

**HCT Co., Ltd.**

74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA
Tel. +82 31 634 6300 Fax. +82 31 645 6401

Appendix B: 802.11ax Test Plot

FCC ID
A3LSMA546E

REVISION HISTORY

The revision history for this document is shown in table.

Revision No.	Date of Issue	Description
0	January 17, 2023	Initial Release

Note:

In order to simplify the report, attached plots were only the most lowest data rate.

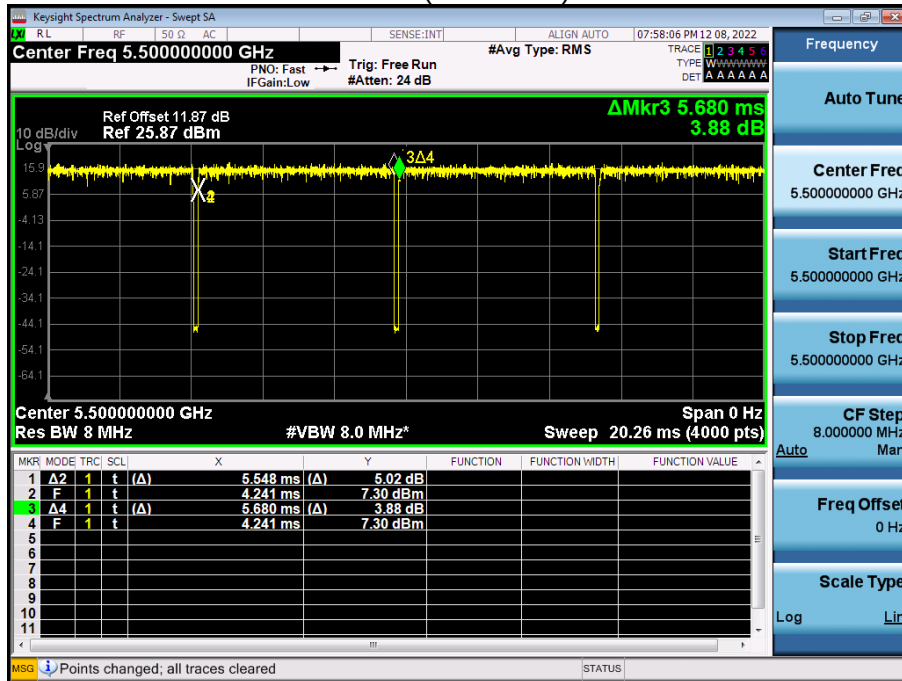
1. Duty Cycle

Note :

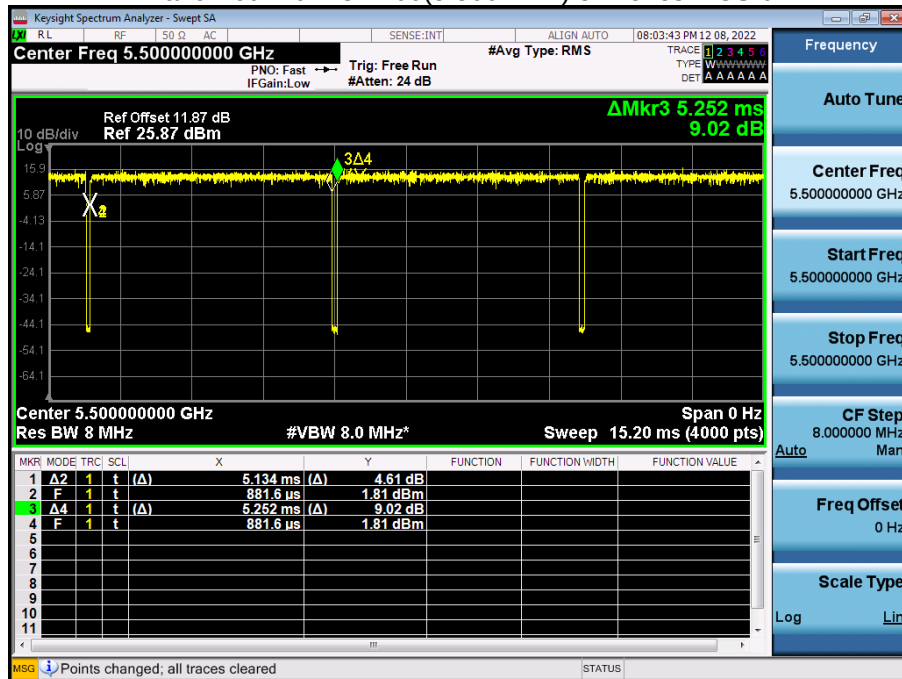
1. In order to simplify the report, attached plots were only the lowest datarate.

[SISO]

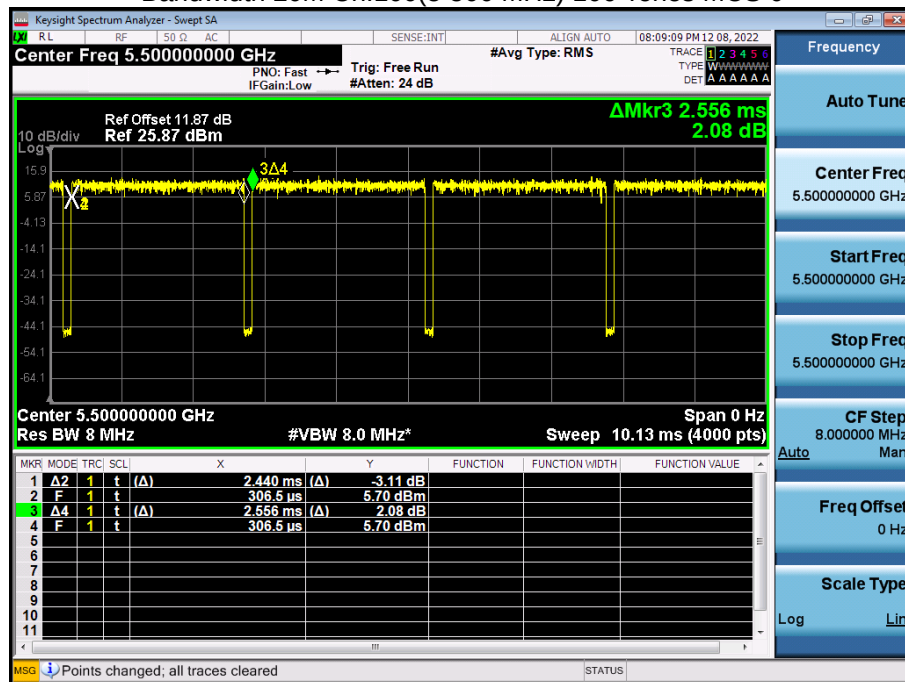
Bandwidth 20M Ch.100(5 500 MHz) 26 Tones MCS 0



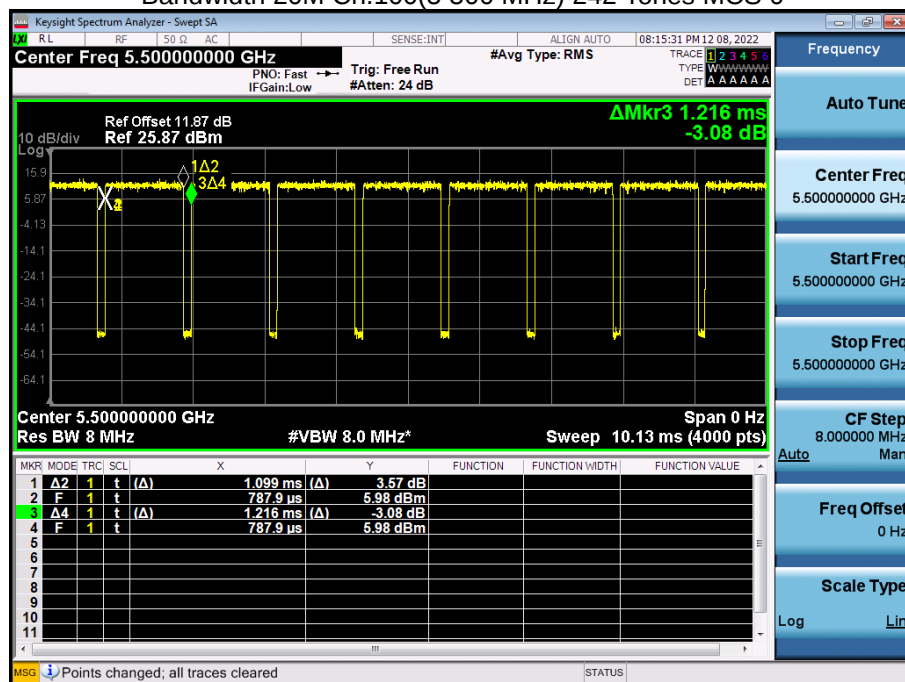
Bandwidth 20M Ch.100(5 500 MHz) 52 Tones MCS 0



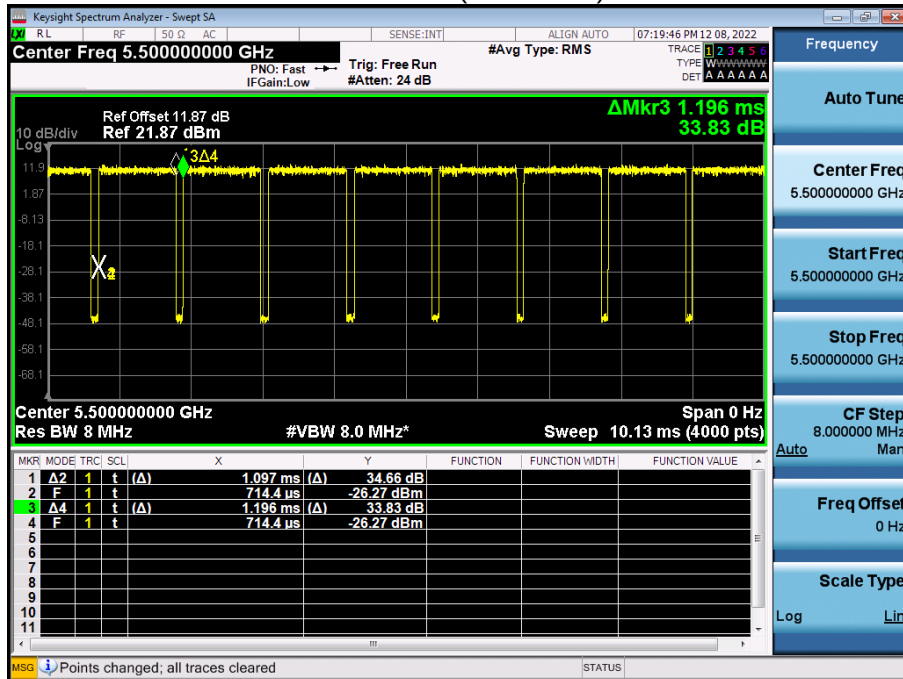
Bandwidth 20M Ch.100(5 500 MHz) 106 Tones MCS 0



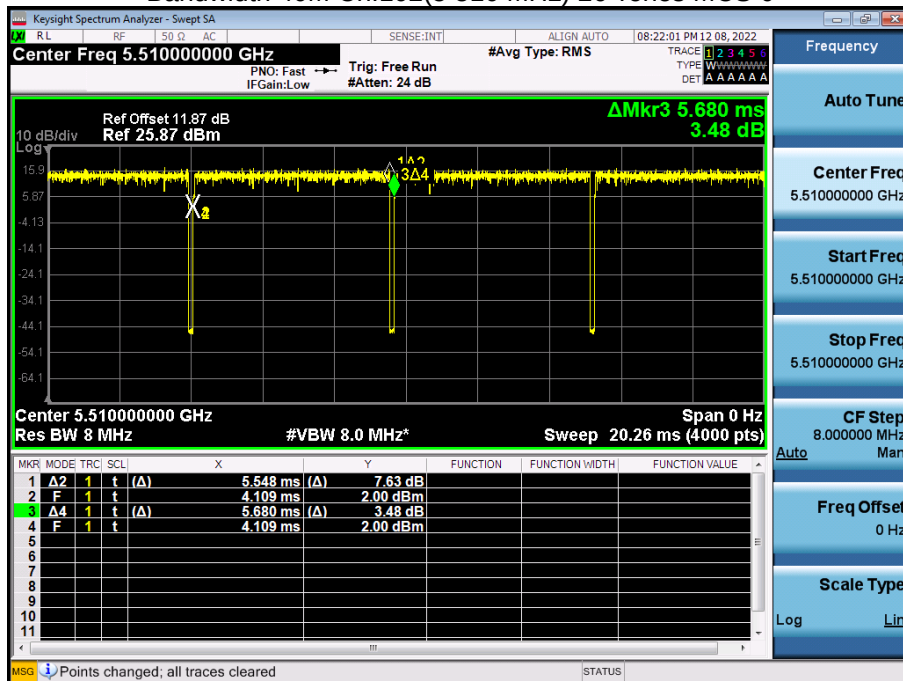
Bandwidth 20M Ch.100(5 500 MHz) 242 Tones MCS 0



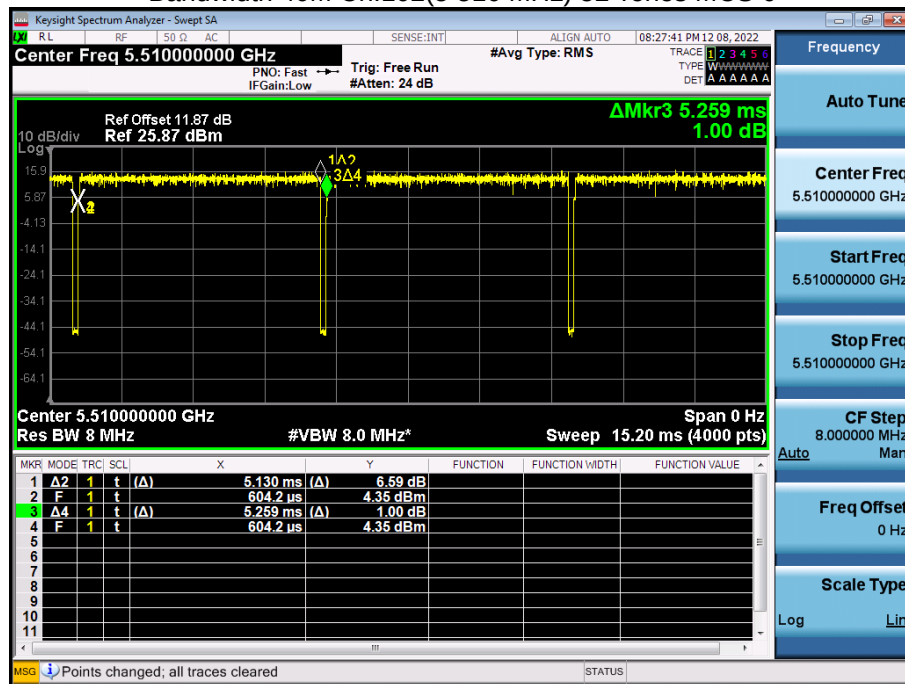
Bandwidth 20M Ch.100(5 500 MHz) SU MCS 0



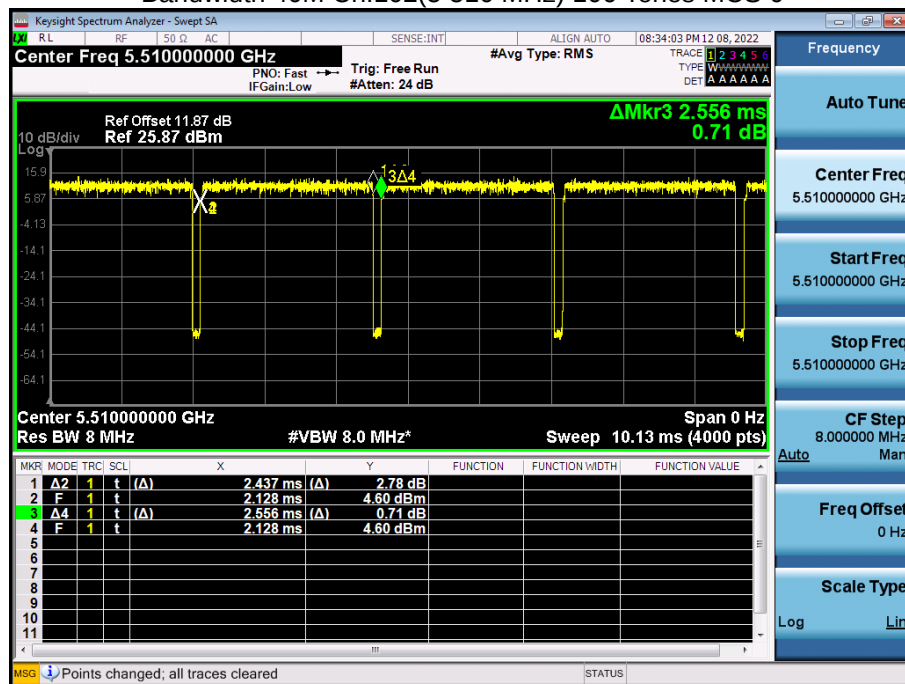
Bandwidth 40M Ch.102(5 510 MHz) 26 Tones MCS 0

