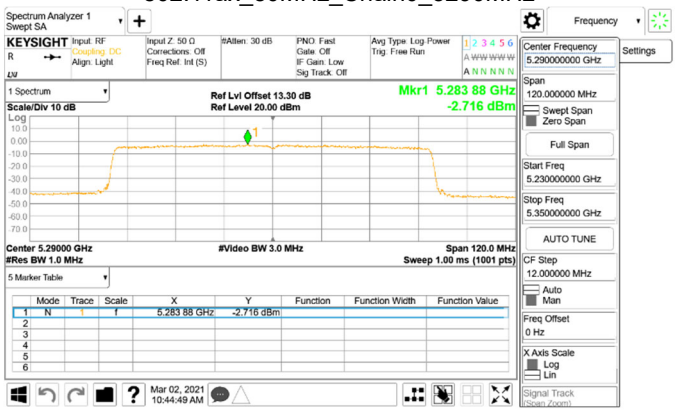
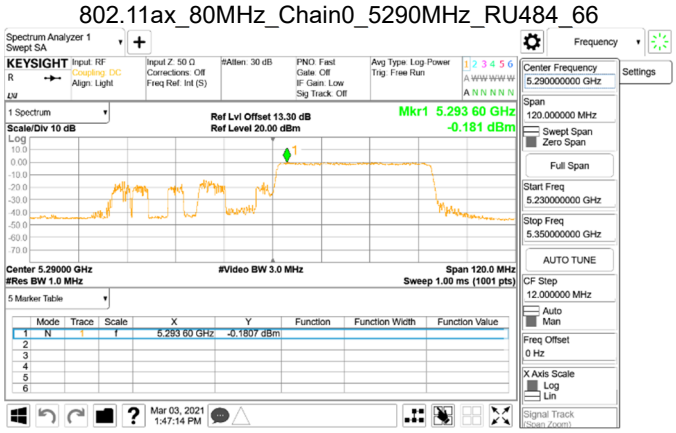
802.11ax_80MHz_Chain0_5290MHz




802.11ax_80MHz_Chain0_5530MHz_RU484_65

802.11ax_80MHz_Chain0_5290MHz_RU484_66

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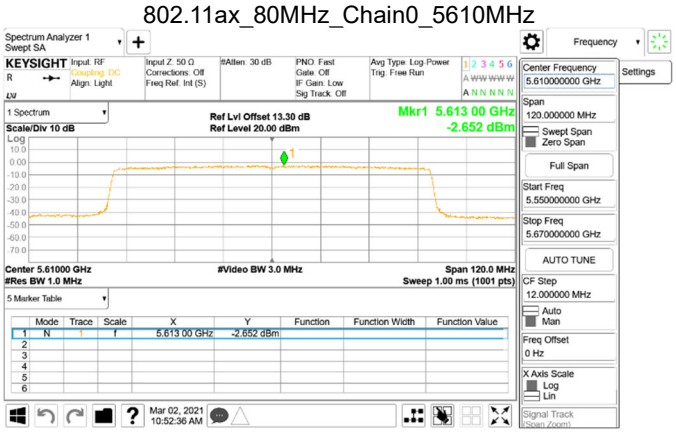


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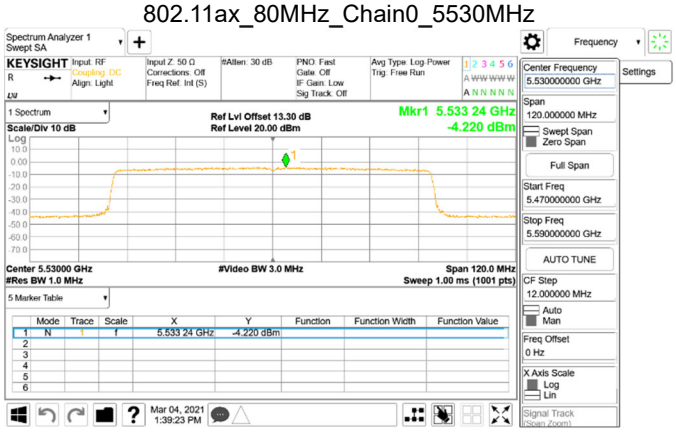


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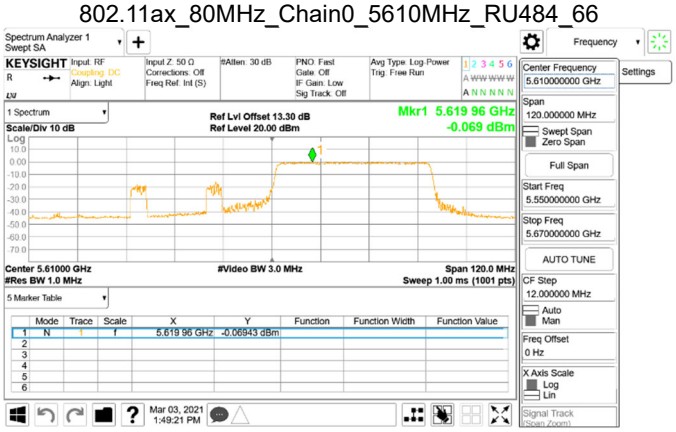


