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Appendix B:  
802.11ax  
Test Plot

FCC ID  
A3LSMG988B

**REVISION HISTORY**

The revision history for this document is shown in table.

Revision No.	Date of Issue	Description
0	January 13, 2020	Initial Release

**Note:**

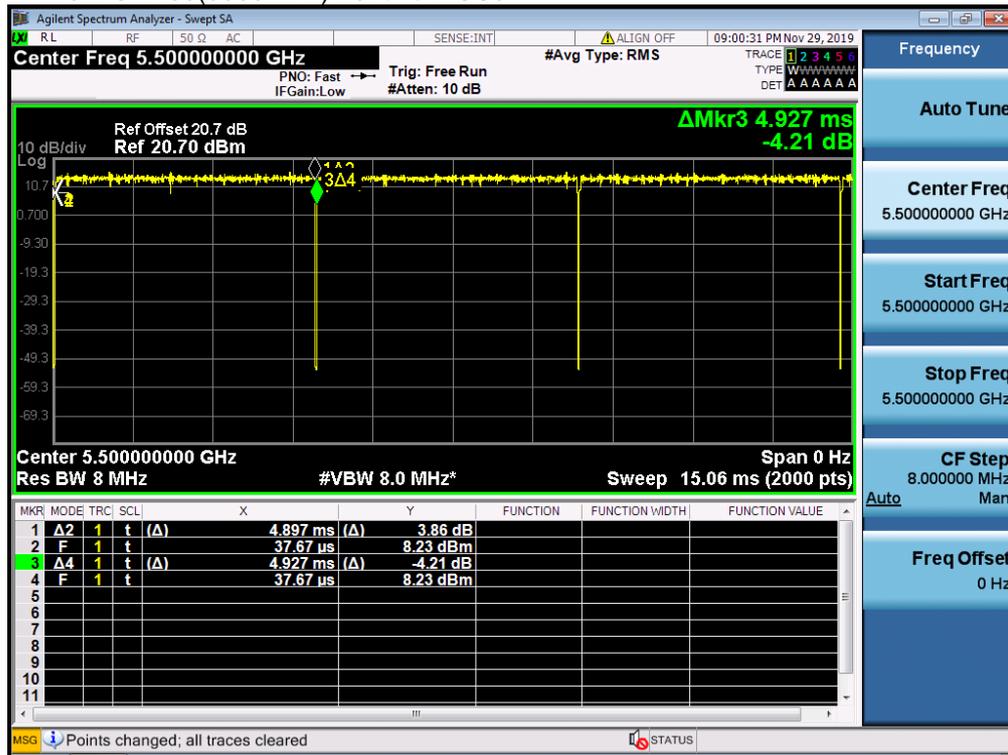
In order to simplify the report, attached plots were only the most lowest datarate.

# 1. Duty Cycle

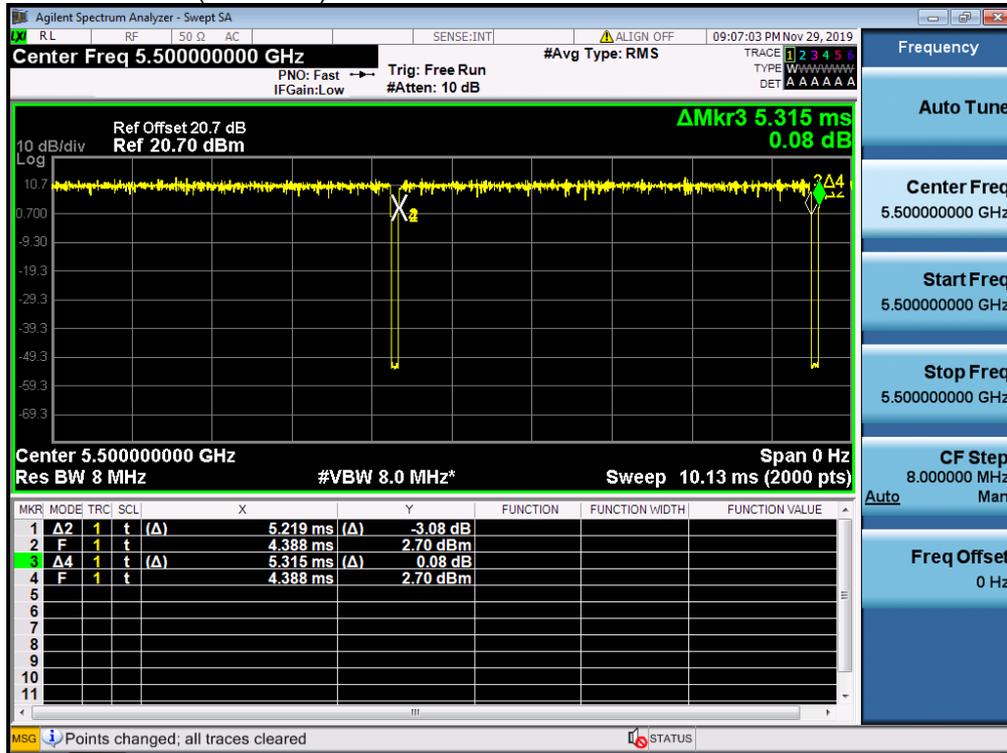
**Note:**

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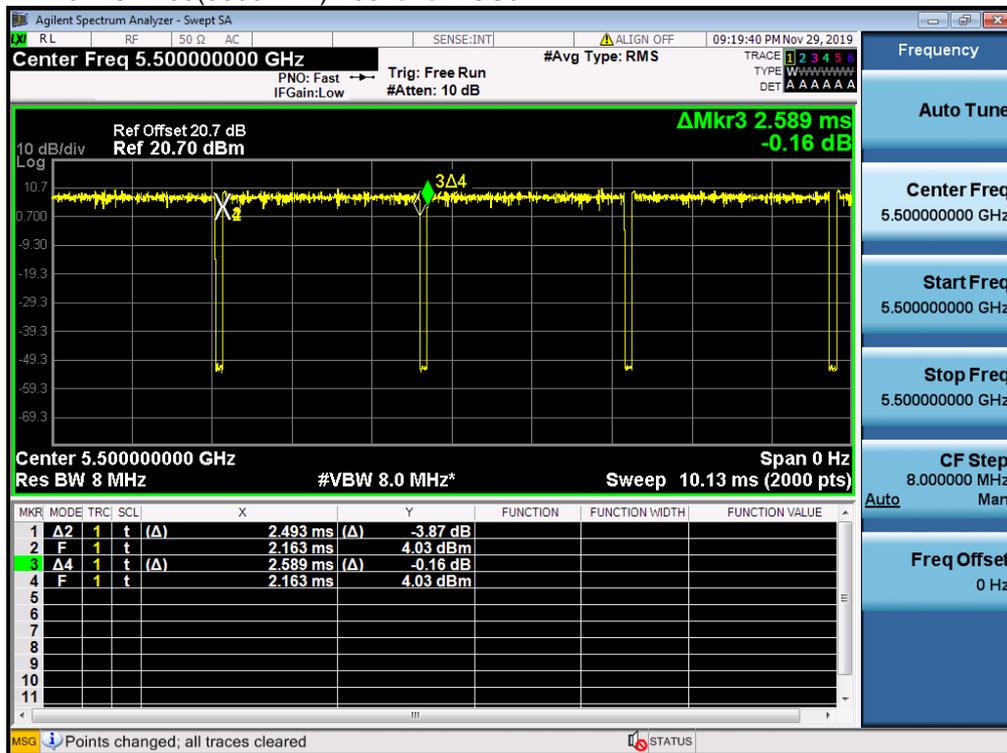
BW20M Ch.100(5500MHz) 26Tone MCS0



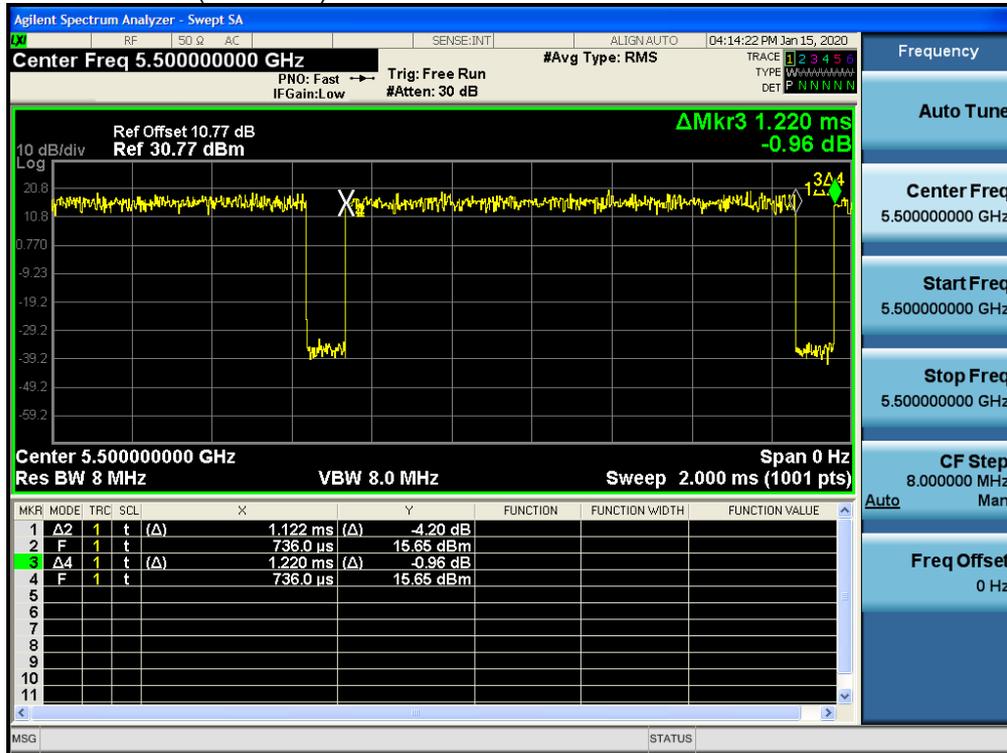
BW20M Ch.100(5500MHz) 52Tone MCS0



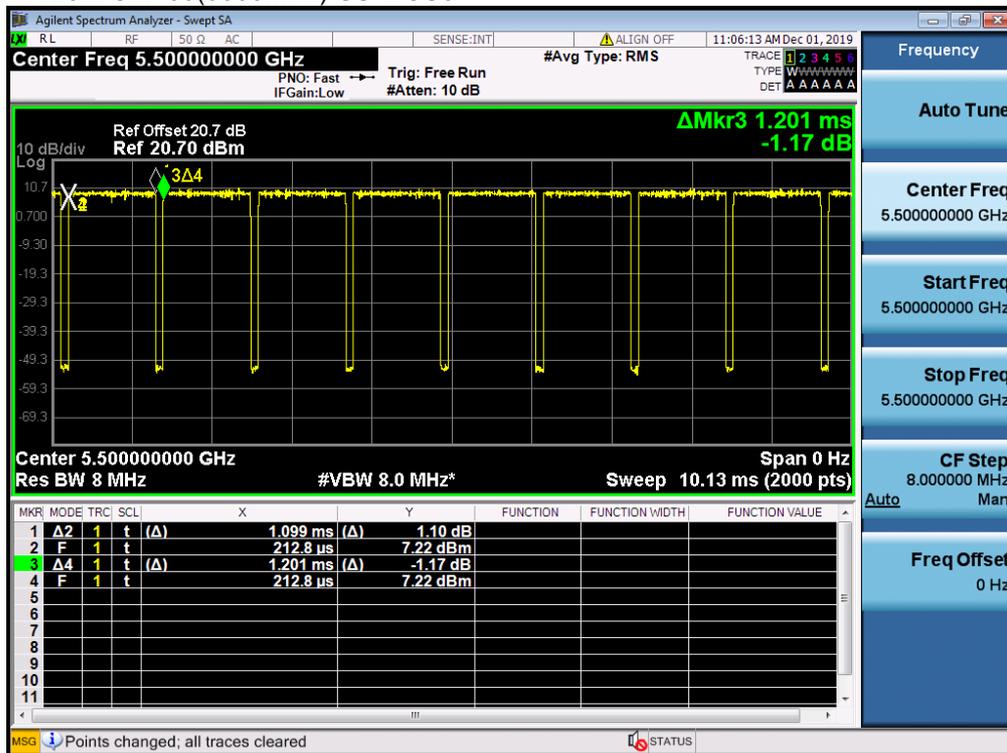
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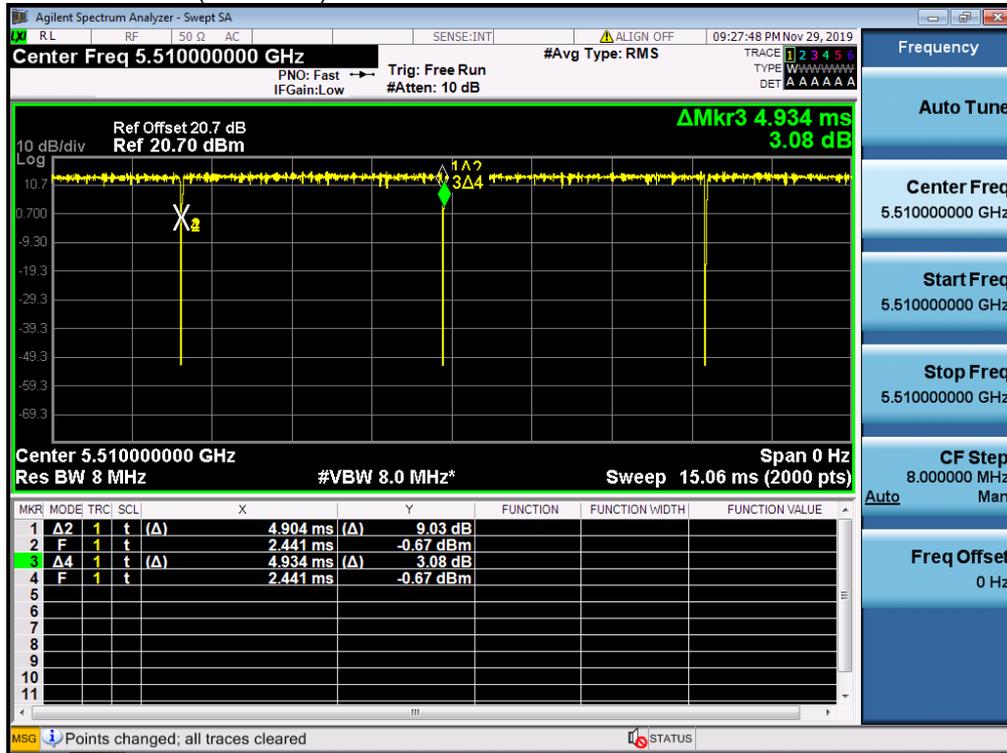
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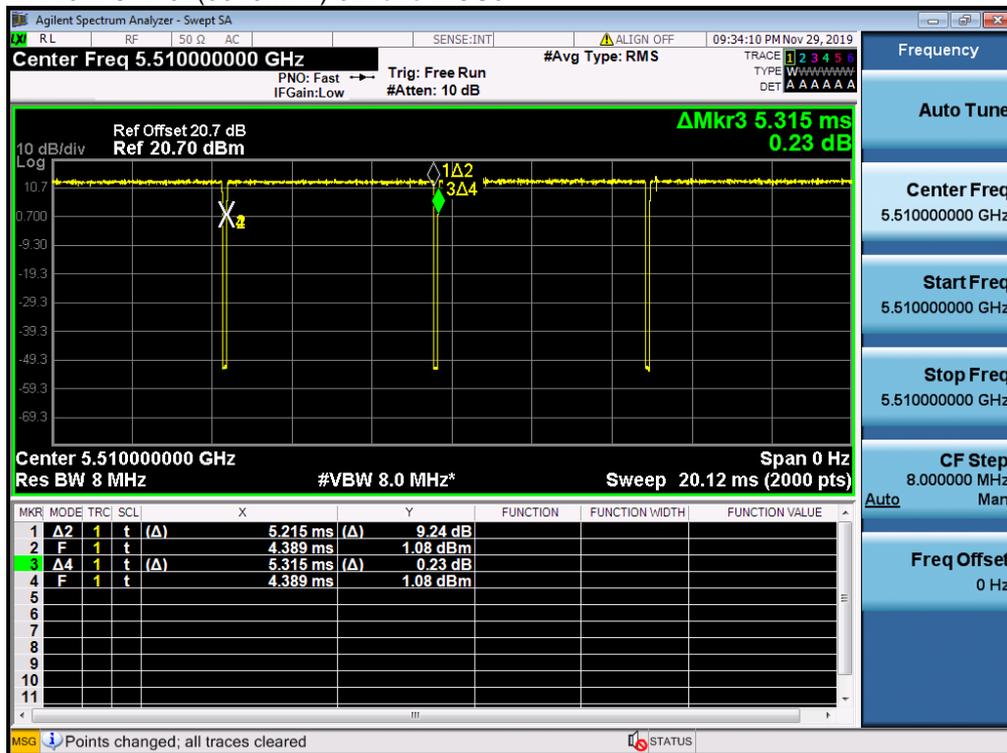
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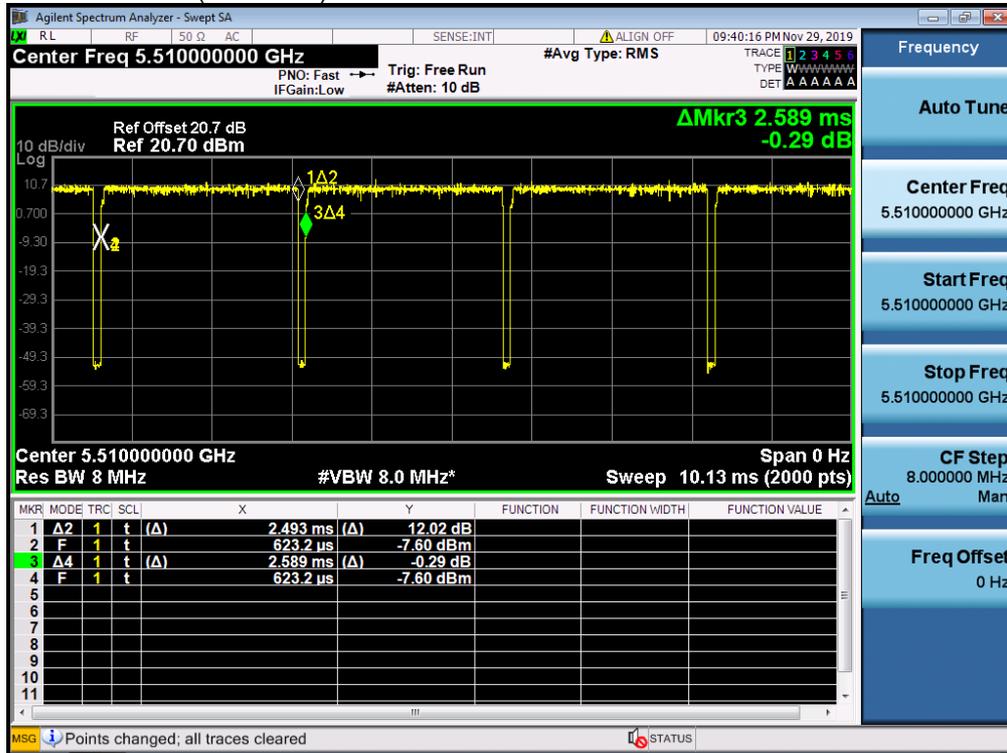
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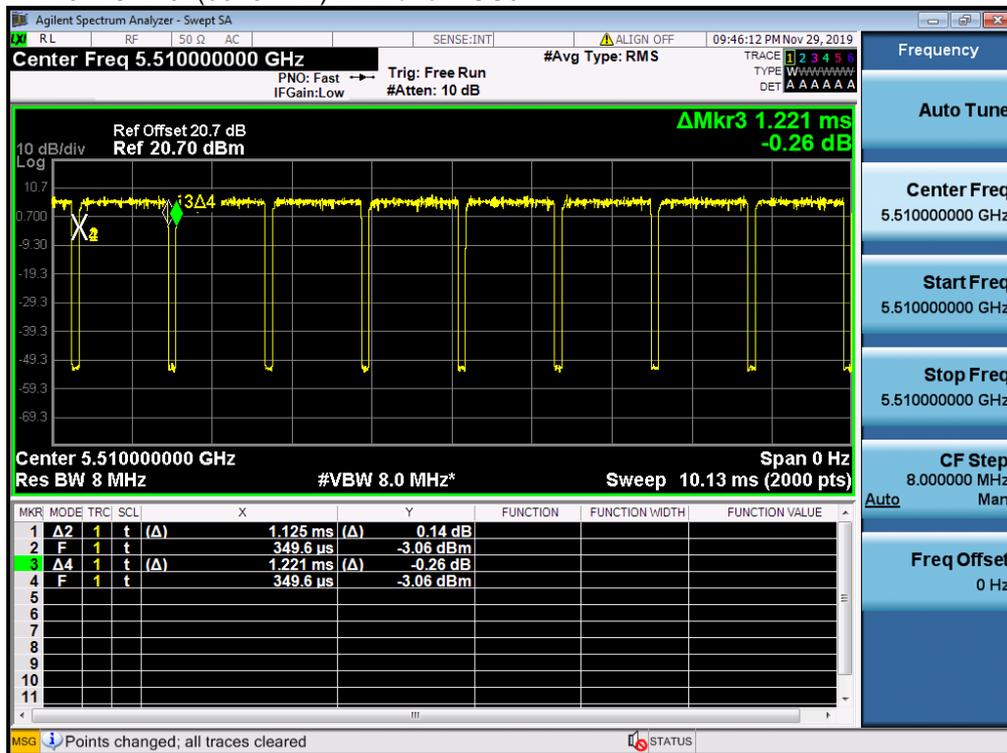
BW40M Ch.102(5510MHz) 52Tone MCS0