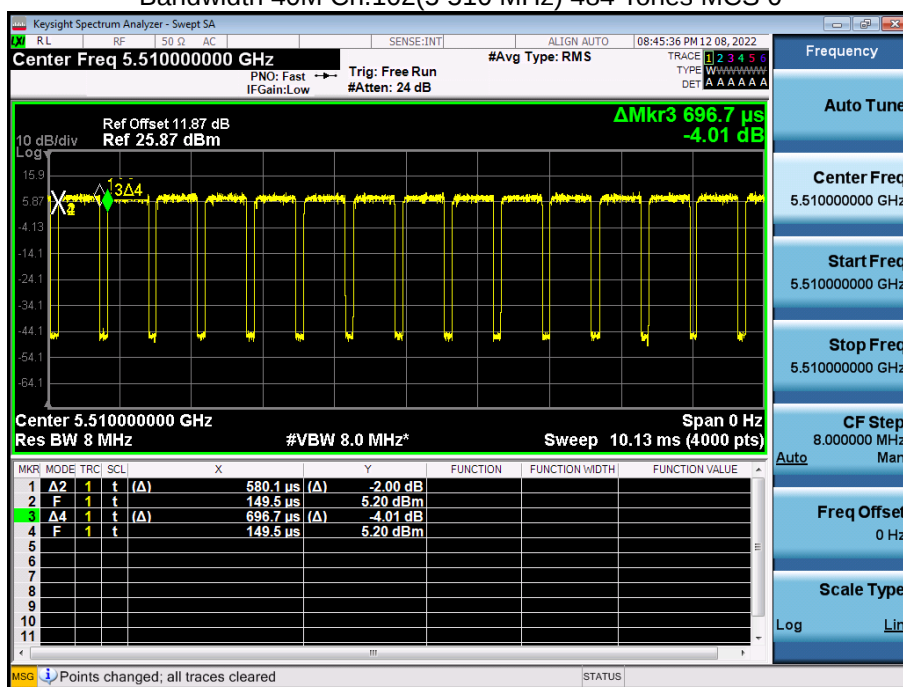


Bandwidth 40M Ch.102(5 510 MHz) 52 Tones MCS 0

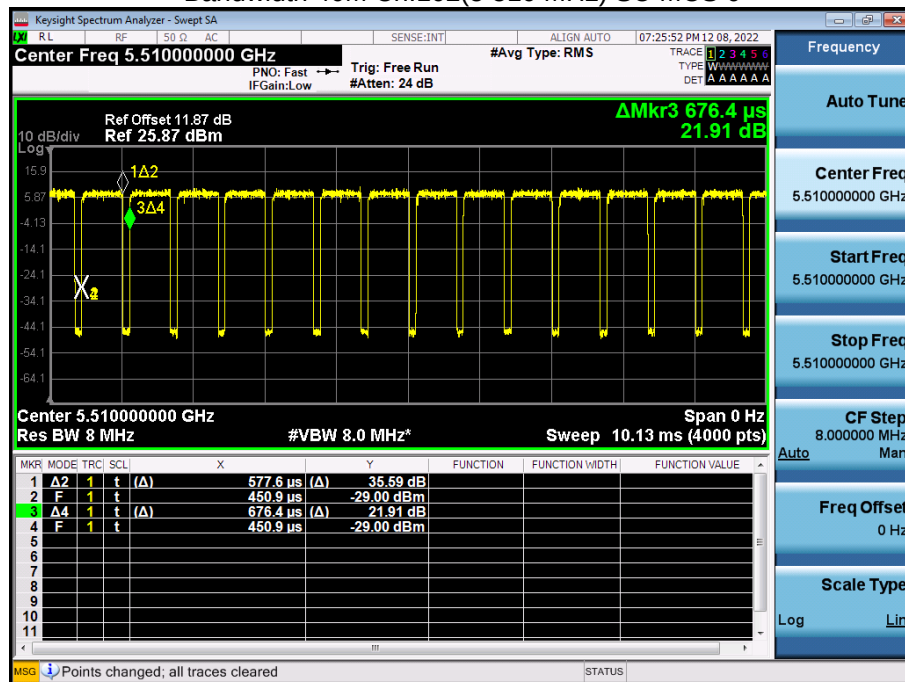


Bandwidth 40M Ch.102(5 510 MHz) 106 Tones MCS 0

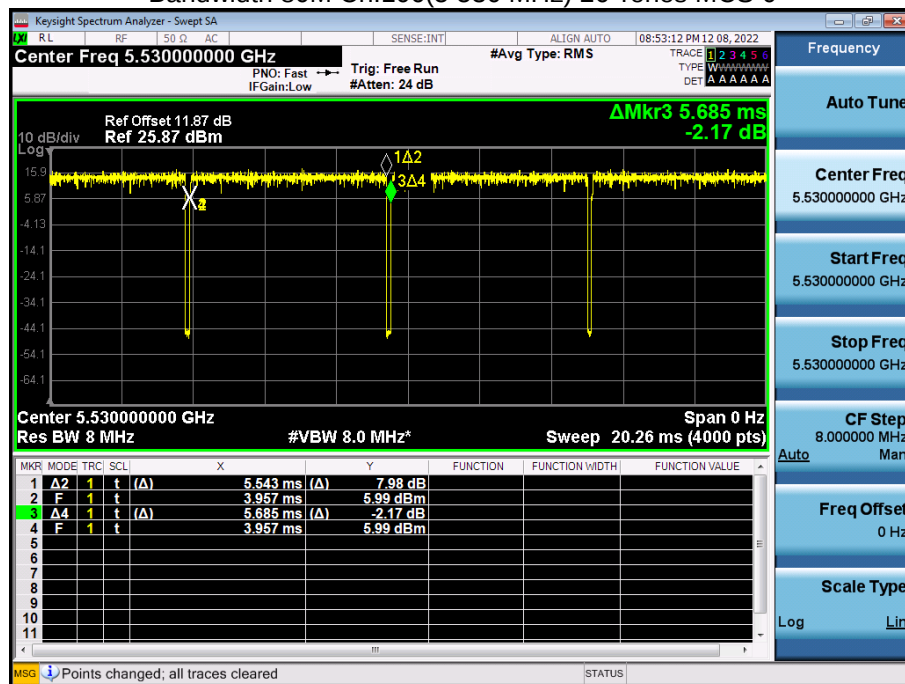




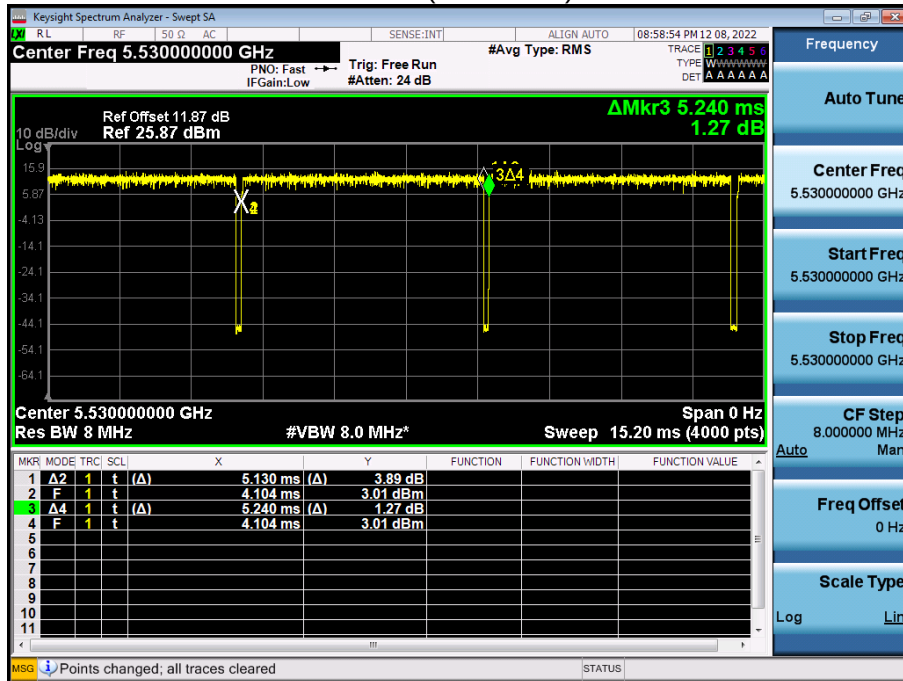
Bandwidth 40M Ch.102(5 510 MHz) SU MCS 0



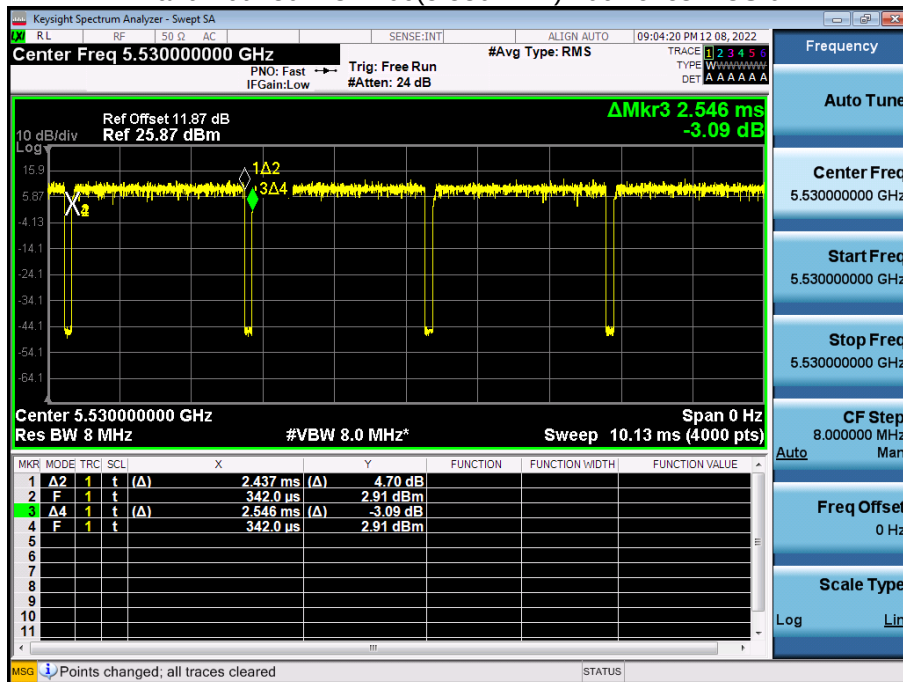
Bandwidth 80M Ch.106(5 530 MHz) 26 Tones MCS 0



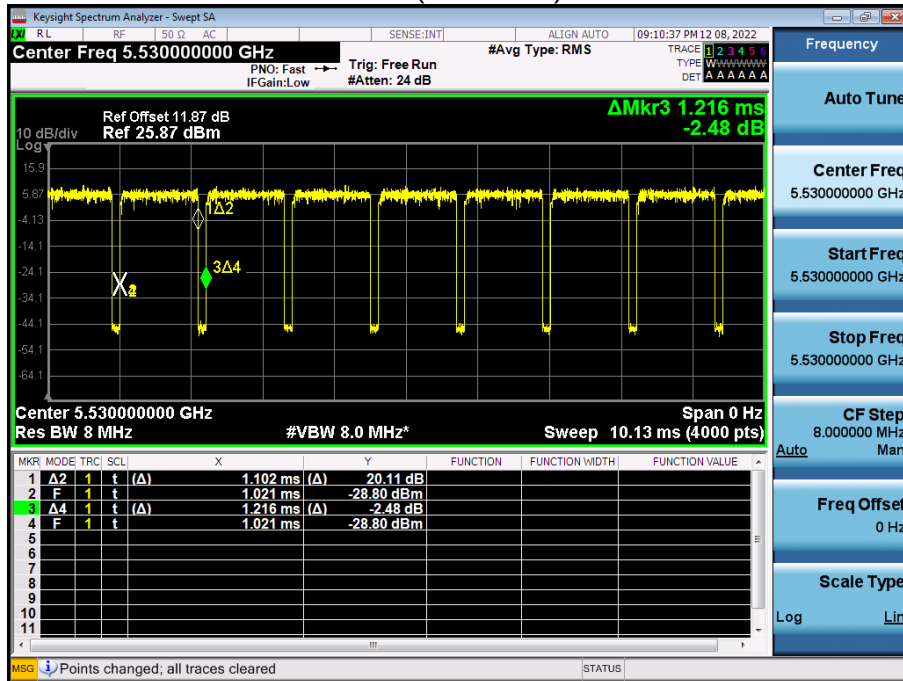
Bandwidth 80M Ch.106(5 530 MHz) 52Tones MCS 0



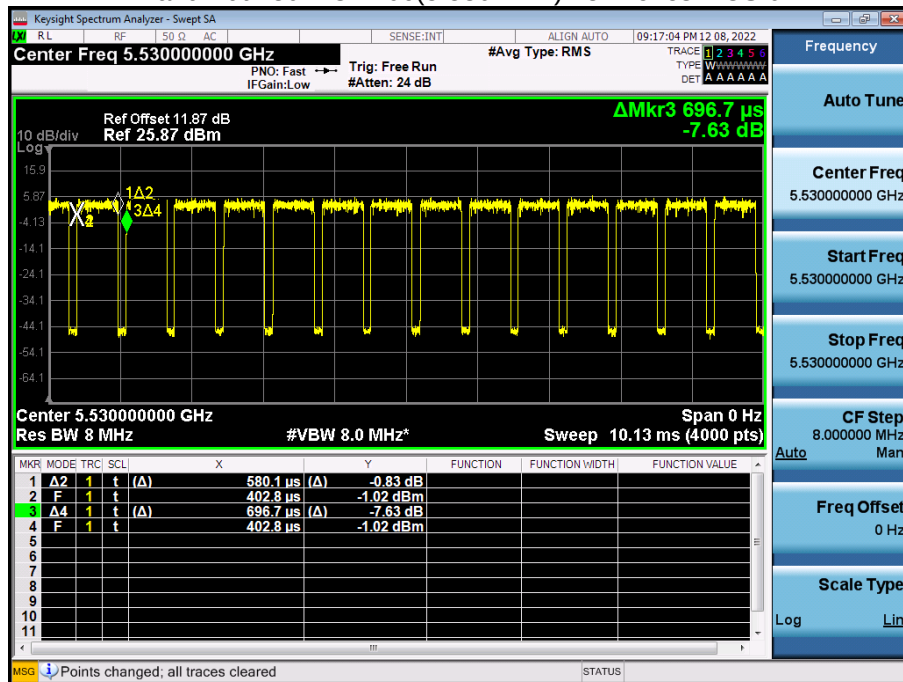
Bandwidth 80M Ch.106(5 530 MHz) 106 Tones MCS 0



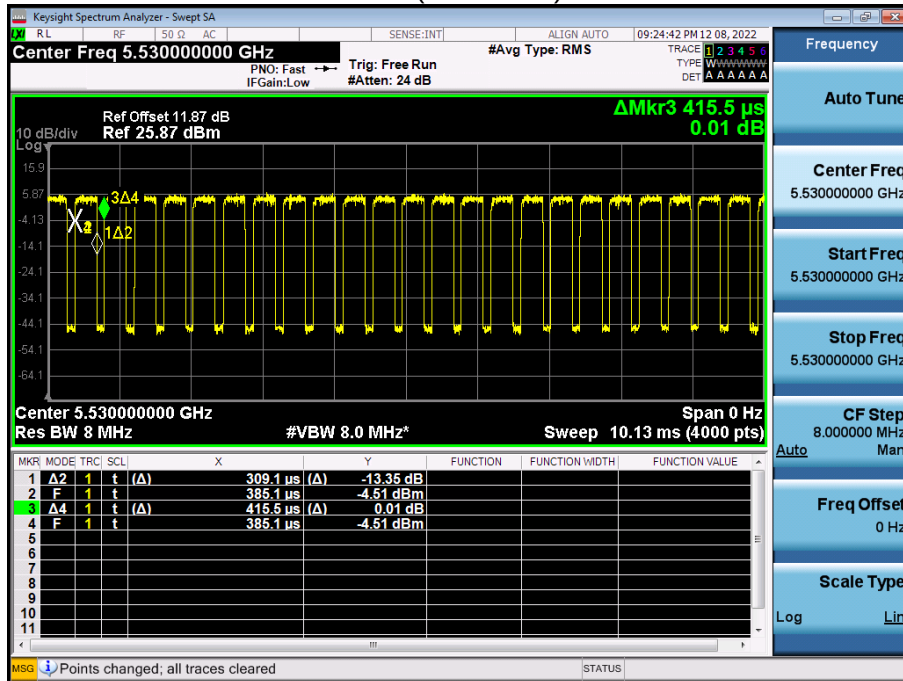
Bandwidth 80M Ch.106(5 530 MHz) 242 Tones MCS 0



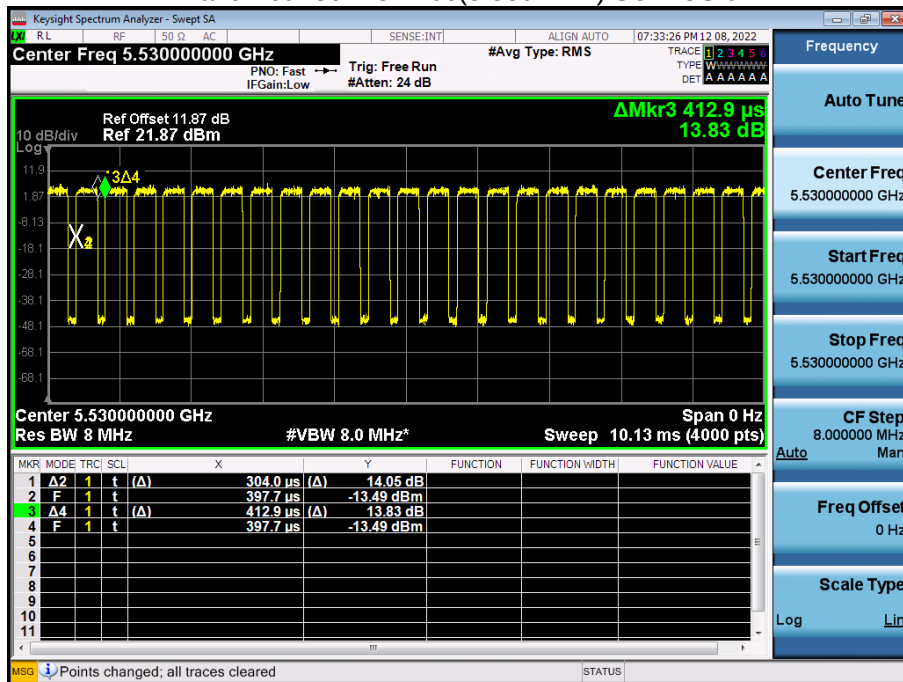
Bandwidth 80M Ch.106(5 530 MHz) 484 Tones MCS 0



Bandwidth 80M Ch.106(5 530 MHz) 996 Tones MCS 0

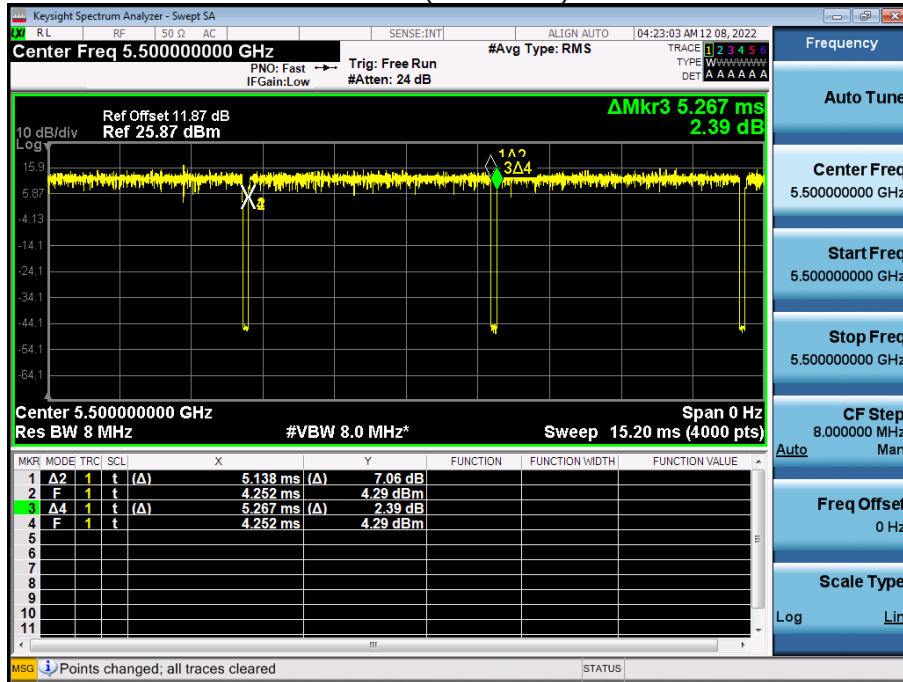


Bandwidth 80M Ch.106(5 530 MHz) SU MCS 0

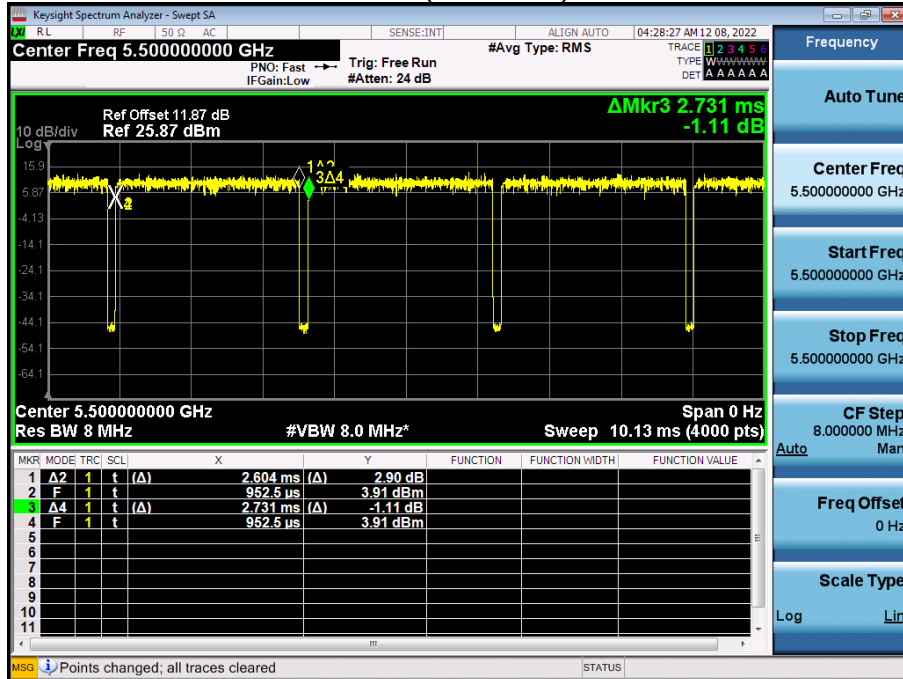


[MIMO]

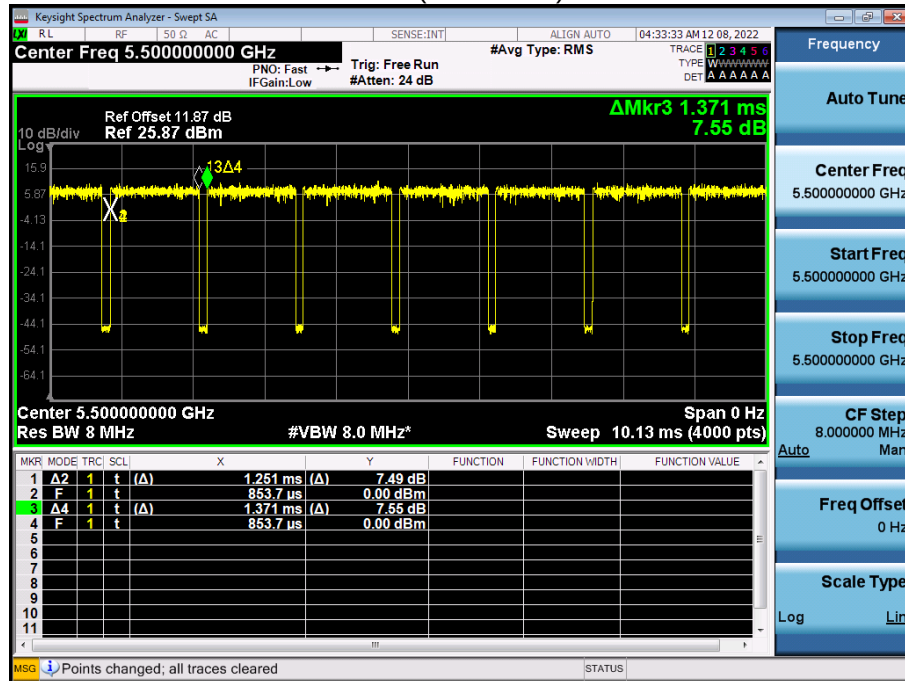
Bandwidth 20M Ch.100(5 500 MHz) 26 Tones MCS 0