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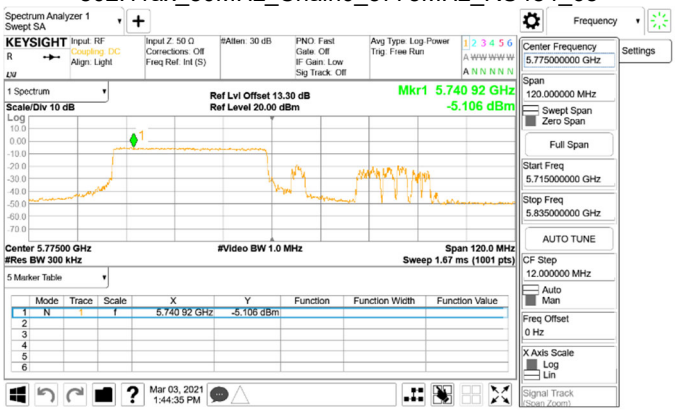
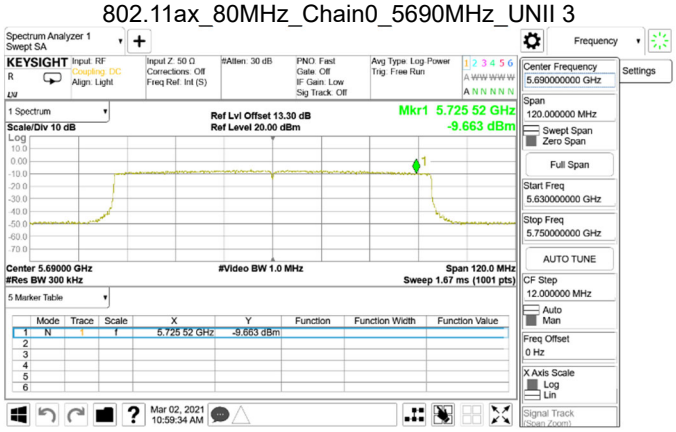
802.11ax_80MHz_Chain0_5690MHz_UNII 2C

802.11ax_80MHz_Chain0_5775MHz_RU484_65




802.11ax_80MHz_Chain0_5690MHz_UNII 3

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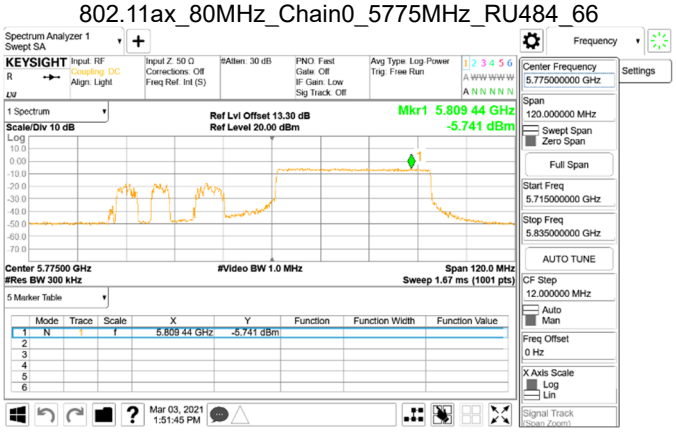
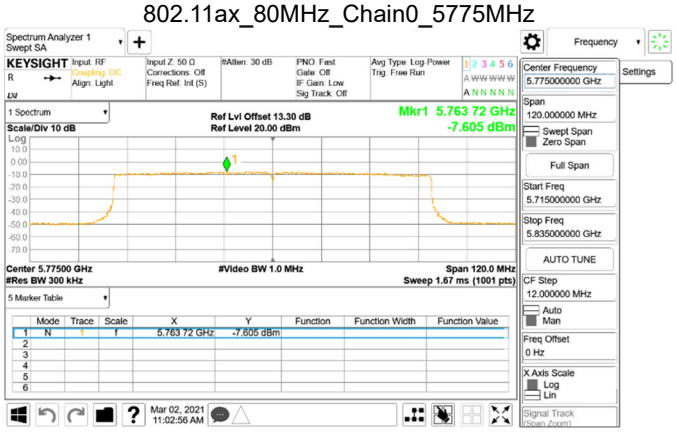
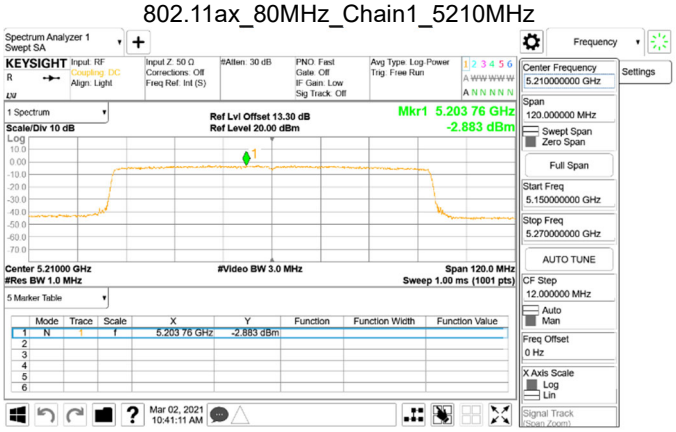