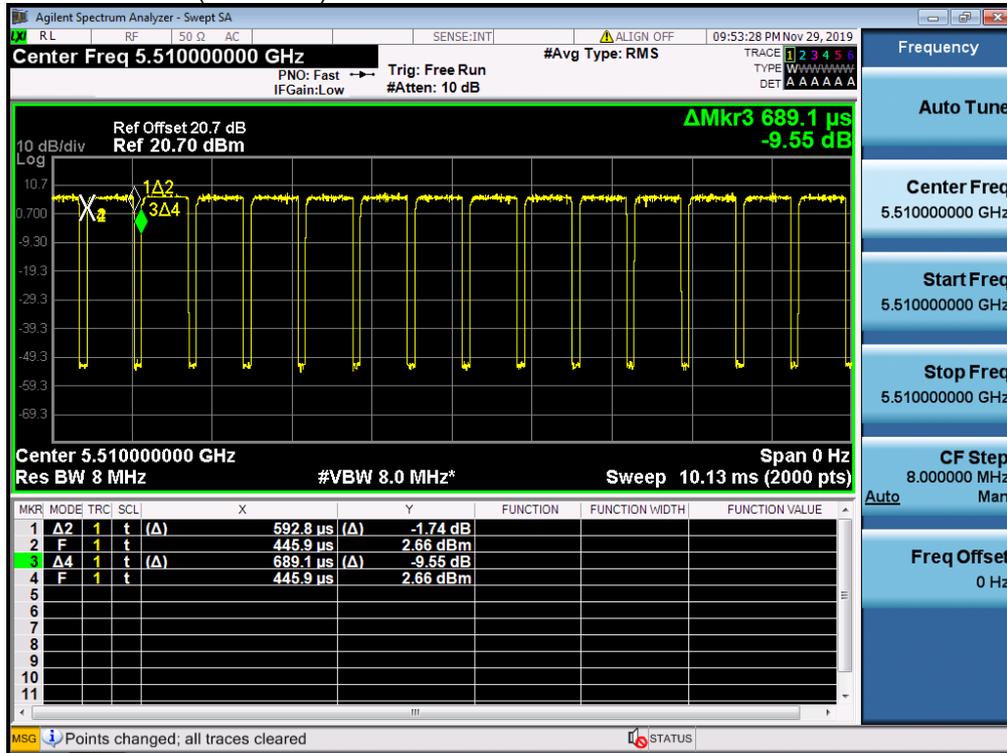
BW40M Ch.102(5510MHz) 106Tone MCSO



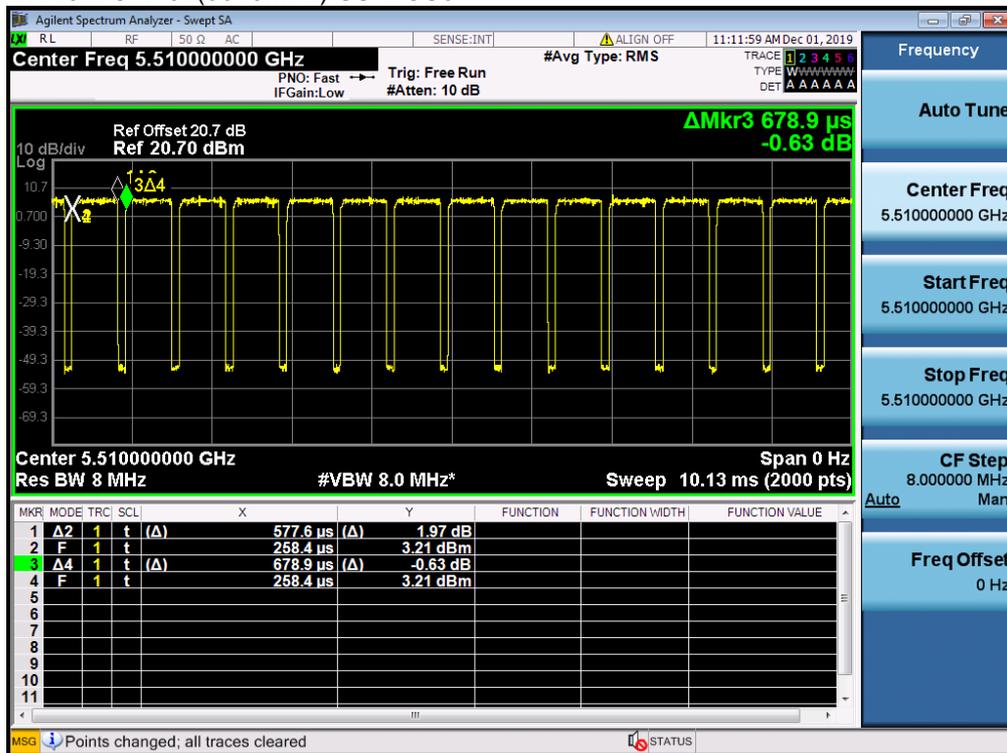
BW40M Ch.102(5510MHz) 242Tone MCSO



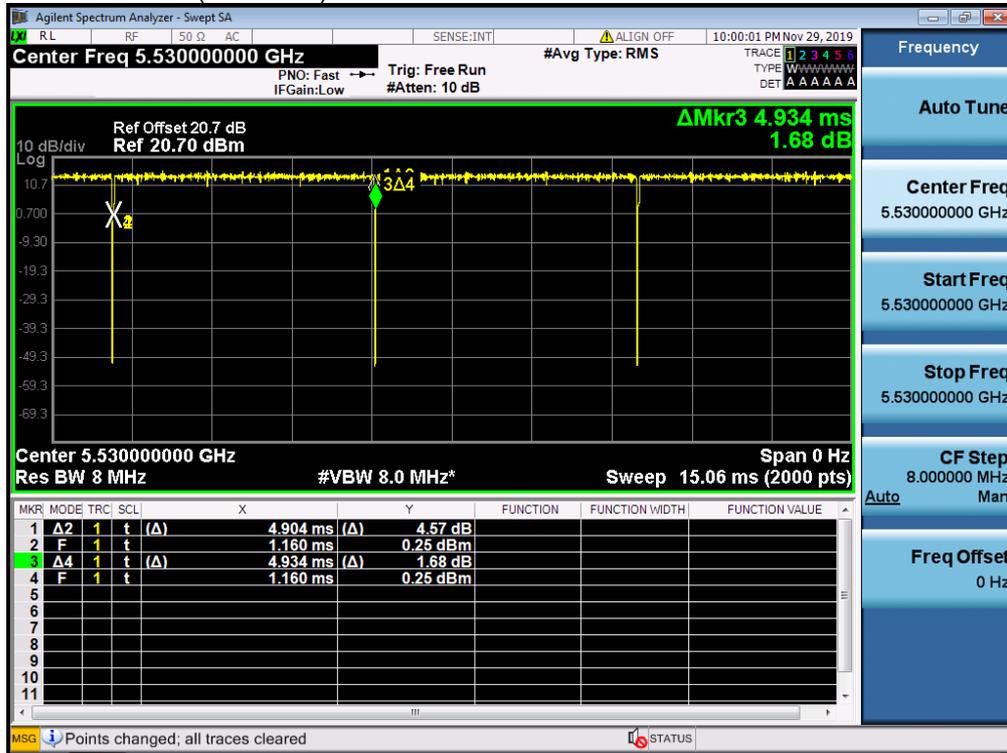
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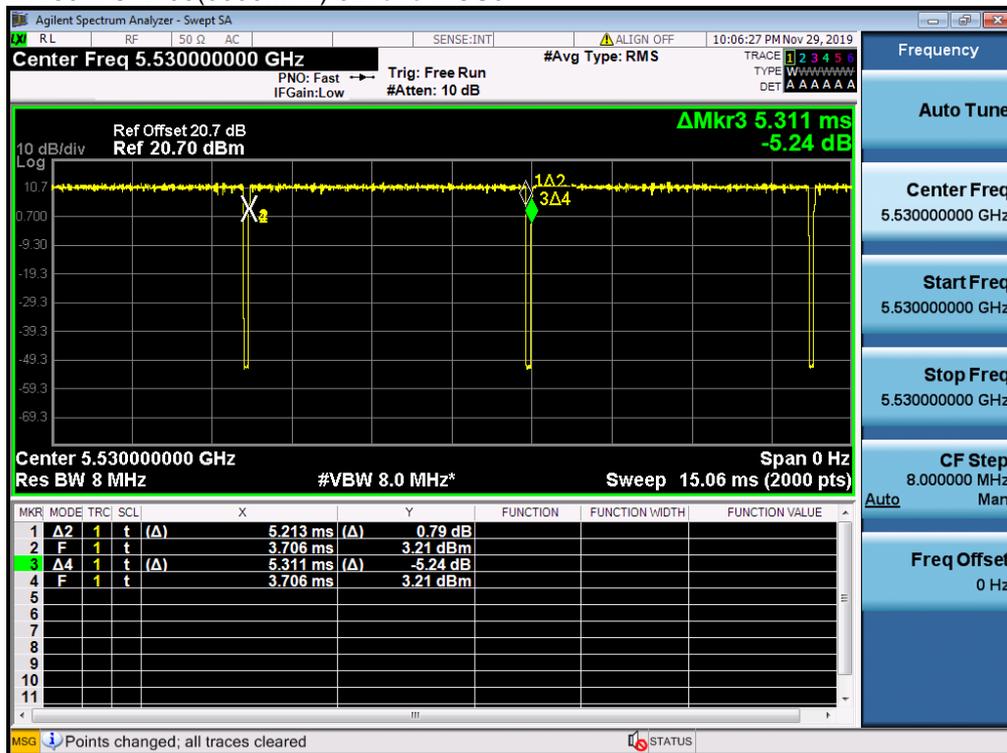
BW40M Ch.102(5510MHz) SU MCS0



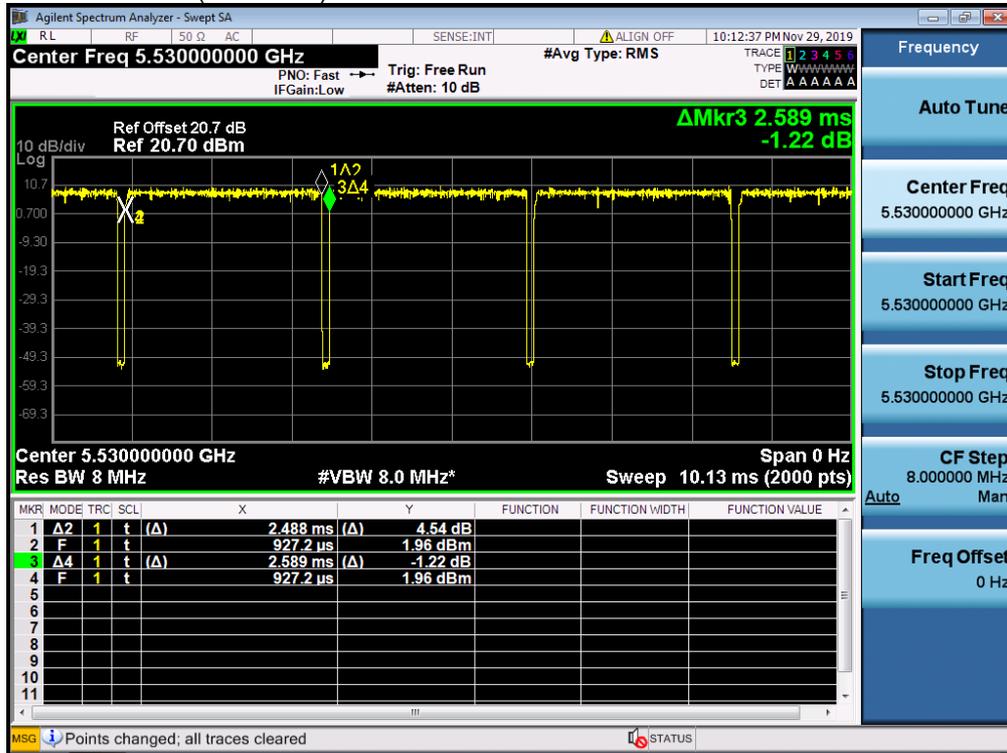
BW80M Ch.106(5530MHz) 26Tone MCS0



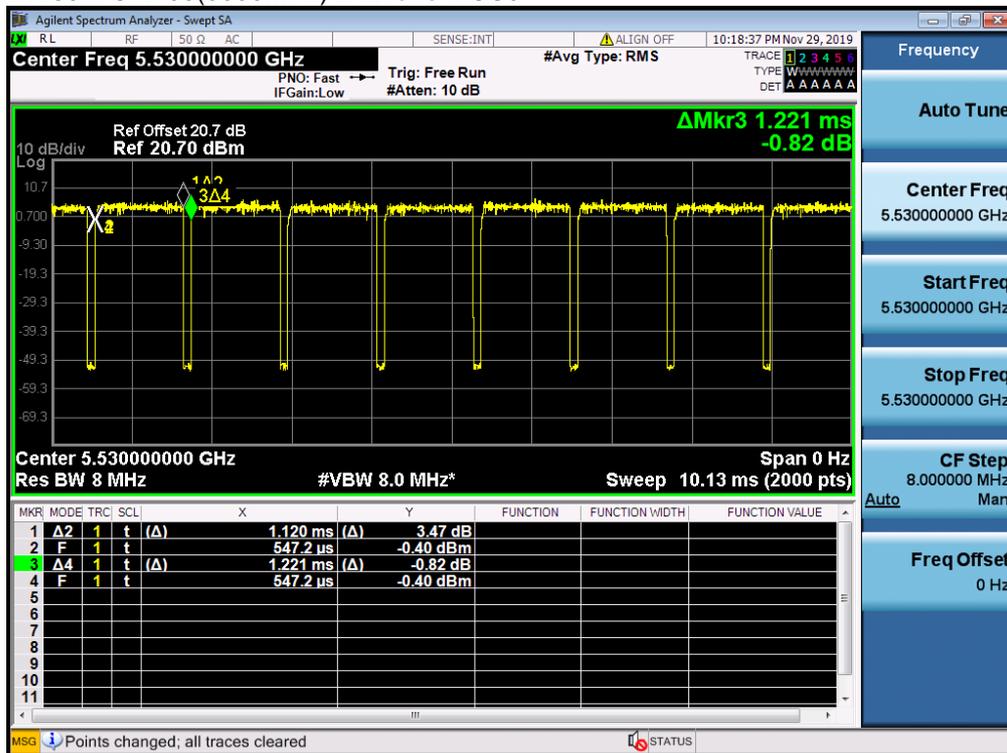
BW80M Ch.106(5530MHz) 52Tone MCS0



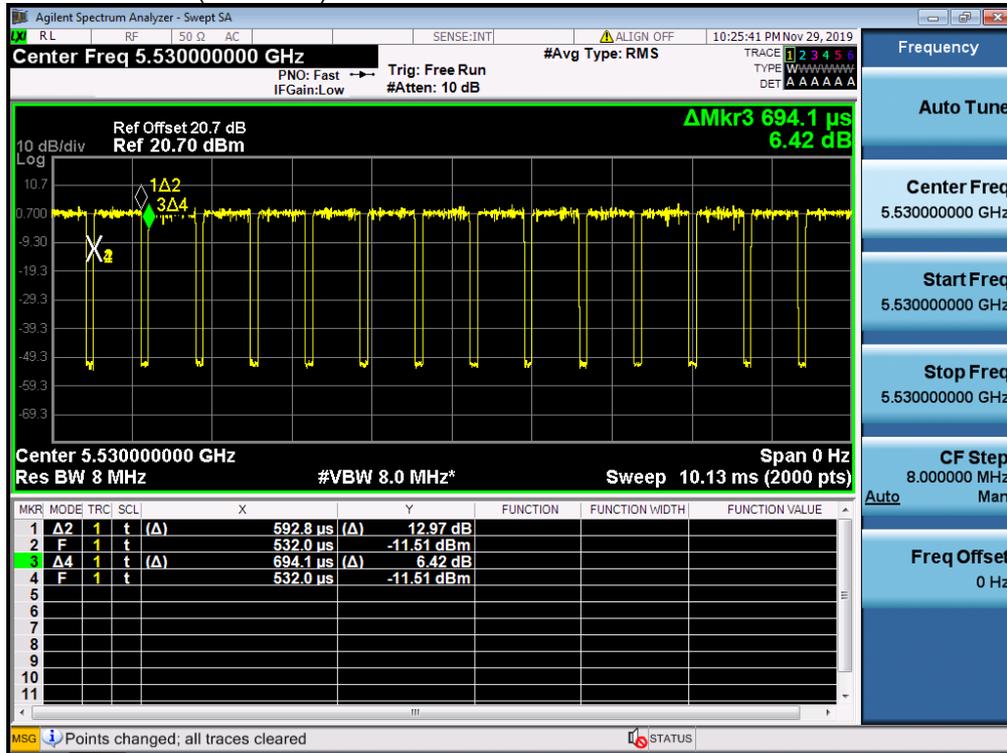
BW80M Ch.106(5530MHz) 106Tone MCSO



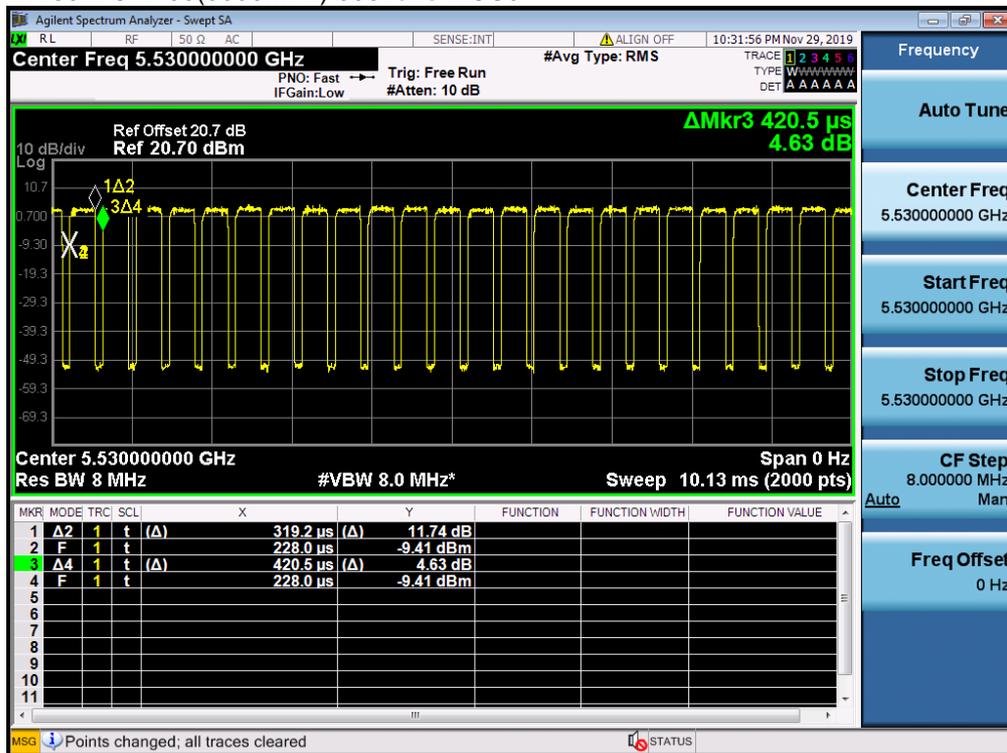
BW80M Ch.106(5530MHz) 242Tone MCSO



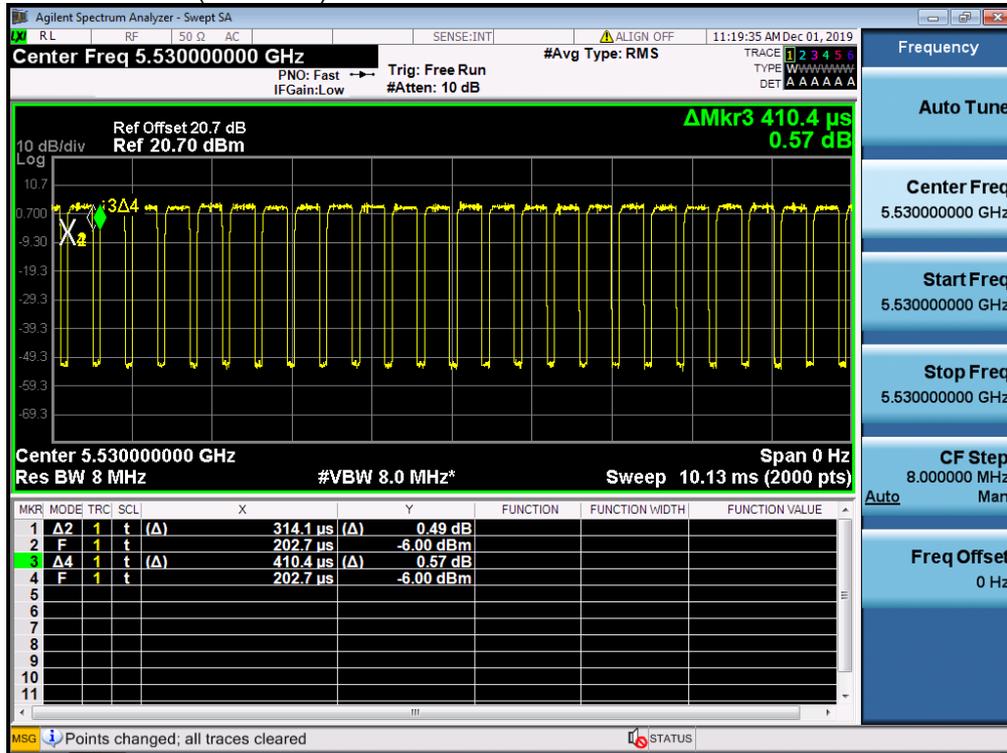
BW80M Ch.106(5530MHz) 484Tone MCSO



BW80M Ch.106(5530MHz) 996Tone MCSO



BW80M Ch.106(5530MHz) SU MCS0

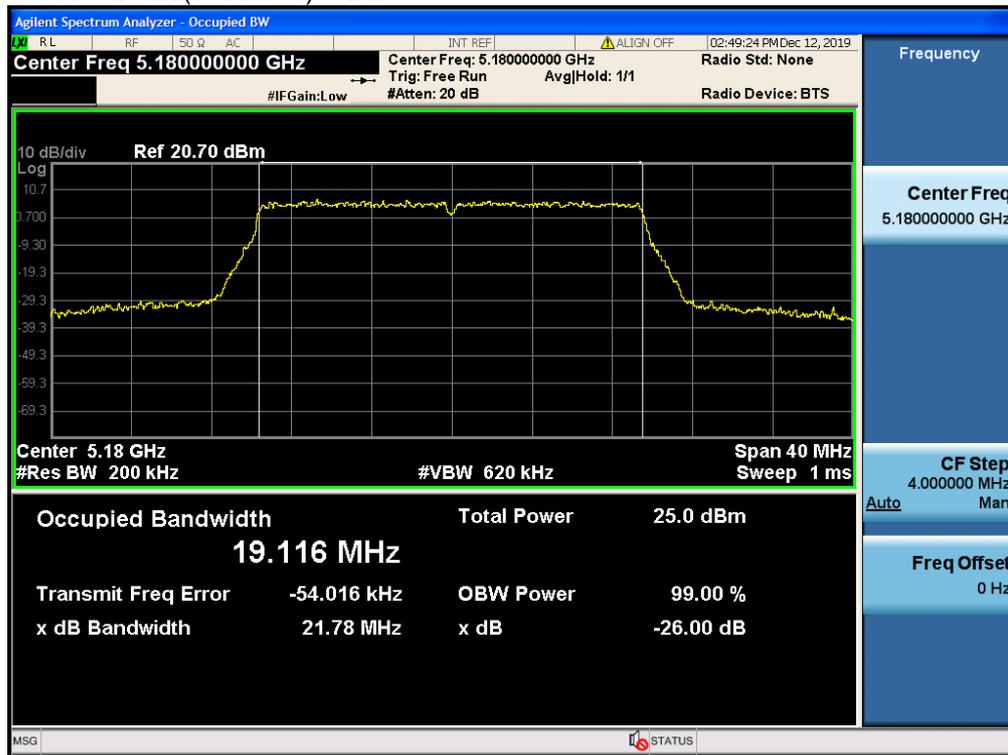


## 2. 26dB Bandwidth

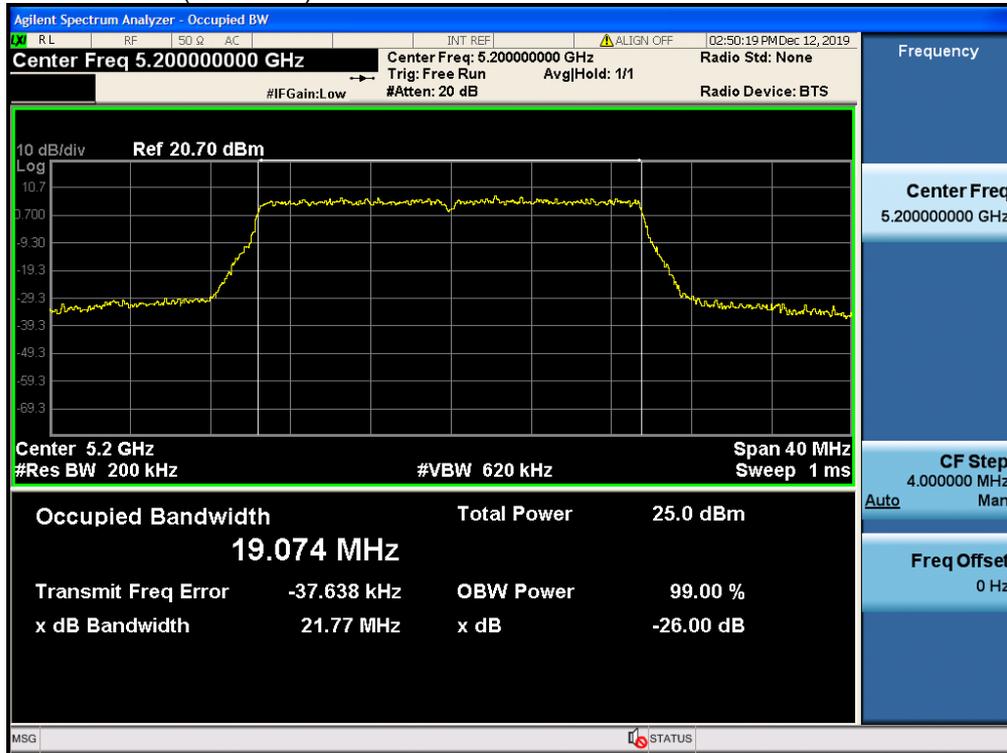
**Note:**

1. In order to simplify the report, attached plots were only Ant1.
2. In order to simplify the report, attached plots were only the most wide channel.