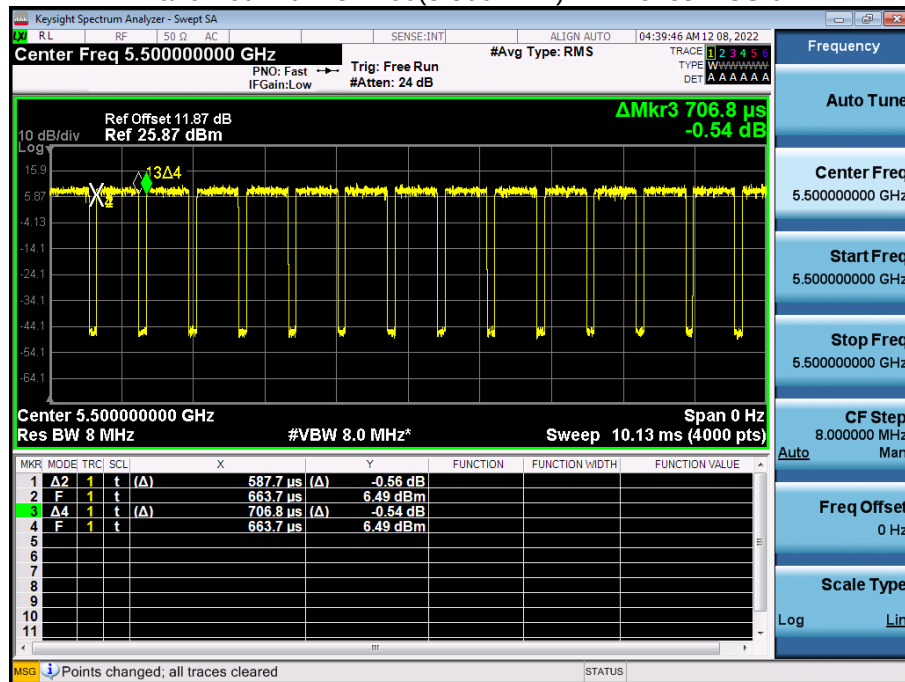
Bandwidth 20M Ch.100(5 500 MHz) 52 Tones MCS 0



Bandwidth 20M Ch.100(5 500 MHz) 106 Tones MCS 0



Bandwidth 20M Ch.100(5 500 MHz) 242 Tones MCS 0



Keysight Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 04:18:11 AM 12 08, 2022

Center Freq 5.50000000 GHz #Avg Type: RMS Trance 1 2 3 4 5 6 TYPE W W W W W W W W DET A A A A A A A A

PNO: Fast → Trig: Free Run #Atten: 24 dB

Ref Offset 11.87 dB
Ref 25.87 dBm

10 dB/div Log

ΔMkr3 704.3 μs
8.23 dB

MKR	MODE	TRG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	1	t	(Δ)	585.2 μs	(Δ)	6.96 dB	
2	F	1	t		633.3 μs	-1.49 dBm		
3	Δ4	1	t	(Δ)	704.3 μs	(Δ)	8.23 dB	
4	F	1	t		633.3 μs	-1.49 dBm		

Center 5.500000000 GHz Span 0 Hz
Res BW 8 MHz #VBW 8.0 MHz* Sweep 10.13 ms (4000 pts)

Auto

CF Step 8.000000 MHz Mar

Freq Offset 0 Hz

Scale Type Log Lin

MSO Points changed; all traces cleared STATUS

Keysight Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 04:46:49 AM 12 08, 2022

Center Freq 5.51000000 GHz #Avg Type: RMS

PNO: Fast Trg: Free Run TYPE: W DET: A A A A A A

IFGain: Low #Atten: 24 dB

Ref Offset 11.87 dB
Ref 25.87 dBm

ΔMkr3 5.267 ms
1.90 dB

10 dB/div
Log

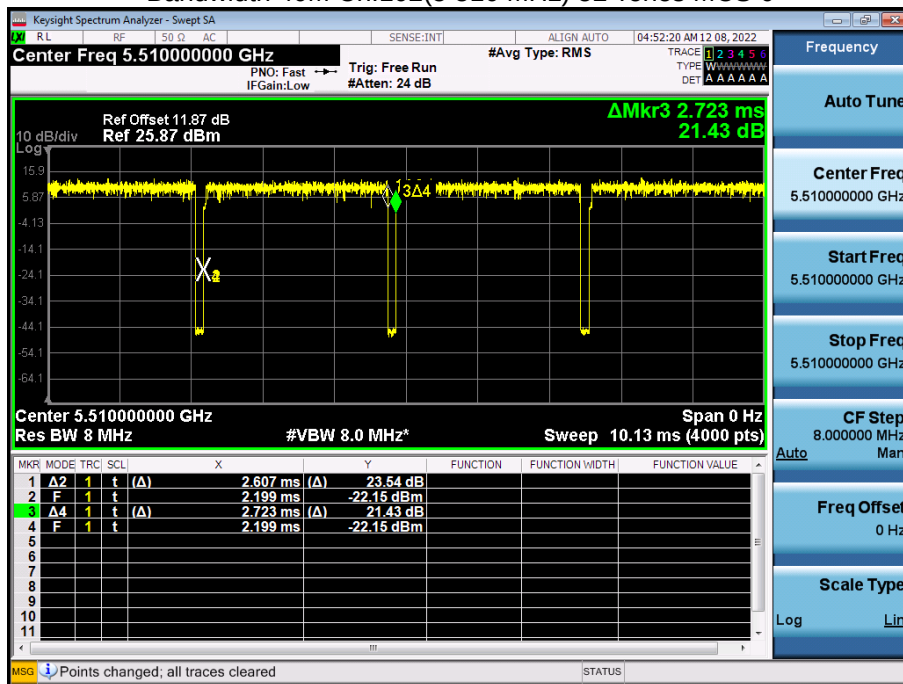
Center Freq 5.51000000 GHz Span 0 Hz
Res BW 8 MHz #VBW 8.0 MHz* Sweep 15.20 ms (4000 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	1	t	(Δ)	5.138 ms	(Δ)	11.72 dB	
2	F	1	t		3.329 ms		-0.79 dBm	
3	Δ4	1	t	(Δ)	5.267 ms	(Δ)	1.90 dB	
4	F	1	t		3.329 ms		-0.79 dBm	

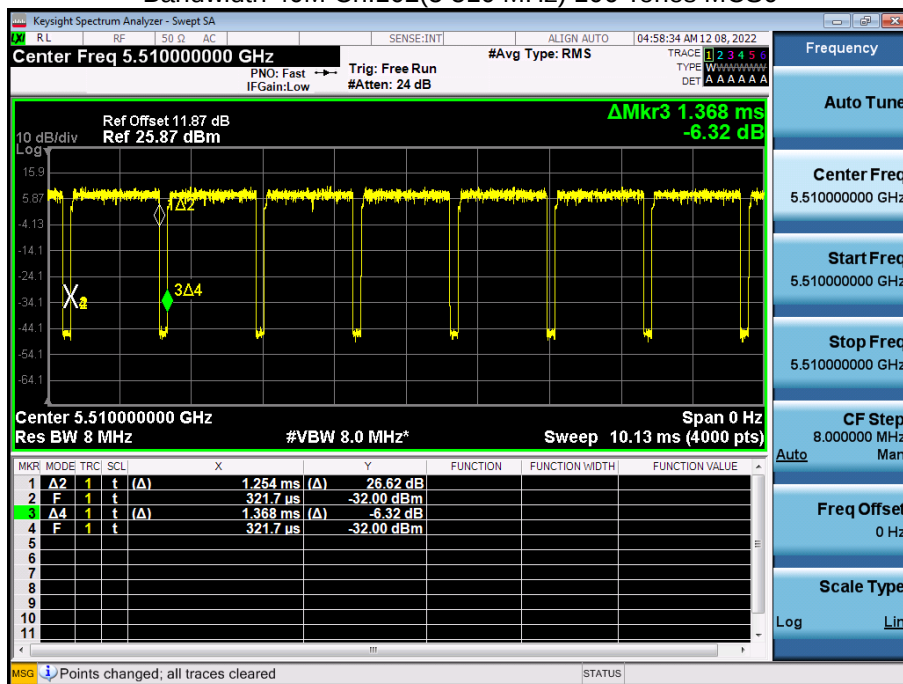
MSO Points changed; all traces cleared

STATUS

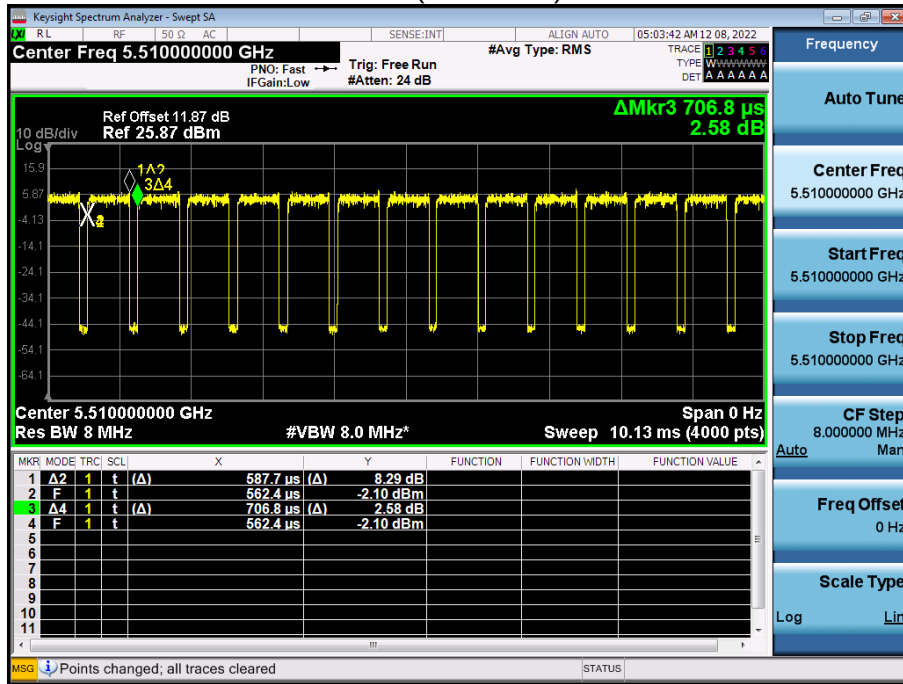
Bandwidth 40M Ch.102(5 510 MHz) 52 Tones MCS 0



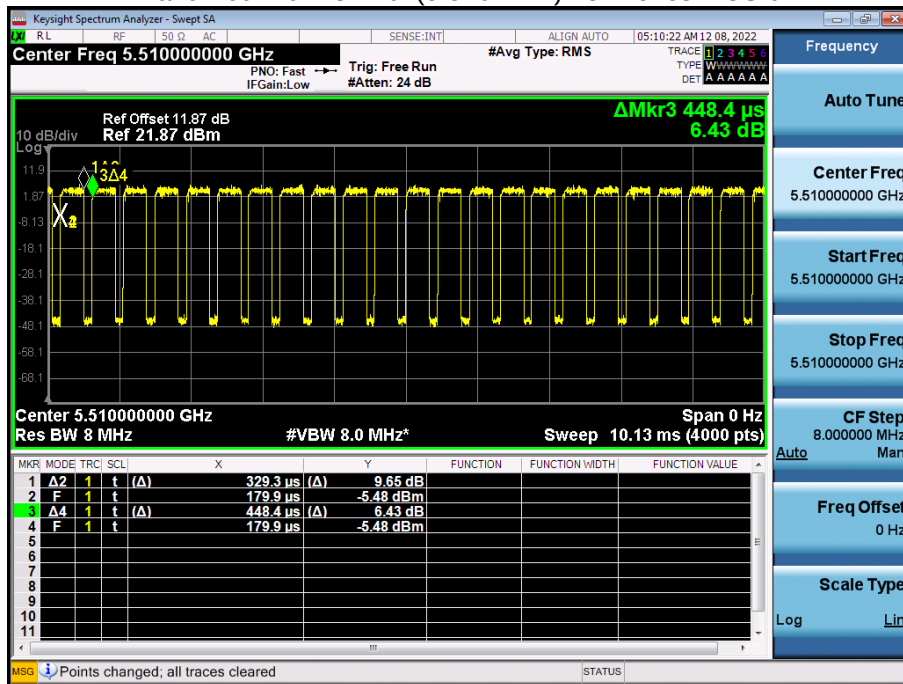
Bandwidth 40M Ch.102(5 510 MHz) 106 Tones MCS0



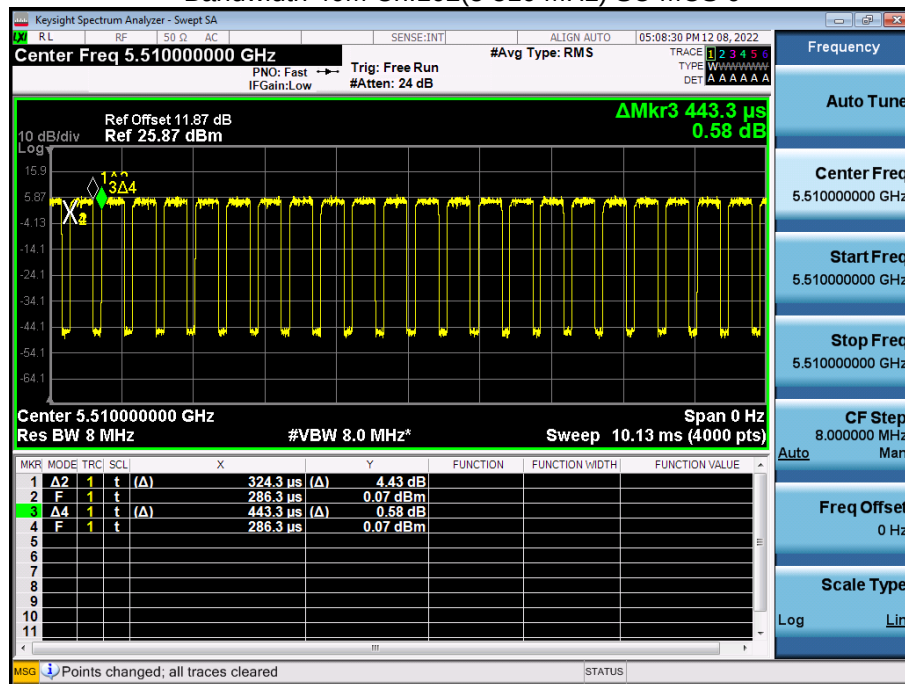
Bandwidth 40M Ch.102(5 510 MHz) 242 Tones MCS 0



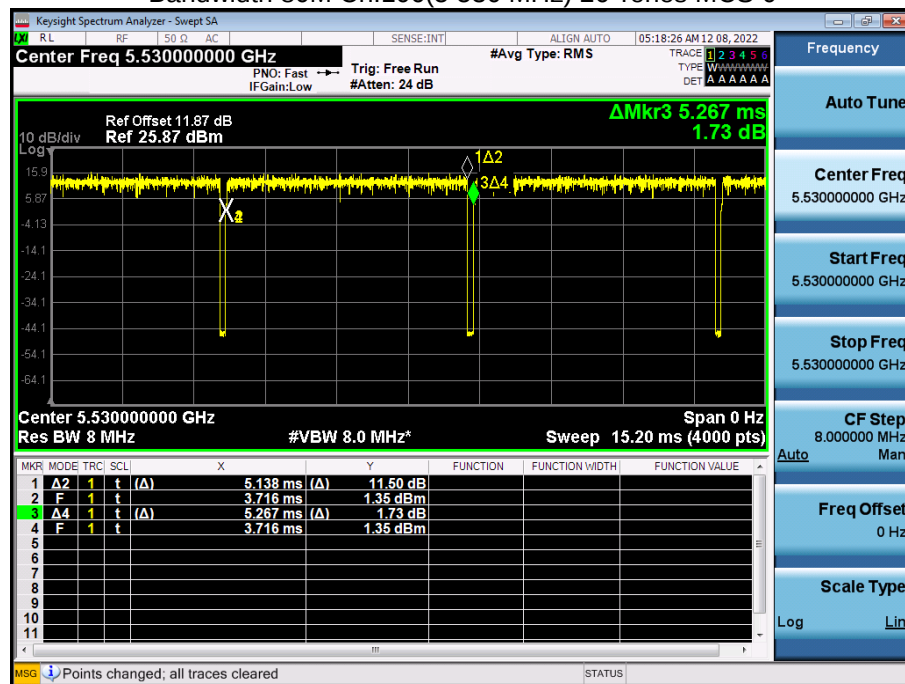
Bandwidth 40M Ch.102(5 510 MHz) 484 Tones MCS 0



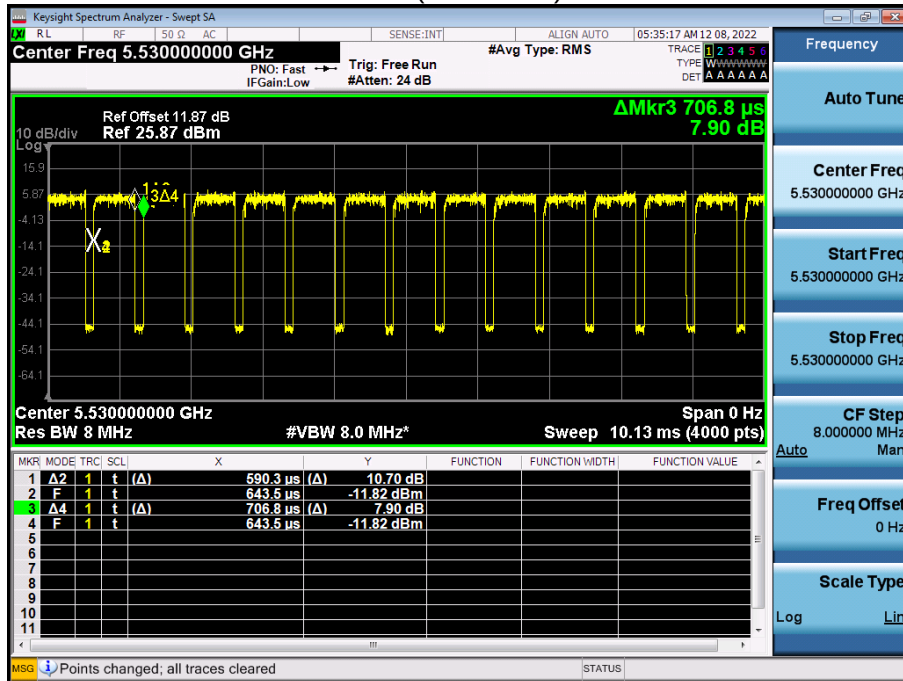
Bandwidth 40M Ch.102(5 510 MHz) SU MCS 0



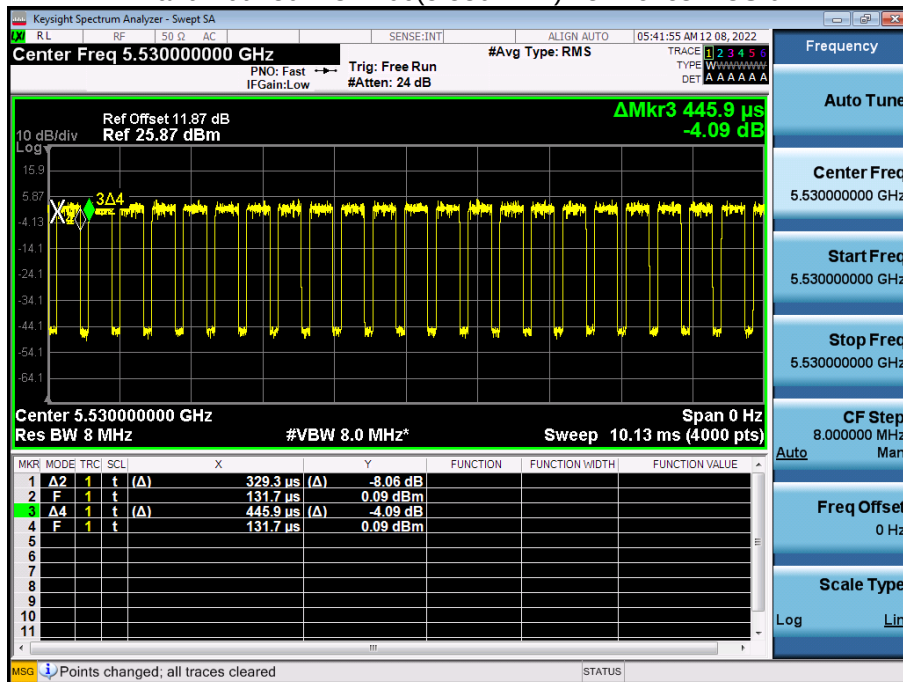
Bandwidth 80M Ch.106(5 530 MHz) 26 Tones MCS 0