802.11ax_80MHz_Chain0_5775MHz




802.11ax_80MHz_Chain1_5210MHz

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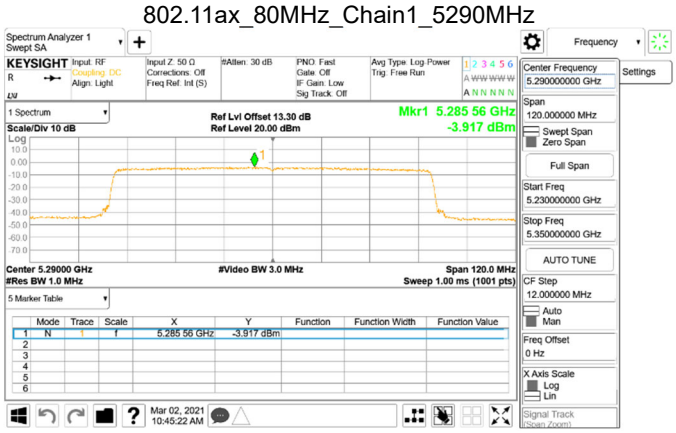
802.11ax_80MHz_Chain1_5210MHz_RU484_65

802.11ax_80MHz_Chain1_5530MHz

802.11ax_80MHz_Chain1_5290MHz

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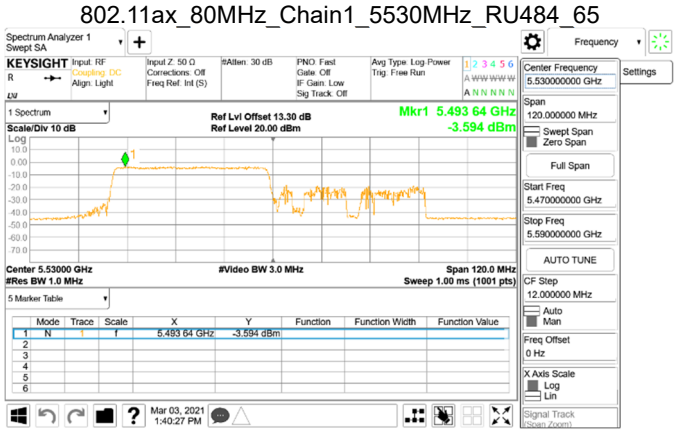
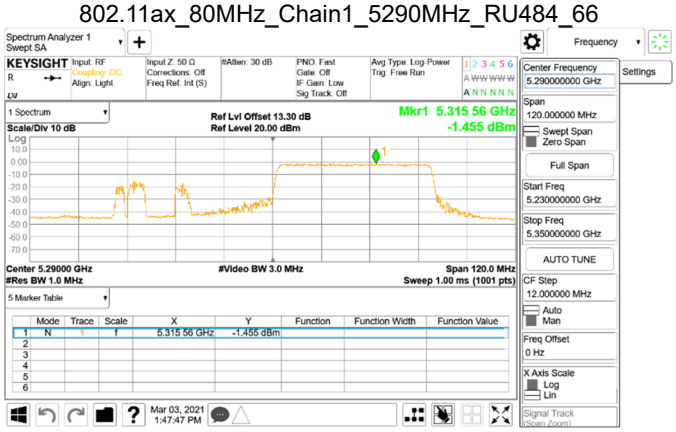
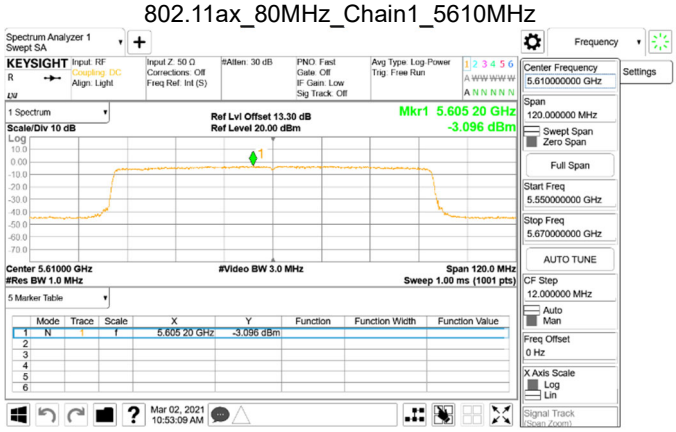



