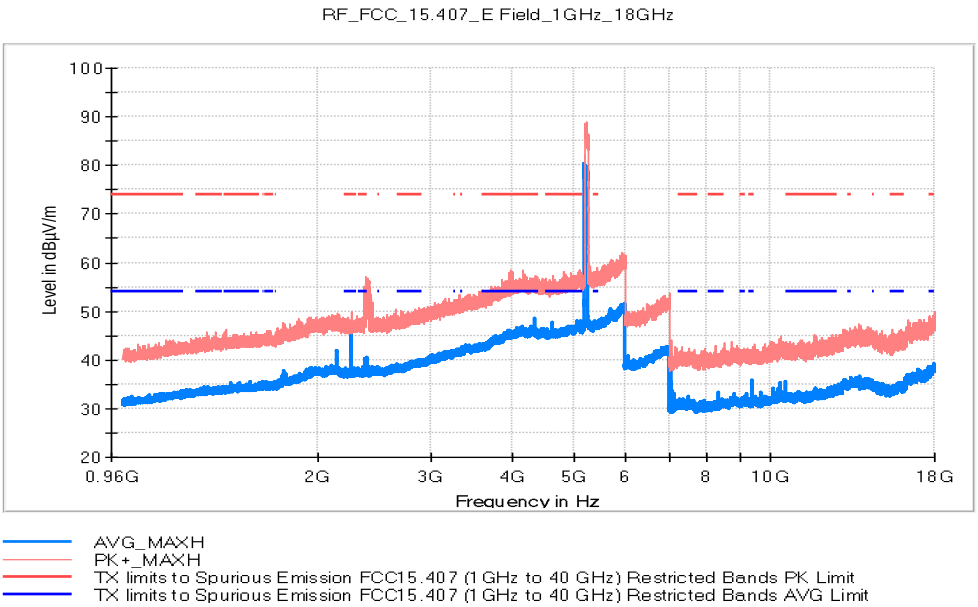
| TEST RESULTS (Cont.) | ac mode (80 MHz) |
|---|---|
| FREQUENCY RANGE | 1 GHz – 18 GHz |

## Mid Channel

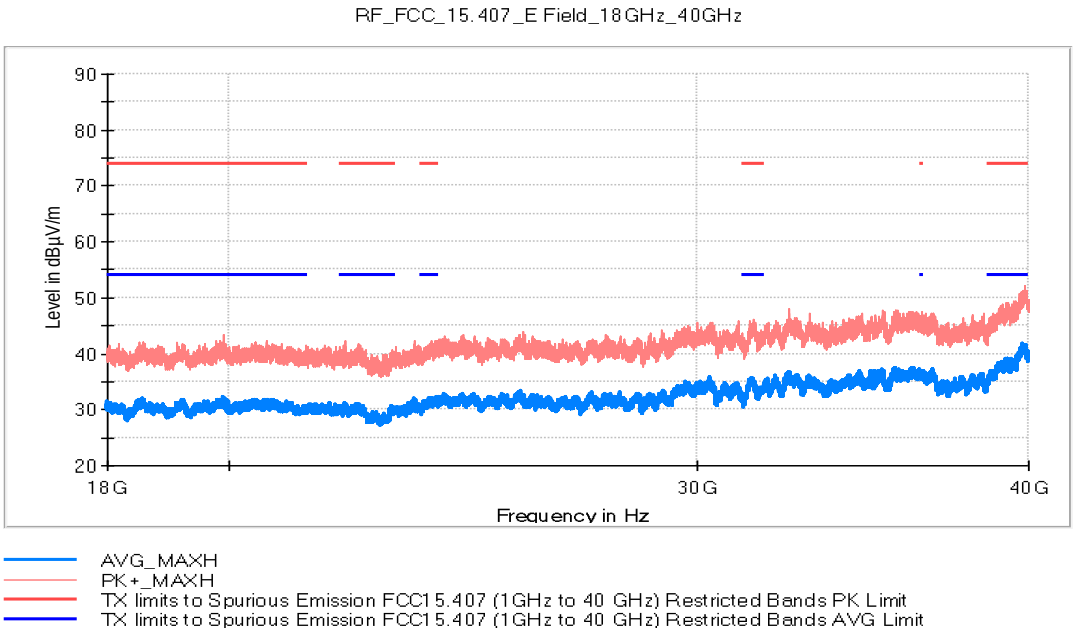



**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 2256.562500 | 49.60 | 46.06 | V | |
| 2393.125000 | 56.93 | 40.58 | V | |
| 4345.312500 | 54.88 | 48.48 | V | |
| 5184.531250 | 88.06 | 80.28 | H | Fundamental |
| 7050.800000 | 44.03 | 39.65 | V | |
| 9434.000000 | 41.09 | 35.70 | V | |
| 10582.800000 | 42.34 | 35.38 | H | |

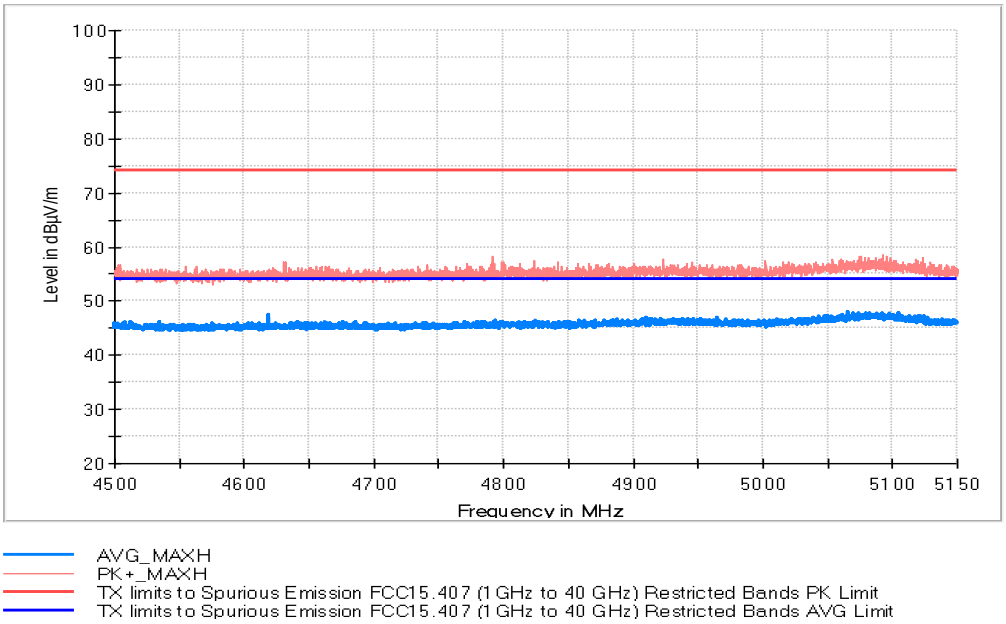
| TEST RESULTS (Cont.) | |
|---|---|
| **FREQUENCY RANGE** | **18 GHz – 40 GHz** |

## Mid Channel




| RESTRICTED BANDS | 4.5 GHz – 5.15 GHz |
|---|---|

## Mid Channel



# **Appendix B:** Test results
# 5.725 GHz – 5.85 GHz Band

# Appendix B Content

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# PRODUCT INFORMATION

The following information is provided by the client

| Information | Description |
|---|---|
| Modulation | Other forms of modulation |
| Adaptive | Adaptive Equipment without the possibility to switch to a non-adaptive equipment. |
| Maximum RF Output Power | 14 dBm |
| Operation mode 1: Single Antenna Equipment | Equipment with only one antenna |
| - Operating Frequency Range | 5150 - 5250 MHz<br>5735 – 5835 MHz |
| - Nominal Channel Bandwidth | 20/ 40/ 80 MHz |
| Extreme operating conditions | |
| - Temperature range | -38 ºC to +70 ºC |
| Antenna type | Integral antenna |
| Antenna gain | 0.7 dBi |
| Nominal Voltage | |
| - Supply Voltage | 12 Vdc |
| - Type of power source | DC voltage from battery |
| Equipment type | WIFI 5GHz |
| Geo-location capability | No |

# DESCRIPTION OF TEST CONDITIONS

| TEST CONDITIONS | DESCRIPTION |
|---|---|
| TC#01(1)<br>**(a mode)** | Power supply (V):<br>$V_{nominal}$ = 12 Vdc<br>Test Frequencies for Radiated tests **(20 MHz)**:<br>Lowest channel: 5745 MHz<br>Middle channel: 5785 MHz<br>Highest channel: 5825 MHz |
| TC#02(1)<br>**(n mode)** | Power supply (V):<br>$V_{nominal}$ = 12 Vdc<br>Test Frequencies for Radiated tests: **(20 MHz)**<br>Lowest channel: 5745 MHz<br>Middle channel: 5785 MHz<br>Highest channel: 5825 MHz<br><br>Test Frequencies for Radiated tests: **(40 MHz)**<br>Lowest channel: 5745 MHz<br>Highest channel: 5785 MHz |
| TC#03(1)<br>**(ac mode)** | Power supply (V):<br>$V_{nominal}$ = 12 Vdc<br>Test Frequencies for Radiated tests: **(20 MHz)**<br>Lowest channel: 5745 MHz<br>Middle channel: 5785 MHz<br>Highest channel: 5825 MHz<br><br>Test Frequencies for Radiated tests: **(40 MHz)**<br>Lowest channel: 5745 MHz<br>Highest channel: 5785 MHz<br><br>Test Frequencies for Radiated tests: **(80 MHz)**<br>Middle channel: 5745 MHz |