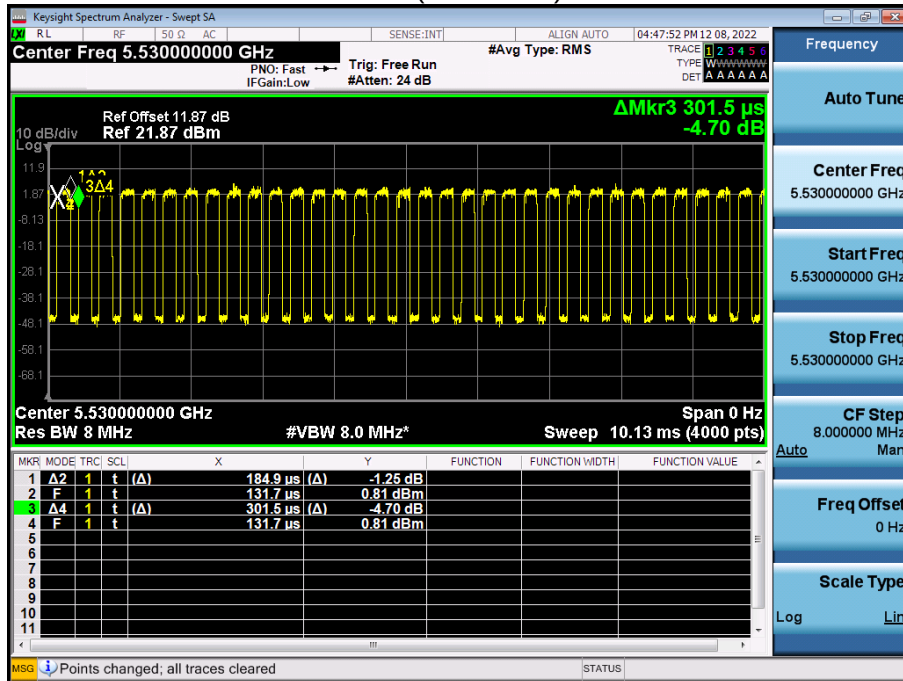
Bandwidth 80M Ch.106(5 530 MHz) 242 Tones MCS 0



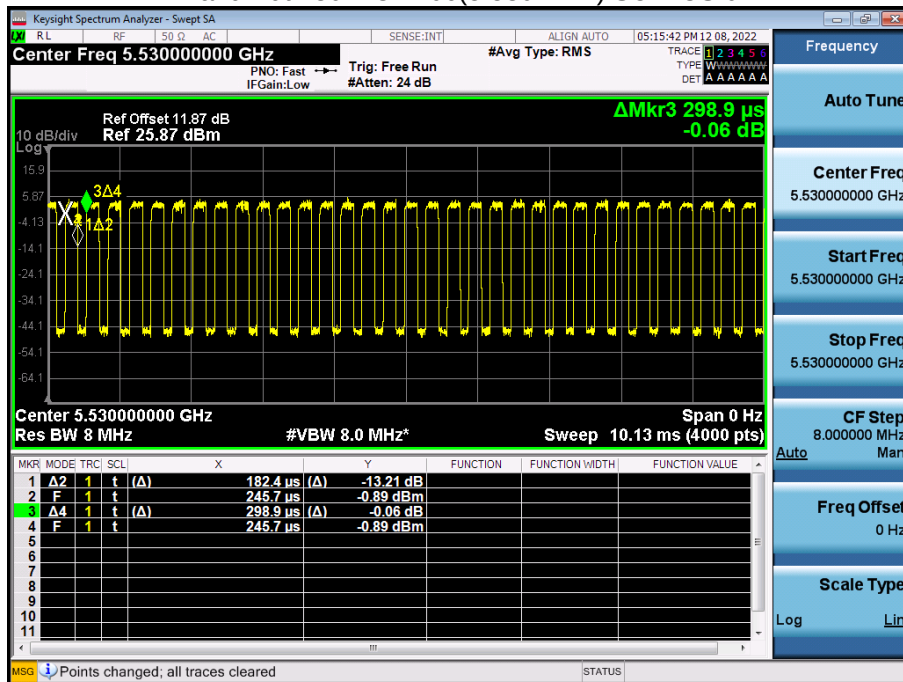
Bandwidth 80M Ch.106(5 530 MHz) 484 Tones MCS 0



Bandwidth 80M Ch.106(5 530 MHz) 996 Tones MCS 0



Bandwidth 80M Ch.106(5 530 MHz) SU MCS 0

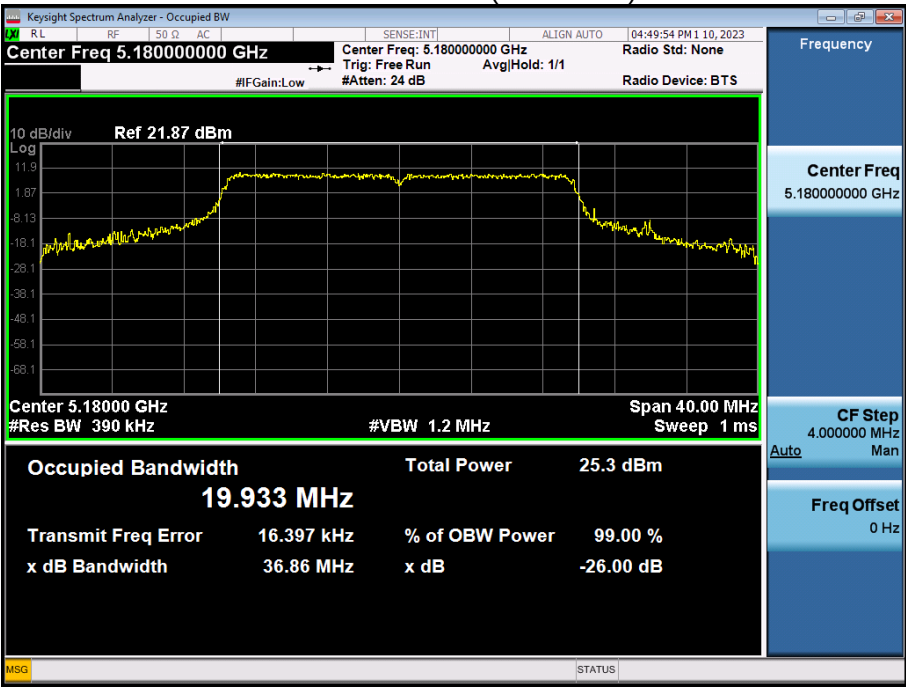


2. 26dB Bandwidth

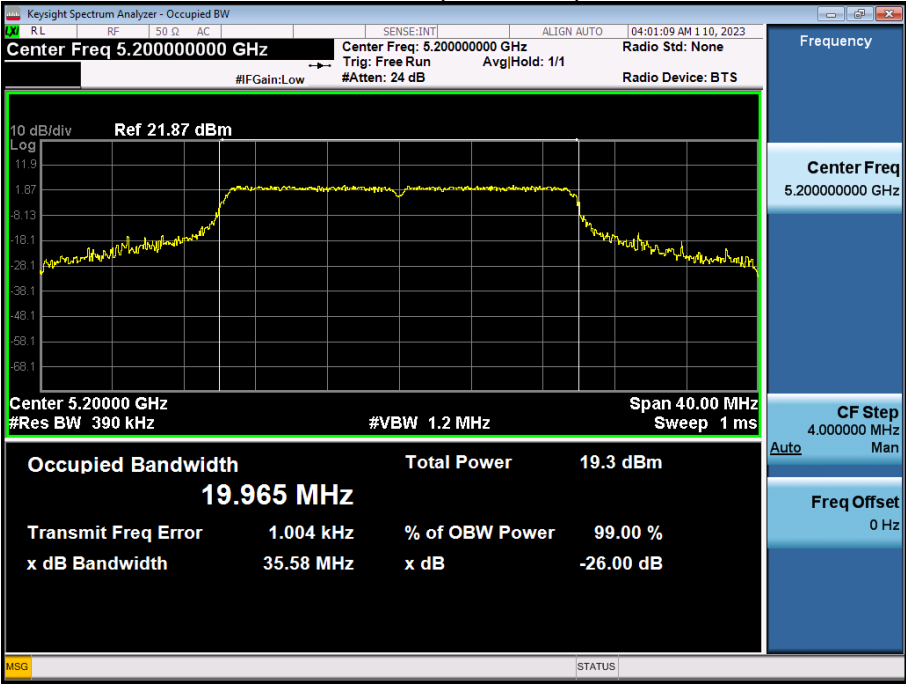
Note:

1. In order to simplify the report, attached plots were only SISO Ant. 2(Worst Case: SISO Ant. 2).
2. In order to simplify the report, attached plots were only the most wide channel.

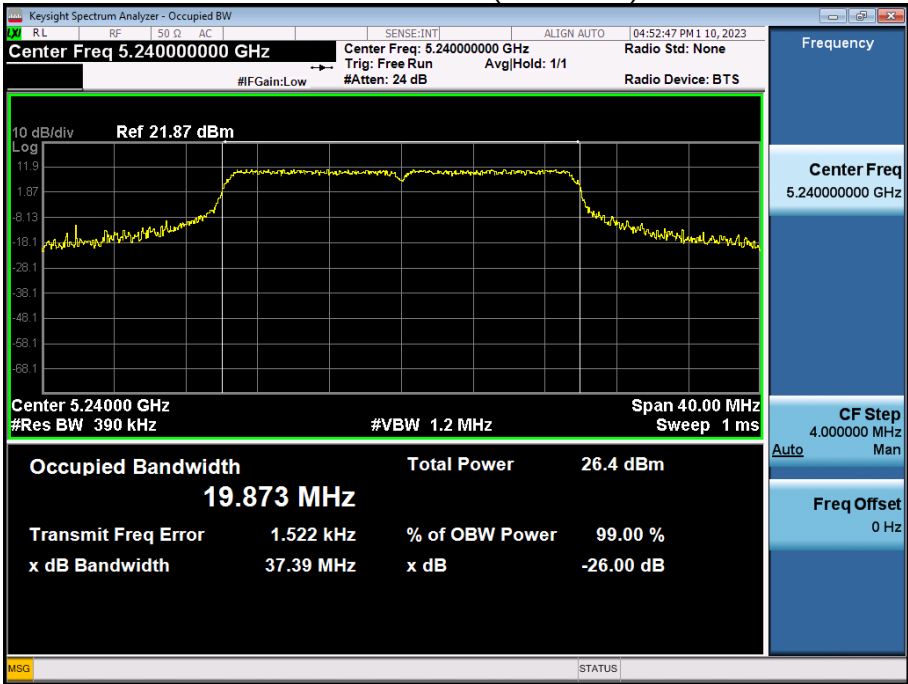
Bandwidth 20M Ch.36(5 180 MHz) SU



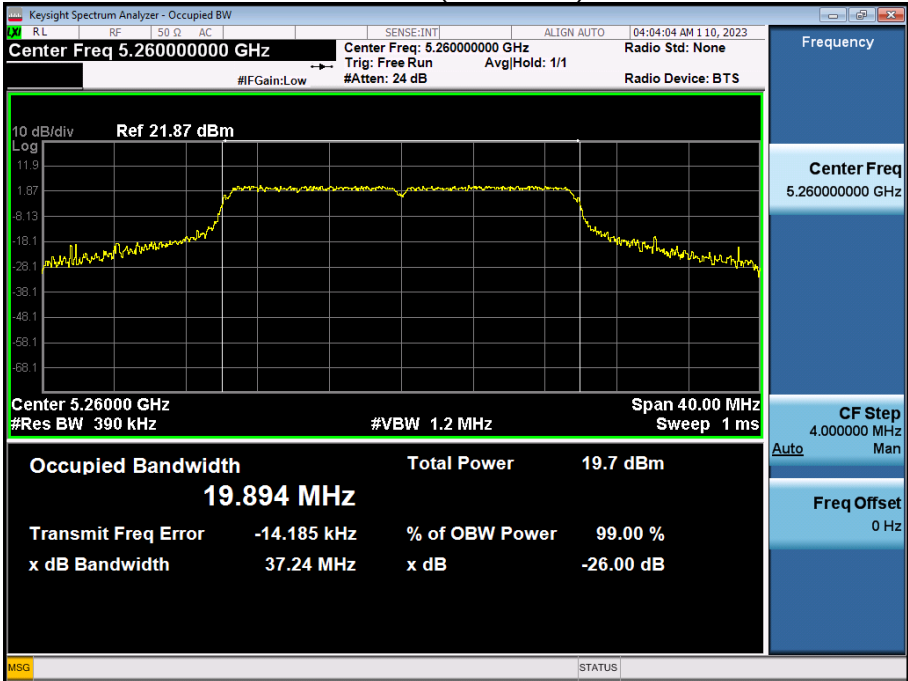
Bandwidth 20M Ch.40(5 200 MHz) 242T RU 61



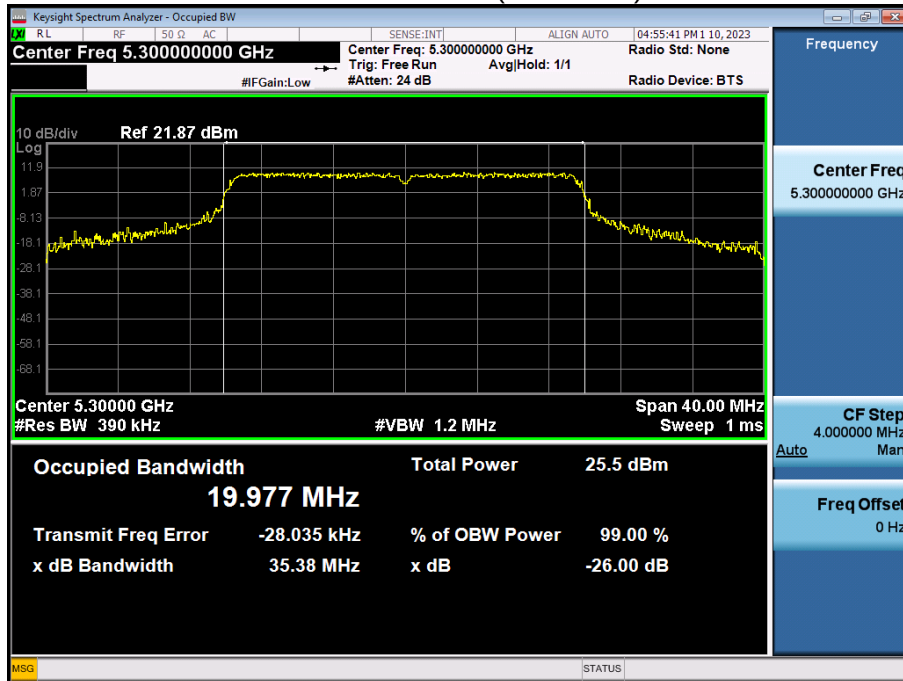
Bandwidth 20M Ch.48(5 240 MHz) SU



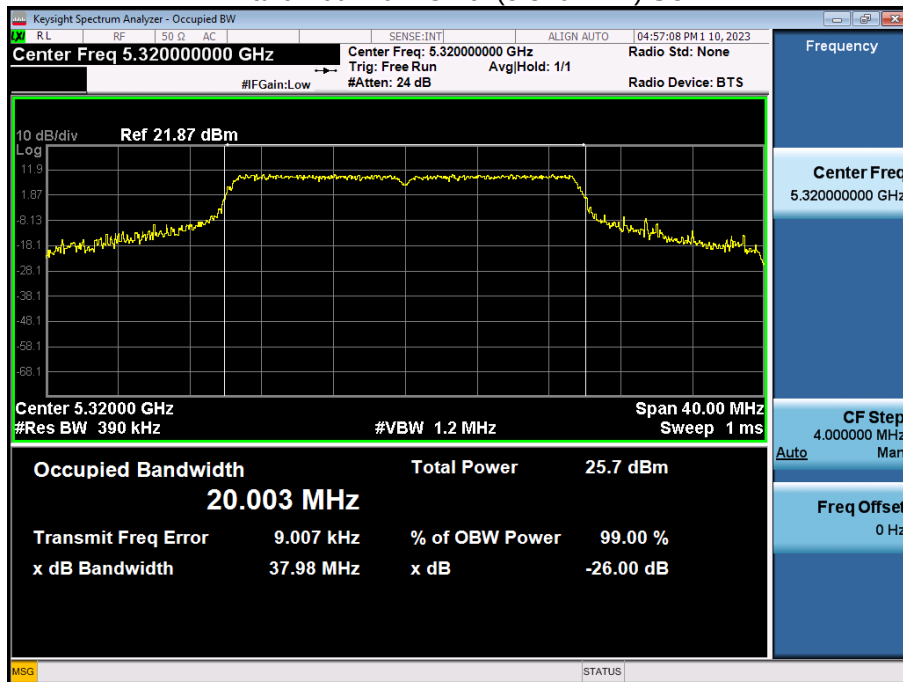
Bandwidth 20M Ch.52(5 260 MHz) 242T RU 61



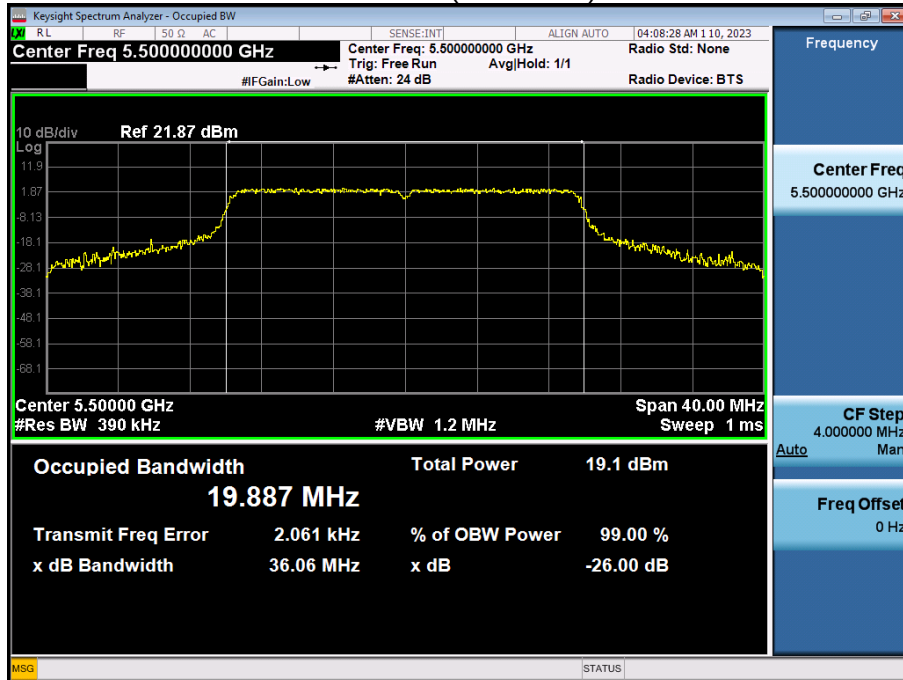
Bandwidth 20M Ch.60(5 300 MHz) SU



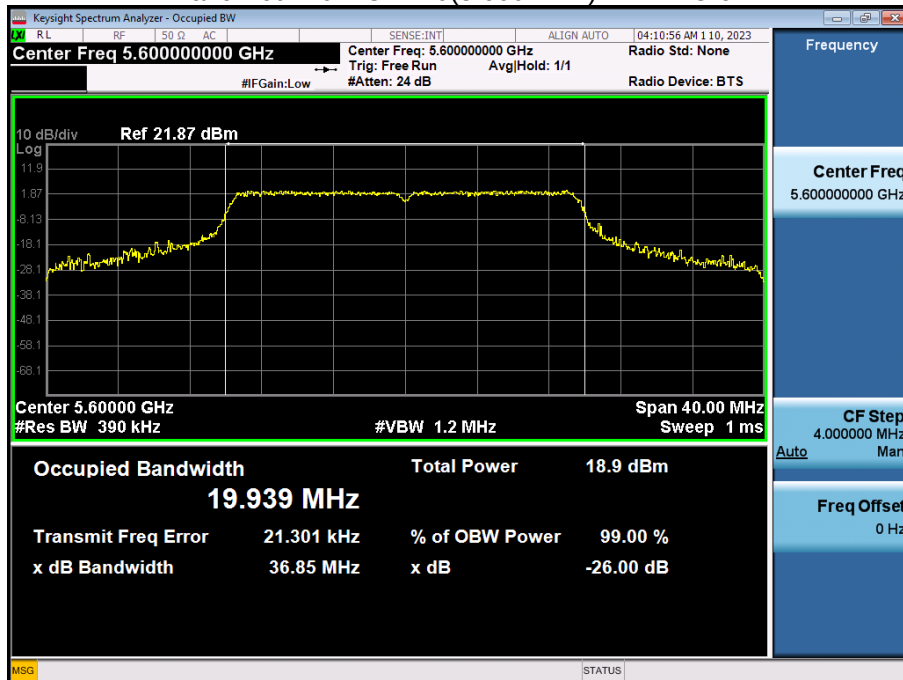
Bandwidth 20M Ch.64(5 320 MHz) SU



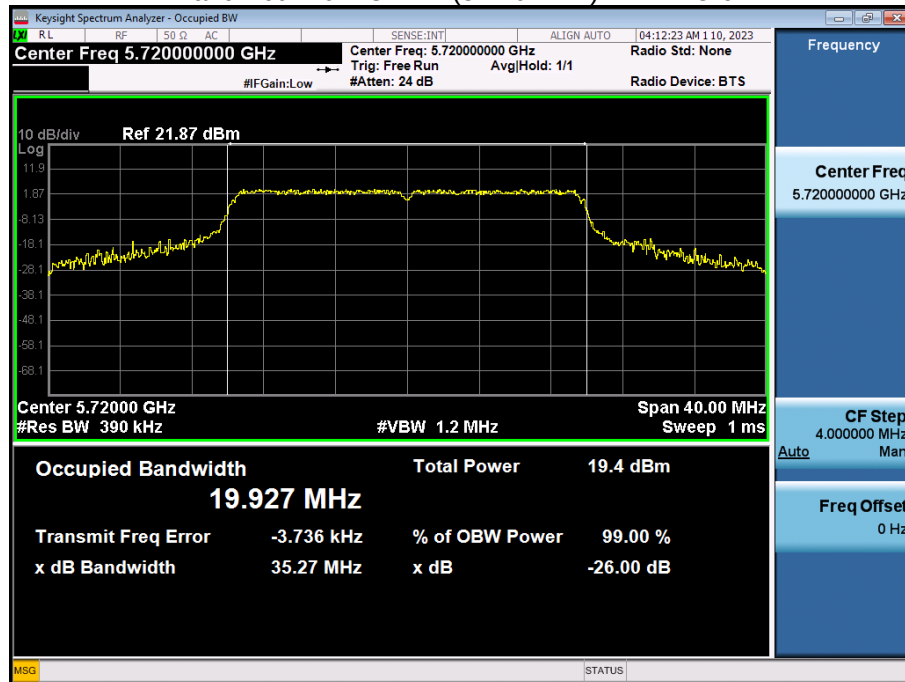
Bandwidth 20M Ch.100(5 500 MHz) 242T RU 61



