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** A3LSMX706B

REVISION HISTORY

The revision history for this document is shown in table.

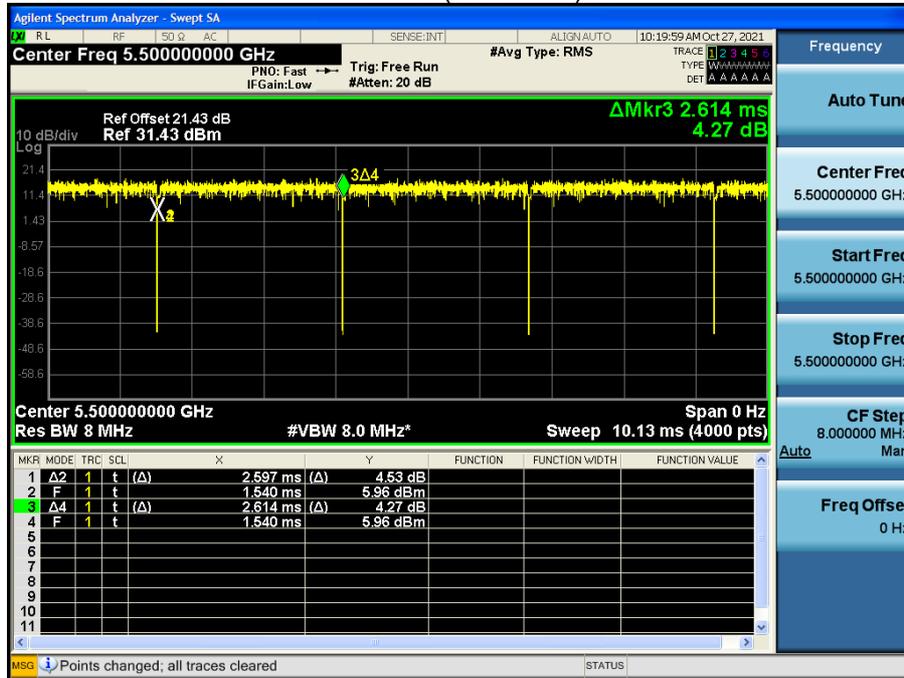| Revision No.	Date of Issue	Description
0	November 30, 2021	Initial Release

<u>Note:</u>

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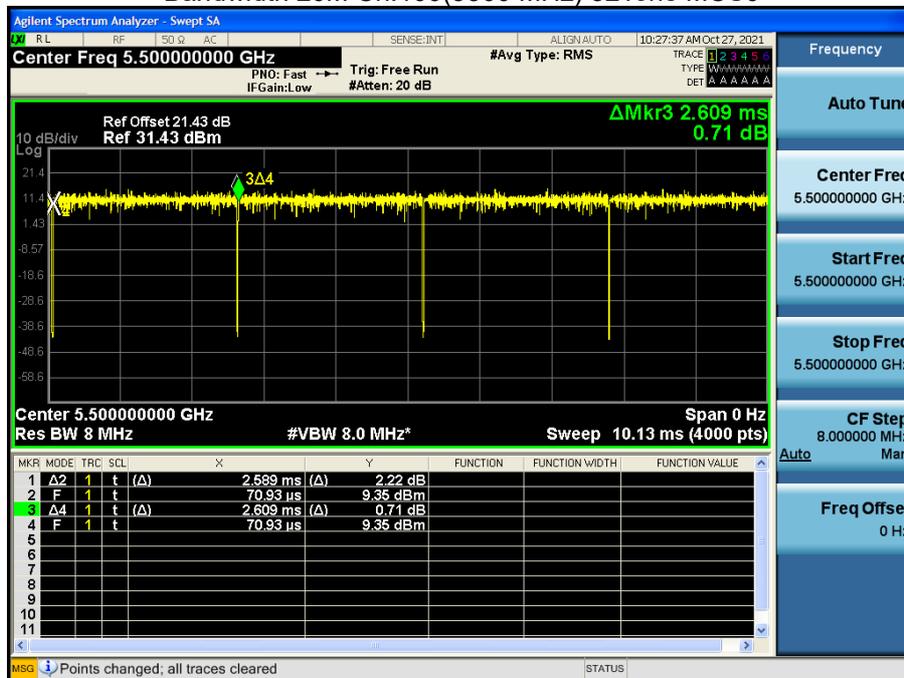
1. Duty Cycle

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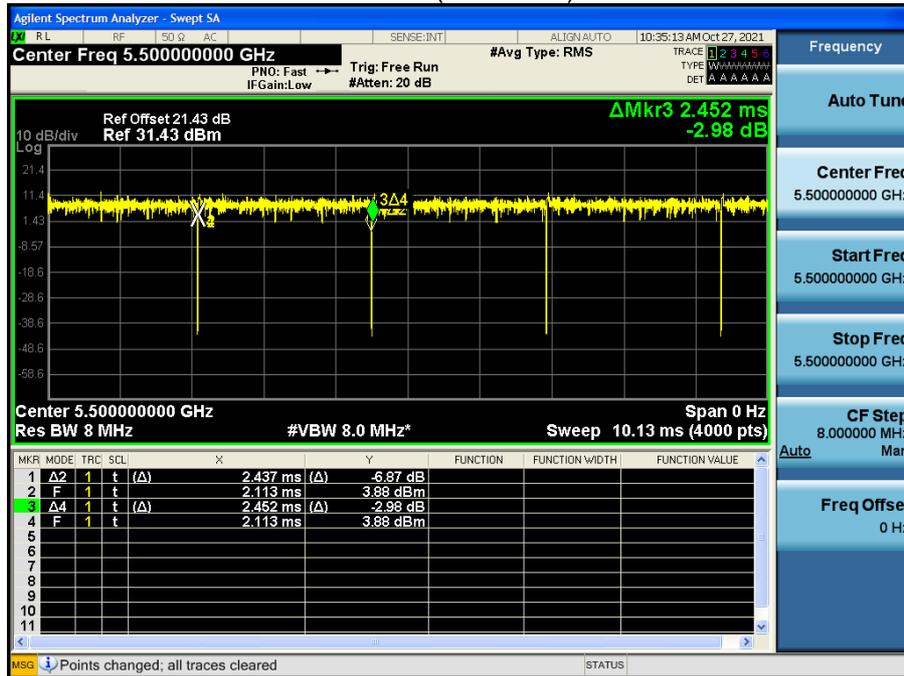In order to simplify the report, attached plots were only the most lowest datarate.
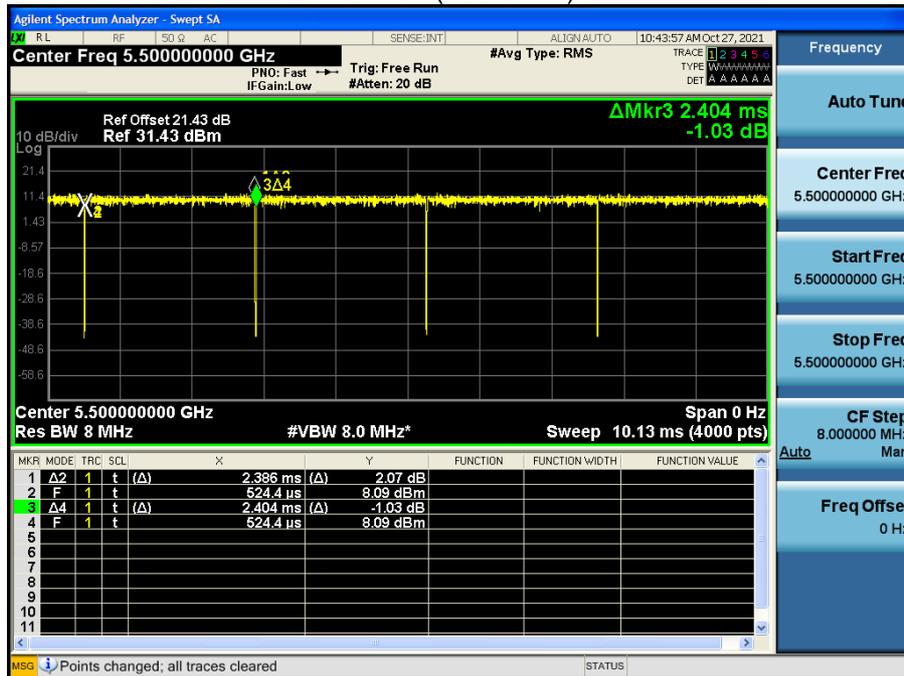
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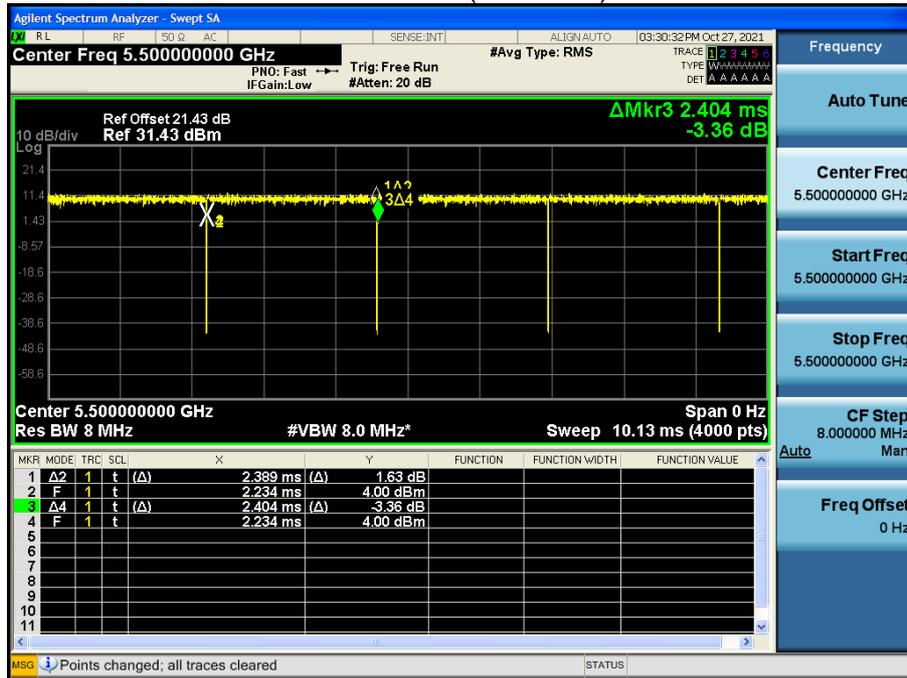

Bandwidth 20M Ch.100(5500 MHz) 52Tone MCS0

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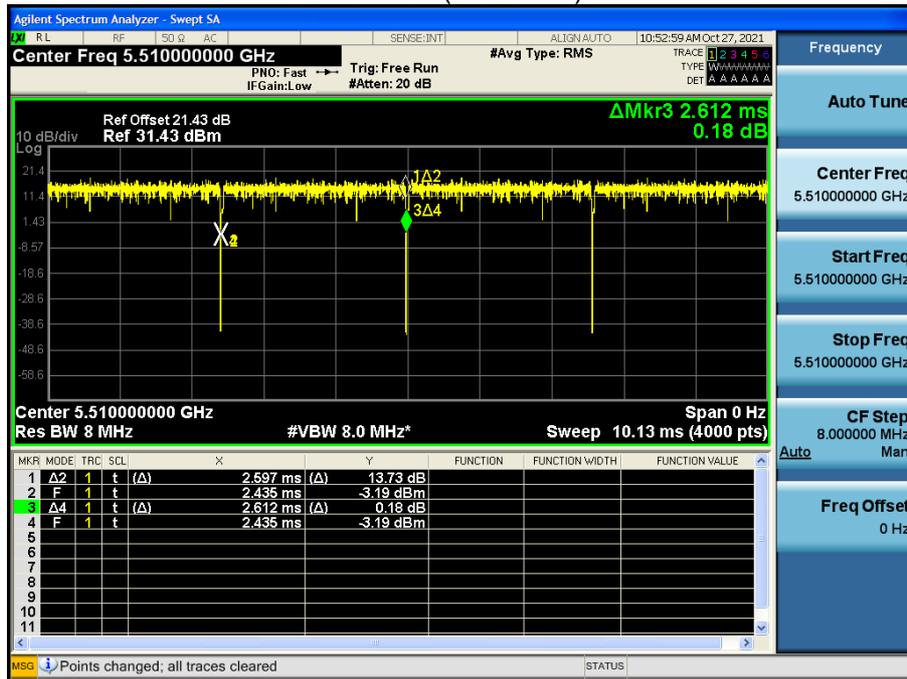

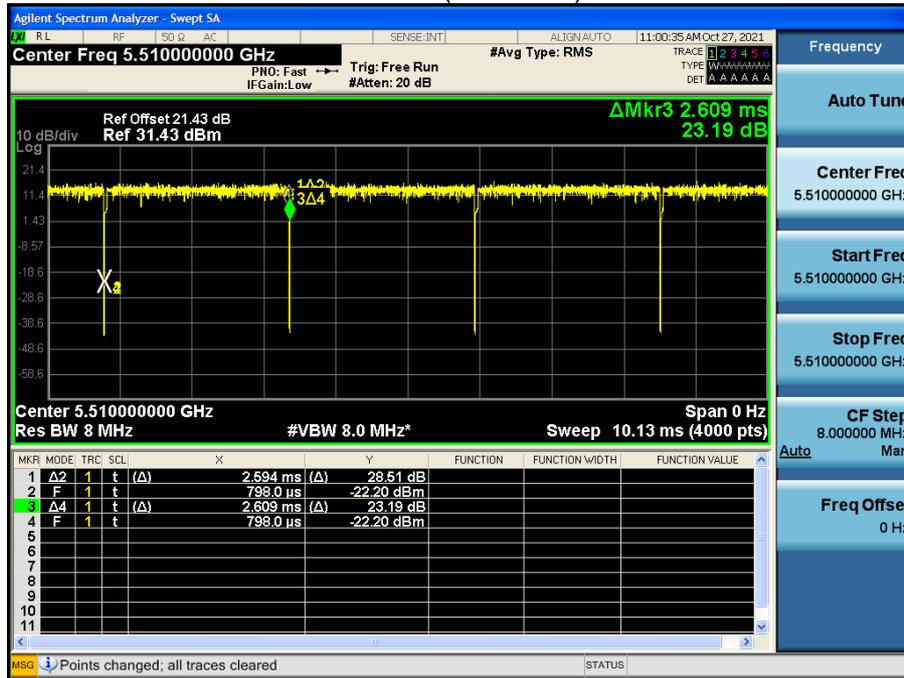## Bandwidth 20M Ch.100(5500 MHz) 242Tone MCS0
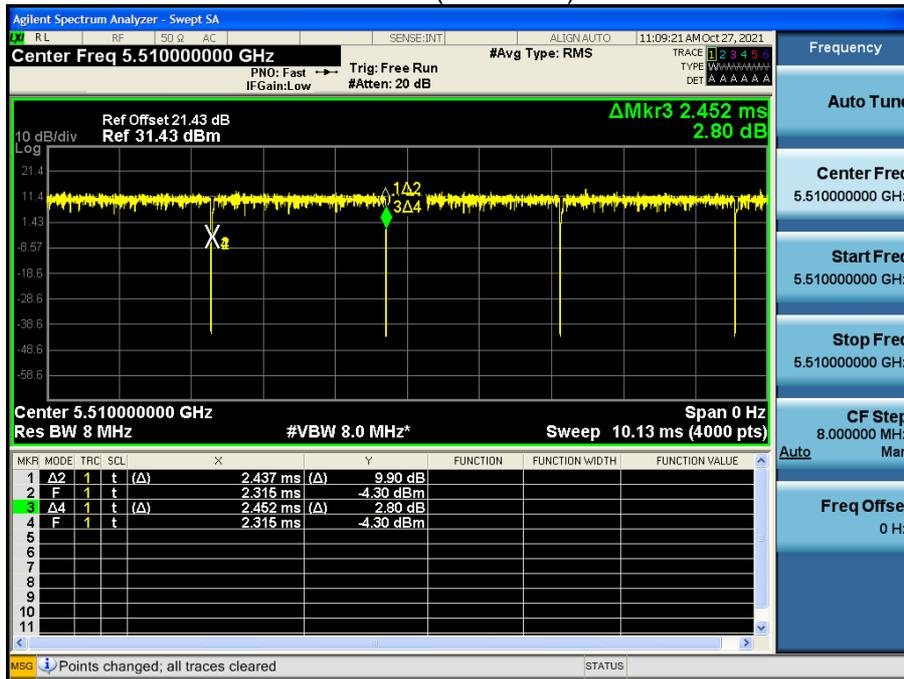
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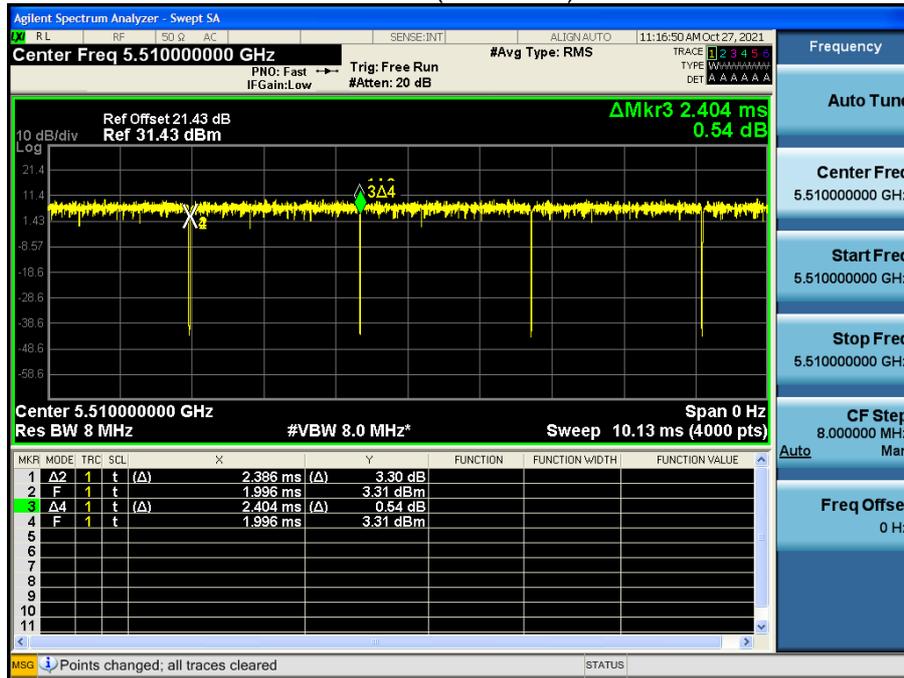Bandwidth 40M Ch.102(5510 MHz) 26Tone MCS0