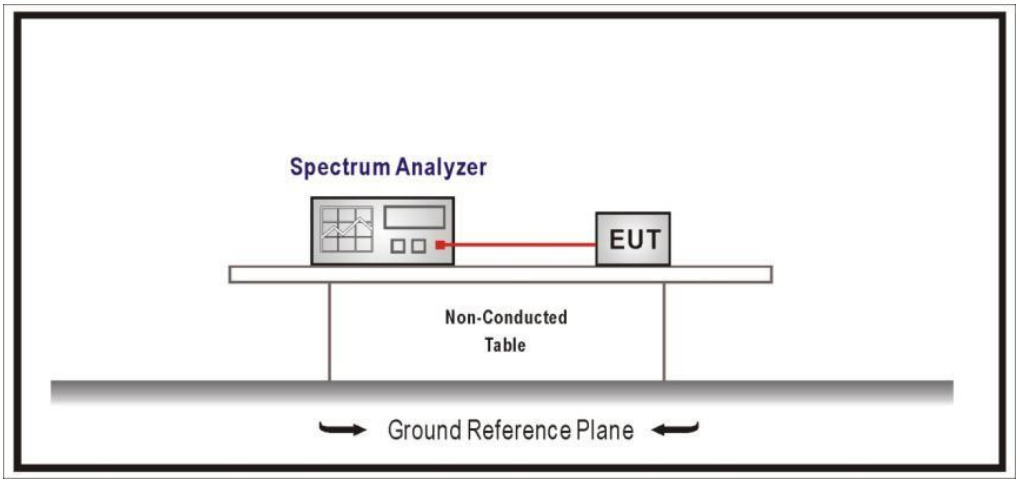
Note (1): For spurious emissions for OFDM modes 802.11a, 802.11n20/40 and 802.11ac20/40/80 a preliminary scan was performed to determine the worst case.
The data rates of 6Mb/s for 802.11a, HT0 (SISO) for 802.11n20/ac20 and n40/ac40, and VHT0 (SISO) for 802.11 ac80 were selected based on preliminary testing that identified those rates corresponding to the worst cases.

# TEST B.1: 26DB EMISSION BANDWIDTH AND OCCUPIED BANDWIDTH

| | | |
|---|---|---|
| **LIMITS:** | Product standard: | Part 15 Subpart C §15.403 and RSS-247 |
| | Test standard: | Part 15 Subpart C §15.403(i) and RSS-247 6.2.4 |

No requirements requested

| | |
|---|---|
| **TEST SETUP:** | |



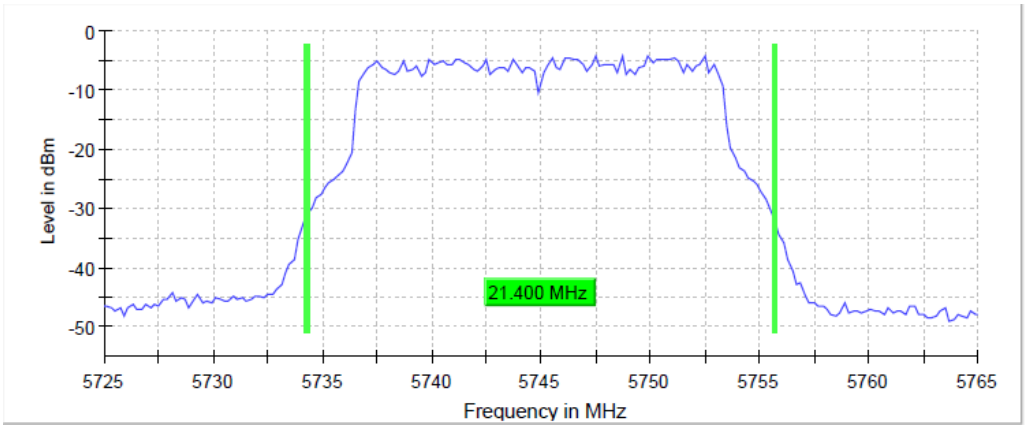

| | |
|---|---|
| **TESTED SAMPLES:** | S/01 |
| **TESTED CONDITIONS MODES:** | TC#01 **(a mode)** |
| **TEST RESULTS:** | PASS |

**Bandwidth: 20 MHz**

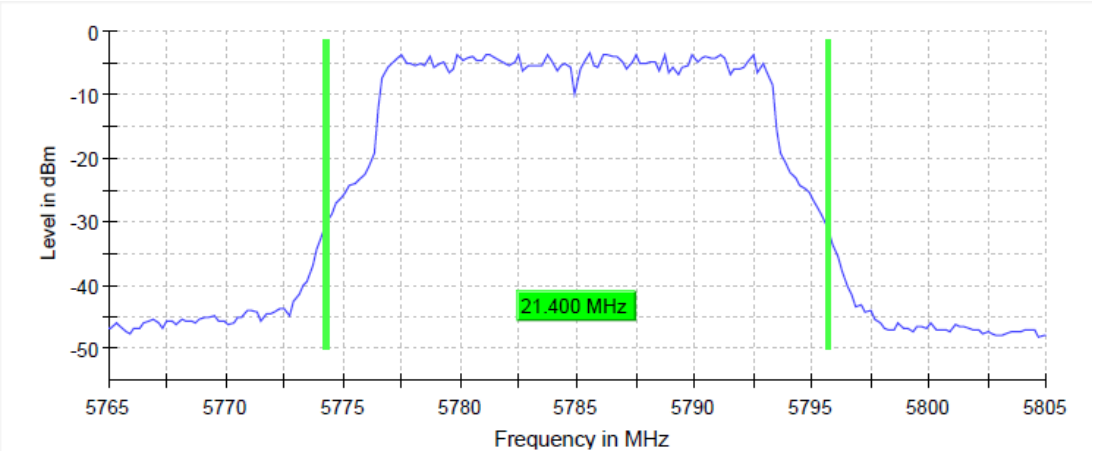
| | Lowest frequency 5745 MHz | Middle frequency 5785 MHz | Highest frequency 5825 MHz |
|---|---|---|---|
| 26dB Bandwidth (MHz) | 21.4 | 21.4 | 21.2 |
| Occupied bandwidth (MHz) | 16.6 | 16.6 | 16.6 |
| Measurement uncertainty (kHz) | <± 8.33 | | |

