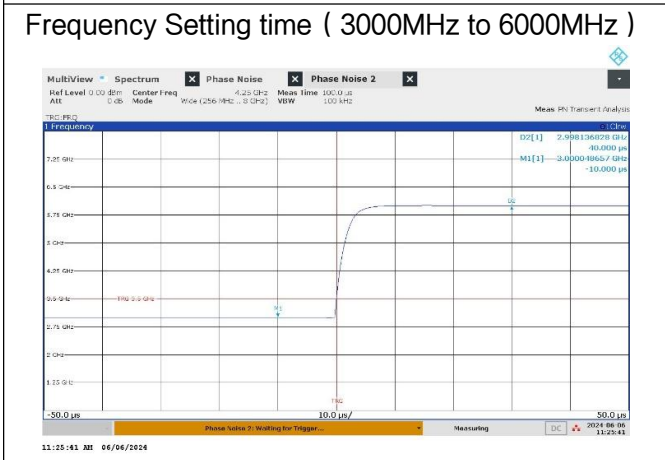
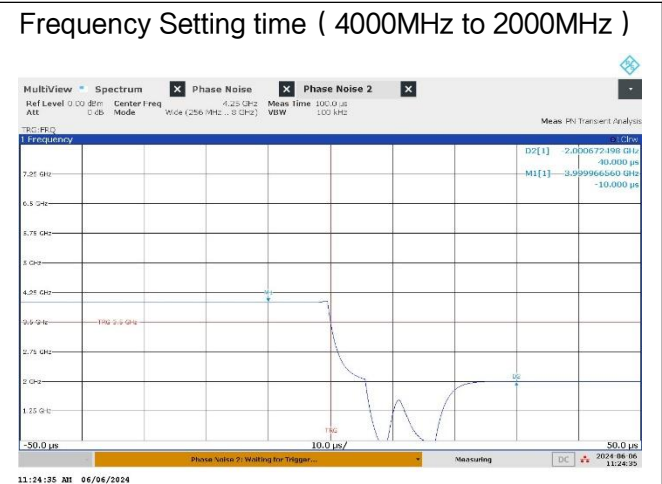
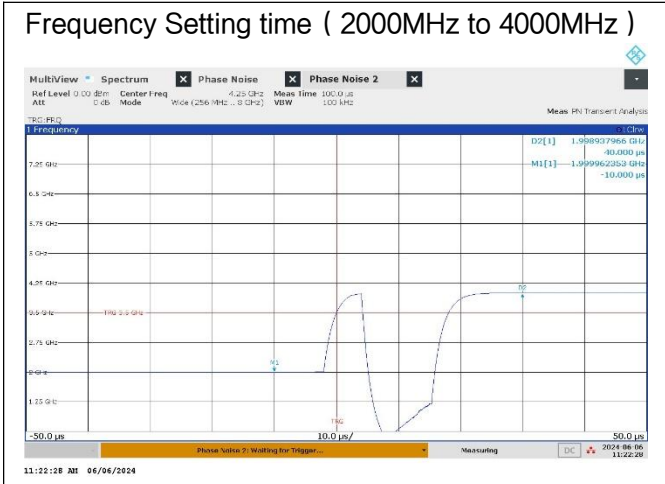
Frequency Setting time (2000MHz to 7000MHz)



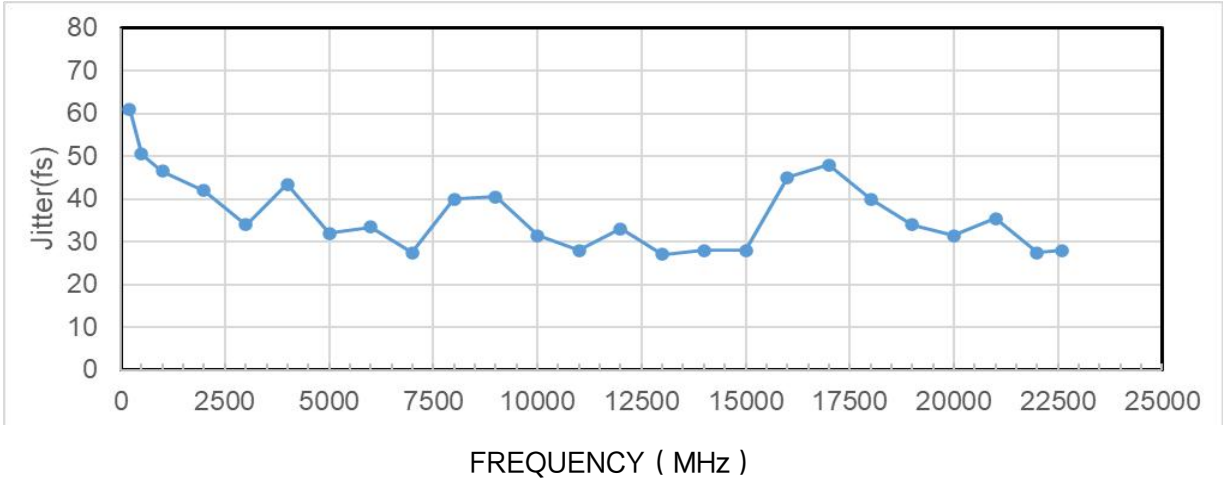
Frequency Setting time (7000MHz to 2000MHz)