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
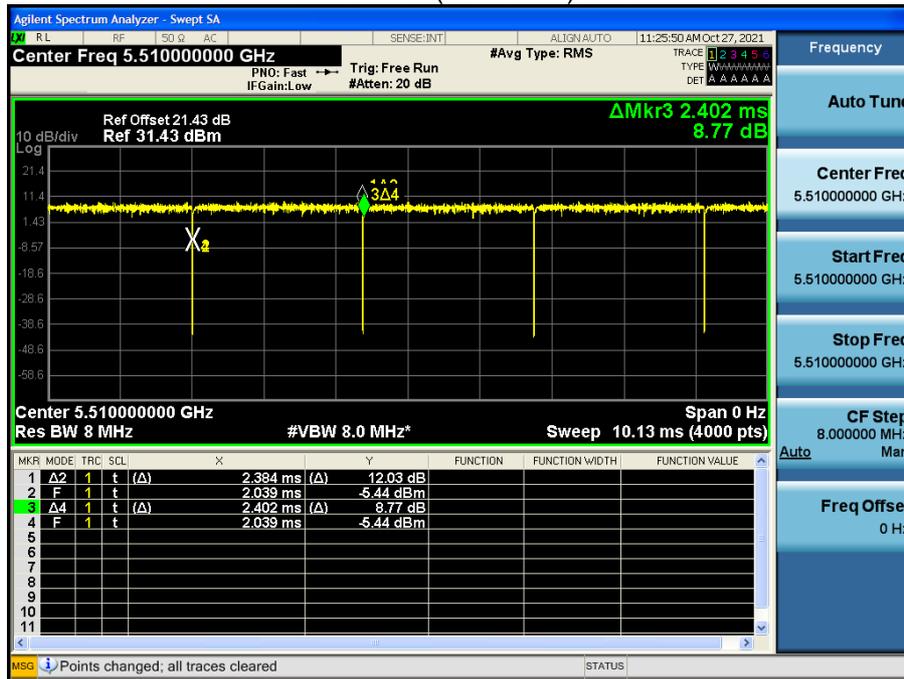
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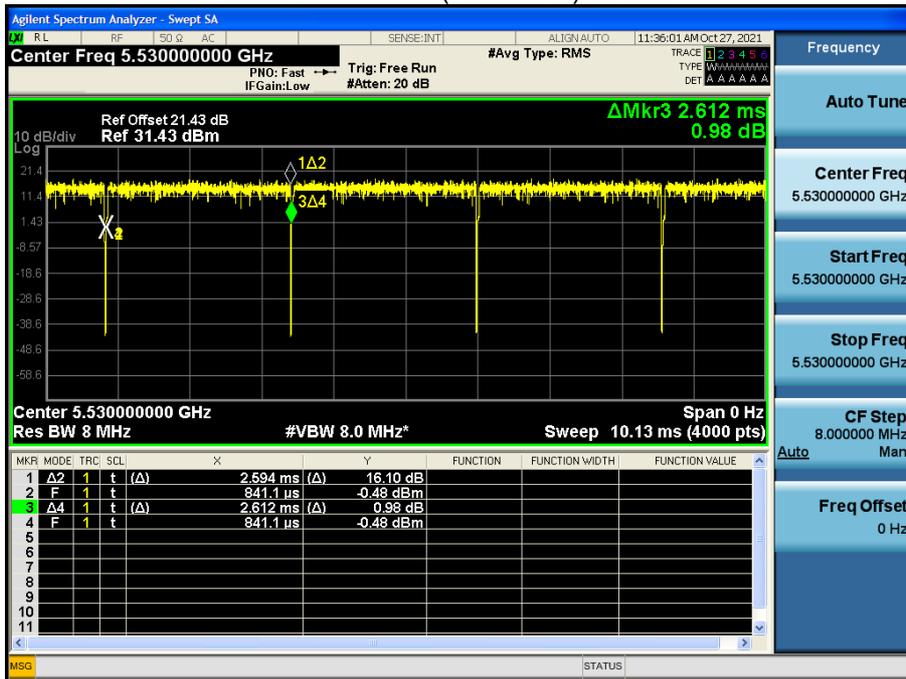
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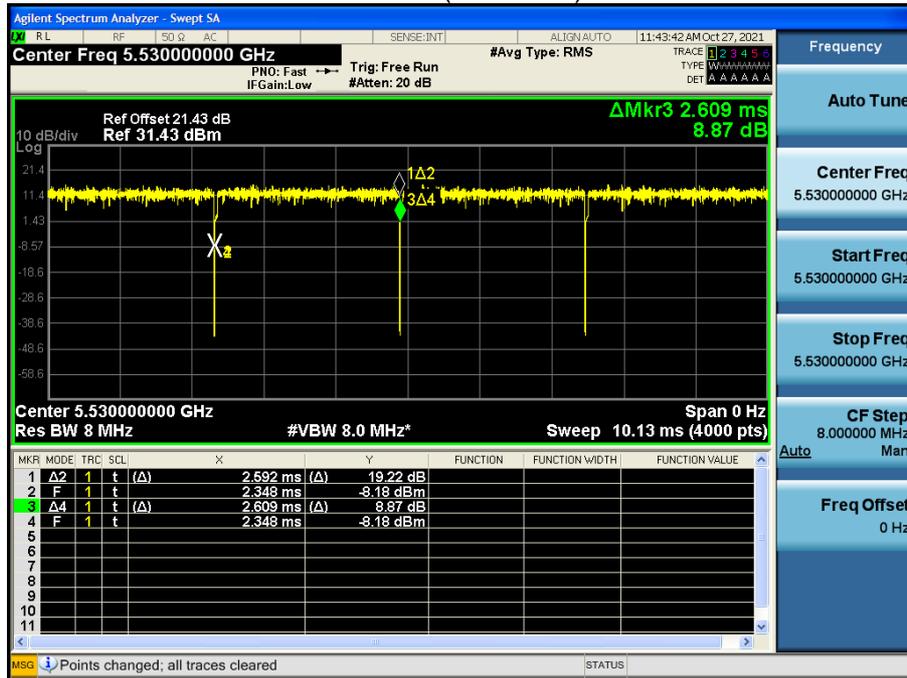
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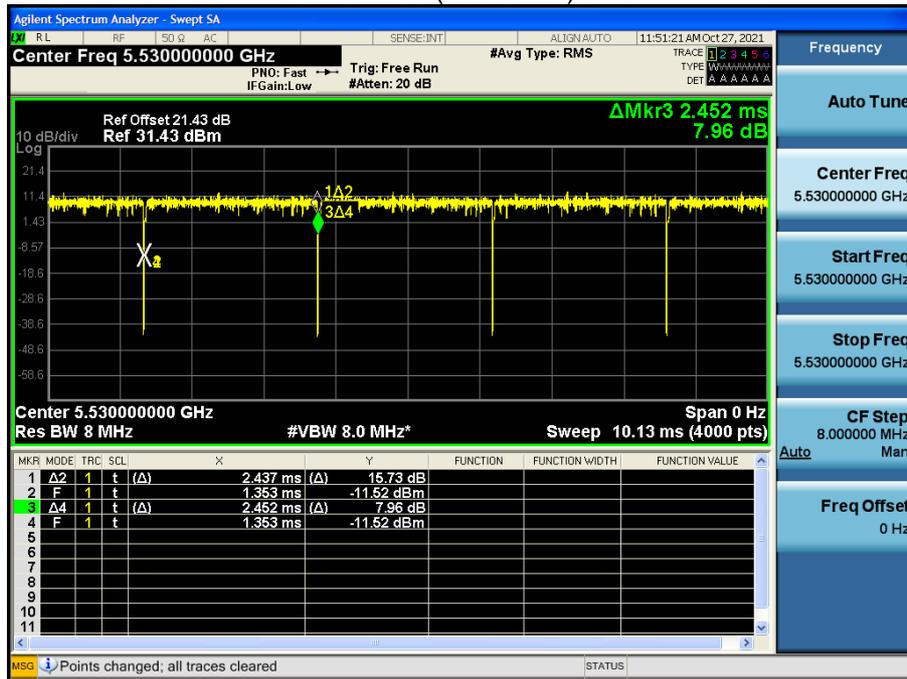
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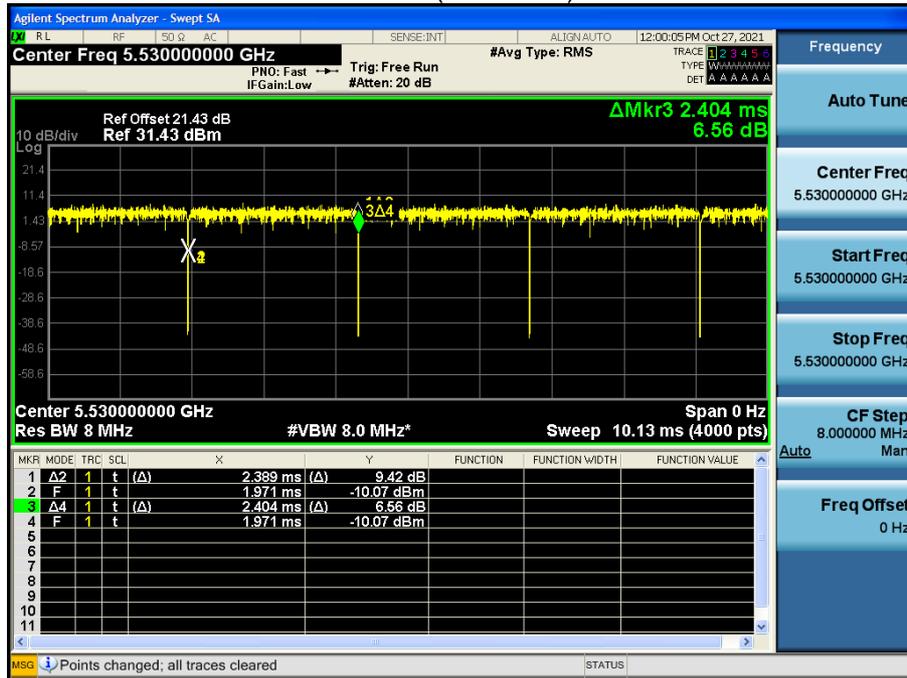
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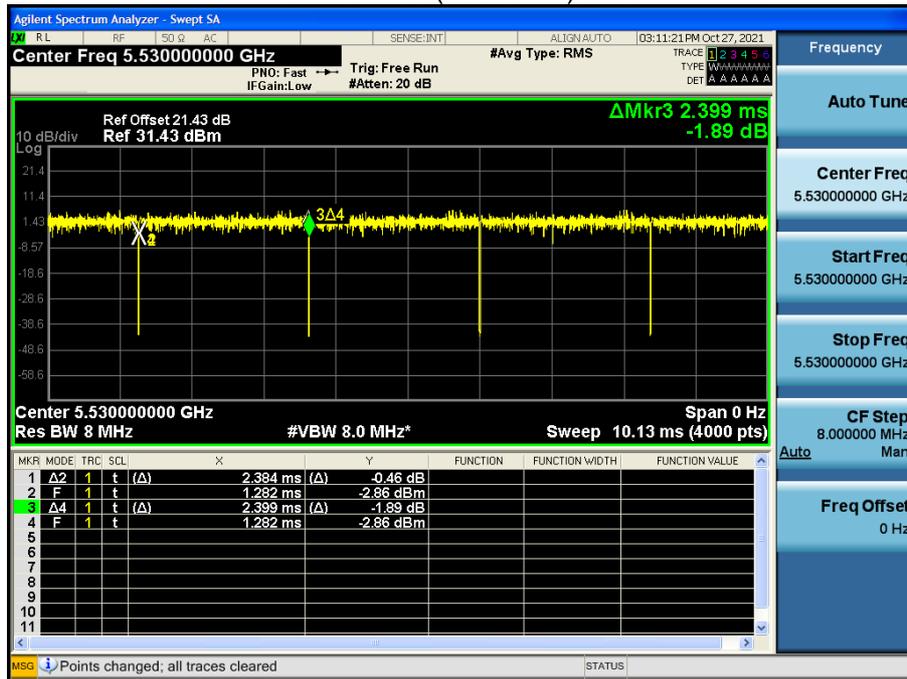
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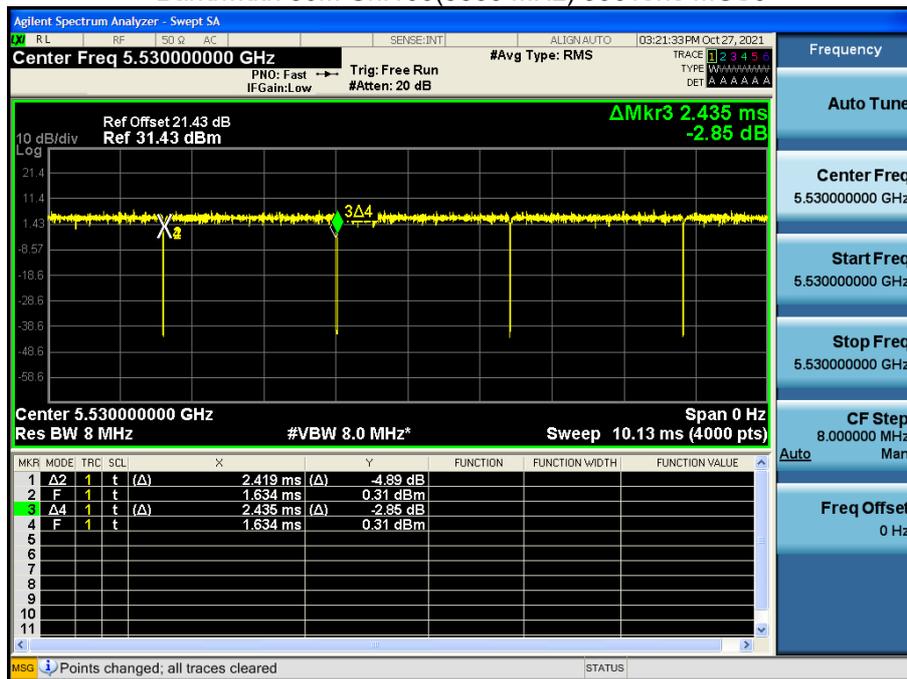
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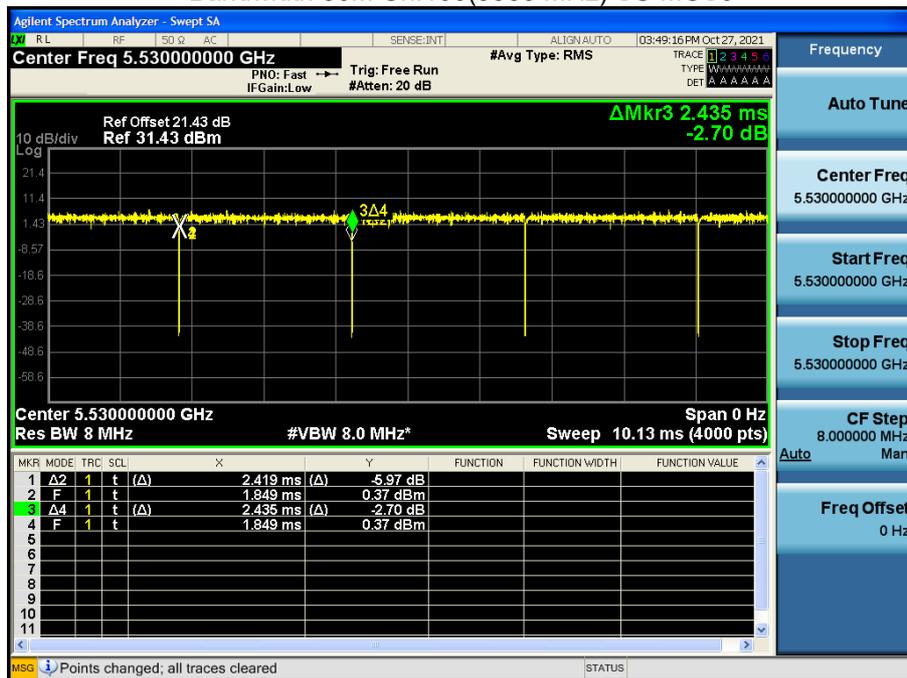
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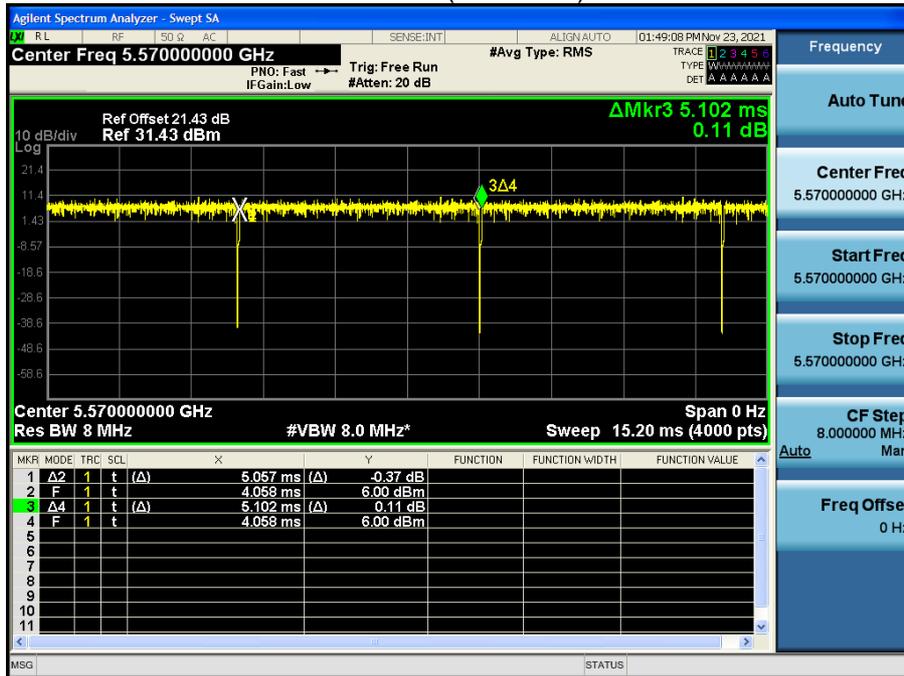
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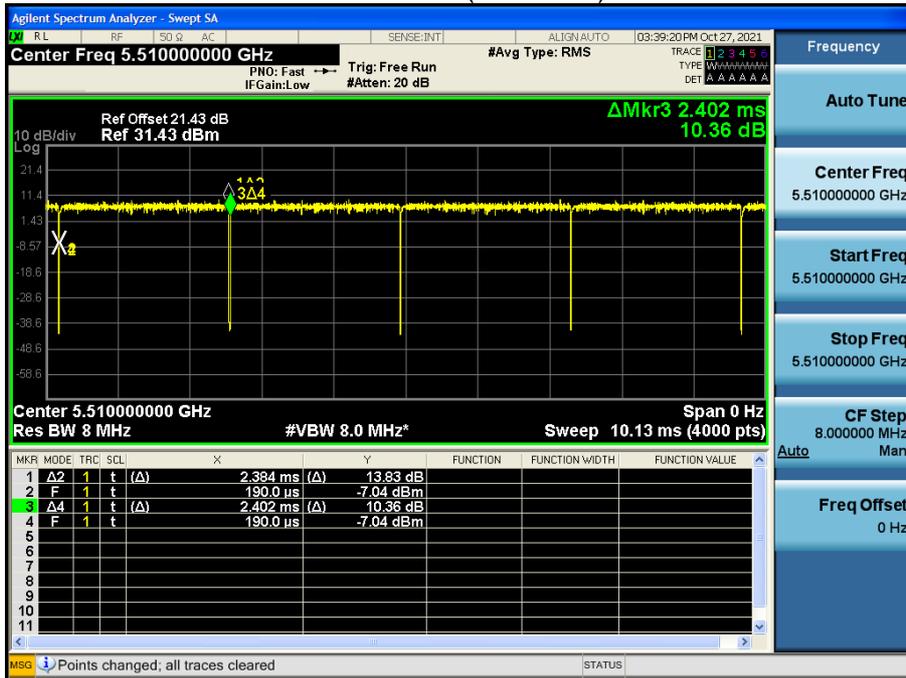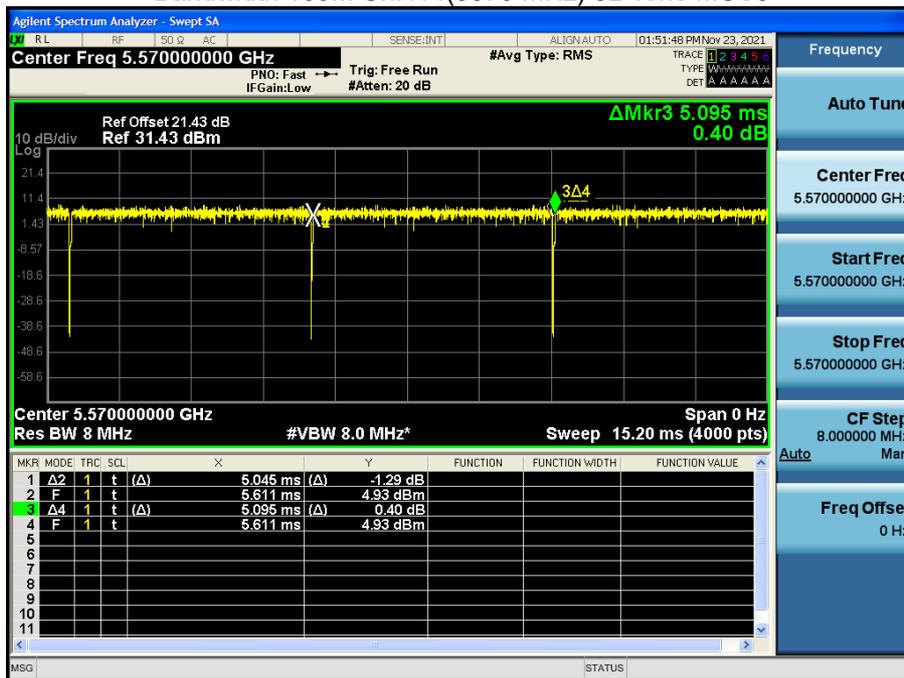
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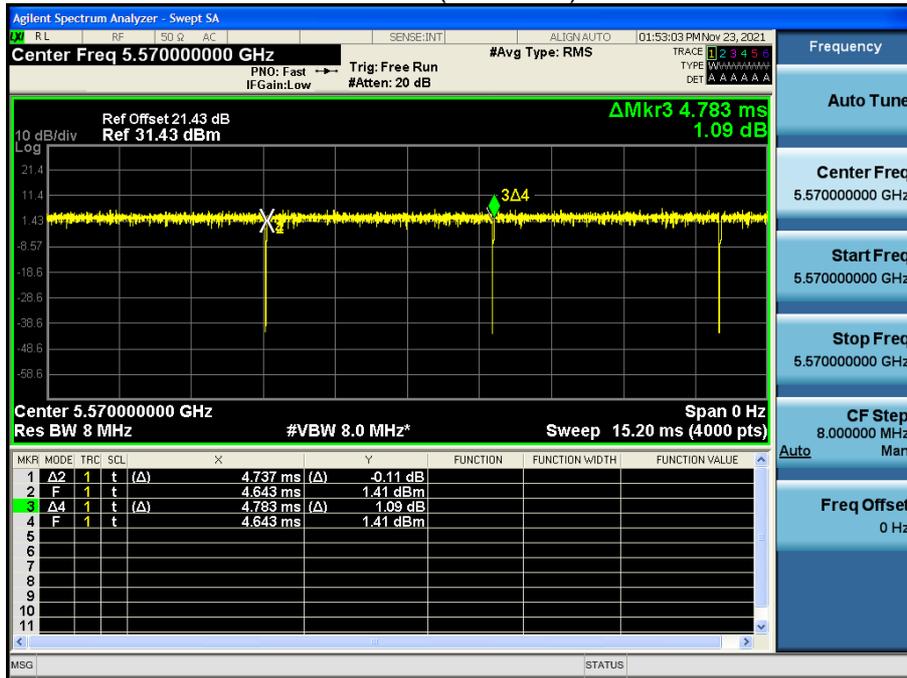
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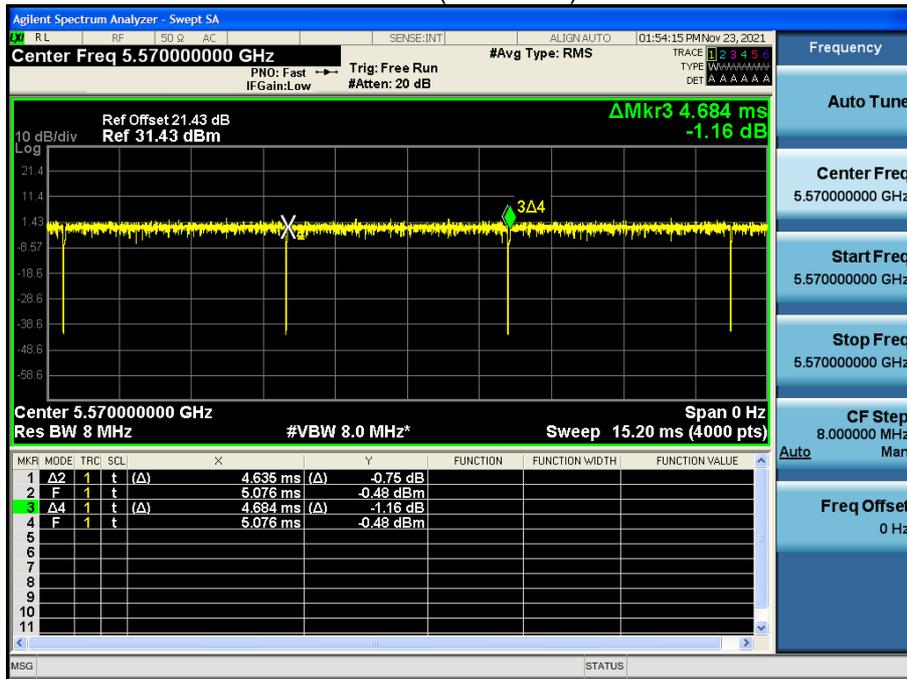
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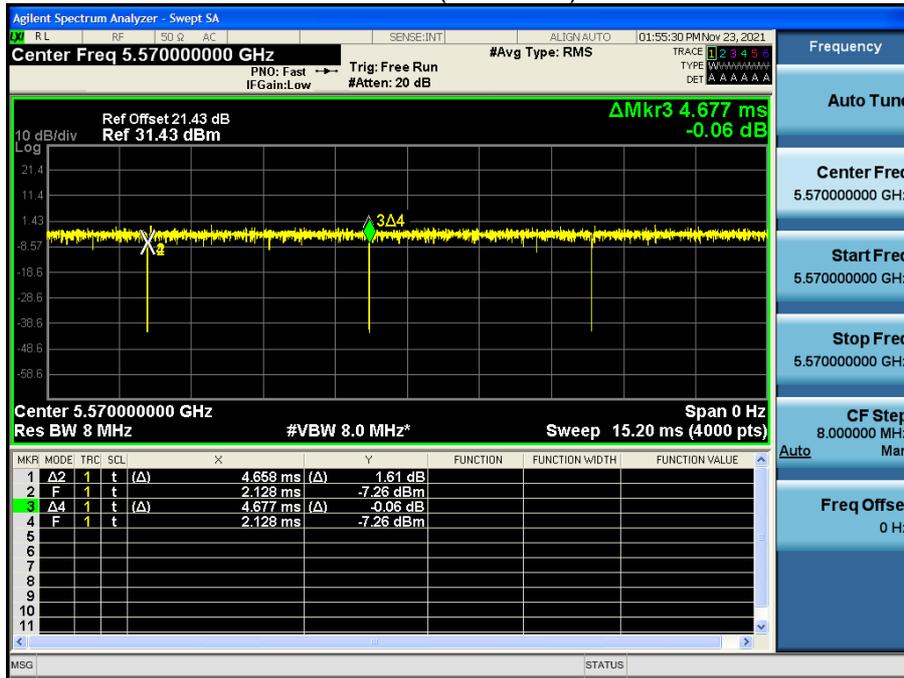
Bandwidth 160M Ch.114(5570 MHz) 996 Tone MCS0
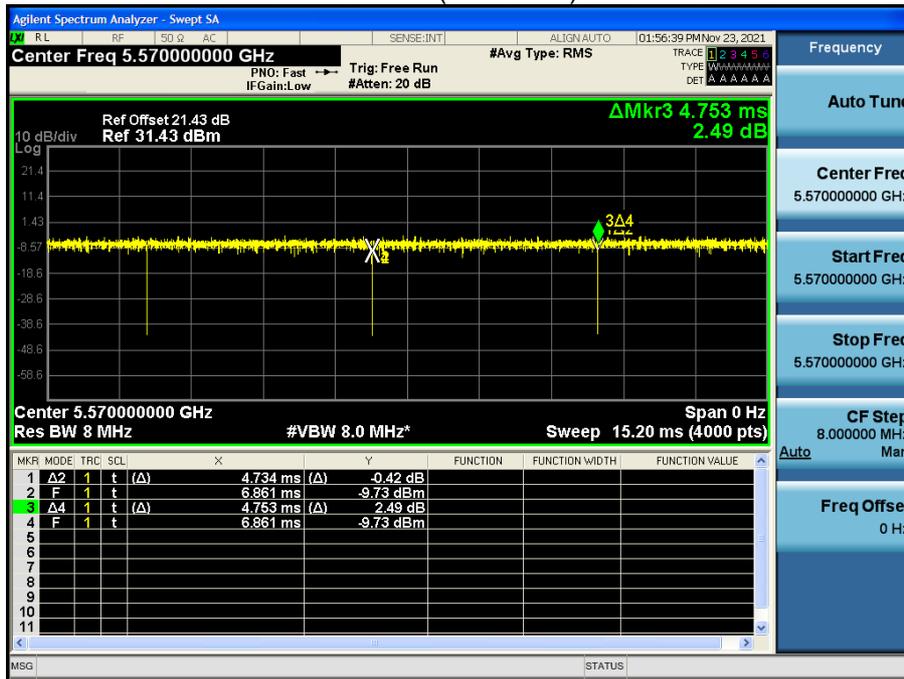
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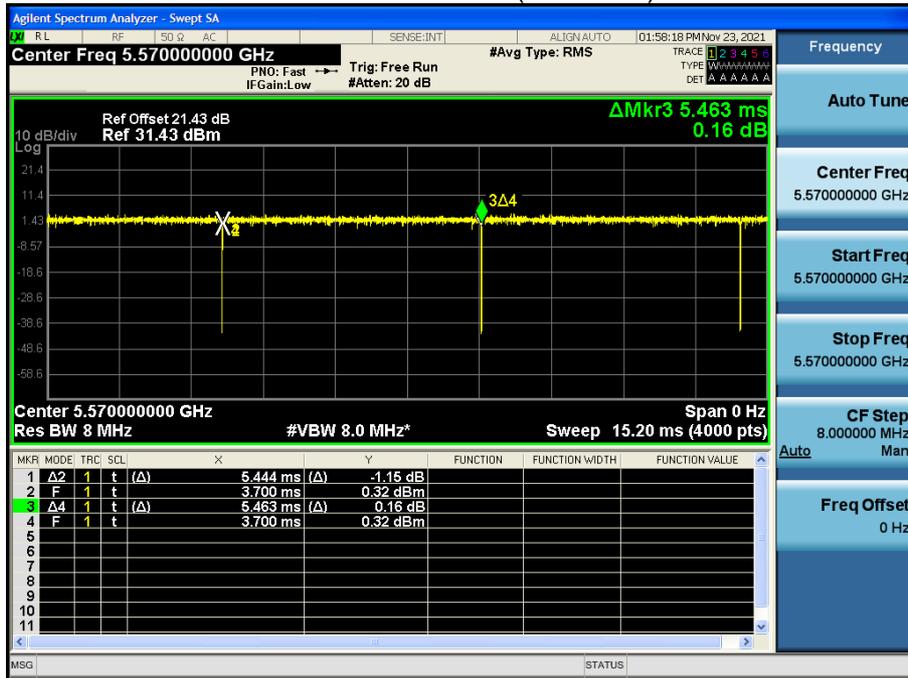
2. 26 dB Bandwidth

Note:
1. In order to simplify the report, attached plots were only (Worst Case: Ant.2).
2. In order to simplify the report, attached plots were only the widest channel bandwidth.