| TEST RESULTS (Cont.): | 26 dB BANDWIDTH |
|---|---|

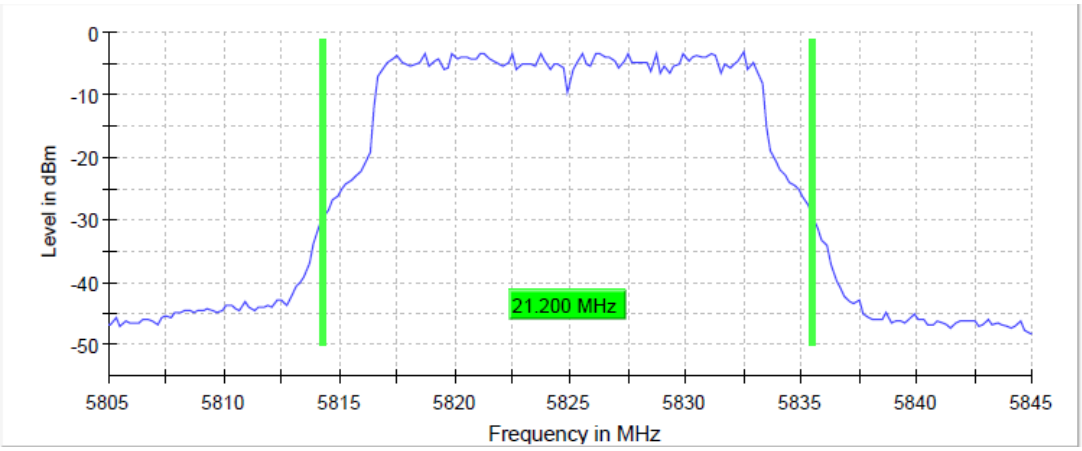
**Lowest Channel**




**Middle Channel**

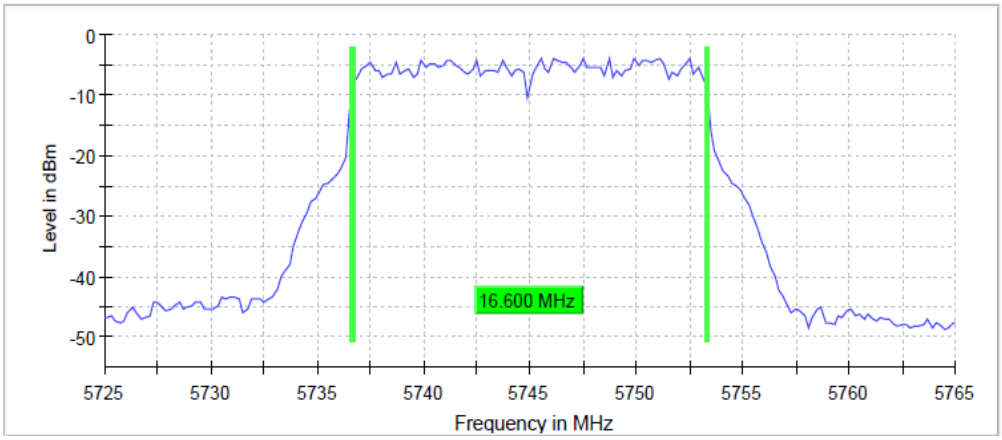



**Highest Channel**

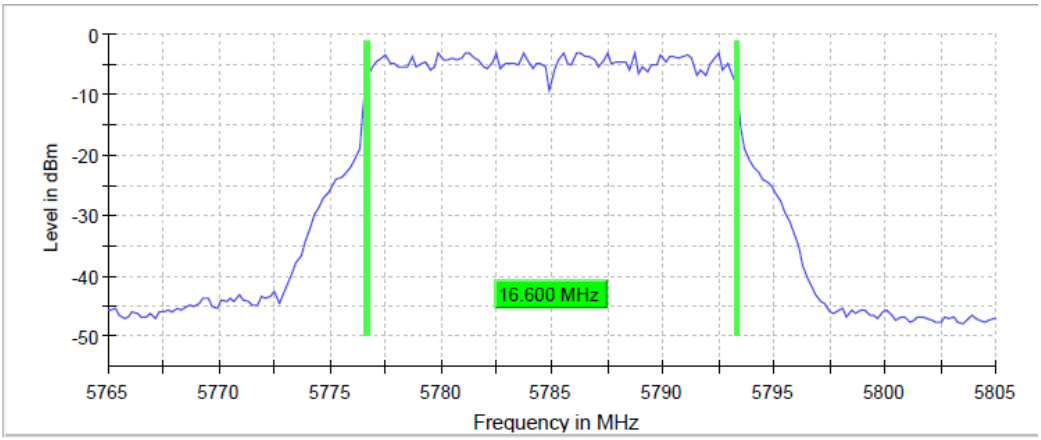


| TEST RESULTS (Cont.): | OCCUPIED BANDWIDTH |
|---|---|

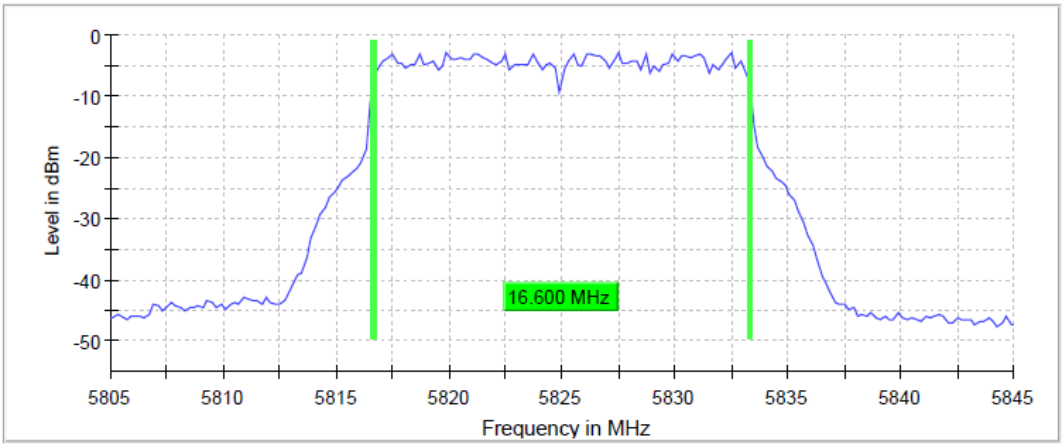
**Lowest Channel**




**Middle Channel**




**Highest Channel**



| TEST RESULTS (Cont.) | |
|---|---|

**Measurement**

| Setting | Instrument Value | Instrument Value | Instrument Value |
|---|---|---|---|
| Start Frequency | 5.72500 GHz | 5.76500 GHz | 5.80500 GHz |
| Stop Frequency | 5.76500 GHz | 5.80500 GHz | 5.84500 GHz |
| Span | 40.000 MHz | 40.000 MHz | 40.000 MHz |
| RBW | 200.000 kHz | 200.000 KHz | 200.000 kHz |
| VBW | 1.000 MHz | 1.000 MHz | 1.000 MHz |
| SweepPoints | 200 | 200 | 200 |
| Sweeptime | 28.443 µs | 28.443 µs | 28.443 µs |
| Reference Level | 10.000 dBm | 10.000 dBm | 10.000 dBm |
| Attenuation | 30.000 dB | 30.000 dB | 30.000 dB |
| Detector | MaxPeak | MaxPeak | MaxPeak |
| SweepCount | 200 | 200 | 200 |
| Filter | 3 dB | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold | Max Hold |
| Sweeptype | FFT | FFT | FFT |
| Preamp | off | off | off |
| Stablemode | Trace | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB | 0.30 dB |
| Run | 11 / max. 150 | 18 / max. 150 | 16 / max. 150 |
| Stable | 5 / 5 | 5 / 5 | 5 / 5 |
| Max Stable Difference | 0.17 dB | 0.00 dB | 0.02 dB |

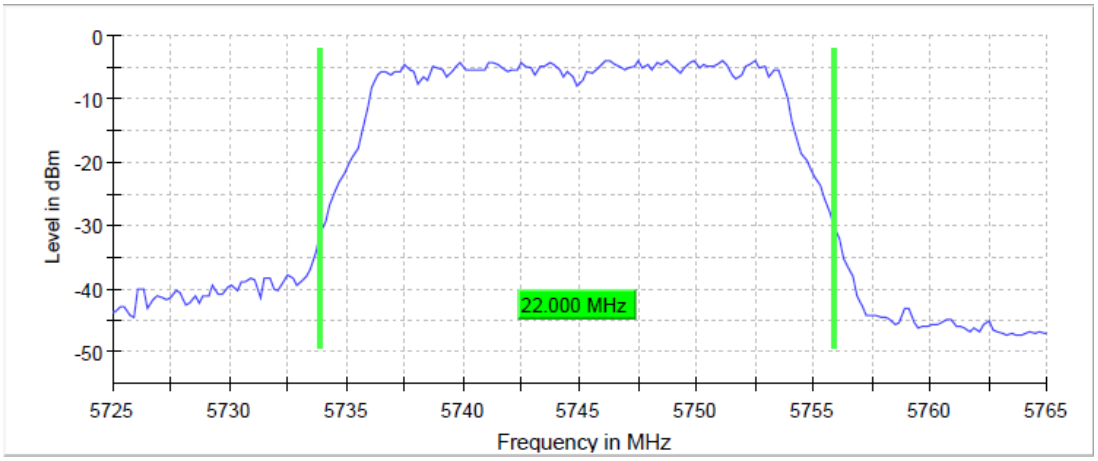
| | |
|---|---|
| **TESTED SAMPLES:** | S/01 |
| **TESTED CONDITIONS MODES:** | TC#02 **(n Mode)** |
| **TEST RESULTS:** | PASS |

**Bandwidth: 20 MHz**

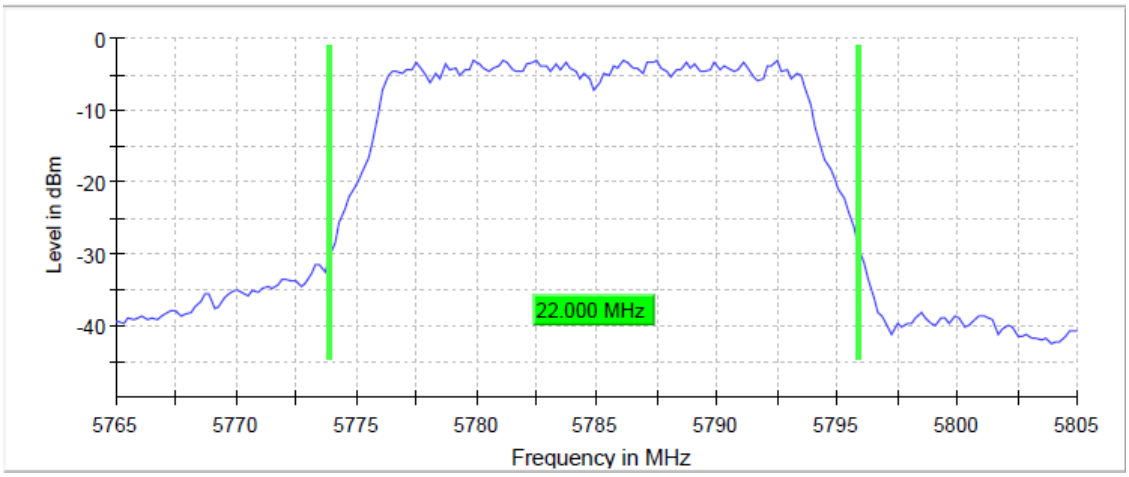
| | Lowest frequency 5745 MHz | Middle frequency 5785 MHz | Highest frequency 5825 MHz |
|---|---|---|---|
| 26dB bandwidth (MHz) | 22 | 22 | 22.2 |
| Occupied bandwidth (MHz) | 18 | 18 | 18 |
| Measurement uncertainty (kHz) | <± 8.33 | | |