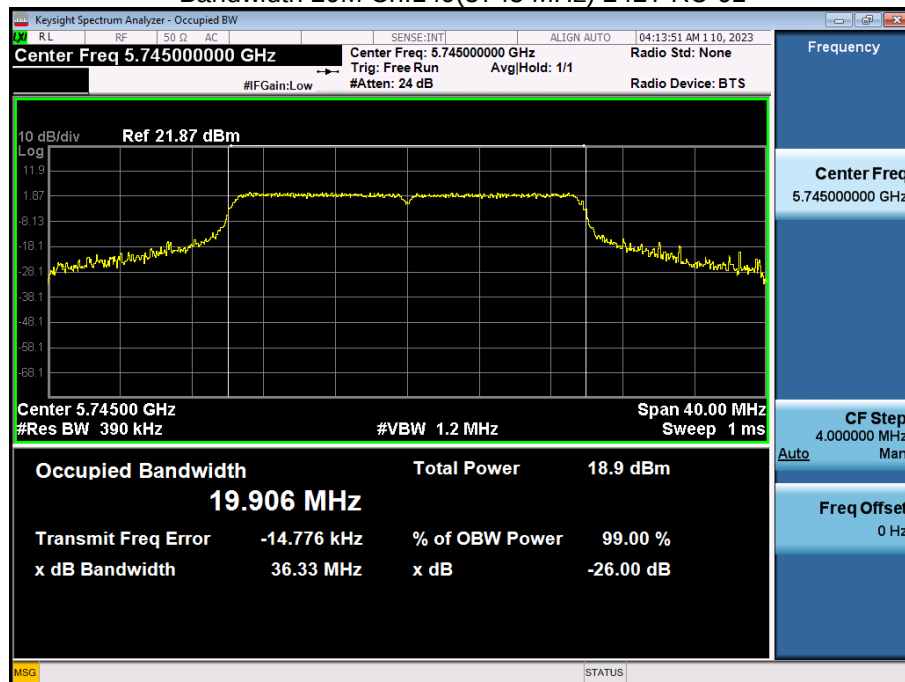
Bandwidth 20M Ch.120(5 600 MHz) 242T RU 61



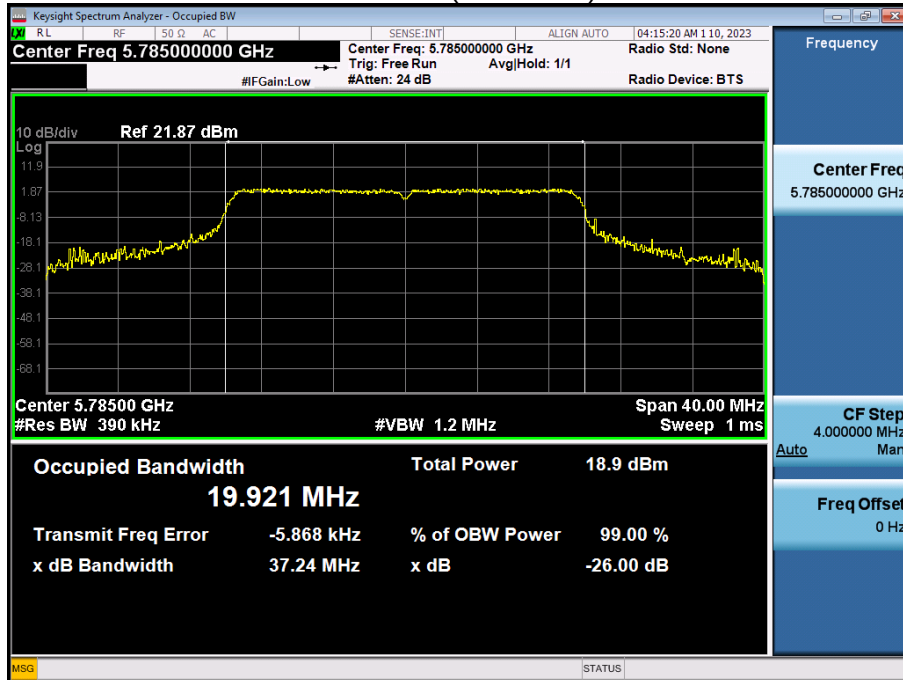
Bandwidth 20M Ch.144(5 720 MHz) 242T RU 61



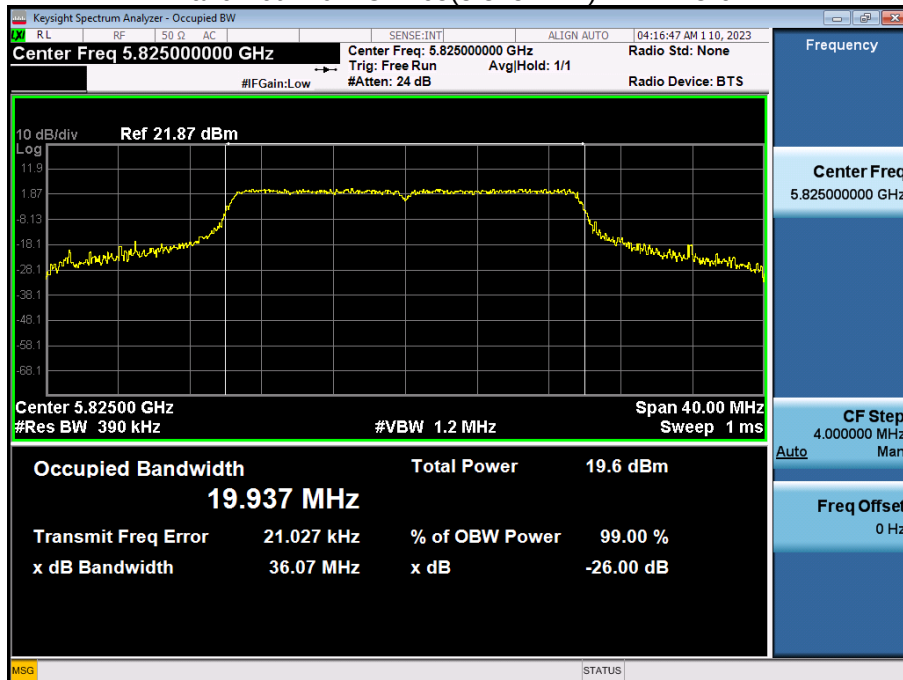
Bandwidth 20M Ch.149(5745 MHz) 242T RU 61



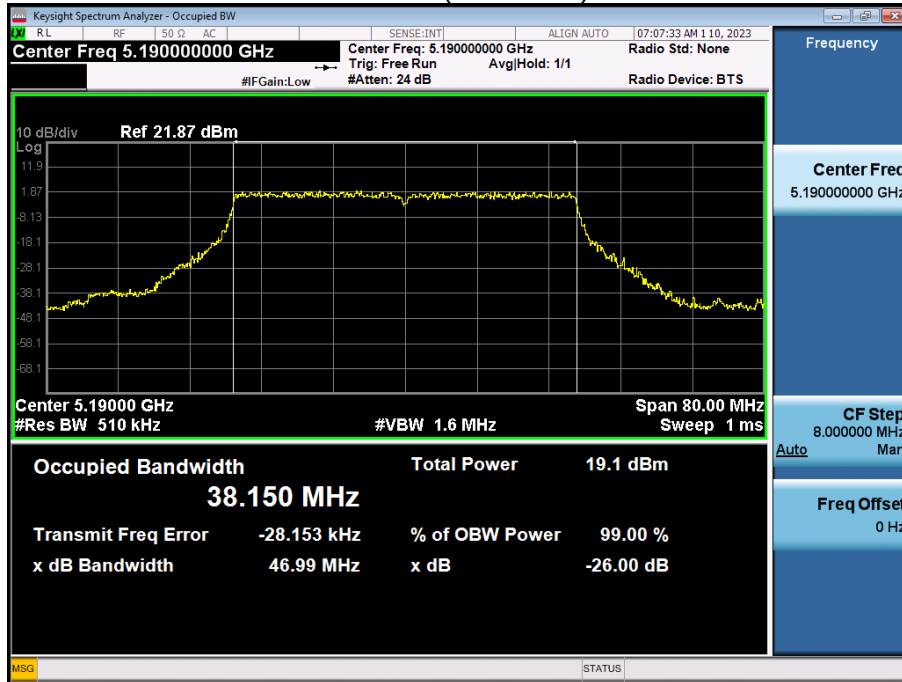
Bandwidth 20M Ch.157(5 785 MHz) 242T RU 61



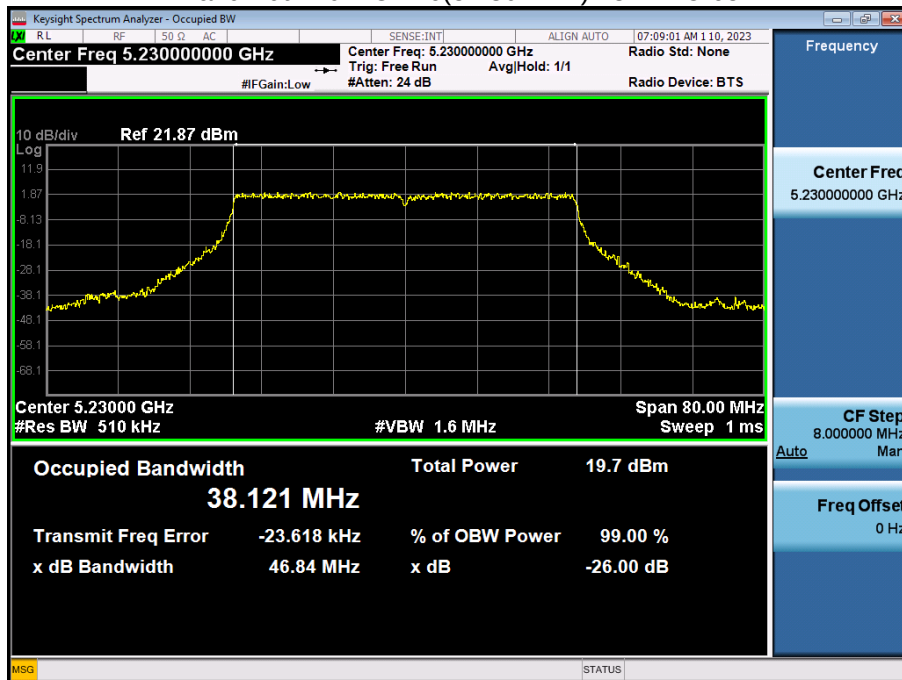
Bandwidth 20M Ch.165(5 825 MHz) 242T RU 61



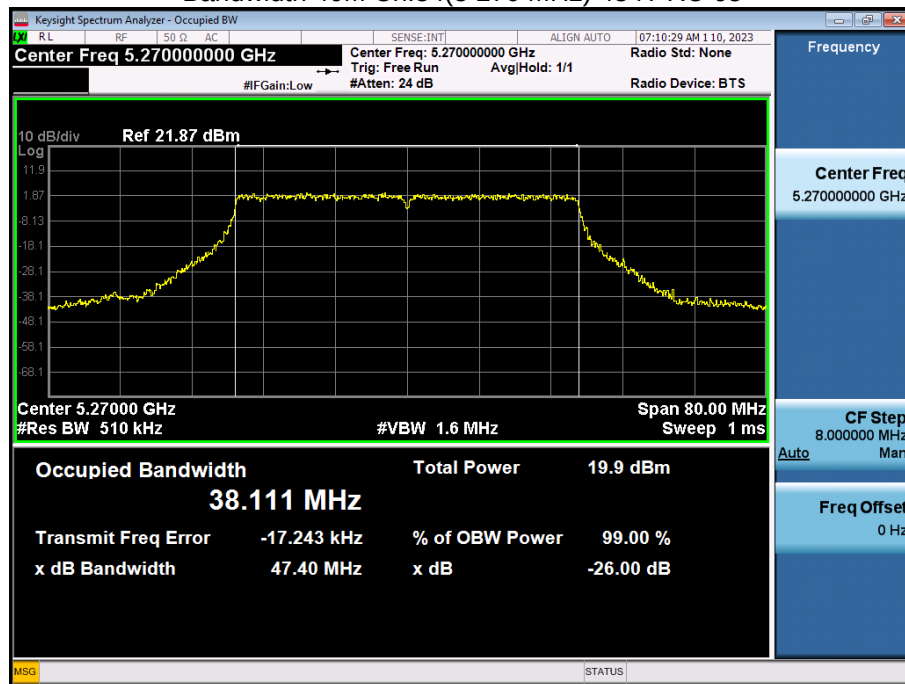
Bandwidth 40M Ch.38(5 190 MHz) 484T RU 65



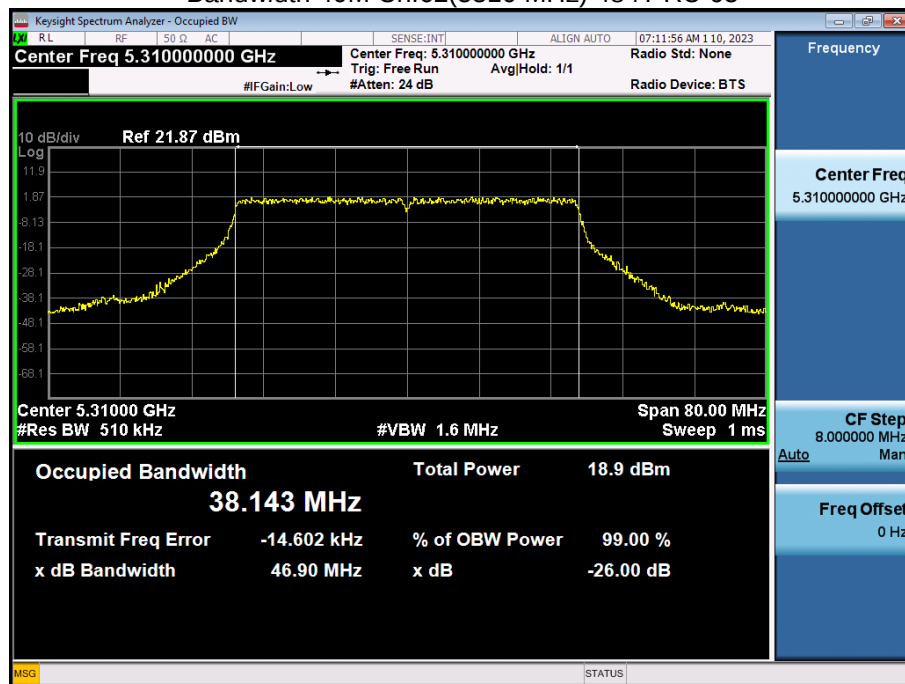
Bandwidth 40M Ch.46(5 230 MHz) 484T RU 65



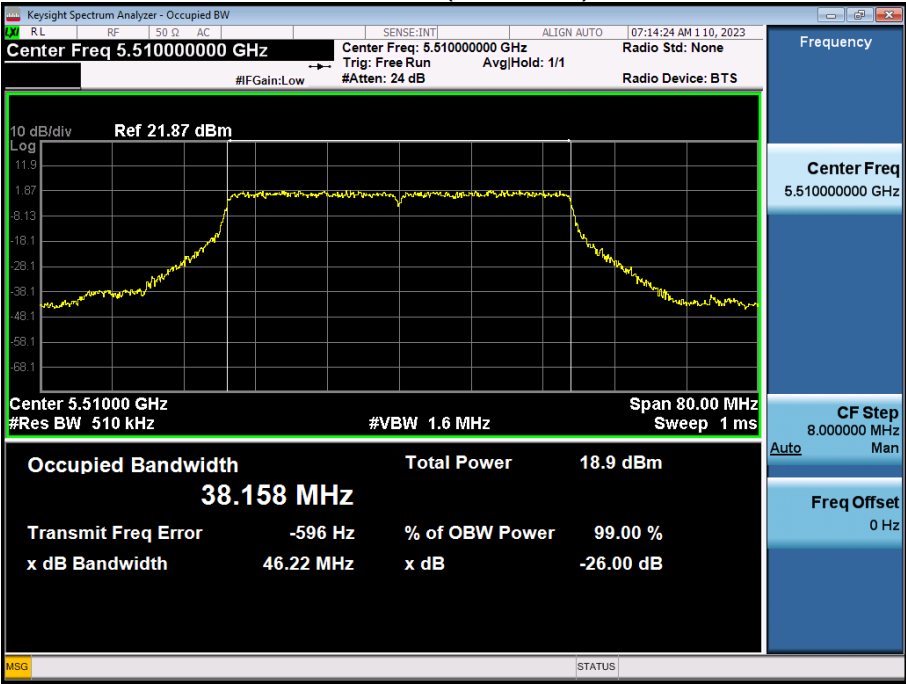
Bandwidth 40M Ch.54(5 270 MHz) 484T RU 65



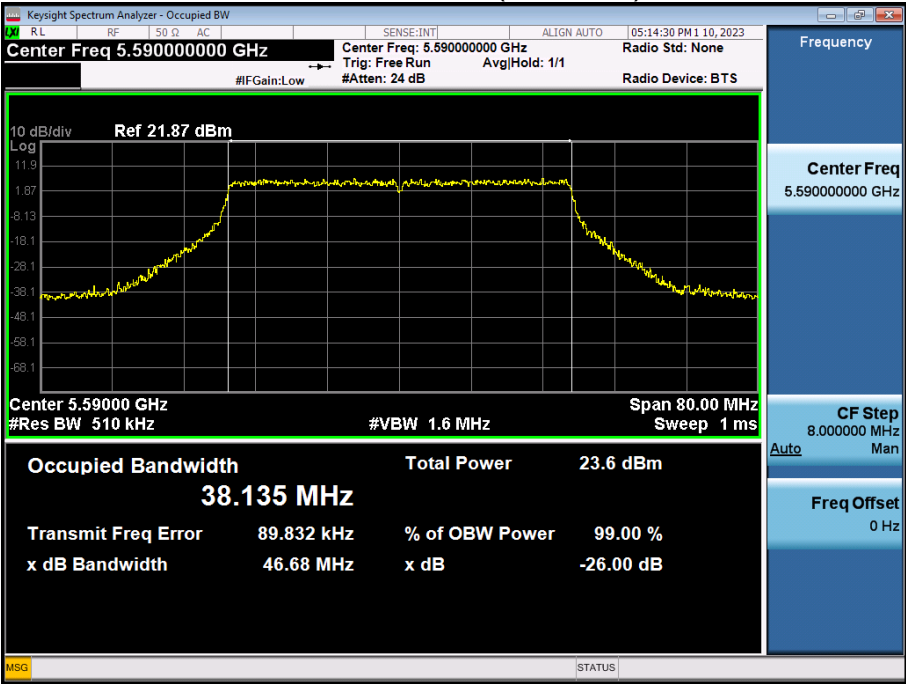
Bandwidth 40M Ch.62(5310 MHz) 484T RU 65