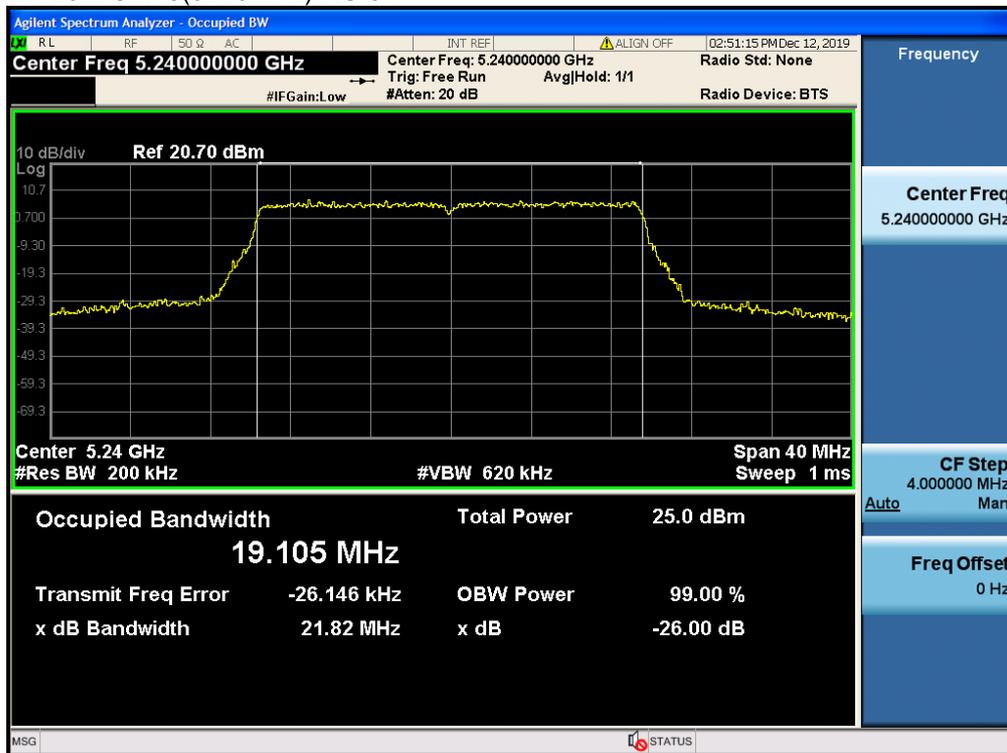
BW20M Ch.36(5180MHz) RU 61



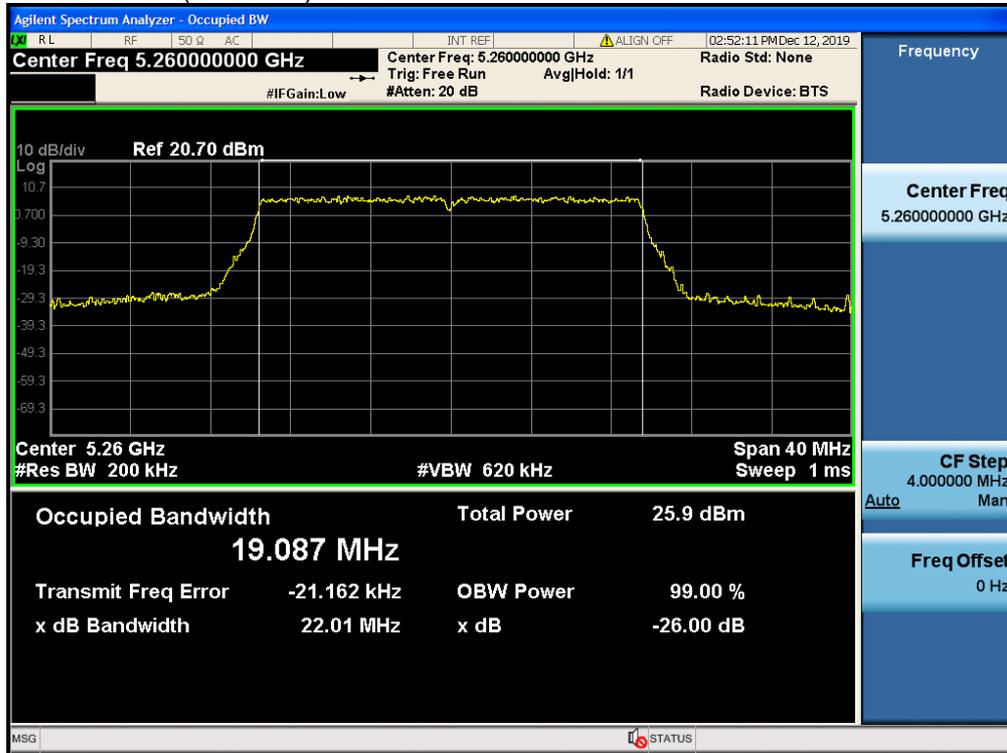
BW20M Ch.40(5200MHz) RU 61



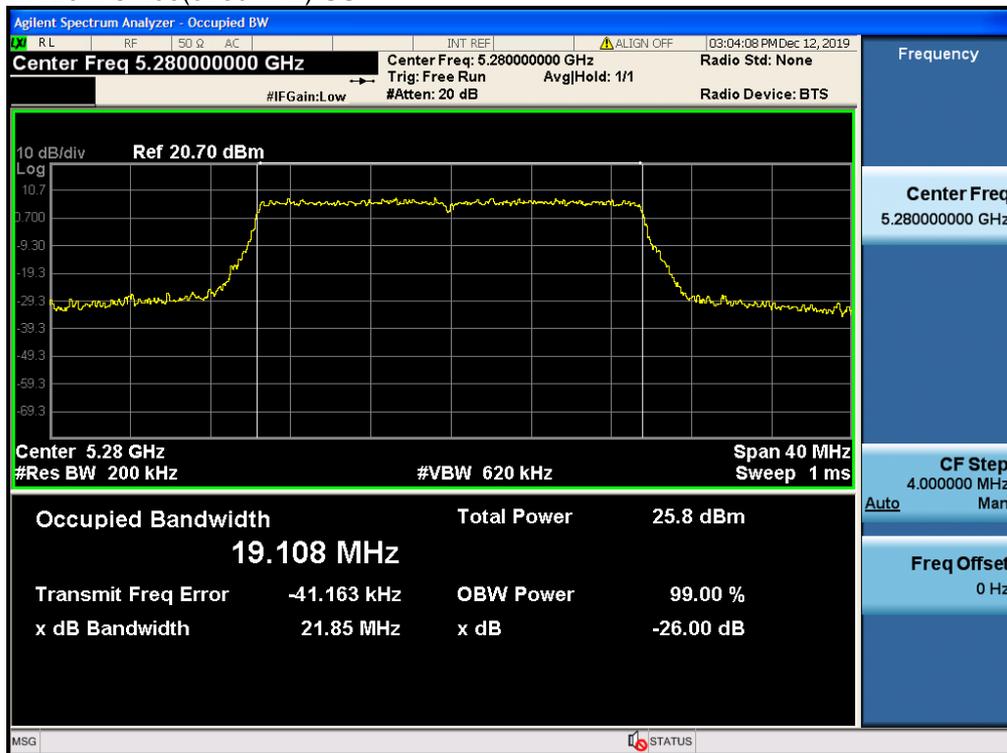
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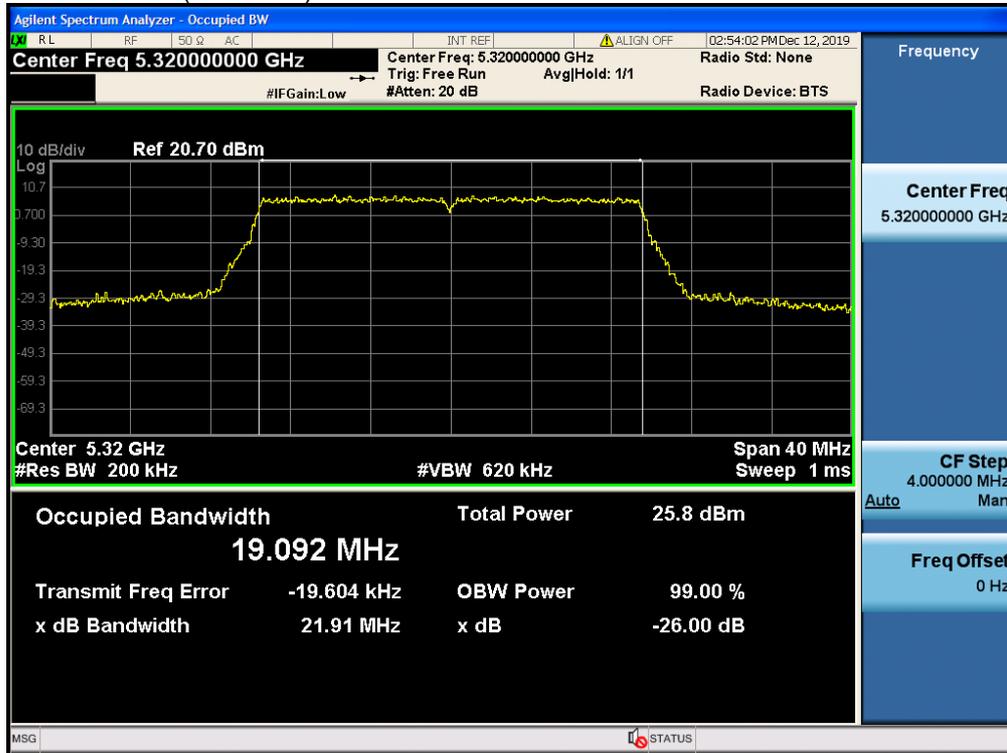
BW20M Ch.52(5260MHz) RU 61