802.11ax_80MHz_Chain1_5290MHz_RU484_66




802.11ax_80MHz_Chain1_5610MHz

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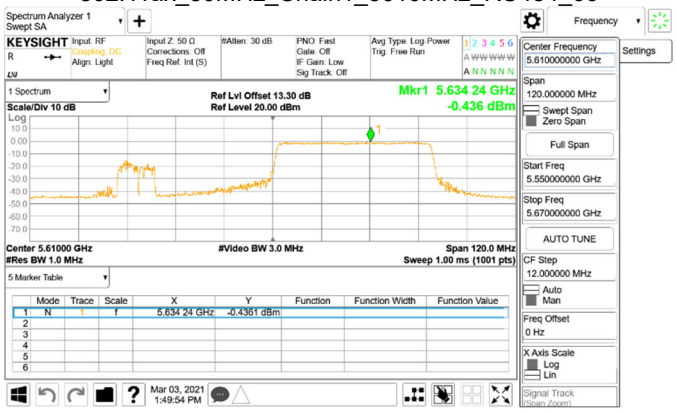
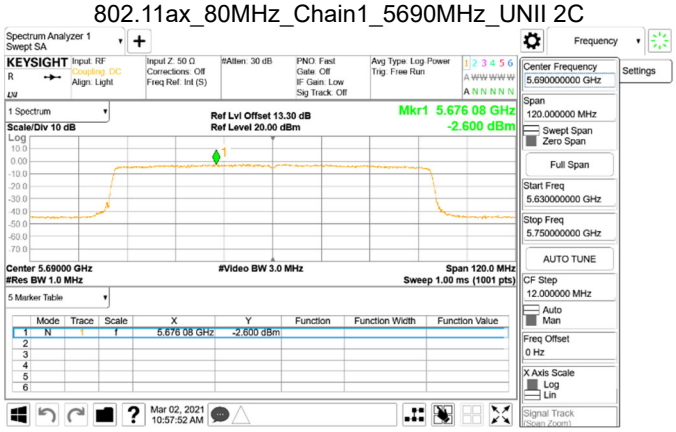
802.11ax_80MHz_Chain1_5610MHz_RU484_66




802.11ax_80MHz_Chain1_5775MHz

802.11ax_80MHz_Chain1_5690MHz_UNII 2C

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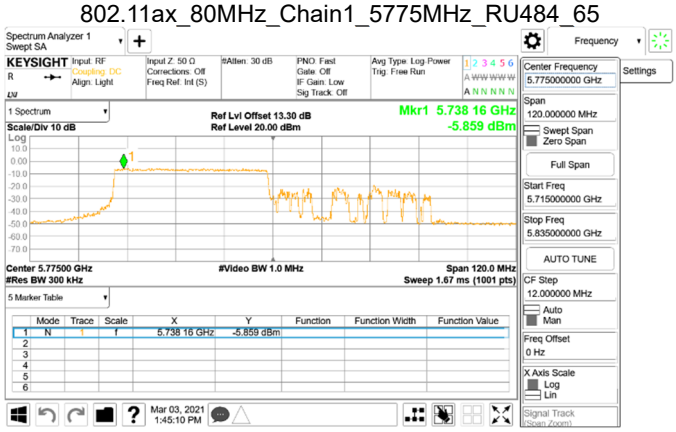
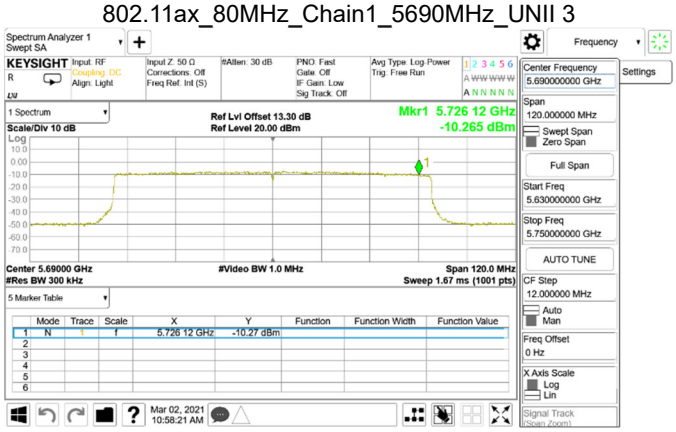



802.11ax_80MHz_Chain1_5690MHz_UNII 3

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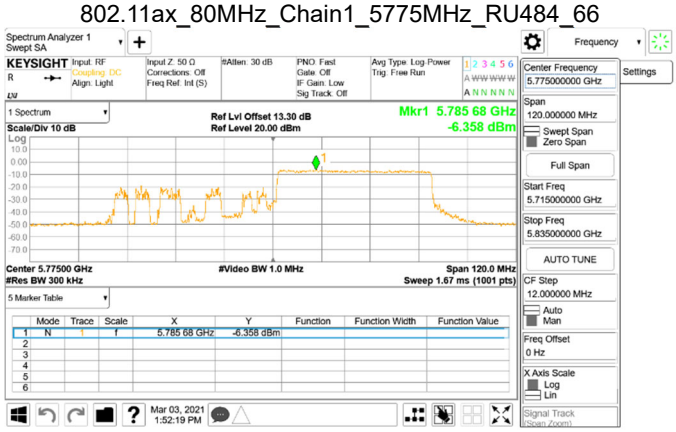