| TEST RESULTS (Cont.): | 26dB BANDWIDTH |
|---|---|

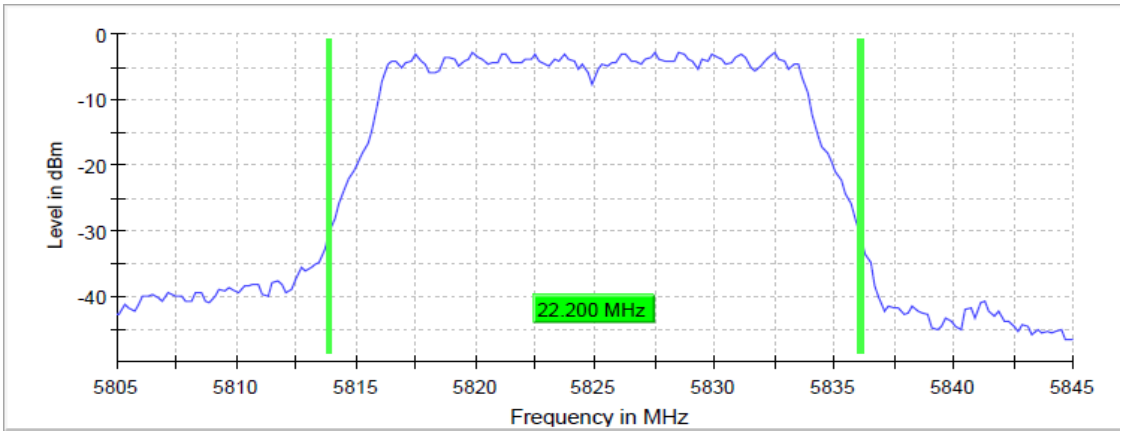
**Lowest Channel**




**Middle Channel**

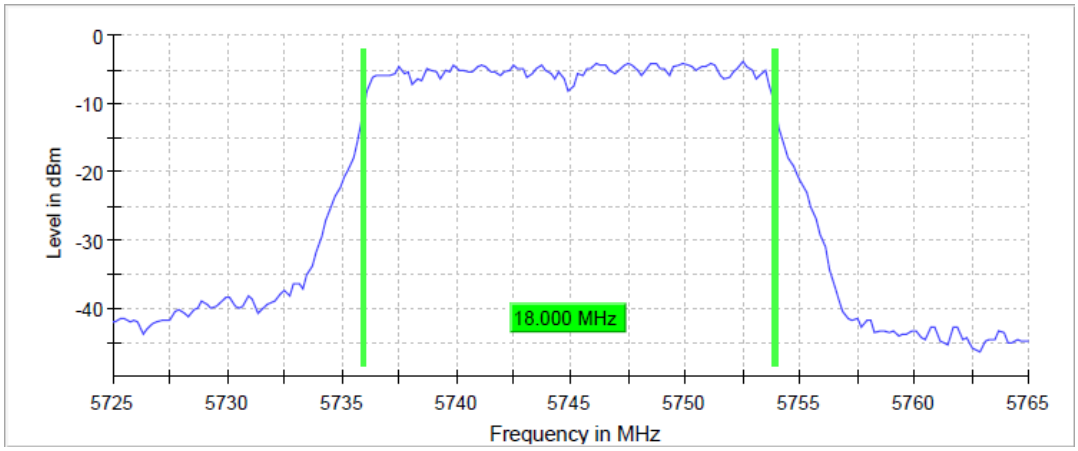



**Highest Channel**

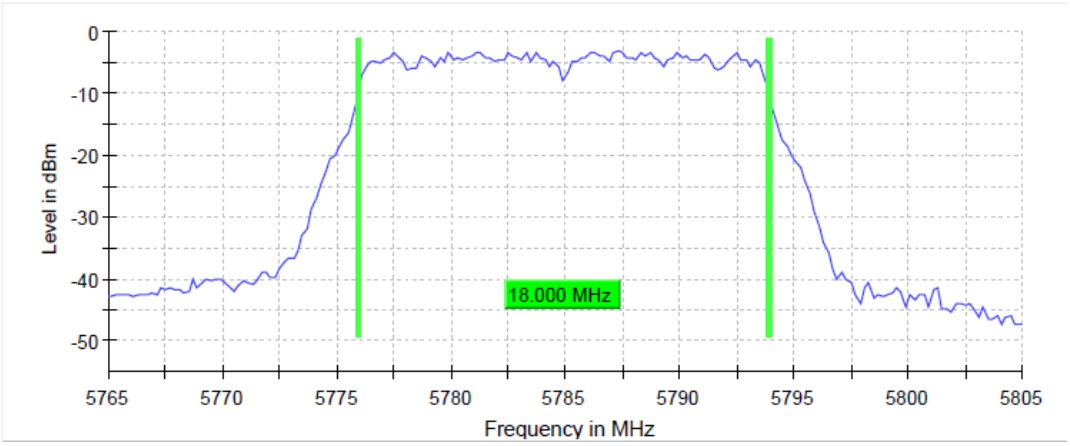


| TEST RESULTS (Cont.): | OCCUPIED BANDWIDTH |
|---|---|

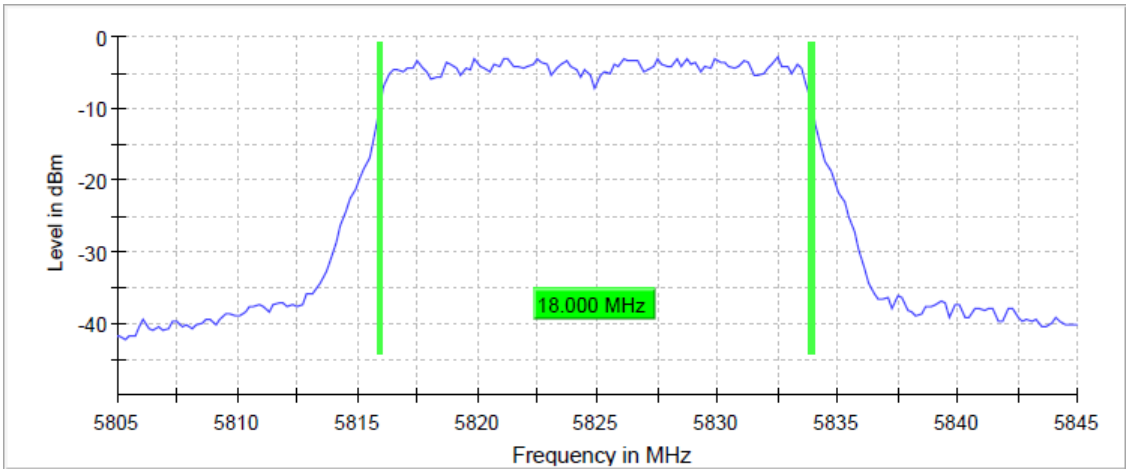
**Lowest Channel**




**Middle Channel**




**Highest Channel**



| TEST RESULTS (Cont.) | |
|---|---|

**Measurement**

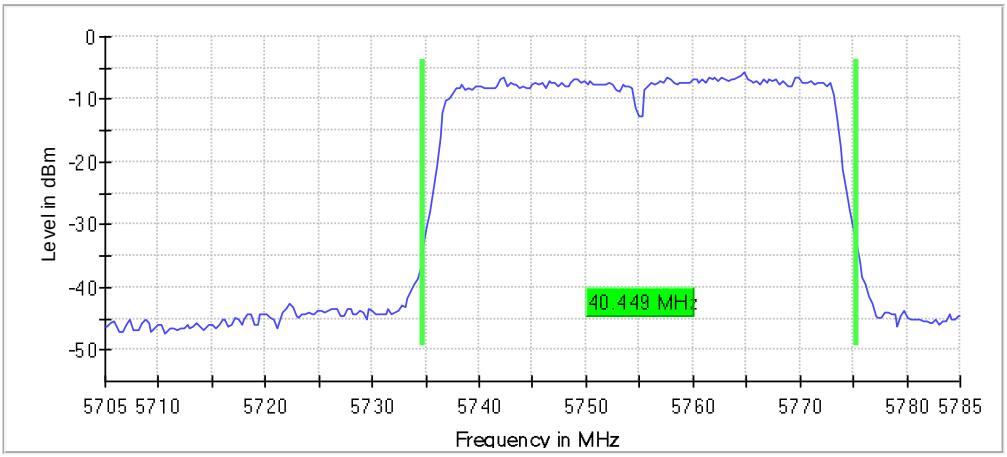
| Setting | Instrument Value | Instrument Value | Instrument Value |
|---|---|---|---|
| Start Frequency | 5.72500 GHz | 5.76500 GHz | 5.80500 GHz |
| Stop Frequency | 5.76500 GHz | 5.80500 GHz | 5.84500 GHz |
| Span | 40.000 MHz | 40.000 MHz | 40.000 MHz |
| RBW | 200.000 kHz | 200.000 KHz | 200.000 kHz |
| VBW | 1.000 MHz | 1.000 MHz | 1.000 MHz |
| SweepPoints | 200 | 200 | 200 |
| Sweeptime | 28.443 µs | 28.443 µs | 28.443 µs |
| Reference Level | 10.000 dBm | 10.000 dBm | 10.000 dBm |
| Attenuation | 30.000 dB | 30.000 dB | 30.000 dB |
| Detector | MaxPeak | MaxPeak | MaxPeak |
| SweepCount | 200 | 200 | 200 |
| Filter | 3 dB | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold | Max Hold |
| Sweeptype | FFT | FFT | FFT |
| Preamp | off | off | off |
| Stablemode | Trace | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB | 0.30 dB |
| Run | 55 / max. 150 | 61 / max. 150 | 52 / max. 150 |
| Stable | 5 / 5 | 5 / 5 | 5 / 5 |
| Max Stable Difference | 0.26 dB | 0.12 dB | 0.00 dB |