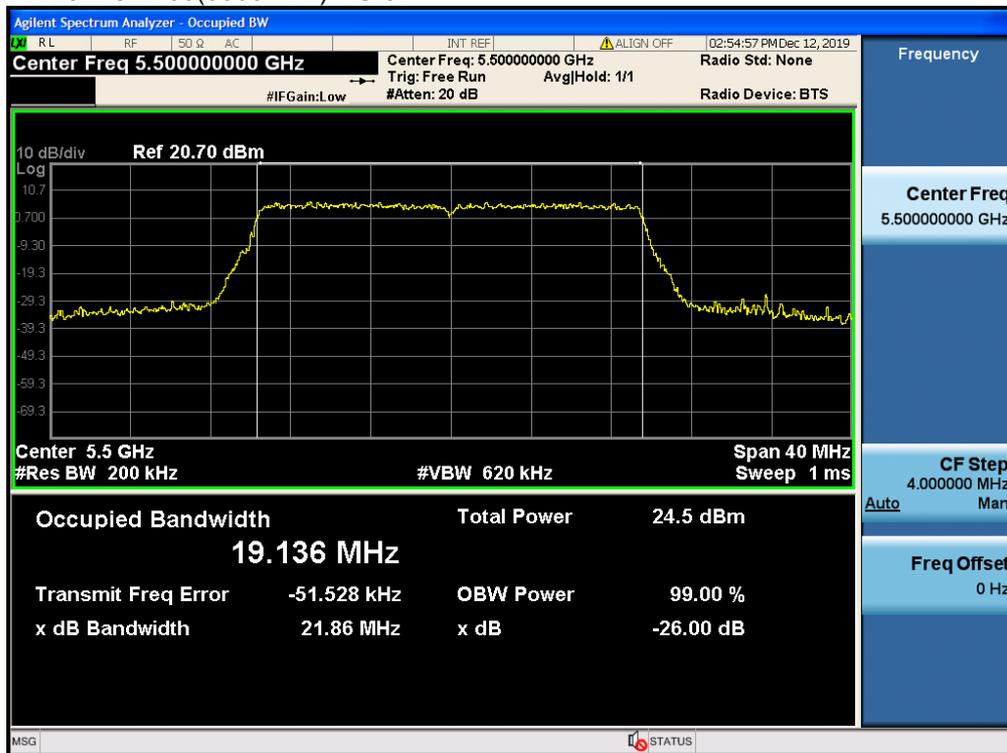
BW20M Ch.56(5280MHz) SU



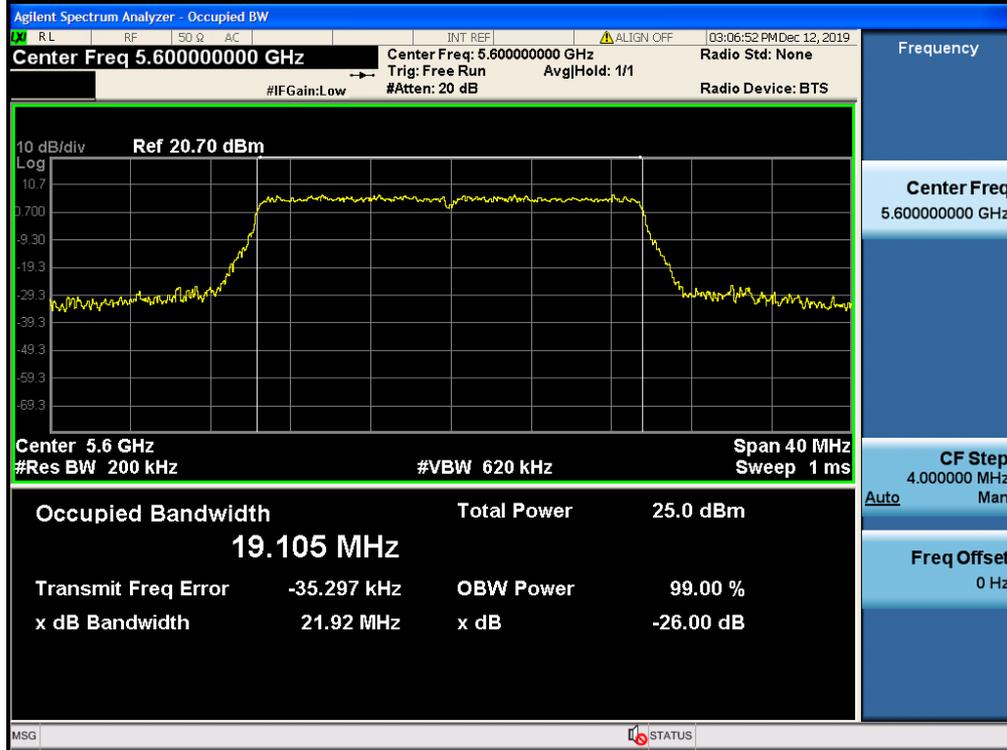
BW20M Ch.64(5320MHz) RU 61



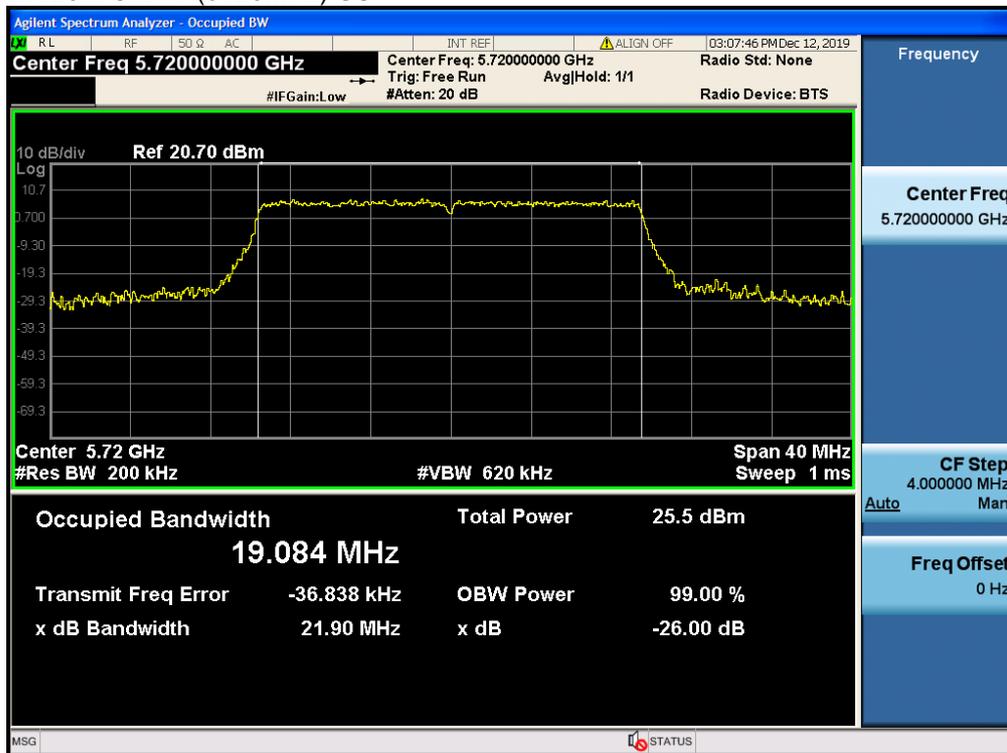
BW20M Ch.100(5500MHz) RU 61



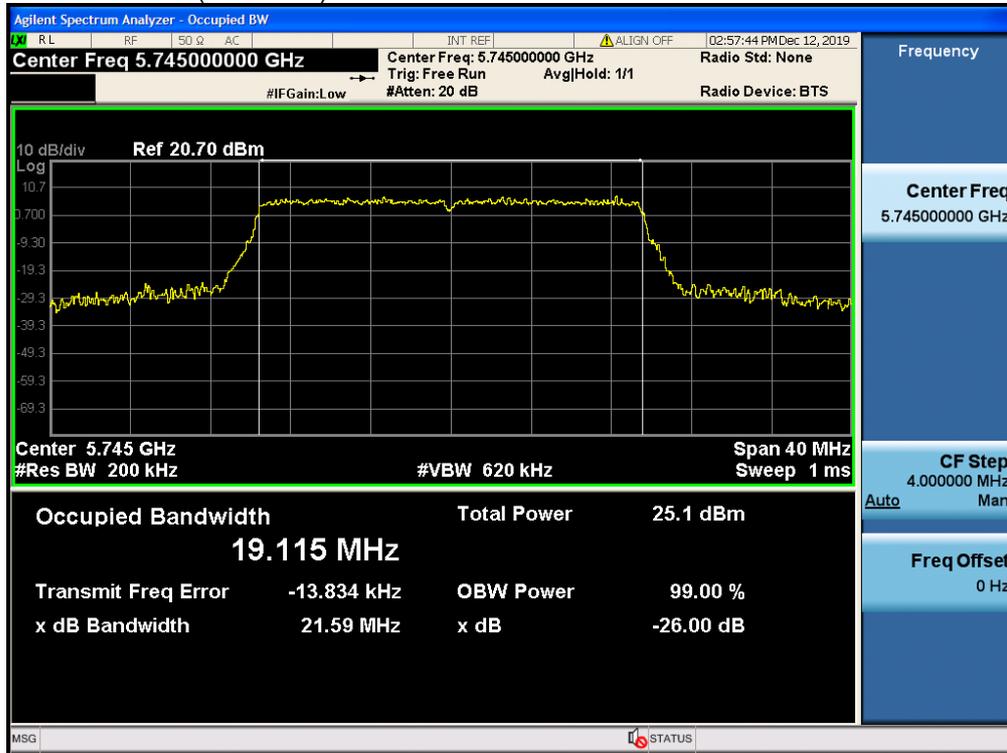
BW20M Ch.120(5600MHz) SU



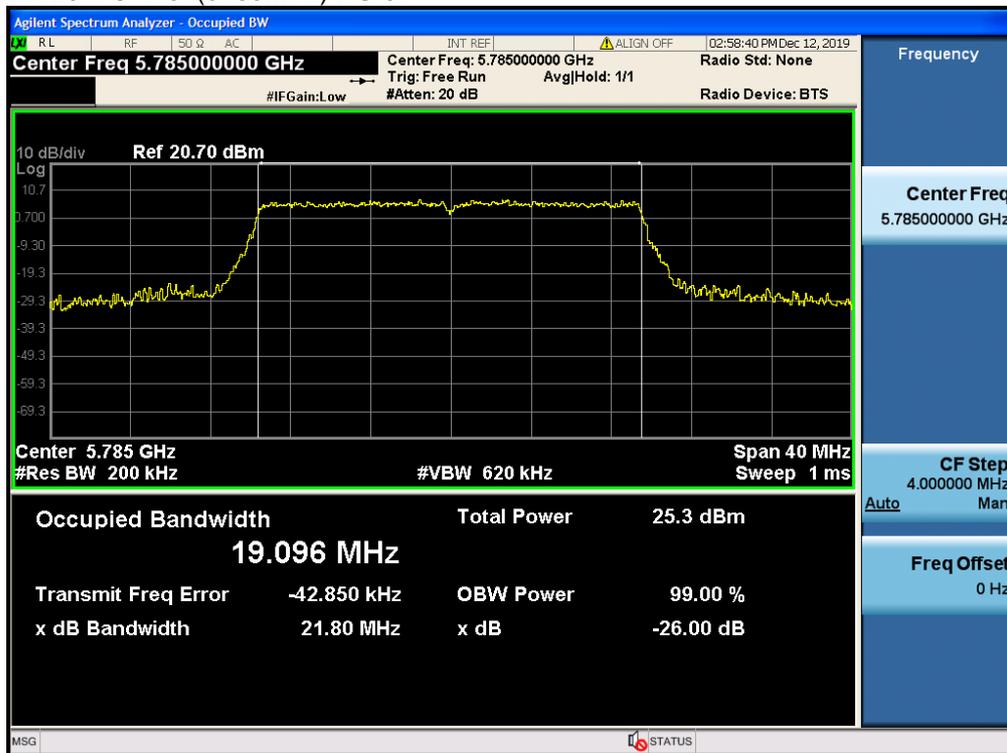
BW20M Ch.144(5720MHz) SU



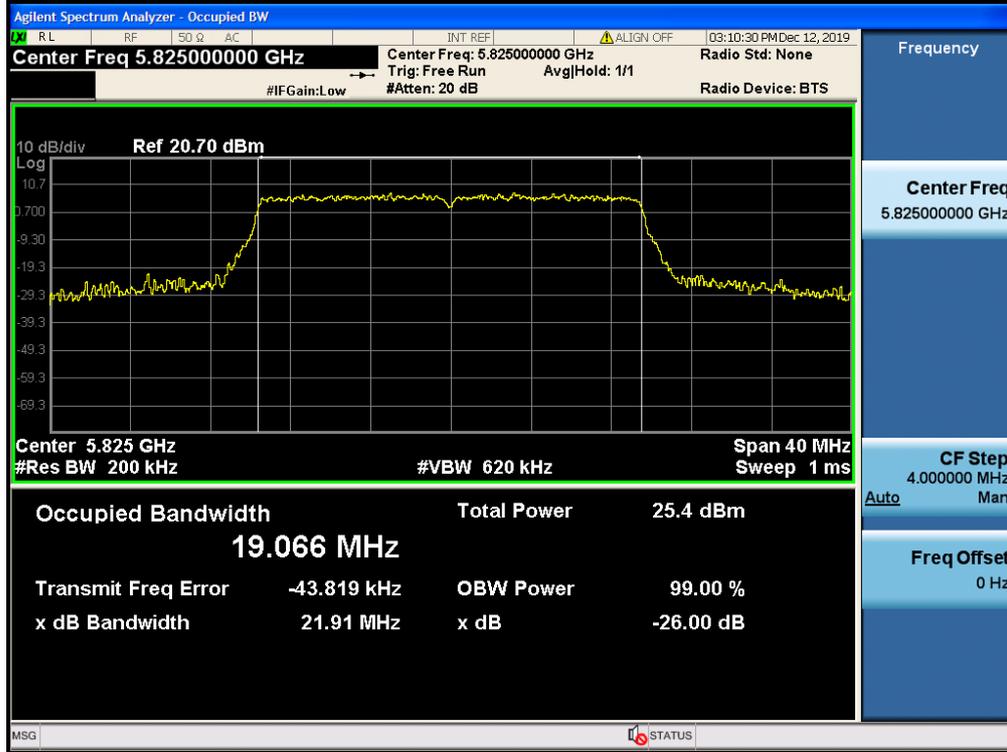
BW20M Ch.149(5745MHz) RU 61



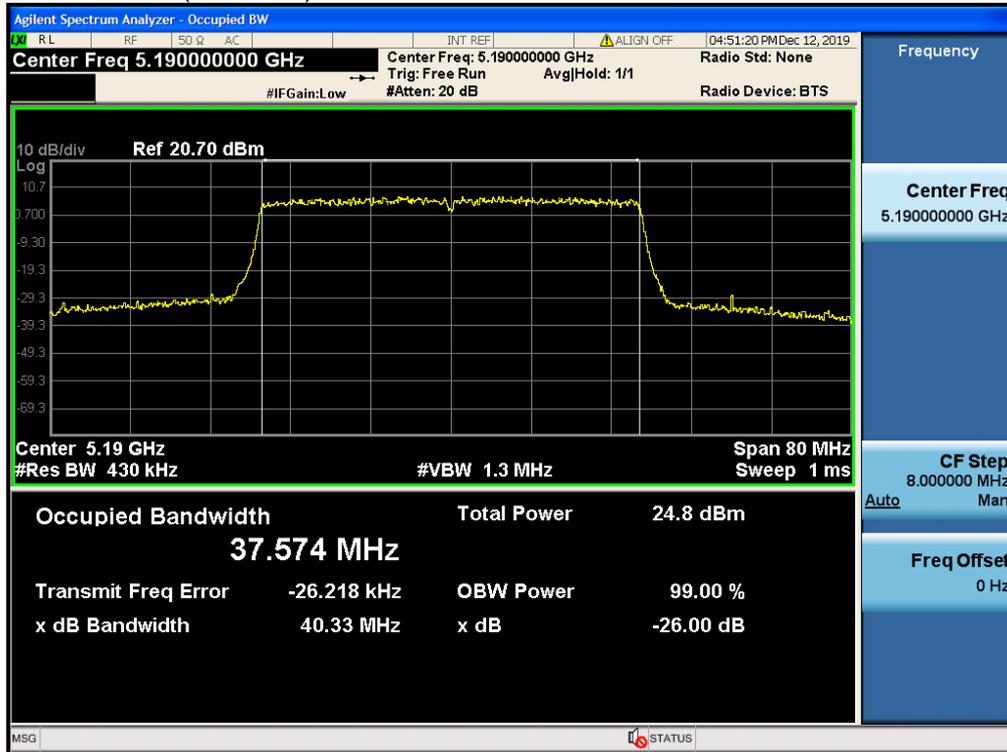
BW20M Ch.157(5785MHz) RU 61



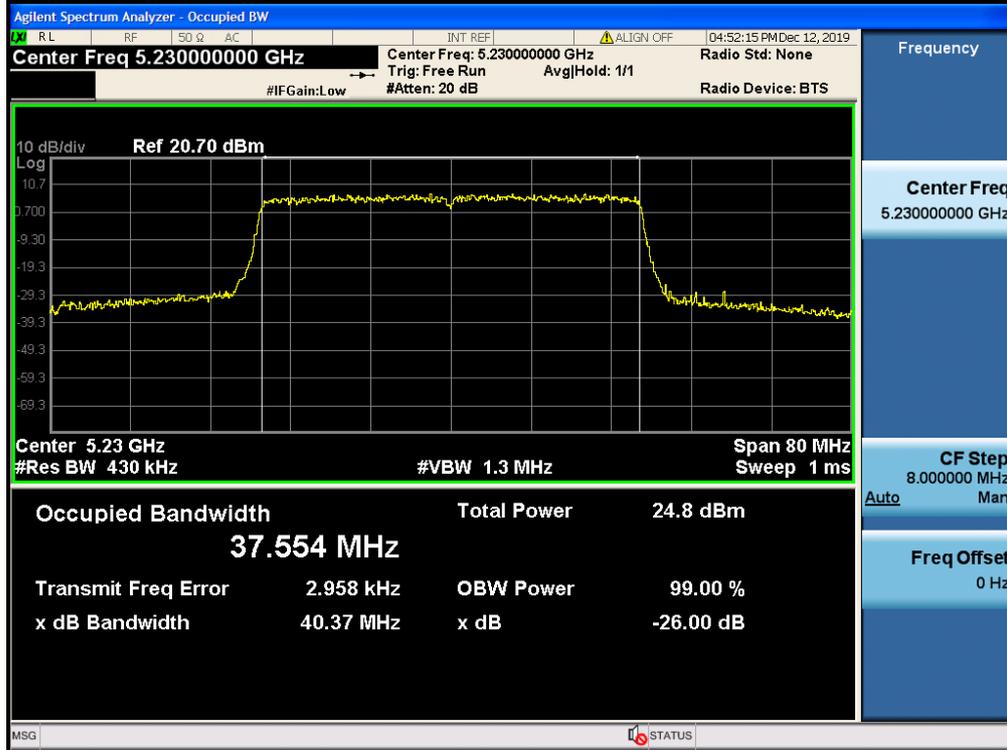
BW20M Ch.165(5825MHz) SU



BW40M Ch.38(5190MHz) RU 65



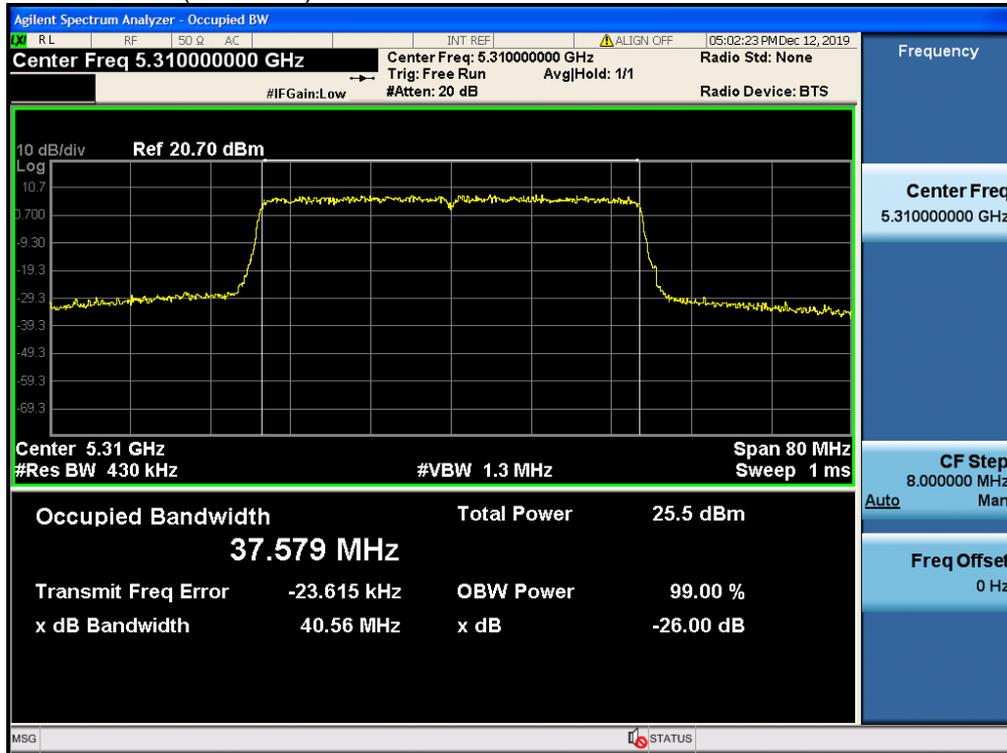
BW40M Ch.46(5230MHz) RU 65



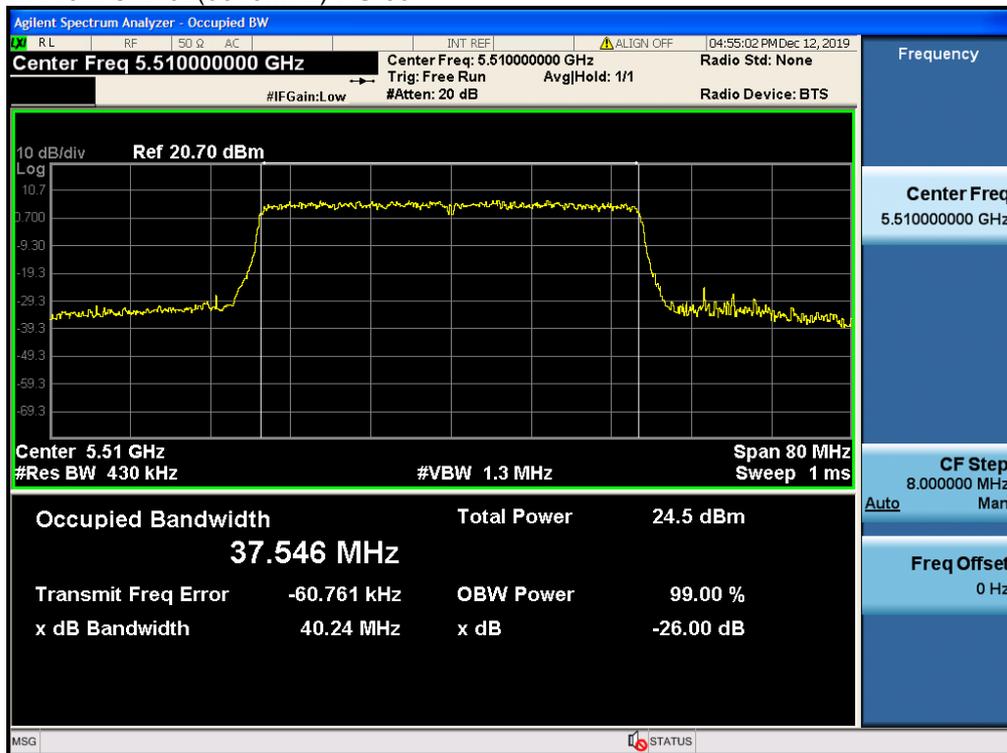
BW40M Ch.54(5270MHz) SU



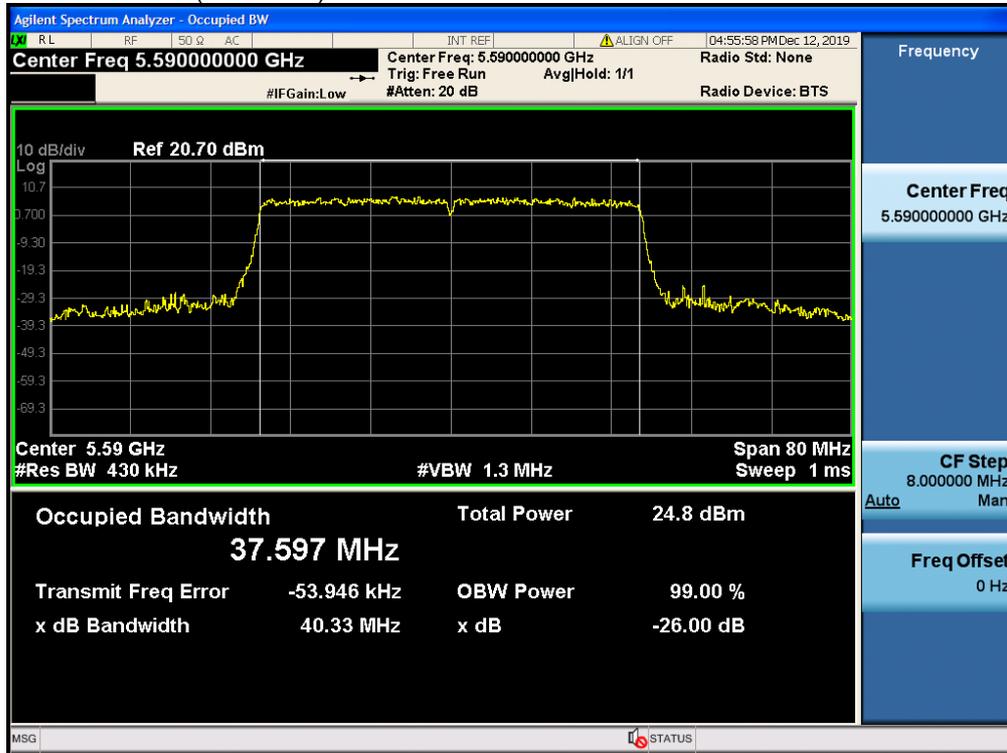
BW40M Ch.62(5310MHz) SU



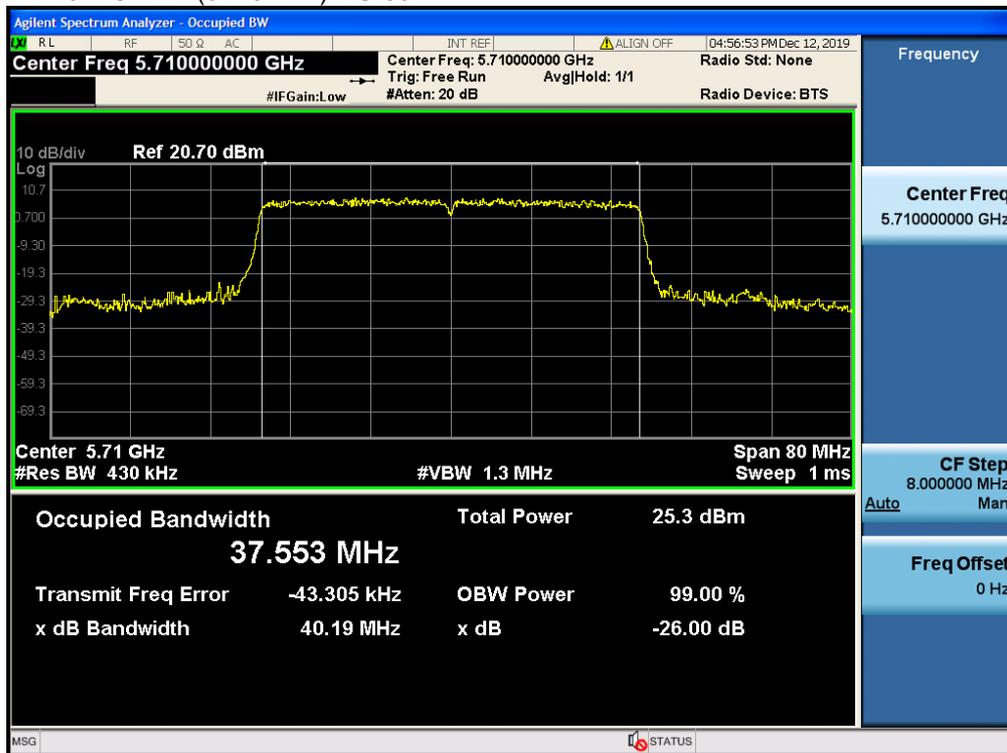
BW40M Ch.102(5510MHz) RU 65



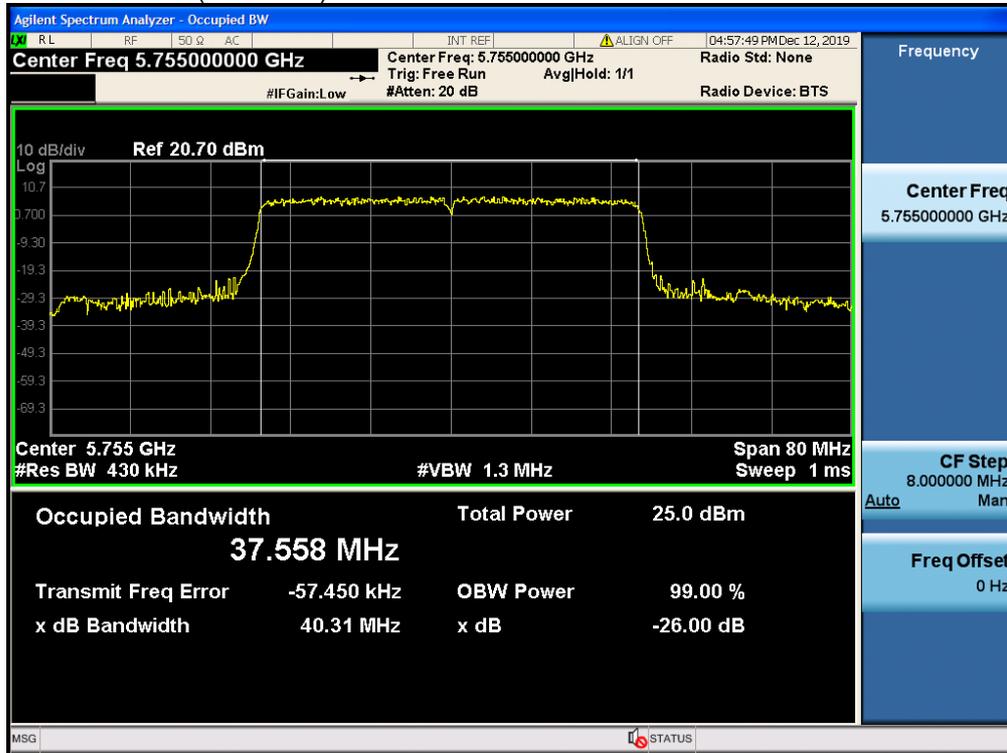
BW40M Ch.118(5590MHz) RU 65



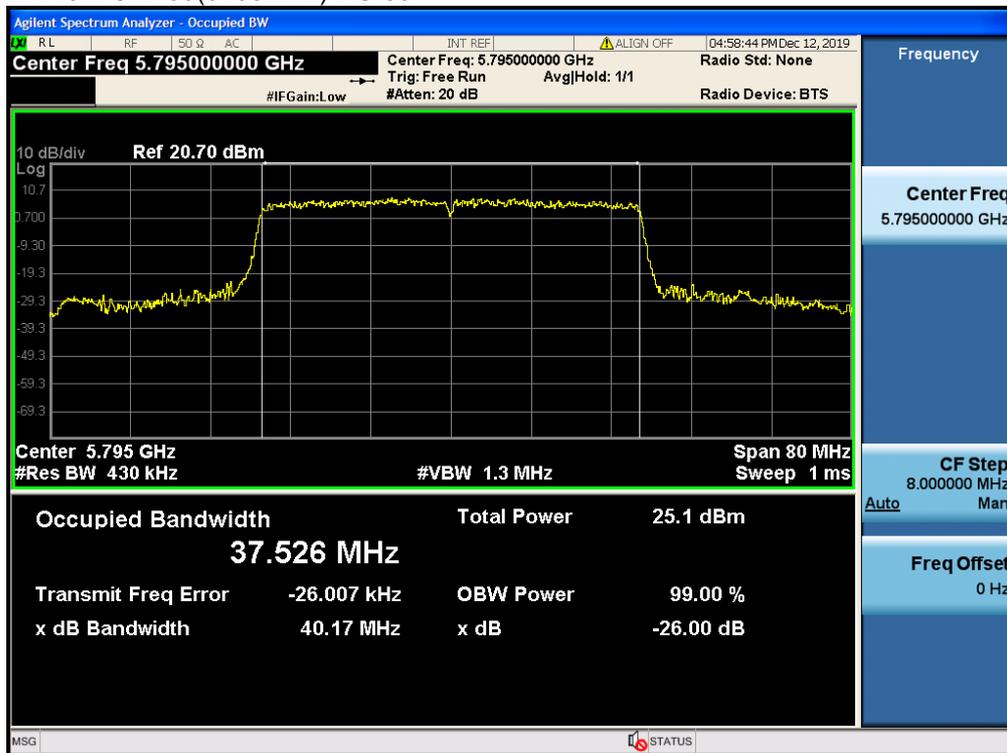
BW40M Ch.142(5710MHz) RU 65



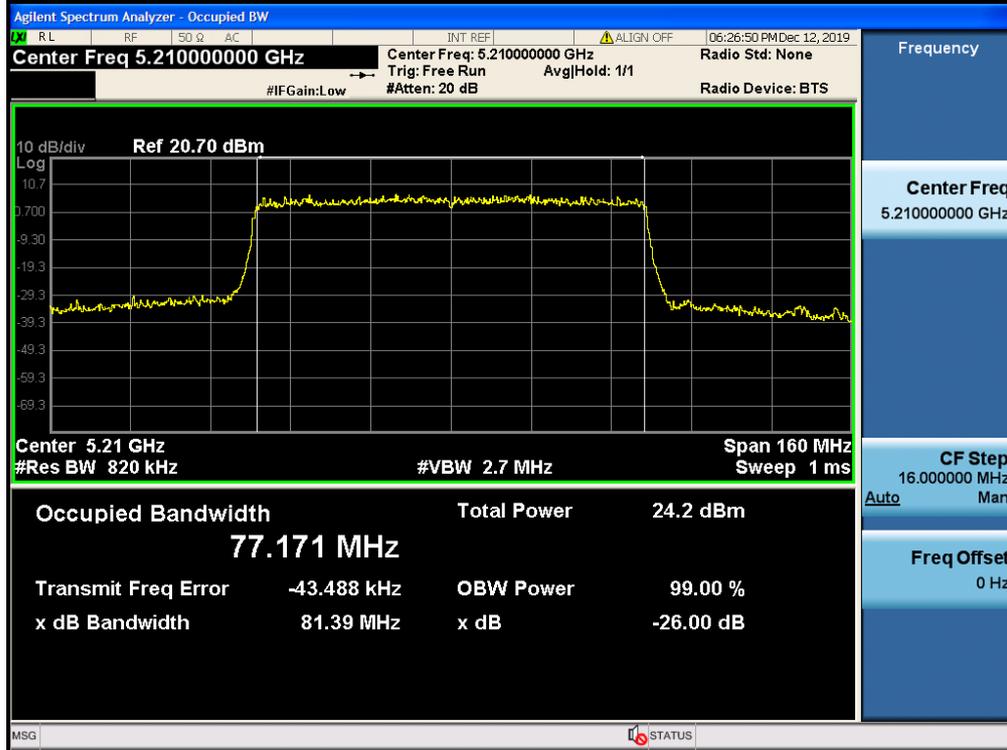
BW40M Ch.151(5755MHz) RU 65



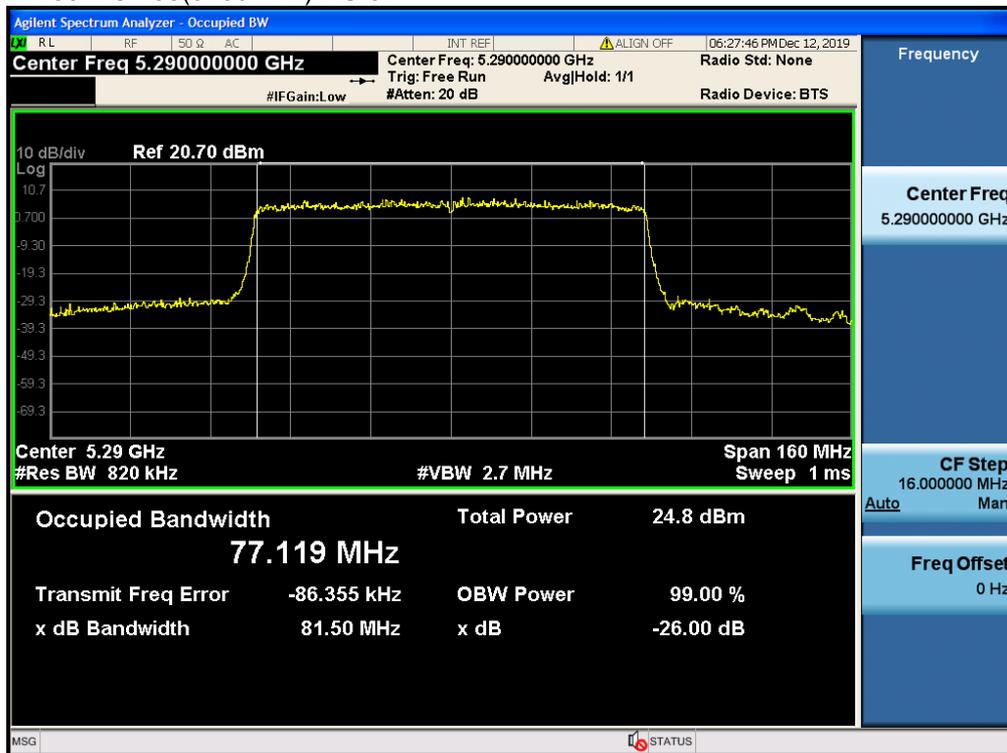
BW40M Ch.159(5795MHz) RU 65



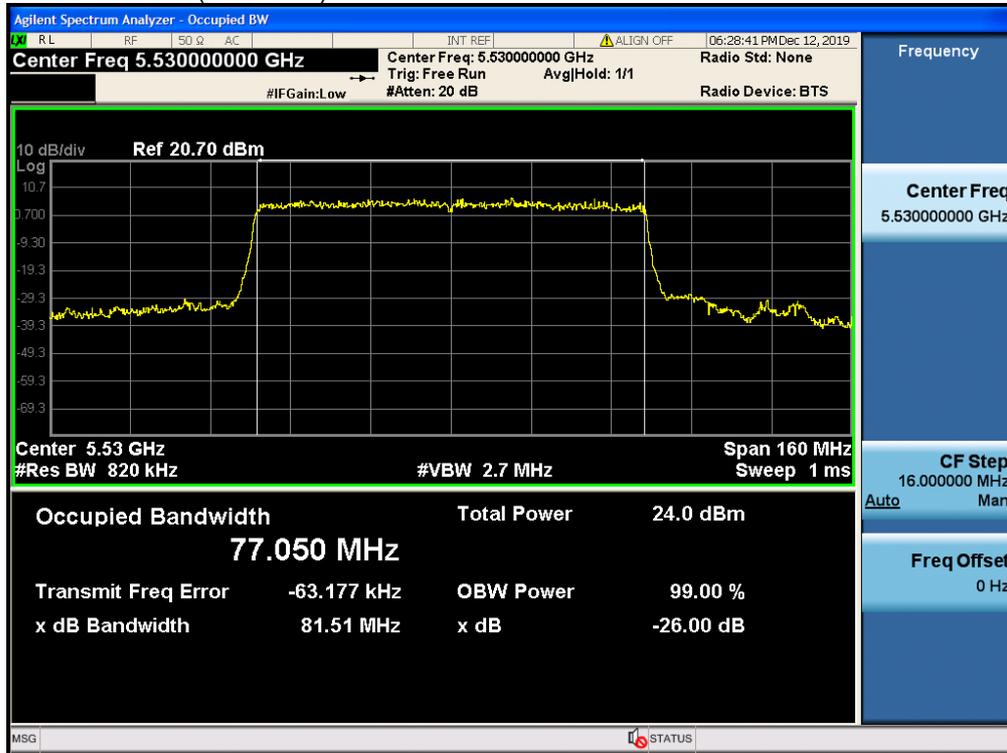