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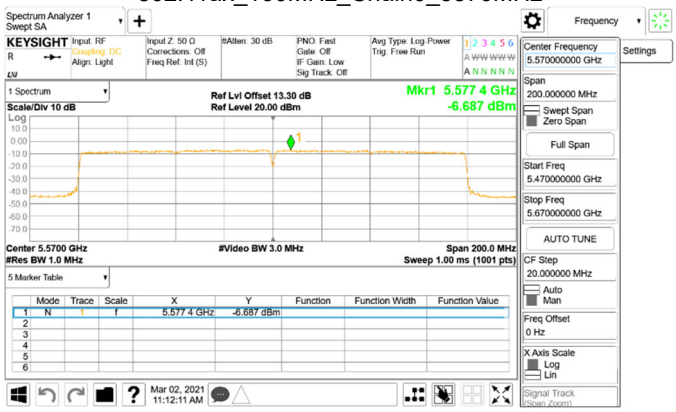
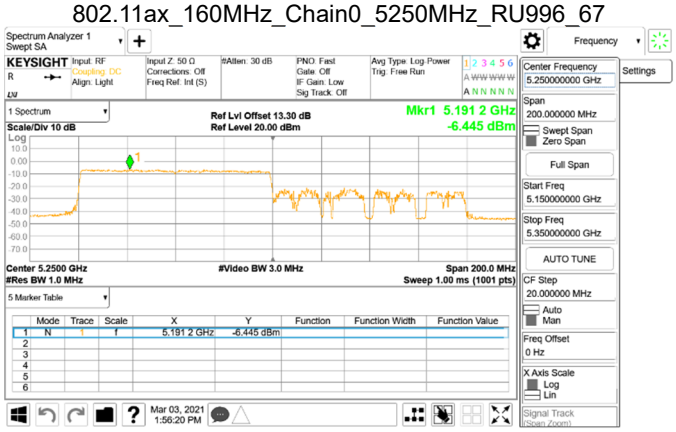
802.11ax_160MHz_Chain0_5250MHz

802.11ax_160MHz_Chain0_5570MHz




802.11ax_160MHz_Chain0_5250MHz_RU996_67

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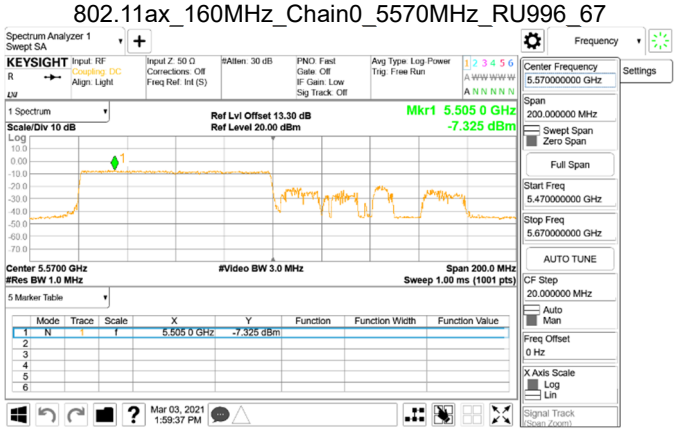
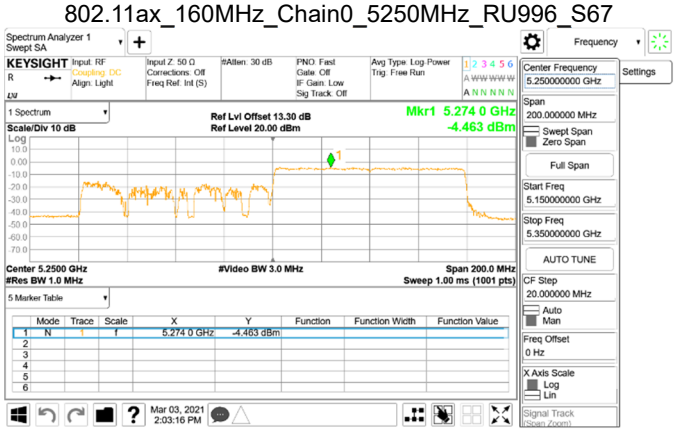



802.11ax_160MHz_Chain0_5250MHz_RU996_S67

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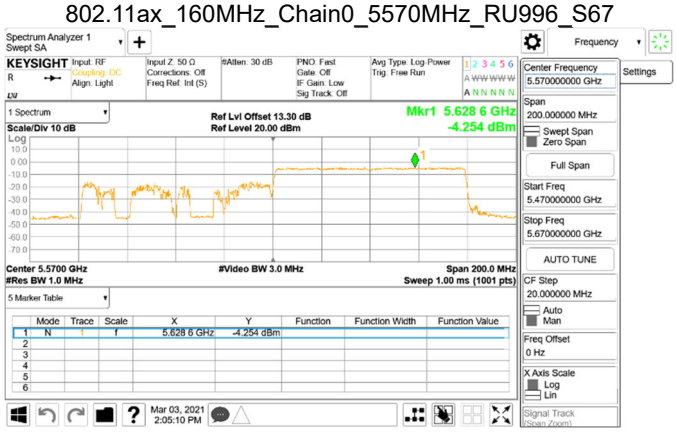


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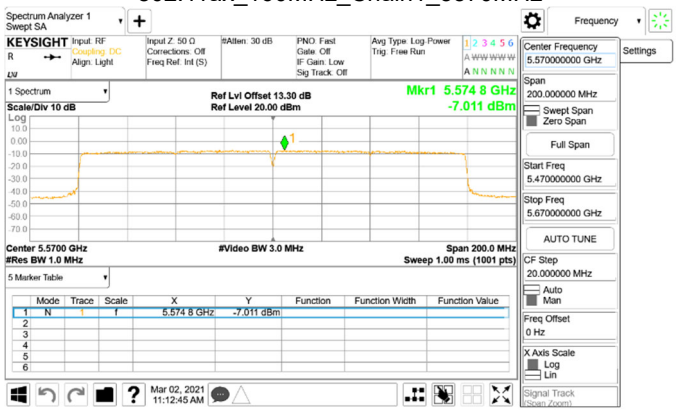
802.11ax_160MHz_Chain1_5250MHz