| TEST RESULTS (Cont.) | n Mode (40MHz) |
|---|---|

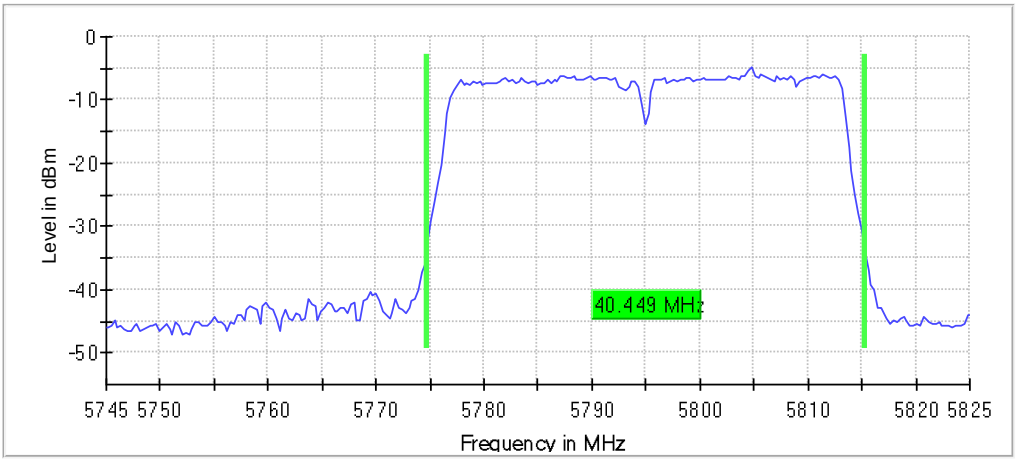
| | Lowest frequency<br>5745 MHz | Highest frequency<br>5785 MHz |
|---|---|---|
| 26dB bandwidth (MHz) | 40.449 | 40.449 |
| Occupied bandwidth (MHz) | 36.255 | 36.554 |
| Measurement uncertainty (kHz) | <± 8.33 | |

| TEST RESULTS (Cont.): | 26dB BANDWIDTH |
|---|---|

**Lowest Channel**

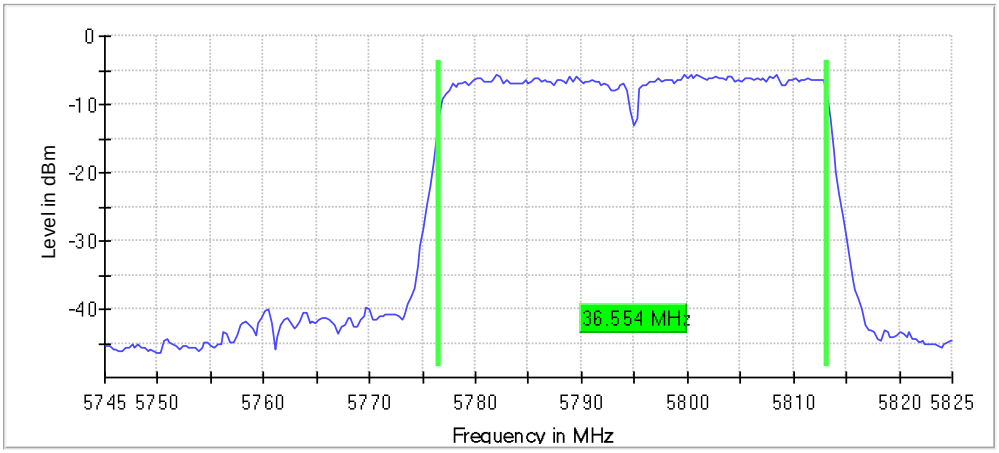



**Highest Channel**



| TEST RESULTS (Cont.): | OCCUPIED BANDWIDTH |
|---|---|

**Highest Channel**




**Measurement**

| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.70500 GHz | 5.74500 GHz |
| Stop Frequency | 5.78500 GHz | 5.82500 GHz |
| Span | 80.000 MHz | 80.000 MHz |
| RBW | 300.000 kHz | 300.000 KHz |
| VBW | 1.000 MHz | 1.000 MHz |
| SweepPoints | 267 | 267 |
| Sweeptime | 31.603 µs | 31.603 µs |
| Reference Level | 10.000 dBm | 10.000 dBm |
| Attenuation | 30.000 dB | 30.000 dB |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 200 | 200 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | FFT |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB |
| Run | 55 / max. 150 | 50 / max. 150 |
| Stable | 5 / 5 | 5 / 5 |
| Max Stable Difference | 0.00 dB | 0.22 dB |

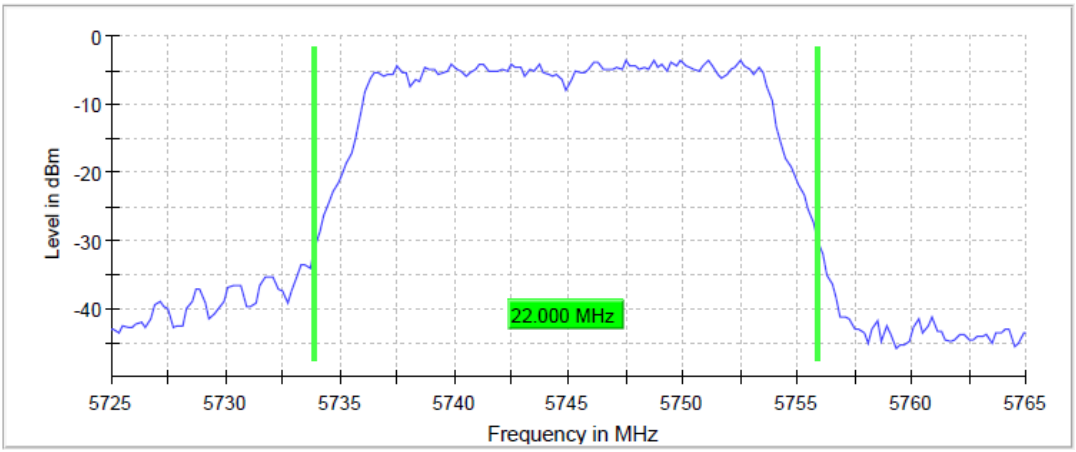
| TESTED SAMPLES: | S/01 |
|---|---|
| TESTED CONDITIONS MODES: | TC#03 **(ac mode)** |
| TEST RESULTS : | PASS |

**Bandwidth: 20 MHz**

| | Lowest frequency 5745 MHz | Middle frequency 5785 MHz | Highest frequency 5825 MHz |
|---|---|---|---|
| 26db bandwidth (MHz) | 22 | 22.2 | 22 |
| Occupied bandwidth (MHz) | 18 | 18 | 18 |
| Measurement uncertainty (kHz) | <± 8.33 | | |

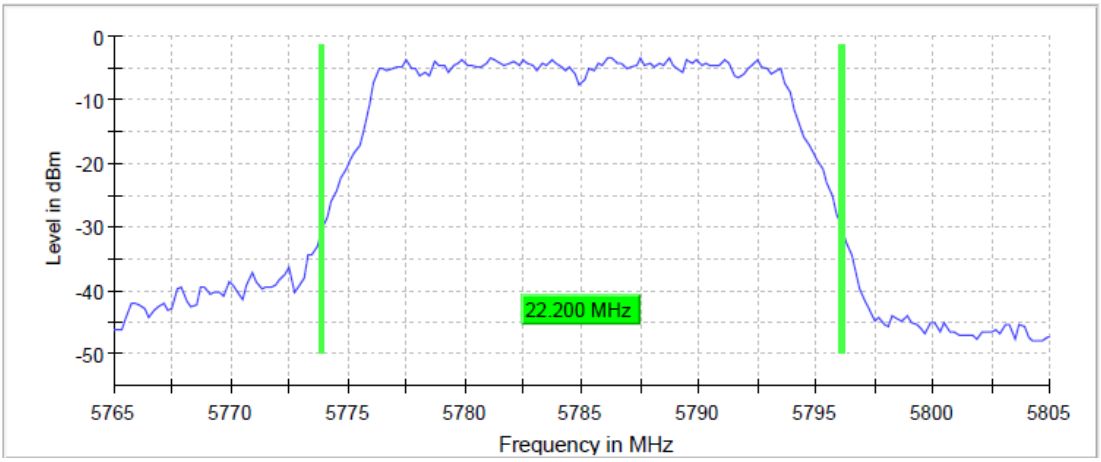
| TEST RESULTS (Cont.): | **26dB BANDWIDTH** |
|---|---|