Bandwidth 20M Ch.36(5180 MHz) RU 61
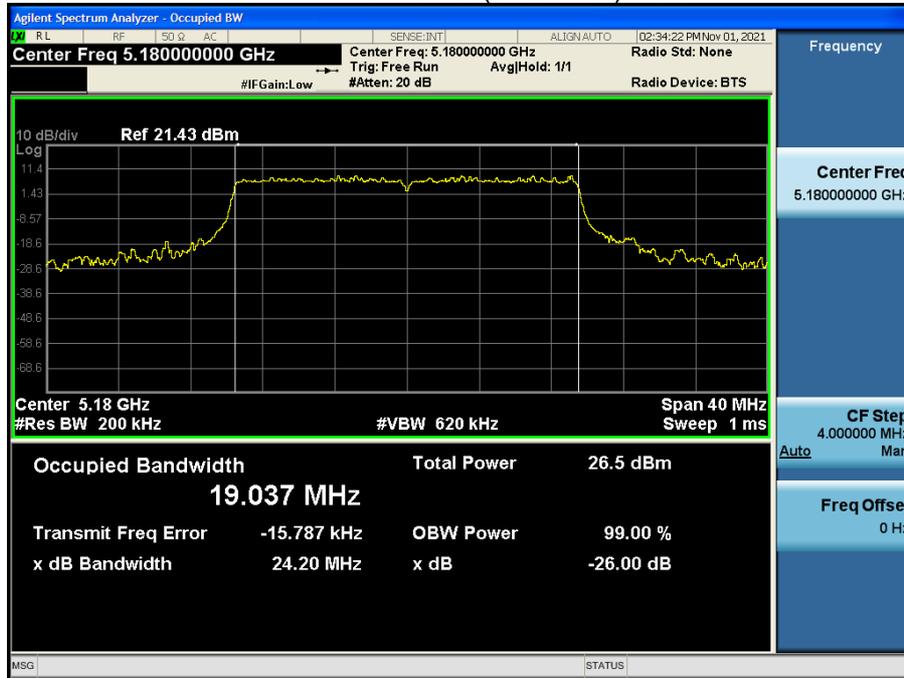
Bandwidth 20M Ch.40(5200 MHz) SU
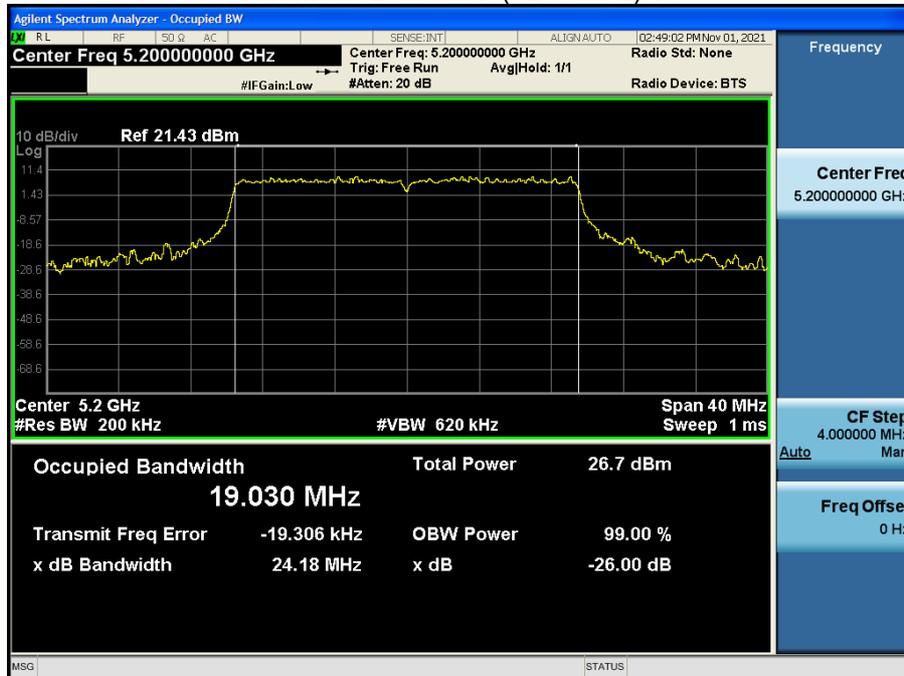
Bandwidth 20M Ch.48(5240 MHz) SU
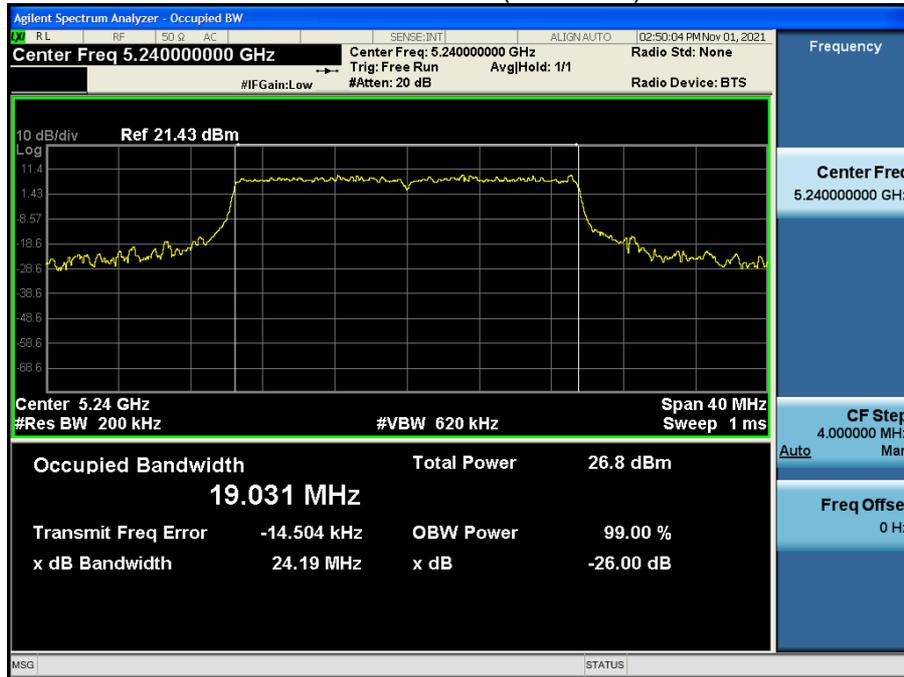
Bandwidth 20M Ch.52(5260 MHz) RU 61
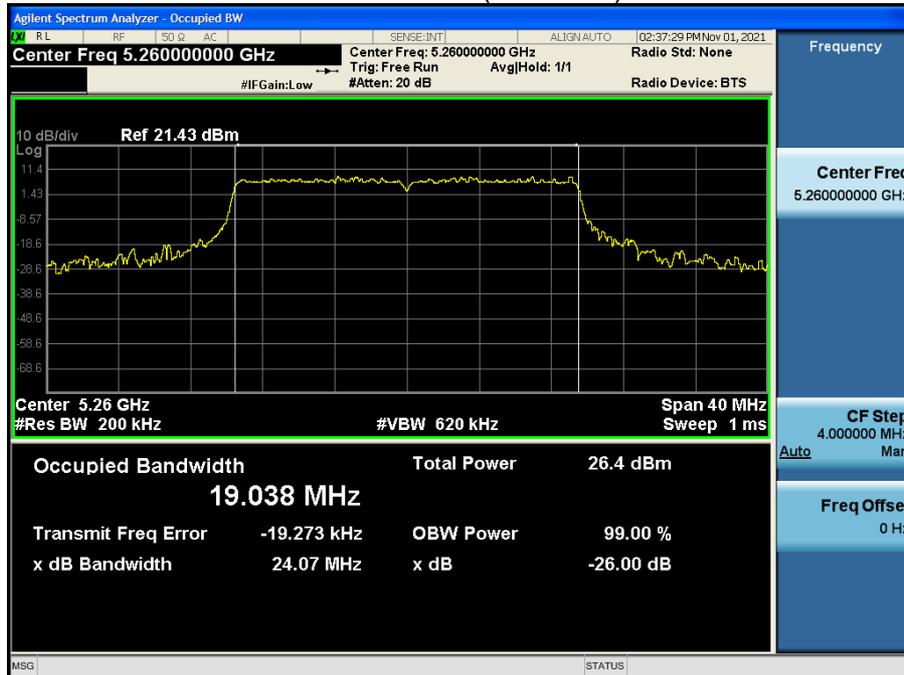
Bandwidth 20M Ch.60(5300 MHz) RU 61
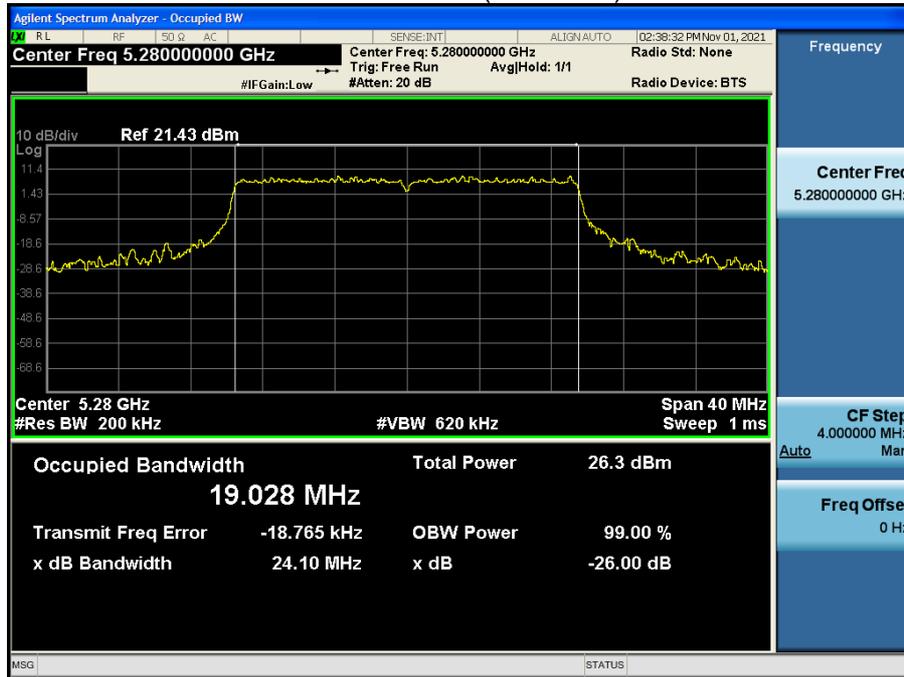
Bandwidth 20M Ch.64(5320 MHz) SU
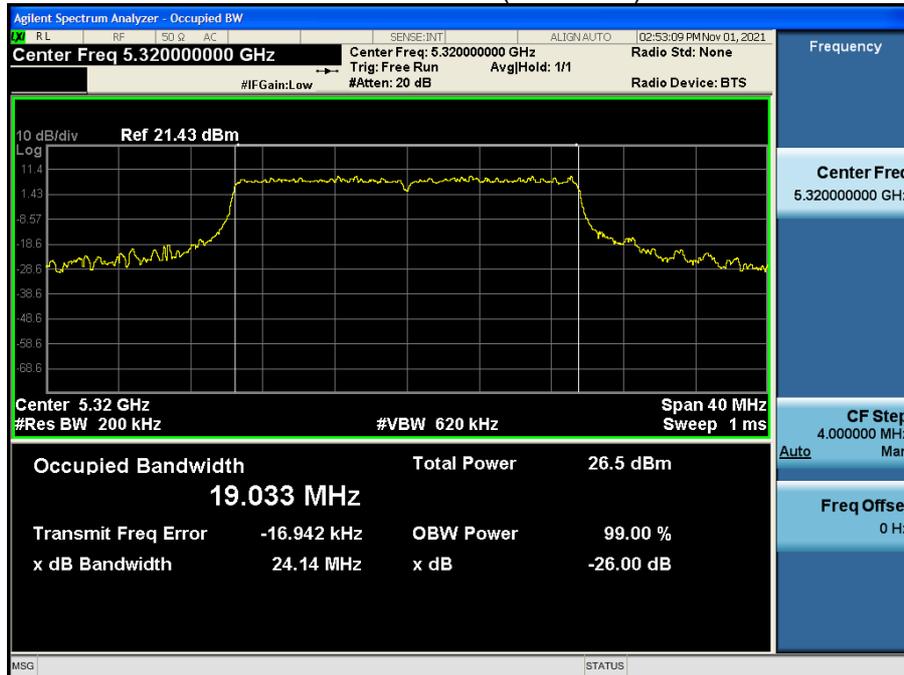
Bandwidth 20M Ch.100(5500 MHz) SU
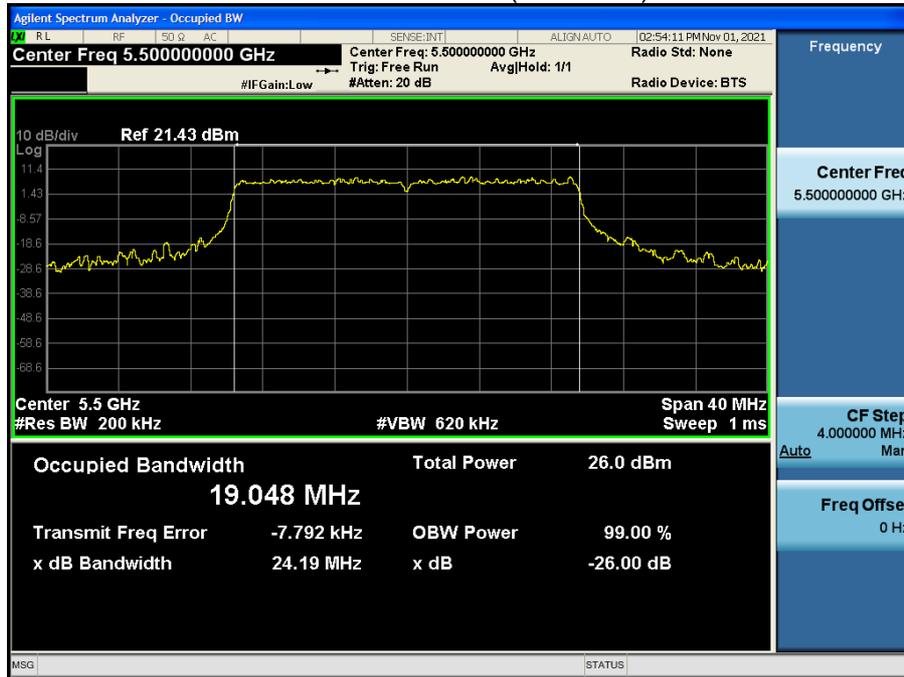
Bandwidth 20M Ch.116(5580 MHz) SU
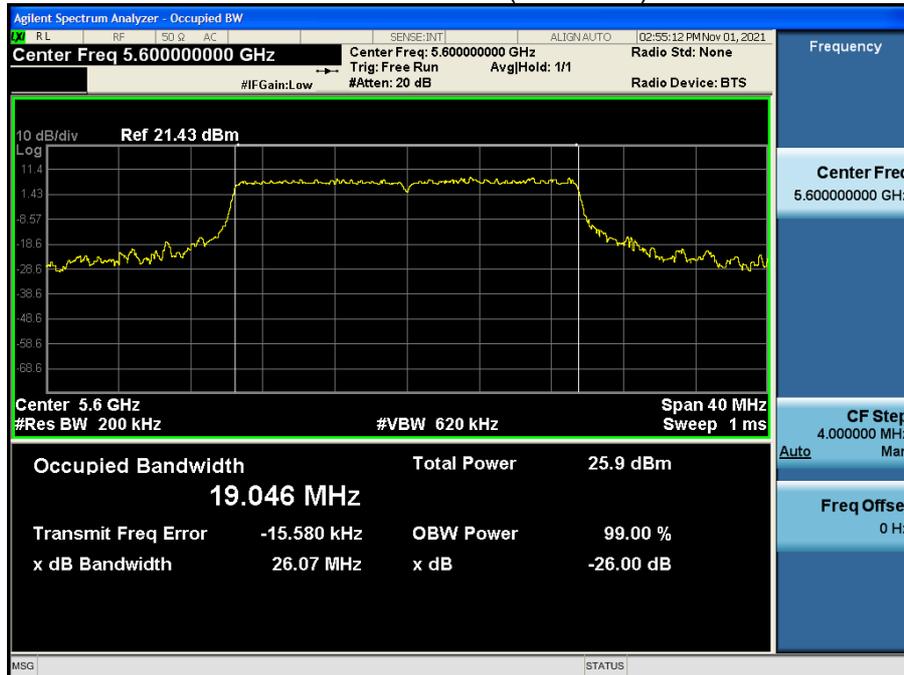
Bandwidth 20M Ch.144(5720 MHz) SU
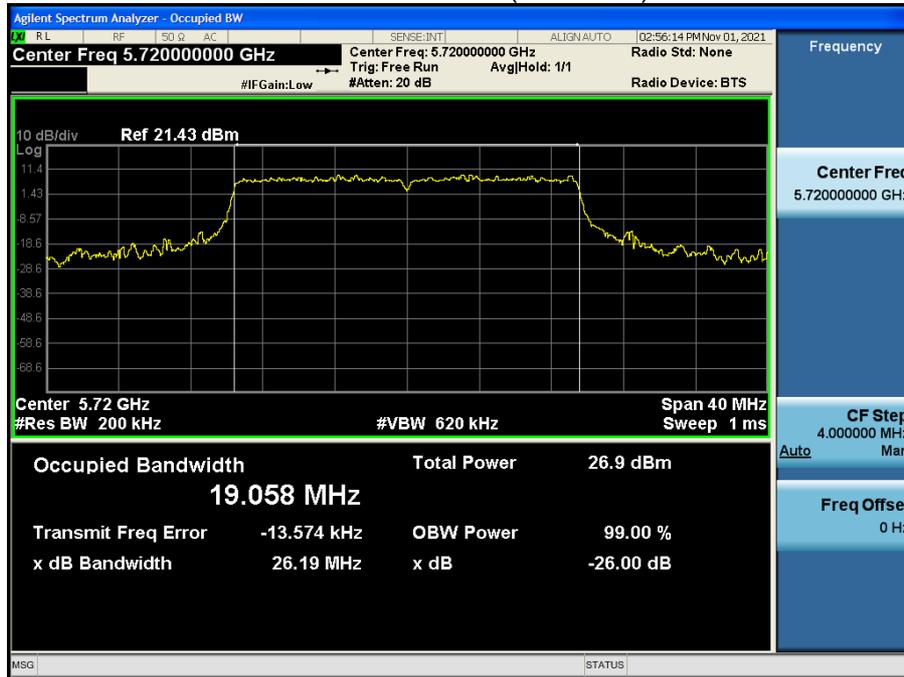
Bandwidth 20M Ch.149(5745 MHz) SU
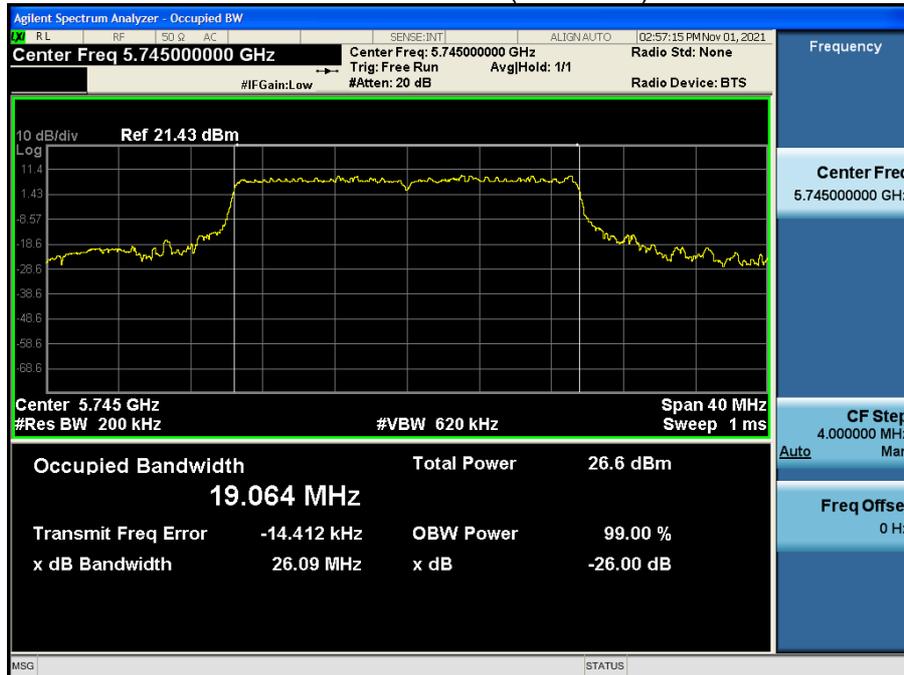
Bandwidth 20M Ch.157(5785 MHz) SU
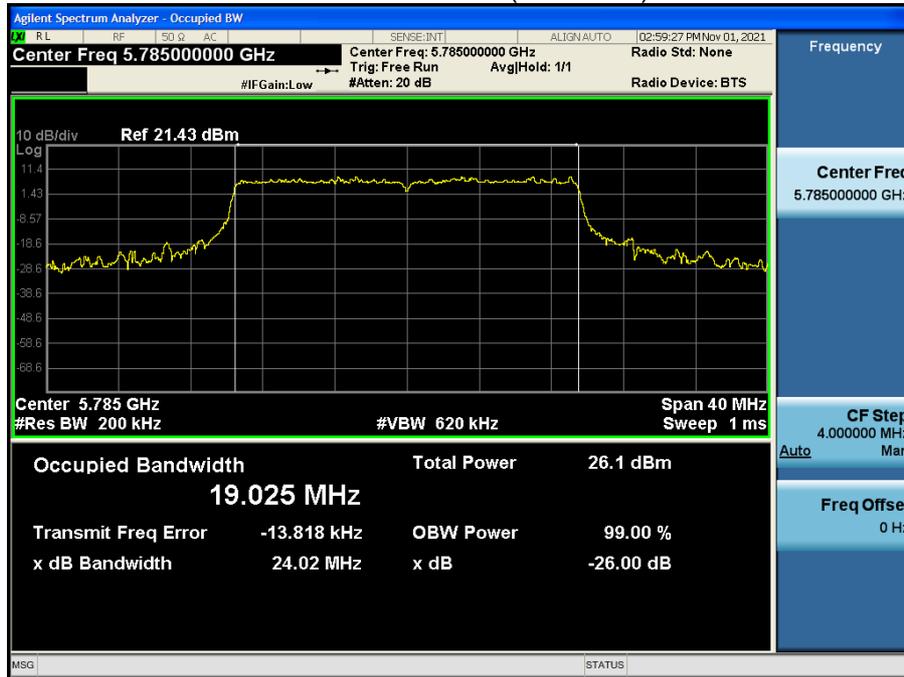
Bandwidth 20M Ch.165(5825 MHz) SU
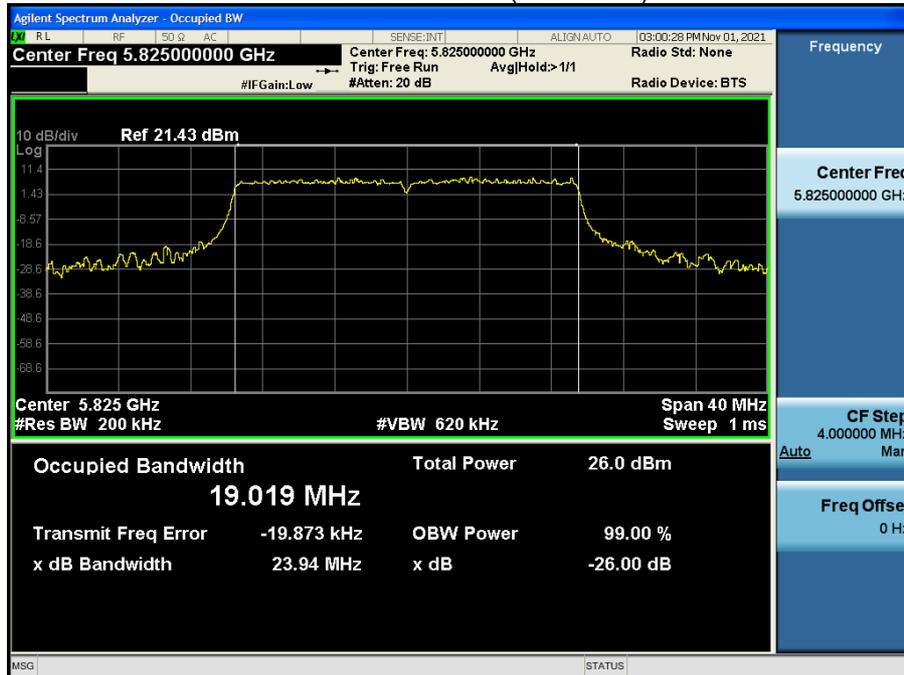
Bandwidth 40M Ch.38(5190 MHz) SU
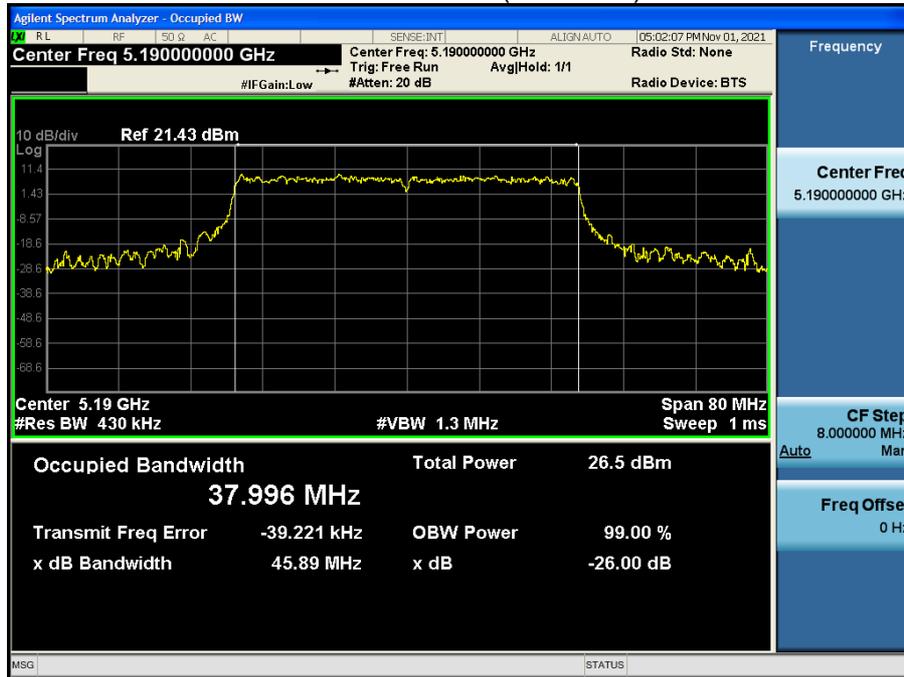
Bandwidth 40M Ch.46(5230 MHz) SU
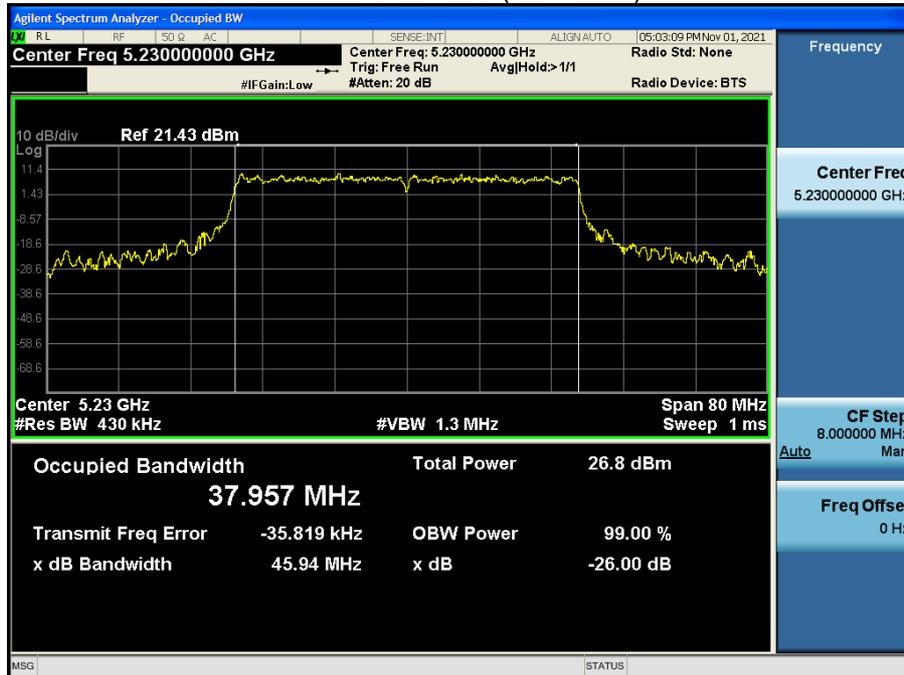
Bandwidth 40M Ch.54(5270 MHz) SU
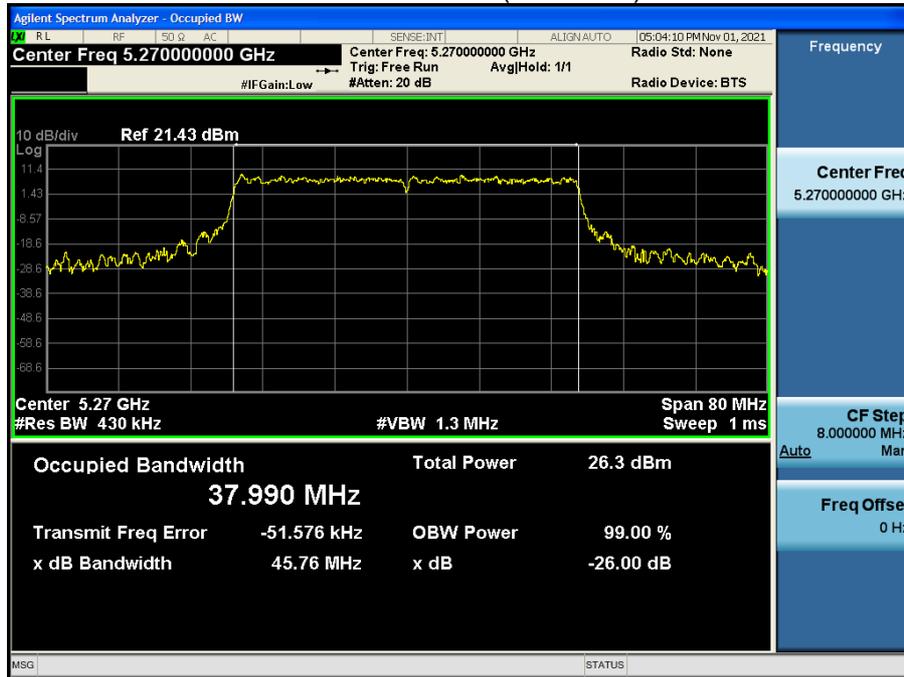
Bandwidth 40M Ch.62(5310 MHz) SU

Bandwidth 40M Ch.102(5510 MHz) SU

Agilent Spectrum Analyzer - Occupied BW

LXI R L	RF 50 Ω AC	SENSE:INT	ALIGN AUTO	05:06:13 PM Nov 01, 2021

Center Freq 5.510000000 GHz
#IFGain:Low

Center Freq: 5.510000000 GHz
Trig: Free Run   Avg|Hold: 1/1
#Atten: 20 dB

Radio Std: None
Radio Device: BTS

10 dB/div   Ref 21.43 dBm
Log
11.4
1.43
-8.57
-18.6
-28.6
-38.6
-48.6
-58.6
-68.6

Center 5.51 GHz
#Res BW 430 kHz   #VBW 1.3 MHz

Span 80 MHz
Sweep 1 ms

Occupied Bandwidth	Total Power	26.0 dBm
37.989 MHz		
Transmit Freq Error -12.866 kHz	OBW Power	99.00 %
x dB Bandwidth 46.00 MHz	x dB	-26.00 dB

MSG   STATUS

Frequency

Center Freq
5.510000000 GHz

CF Step
8.000000 MHz
Auto   Man

Freq Offset
0 Hz

Bandwidth 40M Ch.110(5550 MHz) SU

Agilent Spectrum Analyzer - Occupied BW

LXI R L	RF 50 Ω AC	SENSE:INT	ALIGN AUTO	05:07:14 PM Nov 01, 2021

Center Freq 5.590000000 GHz
#IFGain:Low

Center Freq: 5.590000000 GHz
Trig: Free Run   Avg|Hold:>1/1
#Atten: 20 dB

Radio Std: None
Radio Device: BTS

10 dB/div   Ref 21.43 dBm
Log
11.4
1.43
-8.57
-18.6
-28.6
-38.6
-48.6
-58.6
-68.6

Center 5.59 GHz
#Res BW 430 kHz   #VBW 1.3 MHz

Span 80 MHz
Sweep 1 ms

Occupied Bandwidth	Total Power	25.8 dBm
37.995 MHz		
Transmit Freq Error -30.201 kHz	OBW Power	99.00 %
x dB Bandwidth 47.68 MHz	x dB	-26.00 dB