Broadband Low Phase Noise Source

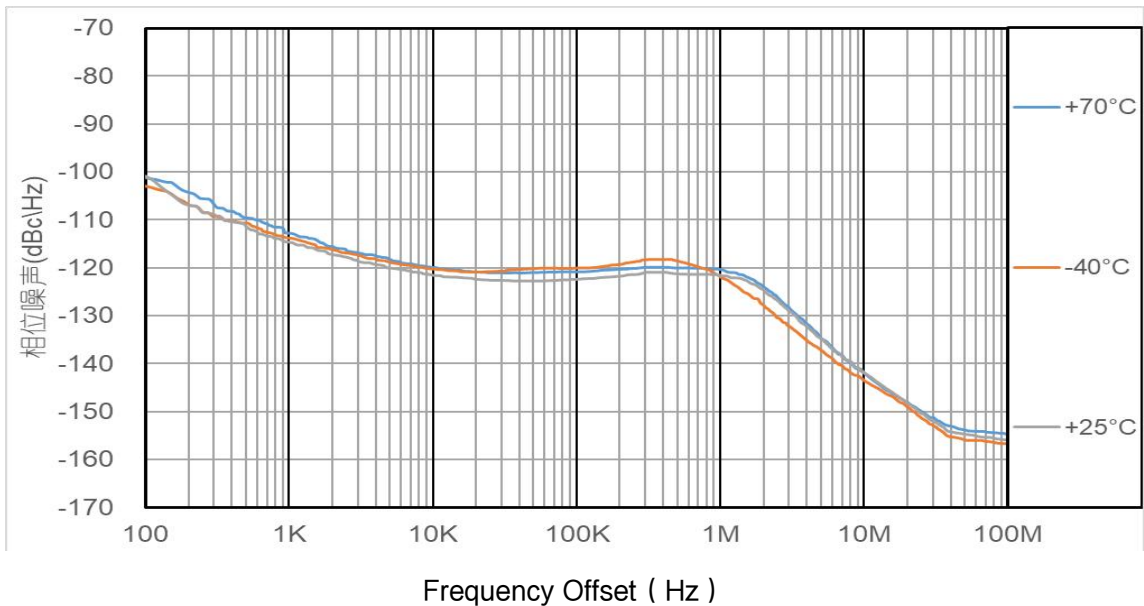


Jitter ($T_A=+25^{\circ}\text{C}$)

