HCT

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 A3LSMN980F1

REVISION HISTORY

The revision history for this document is shown in table.

| Revision No.	Date of Issue	Description
0	October 29, 2021	Initial Release
1	November 05, 2021	- PSD Data revised - 26 dB Bandwidth Plot & Data revised - Straddle 6 dB Bandwidth, Power, PSD, Plot & Data revised

Note:

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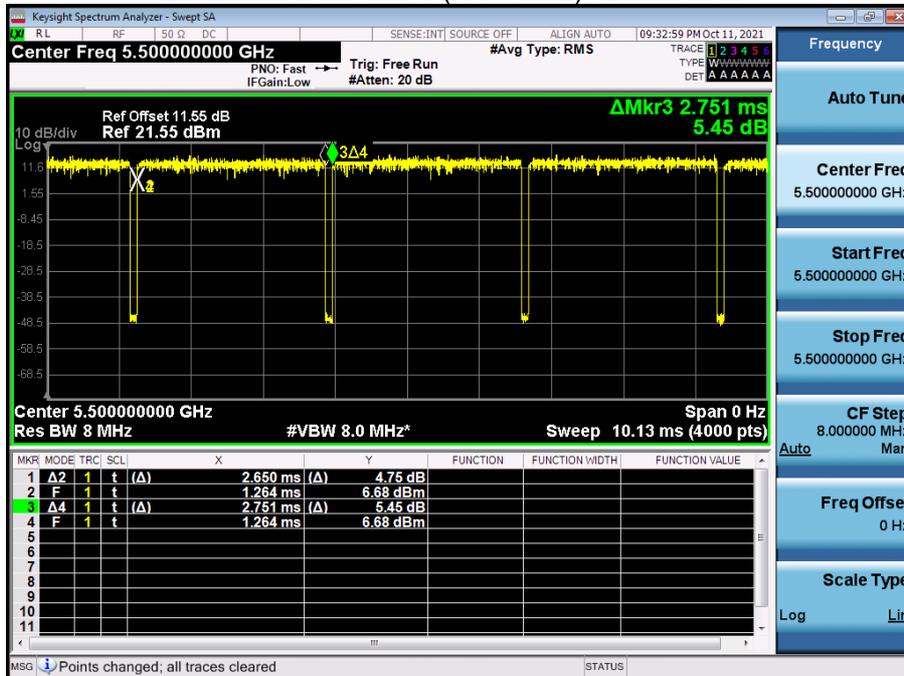
1. Duty Cycle

Note:
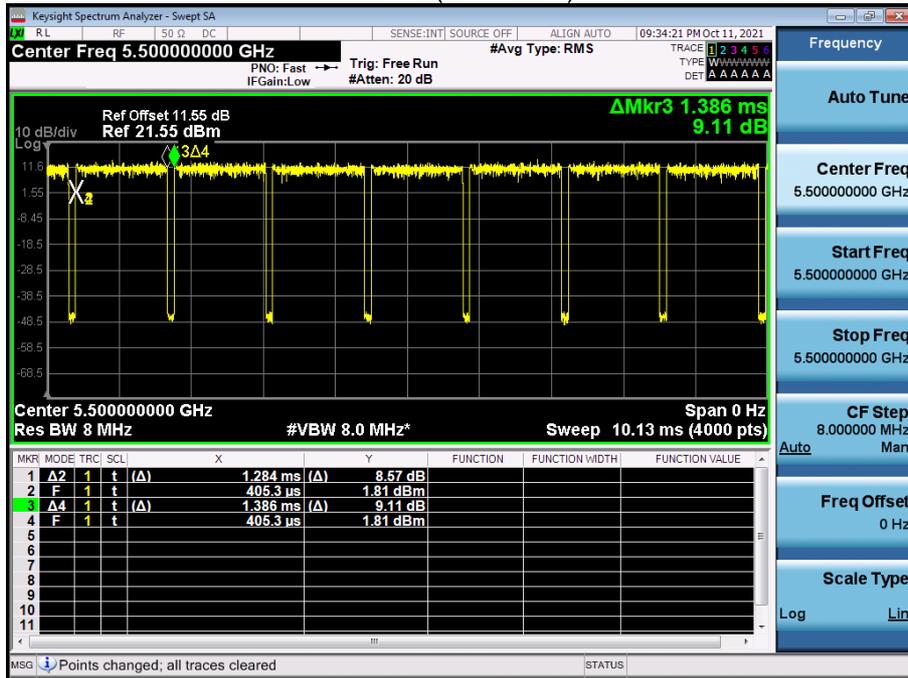In order to simplify the report, attached plots were only the most lowest datarate.

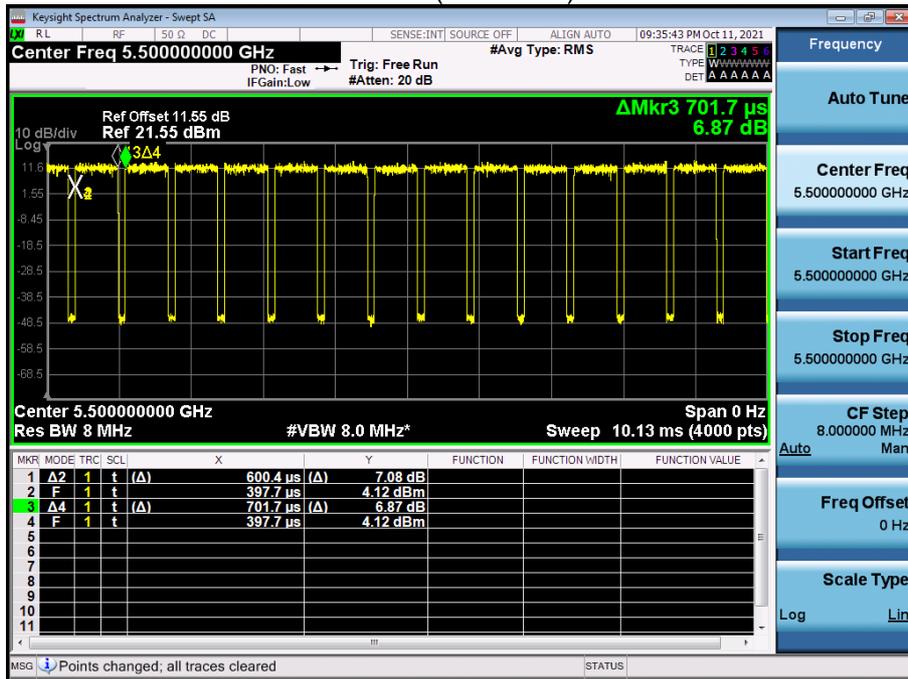Bandwidth 20M Ch.100(5500 MHz) 26Tone MCS0
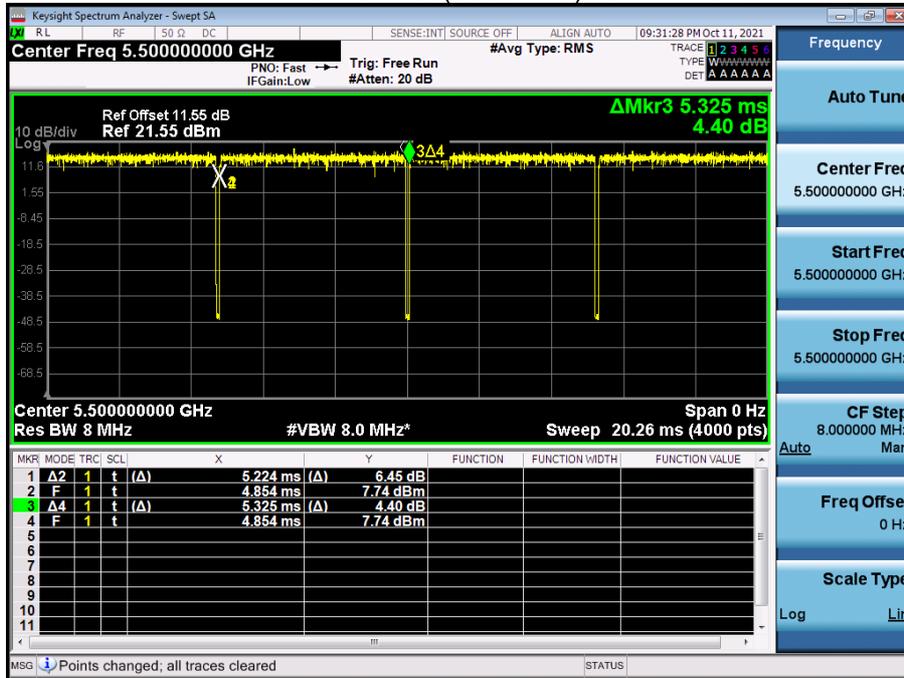
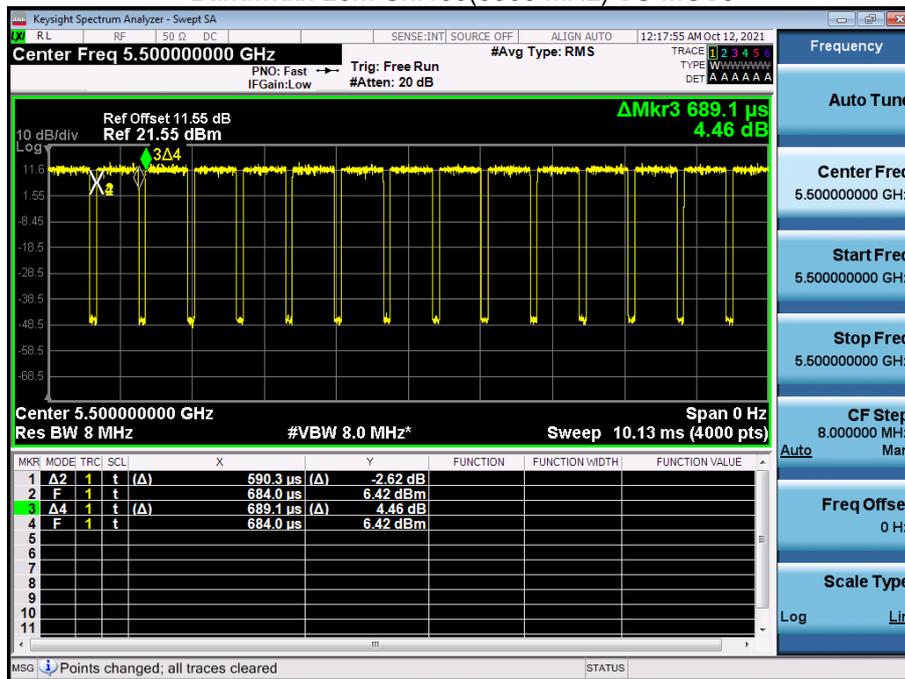Bandwidth 20M Ch.100(5500 MHz) 52Tone MCS0
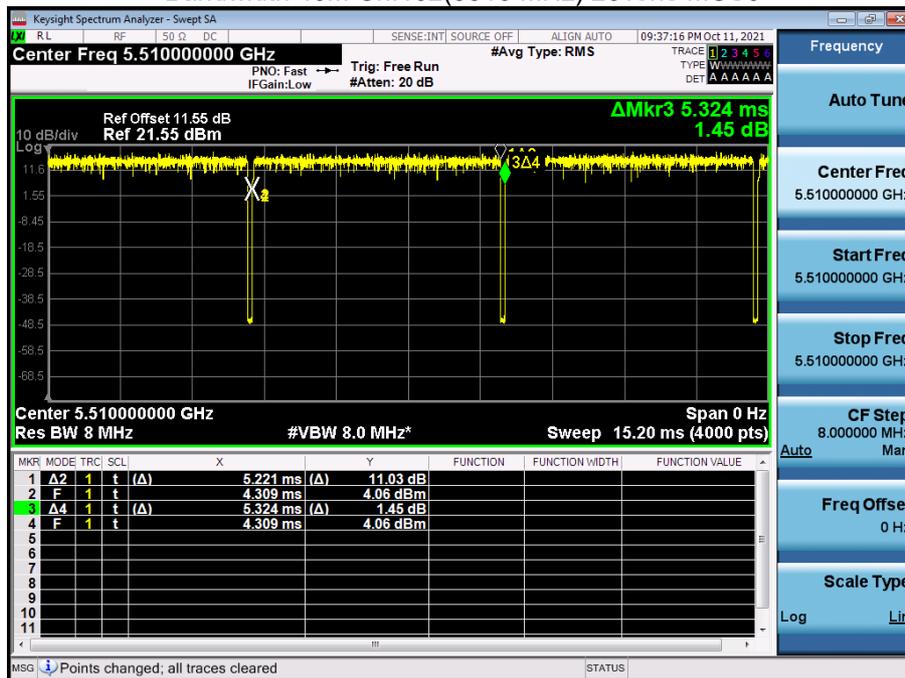
Bandwidth 20M Ch.100(5500 MHz) 106Tone MCS0

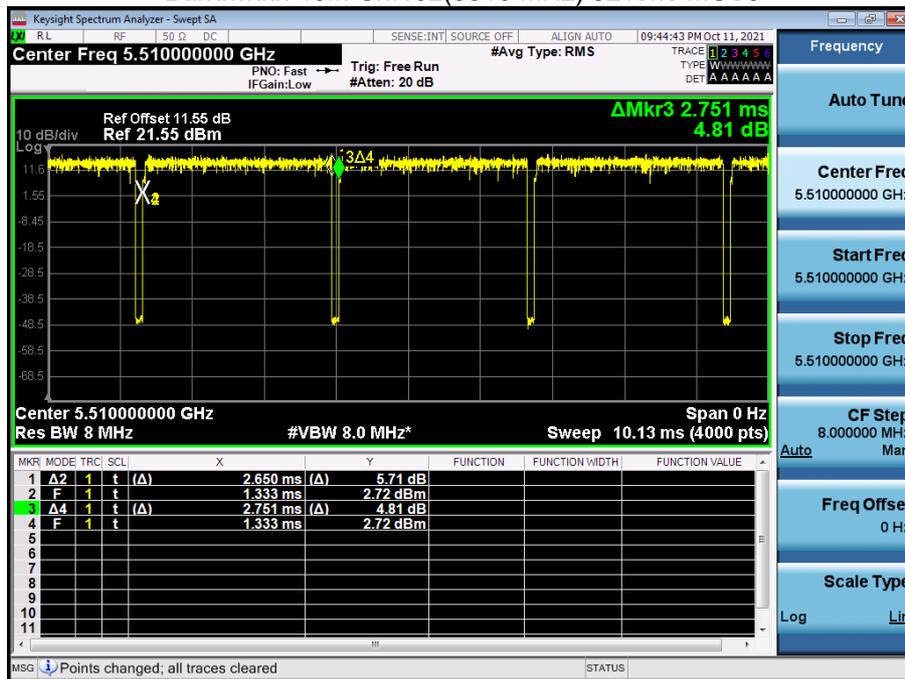Bandwidth 20M Ch.100(5500 MHz) 242Tone MCS0

Bandwidth 20M Ch.100(5500 MHz) SU MCS0

Bandwidth 40M Ch.102(5510 MHz) 26Tone MCS0

Bandwidth 40M Ch.102(5510 MHz) 52Tone MCS0

Bandwidth 40M Ch.102(5510 MHz) 106Tone MCS0

Bandwidth 40M Ch.102(5510 MHz) 242Tone MCS0

Bandwidth 40M Ch.102(5510 MHz) 484Tone MCS0
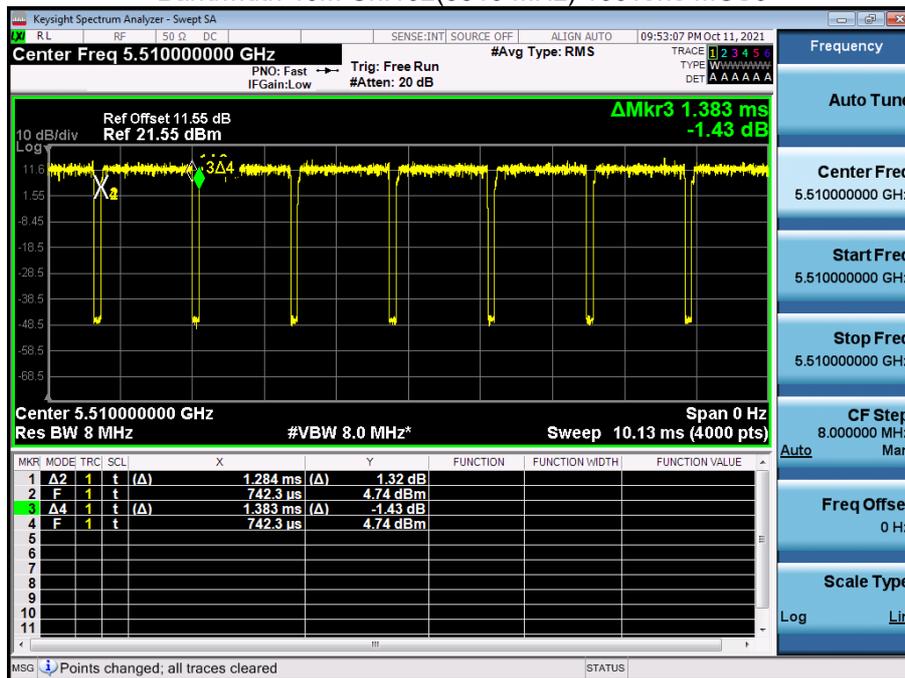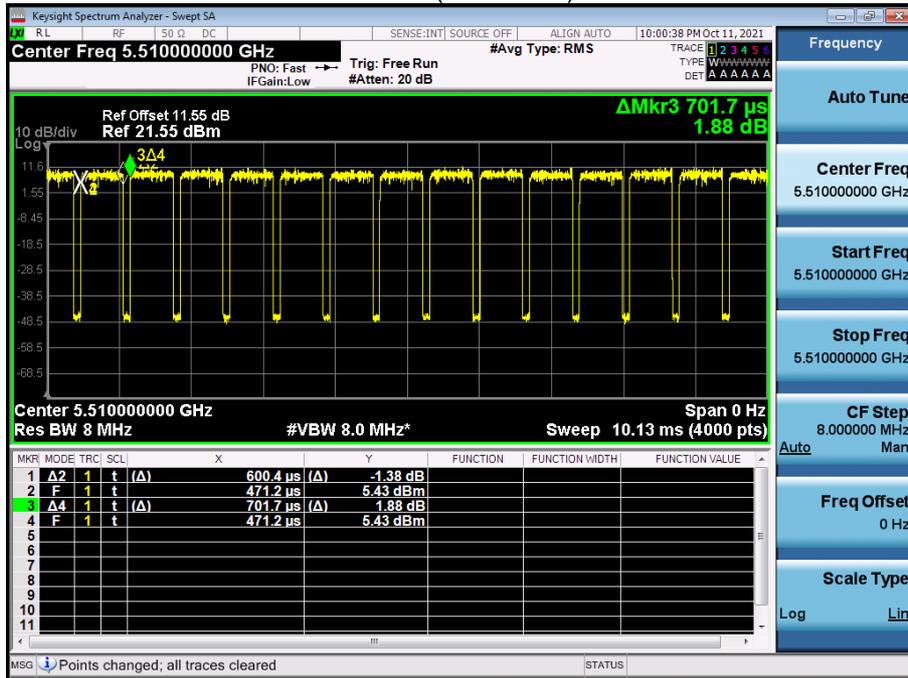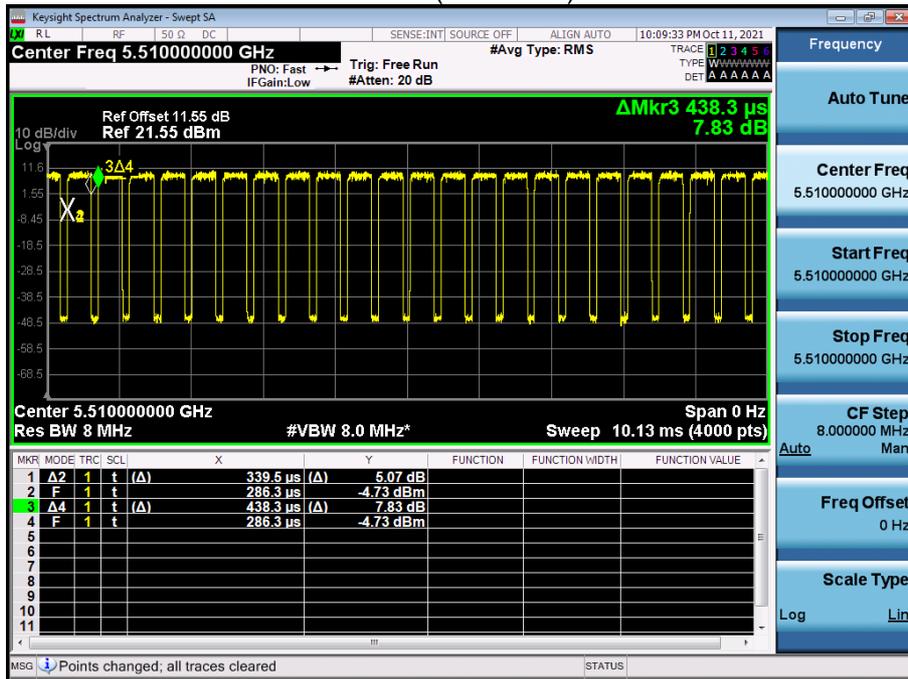
Bandwidth 40M Ch.102(5510 MHz) SU MCS0

Bandwidth 80M Ch.106(5530 MHz) 26Tone MCS0

Bandwidth 80M Ch.106(5530 MHz) 52Tone MCS0
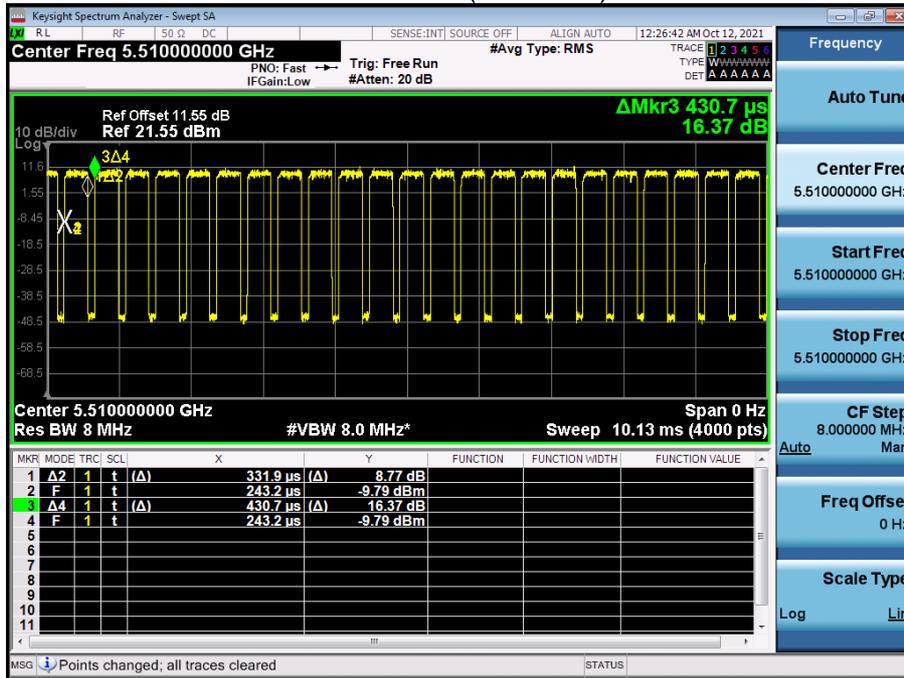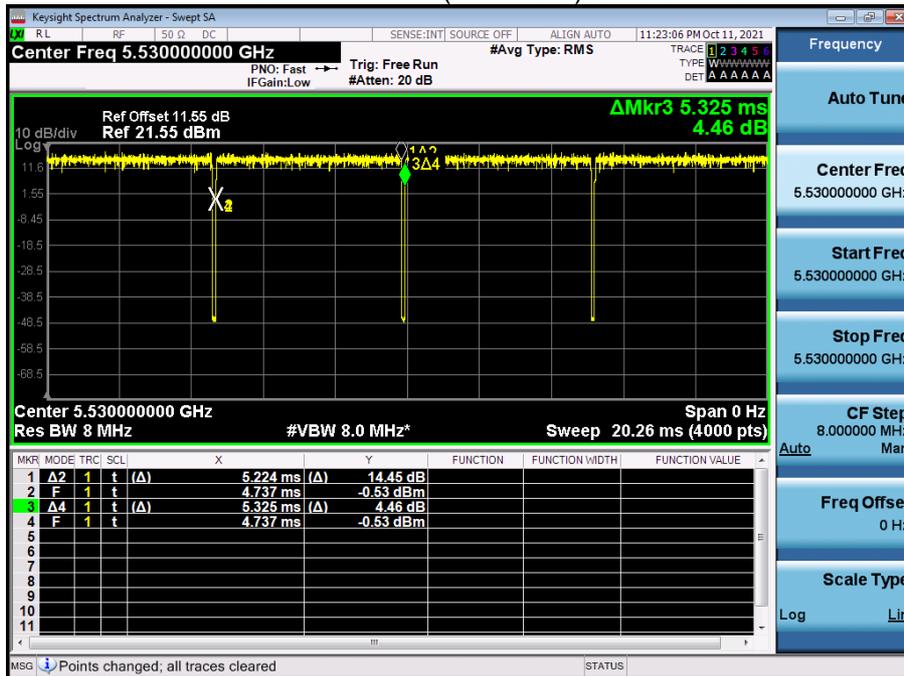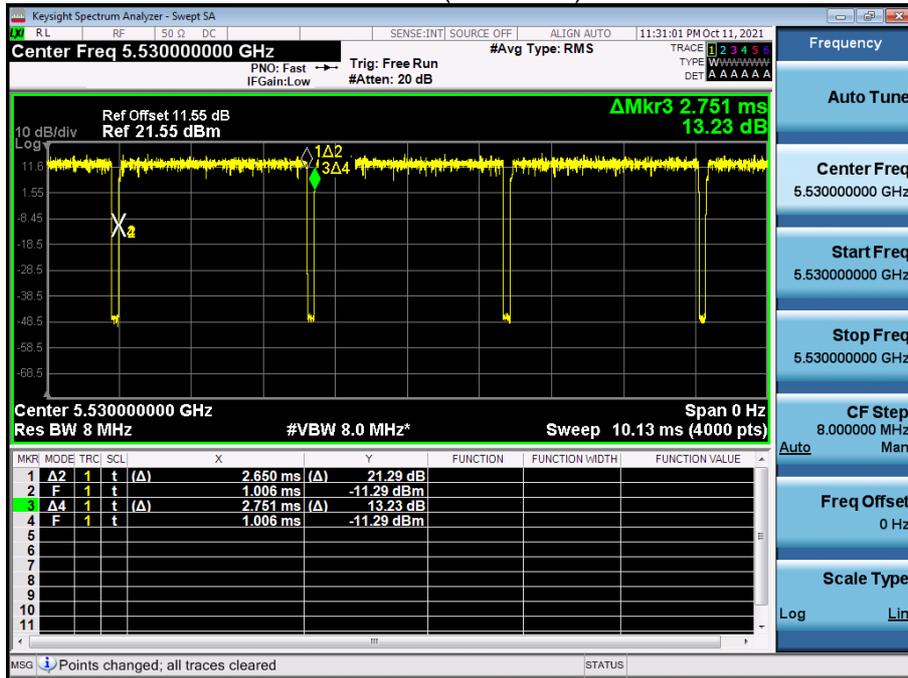