MSG   STATUS

Frequency

Center Freq
5.590000000 GHz

CF Step
8.000000 MHz
Auto   Man

Freq Offset
0 Hz

Bandwidth 40M Ch.142(5710 MHz) SU

Bandwidth 40M Ch.151(5755 MHz) RU 65
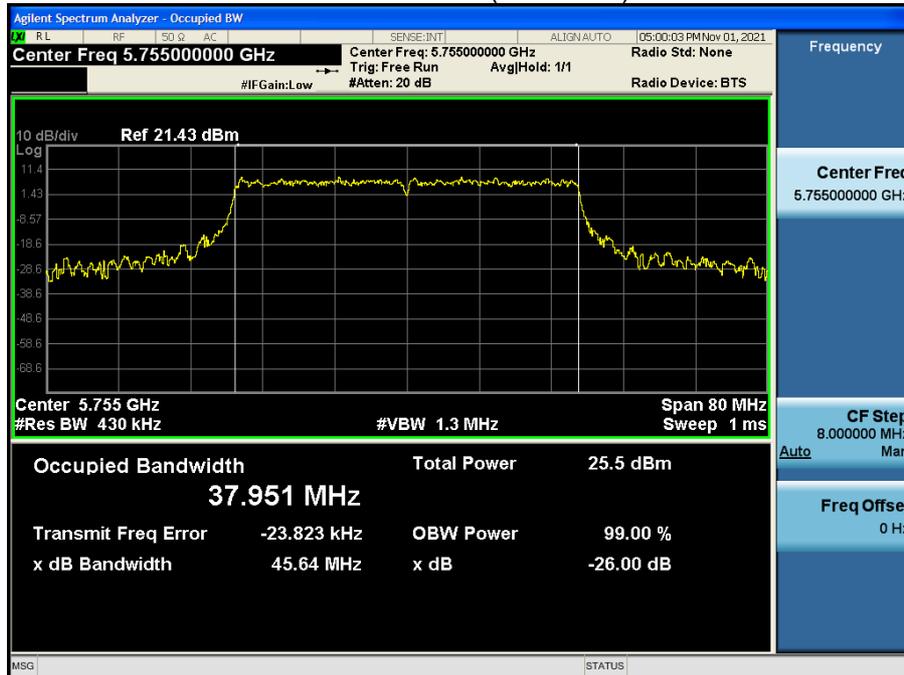
Bandwidth 40M Ch.159(5795 MHz) SU
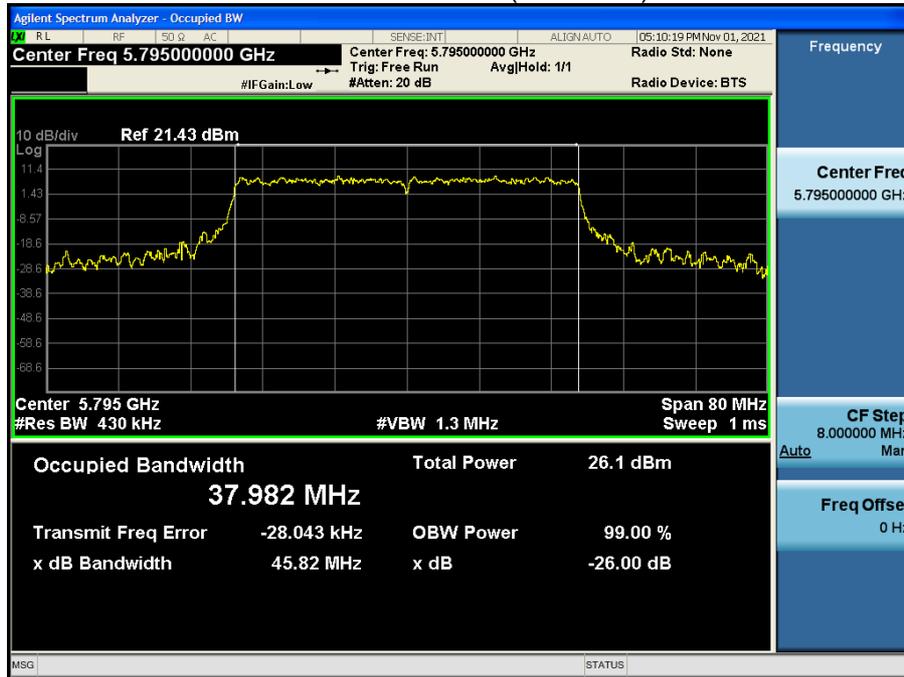
Bandwidth 80M Ch.42(5210 MHz) SU
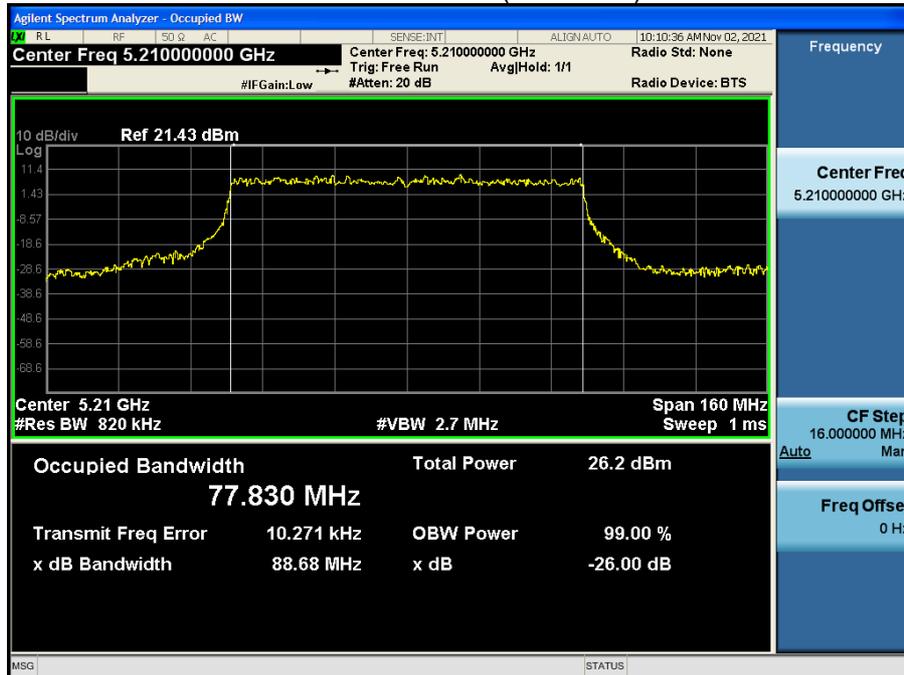
Bandwidth 80M Ch.58(5290 MHz) RU 67
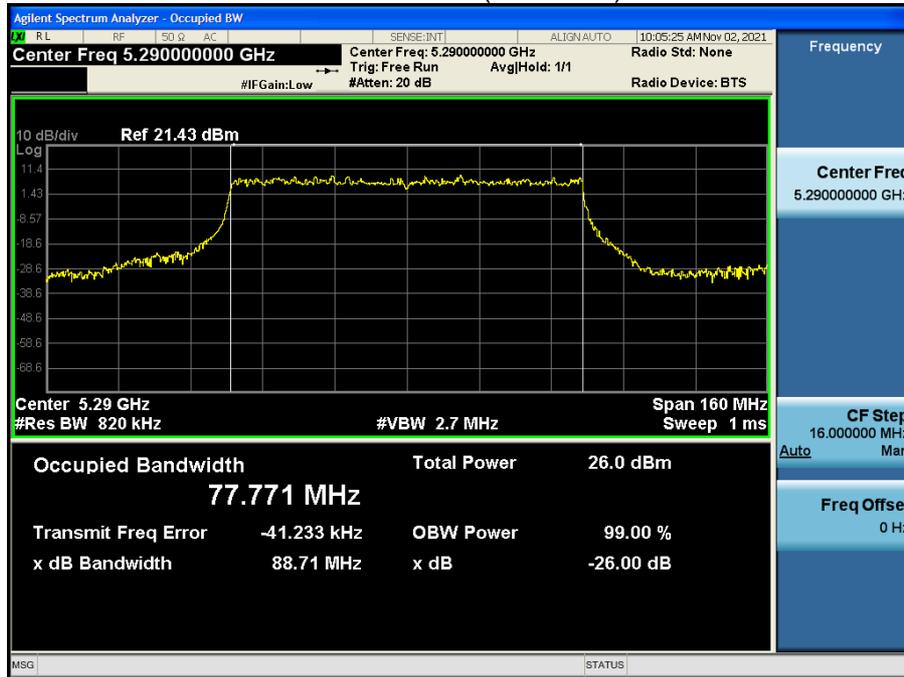

Bandwidth 80M Ch.106(5530 MHz) RU 67
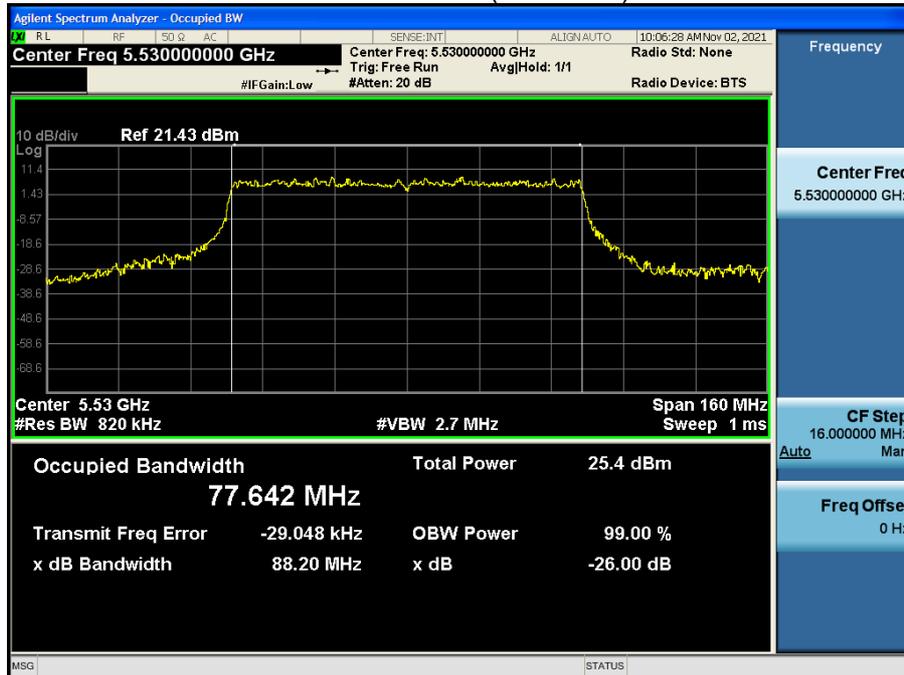
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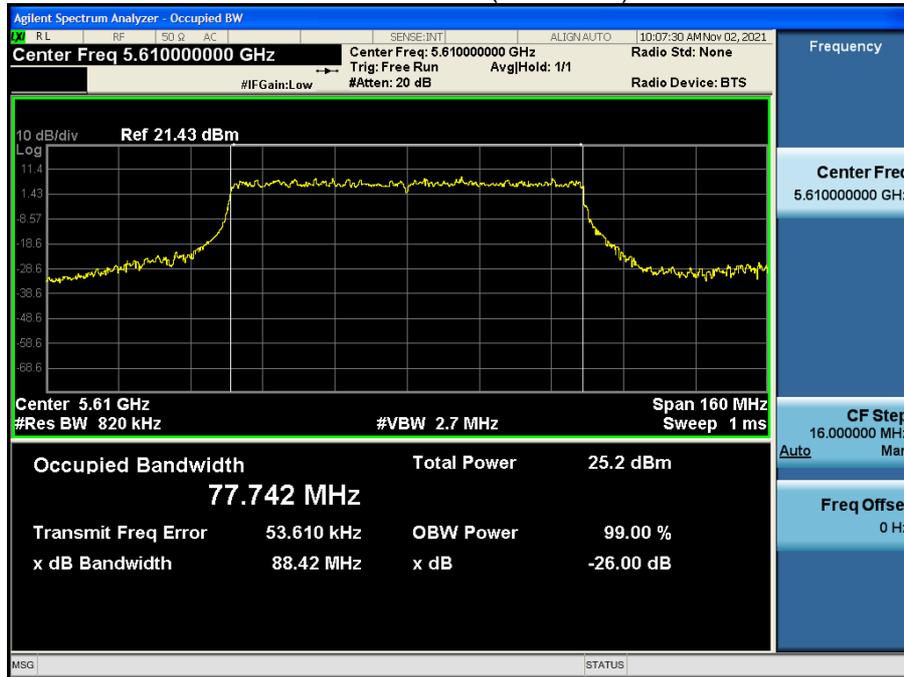
Bandwidth 80M Ch.138(5690 MHz) SU
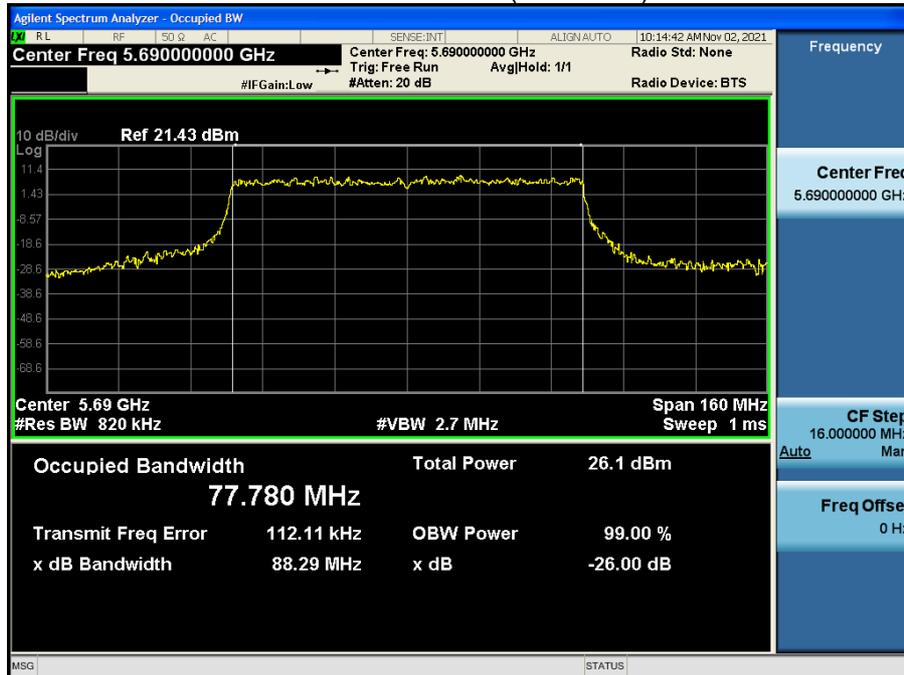
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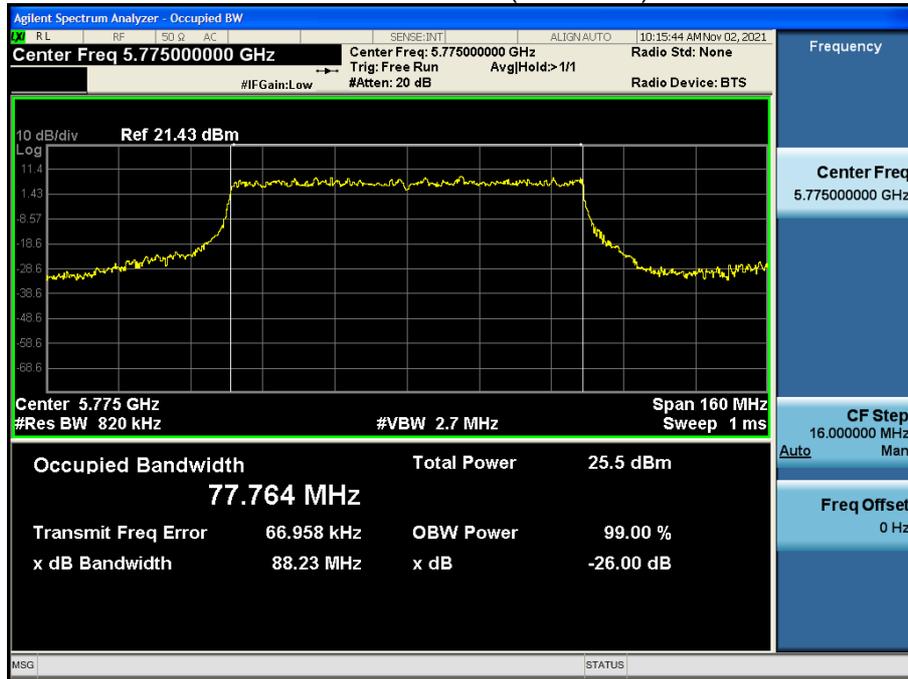
Bandwidth 160M

Bandwidth 160M_80L Ch.50(5250 MHz) 996 Tones RU 67
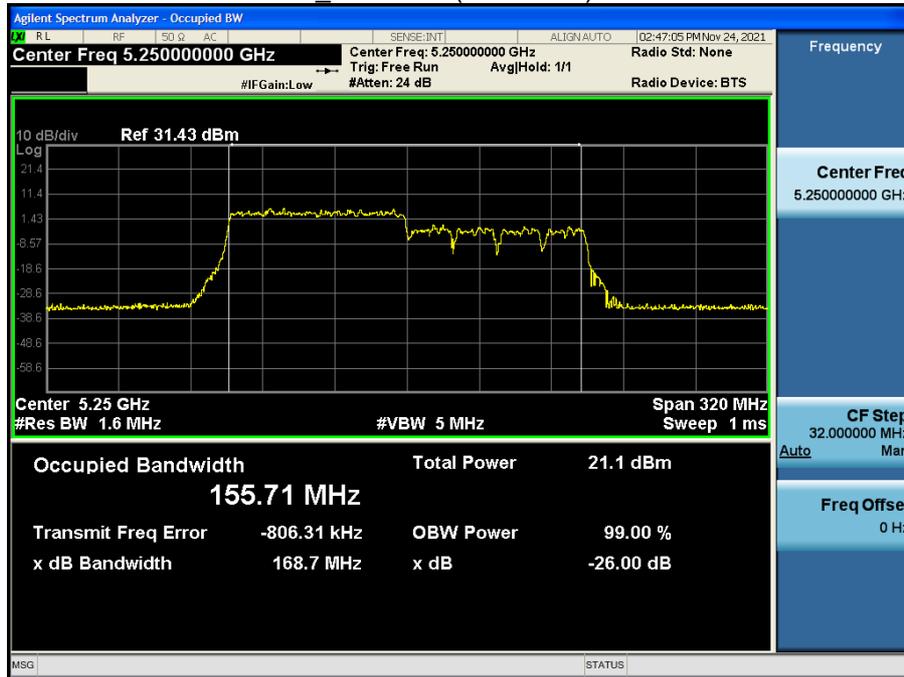
Bandwidth 160M_80L Ch.114(5570 MHz) 996 Tones RU 67
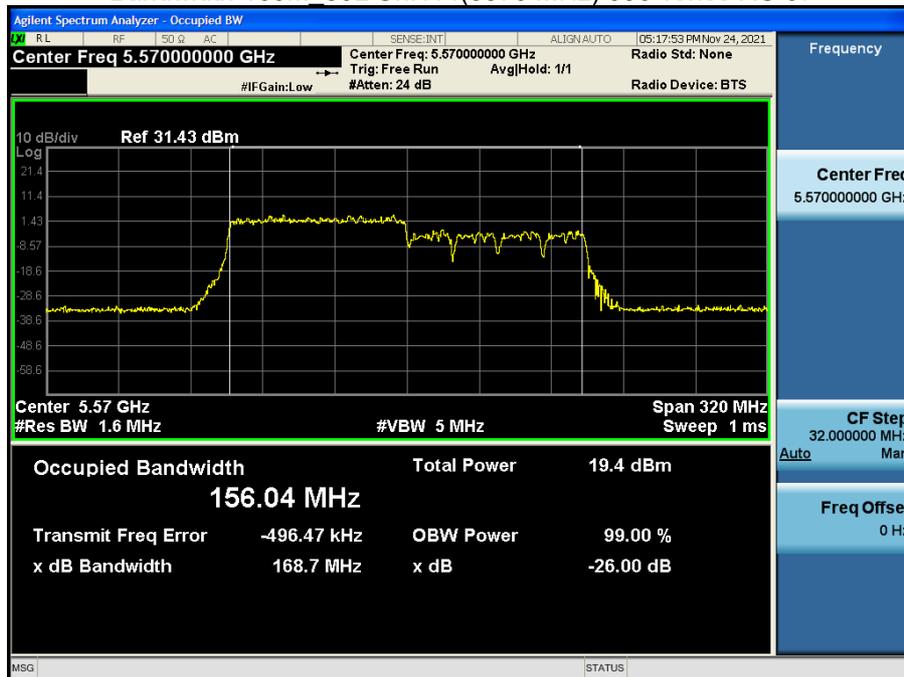
Bandwidth 160M_80L Ch.163(5815 MHz) 484T Tones RU 65
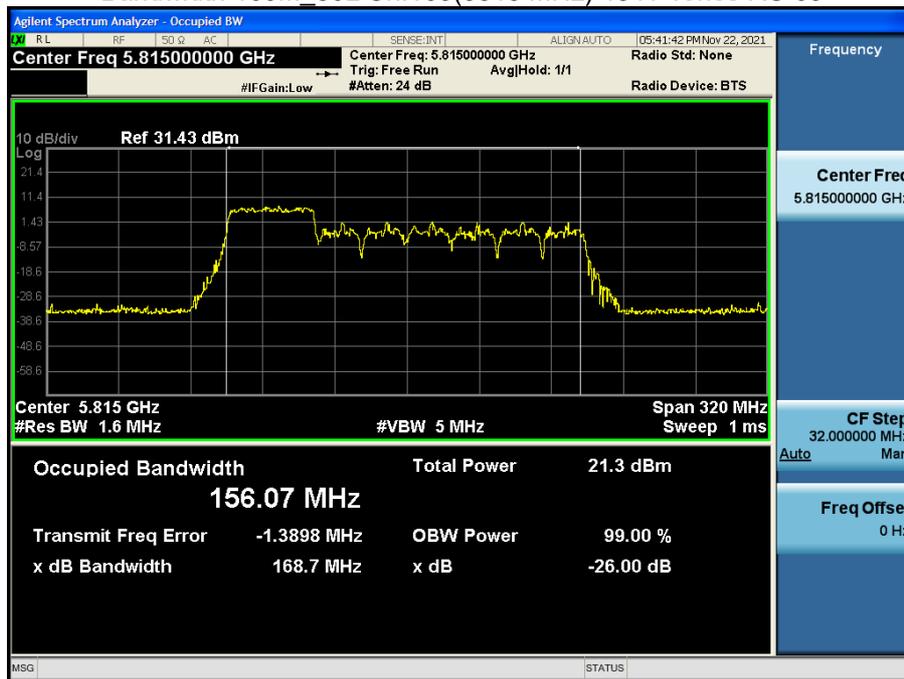
Bandwidth 160M_80U Ch.50(5250 MHz) 996 Tones RU 67
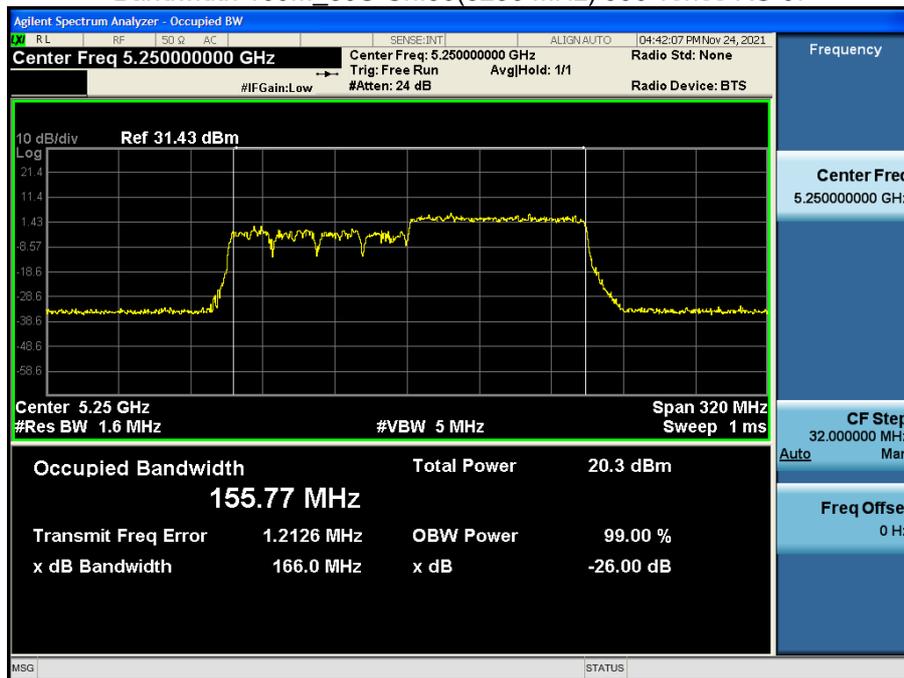
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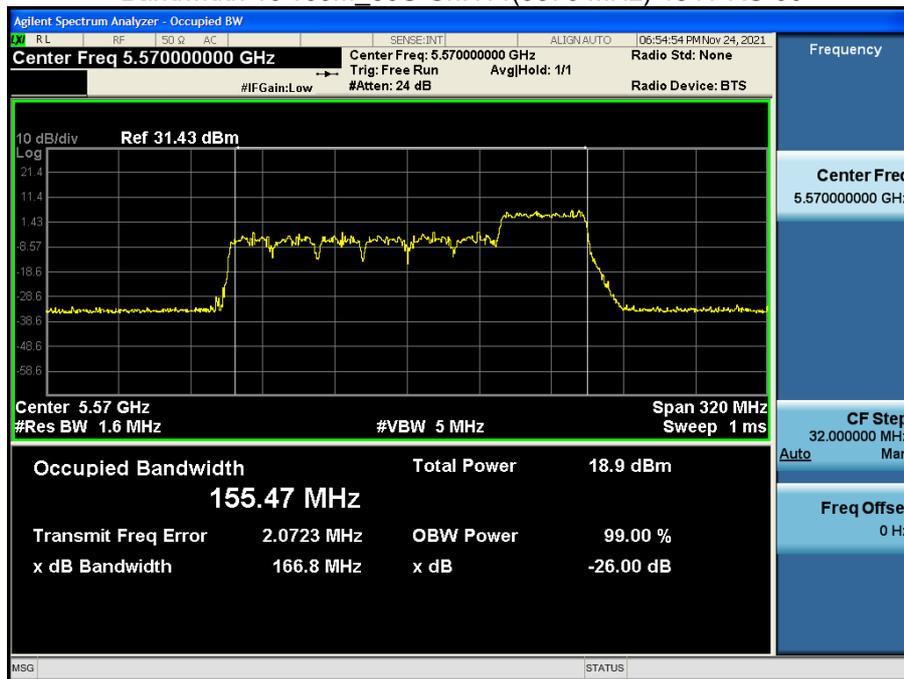
Bandwidth 160M_80U Ch.163(5815 MHz) 484 Tones RU 66
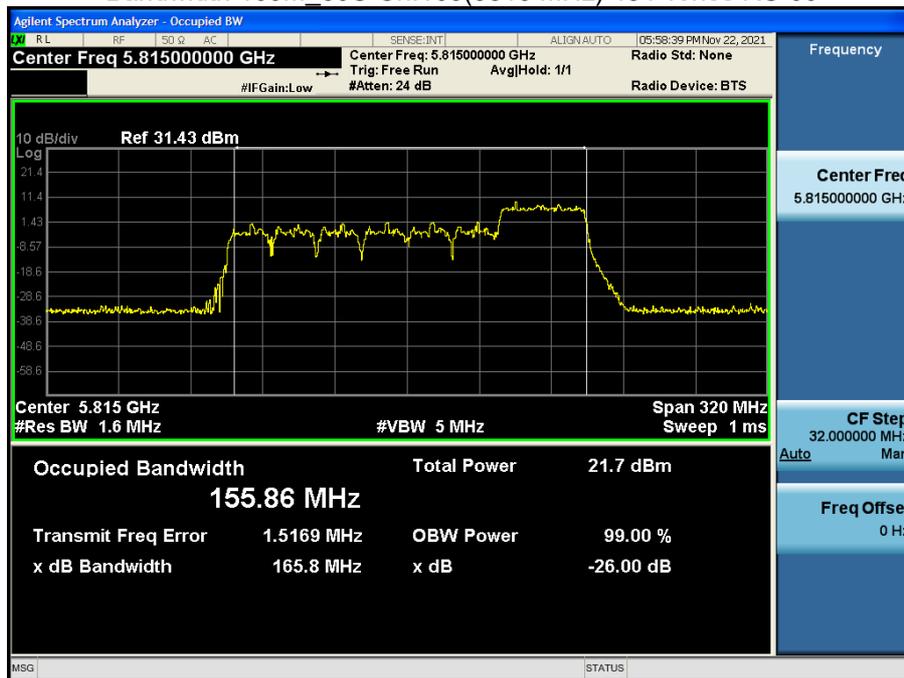
Bandwidth 160M_SU Ch.50(5250 MHz) SU

Occupied Bandwidth		Total Power	23.3 dBm
155.04 MHz			
Transmit Freq Error	148.50 kHz	OBW Power	99.00 %
x dB Bandwidth	163.1 MHz	x dB	-26.00 dB