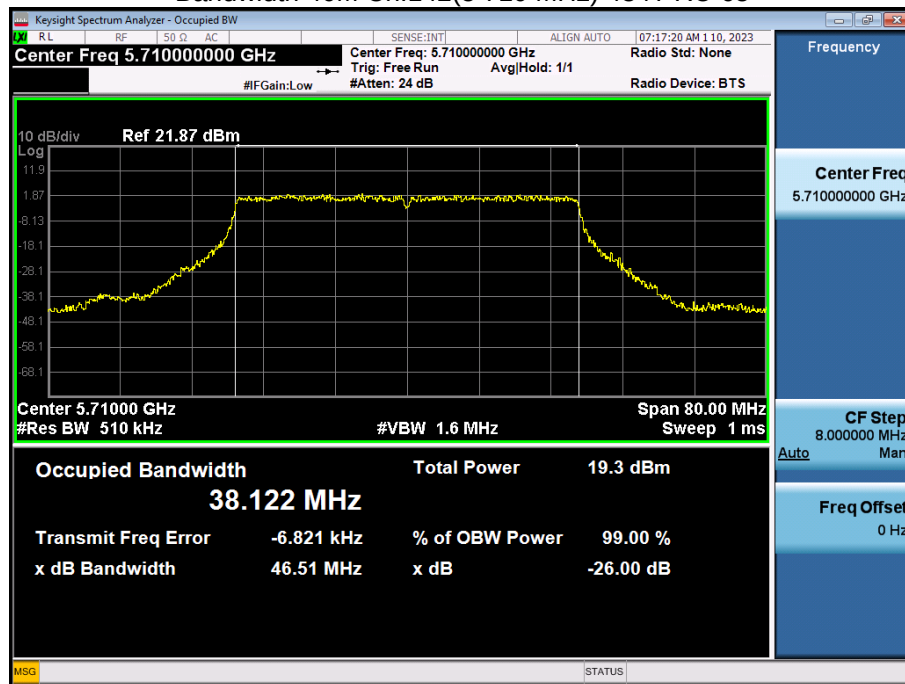
Bandwidth 40M Ch.102(5 510 MHz) 484T RU 65



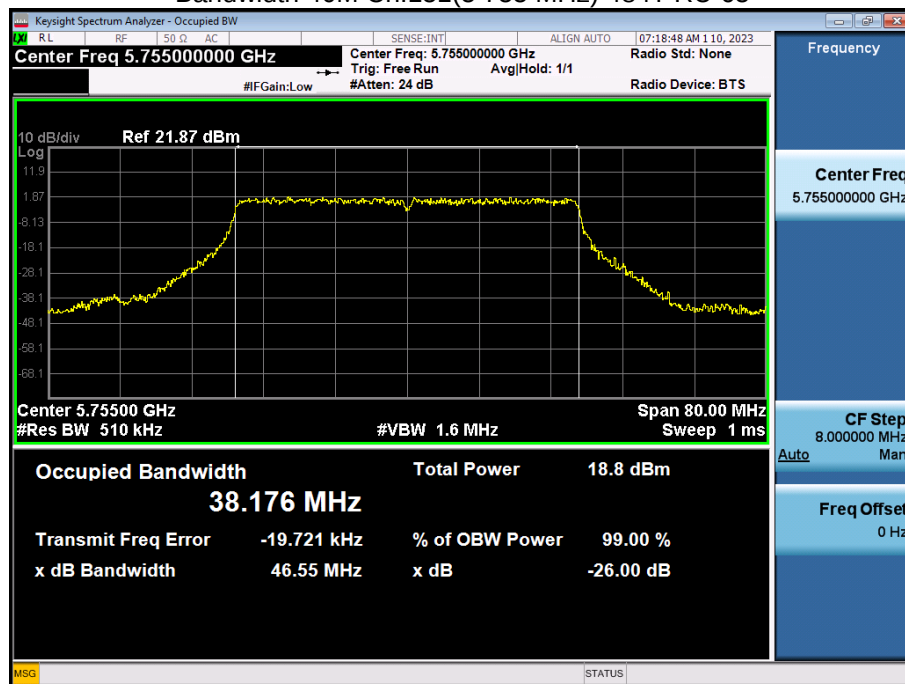
Bandwidth 40M Ch.118(5 590 MHz) SU



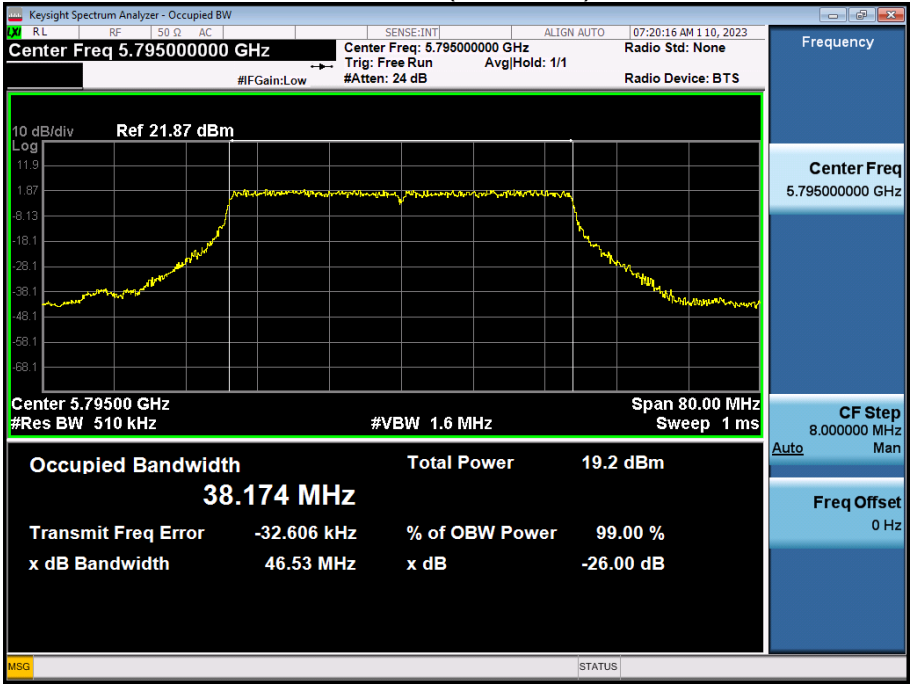
Bandwidth 40M Ch.142(5 710 MHz) 484T RU 65



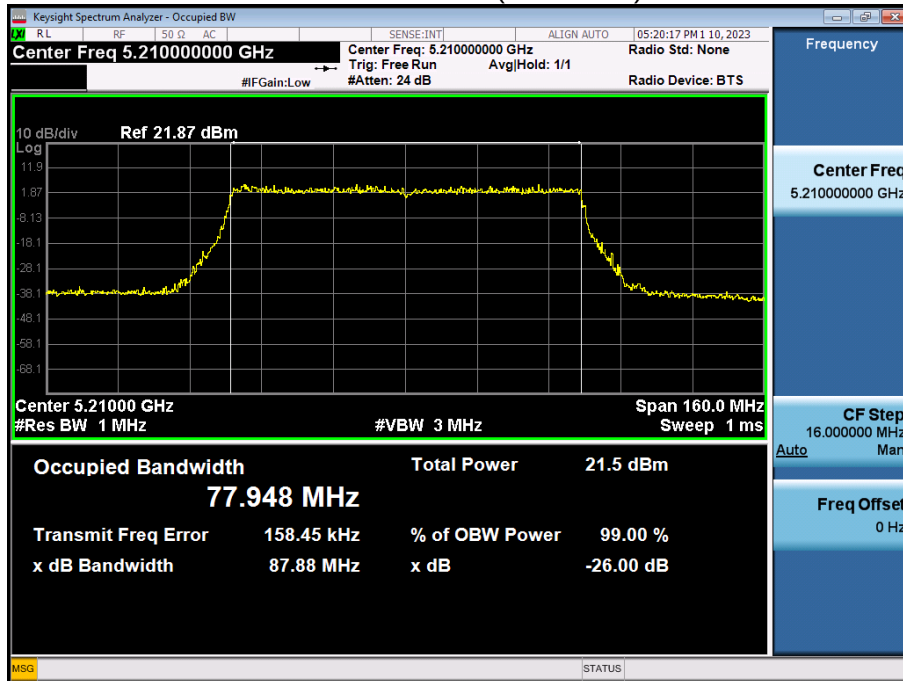
Bandwidth 40M Ch.151(5 755 MHz) 484T RU 65



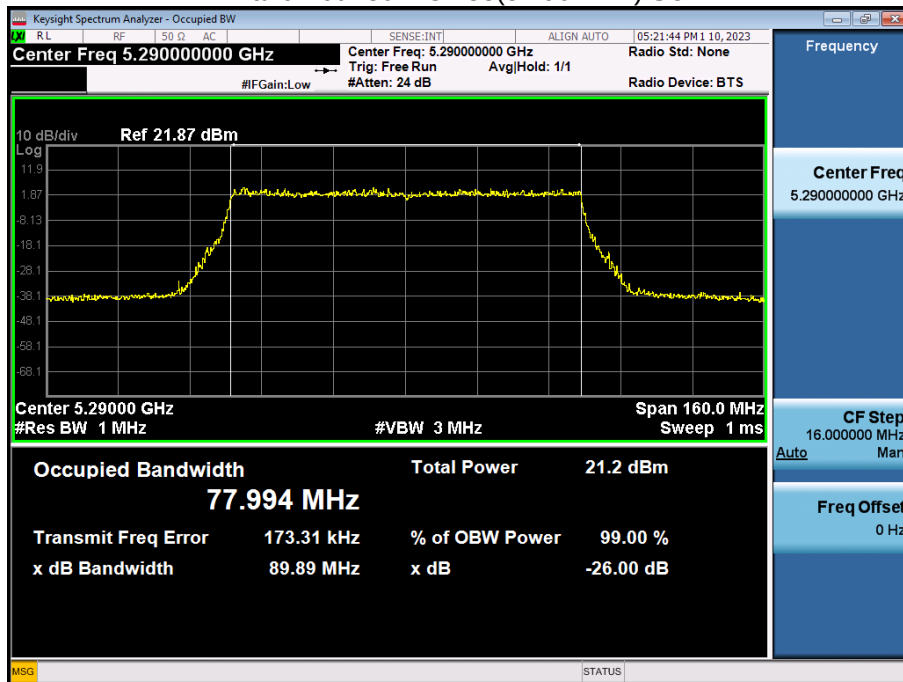
Bandwidth 40M Ch.159(5 795 MHz) 484T RU 65



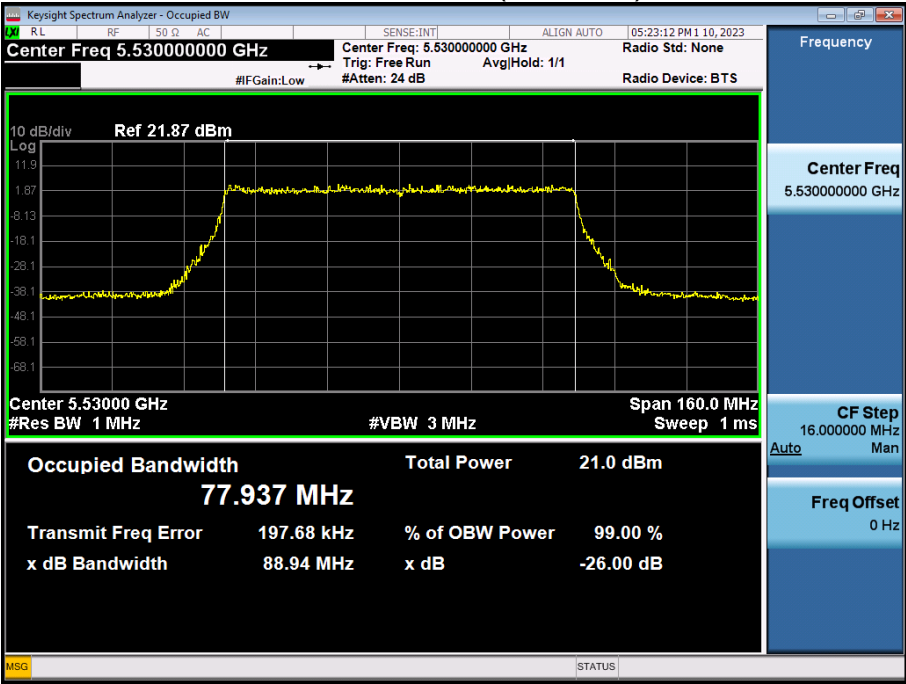
Bandwidth 80M Ch.42(5 210 MHz) SU



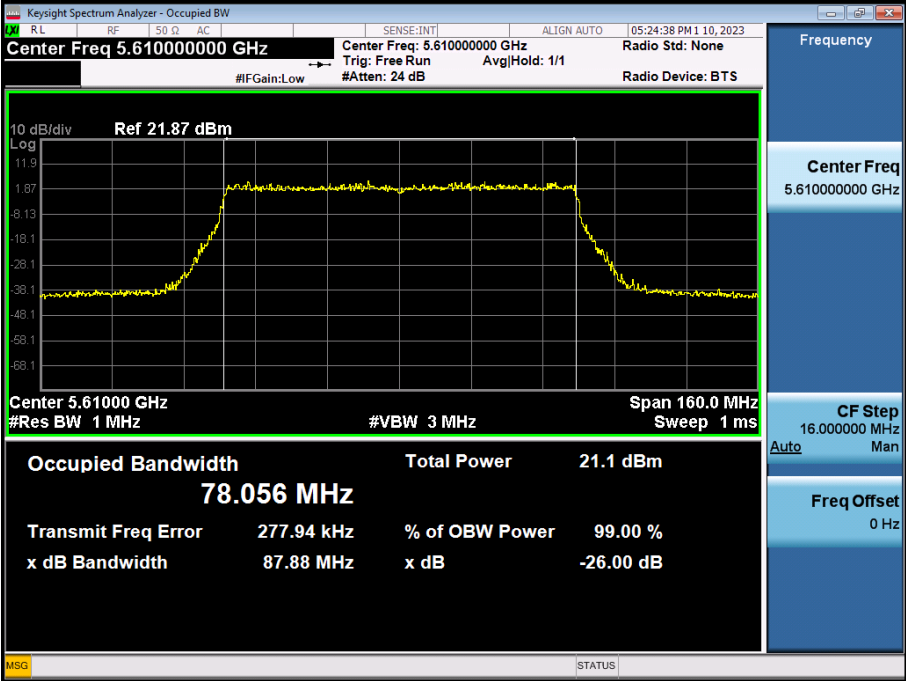
Bandwidth 80M Ch.58(5 290 MHz) SU



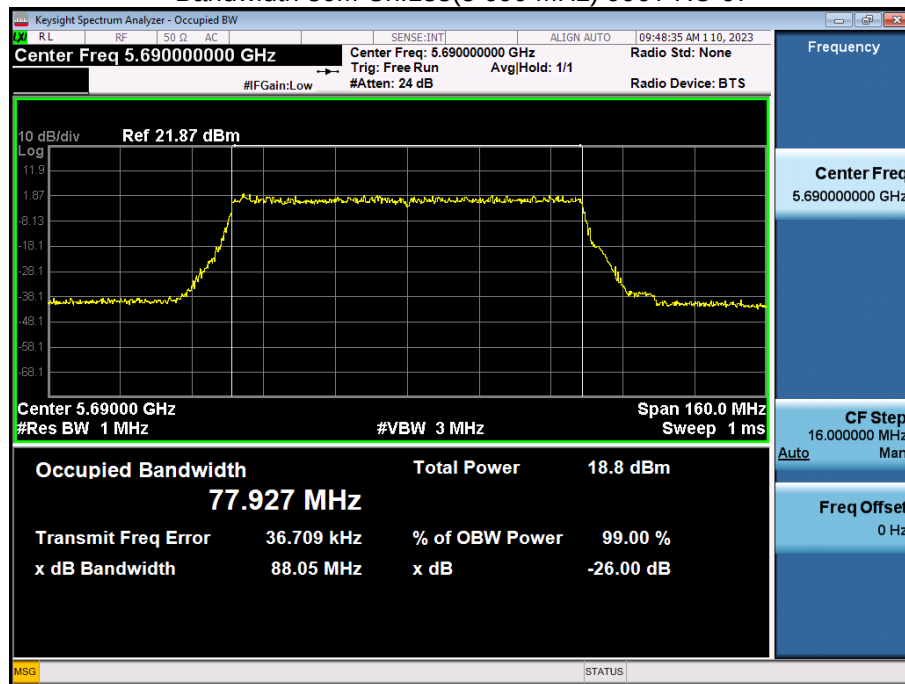
Bandwidth 80M Ch.106(5 530 MHz) SU



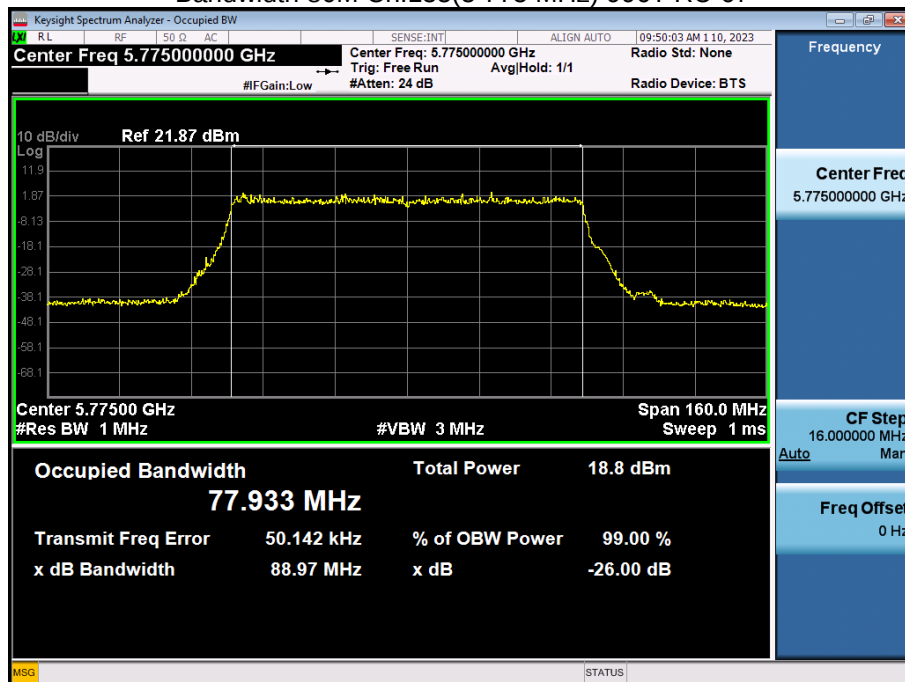
Bandwidth 80M Ch.122(5 610 MHz) SU



Bandwidth 80M Ch.138(5 690 MHz) 996T RU 67



Bandwidth 80M Ch.155(5 775 MHz) 996T RU 67



3. 6dB Bandwidth

Note:

1. In order to simplify the report, attached plots were only the most narrow channel.

3.1 SISO(Ant. 2)

Bandwidth 20M Ch.149(5 745 MHz) 26 Tones RU 0



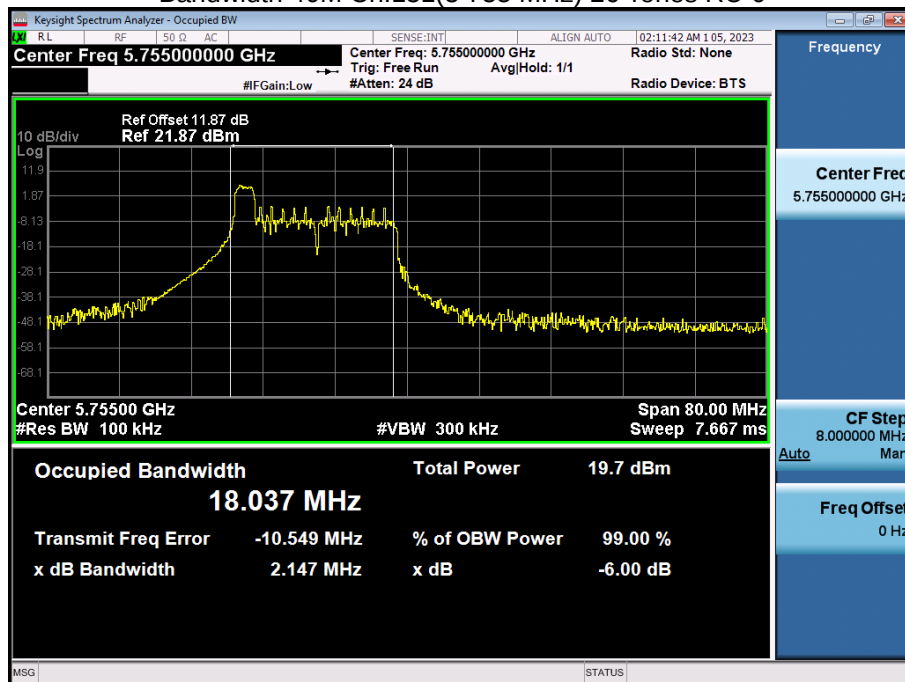
Bandwidth 20M Ch.157(5 785 MHz) 26 Tones RU 0