**Lowest Channel**

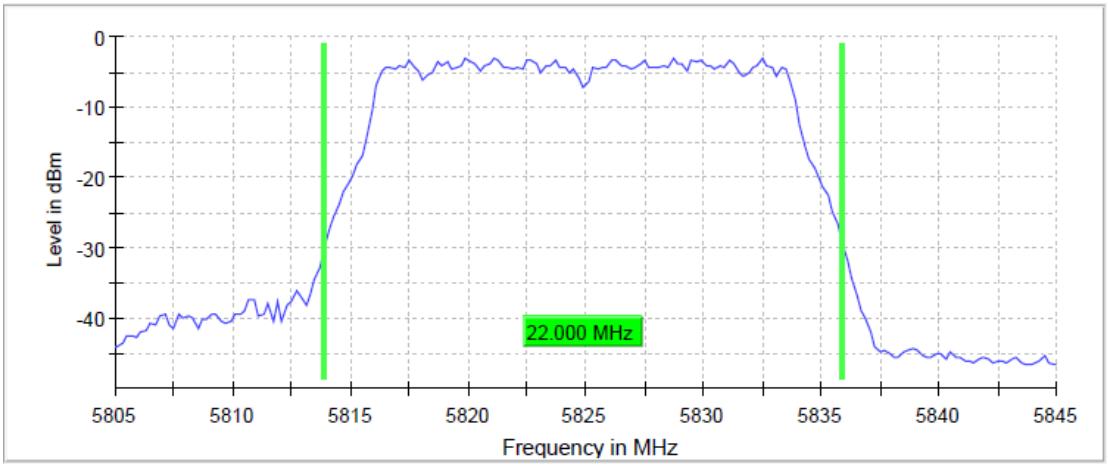


| TEST RESULTS (Cont.): | 26dB BANDWIDTH |
|---|---|

**Middle Channel**

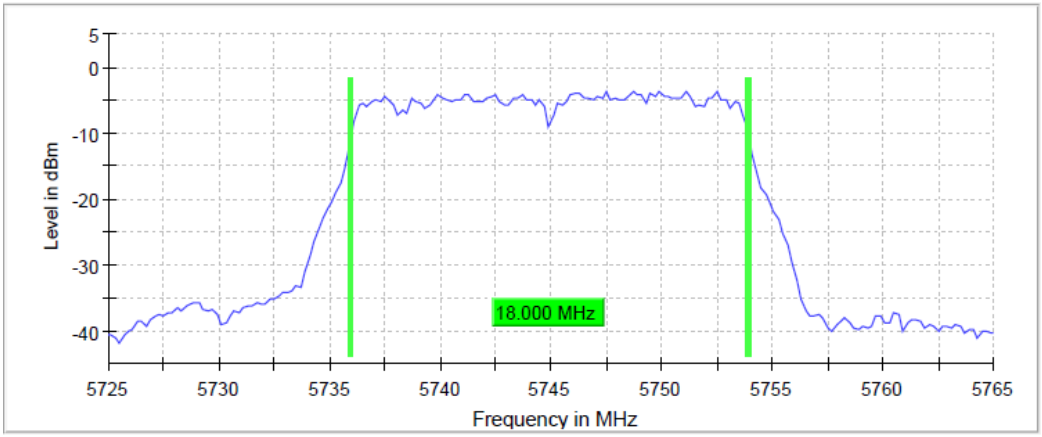



**Highest Channel**

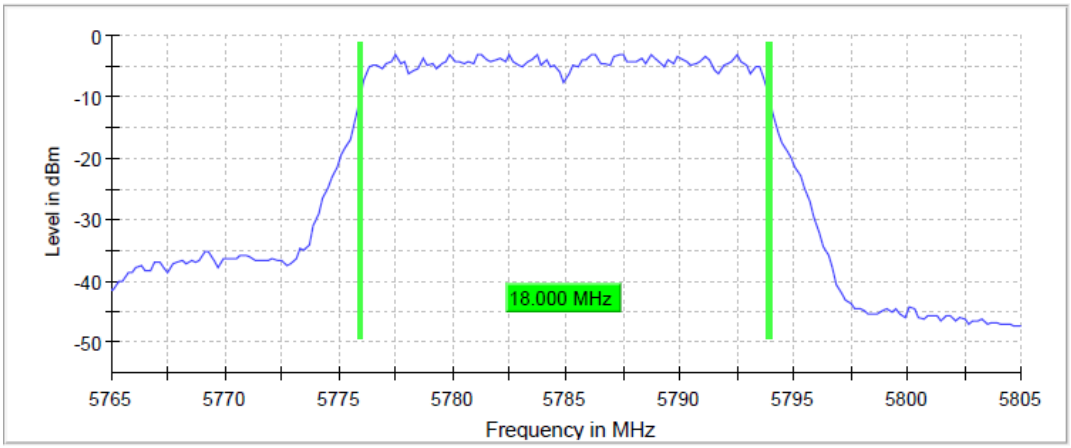


| TEST RESULTS (Cont.) | OCCUPIED BANDWIDTH |
|---|---|

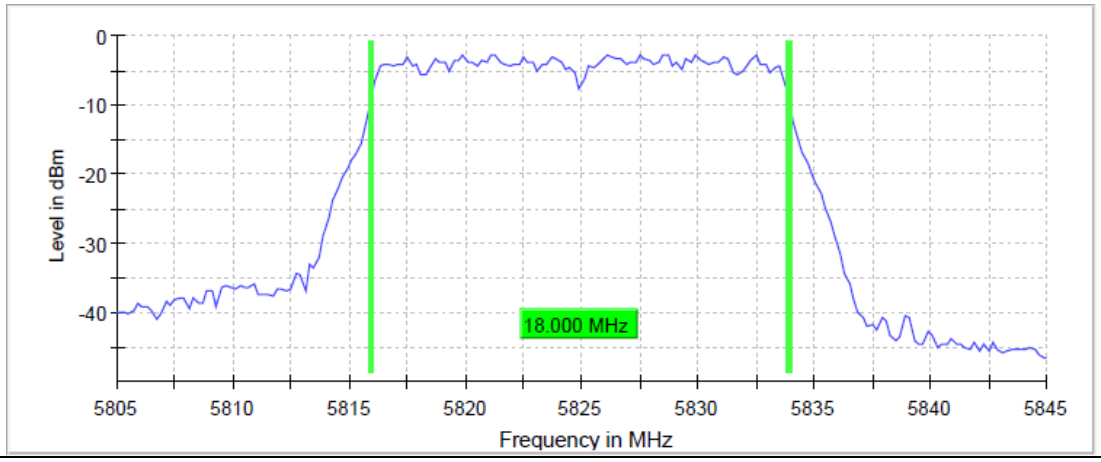
**Lowest Channel**




**Middle Channel**




**Highest Channel**



| TEST RESULTS (Cont.) | |
|---|---|

**Measurement**

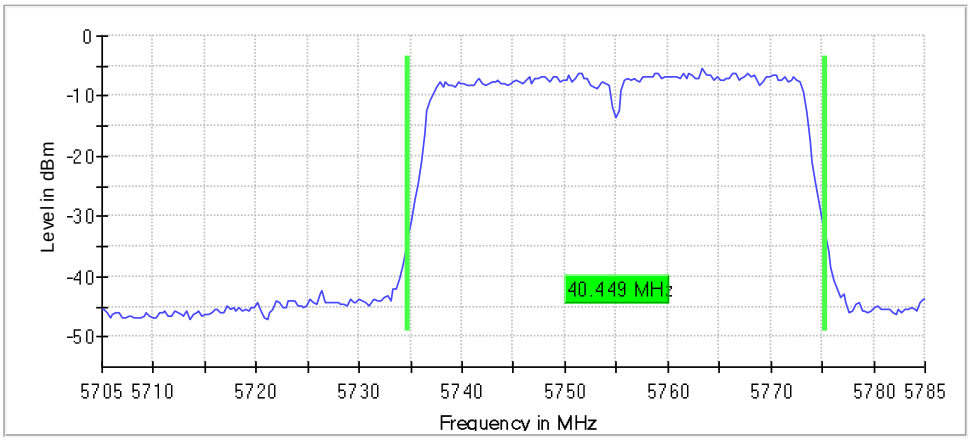
| Setting | Instrument Value | Instrument Value | Instrument Value |
|---|---|---|---|
| Start Frequency | 5.72500 GHz | 5.76500 GHz | 5.80500 GHz |
| Stop Frequency | 5.76500 GHz | 5.80500 GHz | 5.84500 GHz |
| Span | 40.000 MHz | 40.000 MHz | 40.000 MHz |
| RBW | 200.000 kHz | 200.000 KHz | 200.000 kHz |
| VBW | 1.000 MHz | 1.000 MHz | 1.000 MHz |
| SweepPoints | 200 | 200 | 200 |
| Sweeptime | 28.443 us | 28.443 us | 28.443 us |
| Reference Level | 10.000 dBm | 10.000 dBm | 10.000 dBm |
| Attenuation | 30.000 dB | 30.000 dB | 30.000 dB |
| Detector | MaxPeak | MaxPeak | MaxPeak |
| SweepCount | 200 | 200 | 200 |
| Filter | 3 dB | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold | Max Hold |
| Sweeptype | FFT | FFT | FFT |
| Preamp | off | off | off |
| Stablemode | Trace | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB | 0.30 dB |
| Run | 72 / max. 150 | 29 / max. 150 | 39 / max. 150 |
| Stable | 5 / 5 | 5 / 5 | 5 / 5 |
| Max Stable Difference | 0.18 dB | 0.05 dB | 0.16 dB |