Bandwidth 160M_SU Ch.114(5570 MHz) SU

Occupied Bandwidth		Total Power	22.9 dBm
154.79 MHz			
Transmit Freq Error	530.12 kHz	OBW Power	99.00 %
x dB Bandwidth	163.1 MHz	x dB	-26.00 dB
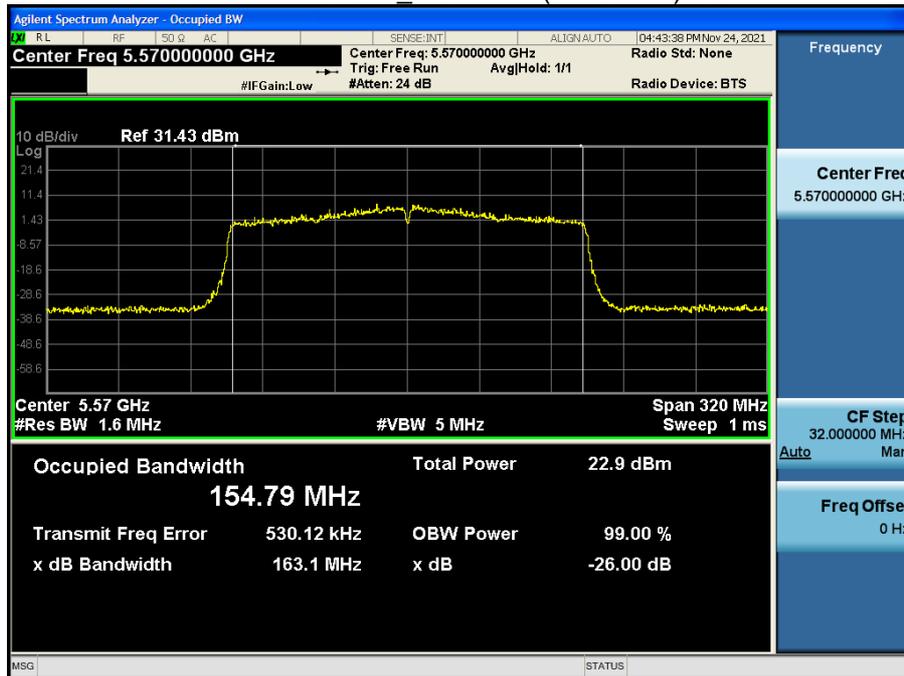
Bandwidth 160M_SU Ch.163(5815 MHz) SU

UNII-4 Band

Bandwidth 20M Ch.169(5845 MHz) RU 61
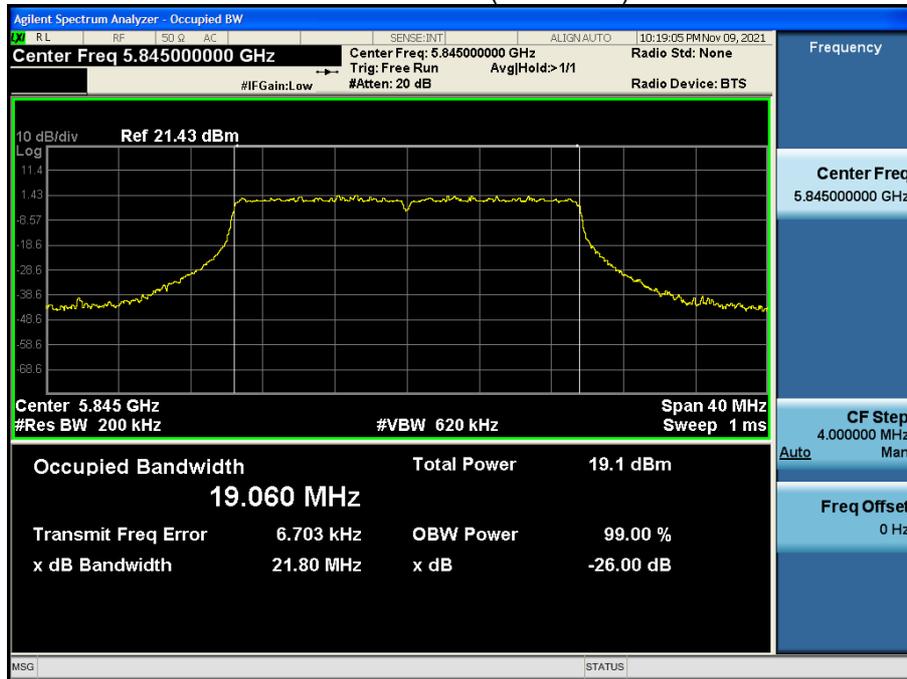
Bandwidth 20M Ch.173(5865 MHz) RU 61
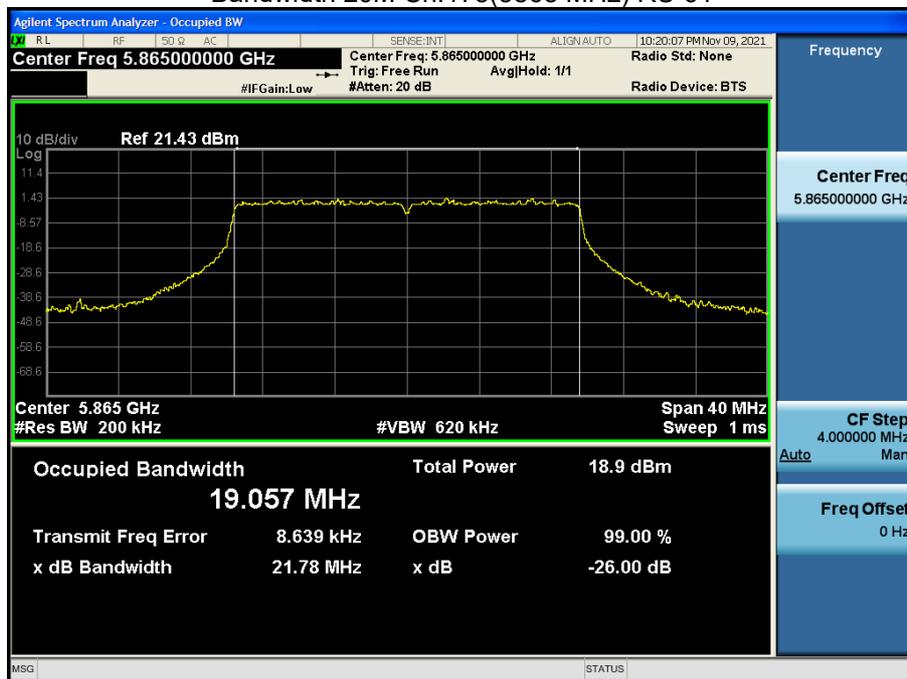
Bandwidth 20M Ch.177(5885 MHz) SU

Bandwidth 40M Ch.167(5835 MHz) RU 65

Bandwidth 40M Ch.175 (5875 MHz) RU 65

Agilent Spectrum Analyzer - Occupied BW

Center Freq 5.875000000 GHz	Center Freq: 5.875000000 GHz
	Trig: Free Run Avg|Hold: 1/1
#IFGain:Low #Atten: 20 dB	Radio Std: None
	Radio Device: BTS

10 dB/div Ref 21.43 dBm

Center 5.875 GHz Span 80 MHz
#Res BW 430 kHz #VBW 1.3 MHz Sweep 1 ms

Occupied Bandwidth		Total Power	18.9 dBm
37.964 MHz			
Transmit Freq Error	-20.590 kHz	OBW Power	99.00 %
x dB Bandwidth	43.77 MHz	x dB	-26.00 dB

Bandwidth 80M Ch.171(5855 MHz) SU

Agilent Spectrum Analyzer - Occupied BW

Center Freq 5.855000000 GHz	Center Freq: 5.855000000 GHz
	Trig: Free Run Avg|Hold: 1/1
#IFGain:Low #Atten: 20 dB	Radio Std: None
	Radio Device: BTS

10 dB/div Ref 21.43 dBm

Center 5.855 GHz Span 160 MHz
#Res BW 820 kHz #VBW 2.7 MHz Sweep 1 ms

Occupied Bandwidth		Total Power	20.3 dBm
77.605 MHz			
Transmit Freq Error	9.483 kHz	OBW Power	99.00 %
x dB Bandwidth	87.10 MHz	x dB	-26.00 dB

3. 6 dB Bandwidth

<u>Note:</u>
1. In order to simplify the report, attached plots were only (Worst Case: Ant.2).
2. In order to simplify the report, attached plots were only the narrowest channel bandwidth.

3.1 MIMO Ant2

Bandwidth 20M Ch.149(5745 MHz) RU 8
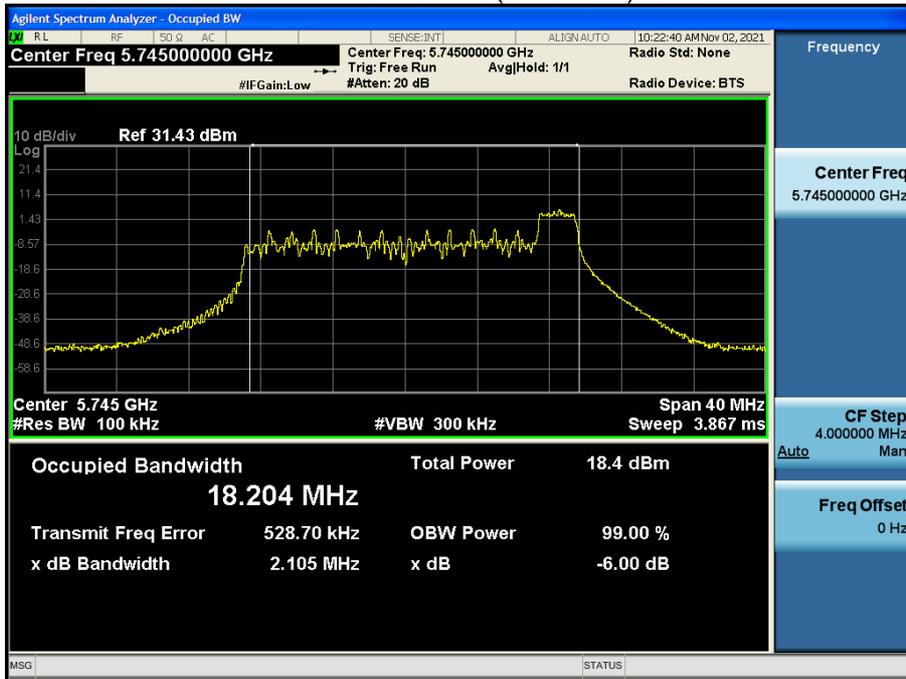
Bandwidth 20M Ch.157(5785 MHz) RU 8
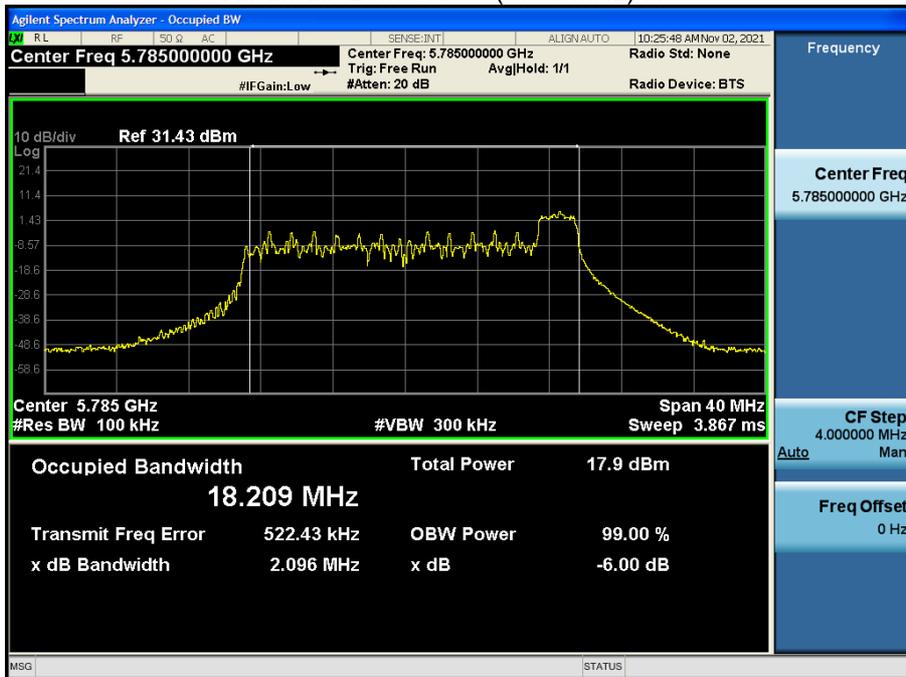
Bandwidth 20M Ch.165(5825 MHz) RU 8
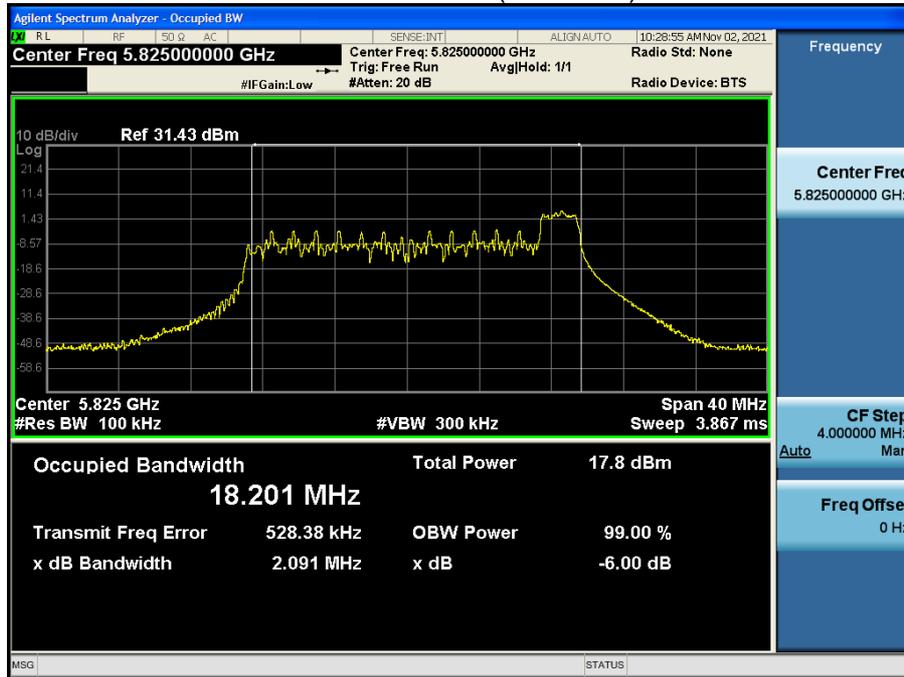
Bandwidth 40M Ch.151(5755 MHz) RU 9
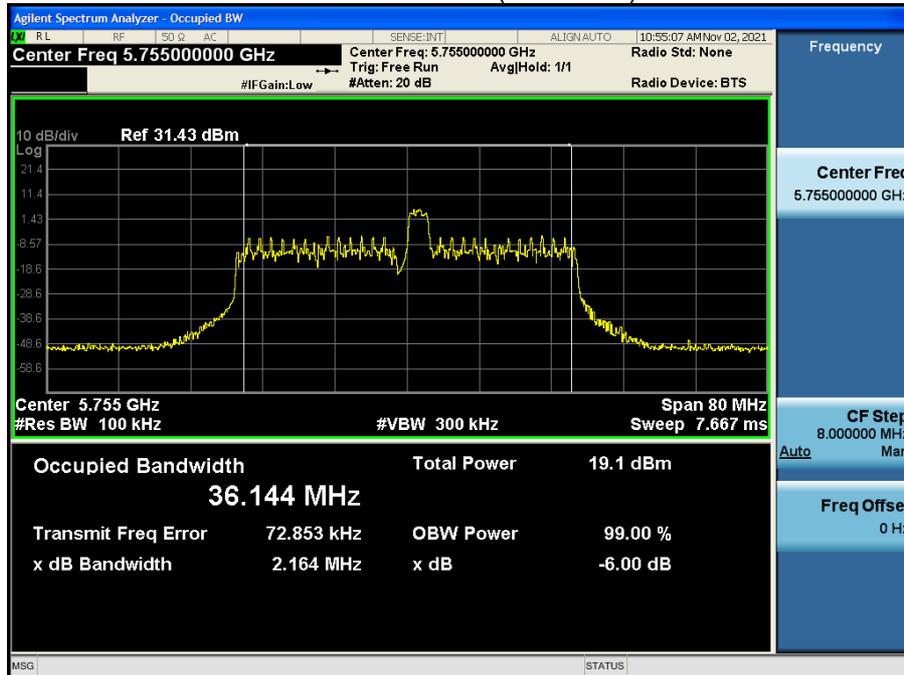
Bandwidth 40M Ch.159(5795 MHz) RU 17
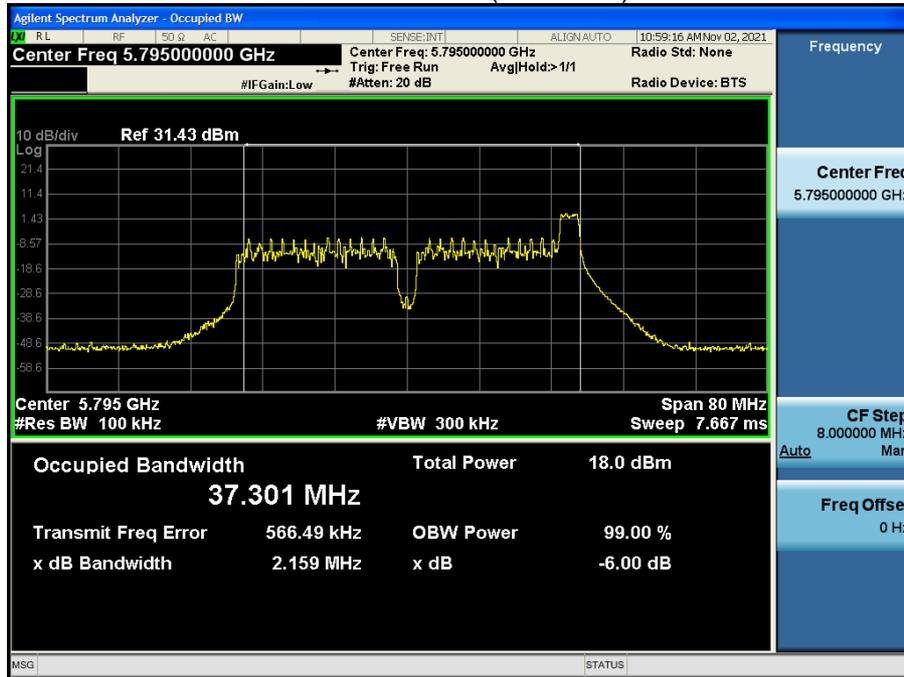
Bandwidth 80M Ch.155(5775 MHz) RU 36
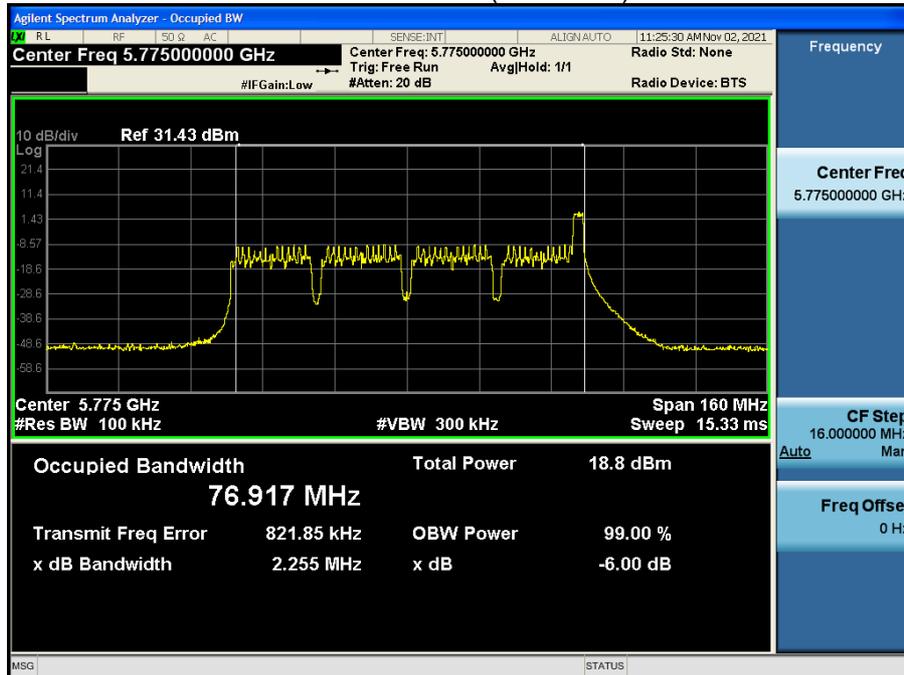
UNII-4 Band

Bandwidth 20M Ch.169(5845 MHz) RU 0
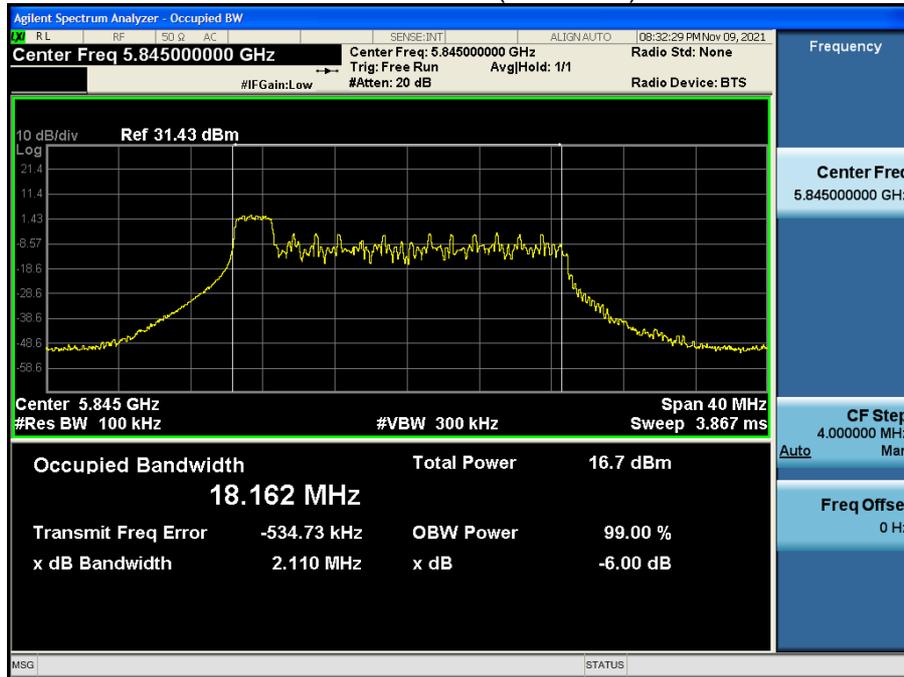
Bandwidth 20M Ch.173(5865 MHz) RU 0
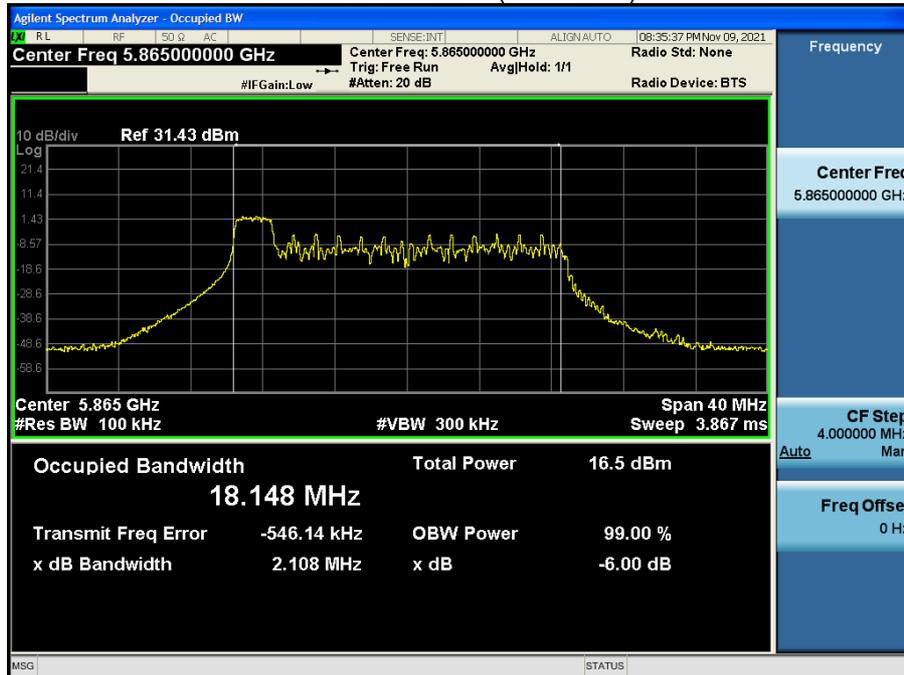
Bandwidth 20M Ch.177(5885 MHz) RU 8
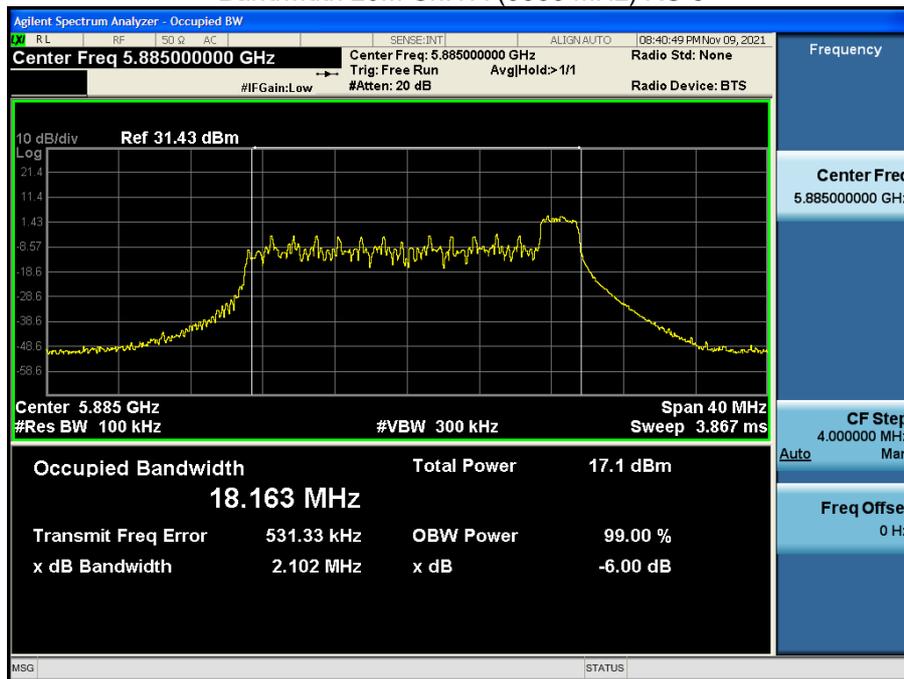
Bandwidth 40M Ch.167(5835 MHz) RU 17
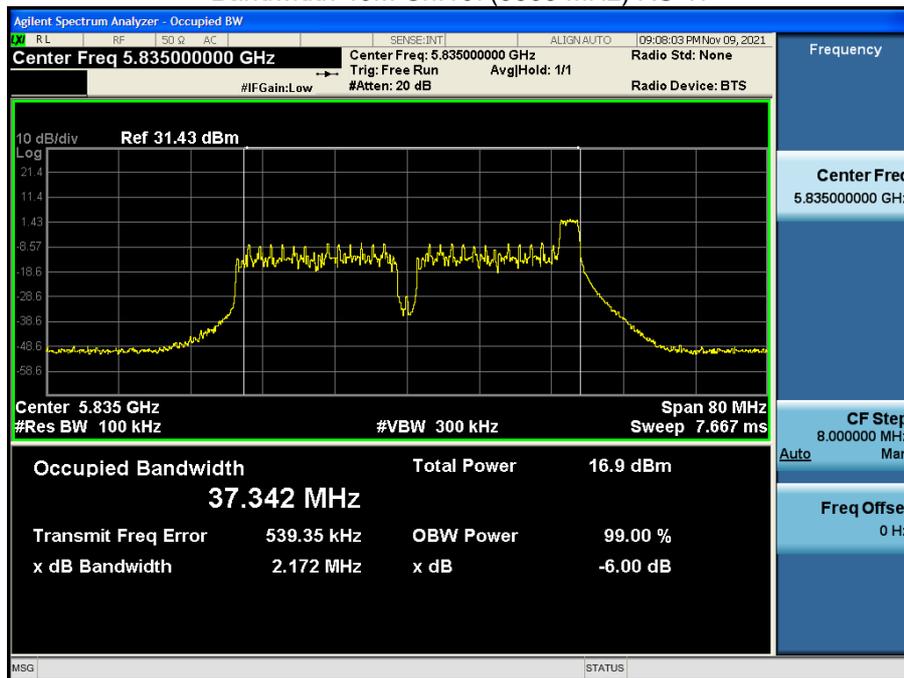
Bandwidth 40M Ch.175(5875 MHz) RU 0
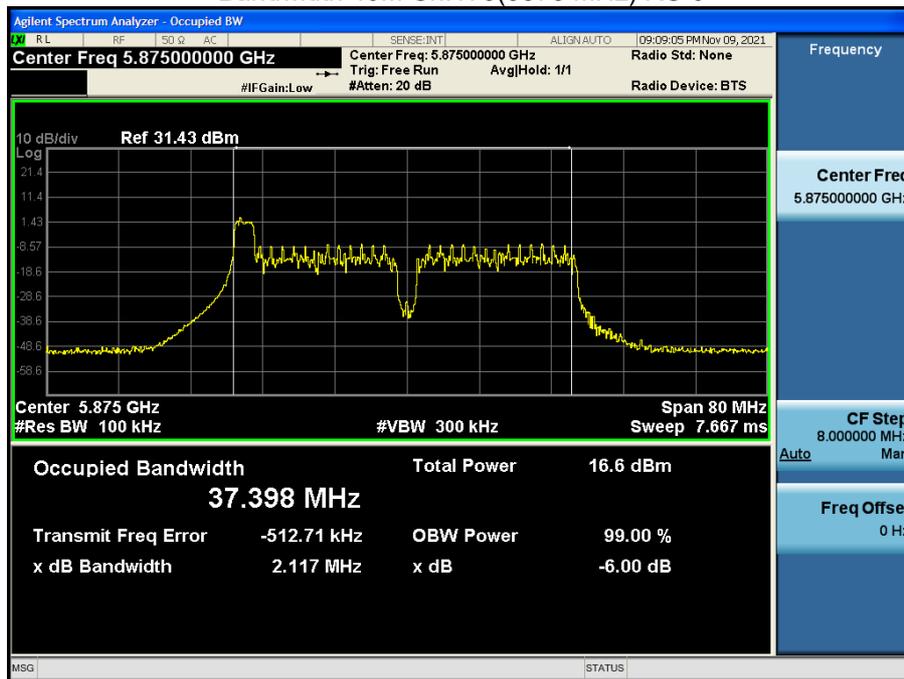
Bandwidth 80M Ch.171(5855 MHz) RU 36
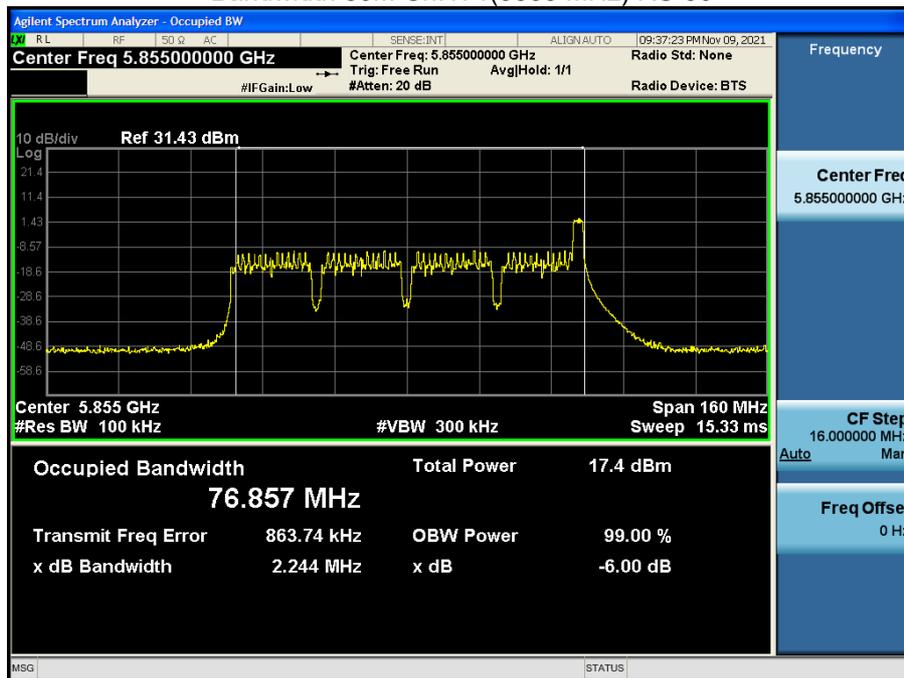
Bandwidth 160M