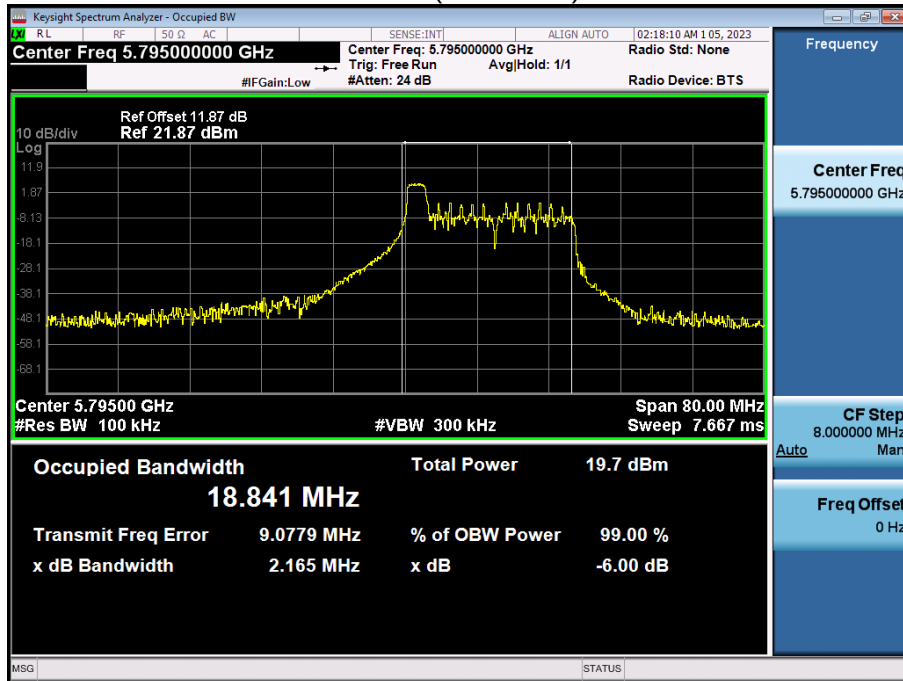
Bandwidth 20M Ch.165(5 825 MHz) 26 Tones RU 8



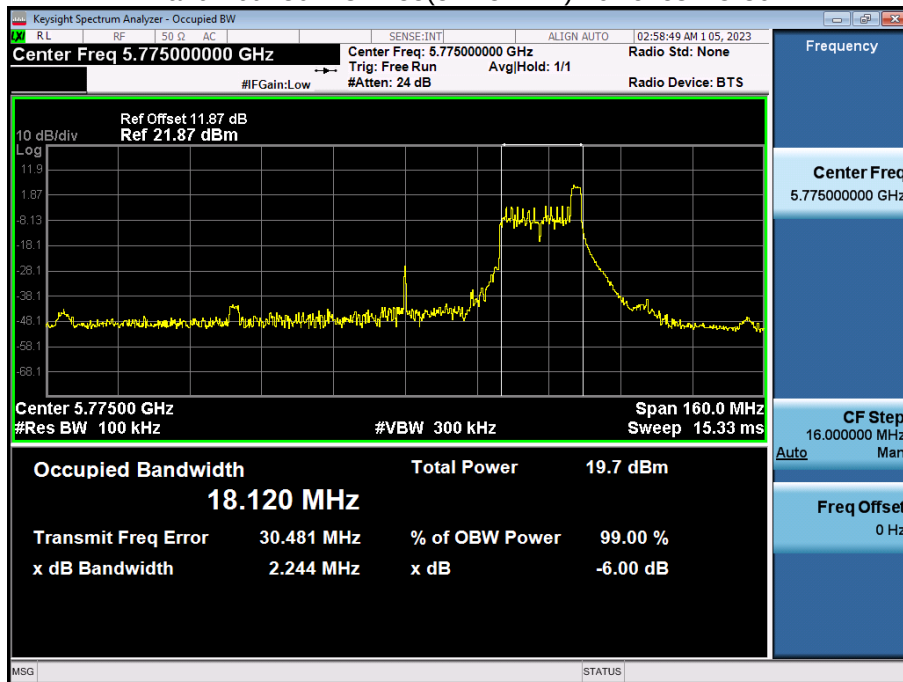
Bandwidth 40M Ch.151(5 755 MHz) 26 Tones RU 0



Bandwidth 40M Ch.159(5 795 MHz) 26 Tones RU 9



Bandwidth 80M Ch.155(5 775 MHz) 26 Tones RU 36

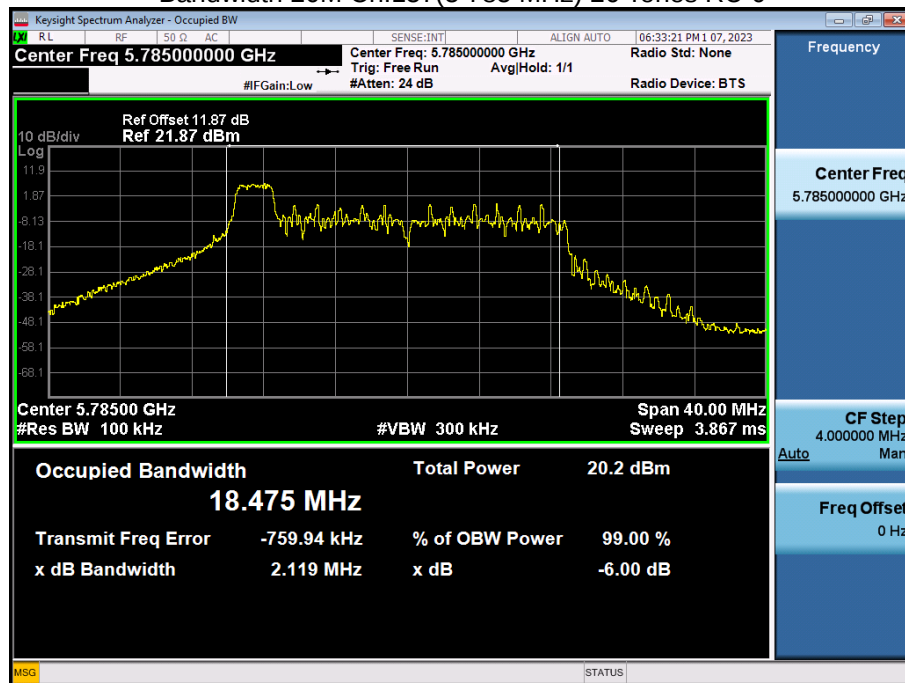


3.2 MIMO Ant.1

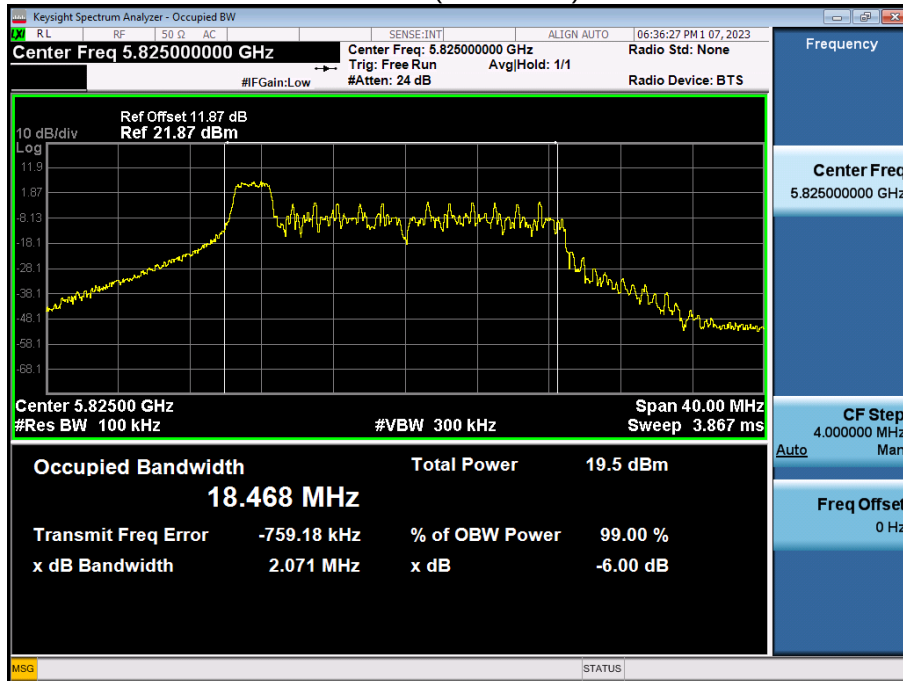
Bandwidth 20M Ch.149(5 745 MHz) 26 Tones RU 8



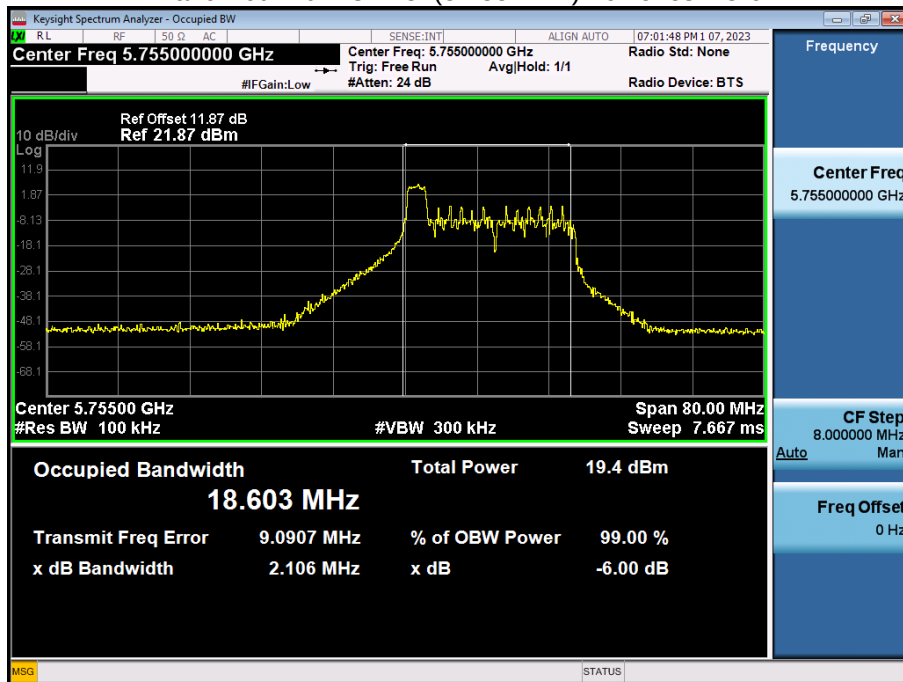
Bandwidth 20M Ch.157(5 785 MHz) 26 Tones RU 0



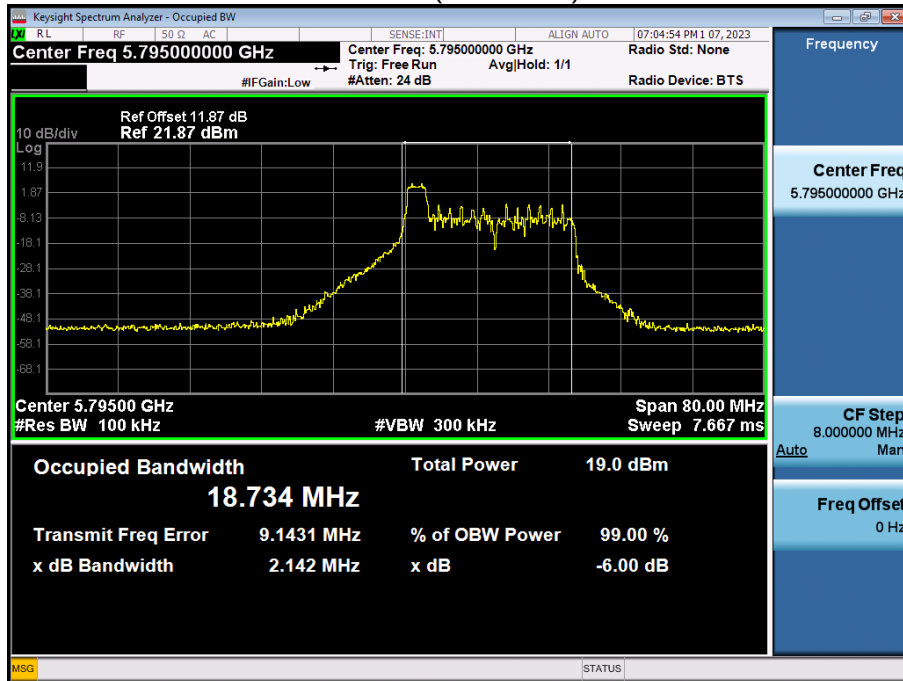
Bandwidth 20M Ch.165(5 825 MHz) 26 Tones RU 0



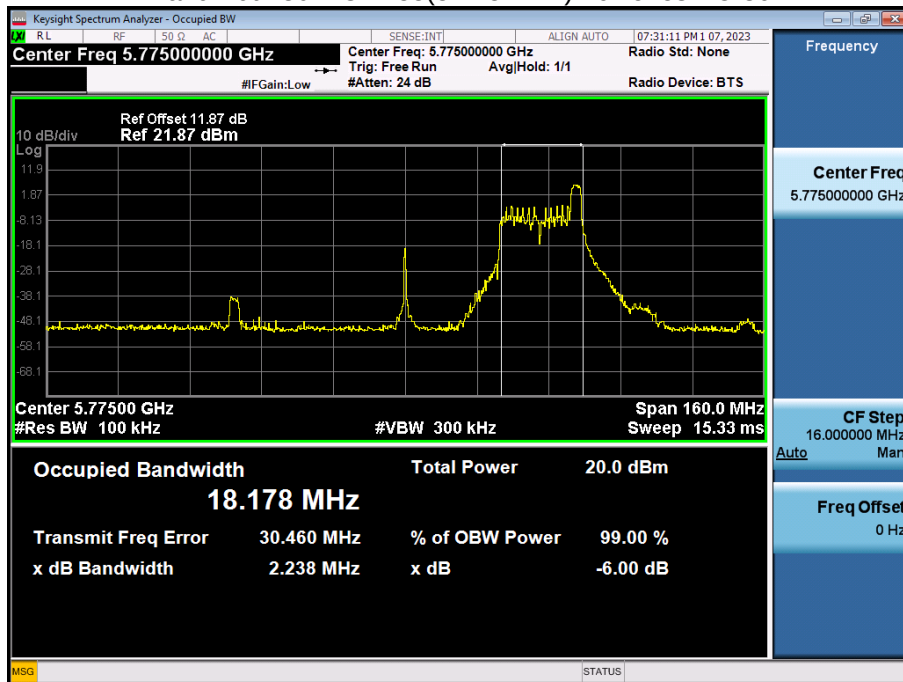
Bandwidth 40M Ch.151(5 755 MHz) 26 Tones RU 9



Bandwidth 40M Ch.159(5 795 MHz) 26 Tones RU 9

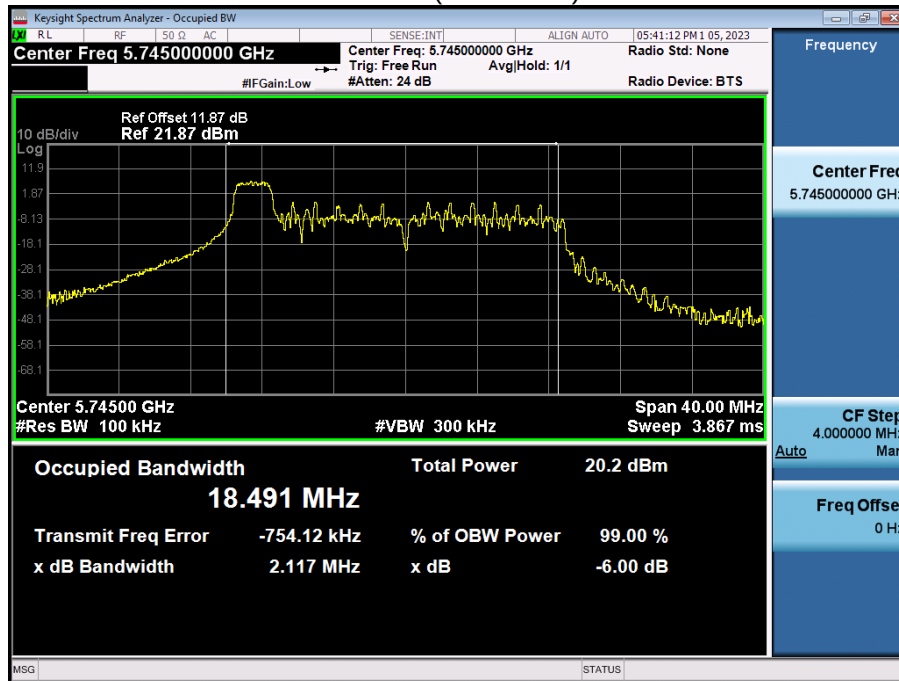


Bandwidth 80M Ch.155(5 775 MHz) 26 Tones RU 36



3.3 MIMO Ant.2

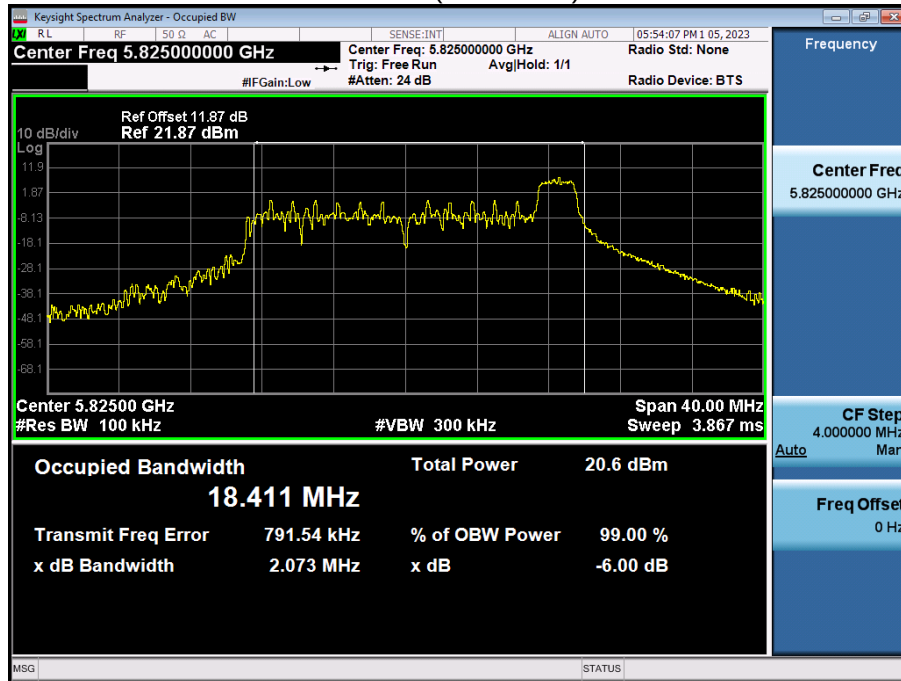
Bandwidth 20M Ch.149(5 745 MHz) 26 Tones RU 0