BW80M Ch.42(5210MHz) RU 67



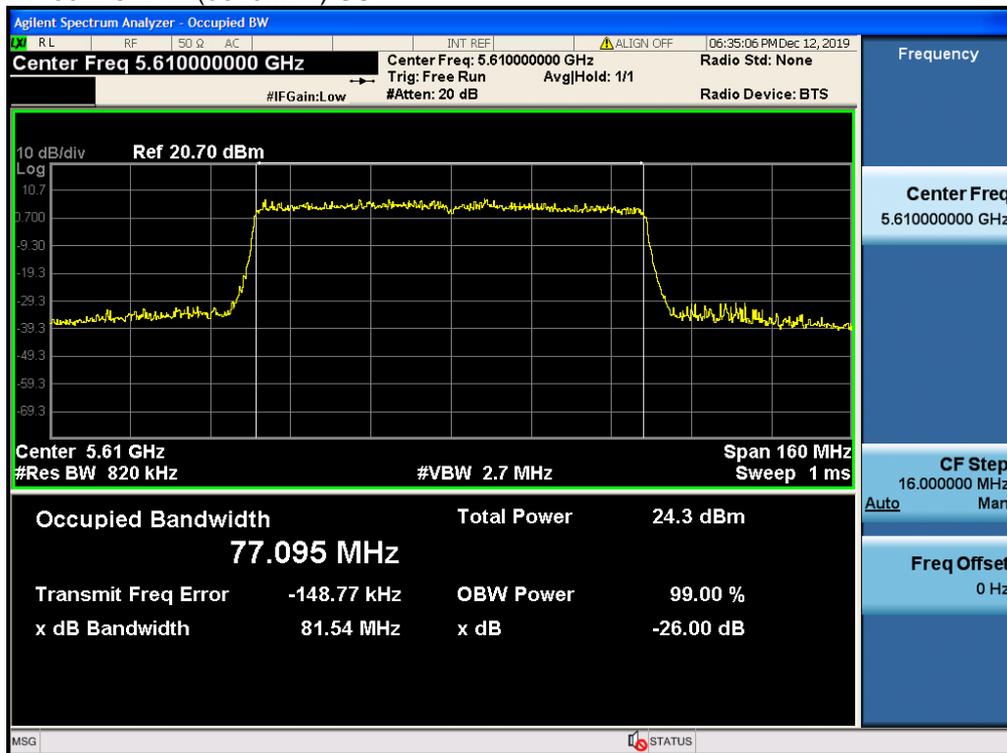
BW80M Ch.58(5290MHz) RU 67



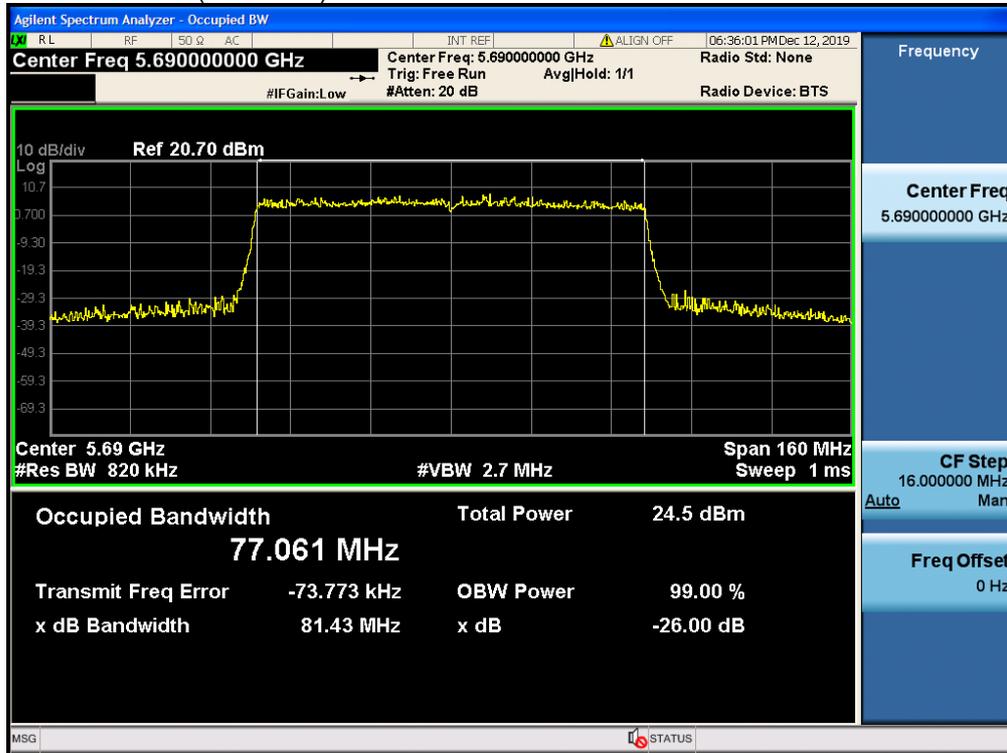
BW80M Ch.106(5530MHz) RU 67



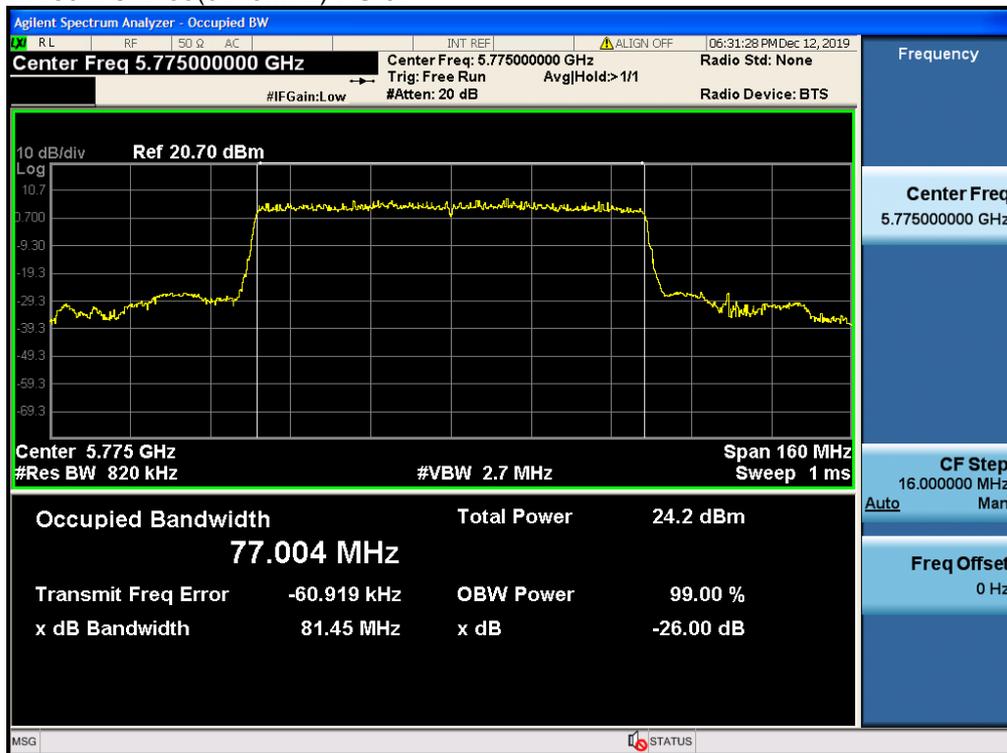
BW80M Ch.122(5610MHz) SU



BW80M Ch.138(5690MHz) SU



BW80M Ch.155(5775MHz) RU 67



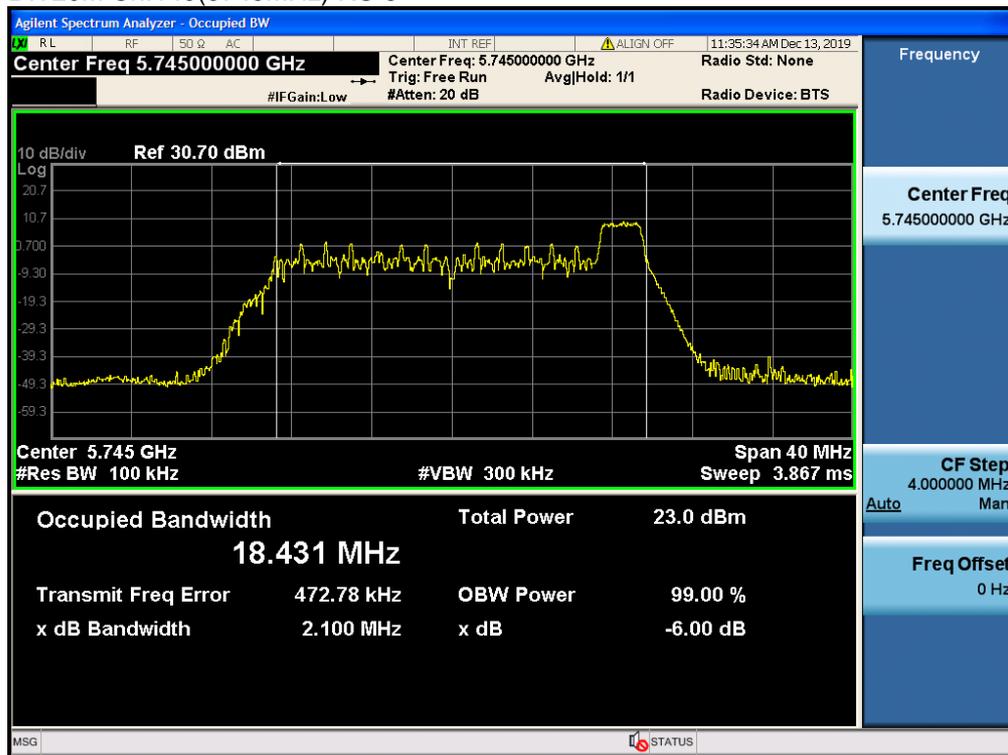
### 3. 6dB Bandwidth

**Note:**

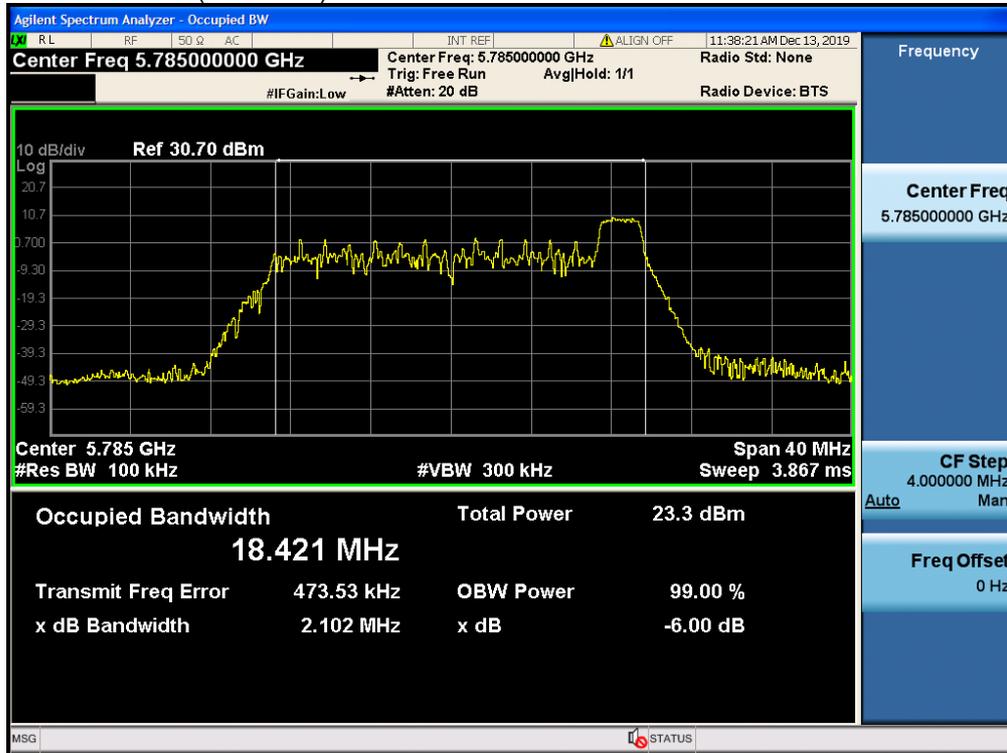
1. In order to simplify the report, attached plots were only the most narrow channel.

#### 3.1 Ant1

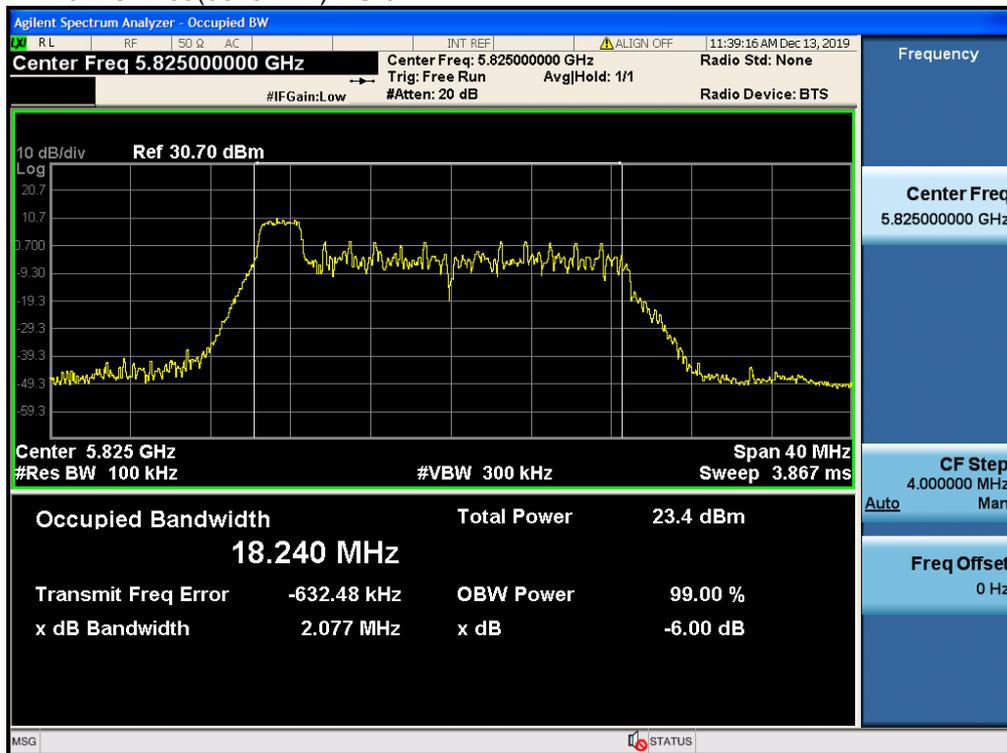
BW20M Ch.149(5745MHz) RU 8



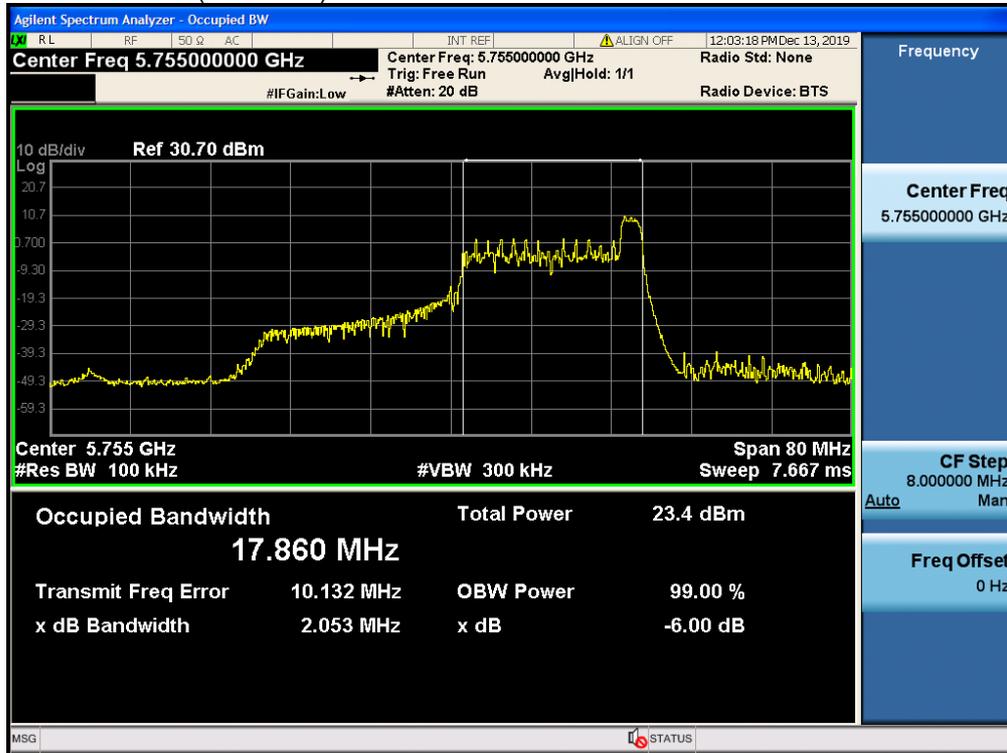
BW20M Ch.157(5785MHz) RU 8



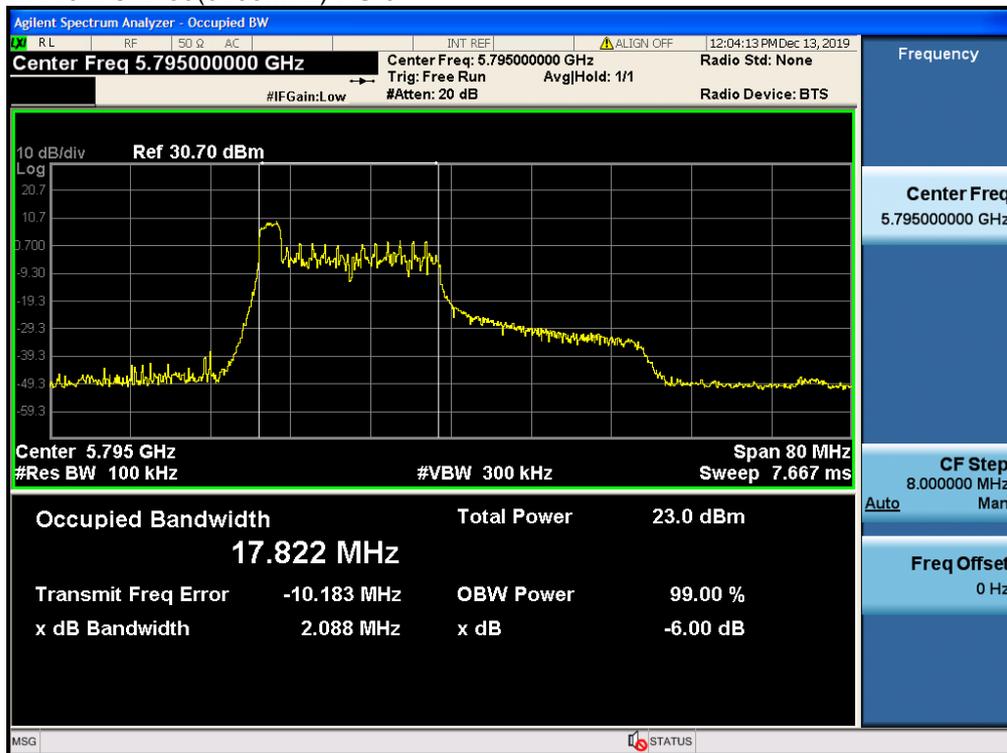
BW20M Ch.165(5825MHz) RU 0



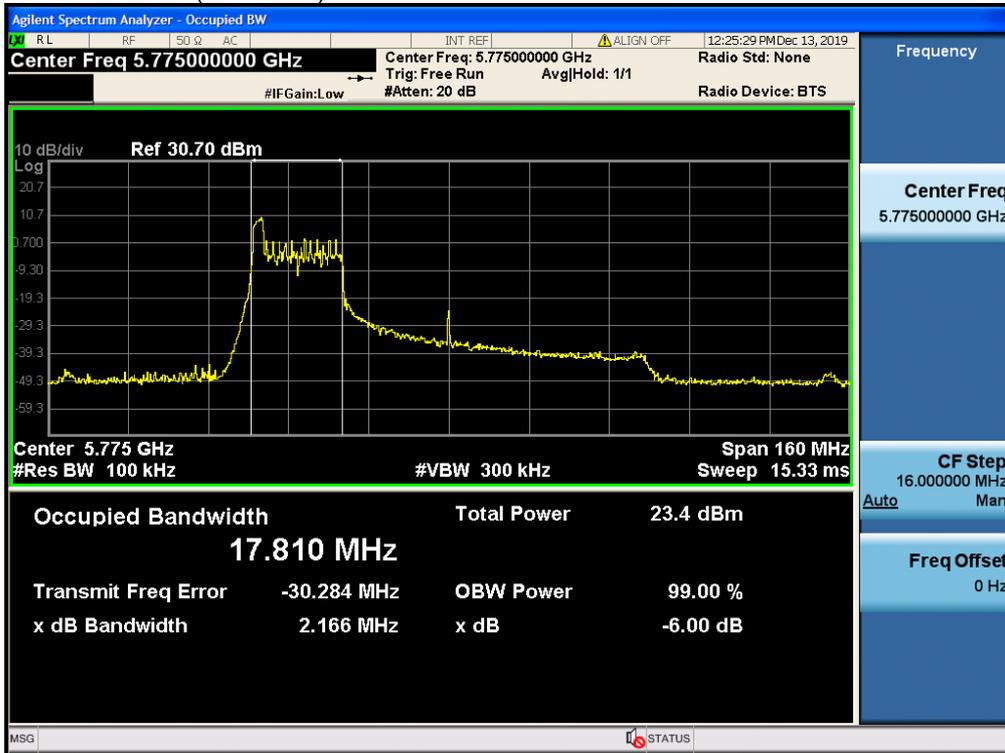
BW40M Ch.151(5755MHz) RU 17



BW40M Ch.159(5795MHz) RU 0

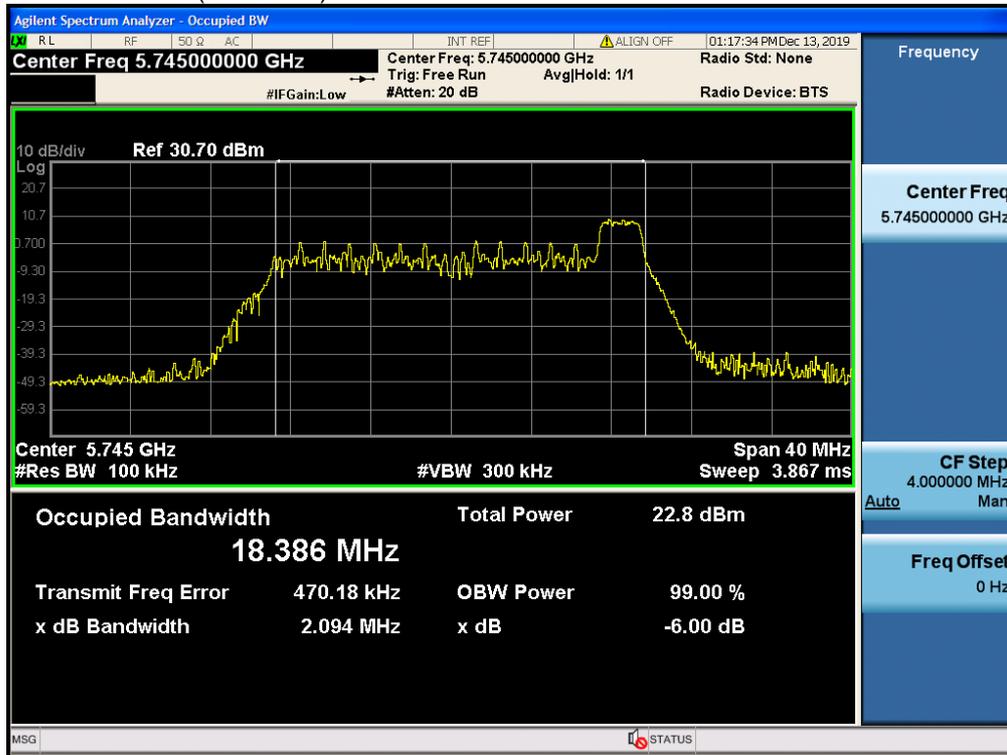


BW80M Ch.155(5775MHz) RU 0

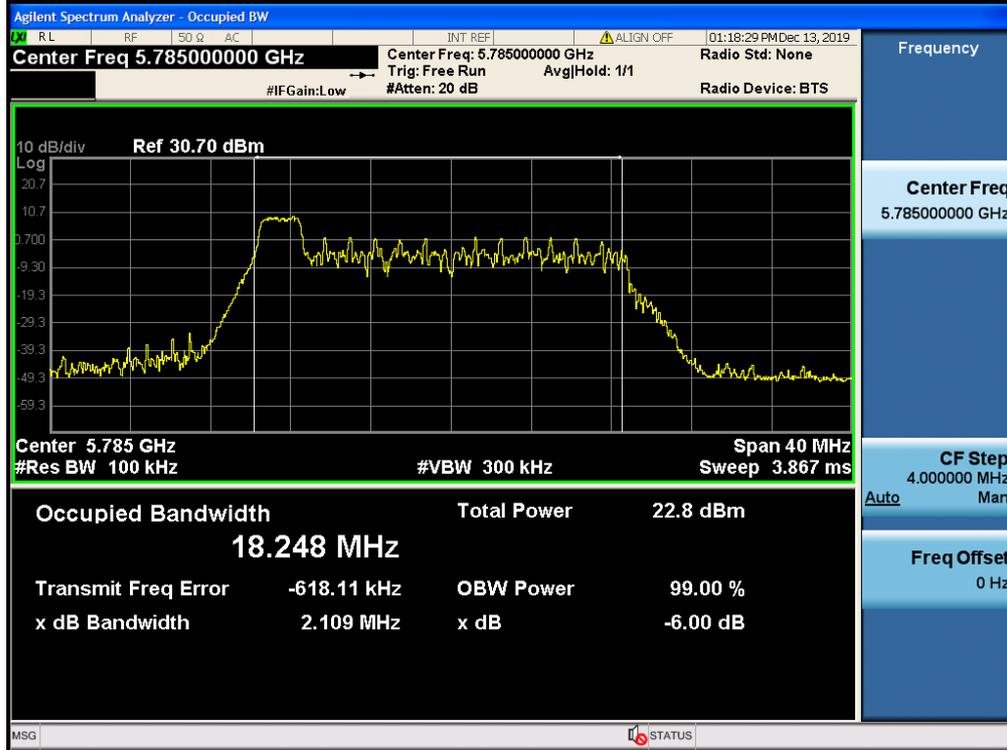


### 3.2 Ant2

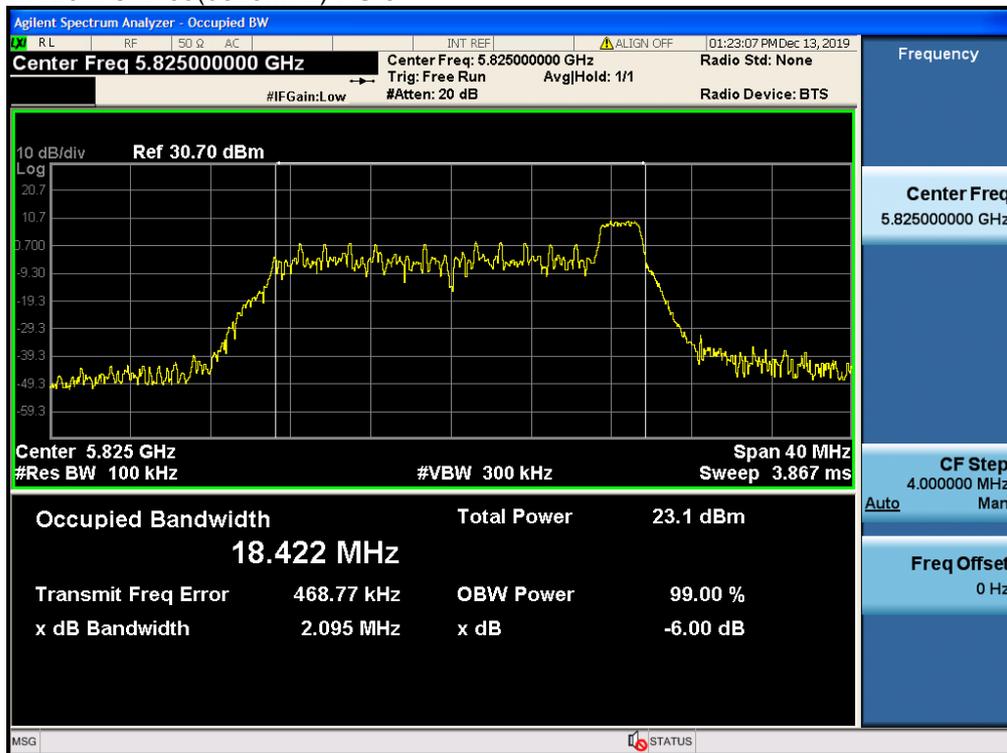
BW20M Ch.149(5745MHz) RU 8



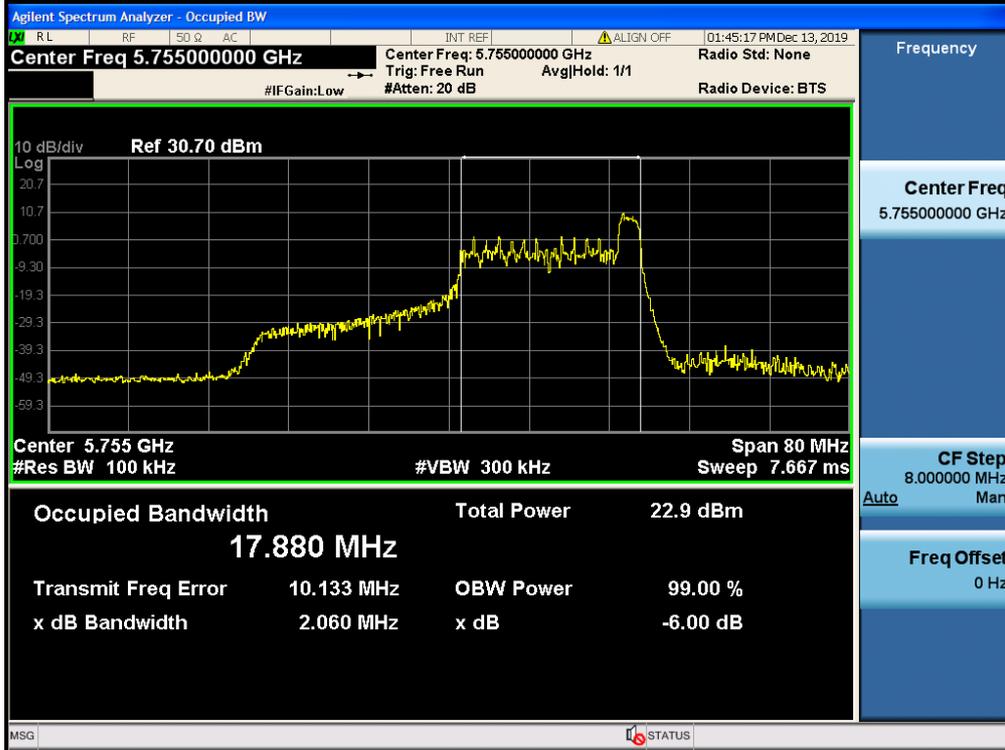
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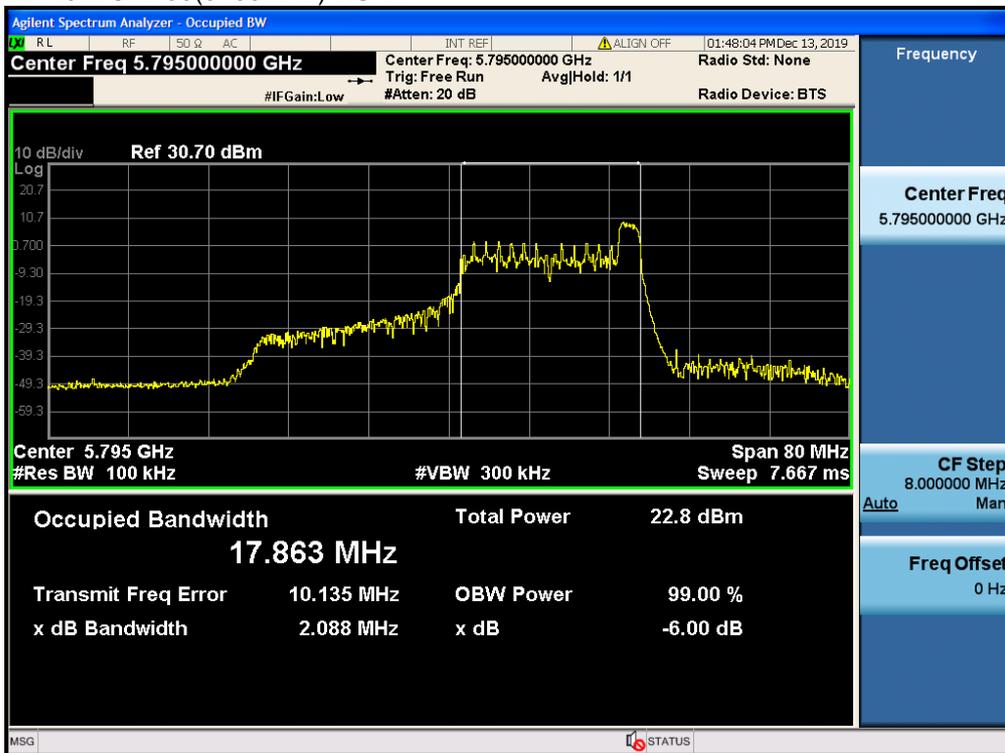
BW20M Ch.165(5825MHz) RU 8