| TEST RESULTS (Cont.) | ac Mode (40MHz) |
|---|---|

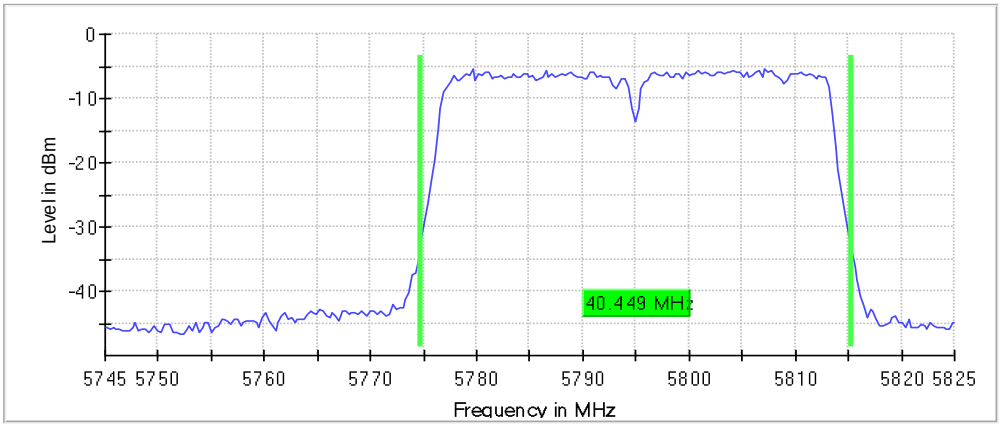
| | Lowest frequency 5745 MHz | Highest frequency 5785 MHz |
|---|---|---|
| 26dB bandwidth (MHz) | 40.449 | 40.449 |
| Occupied bandwidth (MHz) | 36.255 | 36.554 |
| Measurement uncertainty (kHz) | <± 8.33 | |

| TEST RESULTS (Cont.): | 26dB BANDWIDTH |
|---|---|

**Lowest Channel**

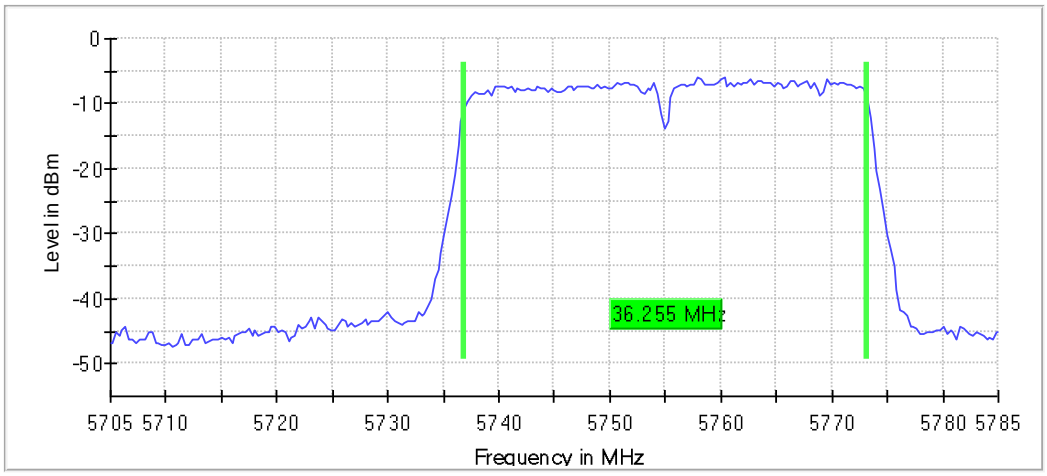



**Highest Channel**

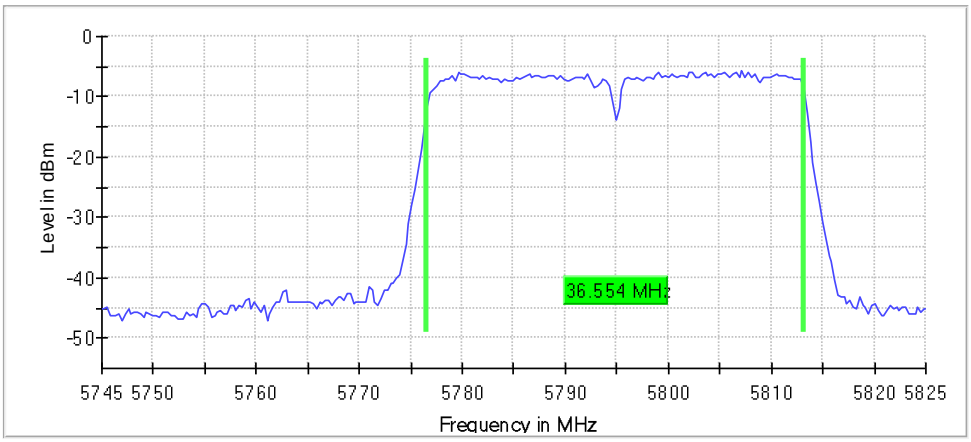


| TEST RESULTS (Cont.): | OCCUPIED BANDWIDTH |
|---|---|

## Lowest Channel




## Highest Channel




**Measurement**

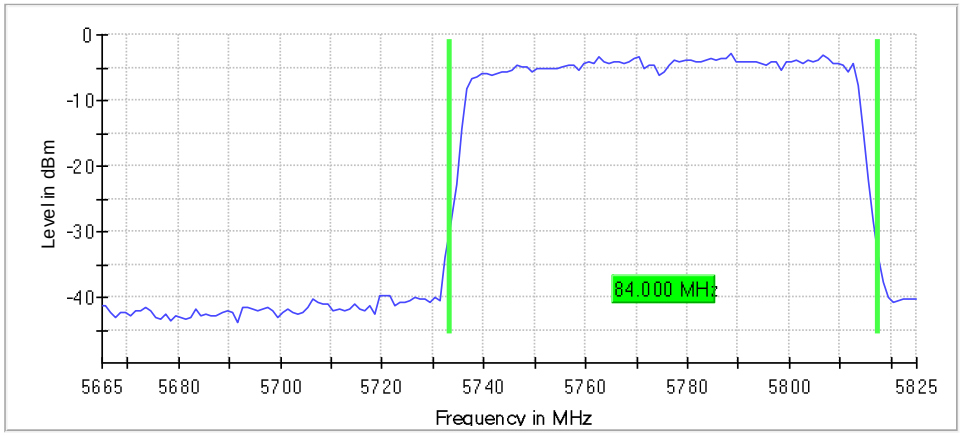
| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.70500 GHz | 5.74500 GHz |
| Stop Frequency | 5.78500 GHz | 5.82500 GHz |
| Span | 80.000 MHz | 80.000 MHz |
| RBW | 300.000 kHz | 300.000 KHz |
| VBW | 1.000 MHz | 1.000 MHz |
| SweepPoints | 267 | 267 |
| Sweeptime | 31.603 µs | 31.603 µs |
| Reference Level | 10.000 dBm | 10.000 dBm |
| Attenuation | 30.000 dB | 30.000 dB |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 200 | 200 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | FFT |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB |
| Run | 78 / max. 150 | 83 / max. 150 |
| Stable | 5 / 5 | 5 / 5 |
| Max Stable Difference | 0.00 dB | 0.00 dB |

| TEST RESULTS (Cont.) | ac Mode (80MHz) |
|---|---|

| | Lowest frequency<br>5745 MHz |
|---|---|
| 26dB bandwidth (MHz) | 84 |
| Occupied bandwidth (MHz) | 76 |
| Measurement uncertainty (kHz) | <± 8.33 |

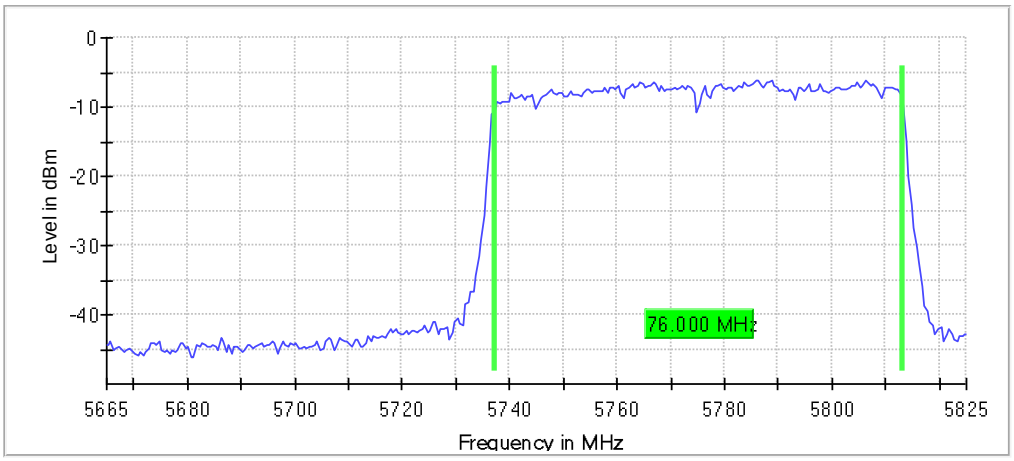
| TEST RESULTS (Cont.): | 26dB BANDWIDTH |
|---|---|

**Lowest Channel**



| TEST RESULTS (Cont.): | OCCUPIED BANDWIDTH |
|---|---|

**Lowest Channel**




**Measurement**

| Setting | Instrument Value |
|---|---|
| Start Frequency | 5.66500 GHz |
| Stop Frequency | 5.82500 GHz |
| Span | 160.000 MHz |
| RBW | 1.000 MHz |
| VBW | 3.000 MHz |
| SweepPoints | 160 |
| Sweeptime | 22.754 us |
| Reference Level | 10.000 dBm |
| Attenuation | 30.000 dB |
| Detector | MaxPeak |
| SweepCount | 200 |
| Filter | 3 dB |
| Trace Mode | Max Hold |
| Sweeptype | FFT |
| Preamp | off |
| Stablemode | Trace |
| Stablevalue | 0.30 dB |
| Run | 37 / max. 150 |
| Stable | 5 / 5 |
| Max Stable | 0.00 dB |