Bandwidth 80M Ch.106(5530 MHz) 106Tone MCS0
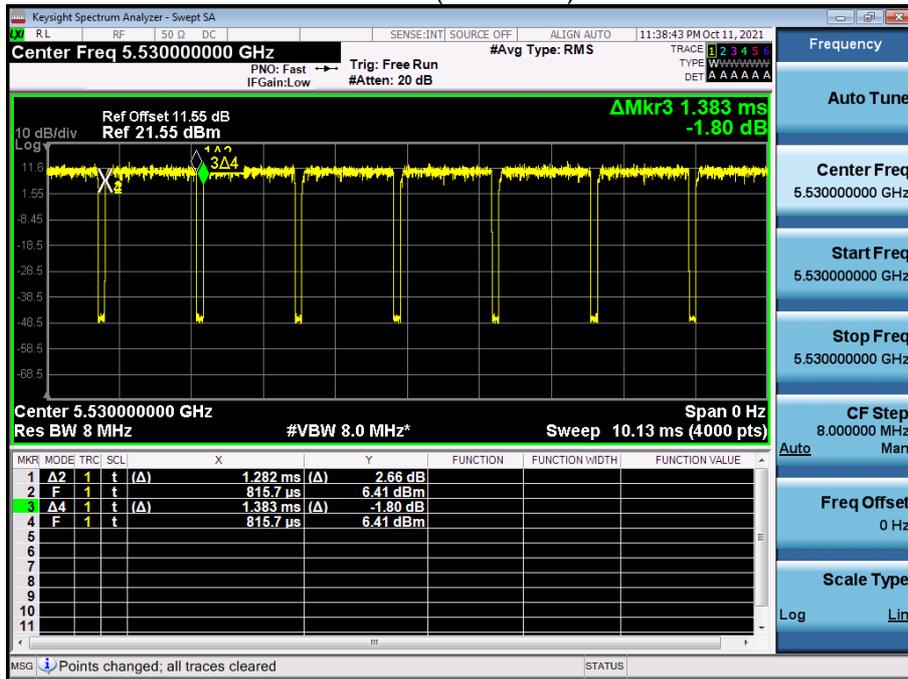
Bandwidth 80M Ch.106(5530 MHz) 242Tone MCS0
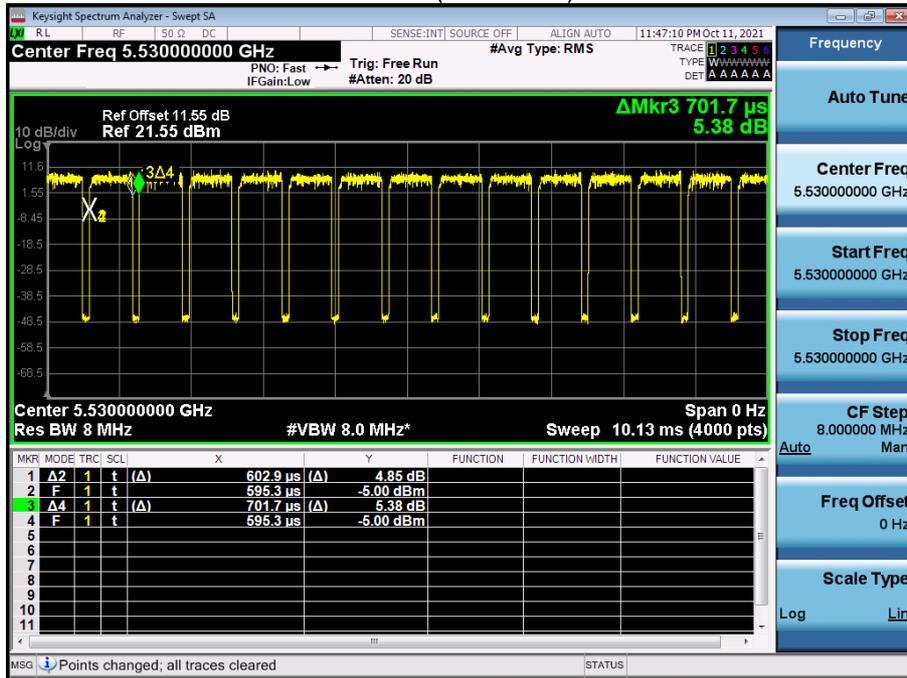
Bandwidth 80M Ch.106(5530 MHz) 484Tone MCS0
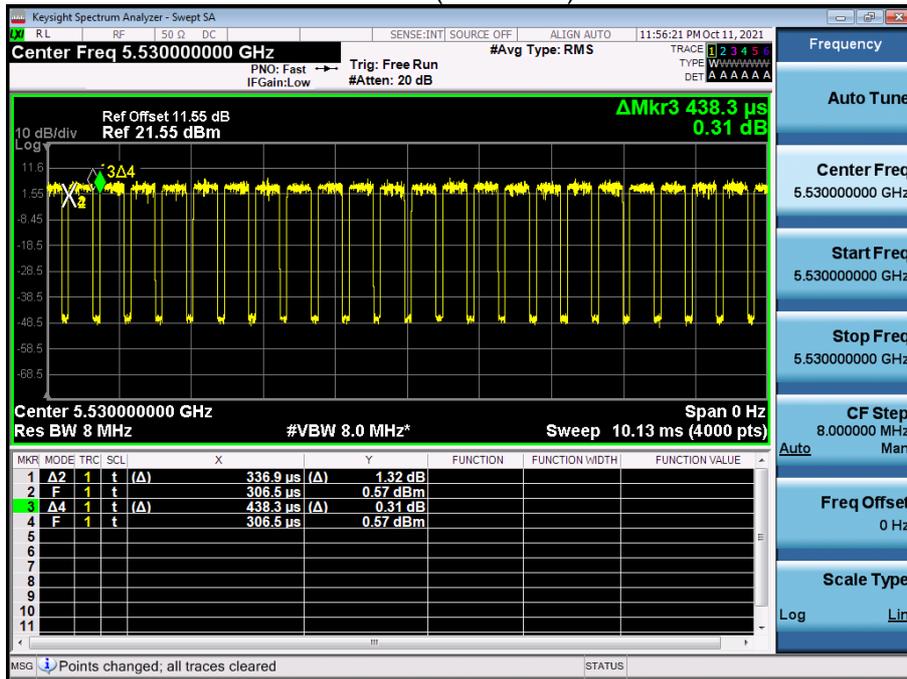
Bandwidth 80M Ch.106(5530 MHz) 996Tone MCS0
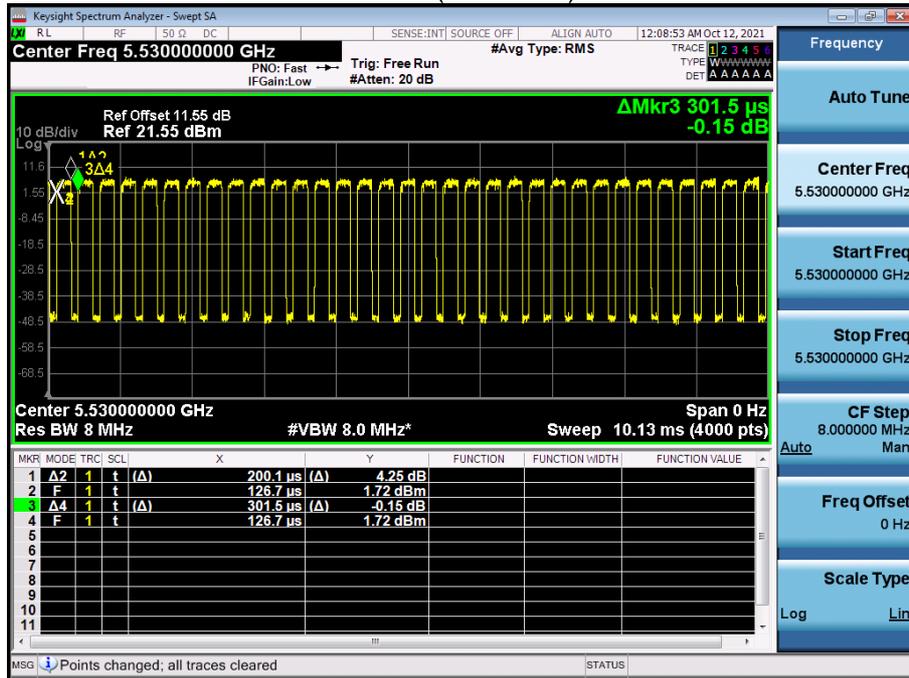
Bandwidth 80M Ch.106(5530 MHz) SU MCS0
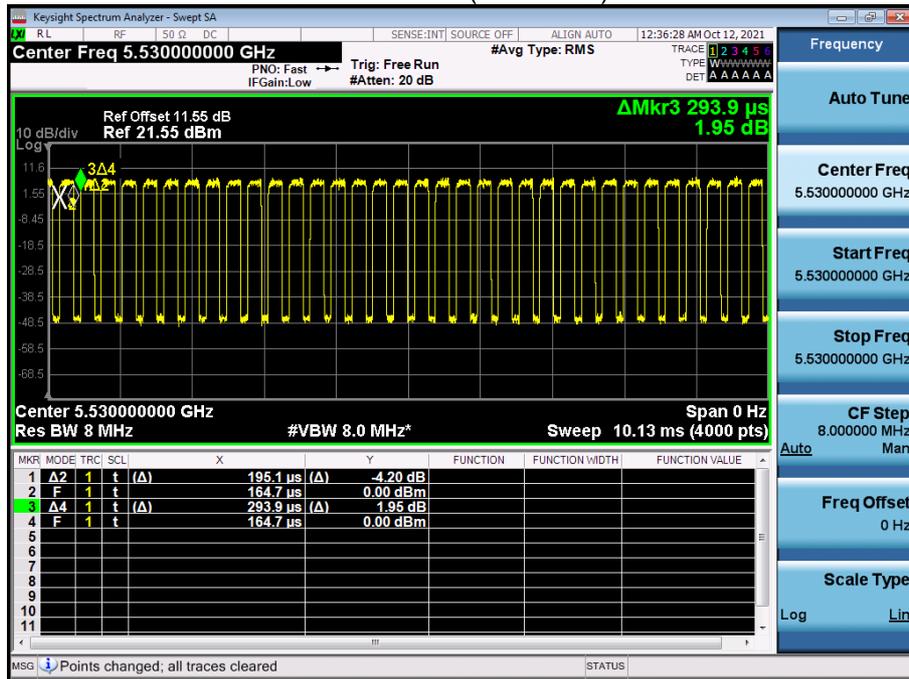
2. 26 dB Bandwidth

Note:

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

Bandwidth 20M Ch.36(5180 MHz) SU
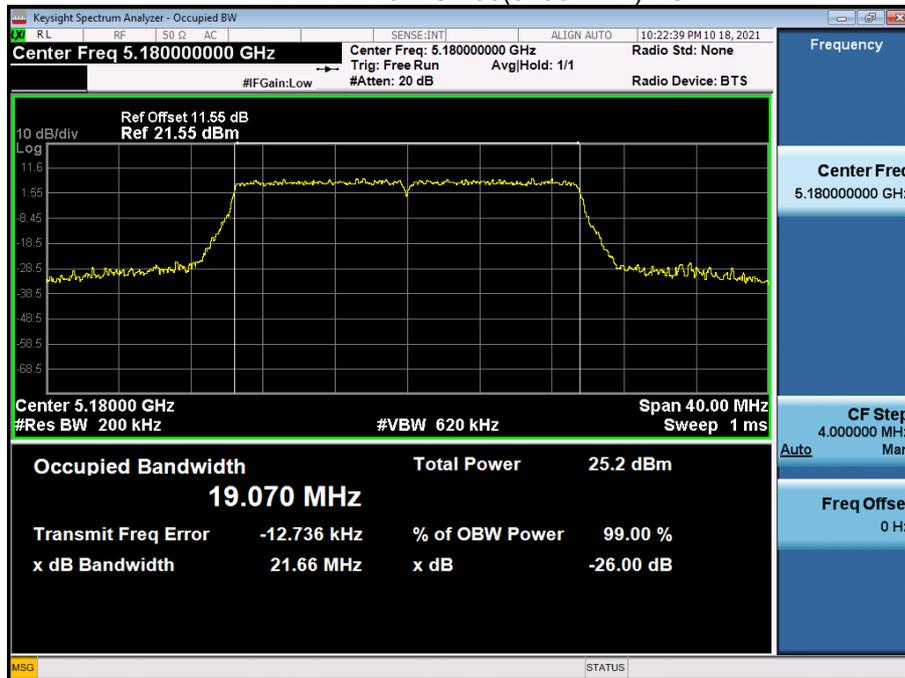
Bandwidth 20M Ch.40(5200 MHz) 242 Tones RU 61
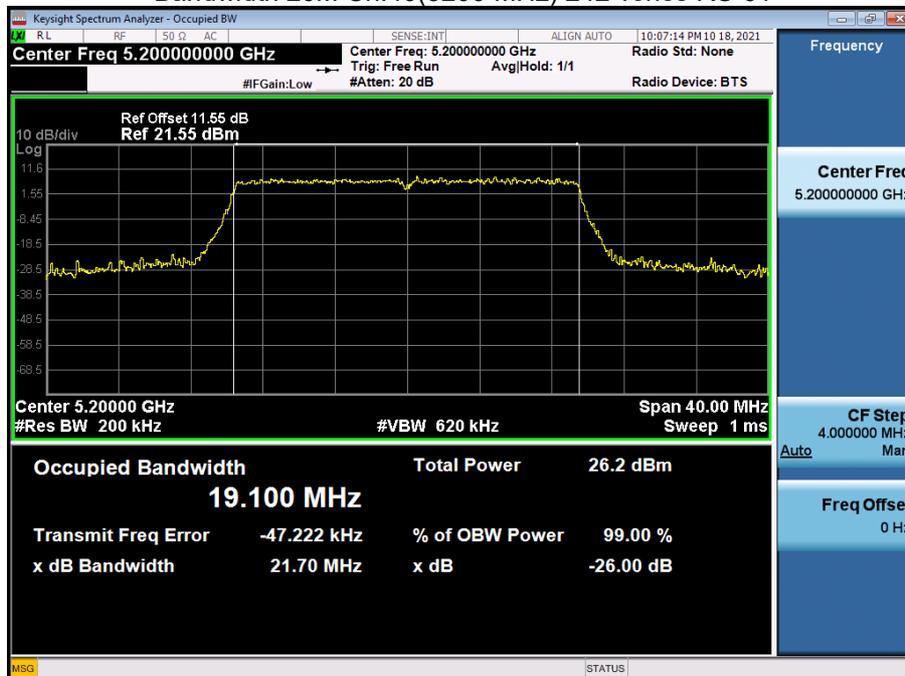
Bandwidth 20M Ch.48(5240 MHz) 242 Tones RU 61
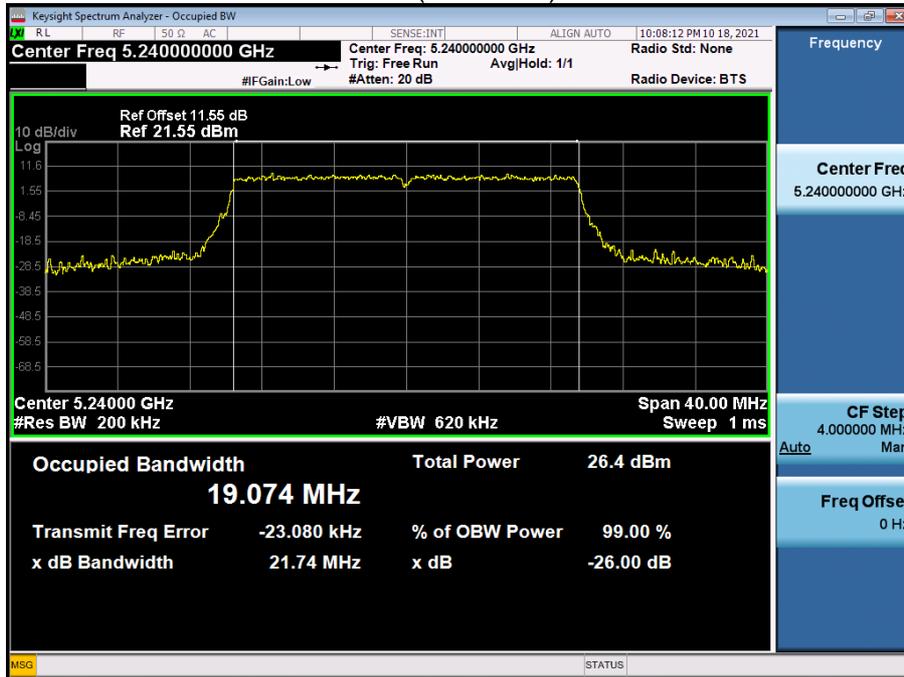
Bandwidth 20M Ch.52(5260 MHz) 242 Tones RU 61
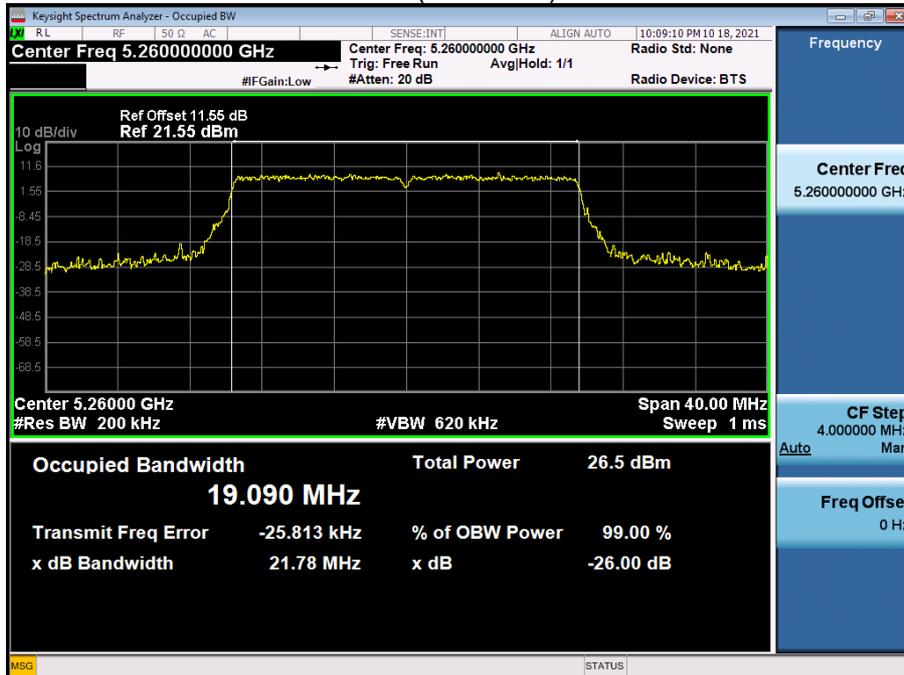
Bandwidth 20M Ch.56(5280 MHz) SU
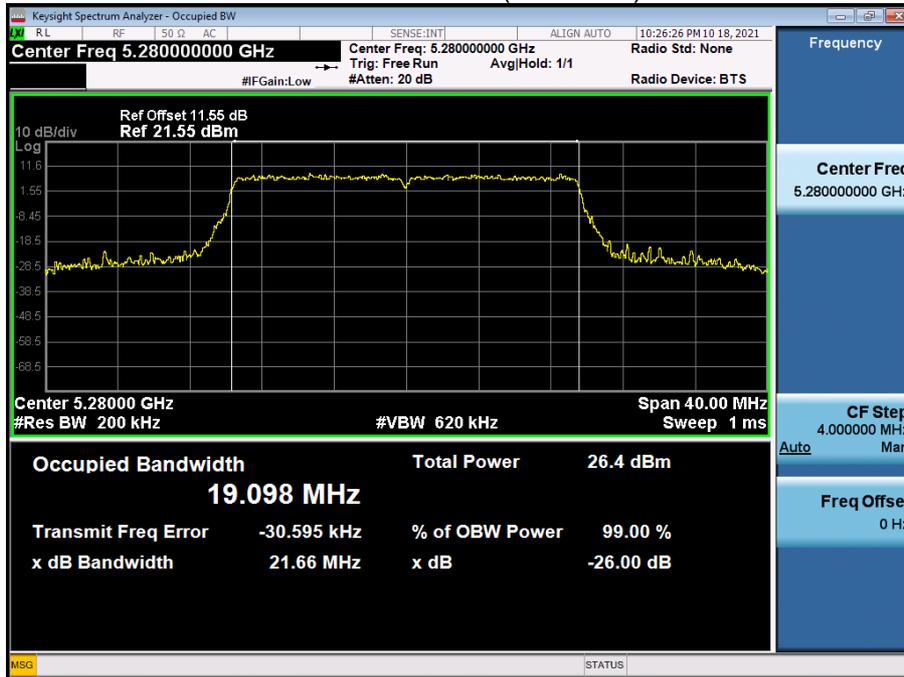
Bandwidth 20M Ch.64(5320 MHz) 242 Tones RU 61
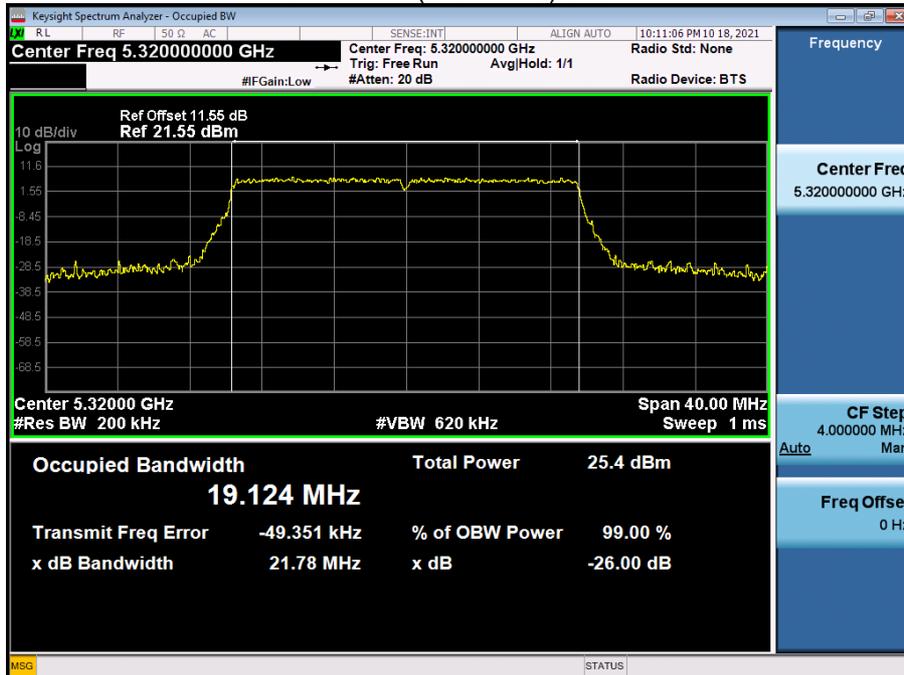
Bandwidth 20M Ch.100(5500 MHz) 242 Tones RU 61
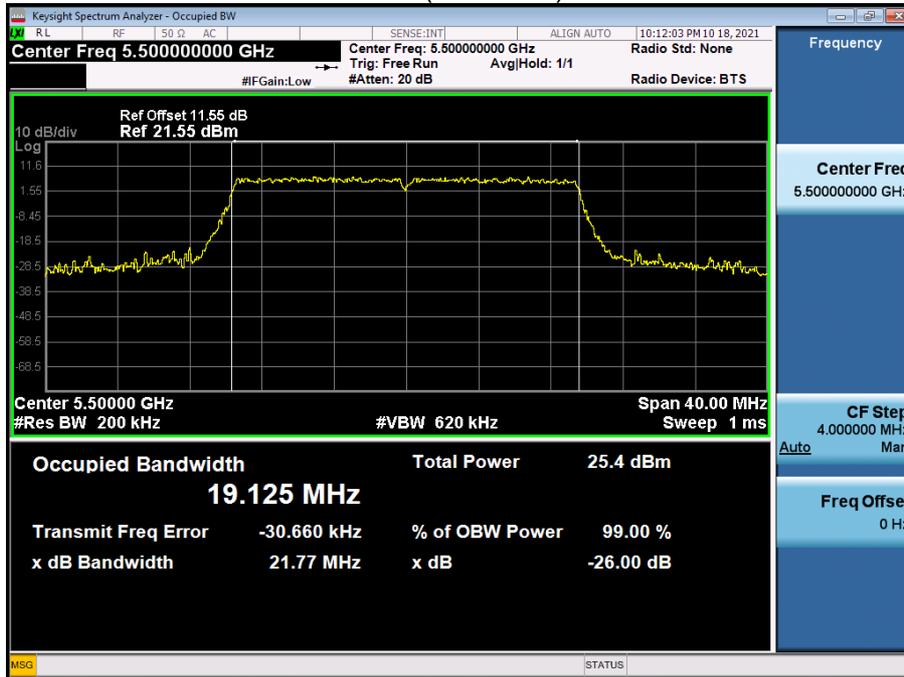
Bandwidth 20M Ch.120(5600 MHz) 242 Tones RU 61
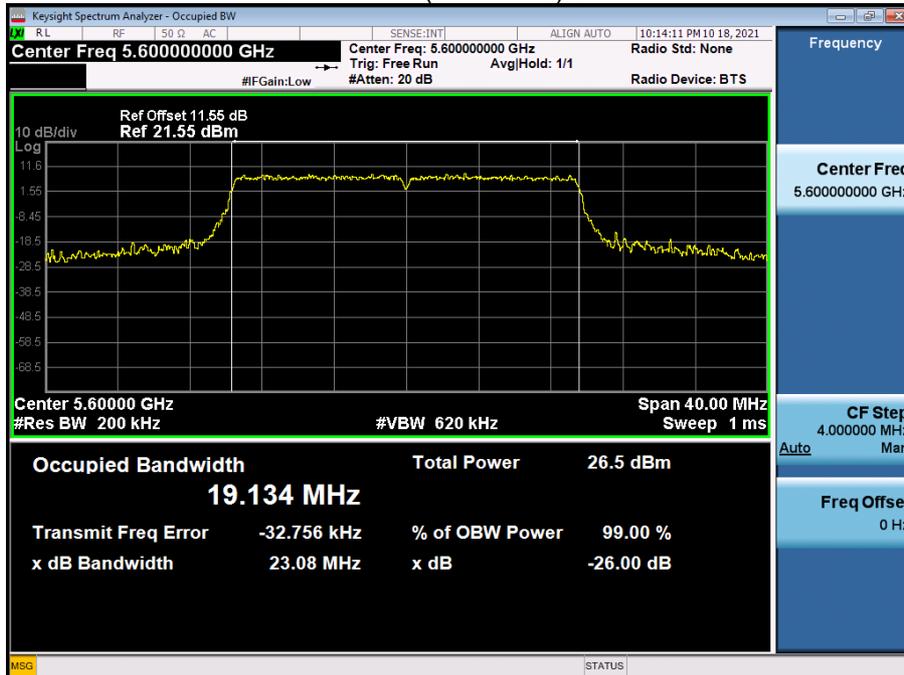
Bandwidth 20M Ch.144(5720 MHz) SU
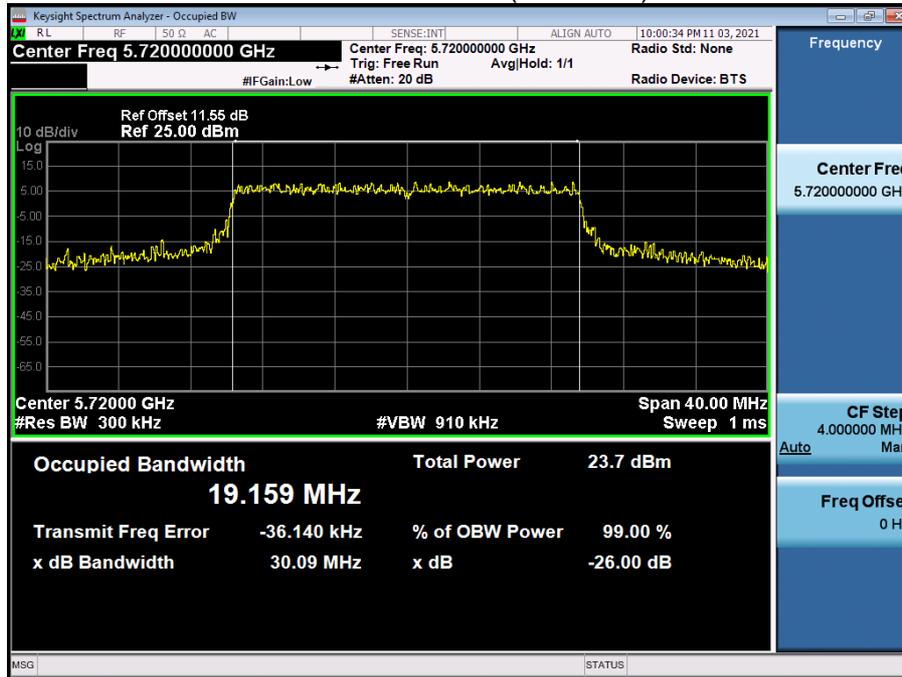
Bandwidth 20M Ch.149(5745 MHz) 242 Tones RU 61
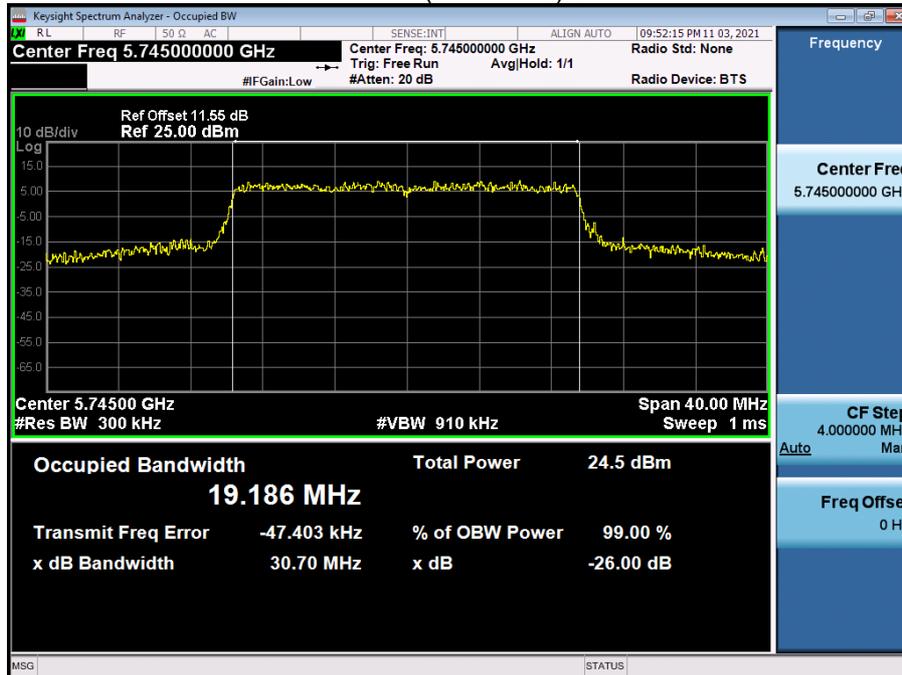
Bandwidth 20M Ch.157(5785 MHz) 242 Tones RU 61
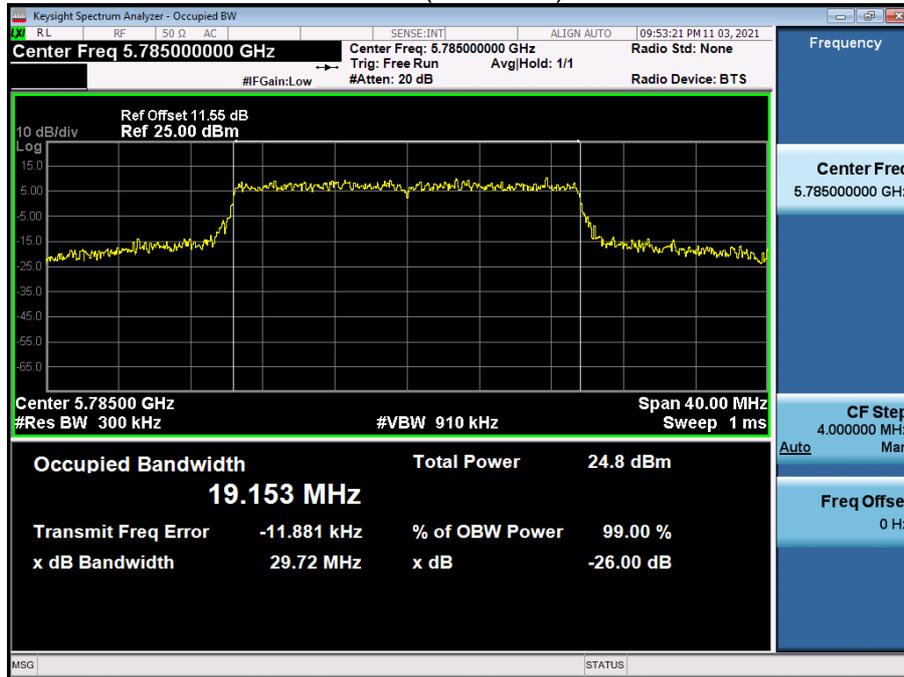
Bandwidth 20M Ch.165(5825 MHz) 242 Tones RU 61
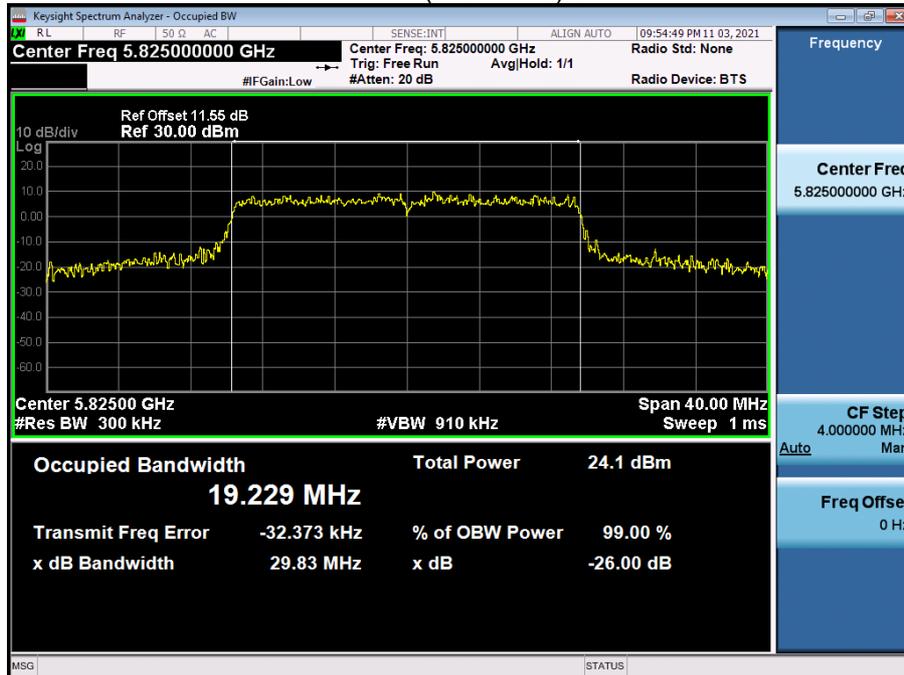
Bandwidth 40M Ch.38(5190 MHz) 484 Tones RU 65
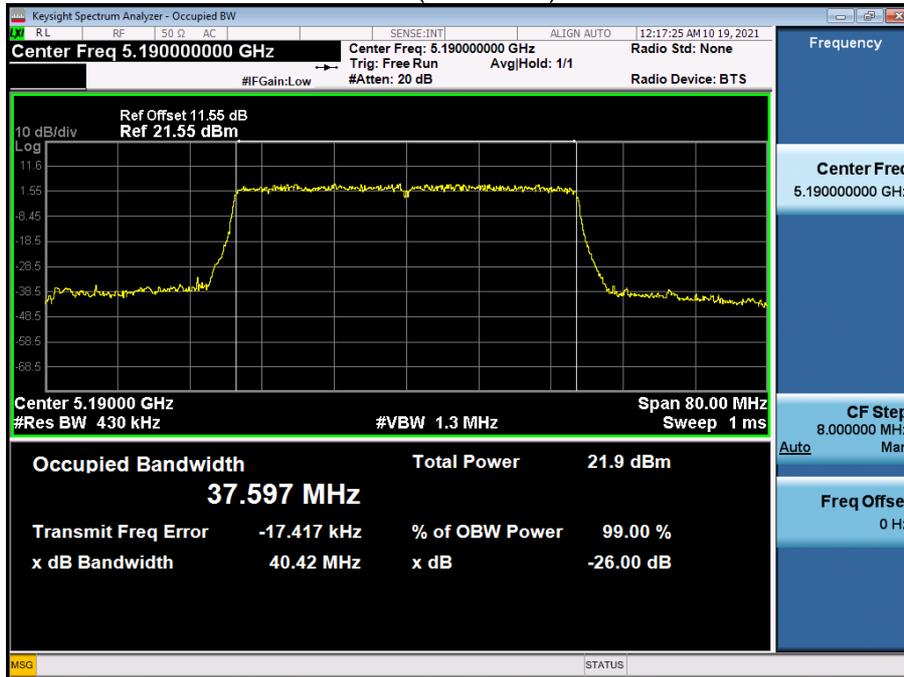
Bandwidth 40M Ch.46(5230 MHz) SU
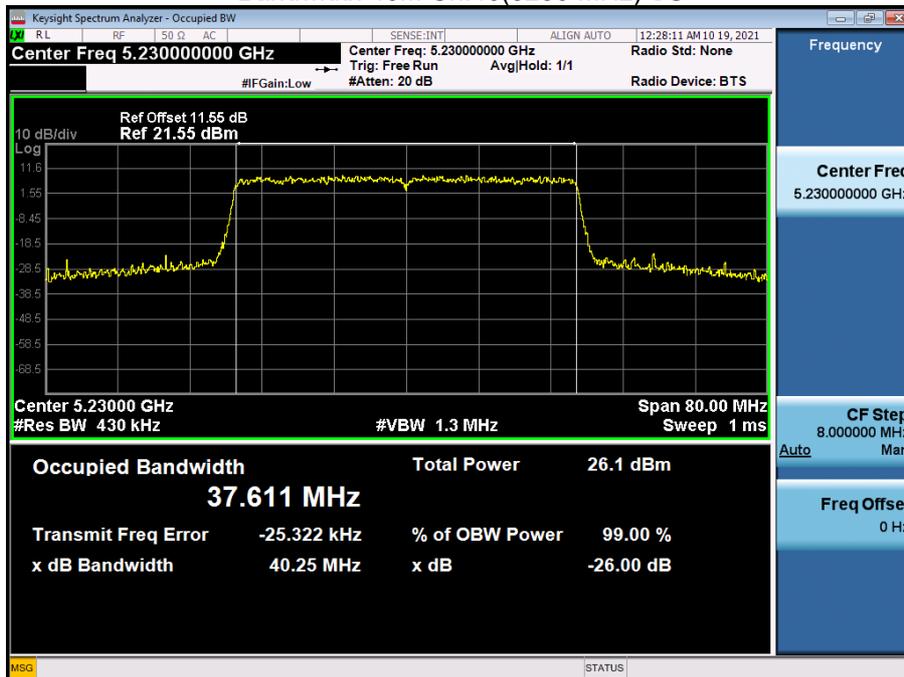
Bandwidth 40M Ch.54(5270 MHz) 484 Tones RU 65
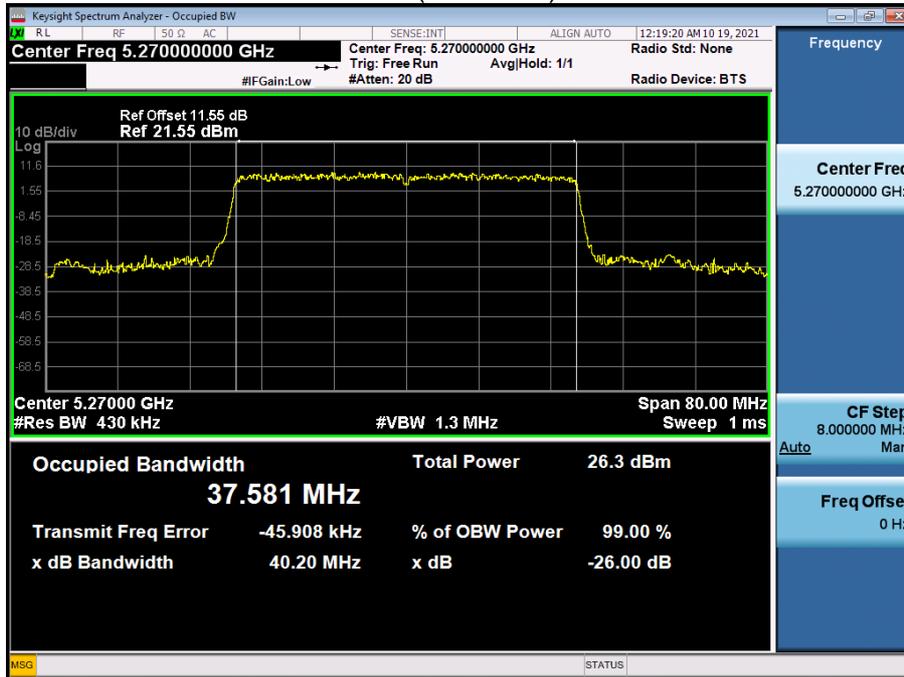
Bandwidth 40M Ch.62(5310 MHz) 484 Tones RU 65
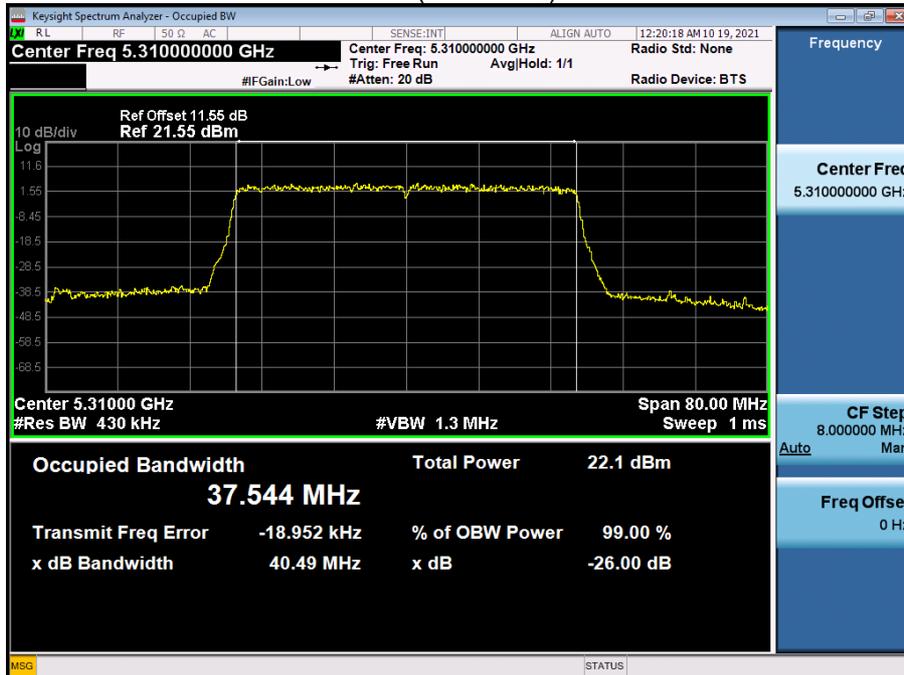
Bandwidth 40M Ch.102(5510 MHz) 484 Tones RU 65
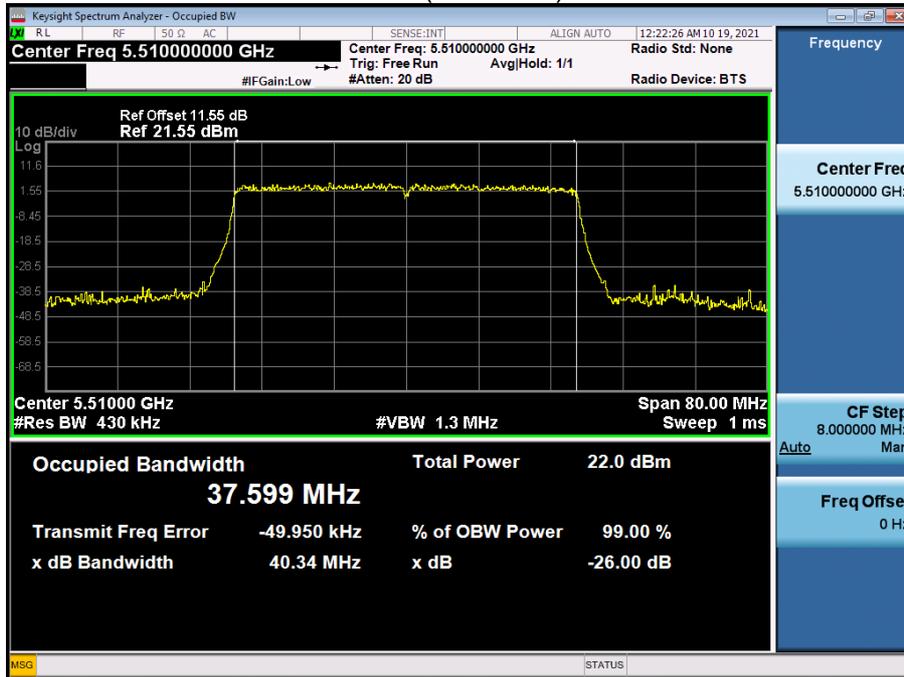
Bandwidth 40M Ch.118(5590 MHz) 484 Tones RU 65
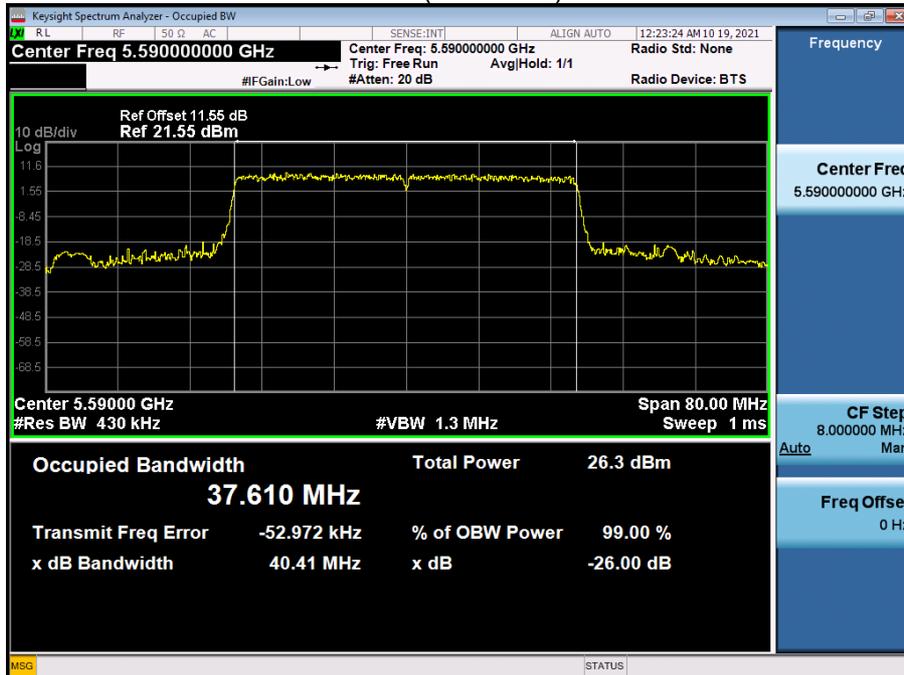
Bandwidth 40M Ch.142(5710 MHz) 484 Tones RU 65
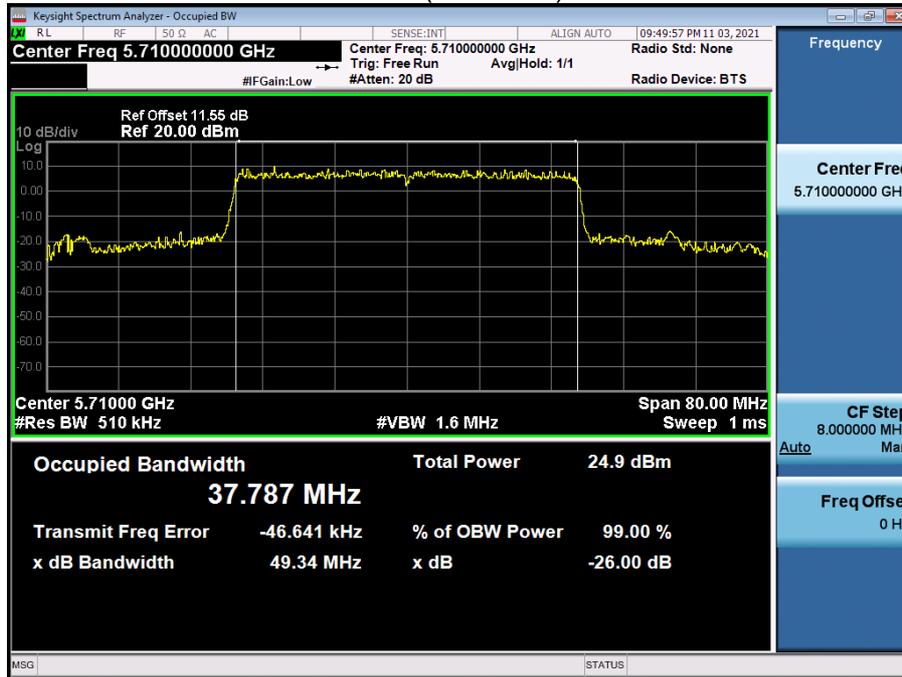
Bandwidth 40M Ch.151(5755 MHz) 484 Tones RU 65
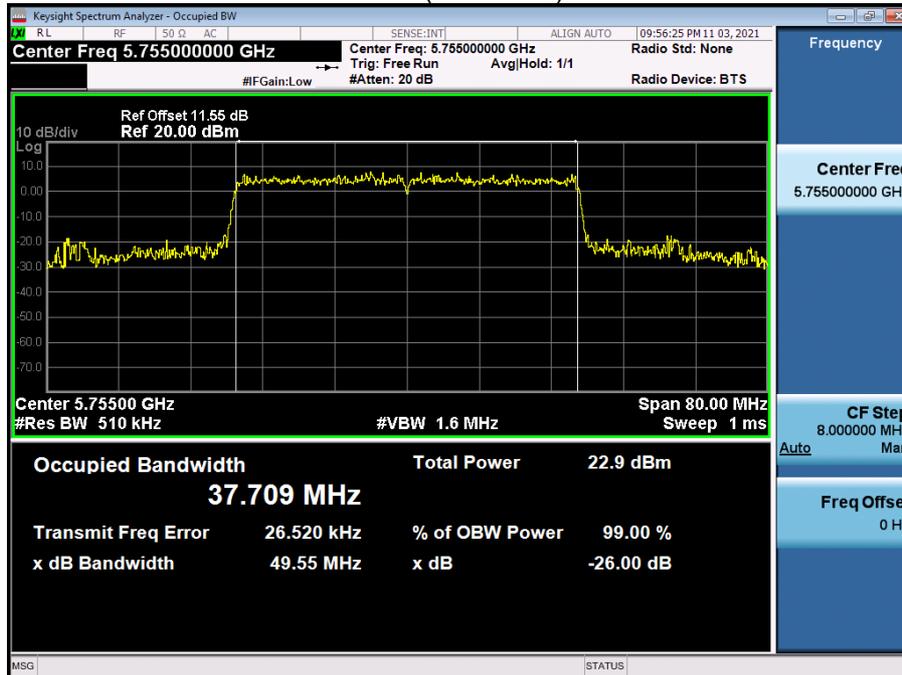
Bandwidth 40M Ch.159(5795 MHz) 484 Tones RU 65
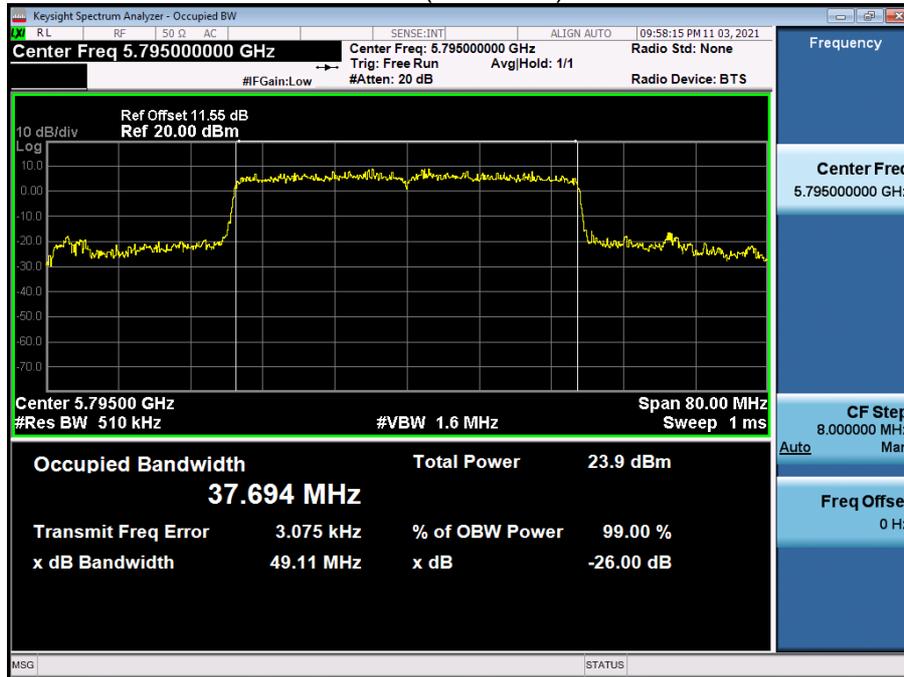
Bandwidth 80M Ch.42(5210 MHz) 484 Tones RU 67
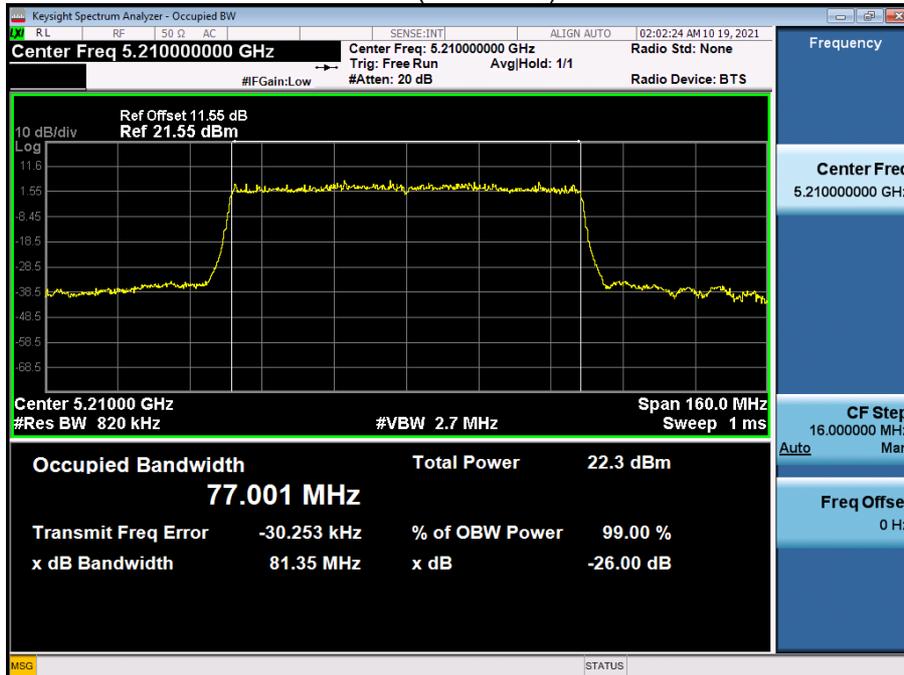
Bandwidth 80M Ch.58(5290 MHz) SU
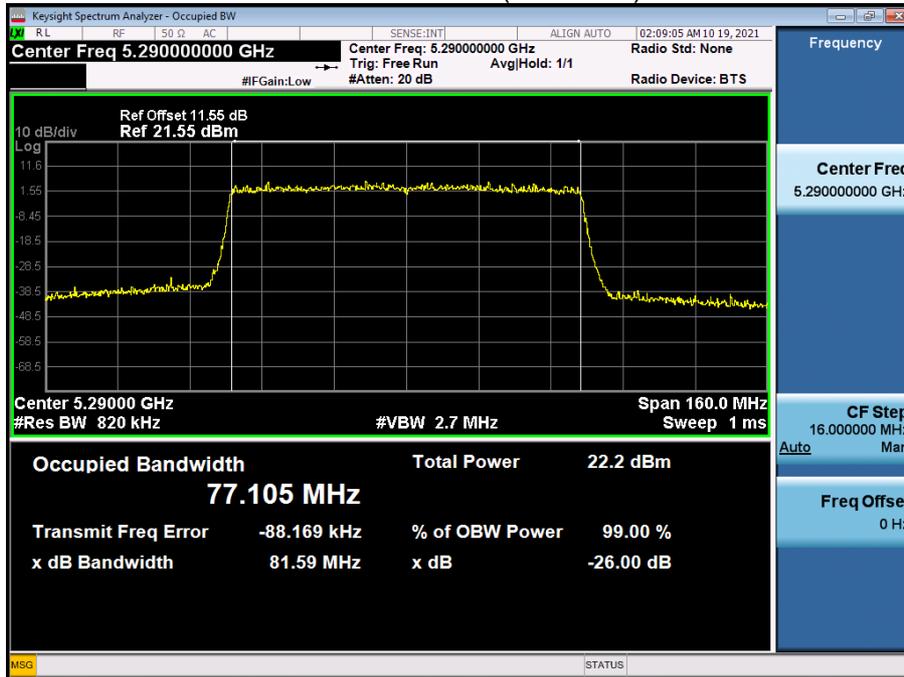
Bandwidth 80M Ch.106(5530 MHz) SU
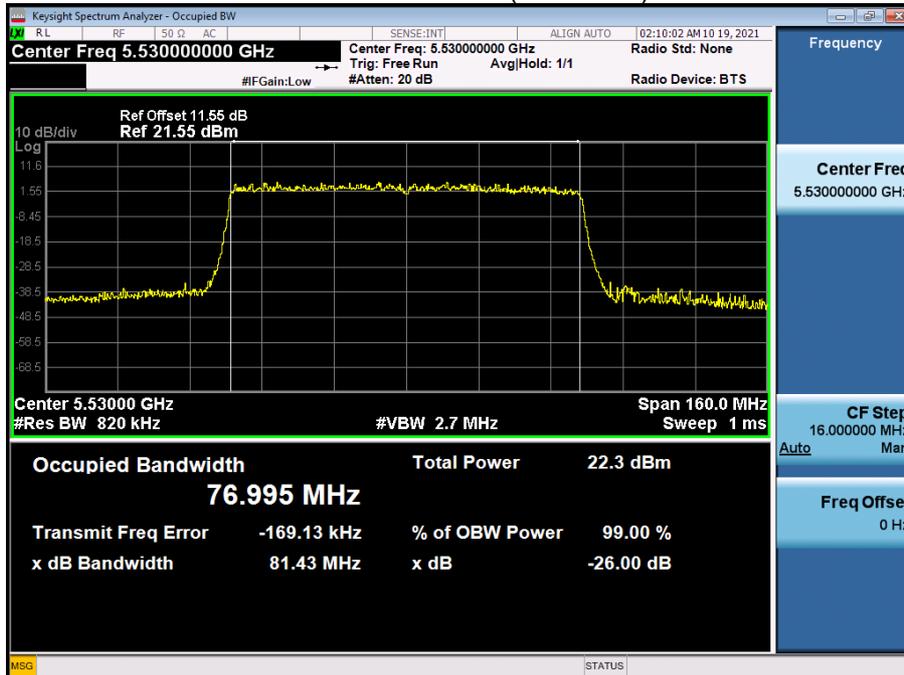
Bandwidth 80M Ch.122(5610 MHz) SU
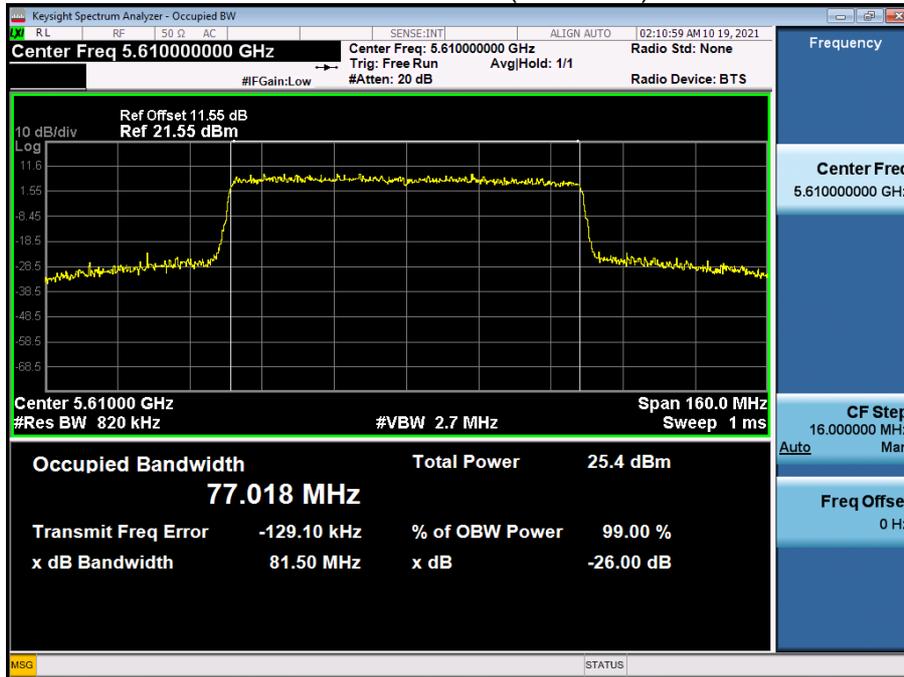
Bandwidth 80M Ch.138(5690 MHz) SU
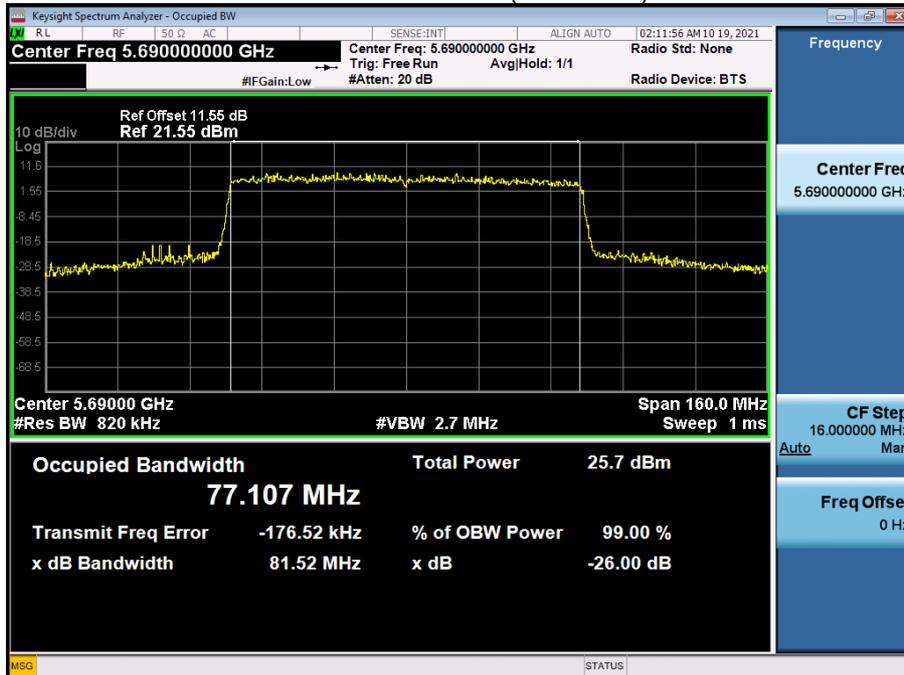
Bandwidth 80M Ch.155(5775 MHz) 996 Tones RU 67
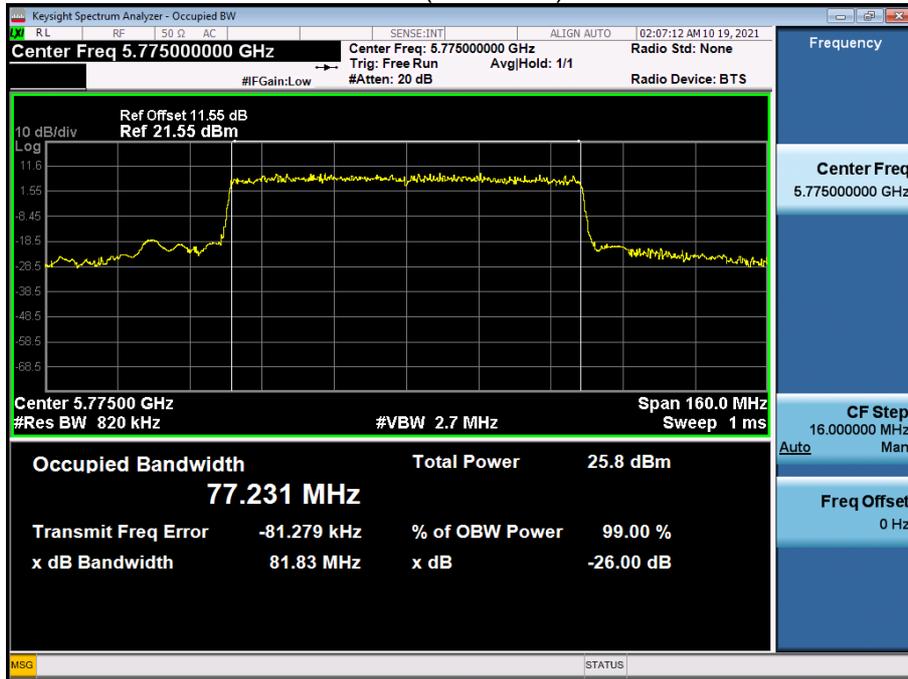
3. 6 dB Bandwidth