802.11ax_160MHz_Chain1_5570MHz

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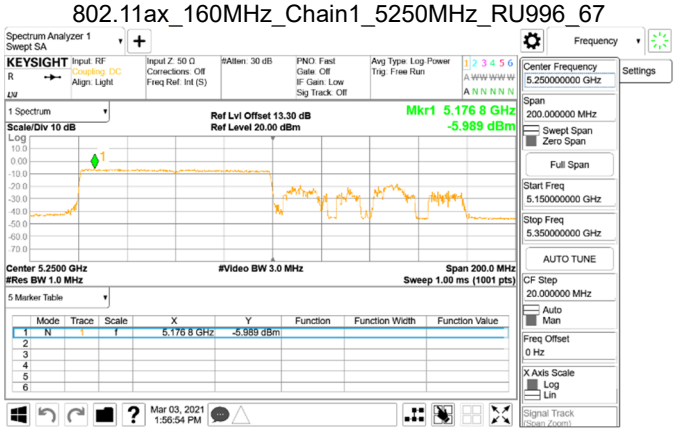
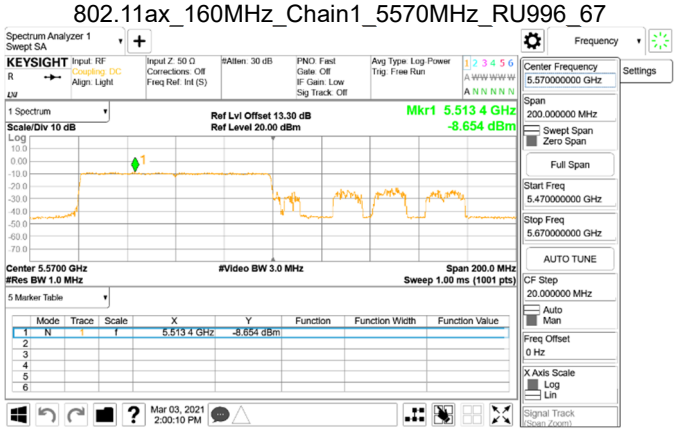
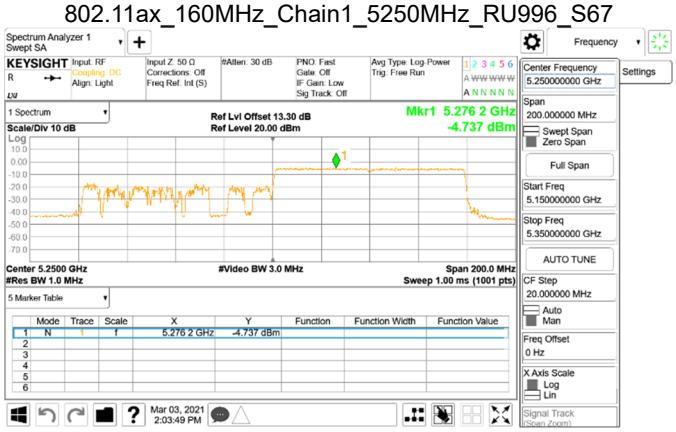


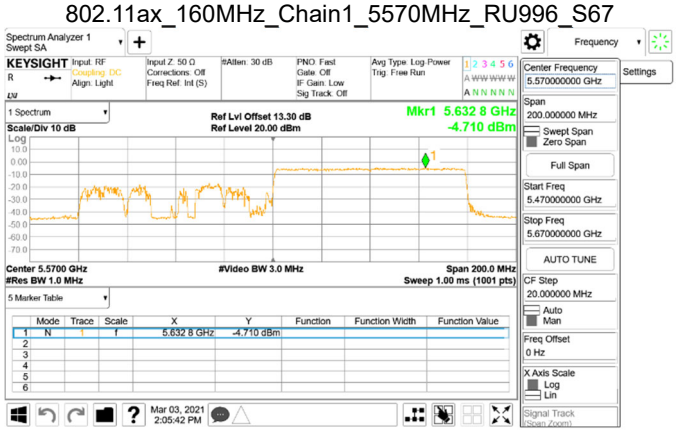

802.11ax_160MHz_Chain1_5570MHz_RU996_67




802.11ax_160MHz_Chain1_5250MHz_RU996_S67




802.11ax_160MHz_Chain1_5570MHz_RU996_S67

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# 11 UNDESIRABLE RADIATED EMISSION MEASUREMENT

## 11.1 Standard Applicable

### 11.1.1 Band Edge

The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

1. For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

2. For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

| APPLICABLE TO | EIRP LIMIT | FIELD STRENGTH AT 3m |
|---|---|---|
| 15.407(b)(1)<br>RSS-247 §6.2.1.2 | PK: -27 (dBm/MHz) | PK: 68.3 (dBμV/m) |
| 15.407(b)(2)<br>RSS-247 §6.2.2.2 | | |
| 15.407(b)(3)<br>RSS-247 §6.2.3.2 | | |
| 15.407(b)(4)(i)<br>RSS-247 §6.2.4.2 | PK:-27 (dBm/MHz) *1<br>PK:10 (dBm/MHz) *2<br>PK:15.6 (dBm/MHz) *3<br>PK:27 (dBm/MHz) *4 | PK: 68.2(dBμV/m) *1<br>PK:105.2 (dBμV/m) *2<br>PK: 110.8(dBμV/m) *3<br>PK:122.2 (dBμV/m) *4 |
| *1 beyond 75 MHz or more above of the bandedge.<br>*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.<br>*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.<br>*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. | | |