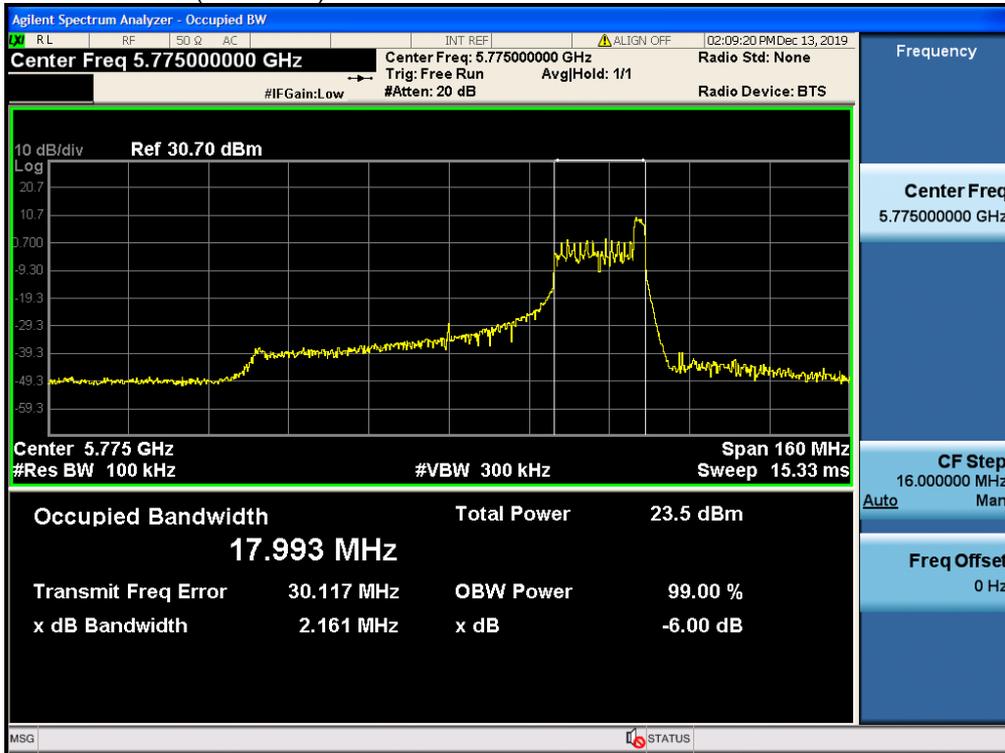
BW40M Ch.151(5755MHz) RU 17



BW40M Ch.159(5795MHz) RU 17



BW80M Ch.155(5775MHz) RU 36



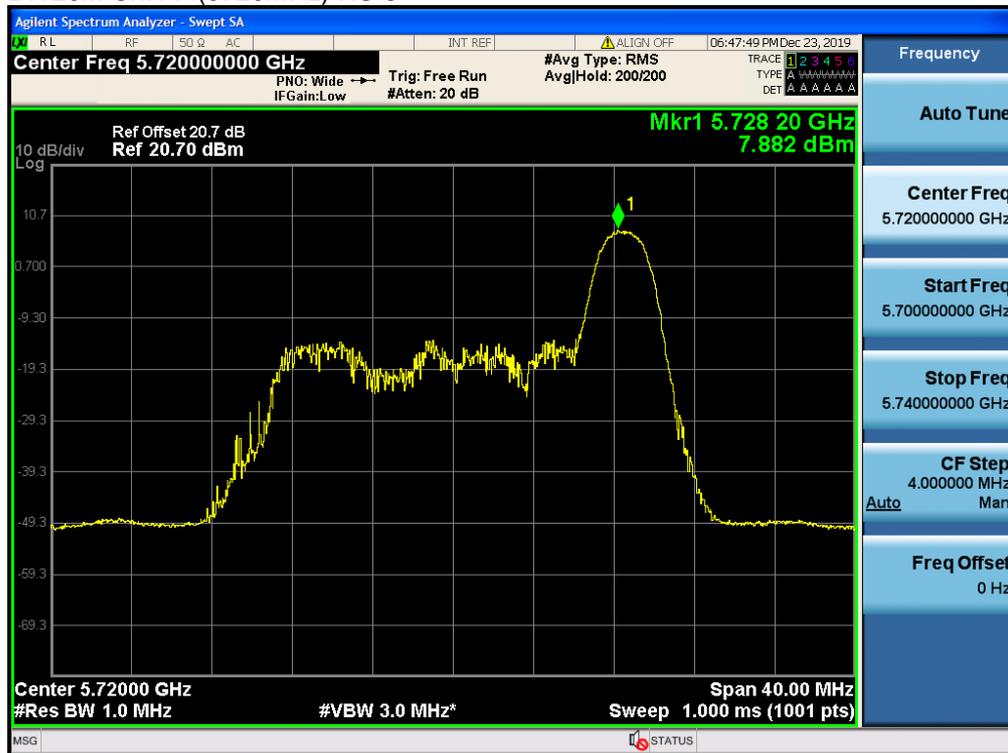
### 4. Power Spetral Density

**Note:**

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

#### 4.1 Ant1

BW20M Ch.144(5720MHz) RU 8



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 7.882 + 0.38 = 8.26 dBm

BW20M Ch.165(5825MHz) RU 4



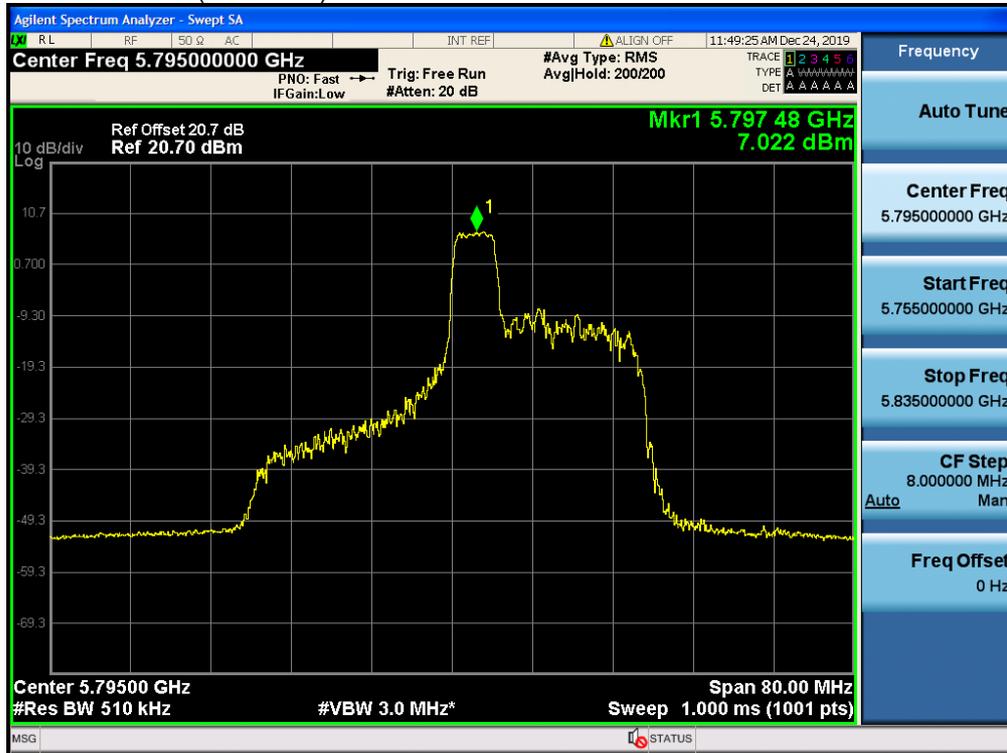
Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 7.951 + 0.38 = 8.33 dBm

BW40M Ch.142(5710MHz) RU 41



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 7.462 + 0.88 = 8.34 dBm

BW40M Ch.159(5795MHz) RU 41



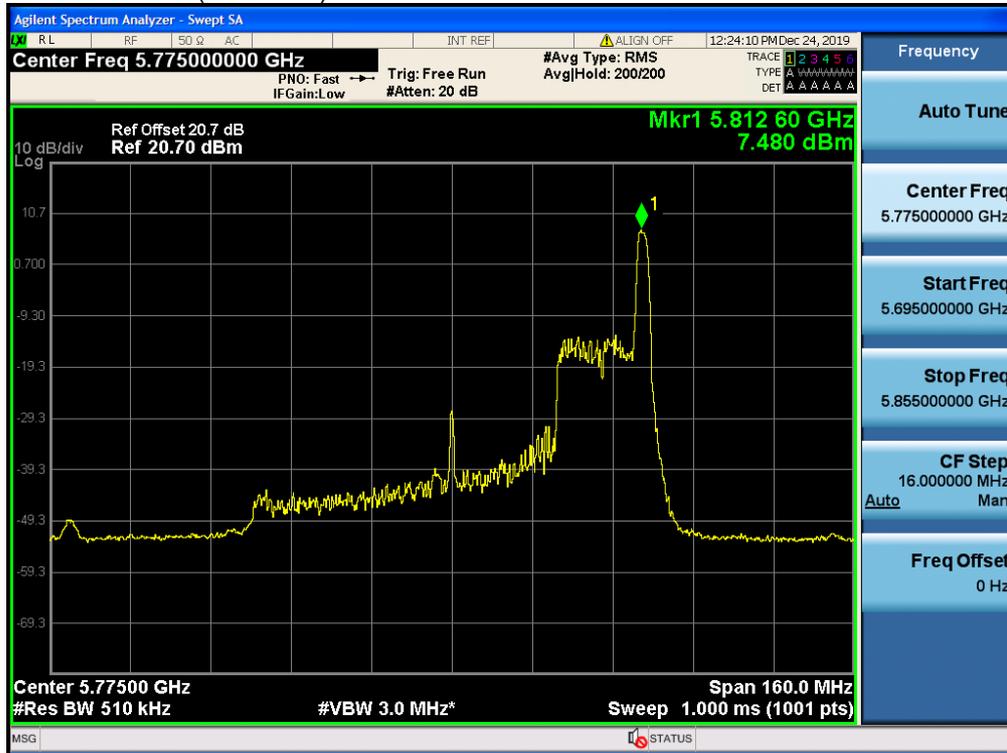
Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 7.022 + 0.88 = 7.90 dBm

BW80M Ch.138(5690MHz) RU 36



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 7.413 + 0.49 = 7.91 dBm

BW80M Ch.155(5775MHz) RU 36



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 7.480 + 0.49 = 7.97 dBm

### 4.2 Ant2

BW20M Ch.120(5600MHz) RU 0



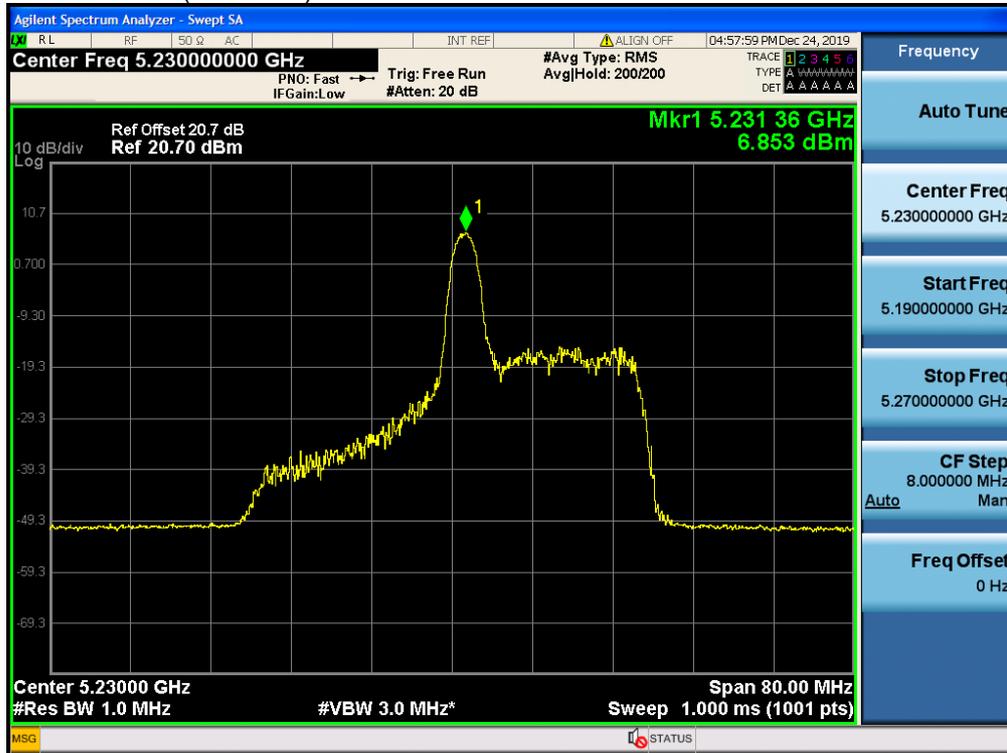
Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 7.179 + 0.38 = 7.56 dBm

BW20M Ch.165(5825MHz) RU 4



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 7.609 + 0.38 = 7.99 dBm

BW40M Ch.46(5230MHz) RU 9



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 6.853 + 0.49 = 7.35 dBm

BW40M Ch.159(5795MHz) RU 41



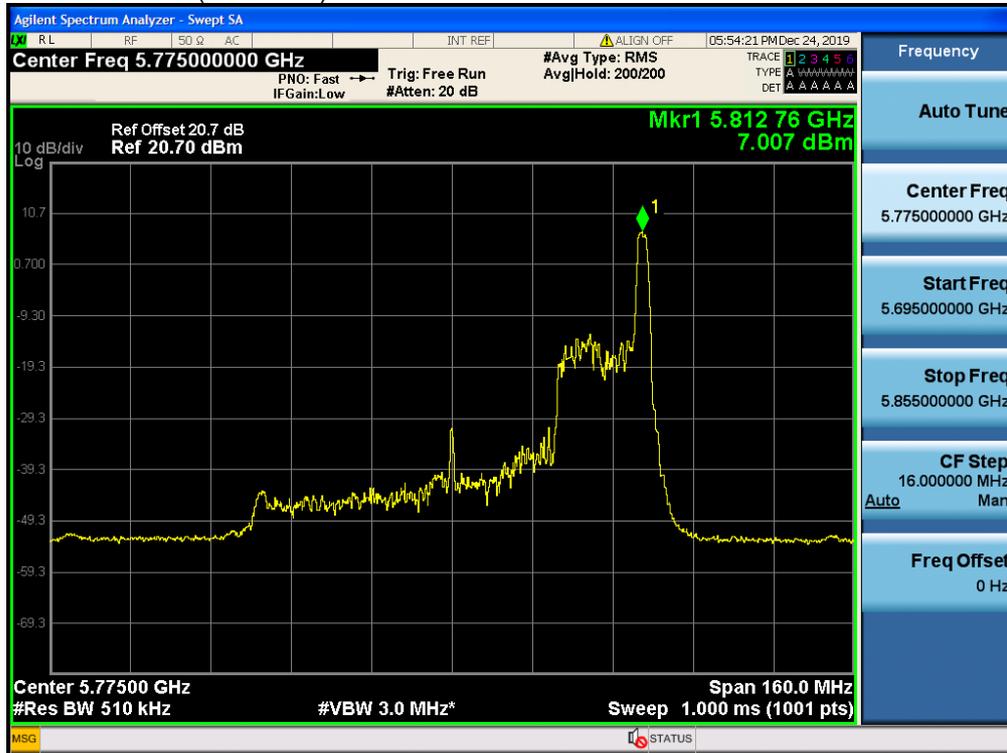
Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 6.409 + 0.88 = 7.29 dBm

BW80M Ch.138(5690MHz) RU 0



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 6.567 + 0.49 = 7.06 dBm

BW80M Ch.155(5775MHz) RU 36



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 7.007 + 0.49 = 7.50 dBm

## 5. Straddle Channel

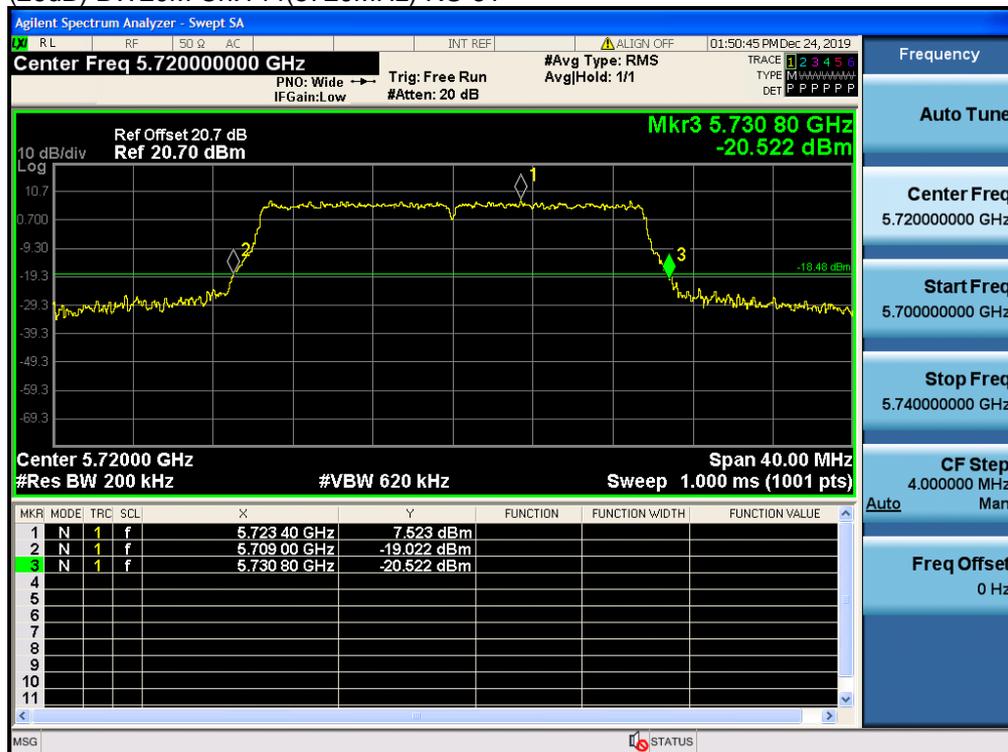
### 5.1 26dB Bandwidth

**Note:**

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

#### 5.1.1 Ant1

(26dB) BW20M Ch.144(5720MHz) RU 61



[UNII 2C] 26dB BW = 5725MHz - Measured Frequency[MHz] = 5725 – 5709 = 16.00 MHz  
 [UNII 3] 26dB BW = Measured Frequency[MHz] -5725MHz = 5730.8 – 5725 = 5.80 MHz

(26dB) BW40M Ch.142(5710MHz) RU 65



[UNII 2C] 26dB BW = 5725MHz - Measured Frequency[MHz] = 5725 – 5689.76 = 35.24 MHz  
 [UNII 3] 26dB BW = Measured Frequency[MHz] -5725MHz = 5730.0 – 5725 = 5.00 MHz

(26dB) BW80M Ch.138(5690MHz) RU 67



[UNII 2C] 26dB BW = 5725MHz - Measured Frequency[MHz] = 5725 – 5649.04 = 75.96 MHz  
 [UNII 3] 26dB BW = Measured Frequency[MHz] -5725MHz = 5730.96 – 5725 = 5.96 MHz

### 5.1.2 Ant2

(26dB) BW20M Ch.144(5720MHz) RU 61



[UNII 2C] 26dB BW = 5725MHz - Measured Frequency[MHz] = 5725 - 5709 = 16.00 MHz  
 [UNII 3] 26dB BW = Measured Frequency[MHz] -5725MHz = 5730.72 - 5725 = 5.72 MHz

(26dB) BW40M Ch.142(5710MHz) RU 65



[UNII 2C] 26dB BW = 5725MHz - Measured Frequency[MHz] = 5725 – 5689.76 = 35.24 MHz  
 [UNII 3] 26dB BW = Measured Frequency[MHz] -5725MHz = 5730.0 – 5725 = 5.00 MHz

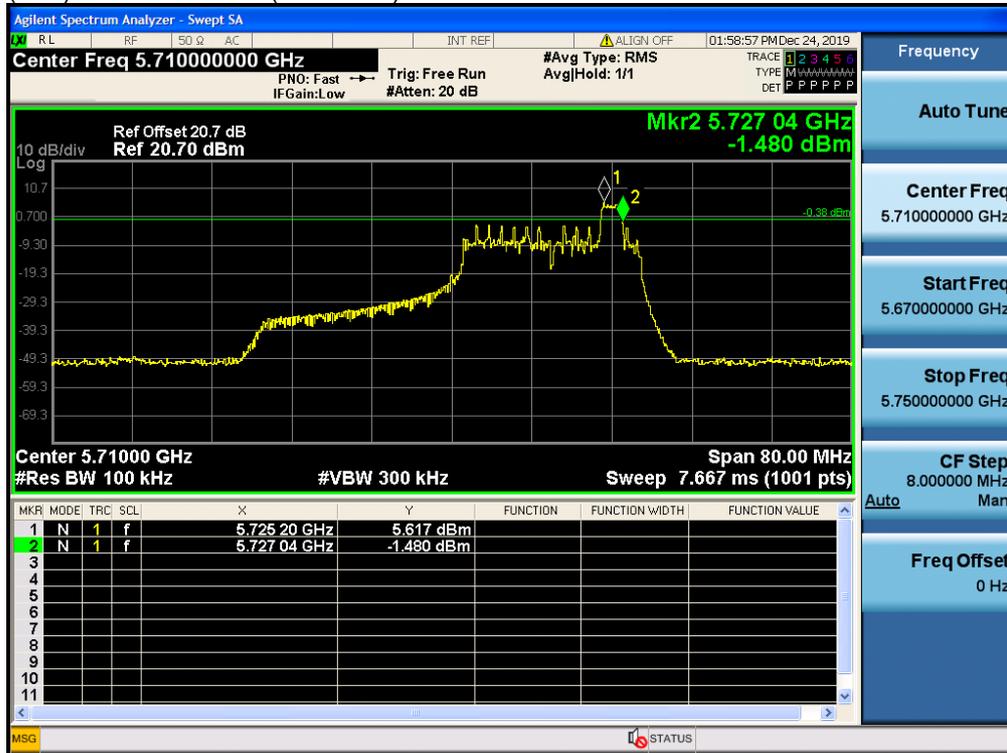
(26dB) BW80M Ch.138(5690MHz) RU 67



[UNII 2C] 26dB BW = 5725MHz - Measured Frequency[MHz] = 5725 – 5649.04 = 75.96 MHz  
 [UNII 3] 26dB BW = Measured Frequency[MHz] -5725MHz = 5730.8 – 5725 = 5.80 MHz