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

3.1 MIMO Ant1

Bandwidth 20M Ch.149(5745 MHz) 26 Tones RU 8
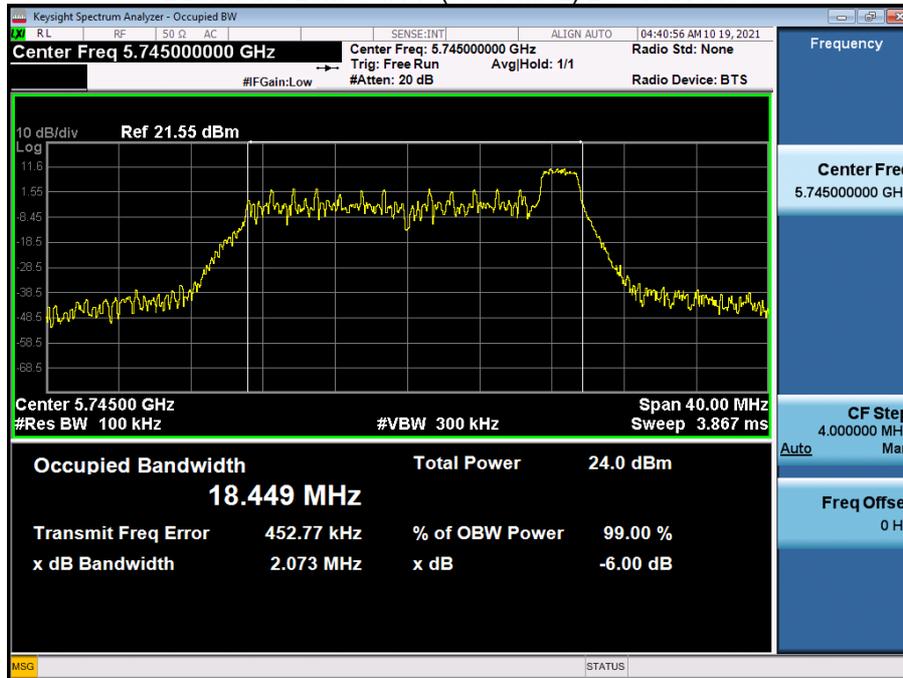
Bandwidth 20M Ch.157(5785 MHz) 26 Tones RU 8
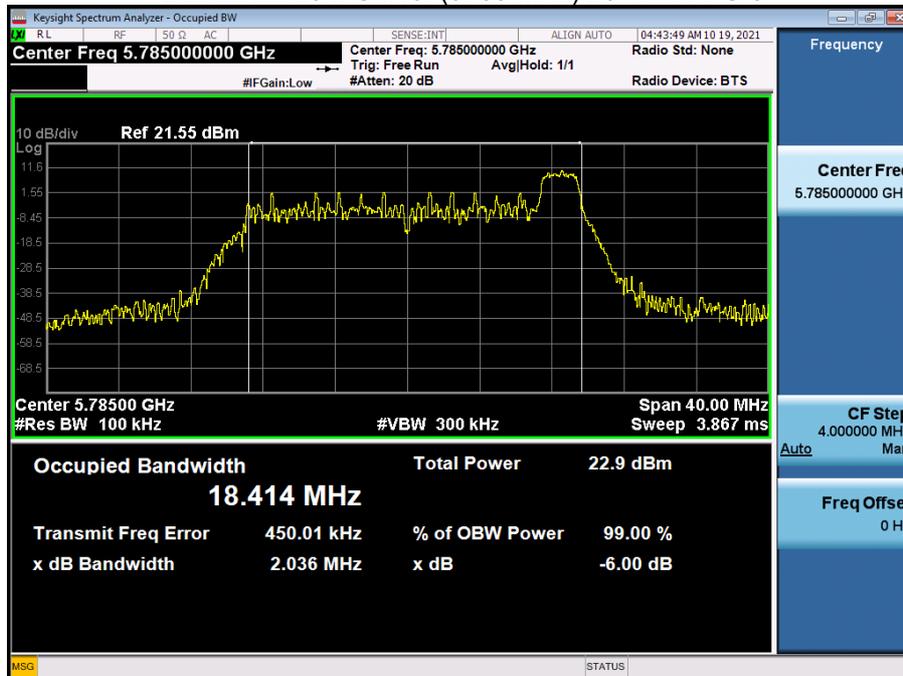
Bandwidth 20M Ch.165(5825 MHz) 26 Tones RU 0
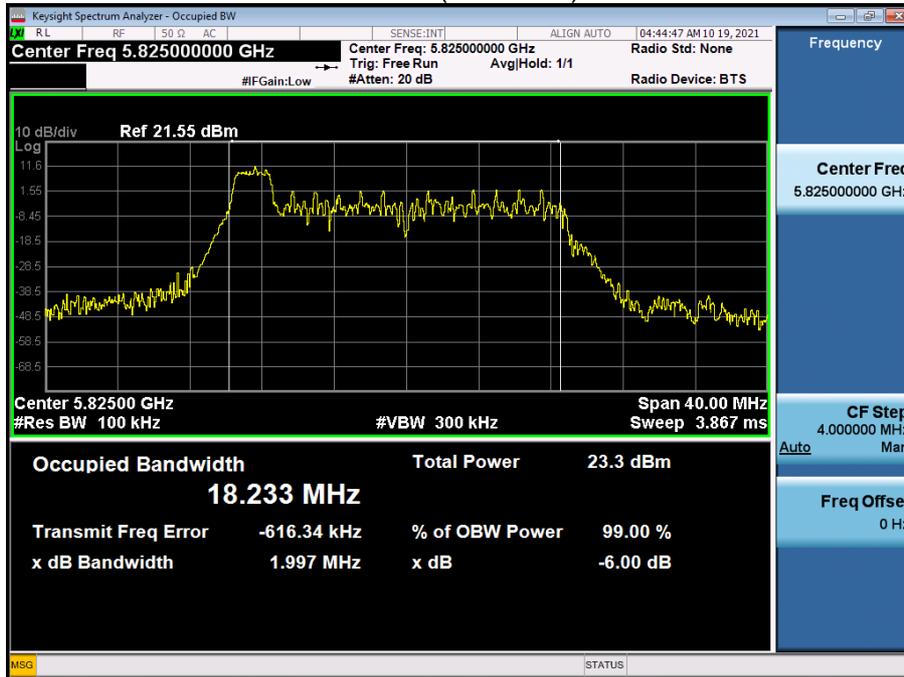
Bandwidth 40M Ch.151(5755 MHz) 26 Tones RU 0
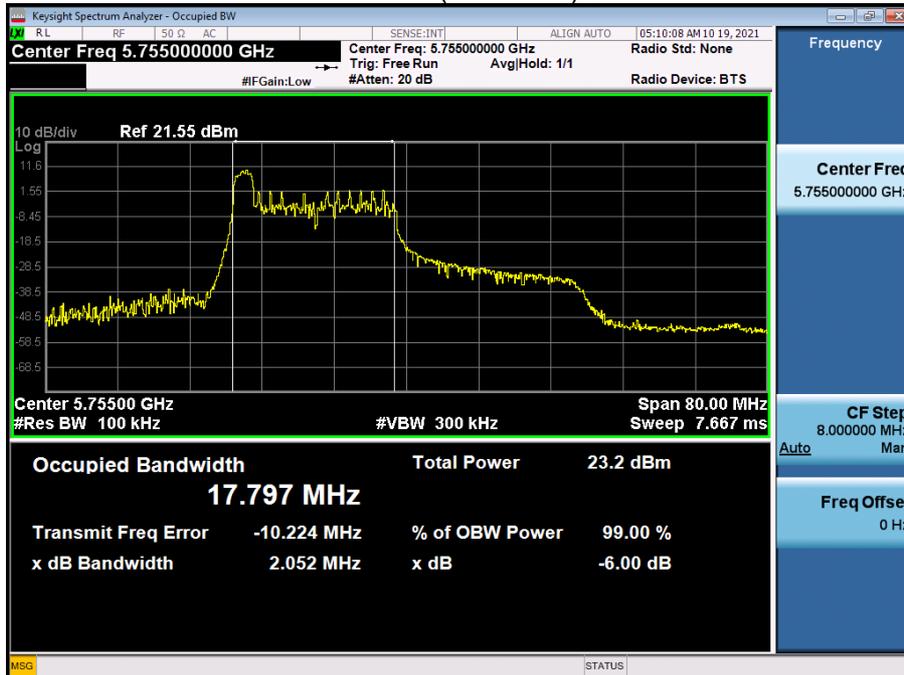
Bandwidth 40M Ch.159(5795 MHz) 26 Tones RU 17
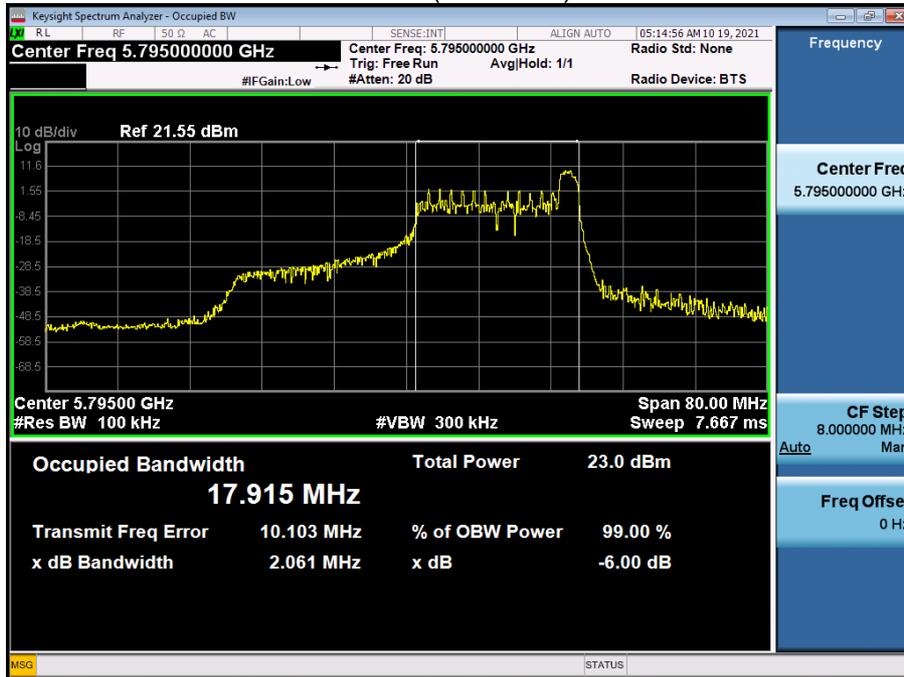
Bandwidth 80M Ch.155(5775 MHz) 26 Tones RU 0
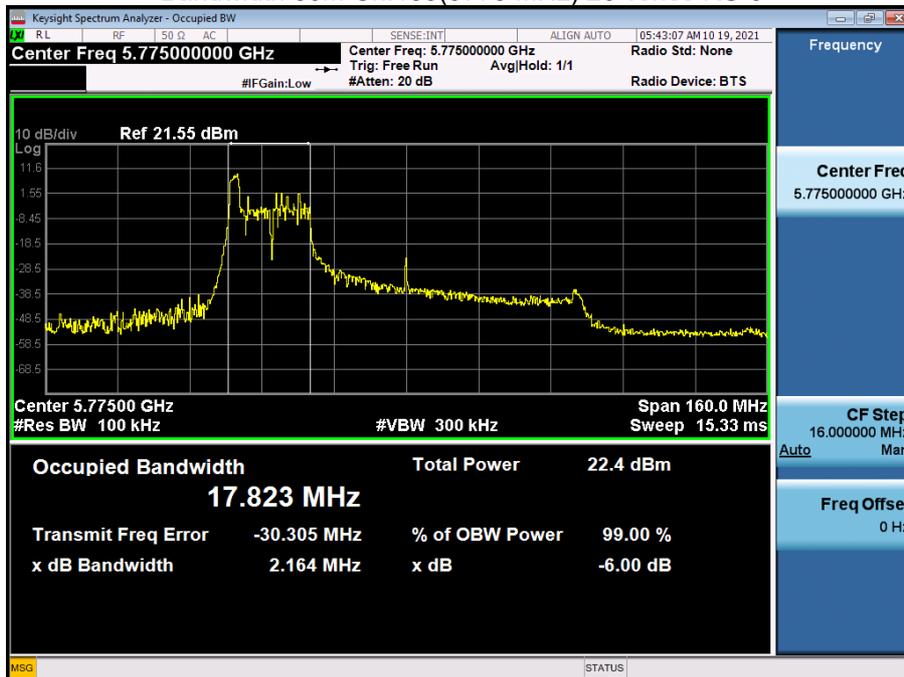
3.2 MIMO Ant2