*EIRP = ( (E*d)^2) / 30, where E is the field in V/m, d is the measurement distance (3m), EIRP is the equivalent isotropically radiated power in Watts.*

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### 11.1.2 Spurious Emission

Unwanted spurious emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table:

| Frequency (MHz) | Field strength (microvolts/meter) | Distance (meters) |
|---|---|---|
| 0.009-0.490 | 2400/F(KHz) | 300 |
| 0.490-1.705 | 24000/F(KHz) | 30 |
| 1.705-30 | 30 | 30 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |
| Above 960 | 500 | 3 |

***Note:***

1. *The lower limit shall apply at the transition frequencies.*
2. *Emission level (dBμV/m) = 20 log Emission level (μV/m)*

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## 11.2 Measurement Equipment Used

| Radiated Emission Test Site: SAC 1 | | | | | |
|---|---|---|---|---|---|
| EQUIPMENT TYPE | MFR/BRAND | MODEL NUMBER | SERIAL NUMBER | LAST CAL. | CAL DUE. |
| Horn Antenna | SCHWAZBECK | BBHA9170 | 184 | 12/11/2020 | 12/10/2021 |
| Site Cal | SGS | SAC I chamber | N/A | 01/01/2021 | 12/31/2021 |
| Horn Antenna | Schwarzbeck | BBHA9120D | D803 | 12/17/2020 | 12/16/2021 |
| Bi-log Antenna | TESEO | CBL 6112D | 35242 & AT-N0555 | 01/13/2021 | 01/12/2022 |
| Loop Antenna | ETS.LINDGREN | 6502 | 148045 | 10/19/2020 | 10/18/2021 |
| Spectrum Analyzer | Agilent | E4446A | MY51100003 | 10/29/2020 | 10/28/2021 |
| Test Software | audix | e3 | Ver. 6.11-20180413 | 01/01/2021 | 12/31/2021 |
| EMI Test Receiver | R&S | ESCI 7 | 100759 | 07/13/2020 | 07/12/2021 |
| Pre-Amplifier | EMC Instruments | EMC184045B | 980135 | 12/16/2020 | 12/15/2021 |
| Pre-Amplifier | HP | 8449B | 3008A01973 | 12/16/2020 | 12/15/2021 |
| Pre-Amplifier | HP | 8447D | 2944A09469 | 12/16/2020 | 12/15/2021 |
| Filter 5150-5350 MHz | Micro-Tronics | BRM50703 | 1 | 12/16/2020 | 12/15/2021 |
| Filter 5470-5725 MHz | Micro-Tronics | BRM50704 | 1 | 12/16/2020 | 12/15/2021 |
| Filter 5725-5875 MHz | Micro-Tronics | BRM50705 | 1 | 12/16/2020 | 12/15/2021 |
| High Pass Filter | WI | WHKX7.0/18G-8SS | WHKX7.0/18G-8SS | 12/16/2020 | 12/15/2021 |
| Coaxial Cable | Huber Suhner | succoflex 102 | MY2622/2 | 12/16/2020 | 12/15/2021 |
| Coaxial Cable | Huber Suhner | succoflex 104A | 800086/4a | 12/16/2020 | 12/15/2021 |
| Coaxial Cable | Huber Suhner | EMC 104-SM-SM-2000 | 160123 | 12/16/2020 | 12/15/2021 |
| Coaxial Cable | Huber Suhner | SUCOFLEX 102 | MY2630/2 | 12/16/2020 | 12/15/2021 |
| Coaxial Cable | Huber Suhner | SUCOFLEX 102 | MY22962/2 | 12/16/2020 | 12/15/2021 |
| Coaxial Cable | Huber Suhner | SUCOFLEX 102 | SN 520430/2 | 12/16/2020 | 12/15/2021 |