(6dB) BW40M Ch.142(5710MHz) RU 16



6dB Bandwidth = Measured Frequency[MHz] – 5725MHz = 5727.04 – 5725 = 2.04 MHz

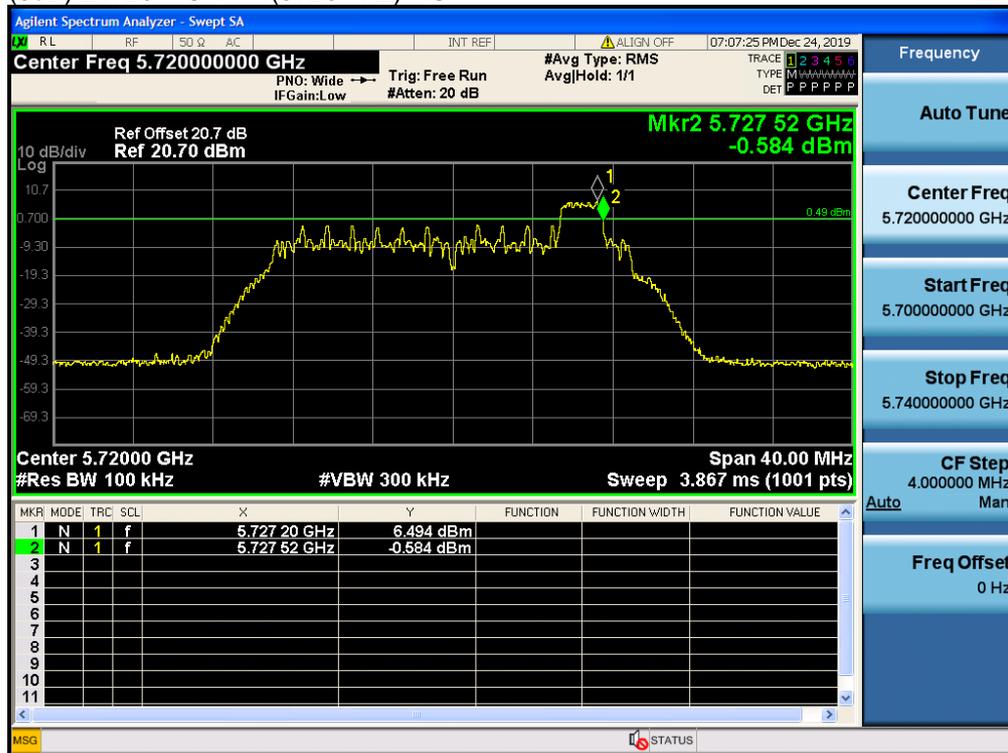
(6dB) BW80M Ch.138(5690MHz) RU 35



6dB Bandwidth = Measured Frequency[MHz] – 5725MHz = 5727.12 – 5725 = 2.12 MHz

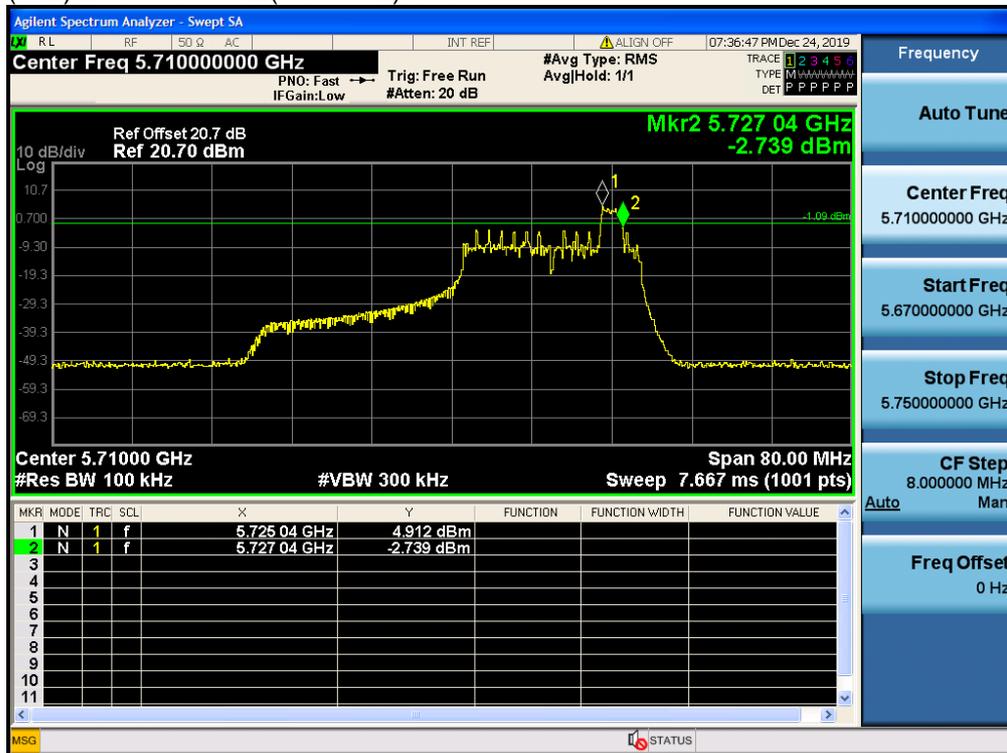
### 5.2.2 Ant2

(6dB) BW20M Ch.144(5720MHz) RU 7



6dB Bandwidth = Measured Frequency[MHz] – 5725MHz = 5727.52 – 5725 = 2.52 MHz

(6dB) BW40M Ch.142(5710MHz) RU 16



6dB Bandwidth = Measured Frequency[MHz] – 5725MHz = 5727.04 – 5725 = 2.04 MHz

(6dB) BW80M Ch.138(5690MHz) RU 35



6dB Bandwidth = Measured Frequency[MHz] – 5725MHz = 5727.12 – 5725 = 2.12 MHz

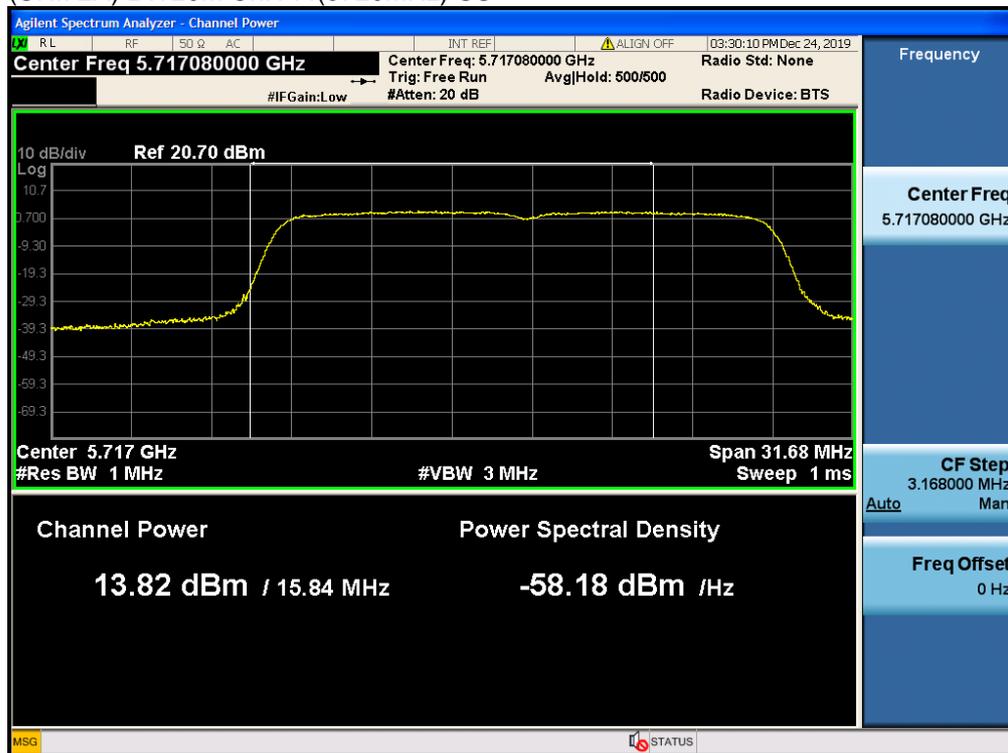
### 5.3 Output Power

**Note:**

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

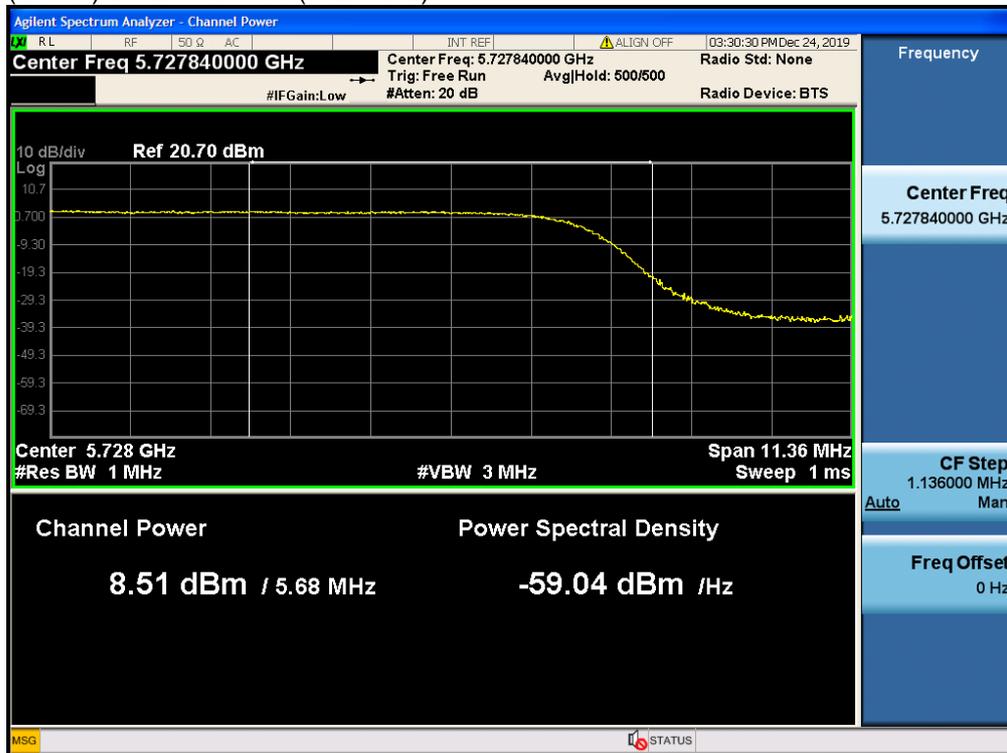
#### 5.3.1 Ant1

(UNII 2A) BW20M Ch.144(5720MHz) SU



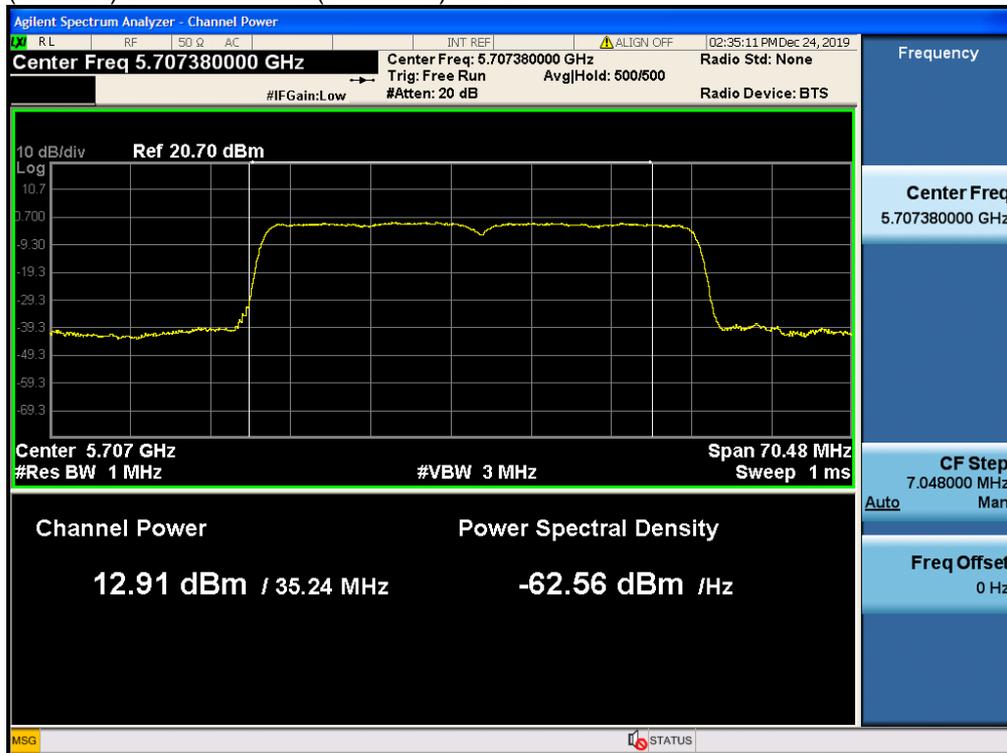
Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 13.82 + 2.06 = 15.87 dBm

(UNII 3) BW20M Ch.144(5720MHz) SU



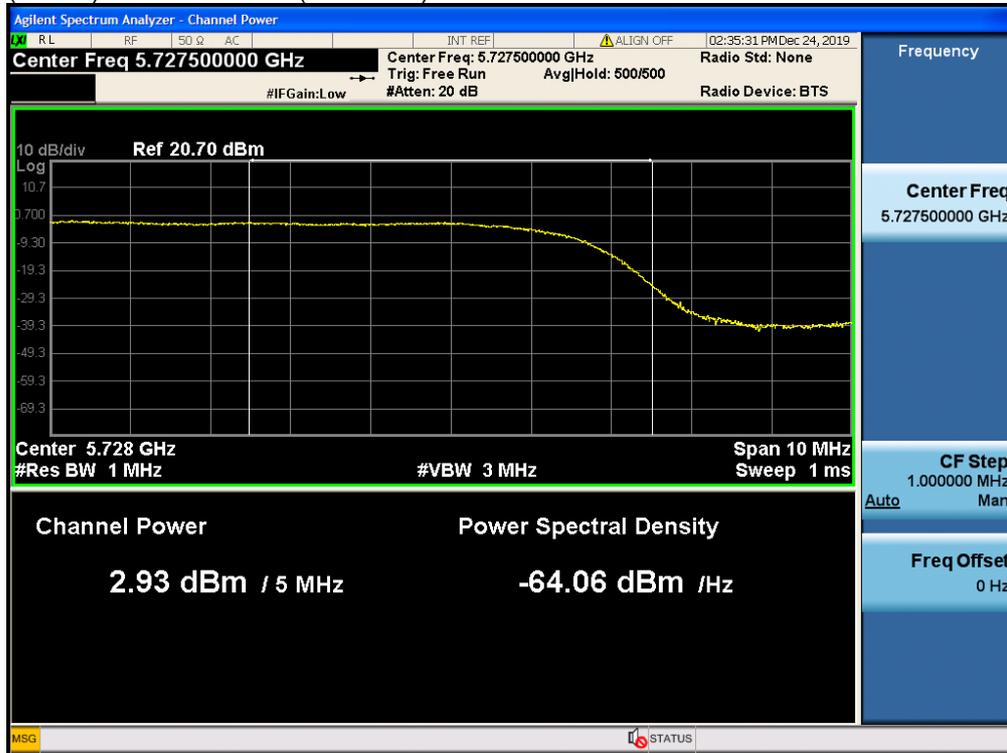
Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 8.51 + 2.06 = 10.56 dBm

(UNII 2A) BW40M Ch.142(5710MHz) RU 65



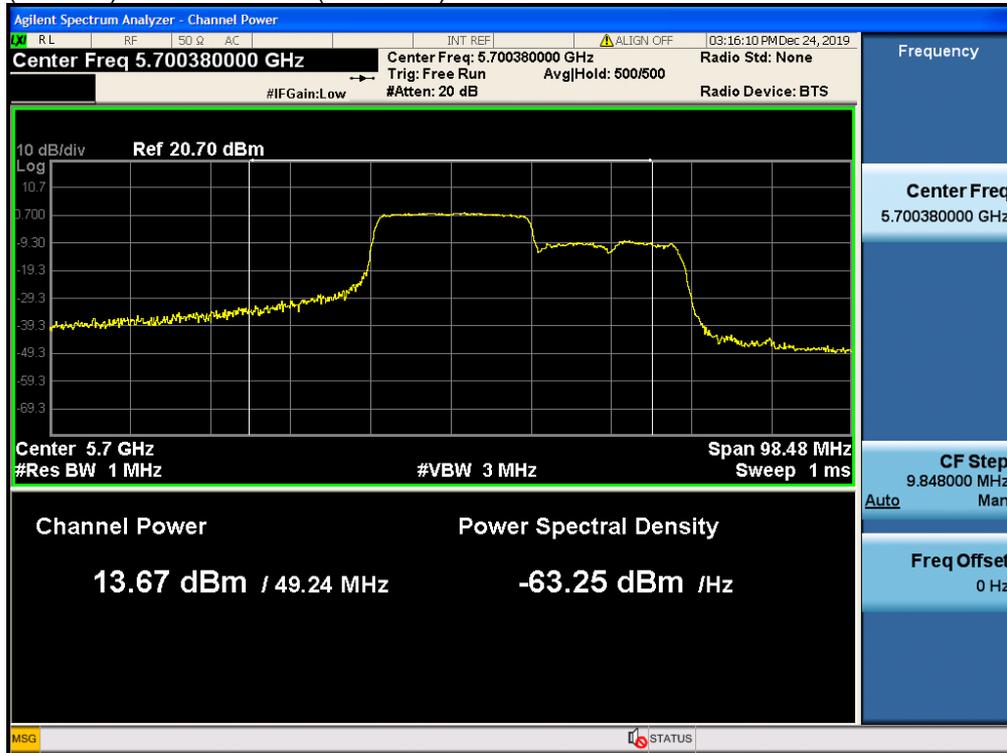
Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 12.91 + 3.01 = 15.92 dBm

(UNII 3) BW40M Ch.142(5710MHz) RU 65



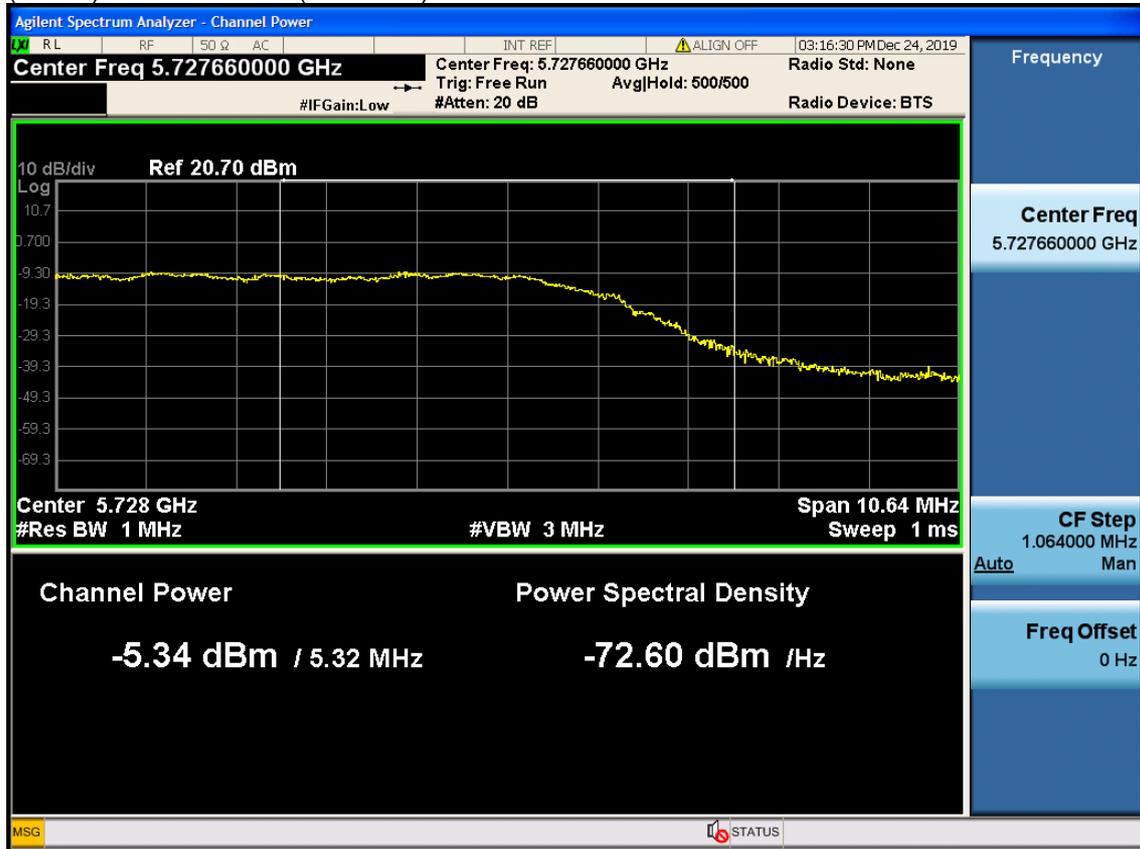
Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 2.93 + 3.01 = 5.94 dBm

(UNII 2A) BW80M Ch.138(5690MHz) RU 63



Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 13.67 + 1.92 = 15.59 dBm

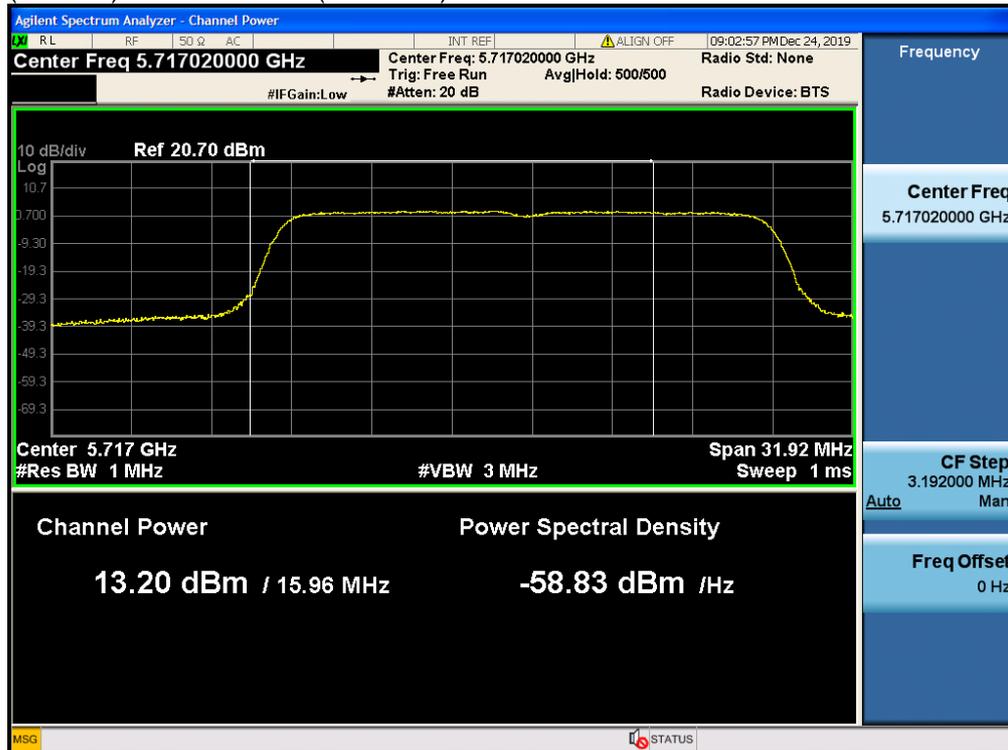
(UNII 3) BW80M Ch.138(5690MHz) RU 63



Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = -5.34 + 1.92 = -3.42 dBm

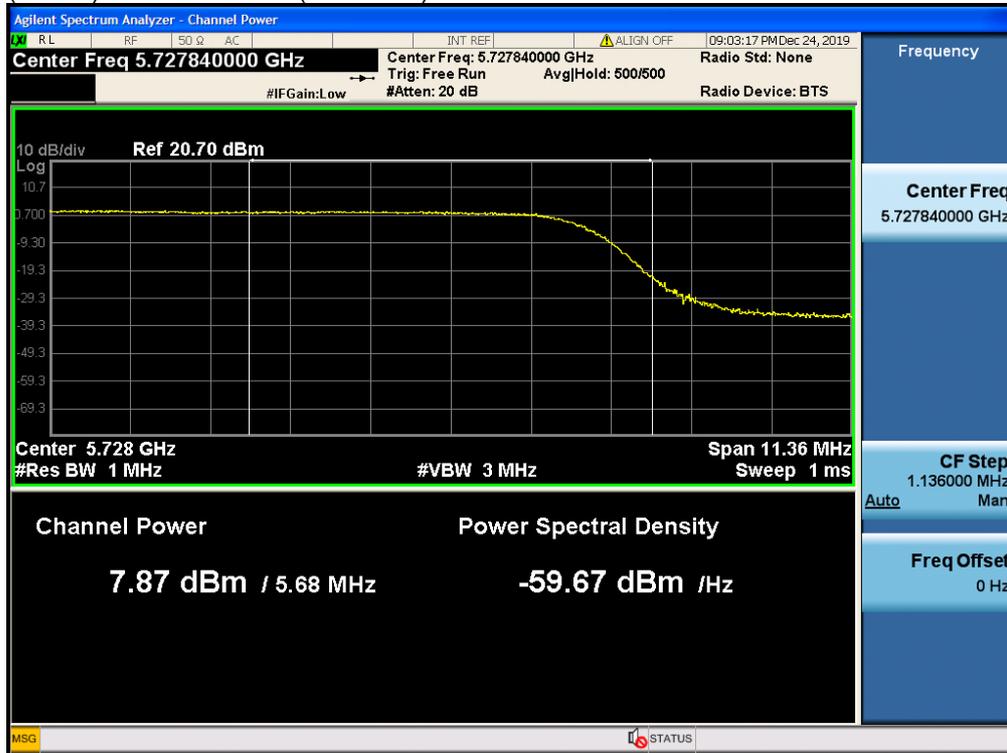
### 5.3.1 Ant2

(UNII 2A) BW20M Ch.144(5720MHz) SU



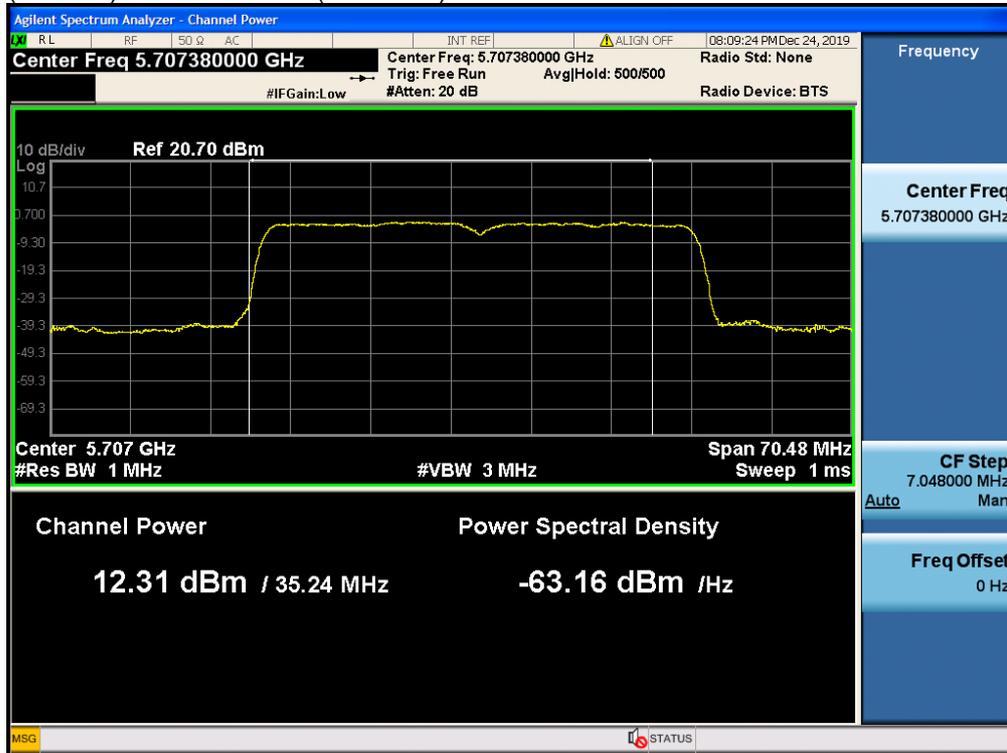
$$\text{Total Power(dBm)} = \text{Reading Value(dBm)} + \text{Duty Cycle Factor(dB)} = 13.20 + 2.06 = 15.25 \text{ dBm}$$