Bandwidth 20M Ch.149(5745 MHz) 26 Tones RU 0
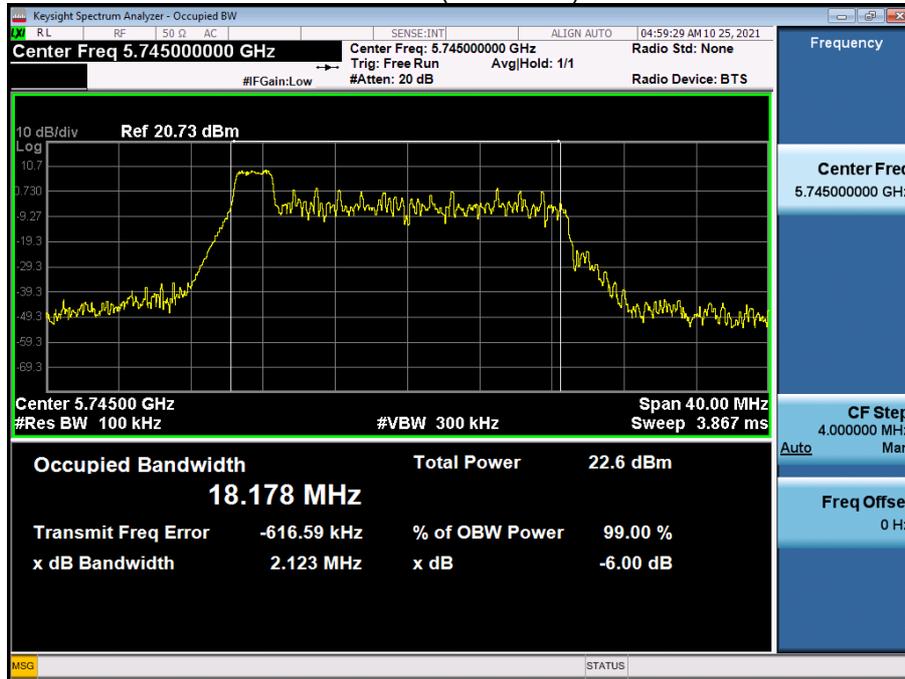
Bandwidth 20M Ch.157(5785 MHz) 26 Tones RU 0
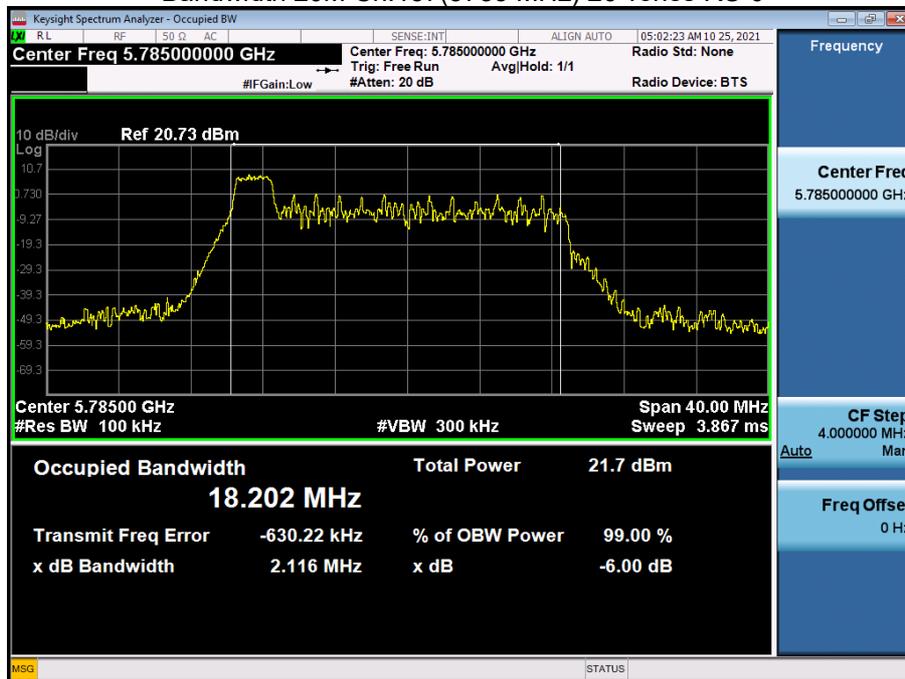
Bandwidth 20M Ch.165(5825 MHz) 26 Tones RU 8
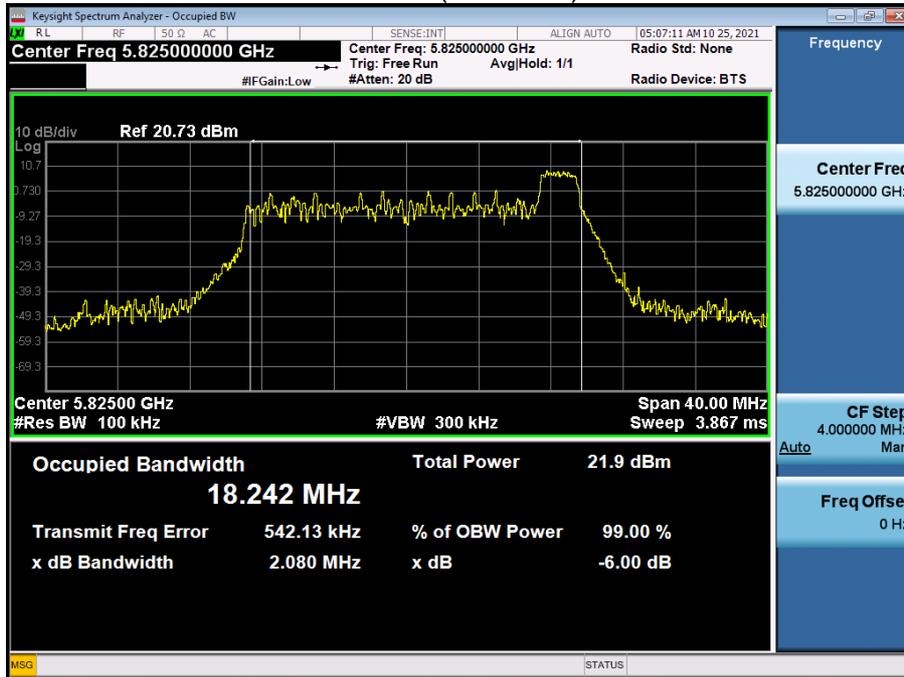
Bandwidth 40M Ch.151(5755 MHz) 26 Tones RU 17
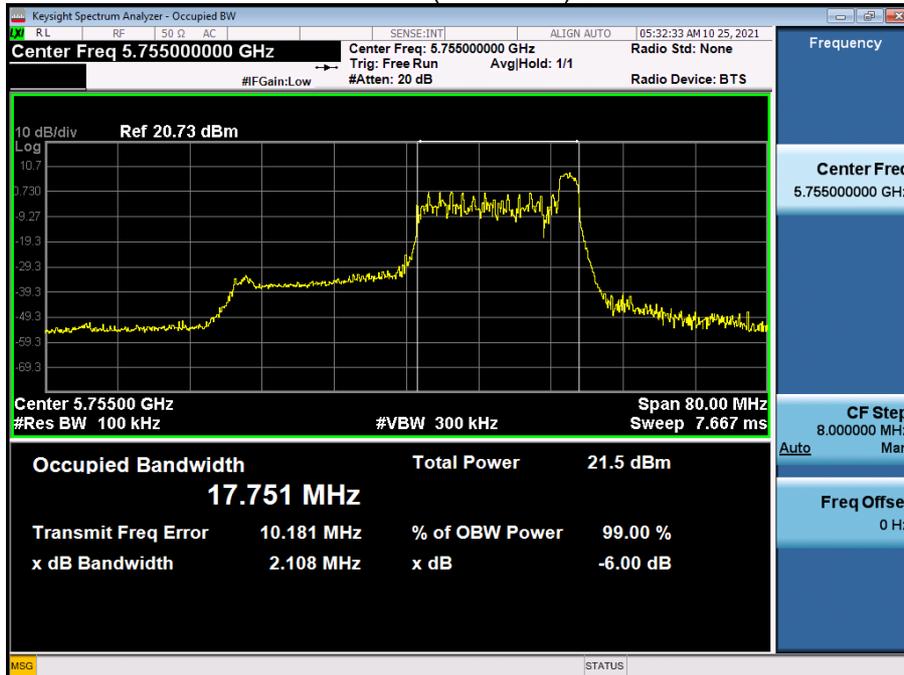
Bandwidth 40M Ch.159(5795 MHz) 26 Tones RU 17
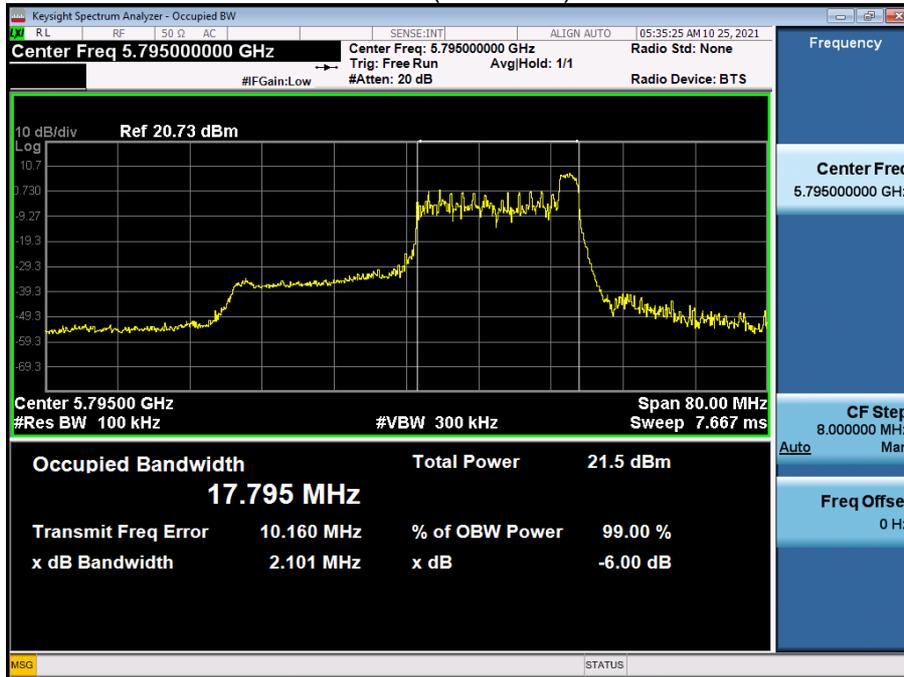
Bandwidth 80M Ch.155(5775 MHz) 26 Tones RU 36
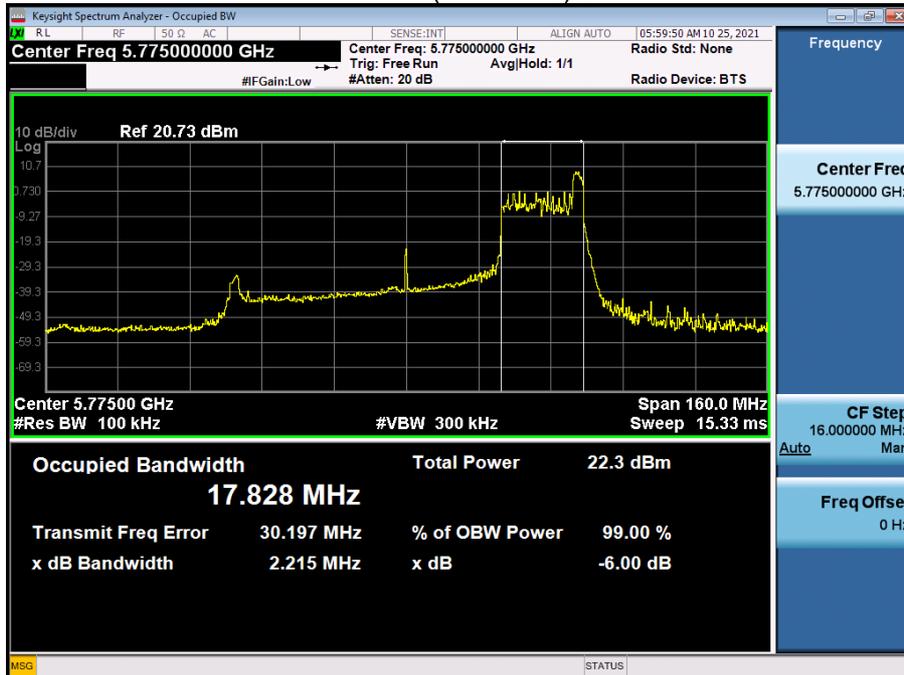
4. Power Spectral Density

Note:
1. In order to simplify the report, attached plots were only channel of highest PSD.

4.1 SUM (MIMO Ant 1 + MIMO Ant 2)

Bandwidth 20M Ch.144(5720 MHz) 52 Tones RU 38	
Ant1	**Ant2**
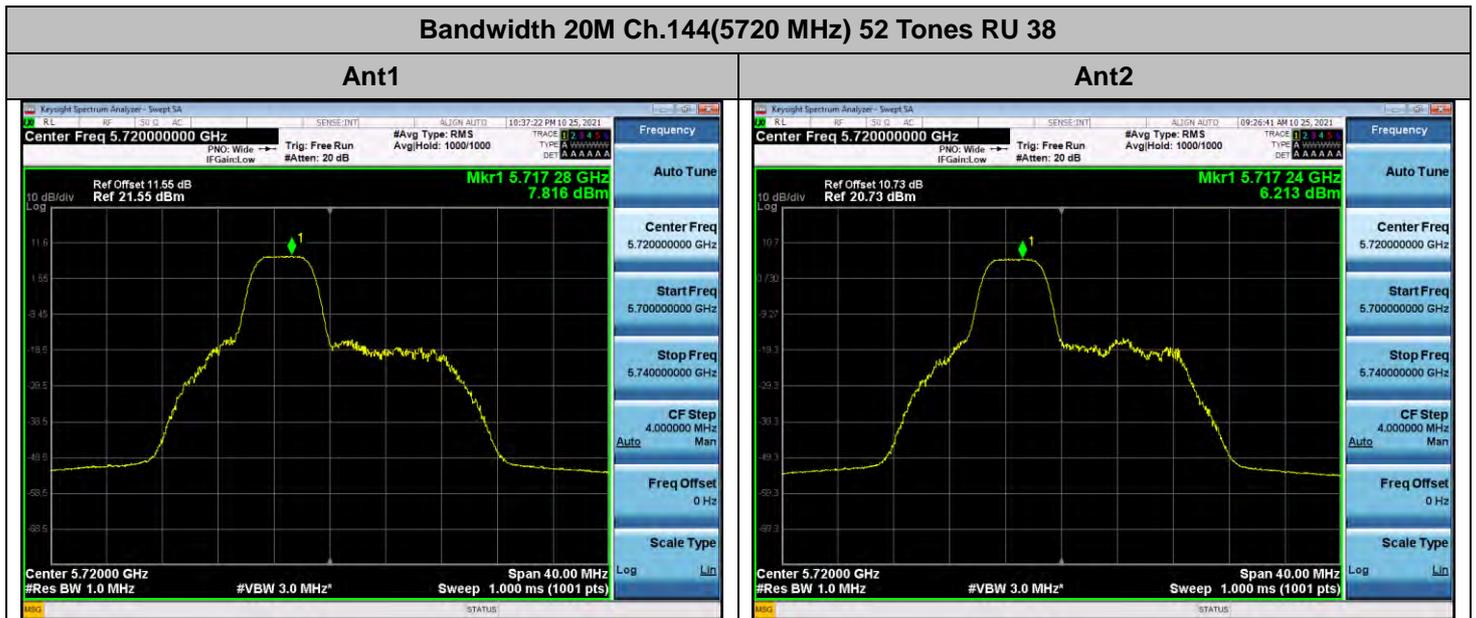
SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
10.098	0.163	10.261

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

Bandwidth 20M Ch.157 (5785 MHz) 52 Tones RU 38	
Ant1	**Ant2**

SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
9.493	0.163	9.656

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

Bandwidth 40M Ch.142 (5710 MHz) 106 Tones RU 54

Ant1	Ant2

SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
10.051	0.322	10.373

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

Bandwidth 40M Ch.159 (5795 MHz) 52 Tones RU 41

Ant1	Ant2

SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
8.726	0.163	8.889

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

Bandwidth 80M Ch.138 (5690 MHz) 26 Tones RU 0

Ant1	Ant2
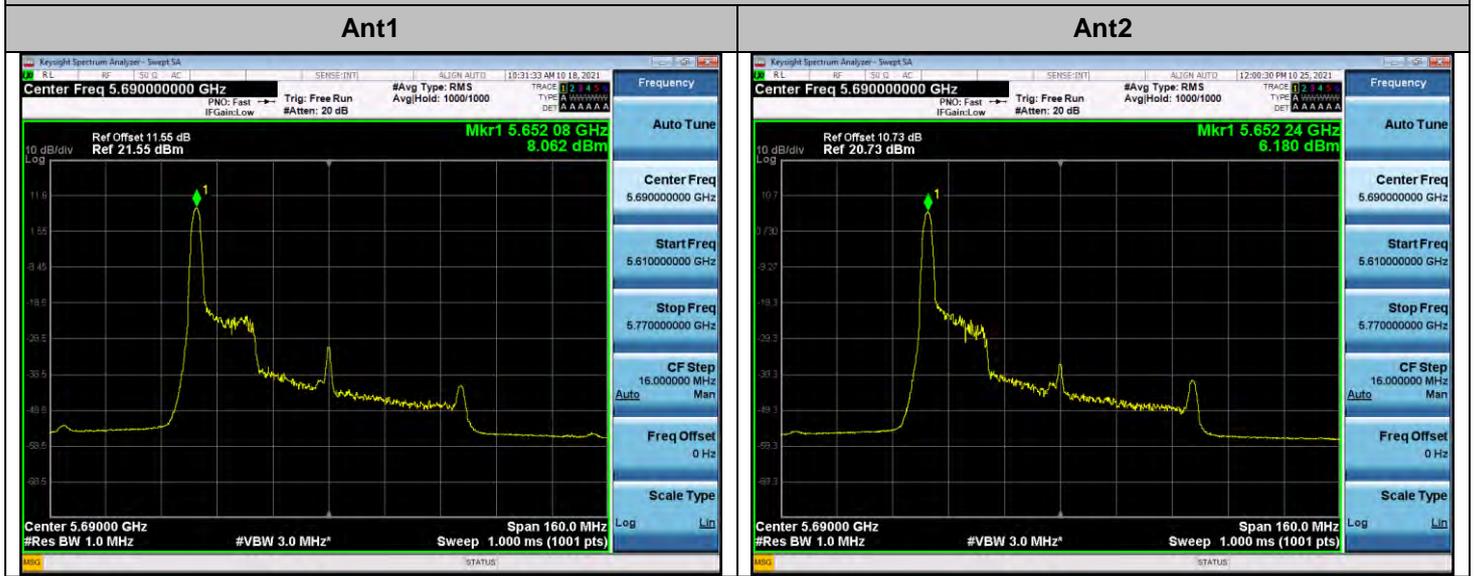
SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
10.231	0.000	10.231

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

Bandwidth 80M Ch.155 (5775 MHz) 52 Tones RU 45	
Ant1	Ant2

SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
10.102	0.163	10.265

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

5. Straddle Channel
5.1 26 dB Bandwidth

Note:
1. In order to simplify the report, attached plots were only the most wide channel.

5.1.1 MIMO Ant1

(26 dB) Bandwidth 20M Ch.144(5720 MHz) SU

UNII 2C	Straddle Frequency [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5725	5703.28	21.72

Note:
1. [UNII 2C] 26 dB Bandwidth = 5725 MHz - Measured Frequency[MHz]

(26 dB) Bandwidth 20M Ch.144(5720 MHz) 242 Tones RU 61

UNII 3	Measured Frequency [MHz]	Straddle Frequency [MHz]	26dB Bandwidth [MHz]
	5737.24	5725	12.24

Note:
1. [UNII 3] 26 dB Bandwidth = Measured Frequency[MHz] -5725 MHz

(26 dB) Bandwidth 40M Ch.142(5710 MHz) 484 Tones RU 65
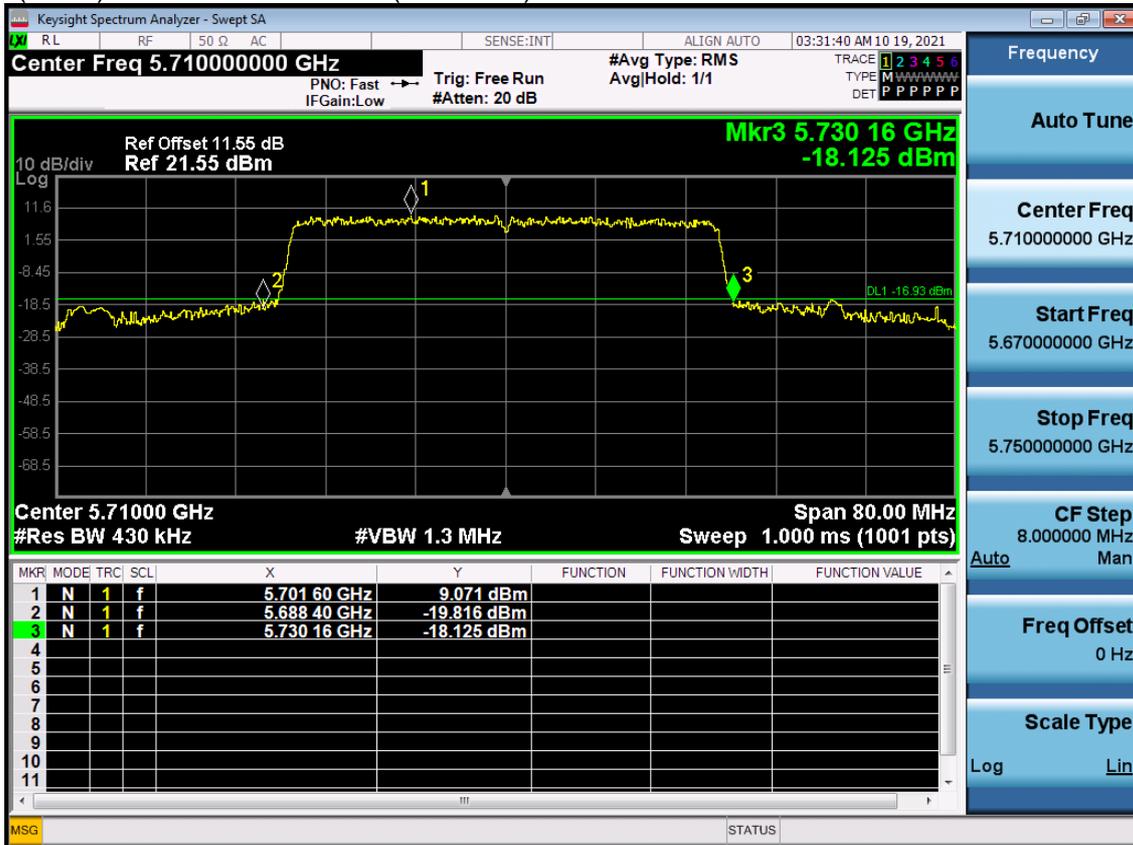
UNII 2C	Straddle Frequency [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5725	5688.4	36.60

Note:
1. [UNII 2C] 26 dB Bandwidth = 5725 MHz - Measured Frequency[MHz]