Bandwidth 160M_80L Ch.163(5815 MHz) 26 Tones RU 36
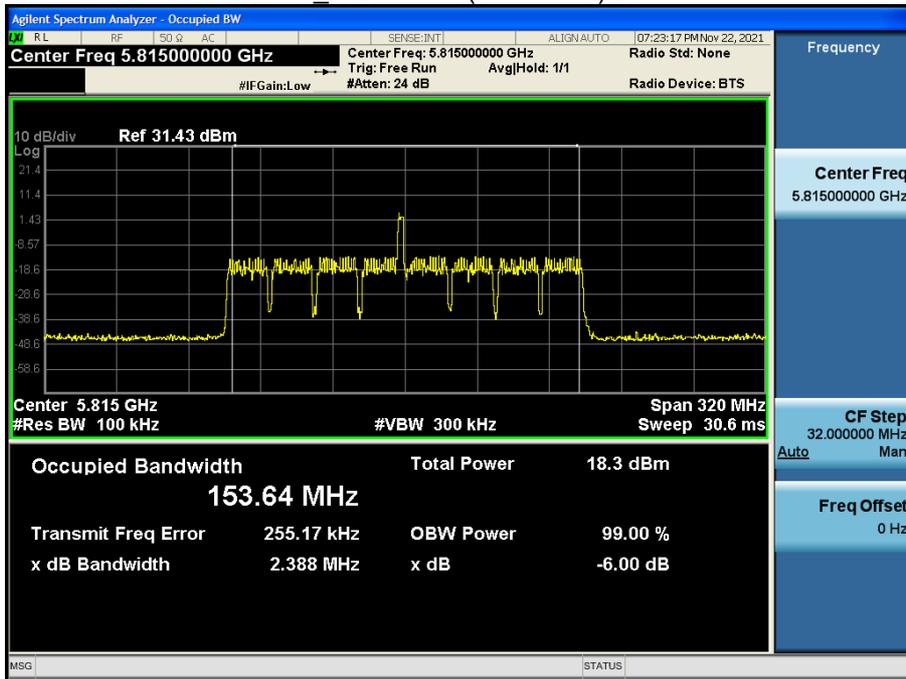
Bandwidth 160M_80U Ch.163(5815 MHz) 26 Tones RU 0

Bandwidth 160M_SU Ch.163(5815 MHz) SU

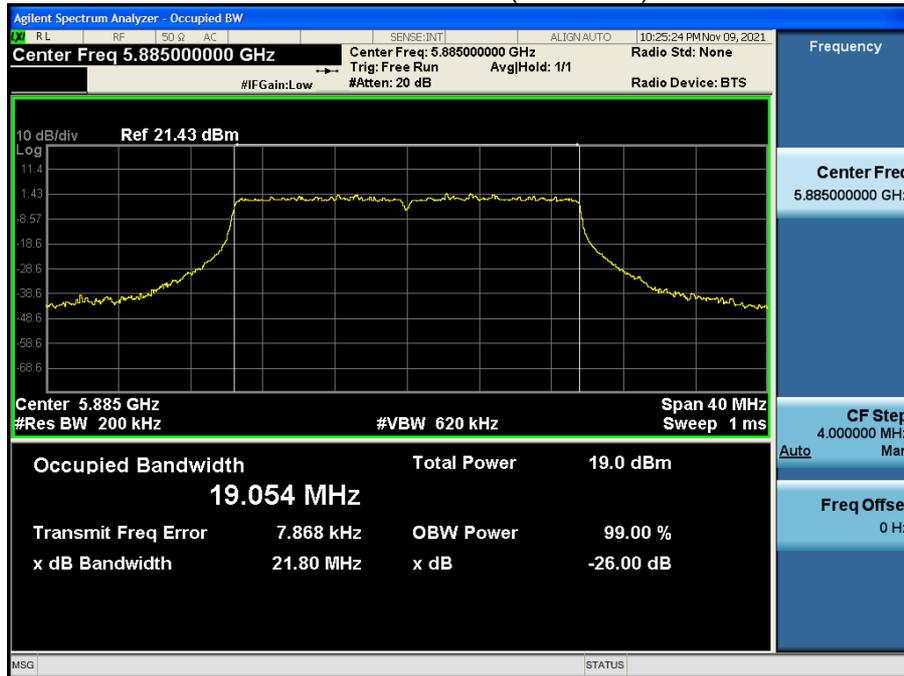| Agilent Spectrum Analyzer - Occupied BW				
Center Freq 5.815000000 GHz		Center Freq: 5.815000000 GHz	ALIGN AUTO	07:52:00 PM Nov 22, 2021
		Trig: Free Run	Avg|Hold: 1/1	Radio Std: None
	#IFGain:Low	#Atten: 24 dB		Radio Device: BTS

10 dB/div   **Ref 31.43 dBm**

Center 5.815 GHz   Span 320 MHz
#Res BW 100 kHz   #VBW 300 kHz   Sweep 30.6 ms

Occupied Bandwidth		Total Power	20.0 dBm
154.84 MHz			
Transmit Freq Error	108.68 kHz	OBW Power	99.00 %
x dB Bandwidth	140.0 MHz	x dB	-6.00 dB

Frequency

Center Freq
5.815000000 GHz

CF Step
32.000000 MHz
Auto   Man

Freq Offset
0 Hz

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) SU	
Ant1	**Ant2**
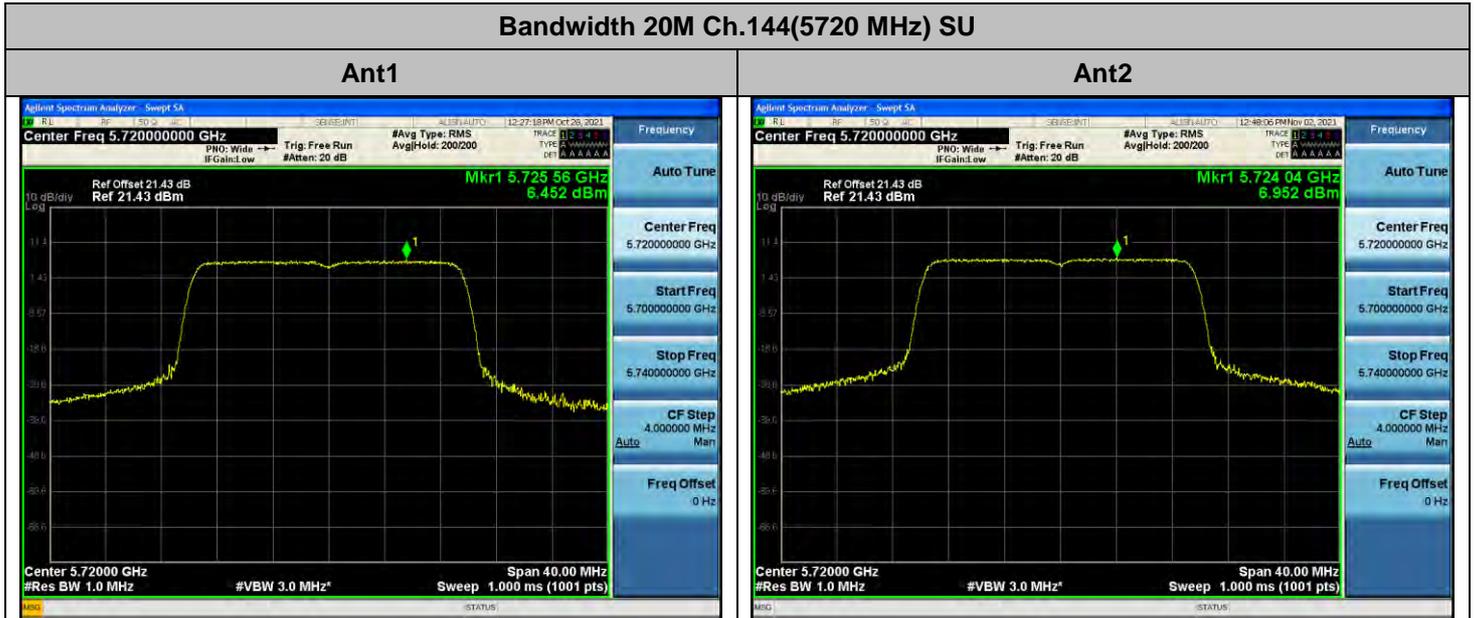
SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
9.719	0.028	9.747

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

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

Ant1	Ant2
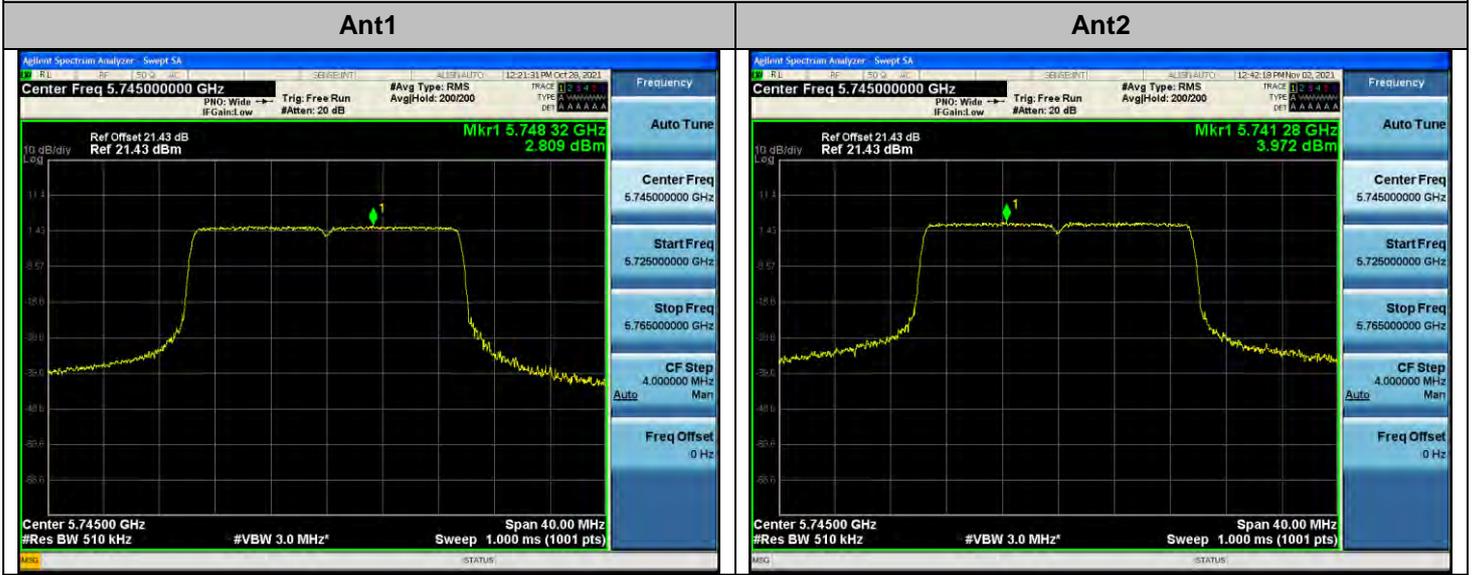
SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
6.440	0.032	6.472

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

Bandwidth 40M Ch.142 (5710 MHz) RU 41	
Ant1	Ant2
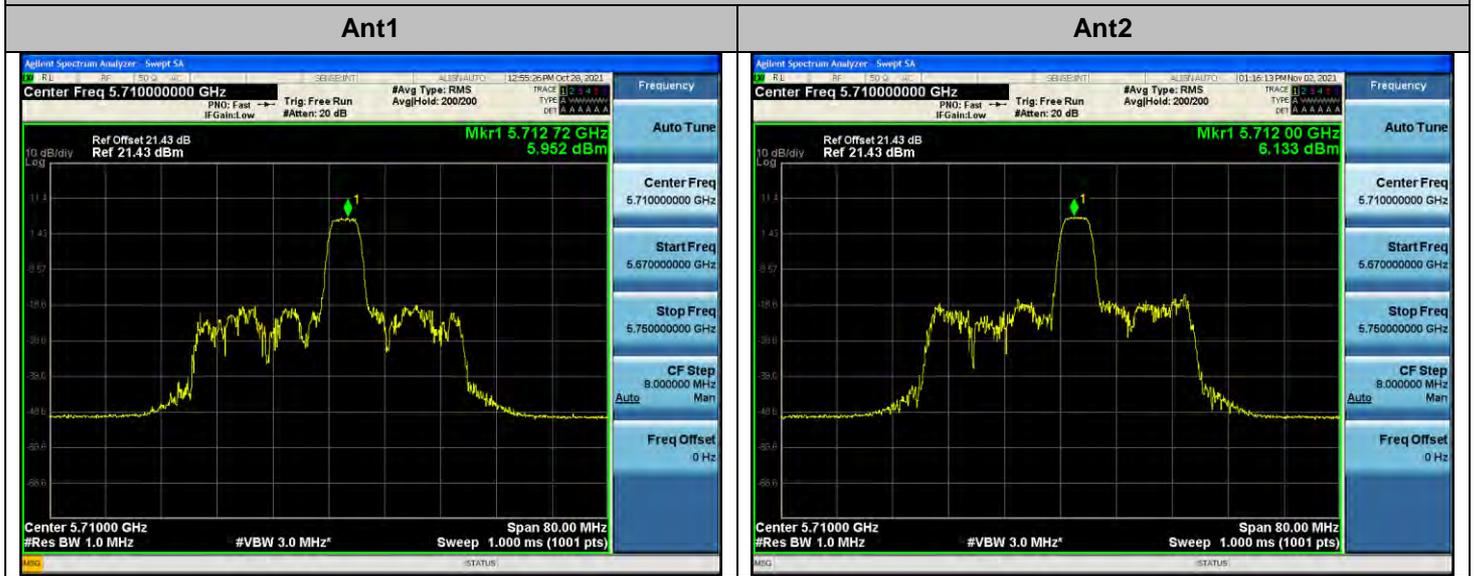
SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
9.054	0.025	9.079

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

Bandwidth 40M Ch.151 (5755 MHz) RU 9	
Ant1	Ant2
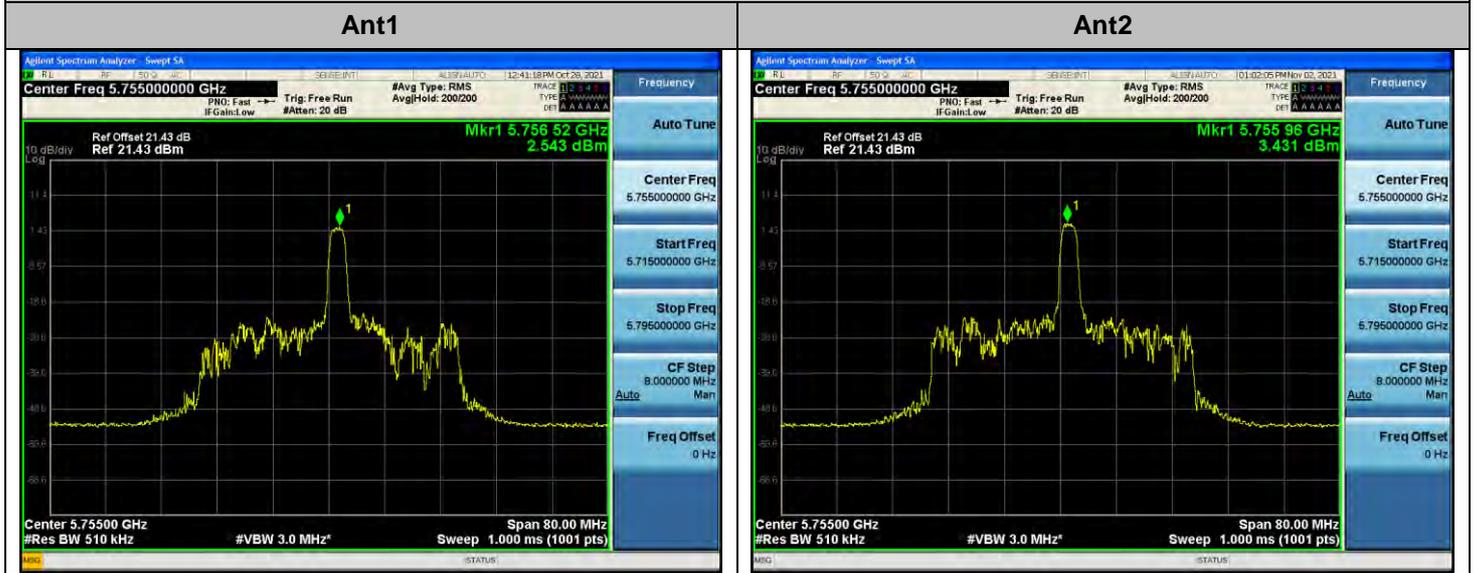
SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
6.020	0.025	6.045

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

Bandwidth 80M Ch.138 (5690 MHz) RU 45

Ant1	Ant2
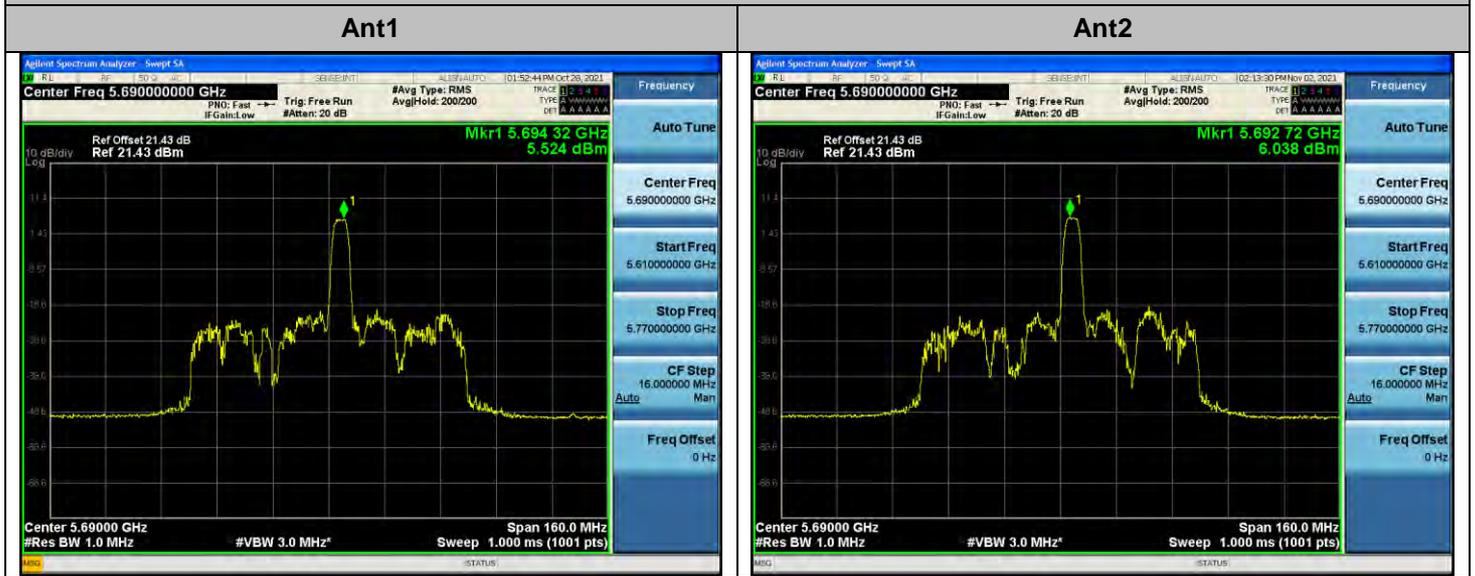
SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
8.799	0.030	8.829

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

Bandwidth 80M Ch.155 (5775 MHz) RU 36	
Ant1	Ant2
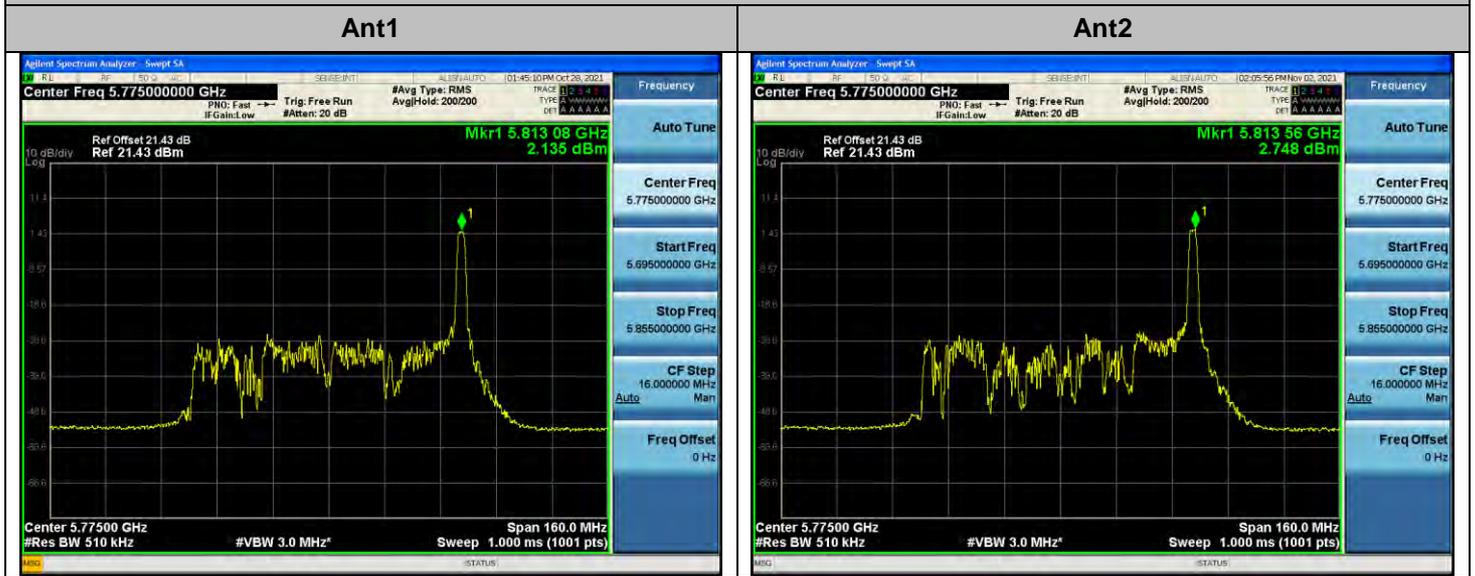
SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
5.462	0.030	5.492

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

Bandwidth 160M_80L Ch.114 (5570 MHz) 26 Tones RU 36	
Ant1	Ant2
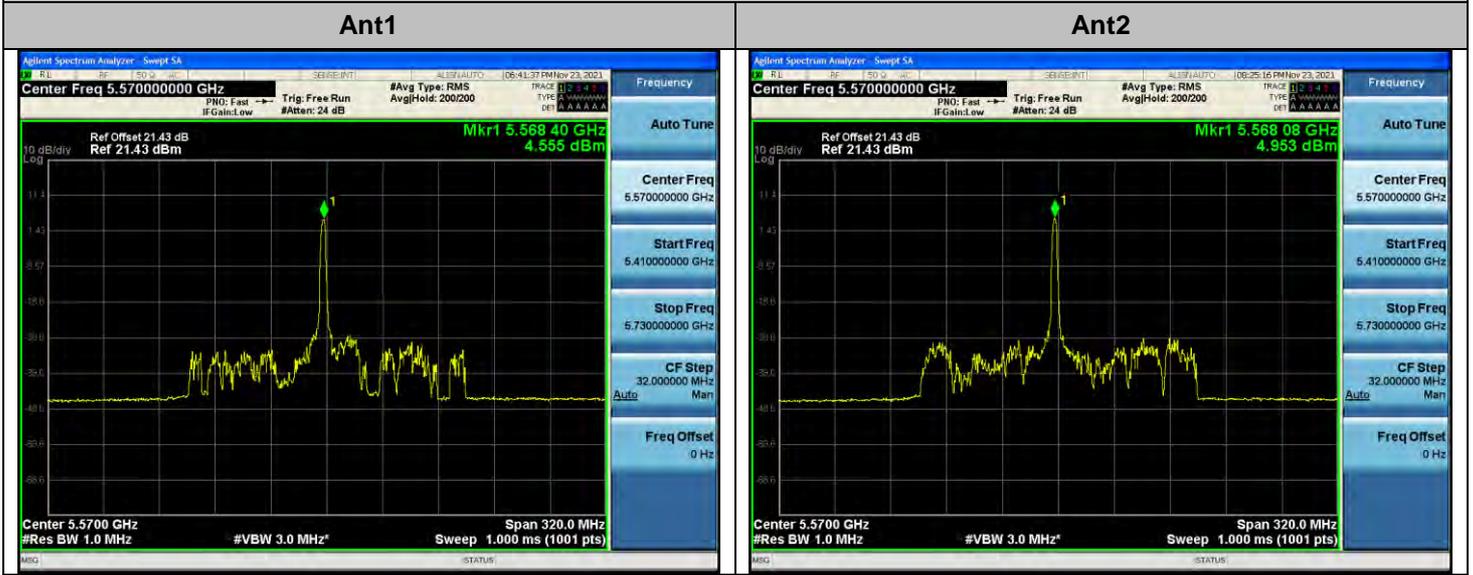
SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
7.731	0.038	7.807