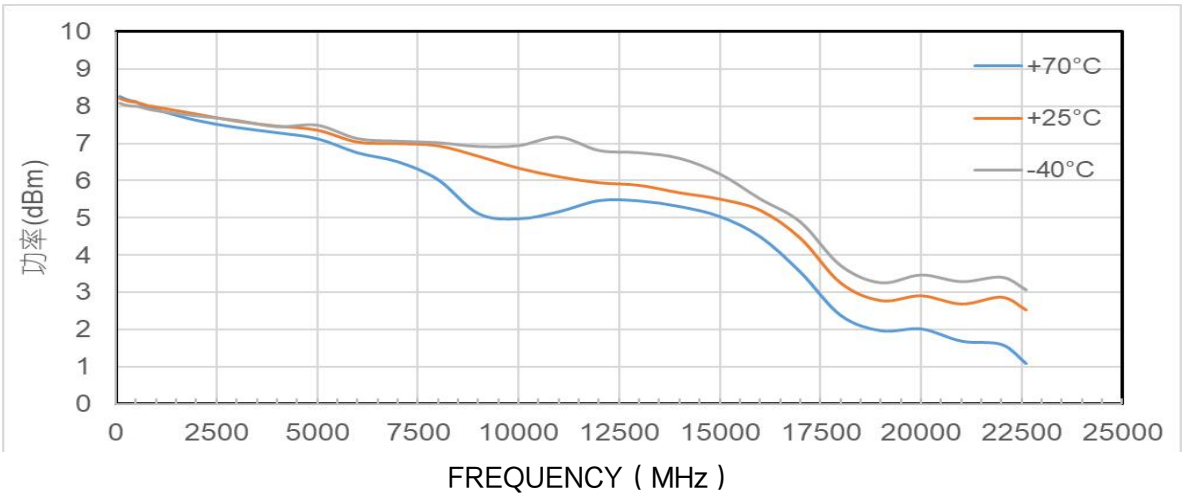


Broadband Low Phase Noise Source

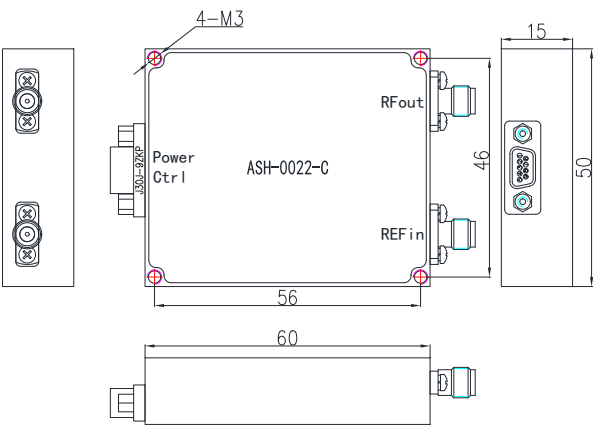
Phase Noise@11.2GHz(Input Clock Phase Noise better than -156dBc/Hz@1KHz)



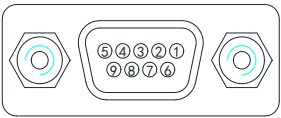
RF Output Power



Outline



Interface Definition



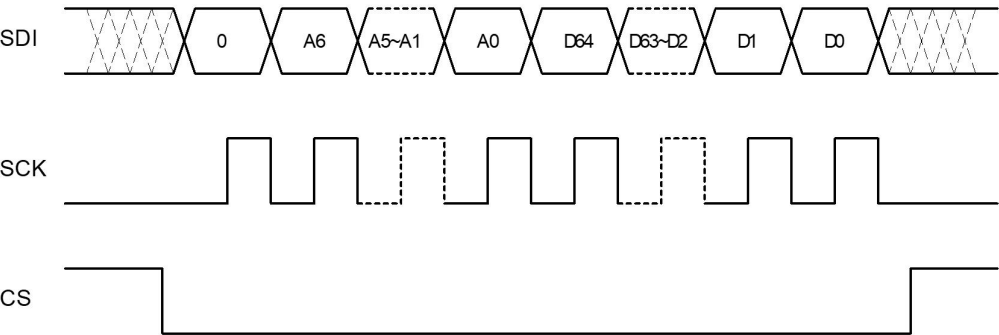
J30J-9ZKP Interface

J30J-9ZKP Definition					
No.	Symbol	Function	No.	Symbol	Function
1	LD	Lock Detect Out	6	Vin	Power Supply (12 ± 6V, <0.9A@9V)
2	SCK	SPI Clock IN	7	Vin	
3	SDO	SPI Data Out (Reserved)	8	GND	Power Ground
4	CS	SPI Enable IN	9	GND	
5	SDI	SPI DATA IN	/	/	/

SPI Communication Protocol

4-Wire SPI Timing Diagram

Write:



Data Definition :

R/W	A6~A0	D63~D16	D15~D0	Data	Frequency
0	02	HEX(Freq./0.1Hz)	0000(Deserved)	02 00 00 3B 9A CA 00 00 00	100MHz
0	02	HEX(Freq./0.1Hz)	0000(Deserved)	02 00 0B A4 3B 74 00 00 00	5000MHz
0	02	HEX Freq./0.1Hz)	0000(Deserved)	02 00 17 48 76 E8 00 00 00	10000MHz