(26 dB) Bandwidth 40M Ch.142(5710 MHz) SU
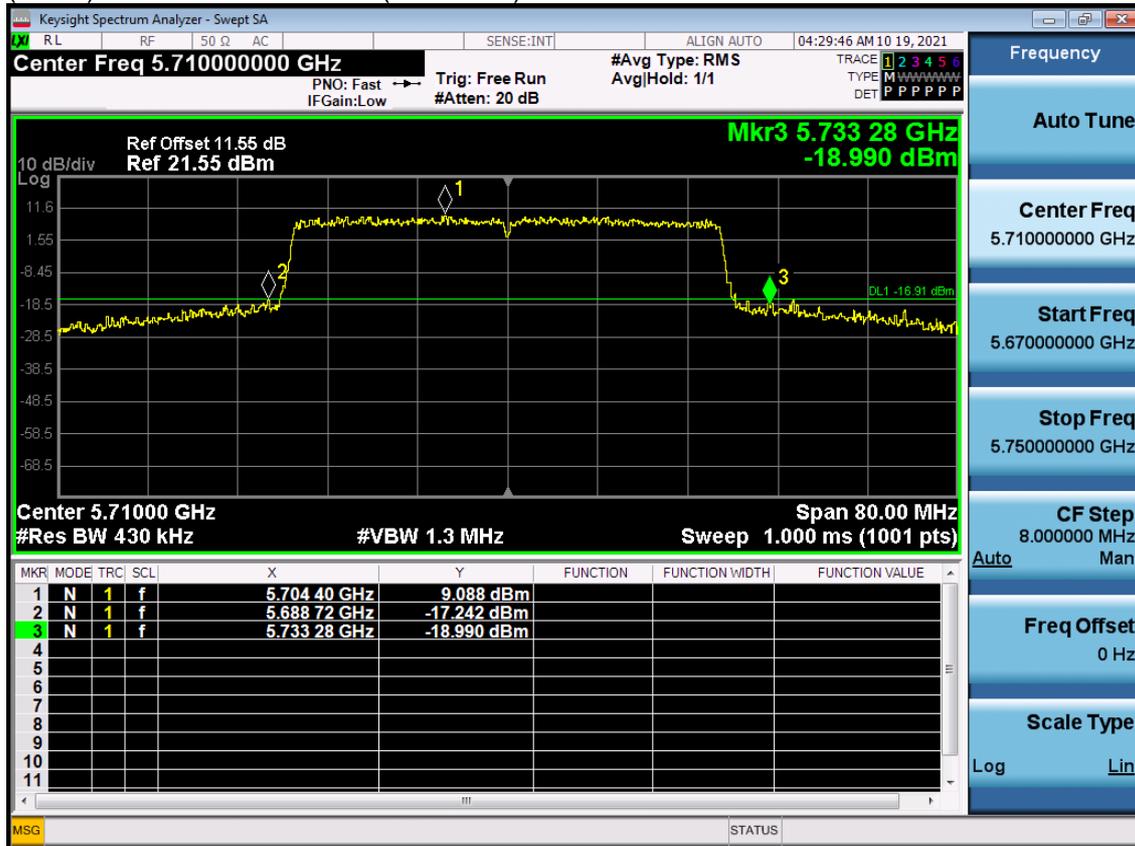
UNII 3	Measured Frequency [MHz]	Straddle Frequency [MHz]	26dB Bandwidth [MHz]
	5733.28	5725	8.28

Note:
1. [UNII 3] 26 dB Bandwidth = Measured Frequency[MHz] -5725 MHz

(26 dB) Bandwidth 80M Ch.138(5690 MHz) SU
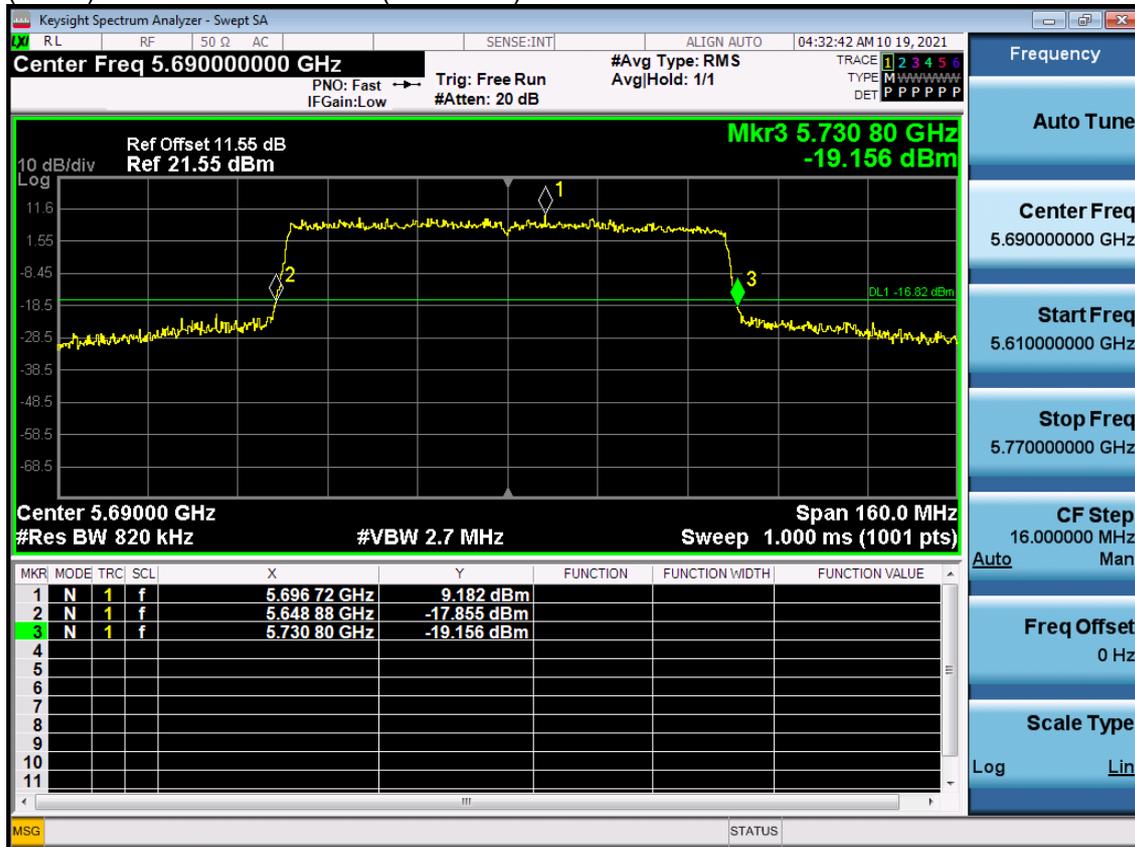
UNII 3	Straddle Frequency [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5725	5648.88	76.12

Note:
1. [UNII 2C] 26 dB Bandwidth = 5725 MHz - Measured Frequency[MHz]

(26 dB) Bandwidth 80M Ch.138(5690 MHz) 26 Tones RU 36

UNII 3	Measured Frequency [MHz]	Straddle Frequency [MHz]	26dB Bandwidth [MHz]
	5730.96	5725	5.96

Note:
1. [UNII 3] 26 dB Bandwidth = Measured Frequency[MHz] -5725 MHz

5.1.2 MIMO Ant2

(26 dB) Bandwidth 20M Ch.144(5720 MHz) 242 Tones RU 61
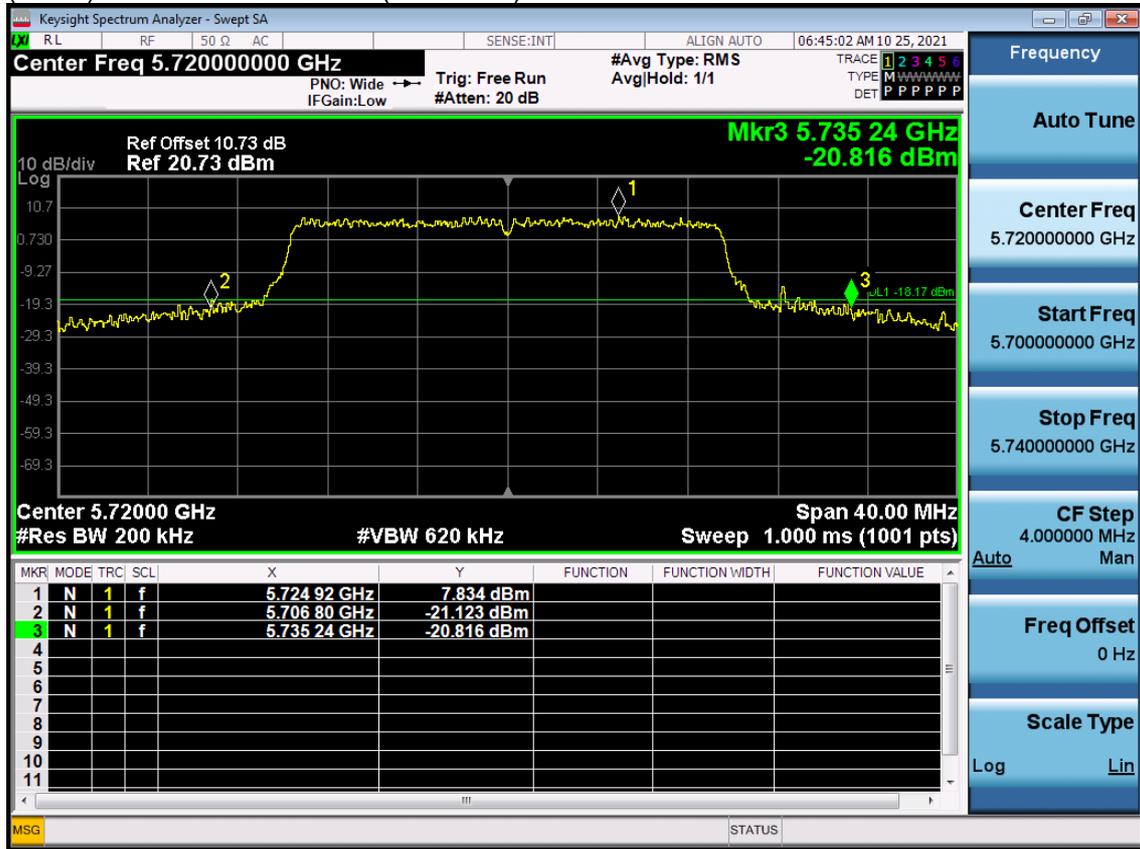
UNII 2C	Straddle Frequency [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5725	5706.8	18.20
UNII 3	Measured Frequency [MHz]	Straddle Frequency [MHz]	26dB Bandwidth [MHz]
	5735.24	5725	10.24

Note:
1. [UNII 2C] 26 dB Bandwidth = 5725 MHz - Measured Frequency[MHz]
2. [UNII 3] 26 dB Bandwidth = Measured Frequency[MHz] -5725 MHz

 (26 dB) Bandwidth 40M Ch.142(5710 MHz) SU

UNII 2C	Straddle Frequency [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5725	5689.76	35.24
UNII 3	Measured Frequency [MHz]	Straddle Frequency [MHz]	26dB Bandwidth [MHz]
	5730.16	5725	5.16

Note:
1. [UNII 2C] 26 dB Bandwidth = 5725 MHz - Measured Frequency[MHz]
2. [UNII 3] 26 dB Bandwidth = Measured Frequency[MHz] -5725 MHz

(26 dB) Bandwidth 80M Ch.138(5690 MHz) SU
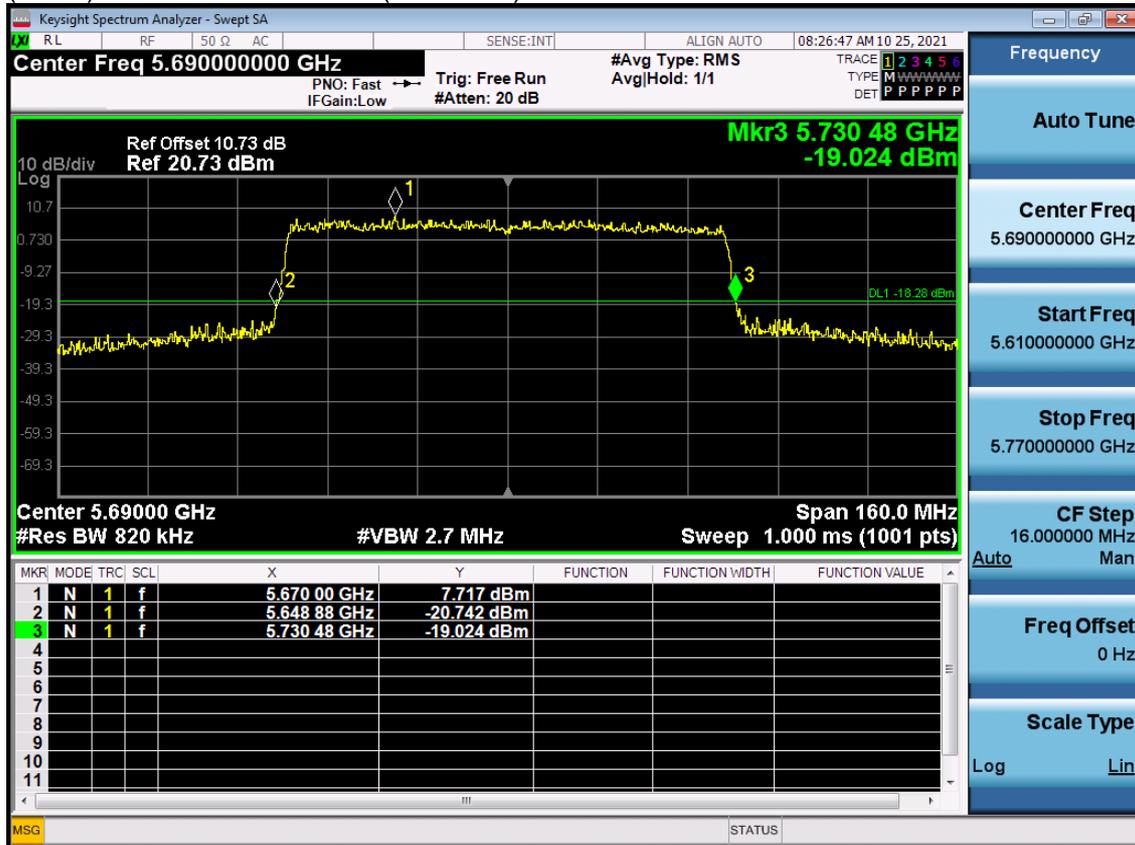
UNII 2C	Straddle Frequency [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5725	5648.88	76.12

Note:
1. [UNII 2C] 26 dB Bandwidth = 5725 MHz - Measured Frequency[MHz]

(26 dB) Bandwidth 80M Ch.138(5690 MHz) 52 Tones RU 52
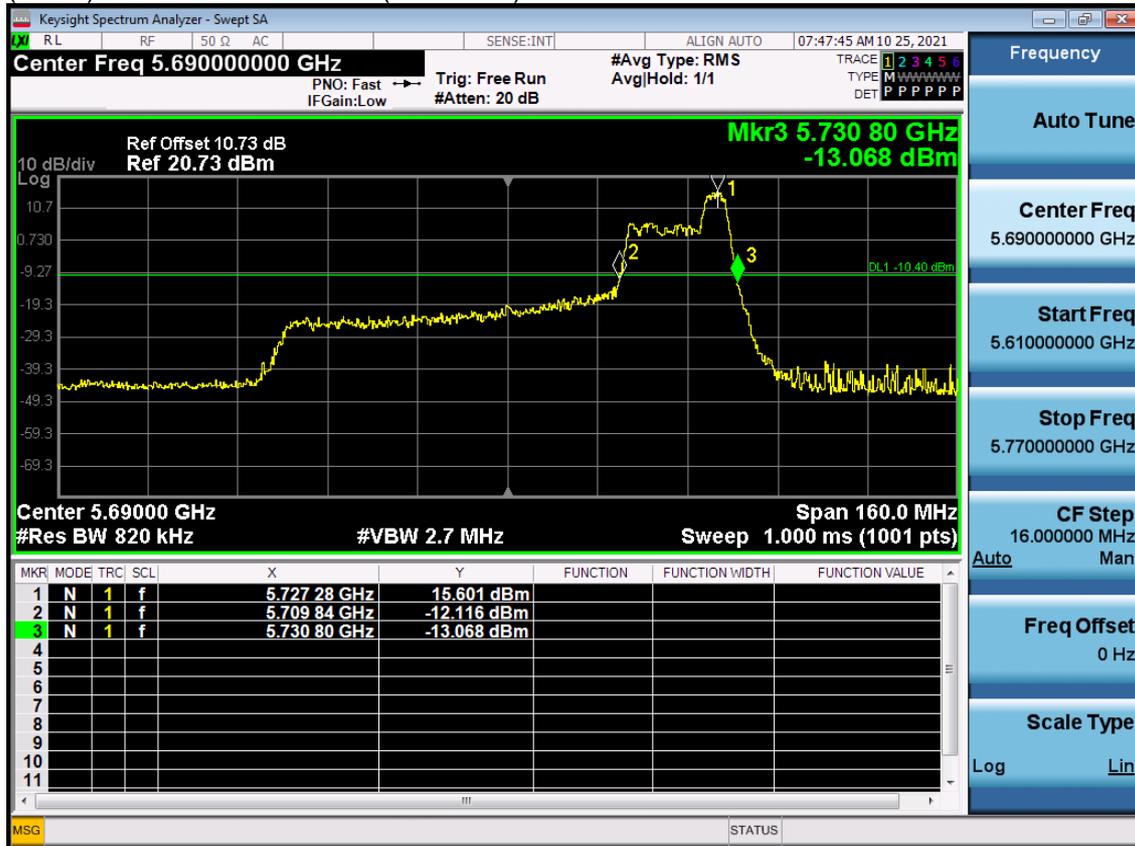
UNII 3	Measured Frequency [MHz]	Straddle Frequency [MHz]	26dB Bandwidth [MHz]
	5730.8	5725	5.80

Note:
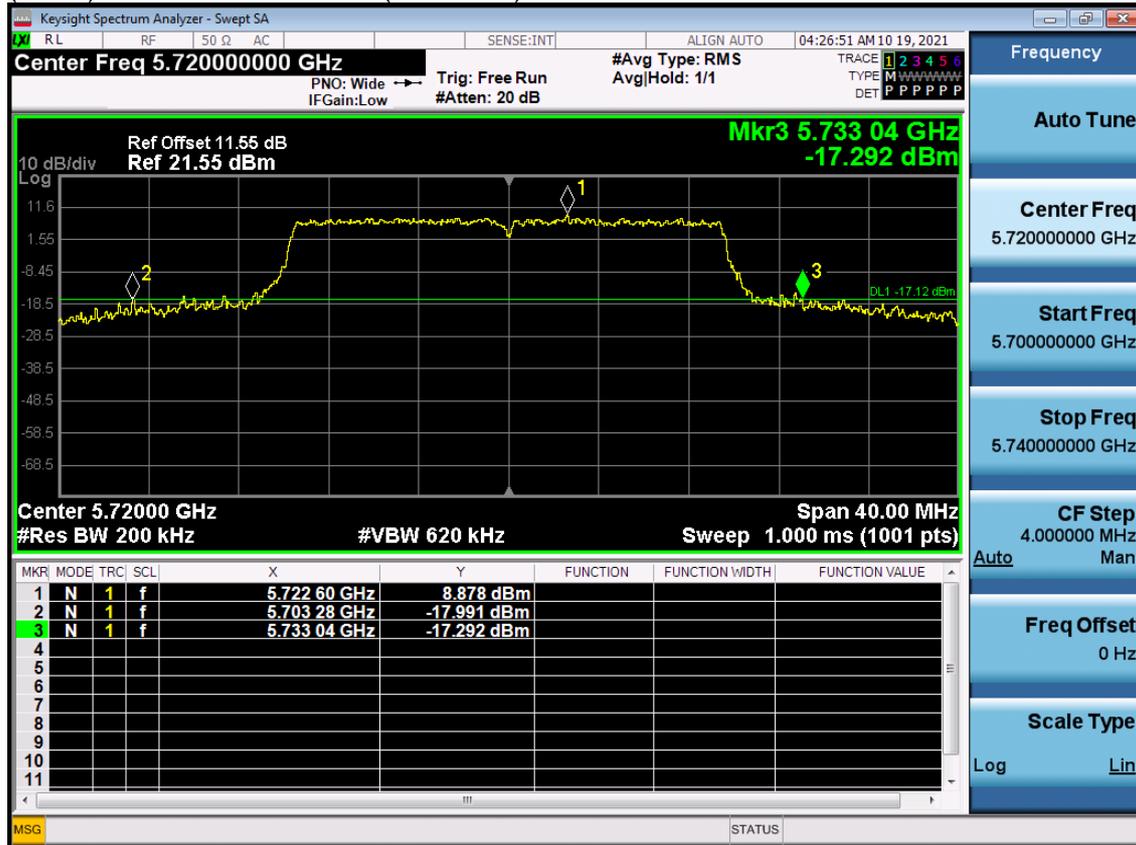1. [UNII 3] 26 dB Bandwidth = Measured Frequency[MHz] -5725 MHz

5.2 6 dB Bandwidth

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

5.2.1 MIMO Ant1

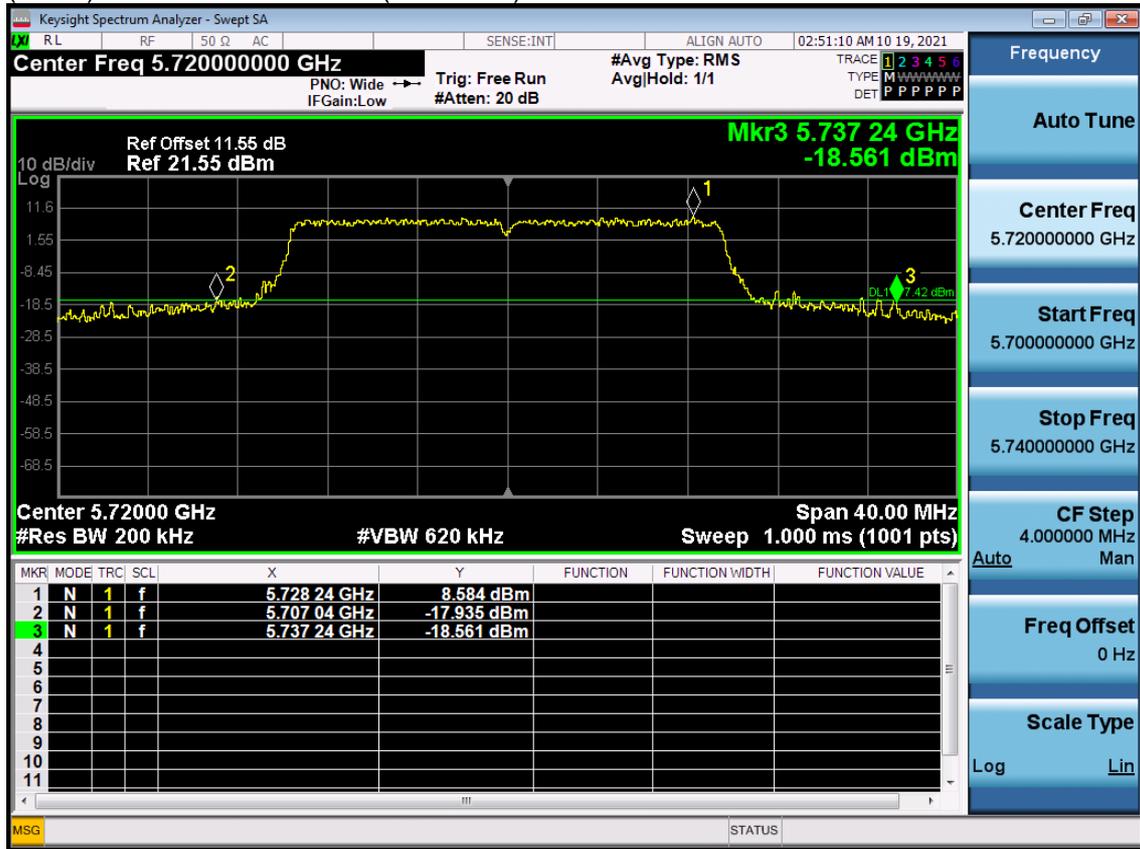(6 dB) Bandwidth 20M Ch.144(5720 MHz) 26 Tones RU 7
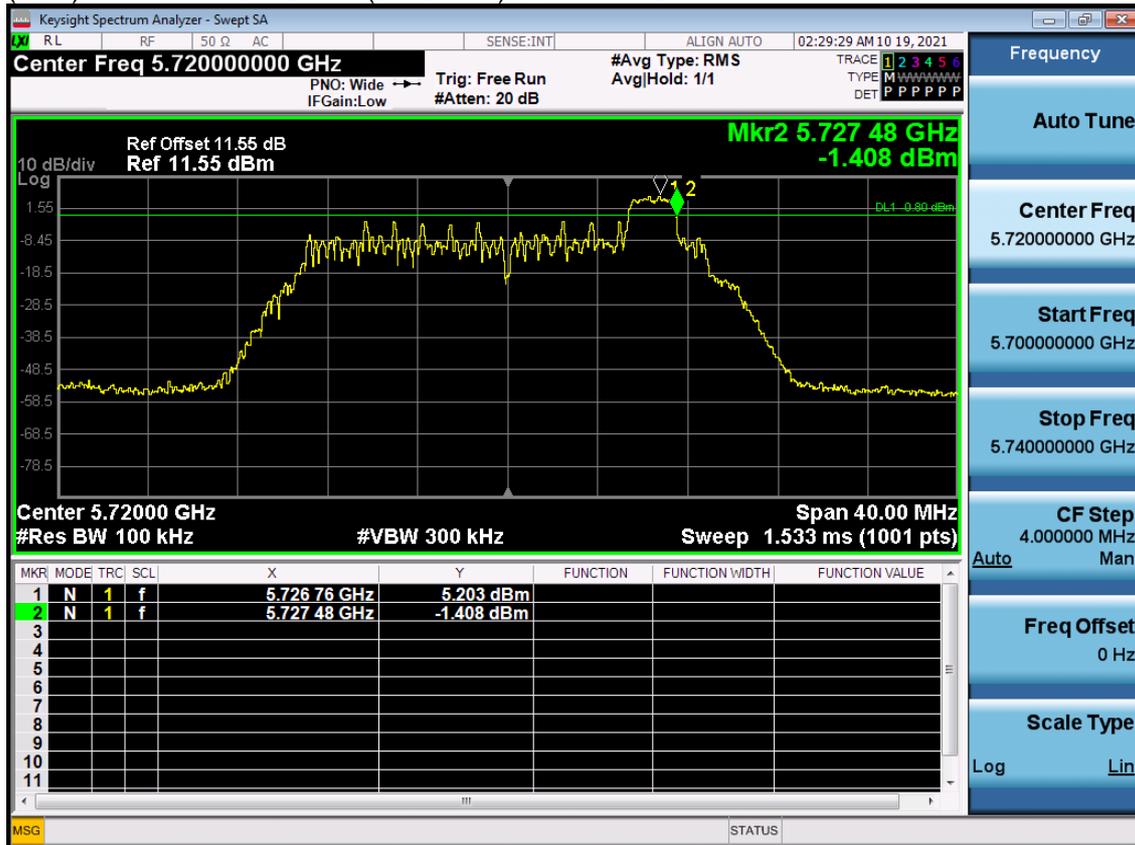
Measured Frequency [MHz]	Straddle Frequency [MHz]	6dB Bandwidth [MHz]
5727.48	5725	2.48

Note:
6 dB Bandwidth = Measured Frequency[MHz] – 5725 MHz

(6 dB) Bandwidth 40M Ch.142(5710 MHz) 26 Tones RU 16

Measured Frequency [MHz]	Straddle Frequency [MHz]	6dB Bandwidth [MHz]
5727.04	5725	2.04

Note:
6 dB Bandwidth = Measured Frequency[MHz] – 5725 MHz

(6 dB) Bandwidth 80M Ch.138(5690 MHz) 26 Tones RU 35

Measured Frequency [MHz]	Straddle Frequency [MHz]	6dB Bandwidth [MHz]
5727.12	5725	2.12

Note:
6 dB Bandwidth = Measured Frequency[MHz] – 5725 MHz

5.2.2 MIMO Ant2

(6 dB) Bandwidth 20M Ch.144(5720 MHz) 26 Tones RU 7

Measured Frequency [MHz]	Straddle Frequency [MHz]	6dB Bandwidth [MHz]
5727.48	5725	2.48

Note:
6 dB Bandwidth = Measured Frequency[MHz] – 5725 MHz

(6 dB) Bandwidth 40M Ch.142(5710 MHz) 26 Tones RU 16

Measured Frequency [MHz]	Straddle Frequency [MHz]	6dB Bandwidth [MHz]
5727.12	5725	2.12

Note:
6 dB Bandwidth = Measured Frequency[MHz] – 5725 MHz

(6 dB) Bandwidth 80M Ch.138(5690 MHz) 26 Tones RU 35

Measured Frequency [MHz]	Straddle Frequency [MHz]	6dB Bandwidth [MHz]
5727.12	5725	2.12

Note:
6 dB Bandwidth = Measured Frequency[MHz] – 5725 MHz

5.3 Output Power

Note:
1. In order to simplify the report, attached plots were only channel of highest Power.