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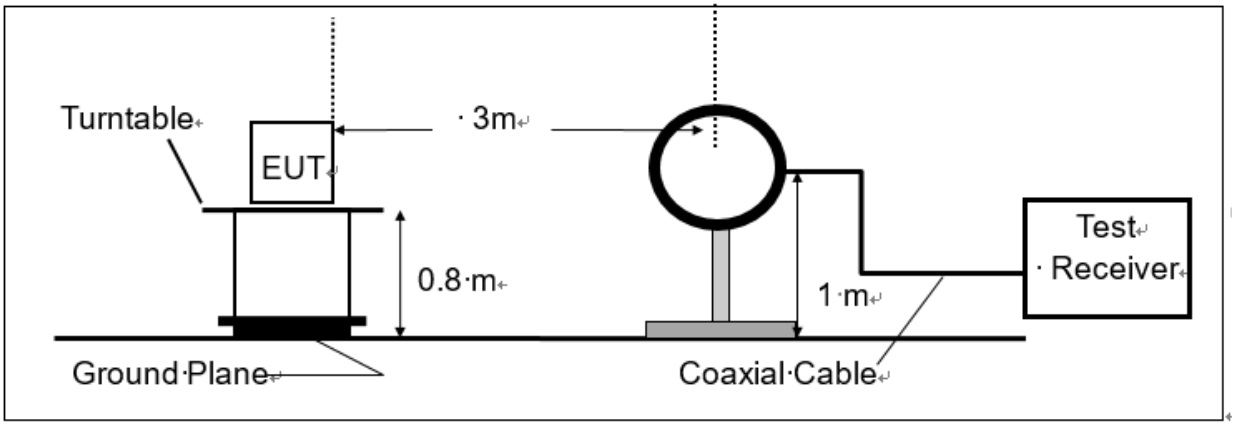
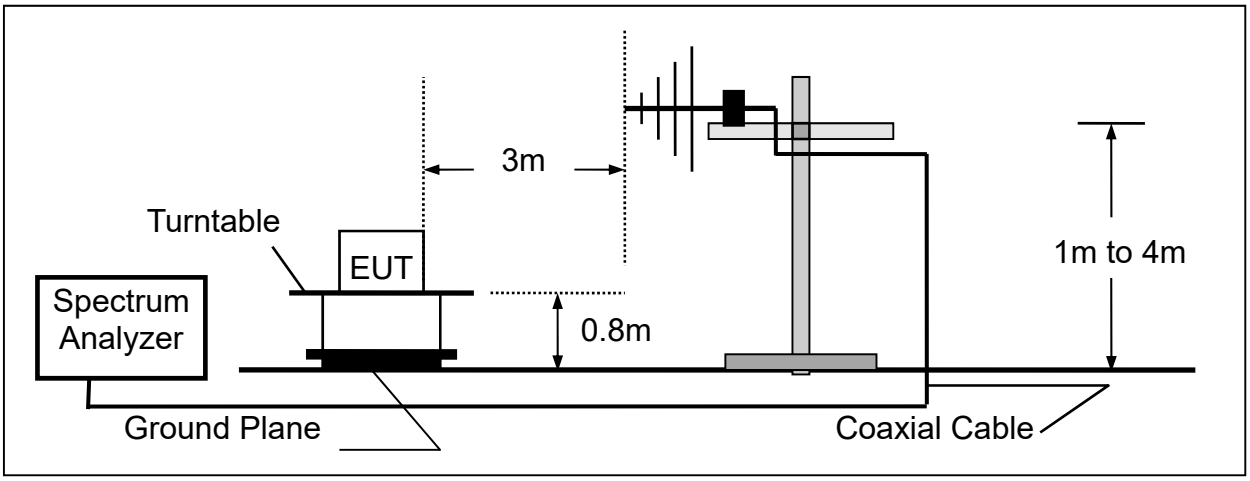
## 11.3 Test SET-UP

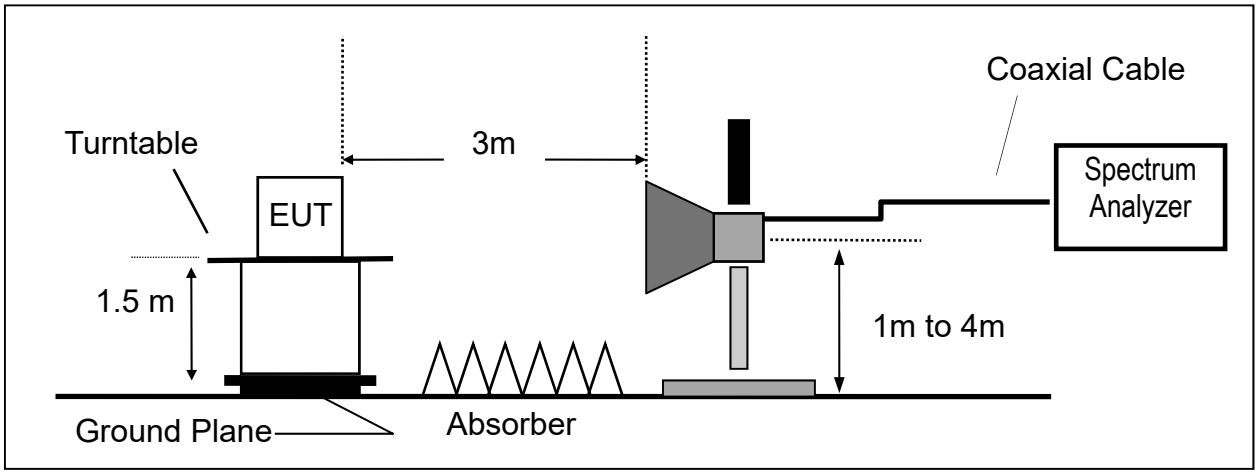
(A) Radiated Emission Test Set-UP Frequency Below 30MHz.




(B) Radiated Emission Test Set-Up, Frequency form 30MHz to 1000MHz




(C) Radiated Emission Test Set-UP Frequency Over 1 GHz

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