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

Bandwidth 160M_80U Ch.114 (5570 MHz) 26T RU 36

Ant1	Ant2
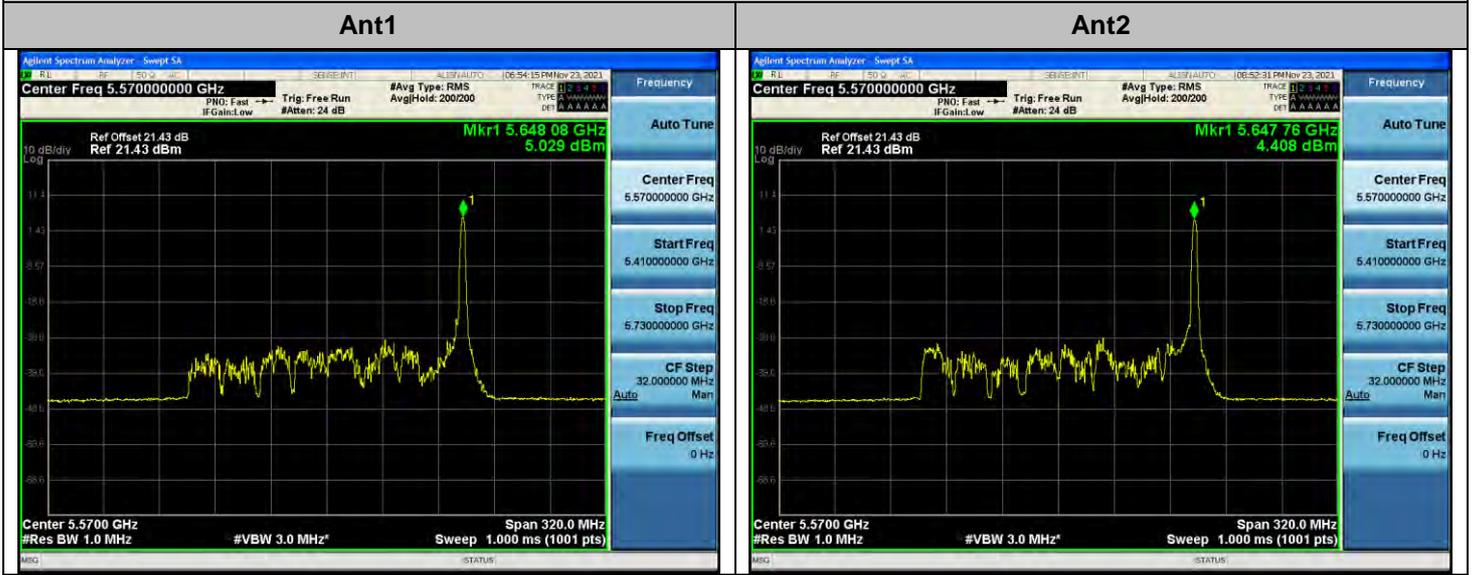
SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
7.740	0.038	7.778

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

Bandwidth 160M_SU Ch.114 (5570 MHz) SU

Ant1	Ant2
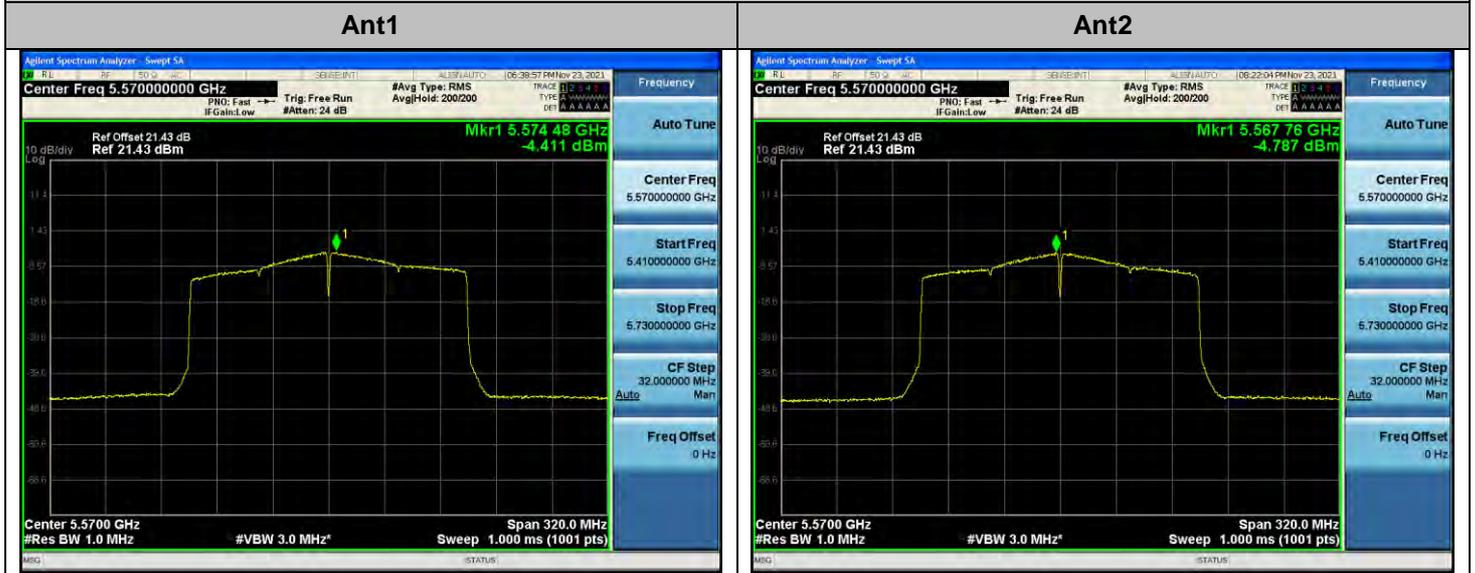
SUM PSD (dBm)	Duty Cycle Factor (dB)	Total PSD (dBm)
-1.585	0.015	-1.570

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

UNII-4 Band(EIRP)

Bandwidth 20M Ch.177 (5885 MHz) RU 8	
Ant1	Ant2
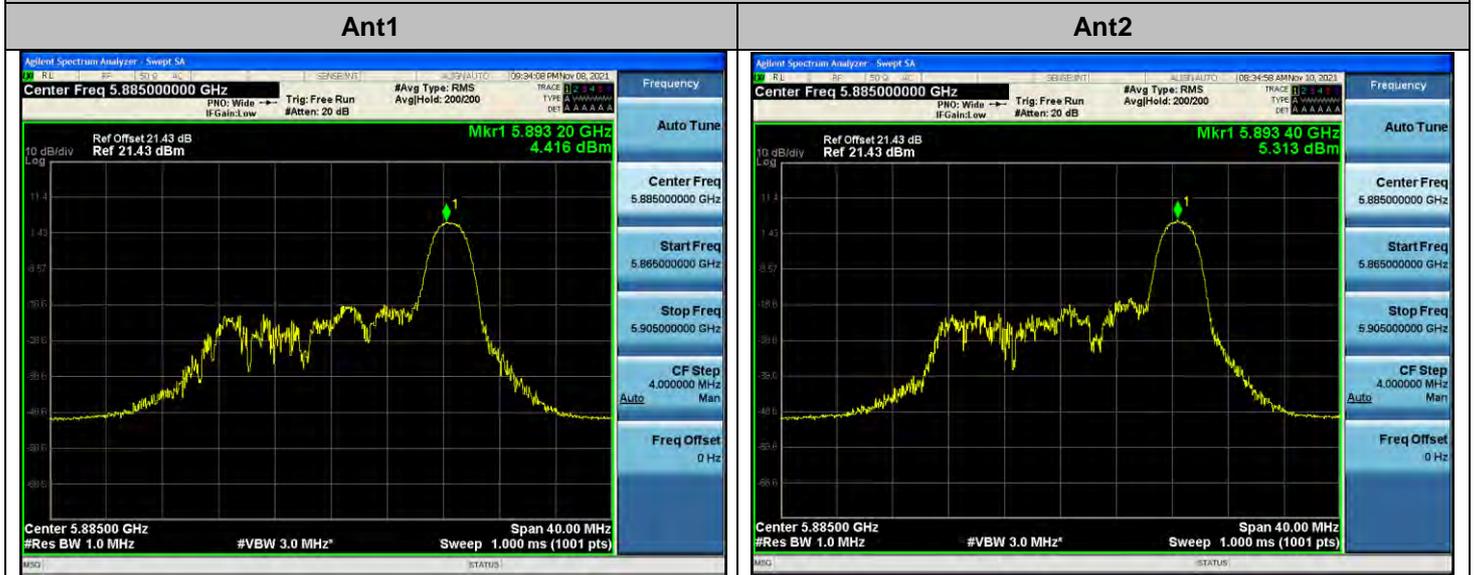
Total PSD (dBm)	ANT Gain (dB)	EIRP SUM PSD (dBm)
7.927	-3.52	4.407

Note:
1. Duty Cycle Factor (dB): 0.030
2. Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)
3. EIRP SUM PSD (dBm) = Tatal PSD (dBm) + Directional Gain (dBi)

Bandwidth 40M Ch.167 (5835 MHz) RU 41

Ant1	Ant2
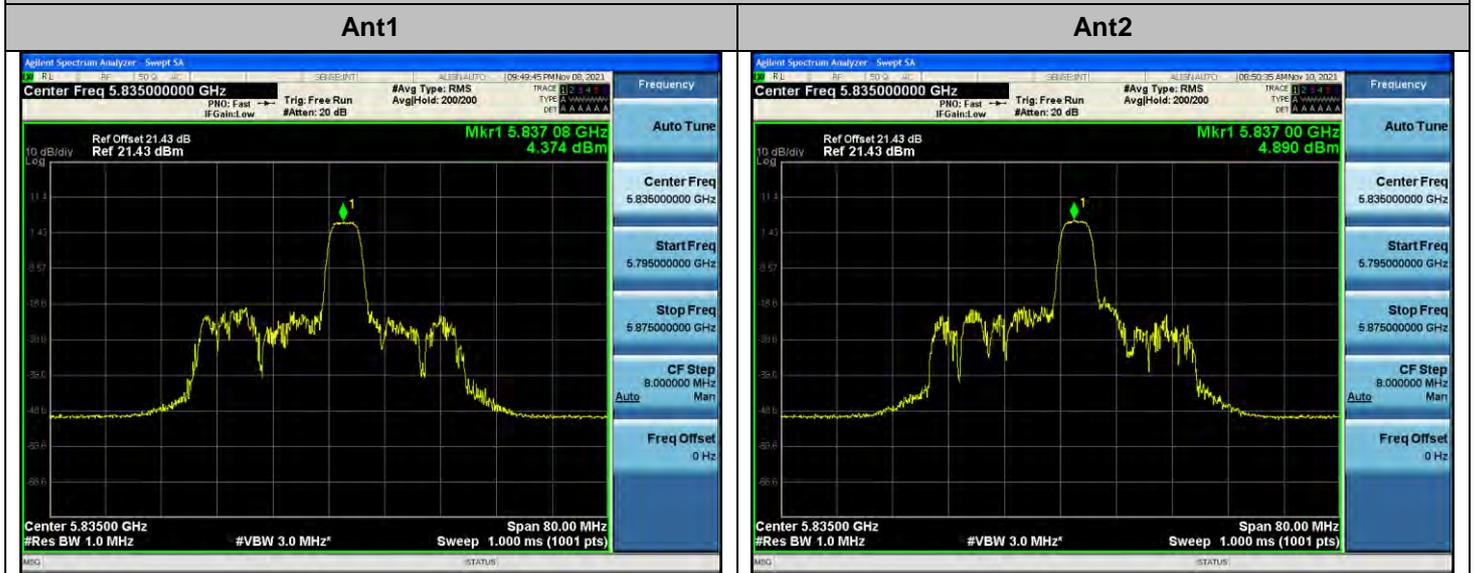
Total PSD (dBm)	ANT Gain (dB)	EIRP SUM PSD (dBm)
7.677	-3.52	4.157

Note:
1. Duty Cycle Factor (dB): 0.025
2. Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)
3. EIRP SUM PSD (dBm) = Tatal PSD (dBm) + Directional Gain (dBi)

Bandwidth 80M Ch.171 (5855 MHz) RU 52	
Ant1	Ant2

Total PSD (dBm)	ANT Gain (dB)	EIRP SUM PSD (dBm)
7.479	-3.52	3.959

Note:
1. Duty Cycle Factor (dB): 0.030
2. Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)
3. EIRP SUM PSD (dBm) = Tatal PSD (dBm) + Directional Gain (dBi)

Bandwidth 160M_80L Ch.163 (5815 MHz) 52 Tones RU 52

Ant1	Ant2

Total PSD (dBm)	Directional Gain (dBi)	EIRP SUM PSD (dBm)
7.420	-3.52	3.900

Note:
1. Duty Cycle Factor (dB): 0.000
2. Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)
3. EIRP SUM PSD (dBm) = Tatal PSD (dBm) + Directional Gain (dBi)

Bandwidth 160M_80U Ch.163 (5815 MHz) 52 Tones RU 45	
Ant1	Ant2
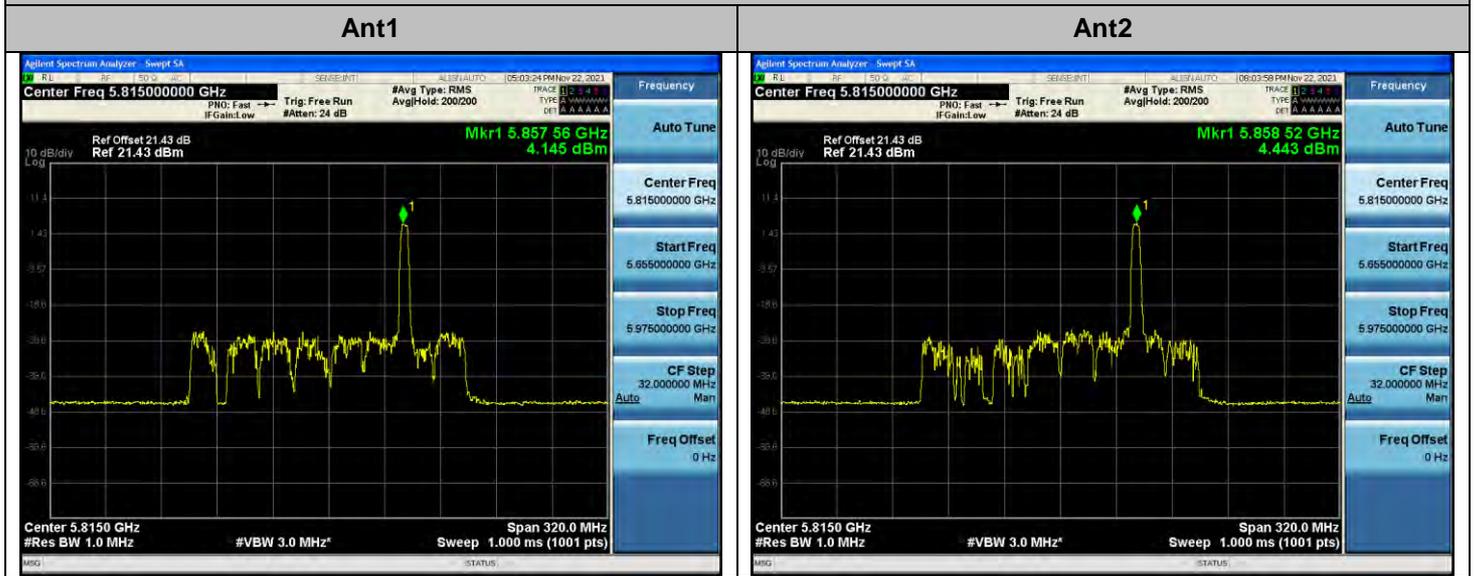
Total PSD (dBm)	Directional Gain (dBi)	EIRP SUM PSD (dBm)
7.307	-3.52	3.787

Note:
1. Duty Cycle Factor (dB): 0.000
2. Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)
3. EIRP SUM PSD (dBm) = Tatal PSD (dBm) + Directional Gain (dBi)

Bandwidth 160M_SU Ch.163 (5815 MHz) SU

Ant1	Ant2

Total PSD (dBm)	Directional Gain (dBi)	EIRP SUM PSD (dBm)
-4.537	-3.52	-8.057

Note:
1. Duty Cycle Factor (dB): 0.000
2. Total PSD (dBm) = Measured Value (dBm) + Duty Cycle Factor (dB)
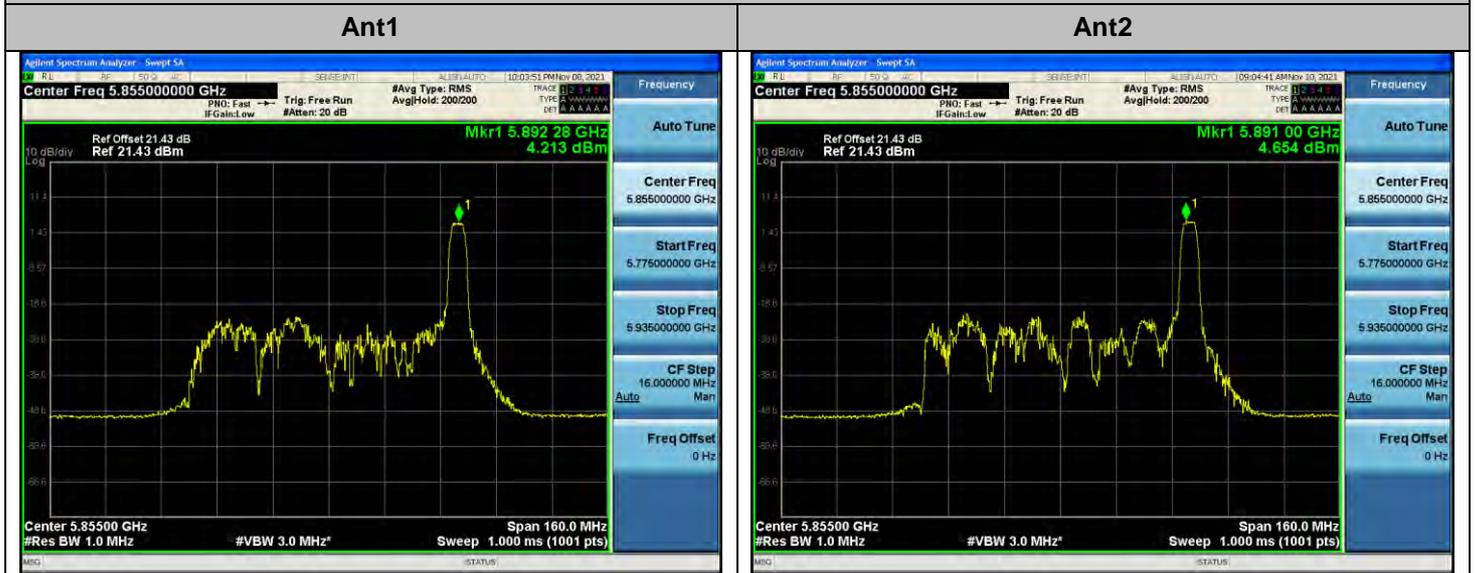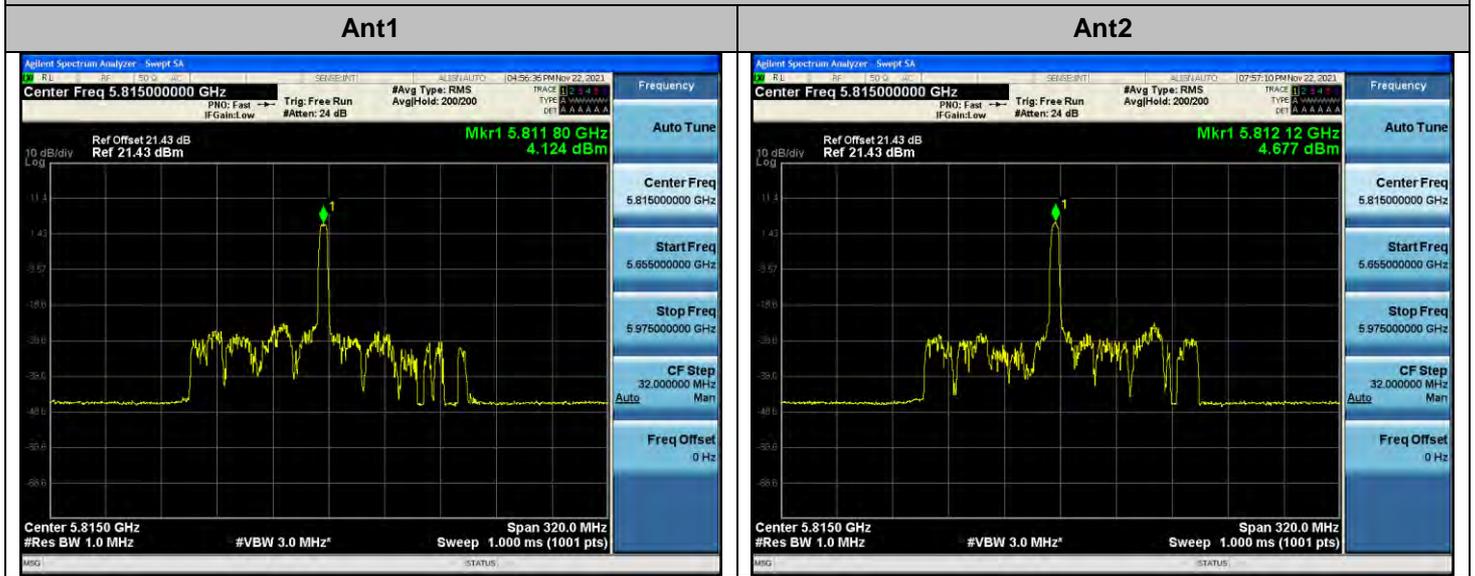3. EIRP SUM PSD (dBm) = Tatal PSD (dBm) + Directional Gain (dBi)

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	5708.6	16.40
UNII 3	Measured Frequency [MHz]	Straddle Frequency [MHz]	26dB Bandwidth [MHz]
	5731.32	5725	6.32

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	5687.76	37.24

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

(26 dB) Bandwidth 40M Ch.142(5710 MHz) RU 65
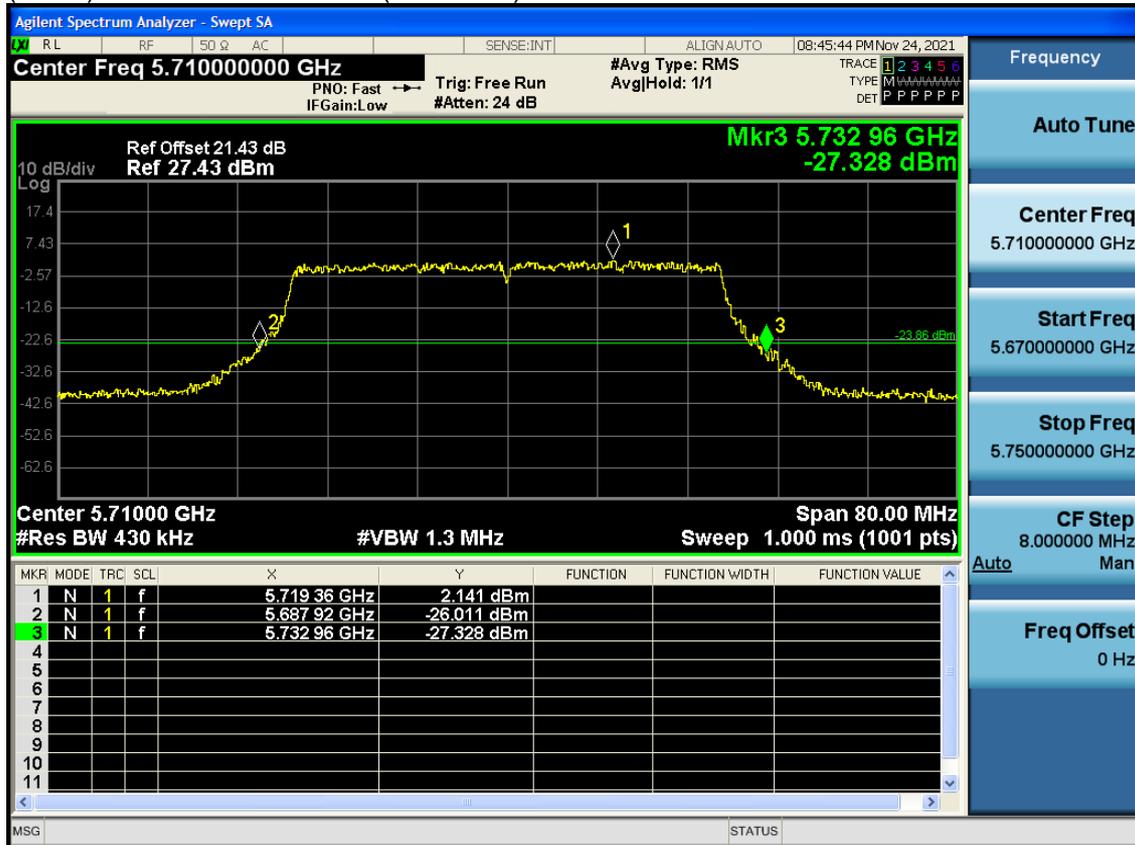
UNII 3	Measured Frequency [MHz]	Straddle Frequency [MHz]	26dB Bandwidth [MHz]
	5732.96	5725	7.96

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

(26 dB) Bandwidth 80M Ch.138(5690 MHz) RU 67

UNII 2C	Straddle Frequency [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5725	5645.2	79.80
UNII 3	Straddle Frequency [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5735.12	5725	10.12

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

5.1.2 MIMO Ant2

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

UNII 2C	Straddle Frequency [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5725	5708.64	16.36