5.3.1 MIMO Ant1

(UNII 2C) Bandwidth 20M Ch.144(5720 MHz) 242 Tones RU 61
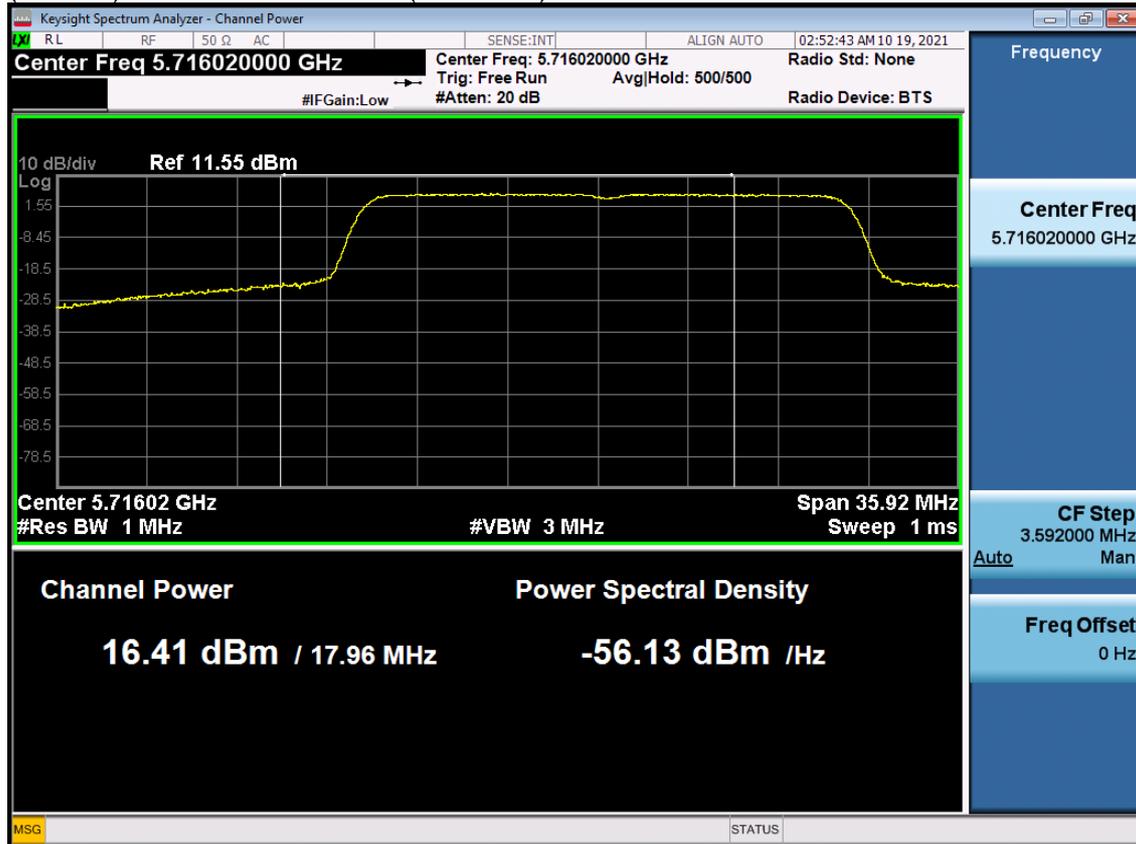
Measured Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
16.41	0.677	17.09

Note:
Total Power (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 3) Bandwidth 20M Ch.144(5720 MHz) 106 Tones RU 54
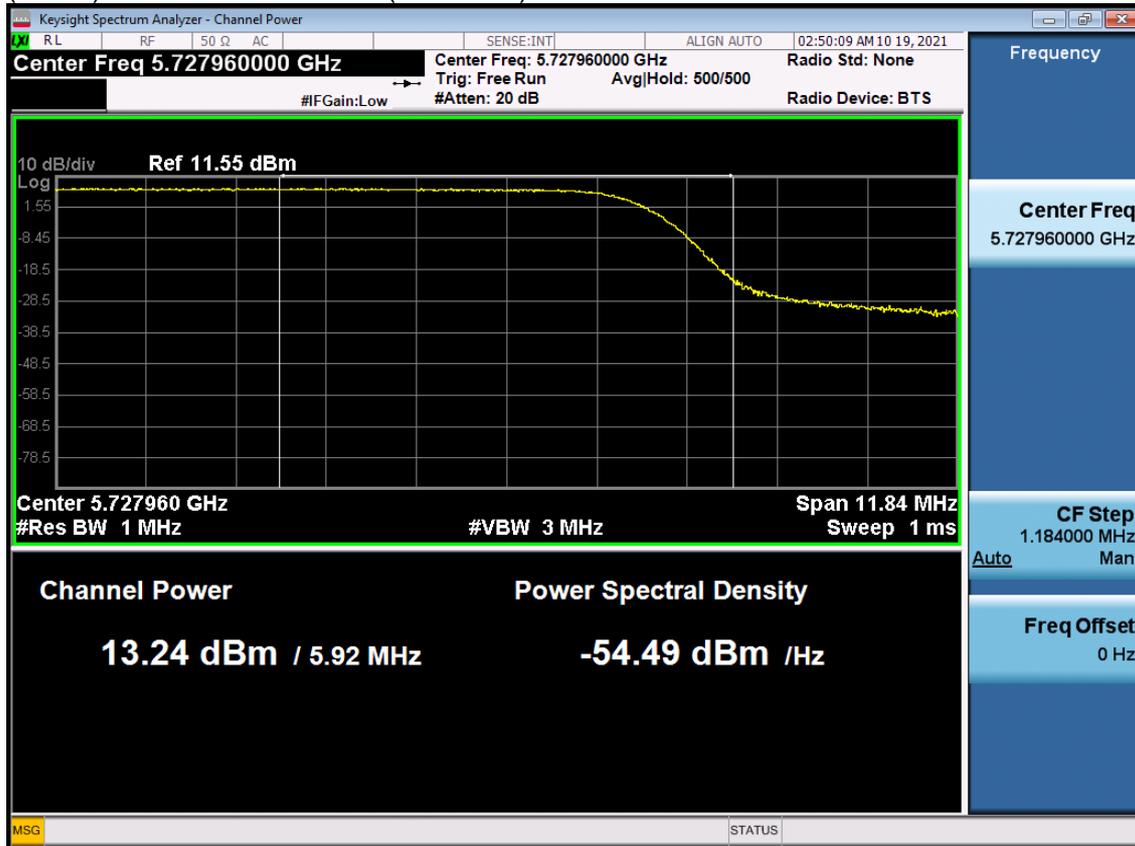
Measured Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
13.24	0.330	13.57

Note:
Total Power (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 2C) Bandwidth 40M Ch.142(5710 MHz) SU

Measured Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
16.19	1.132	17.32

Note:
Total Power (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 3) Bandwidth 40M Ch.142(5710 MHz) 106 Tones RU 56

Measured Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
12.33	0.322	12.65

Note:
Total Power (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 2C) Bandwidth 80M Ch.138(5690 MHz) 242 Tones RU 63

Measured Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
16.28	0.659	16.94

Note:
Total Power (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 3) Bandwidth 80M Ch.138(5690 MHz) 52 Tones RU 52

Measured Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
12.62	0.163	12.78

Note:
Total Power (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

5.3.2 MIMO Ant2

(UNII 2C) Bandwidth 20M Ch.144(5720 MHz) SU

Measured Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
15.30	0.672	15.97

Note:
Total Power (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 3) Bandwidth 20M Ch.144(5720 MHz) 106 Tones RU 54
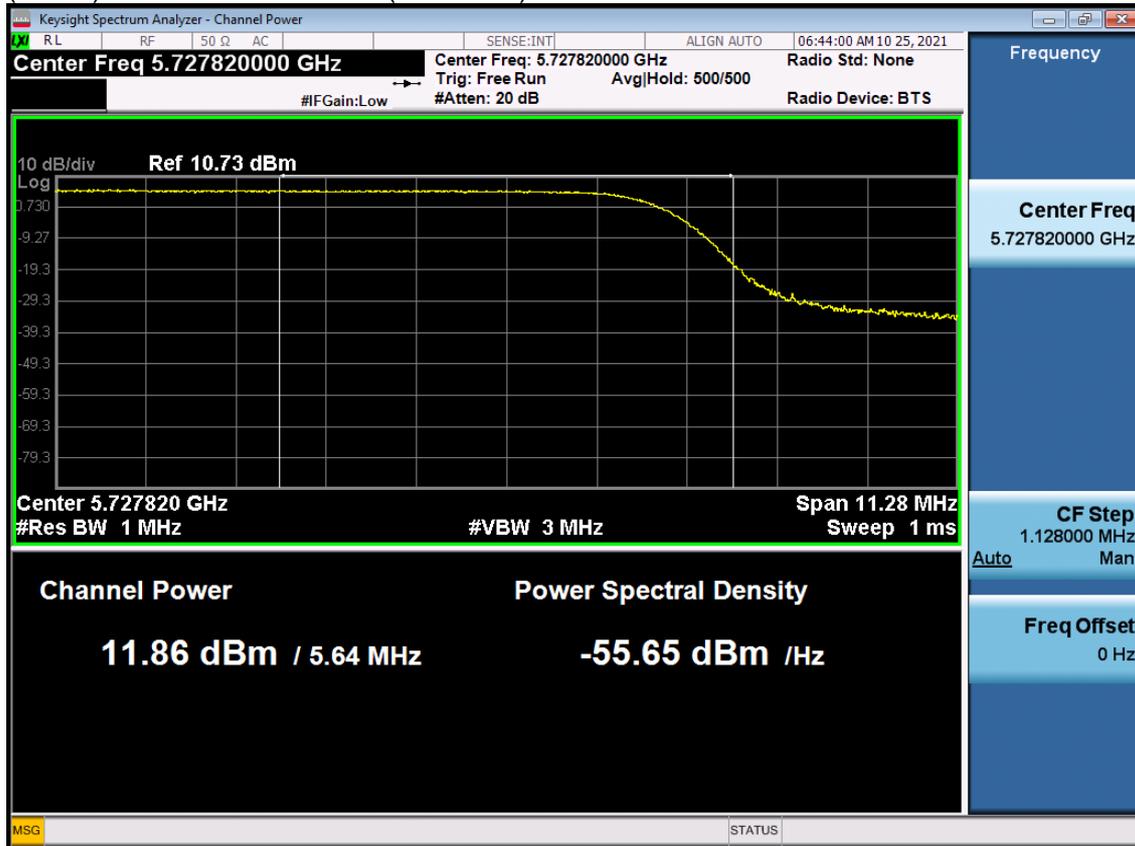
Measured Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
11.86	0.330	12.19

Note:
Total Power (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 2C) Bandwidth 40M Ch.142(5710 MHz) SU

Measured Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
14.67	1.132	15.80

Note:
Total Power (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)
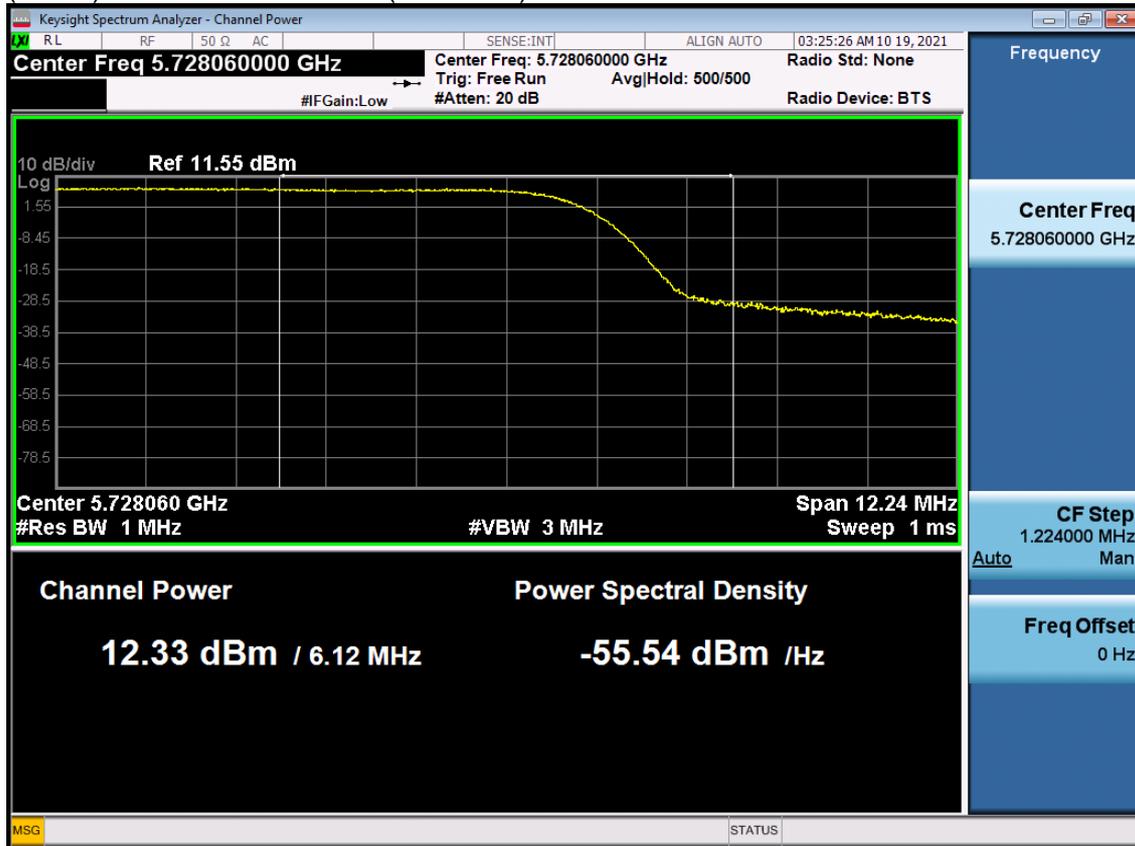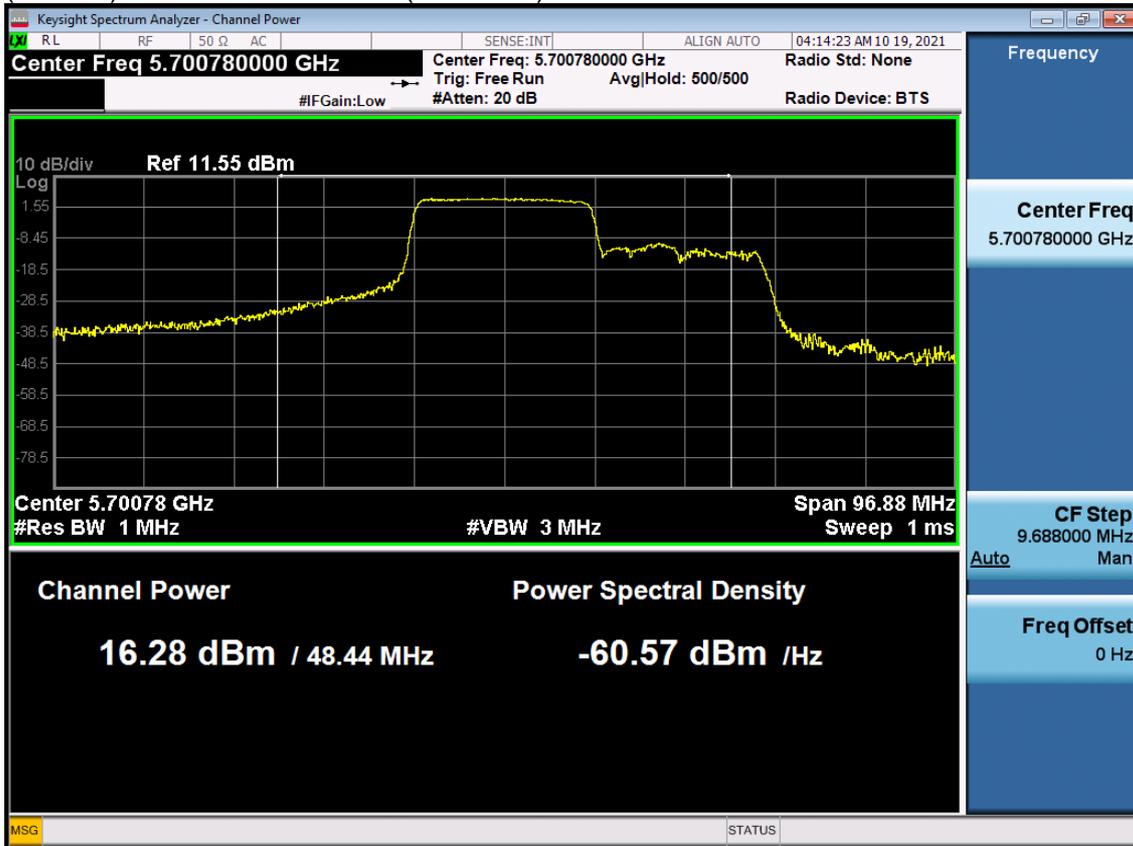
(UNII 3) Bandwidth 40M Ch.142(5710 MHz) 106 Tones RU 56
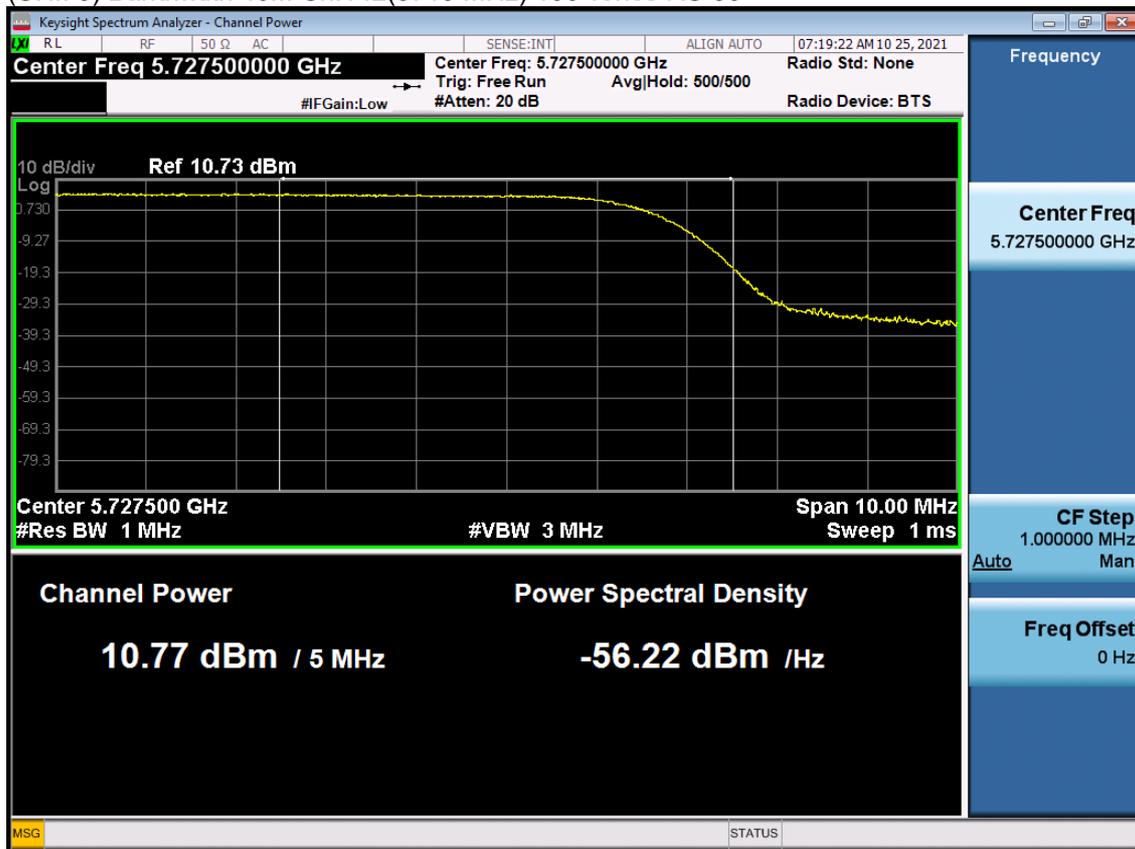
Measured Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
10.77	0.322	11.09

Note:
Total Power (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)
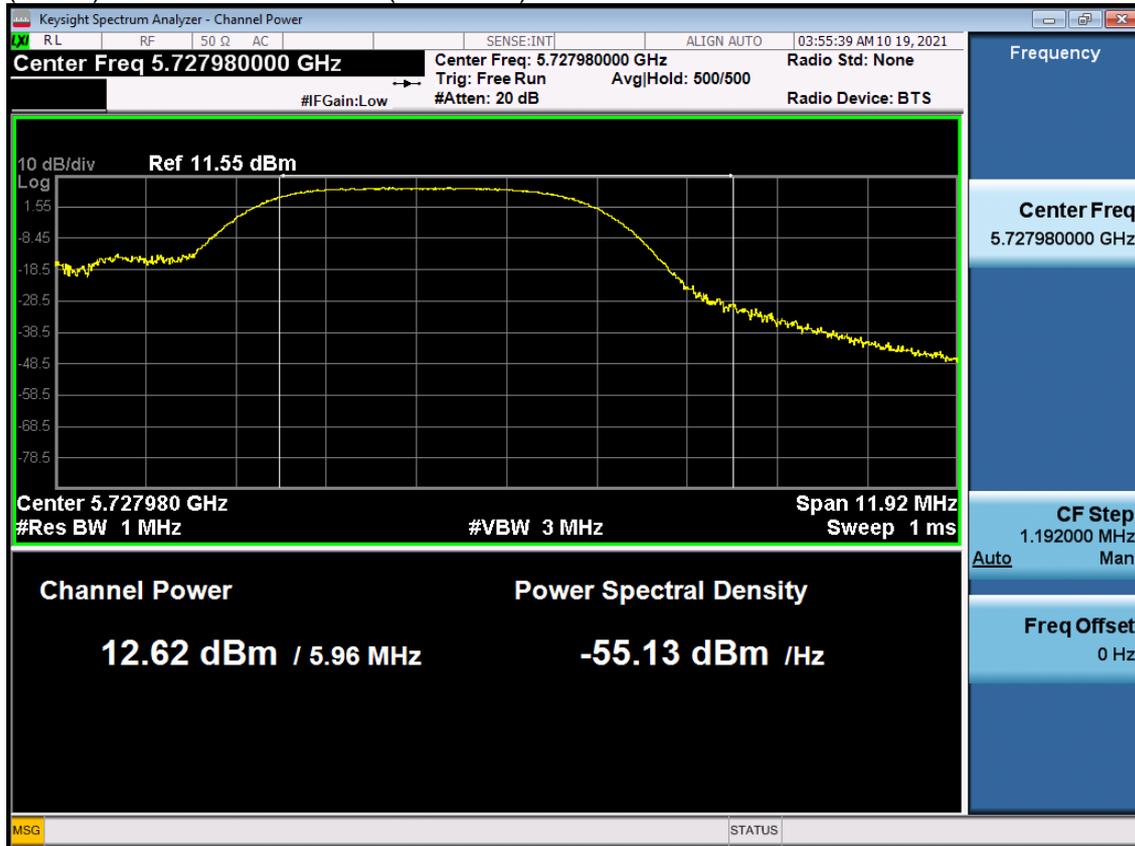
(UNII 2C) Bandwidth 80M Ch.138(5690 MHz) 242 Tones RU 63

Measured Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
14.93	0.659	15.59

Note:
Total Power (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)
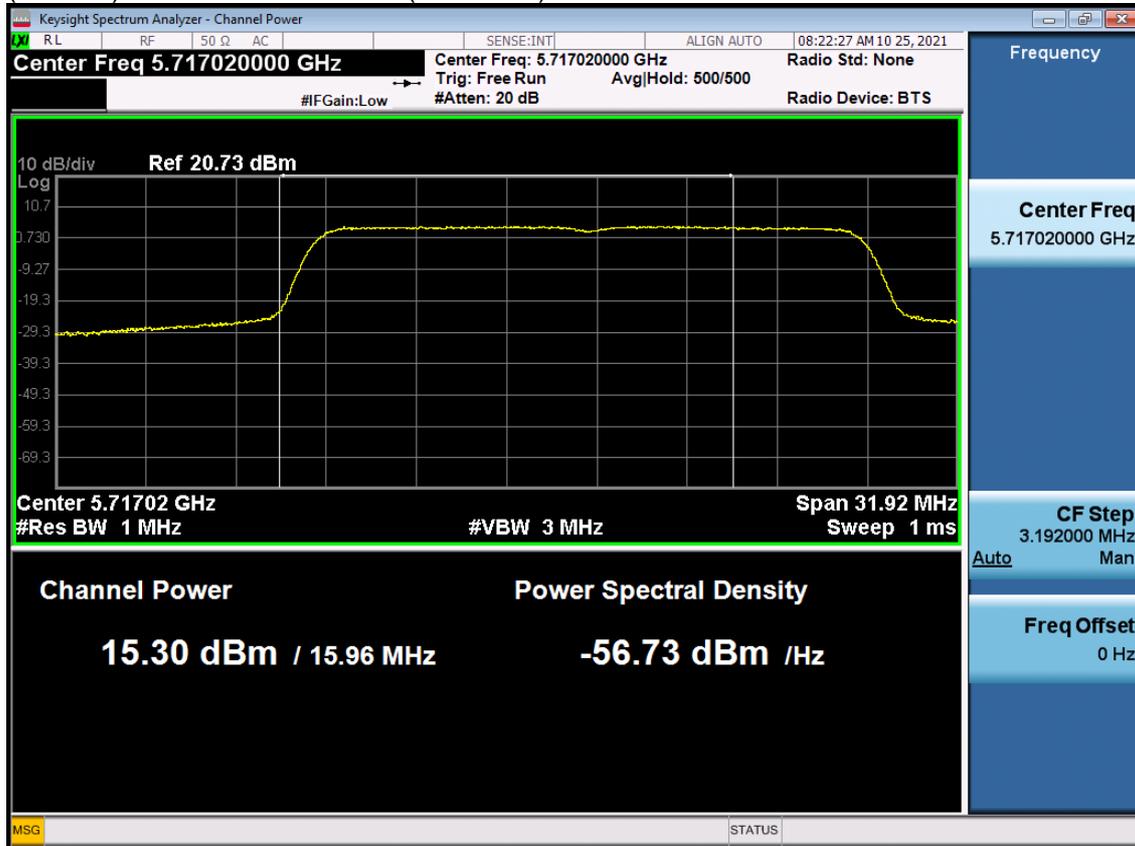
(UNII 3) Bandwidth 80M Ch.138(5690 MHz) 106 Tones RU 60

Measured Value (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)
10.74	0.330	11.07

Note:
Total Power (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

5.4 Power Spectral Density

Note:
1. In order to simplify the report, attached plots were only channel of highest PSD.