(UNII 3) BW20M Ch.144(5720MHz) SU



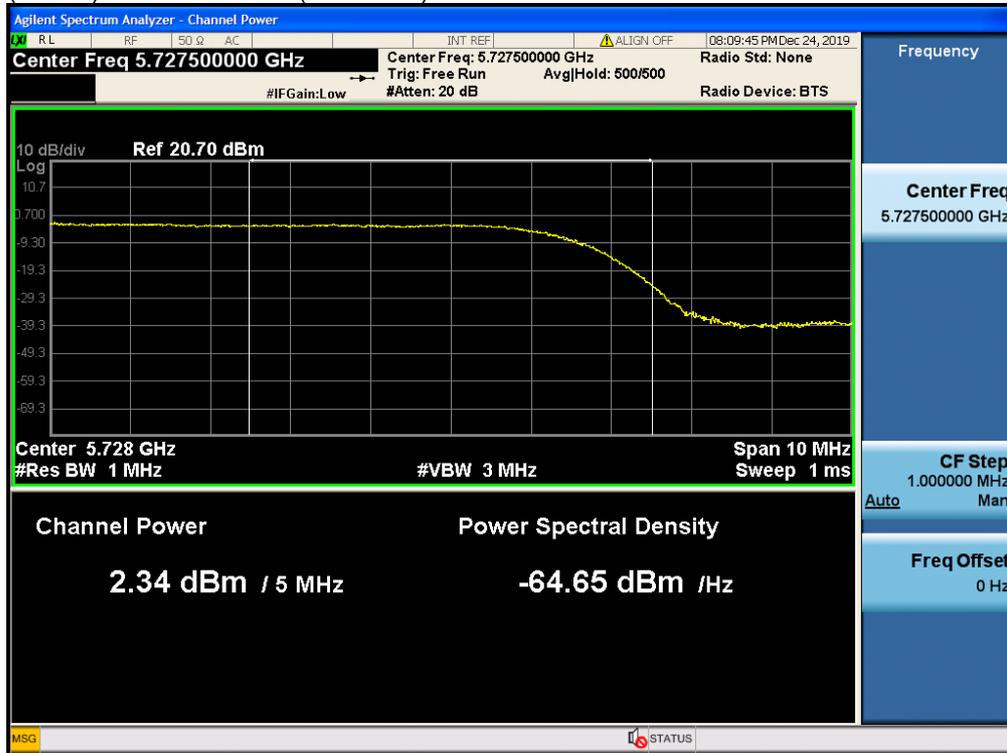
Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 7.87 + 2.06 = 9.93 dBm

(UNII 2A) BW40M Ch.142(5710MHz) RU 65



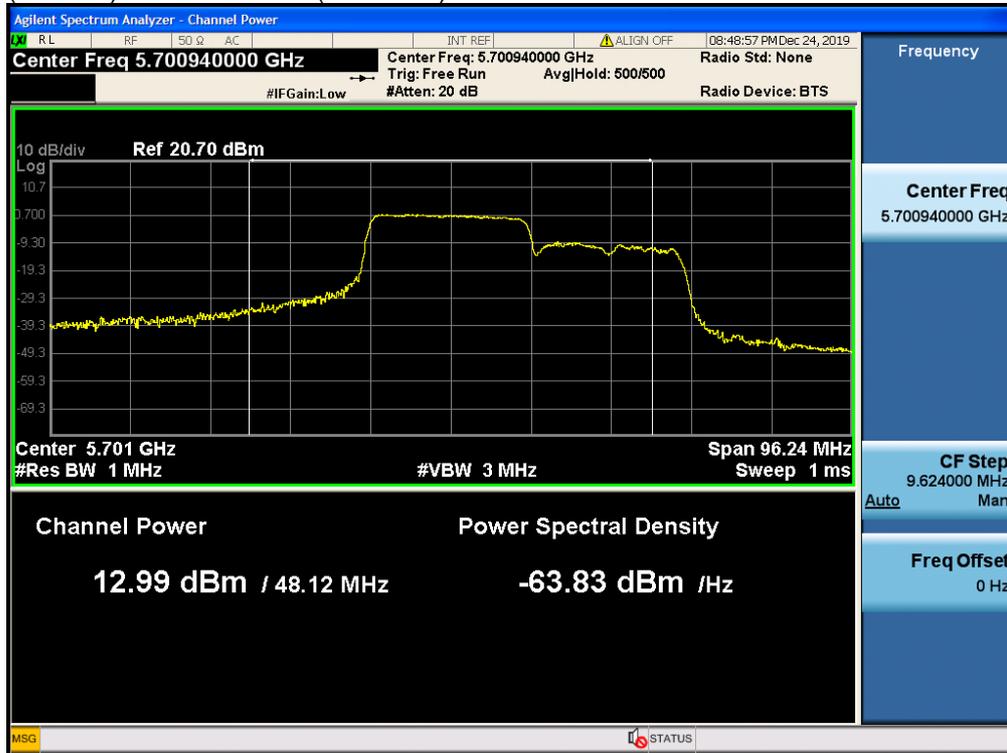
Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 12.31 + 3.01 = 15.32 dBm

(UNII 3) BW40M Ch.142(5710MHz) RU 65



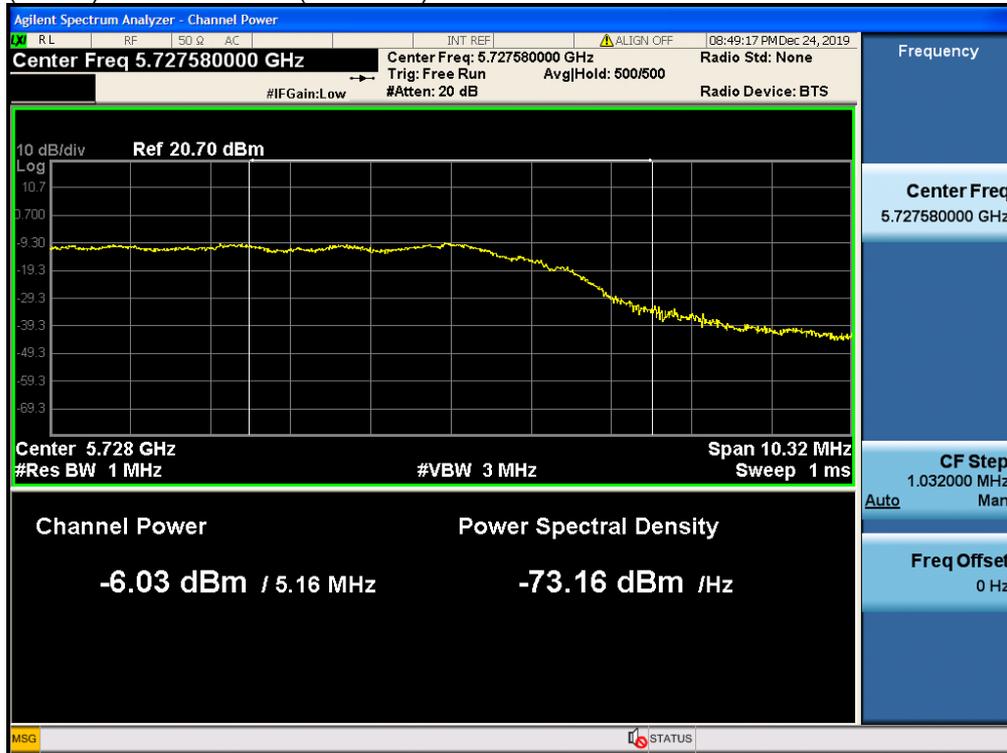
Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 2.32 + 2.06 = 5.35 dBm

(UNII 2A) BW80M Ch.138(5690MHz) RU 63



Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 12.99 + 1.92 = 14.91 dBm

(UNII 3) BW80M Ch.138(5690MHz) RU 63



Total Power(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = -6.03 + 1.92 = -4.11 dBm

## 5.4 Output Power

**Note:**

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

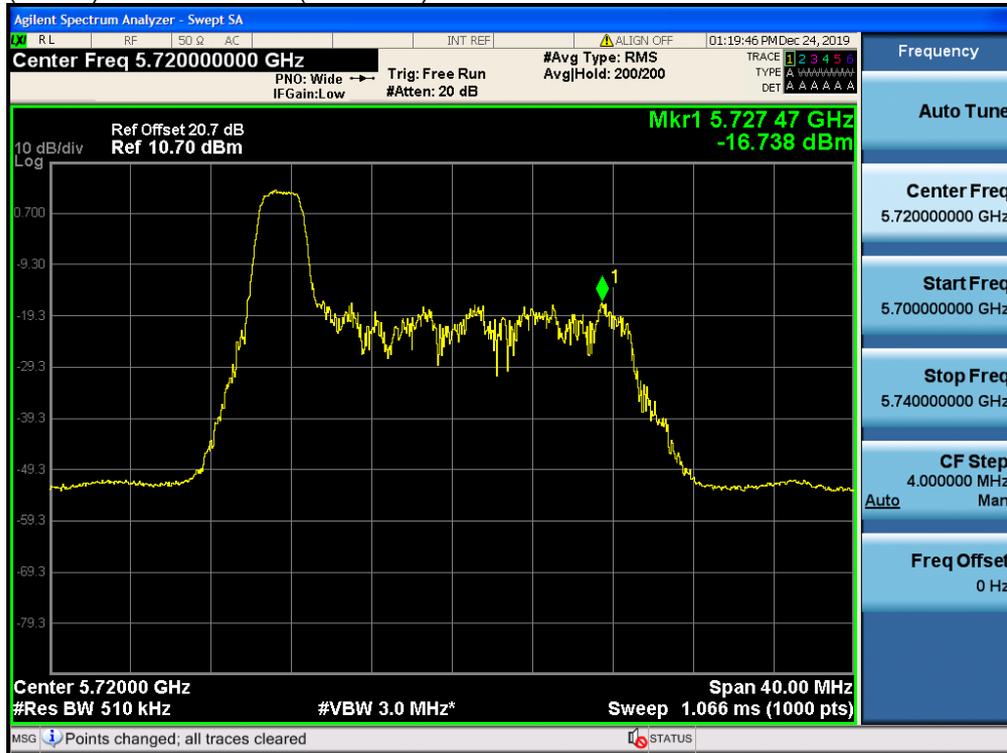
### 5.4.1 Ant1

(UNII 2C) BW20M Ch.144(5720MHz) RU 0



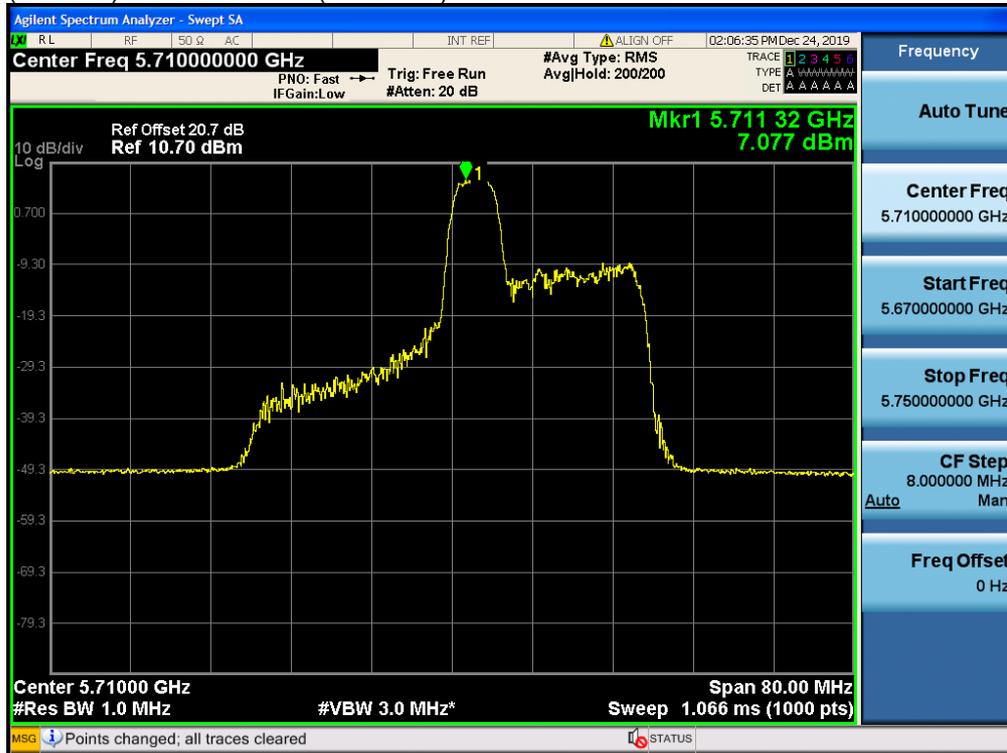
Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 7.875 + 0.38 = 8.26 dBm

(UNII 3) BW20M Ch.144(5720MHz) RU 0



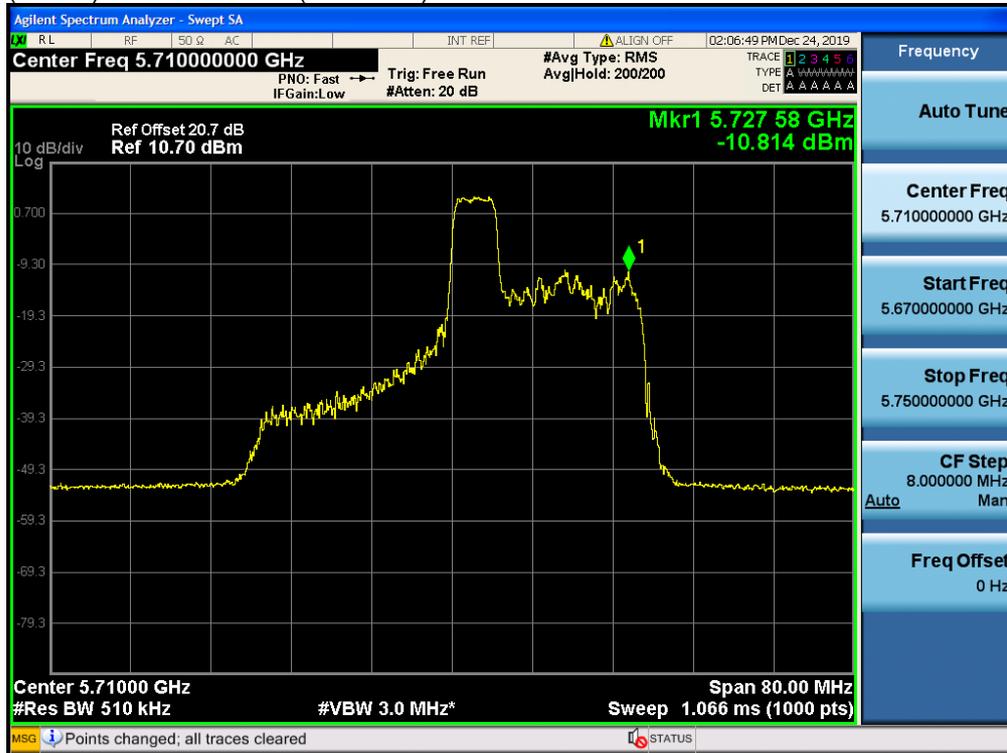
Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = -16.738+0.38 = -16.36 dBm

(UNII 2C) BW40M Ch.142(5710MHz) RU 41



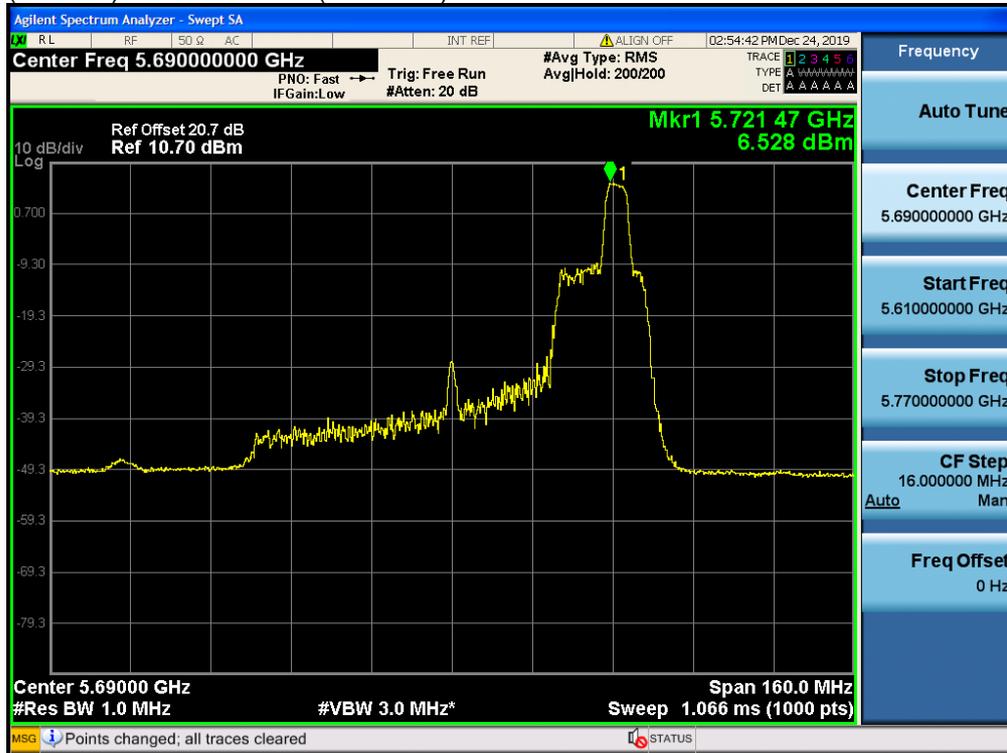
Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 7.077 + 0.88 = 7.96 dBm

(UNII 3) BW40M Ch.142(5710MHz) RU 41



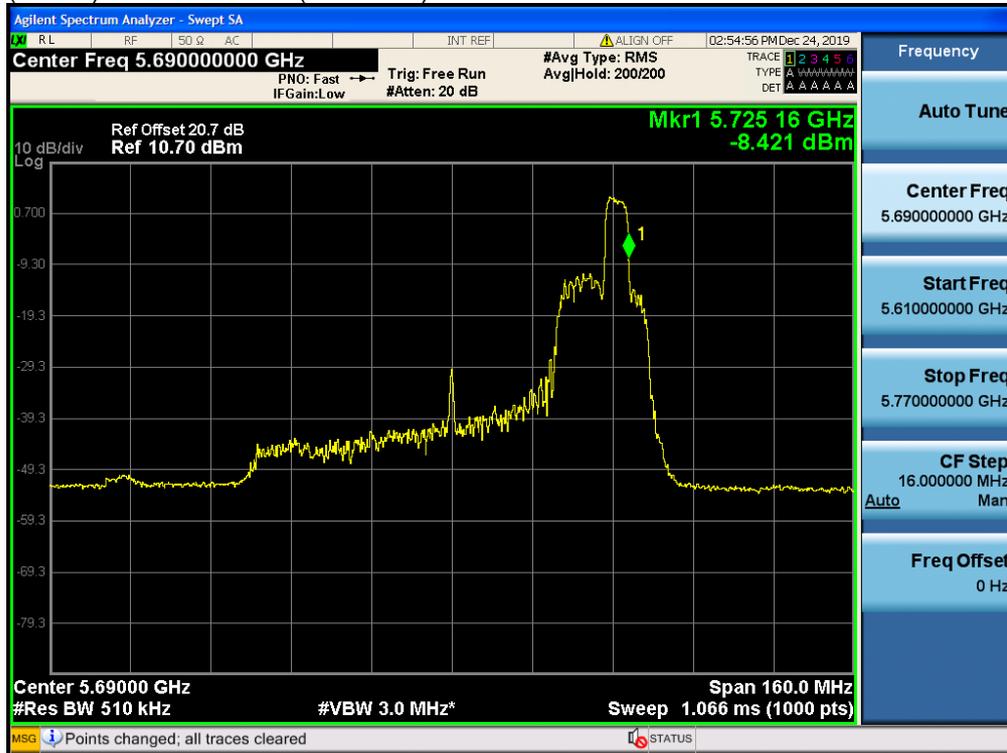
Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = -10.814 + 0.88 = -9.93 dBm

(UNII 2C) BW80M Ch.138(5690MHz) RU 51



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 6.528 + 0.87 = 7.40 dBm

(UNII 3) BW80M Ch.138(5690MHz) RU 51



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = -8.421 + 0.87 = -7.55 dBm

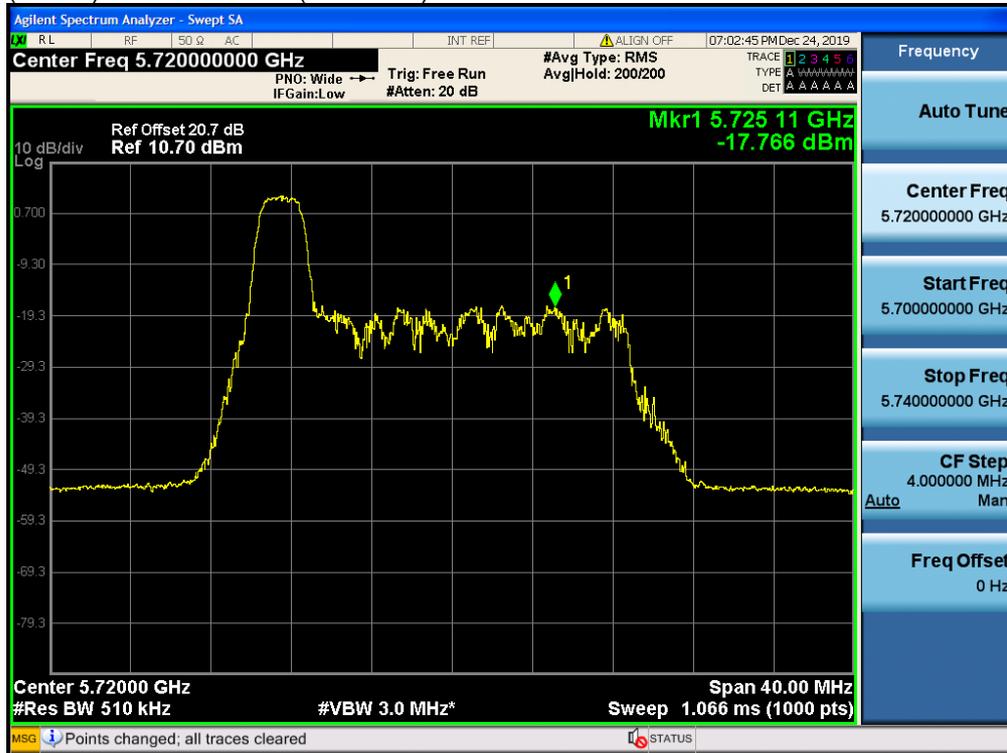
### 5.4.2 Ant2

(UNII 2C) BW20M Ch.144(5720MHz) RU 0



$$\text{Total PSD(dBm)} = \text{Reading Value(dBm)} + \text{Duty Cycle Factor(dB)} = 6.958 + 0.38 = 7.34 \text{ dBm}$$

(UNII 3) BW20M Ch.144(5720MHz) RU 0



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = -17.766+0.38 = -17.38 dBm

(UNII 2C) BW40M Ch.142(5710MHz) RU 41



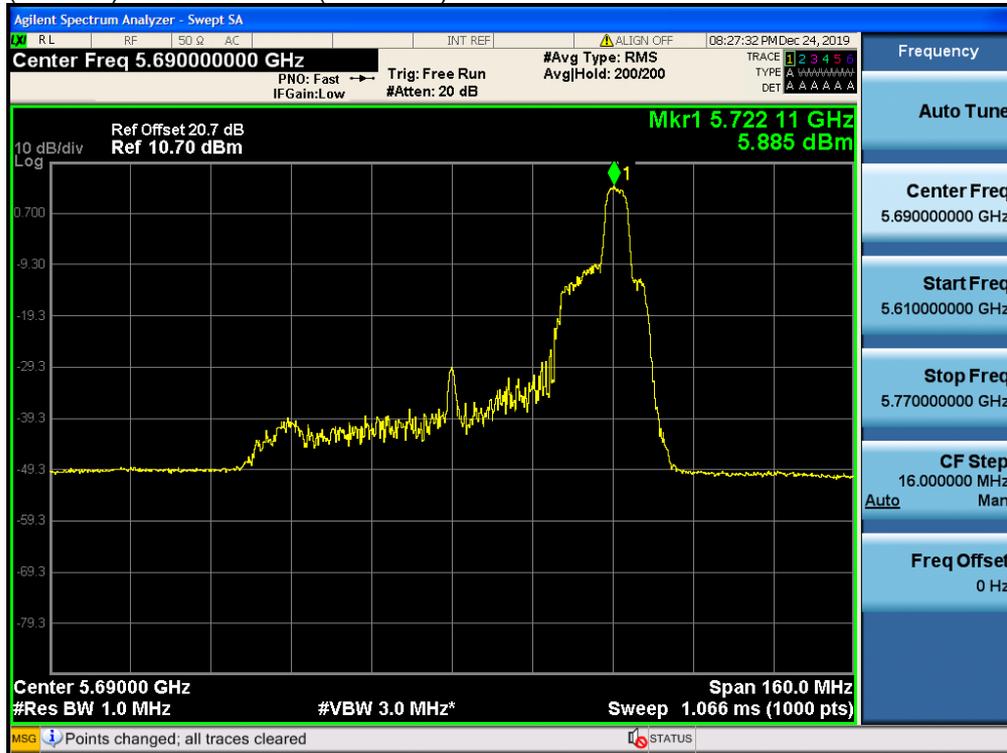
$$\text{Total PSD(dBm)} = \text{Reading Value(dBm)} + \text{Duty Cycle Factor(dB)} = 6.102 + 0.88 = 6.98 \text{ dBm}$$

(UNII 3) BW40M Ch.142(5710MHz) RU 41



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = -13.989+0.88 = -13.11 dBm

(UNII 2C) BW80M Ch.138(5690MHz) RU 51



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = 5.885 + 0.87 = 6.76 dBm

(UNII 3) BW80M Ch.138(5690MHz) RU 51



Total PSD(dBm) = Reading Value(dBm) + Duty Cycle Factor(dB) = -9.657 + 0.87 = -8.79 dBm