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

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

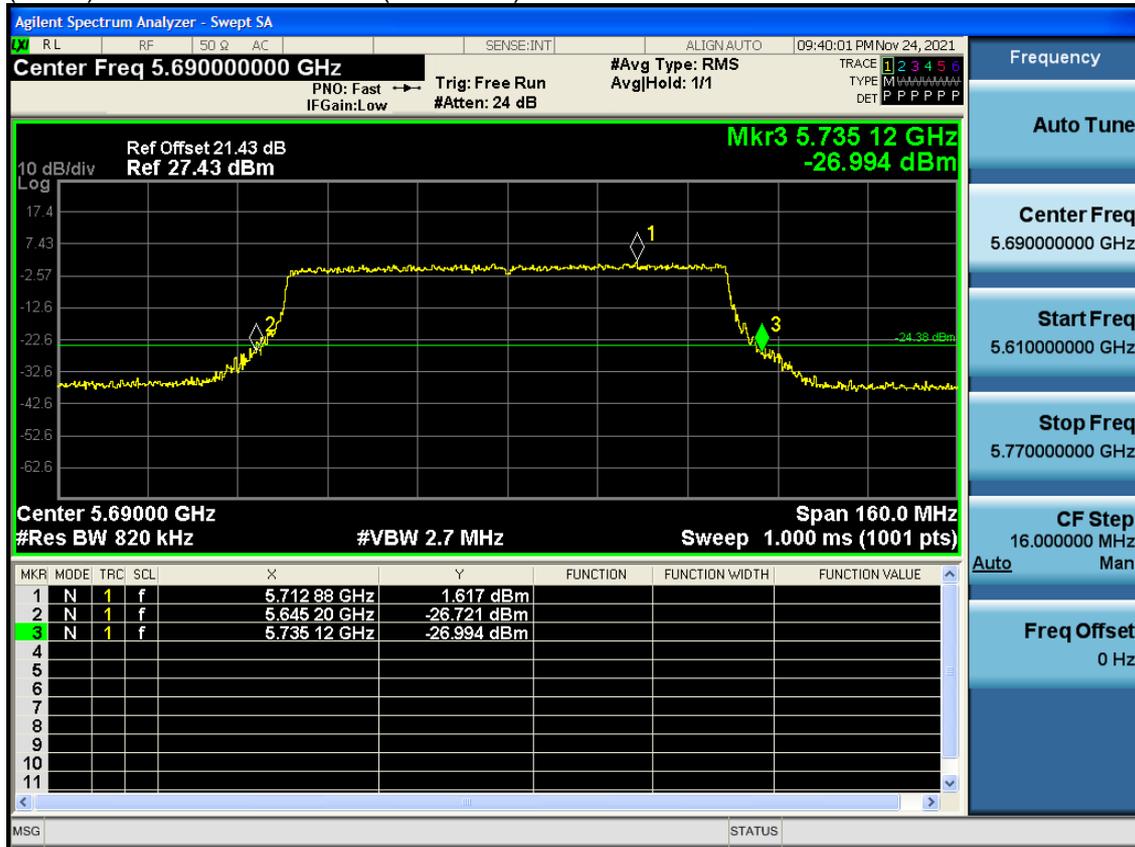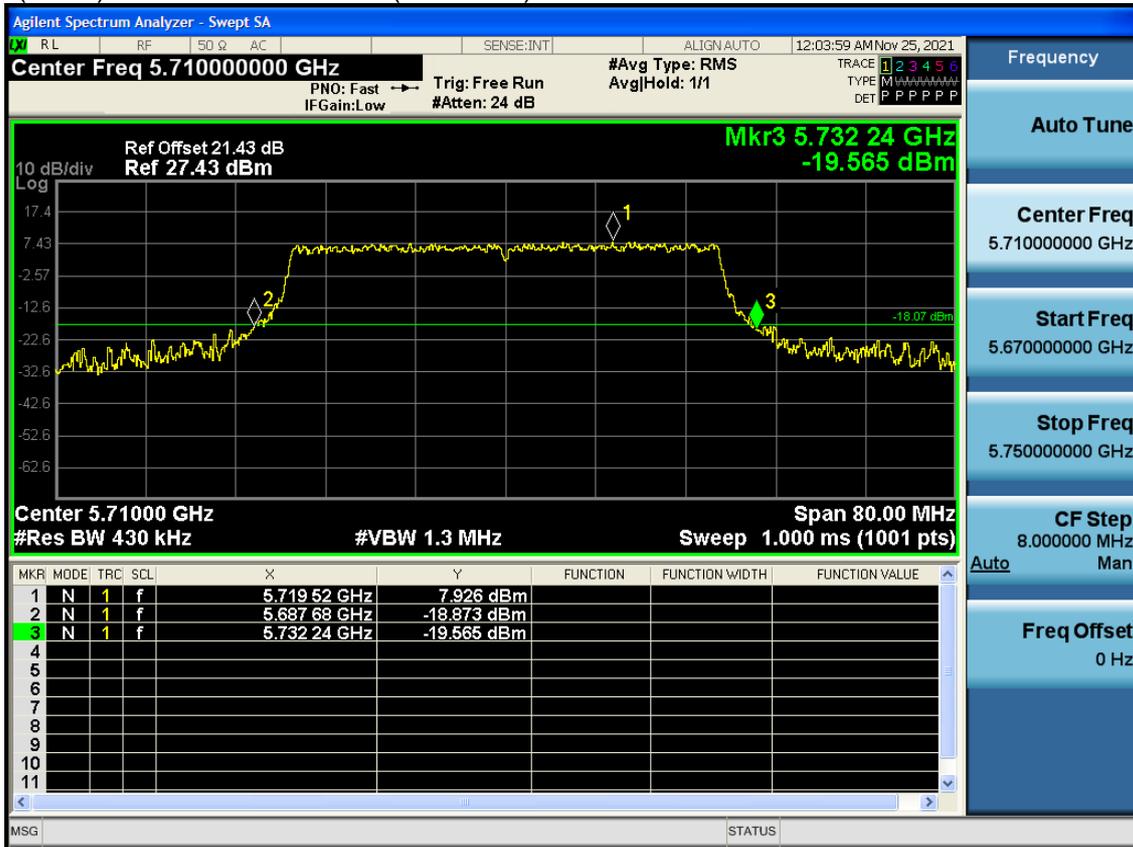| UNII 3	Measured Frequency [MHz]	Straddle Frequency [MHz]	26dB Bandwidth [MHz]
	5731.32	5725	6.32

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

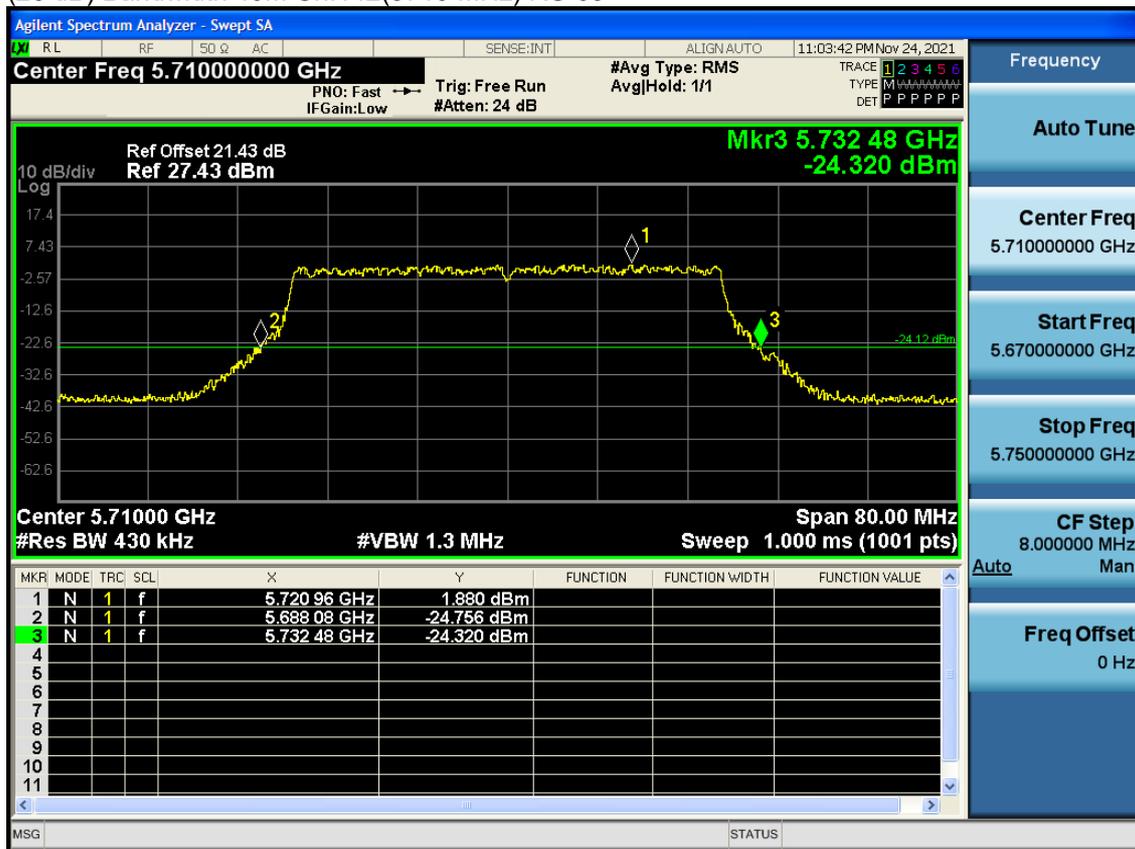(26 dB) Bandwidth 40M Ch.142(5710 MHz) SU

UNII 2C	Straddle Frequency [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5725	5687.68	37.32

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

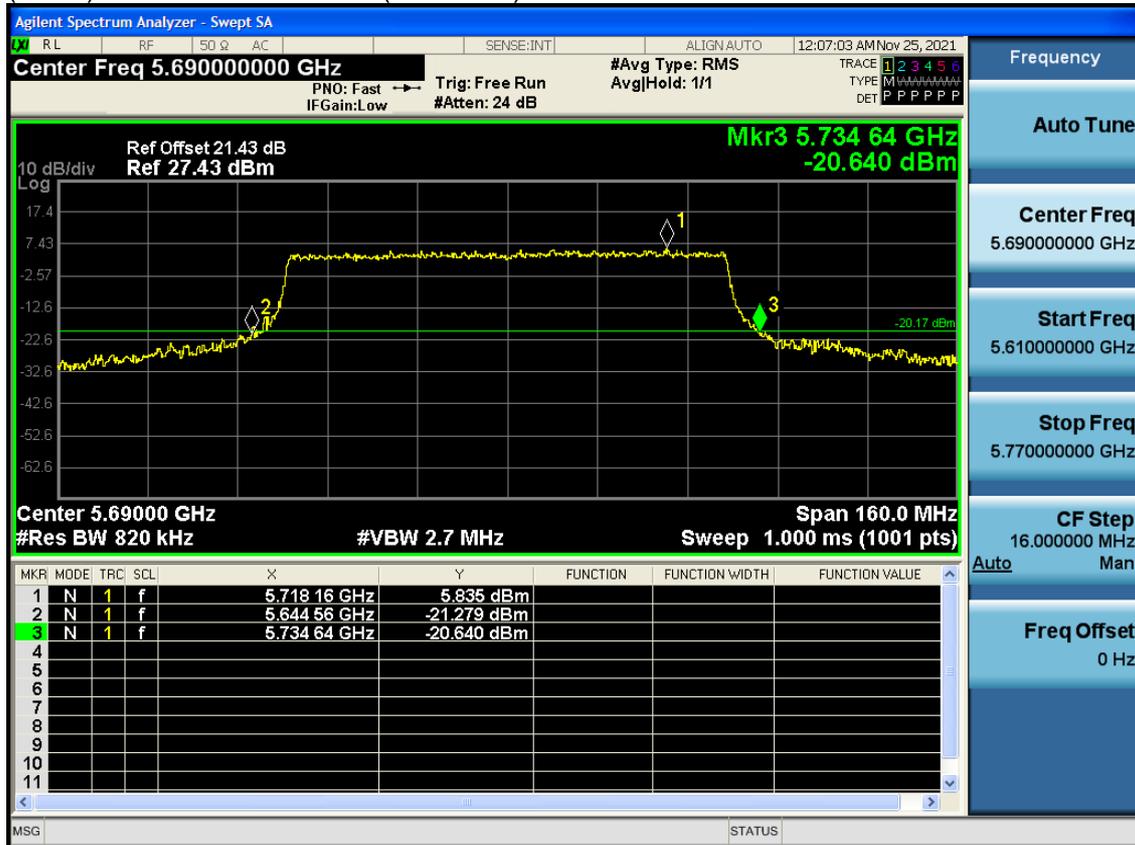(26 dB) Bandwidth 40M Ch.142(5710 MHz) RU 65

UNII 3	Measured Frequency [MHz]	Straddle Frequency [MHz]	26dB Bandwidth [MHz]
	5732.48	5725	7.48

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

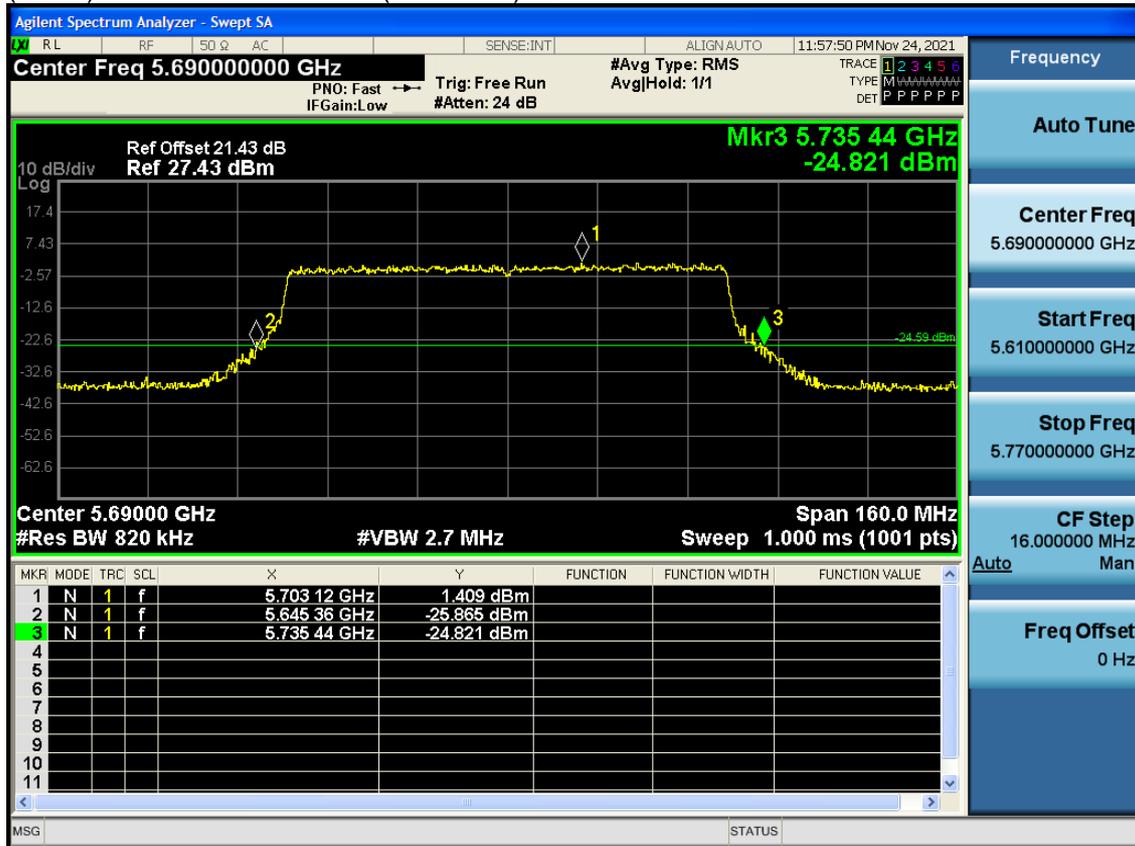(26 dB) Bandwidth 80M Ch.138(5690 MHz) SU

UNII 2C	Straddle Frequency [MHz]	Measured Frequency [MHz]	26dB Bandwidth [MHz]
	5725	5644.56	80.44

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

(26 dB) Bandwidth 80M Ch.138(5690 MHz) RU 67

UNII 3	Measured Frequency [MHz]	Straddle Frequency [MHz]	26dB Bandwidth [MHz]
	5735.44	5725	10.44

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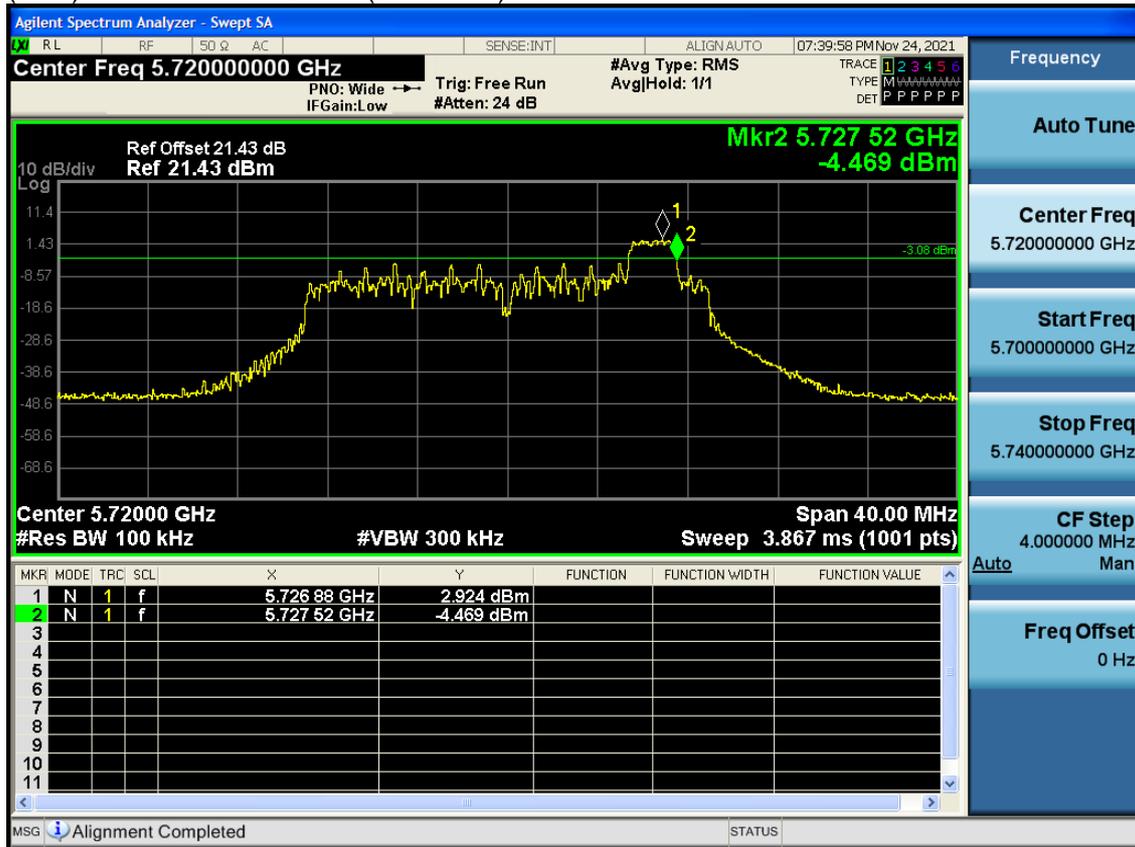1. [UNII 3] 26 dB Bandwidth = Measured Frequency[MHz] -5725 MHz

5.2 6 dB Bandwidth

Note:
1. In order to simplify the report, attached plots were only the most narrow channel. (UNII1~4)

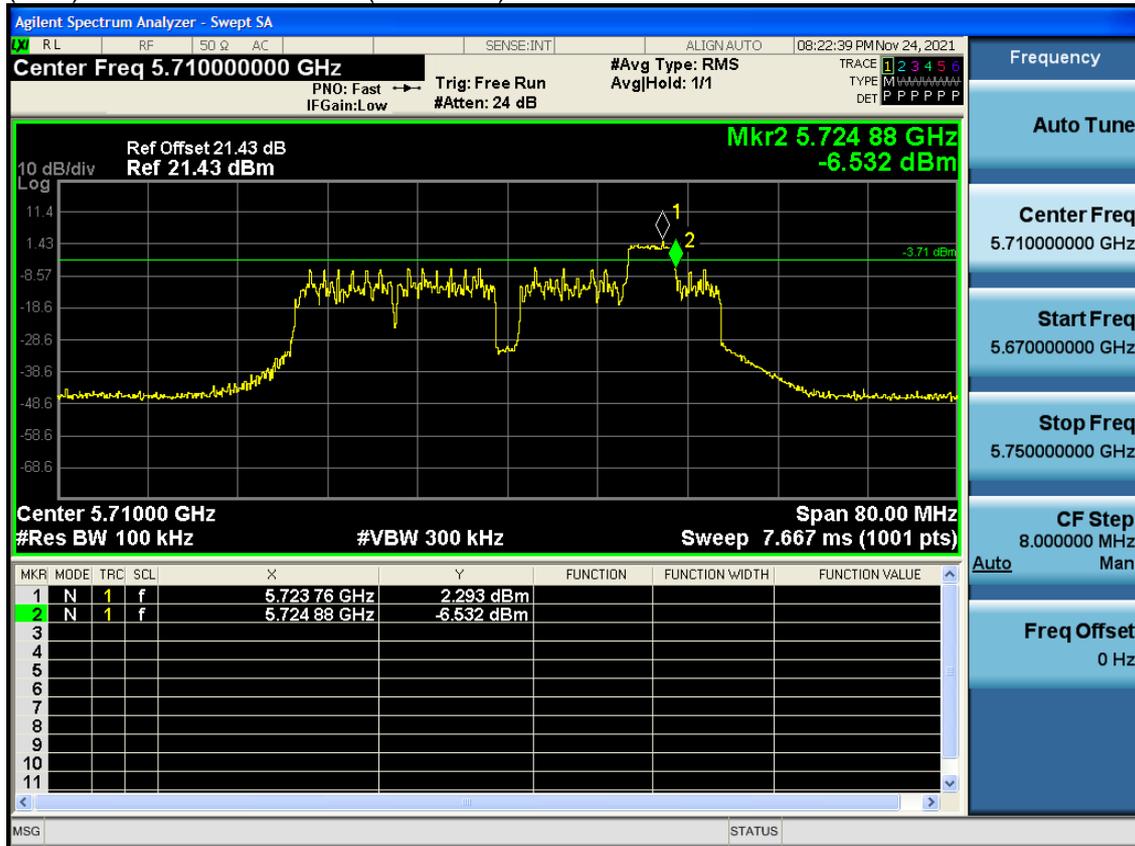## 5.2.1 MIMO Ant1

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

Measured Frequency [MHz]	Straddle Frequency [MHz]	6dB Bandwidth [MHz]
5727.52	5725	2.52

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

(6 dB) Bandwidth 40M Ch.142(5710 MHz) RU 43

Measured Frequency [MHz]	Straddle Frequency [MHz]	6dB Bandwidth [MHz]
5724.88	5725	-0.12

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

(6 dB) Bandwidth 80M Ch.138(5690 MHz) RU 59

Measured Frequency [MHz]	Straddle Frequency [MHz]	6dB Bandwidth [MHz]
5718.8	5725	-6.20

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

5.2.2 MIMO Ant2

(6 dB) Bandwidth 20M Ch.144(5720 MHz) RU 39

Measured Frequency [MHz]	Straddle Frequency [MHz]	6dB Bandwidth [MHz]
5726.32	5725	1.32

Note:
6 dB Bandwidth = Measured Frequency[MHz] – 5725 MHz
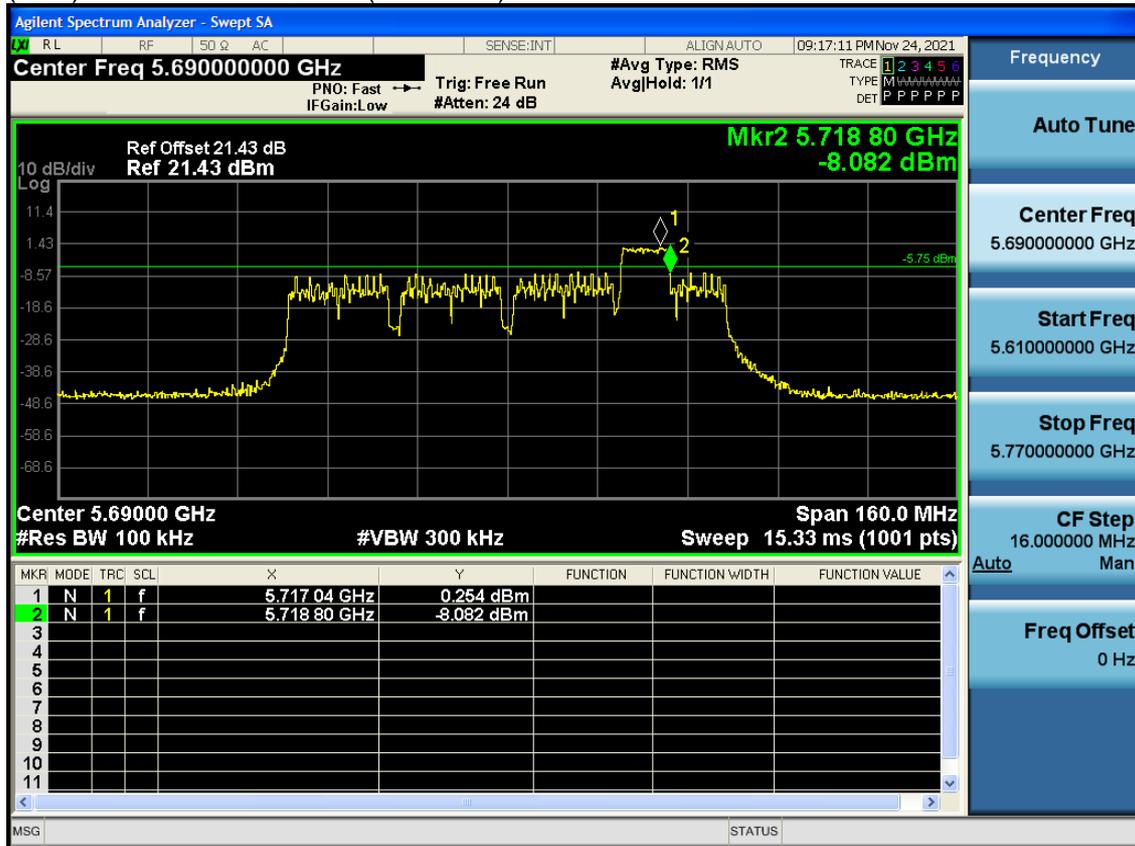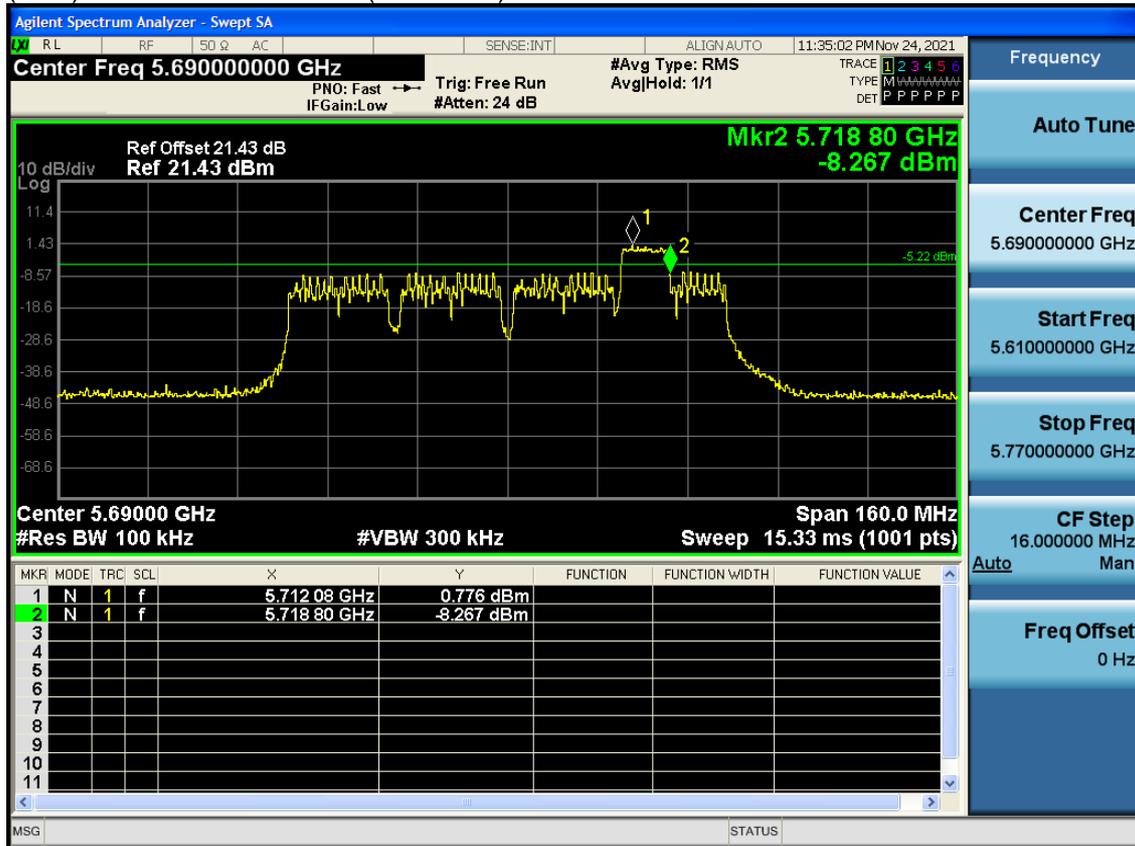
(6 dB) Bandwidth 40M Ch.142(5710 MHz) RU 43

Measured Frequency [MHz]	Straddle Frequency [MHz]	6dB Bandwidth [MHz]
5724.88	5725	-0.12

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

(6 dB) Bandwidth 80M Ch.138(5690 MHz) RU 59

Measured Frequency [MHz]	Straddle Frequency [MHz]	6dB Bandwidth [MHz]
5718.8	5725	-6.20

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