5.4.1 MIMO Ant1

(UNII 2C) Bandwidth 20M Ch.144(5720 MHz) 52 Tones RU 37

Measured Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
8.103	0.163	8.266

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)
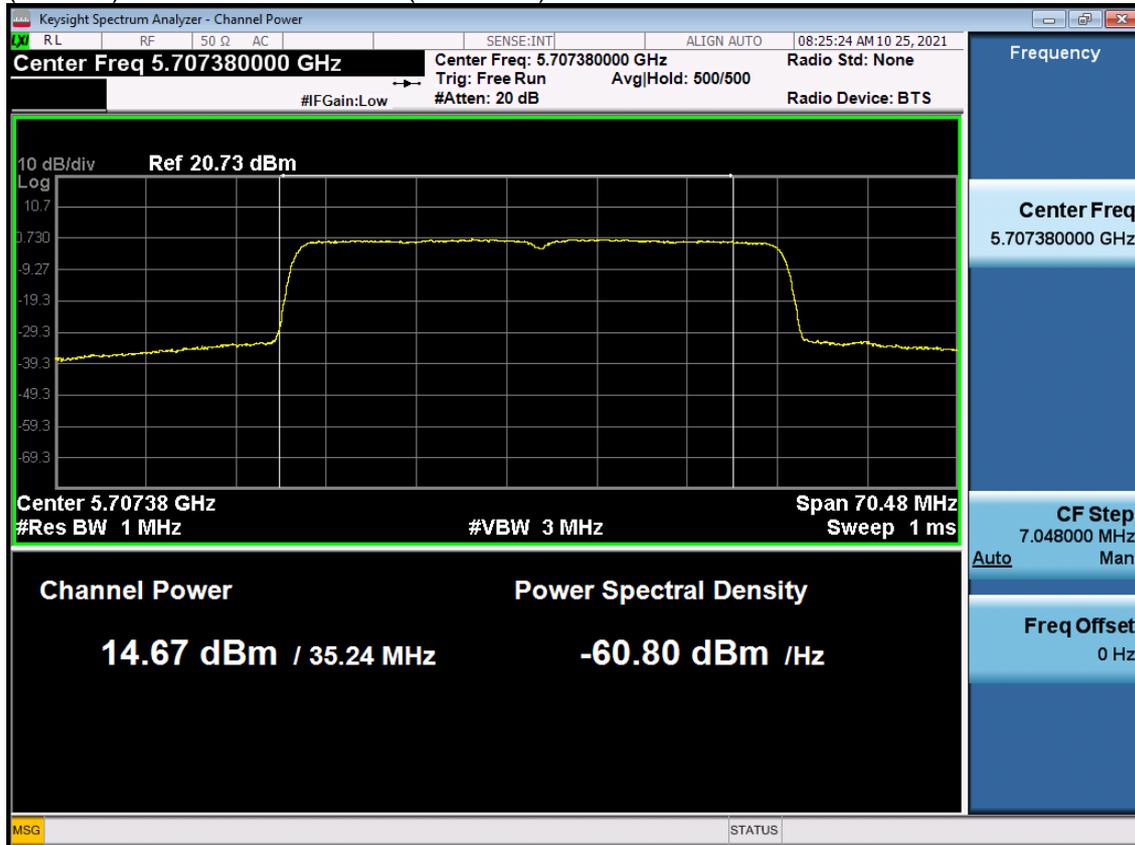
(UNII 3) Bandwidth 20M Ch.144(5720 MHz) 52 Tones RU 40
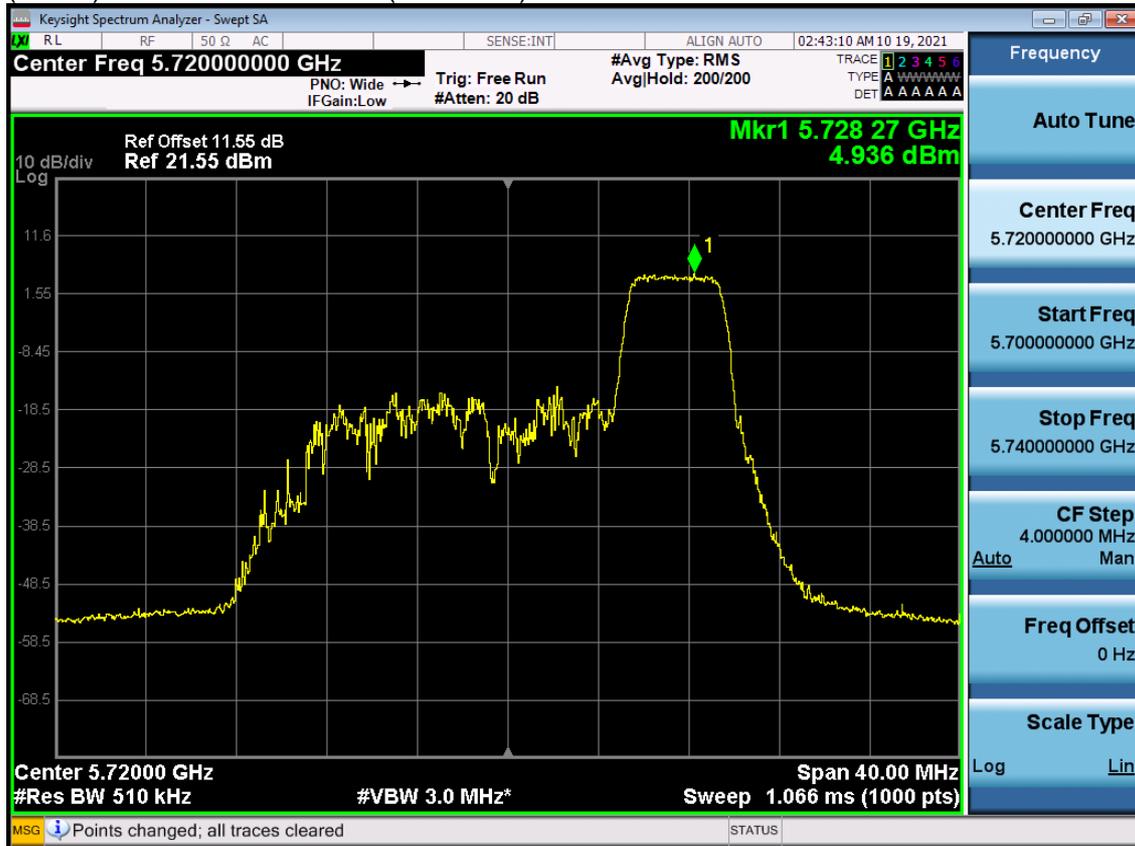
Measured Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
4.936	0.163	5.099

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 2C) Bandwidth 40M Ch.142(5710 MHz) 106 Tones RU 55

Measured Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
8.064	0.322	8.386

Note:

Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 3) Bandwidth 40M Ch.142(5710 MHz) 52 Tones RU 44

Measured Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
4.657	0.163	4.820

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)
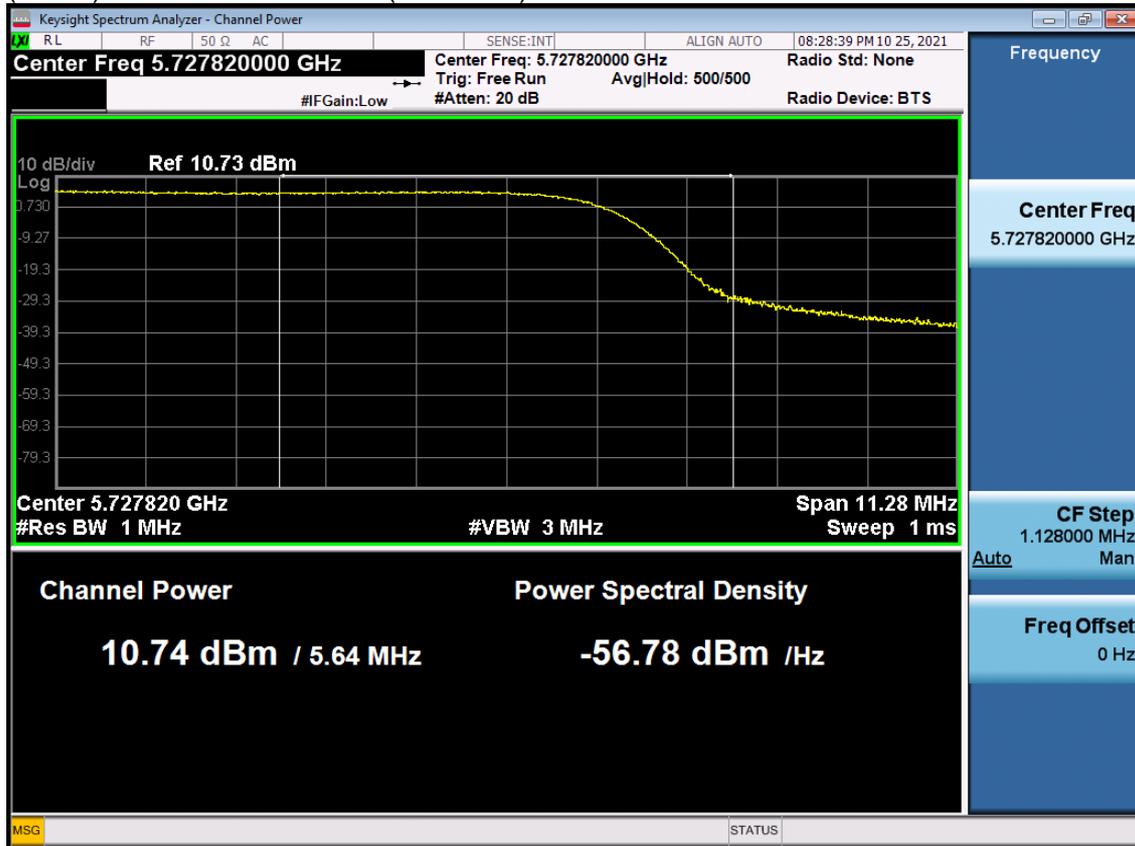
(UNII 2C) Bandwidth 80M Ch.138(5690 MHz) 52 Tones RU 51

Measured Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
7.630	0.163	7.793

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 3) Bandwidth 80M Ch.138(5690 MHz) 26 Tones RU 36
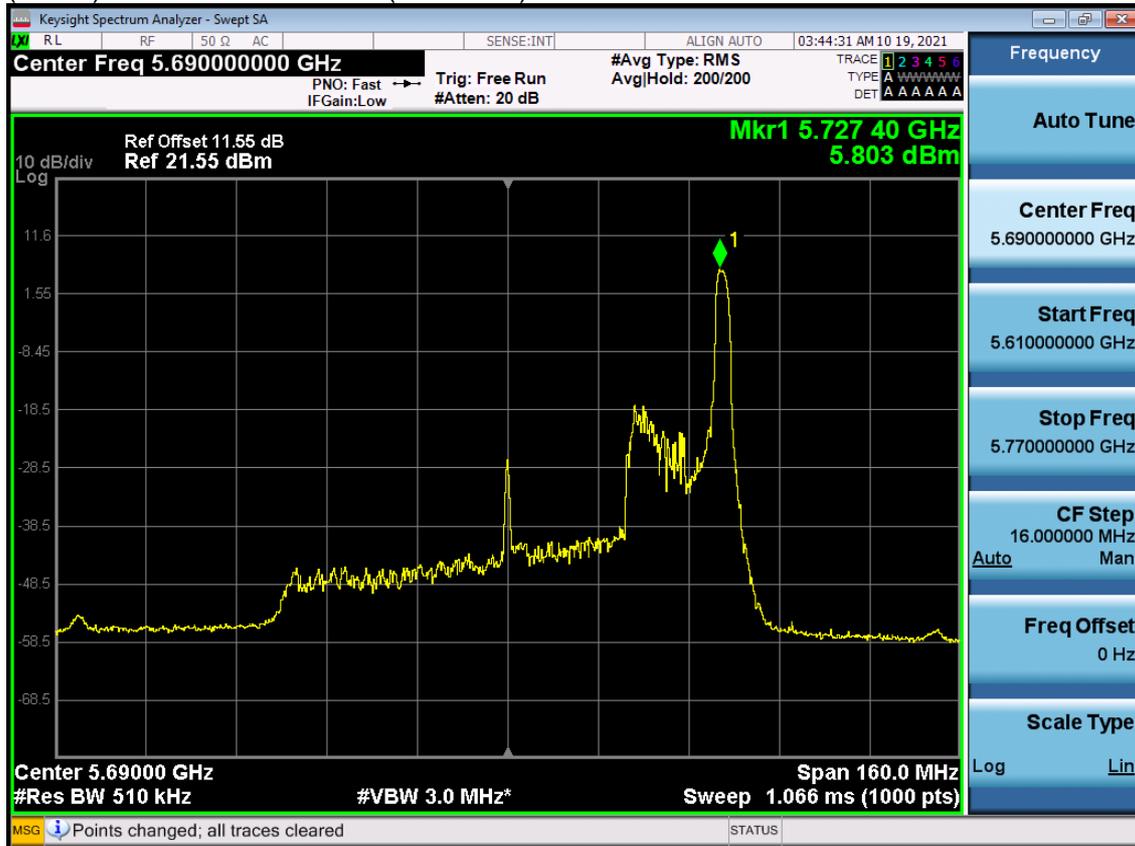
Measured Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
5.803	0.000	5.803

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

5.4.2 MIMO Ant2

(UNII 2C) Bandwidth 20M Ch.144(5720 MHz) 106 Tones RU 54

Measured Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
6.372	0.330	6.702

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 3) Bandwidth 20M Ch.144(5720 MHz) 106 Tones RU 54

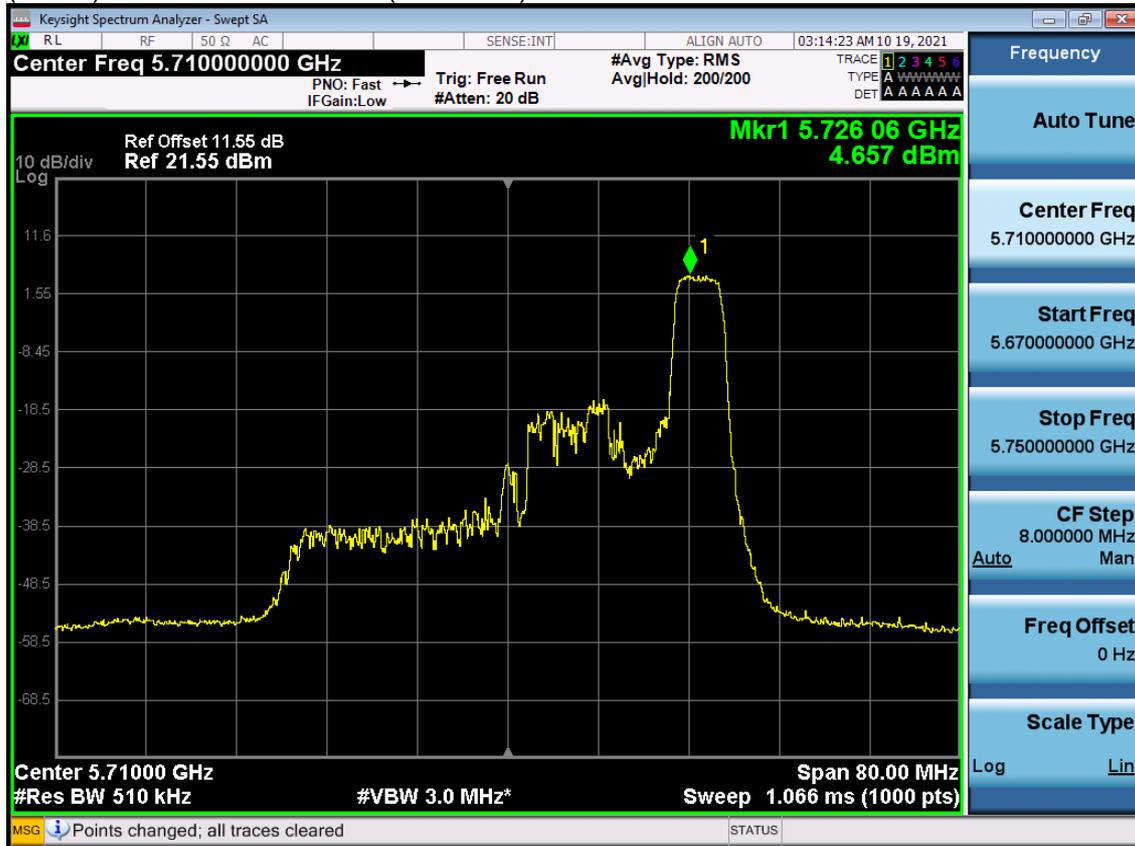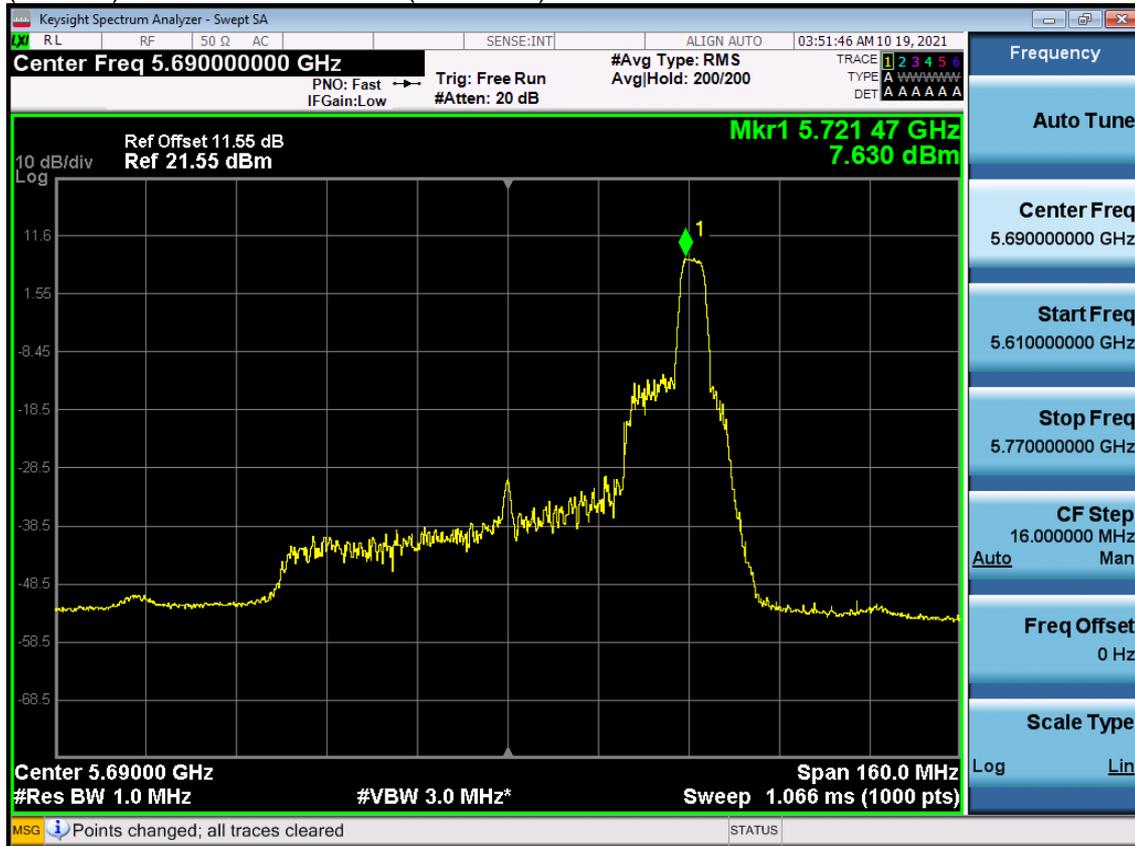| Measured Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
3.199	0.330	3.529

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 2C) Bandwidth 40M Ch.142(5710 MHz) 106 Tones RU 55

Measured Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
6.457	0.322	6.779

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 3) Bandwidth 40M Ch.142(5710 MHz) 106 Tones RU 56

Measured Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
2.820	0.322	3.142

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)
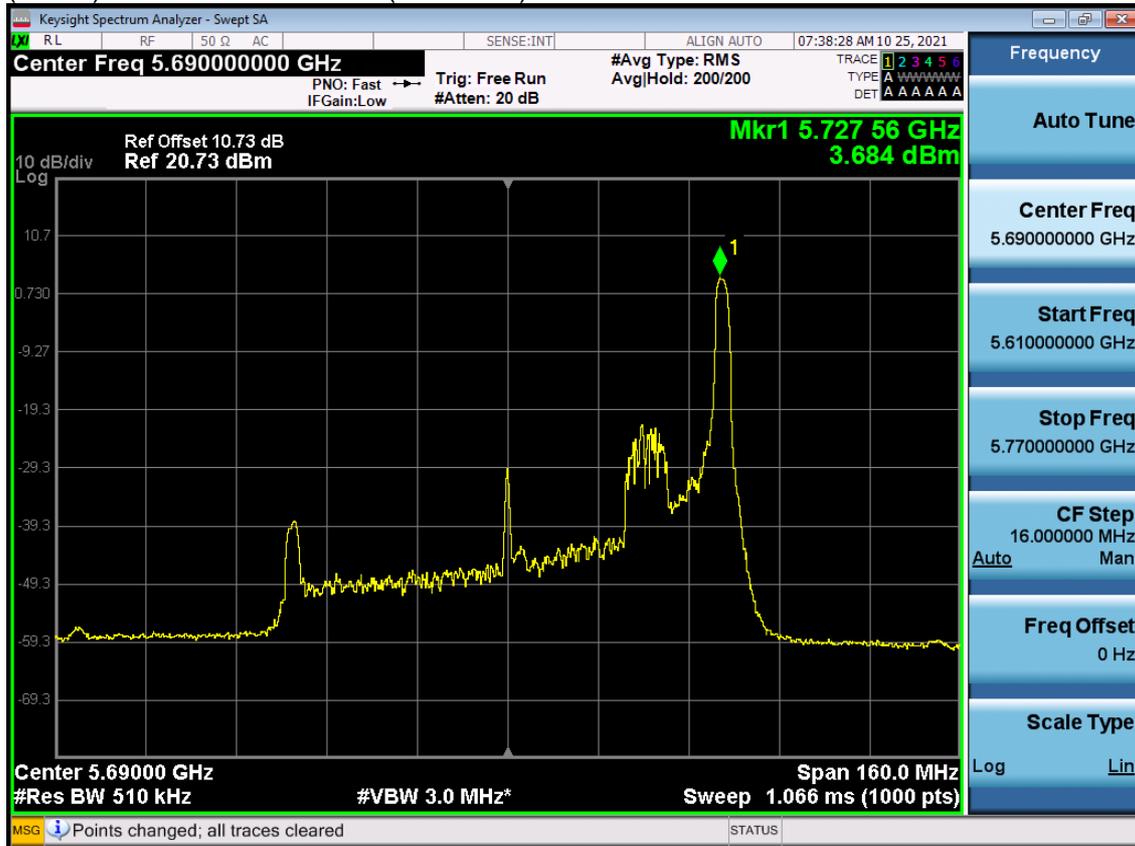
(UNII 2C) Bandwidth 80M Ch.138(5690 MHz) 106 Tones RU 59

Measured Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
6.283	0.330	6.613

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)

(UNII 3) Bandwidth 80M Ch.138(5690 MHz) 26 Tones RU 36

Measured Value (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
3.684	0.000	3.684

Note:
Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)