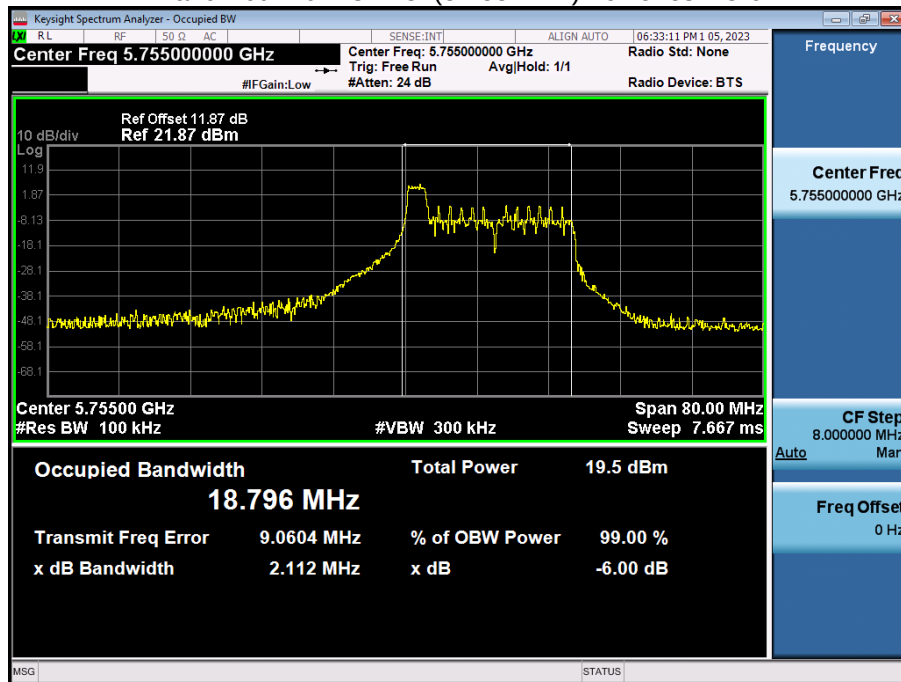
Bandwidth 20M Ch.157(5 785 MHz) 26 Tones RU 8



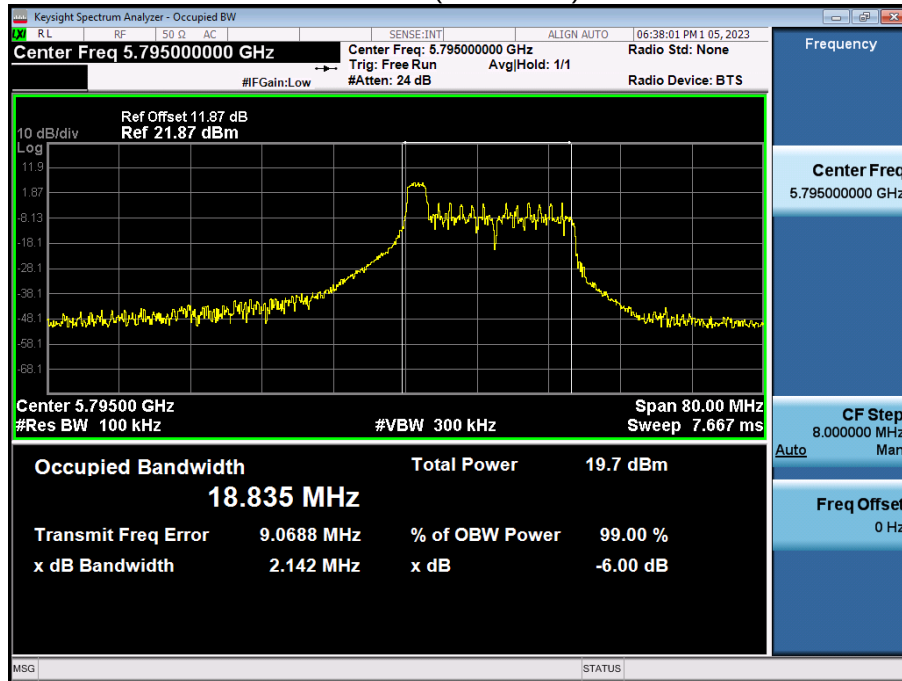
Bandwidth 20M Ch.165(5 825 MHz) 26 Tones RU 8



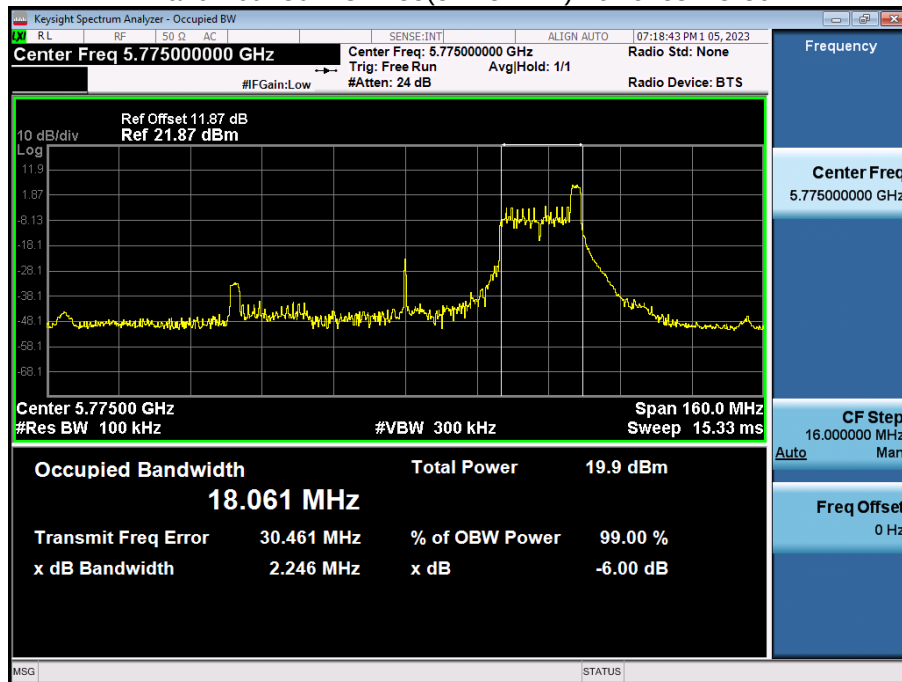
Bandwidth 40M Ch.151(5 755 MHz) 26 Tones RU 9



Bandwidth 40M Ch.159(5 795 MHz) 26 Tones RU 9



Bandwidth 80M Ch.155(5 775 MHz) 26 Tones RU 36

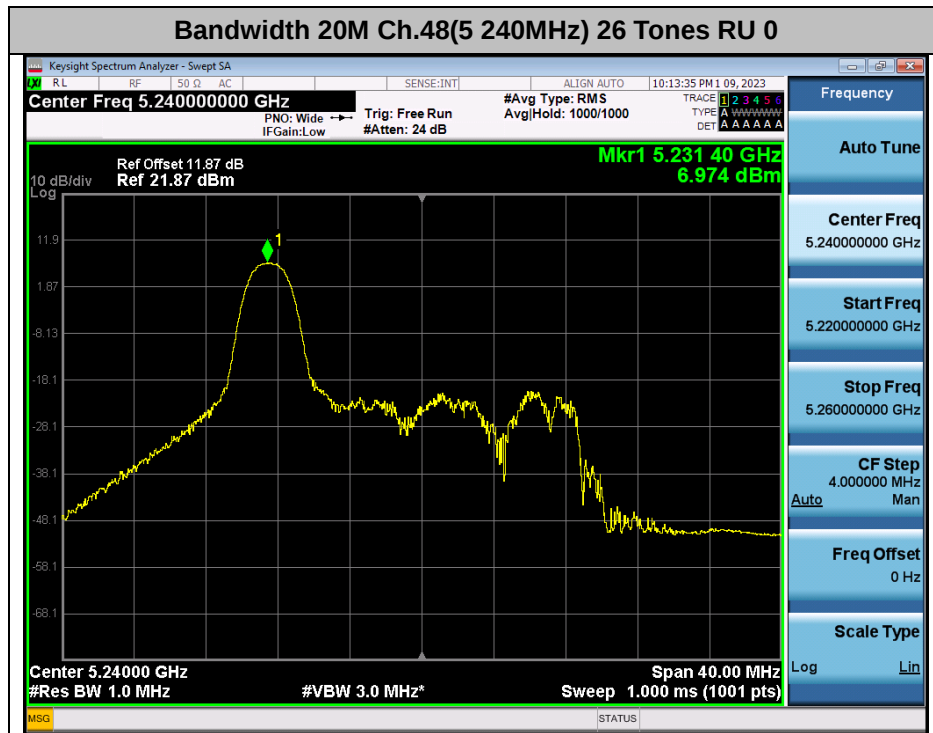


4. Power Spectral Density

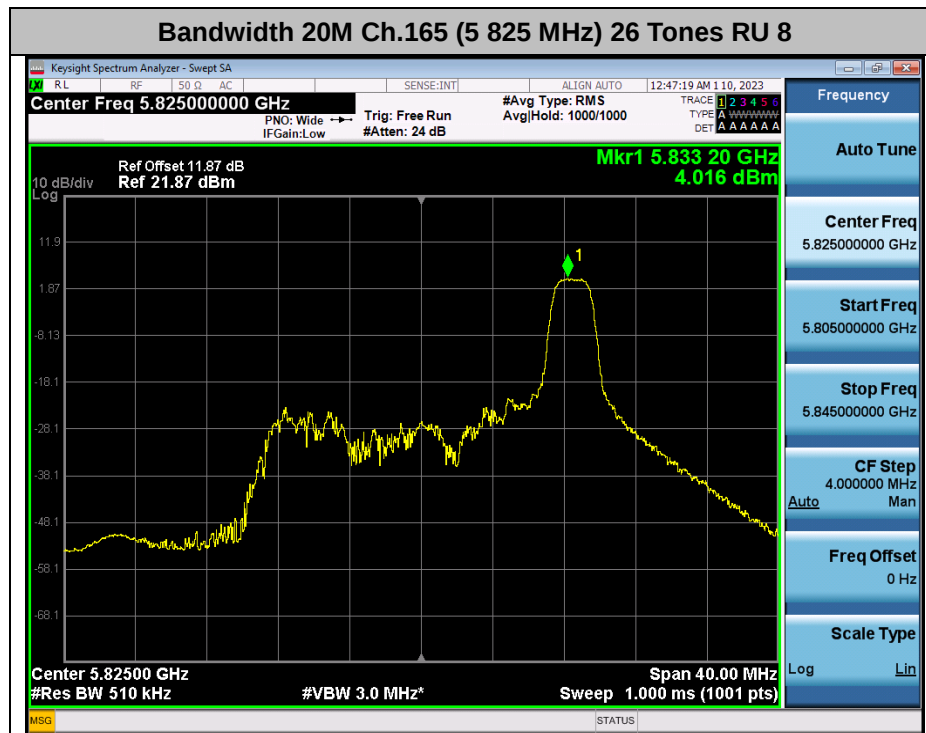
Note:

1. In order to simplify the report, attached plots were only channel of highest PSD.
2. Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

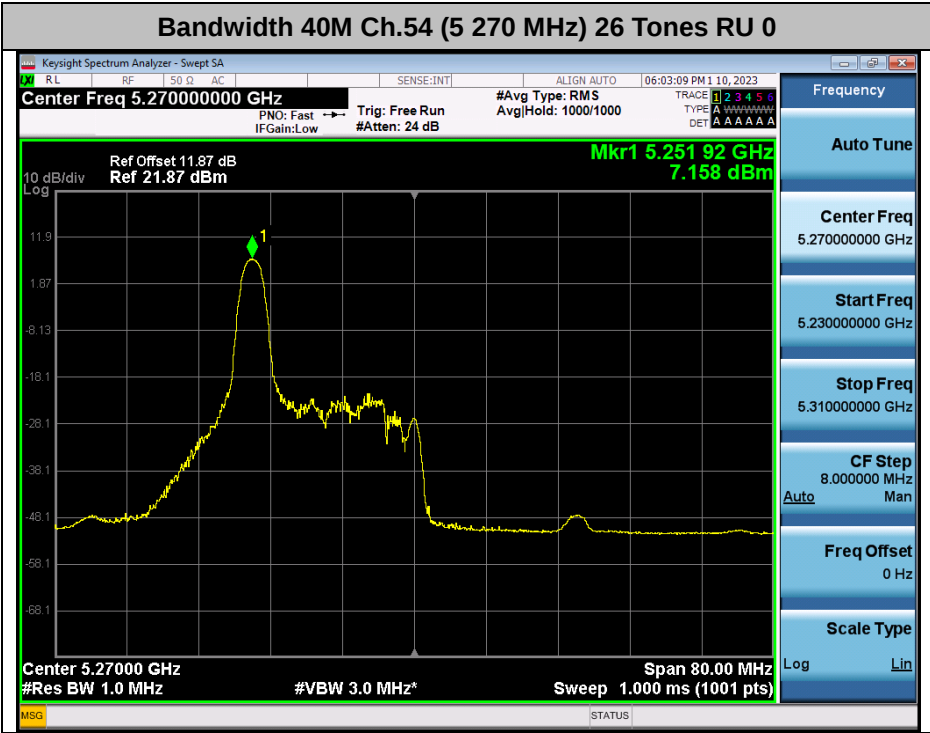
4.1 SISO(Ant. 2)



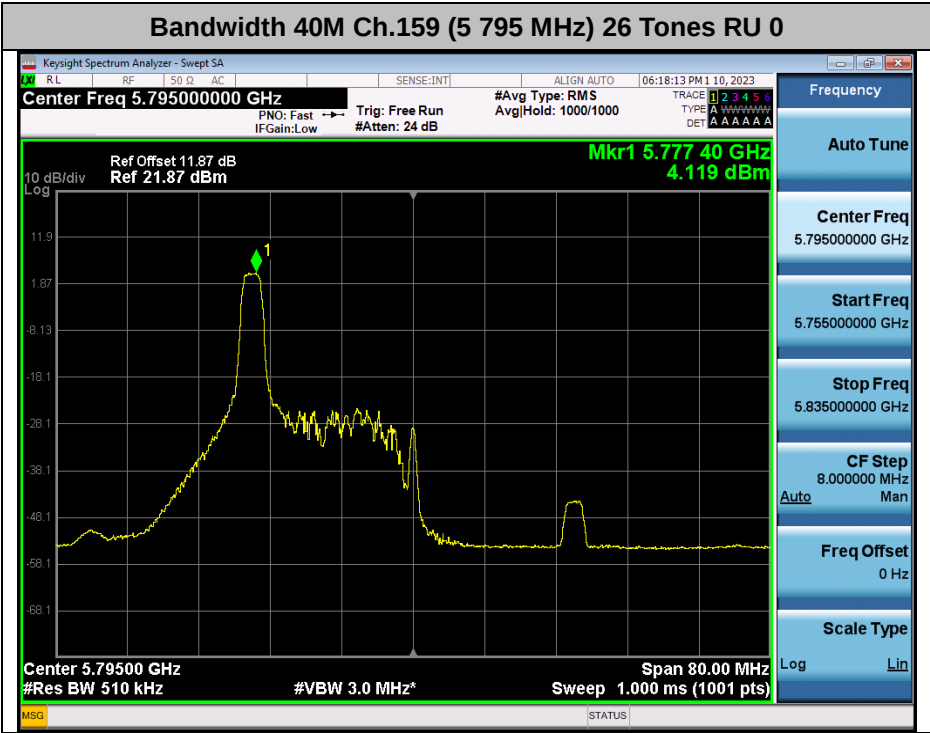
PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
6.974	0.102	7.076



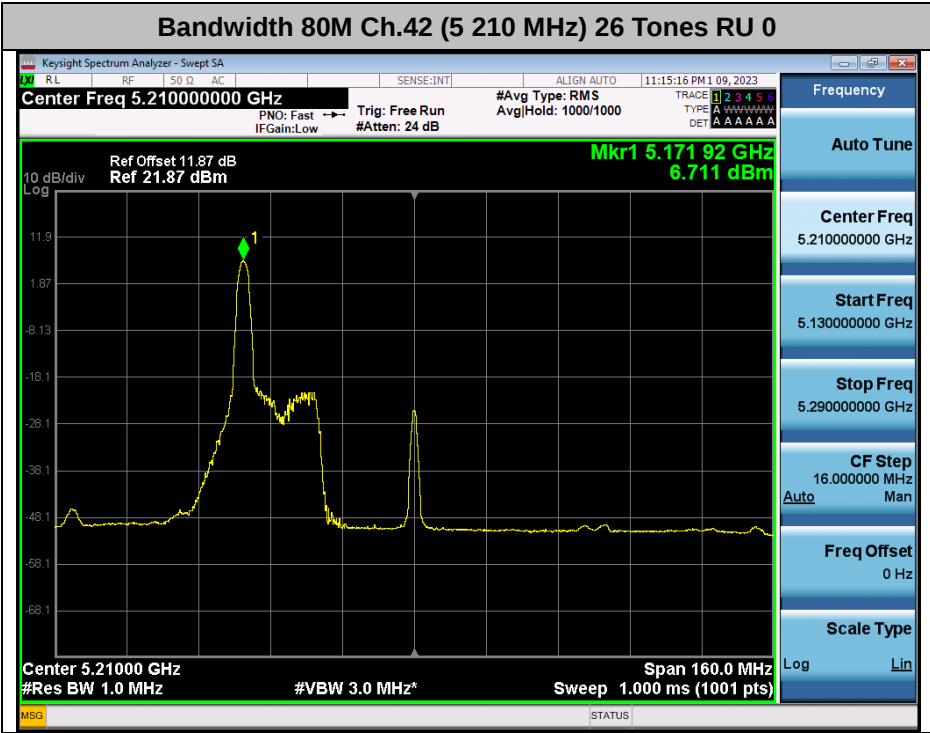
PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
4.016	0.102	4.118



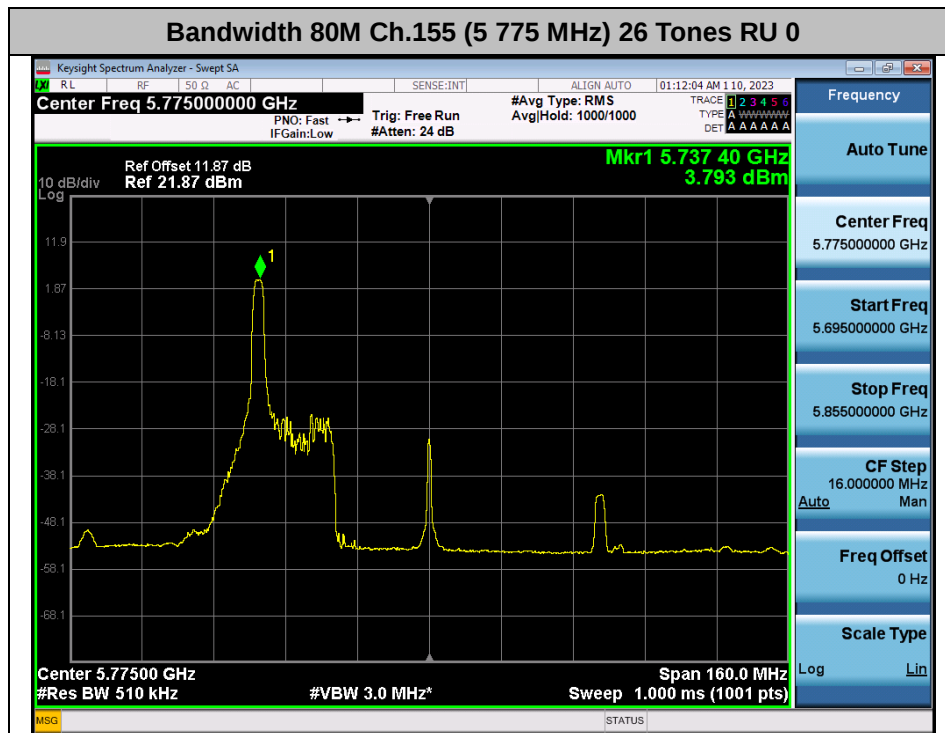
PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
7.158	0.102	7.260



PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
4.119	0.102	4.221



PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
6.711	0.110	6.821

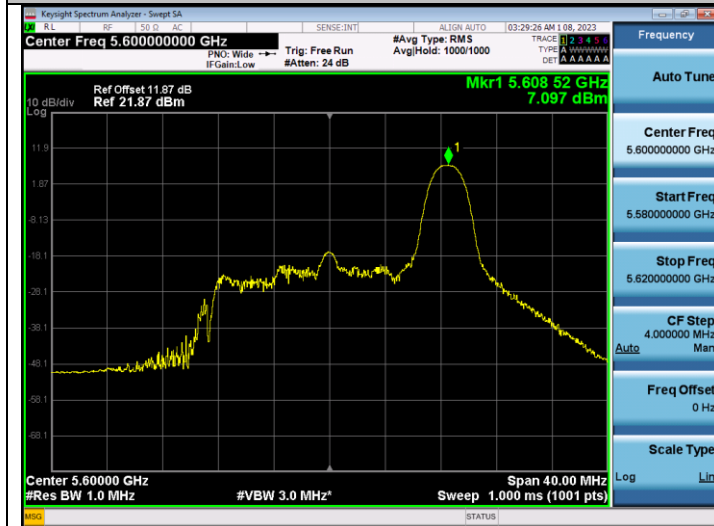


PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
3.793	0.110	3.903

4.2. MIMO

Bandwidth 20M Ch.120 (5 600 MHz) 52 Tones RU 8

Ant.1



Ant.2



PSD(Ant. 1 + Ant. 2) (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
10.029	0.108	10.137