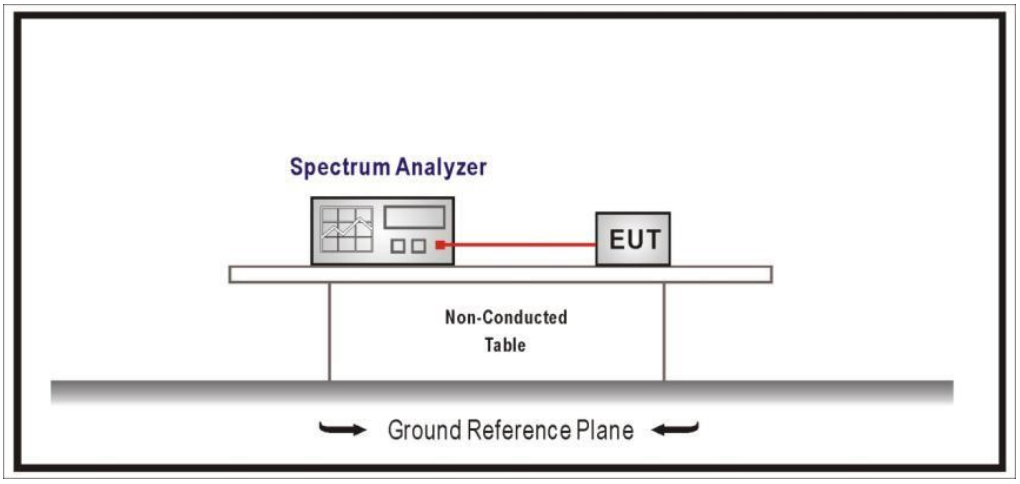
## TEST B.2: 6DB EMISSION BANDWIDTH

| | | |
|---|---|---|
| **LIMITS:** | Product standard: | Part 15 Subpart C §15.407 and RSS-247 |
| | Test standard: | Part 15 Subpart C §15.407(e) and RSS-247 6.2.4.1 |

LIMITS:

Within the 5.725 – 5.85 GHz band, the minimum 6dB bandwidth of U-NII devices shall be at least 500 KHz.

| | |
|---|---|
| **TEST SETUP:** | |



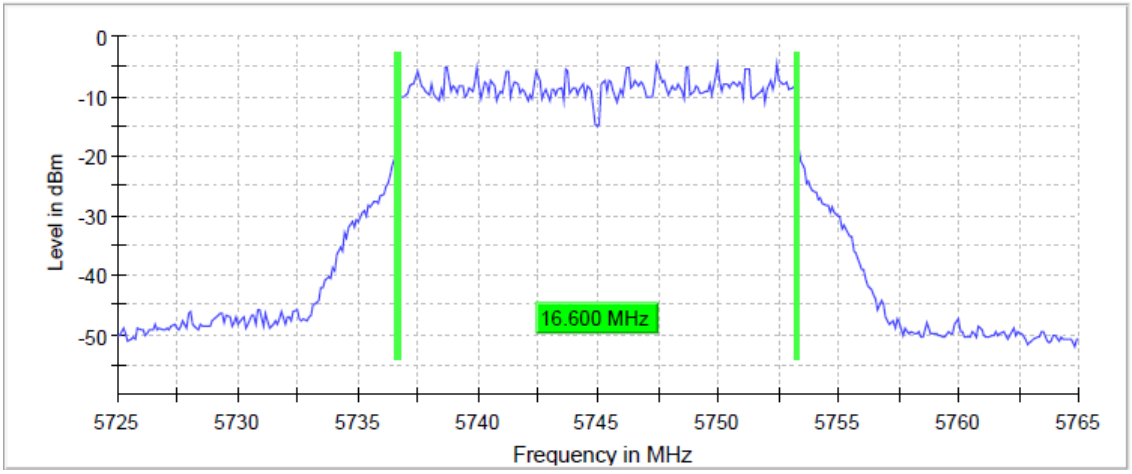

| | |
|---|---|
| **TESTED SAMPLES:** | S/01 |
| **TESTED CONDITIONS MODES:** | TC#01 **(a mode)** |
| **TEST RESULTS:** | PASS |

**Bandwidth: 20 MHz**

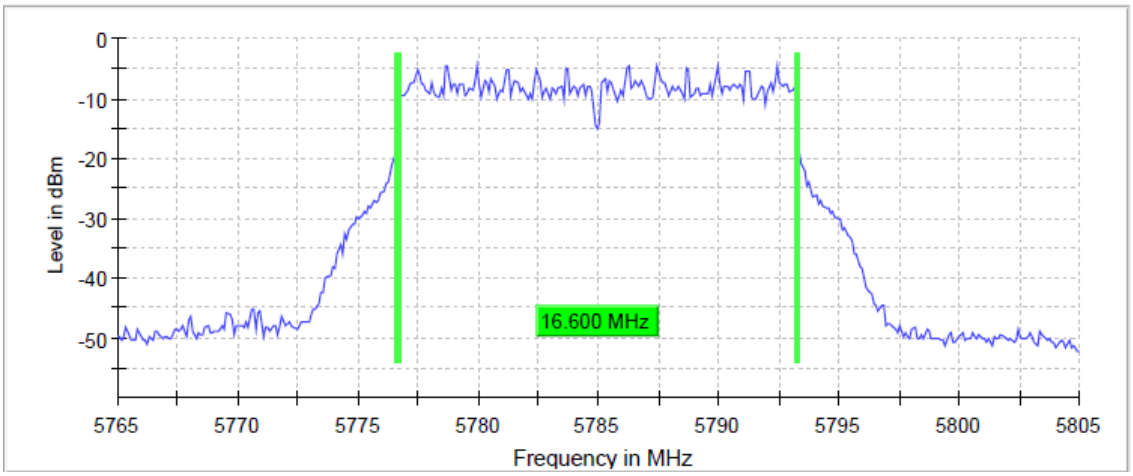
| | Lowest frequency 5745 MHz | Middle frequency 5785 MHz | Highest frequency 5825 MHz |
|---|---|---|---|
| 6dB Bandwidth (MHz) | 16.6 | 16.6 | 16.6 |
| Measurement uncertainty (kHz) | <± 8.33 | | |

| TEST RESULTS (Cont.): | 6 dB BANDWIDTH |
|---|---|

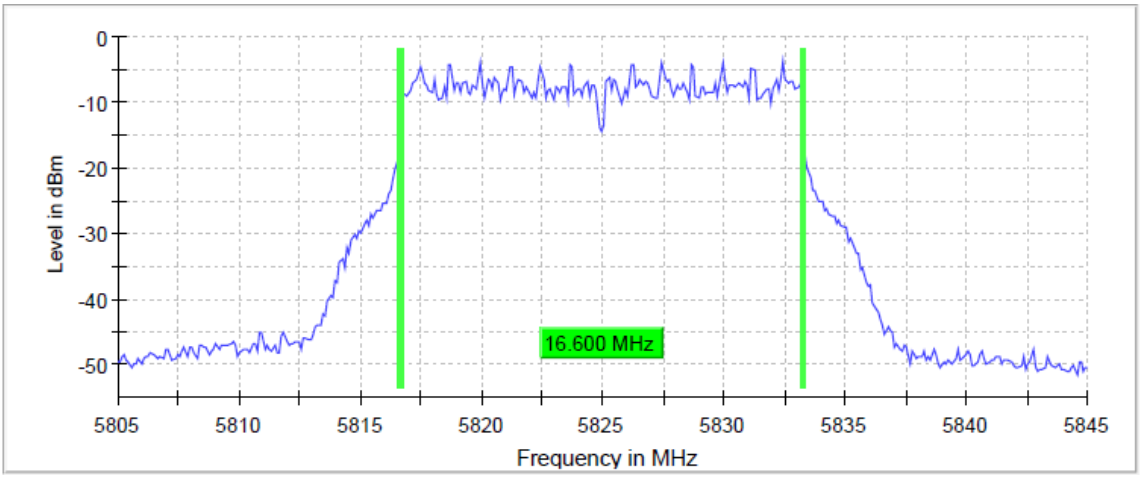
**Lowest Channel**




**Middle Channel**




**Highest Channel**



| TEST RESULTS (Cont.) | |
|---|---|

**Measurement**

| Setting | Instrument Value | Instrument Value | Instrument Value |
|---|---|---|---|
| Start Frequency | 5.72500 GHz | 5.76500 GHz | 5.80500 GHz |
| Stop Frequency | 5.76500 GHz | 5.80500 GHz | 5.84500 GHz |
| Span | 40.000 MHz | 40.000 MHz | 40.000 MHz |
| RBW | 100.000 kHz | 100.000 kHz | 100.000 kHz |
| VBW | 300.000 KHz | 300.000 KHz | 300.000 KHz |
| SweepPoints | 400 | 400 | 400 |
| Sweeptime | 56.886 µs | 56.886 µs | 56.886 µs |
| Reference Level | 10.000 dBm | 10.000 dBm | 10.000 dBm |
| Attenuation | 30.000 dB | 30.000 dB | 30.000 dB |
| Detector | MaxPeak | MaxPeak | MaxPeak |
| SweepCount | 200 | 200 | 200 |
| Filter | 3 dB | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold | Max Hold |
| Sweeptype | FFT | FFT | FFT |
| Preamp | off | off | off |
| Stablemode | Trace | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB | 0.30 dB |
| Run | 28 / max. 150 | 15 / max. 150 | 13 / max. 150 |
| Stable | 5 / 5 | 5 / 5 | 5 / 5 |
| Max Stable Difference | 0.01 dB | 0.004 dB | 0.04 dB |

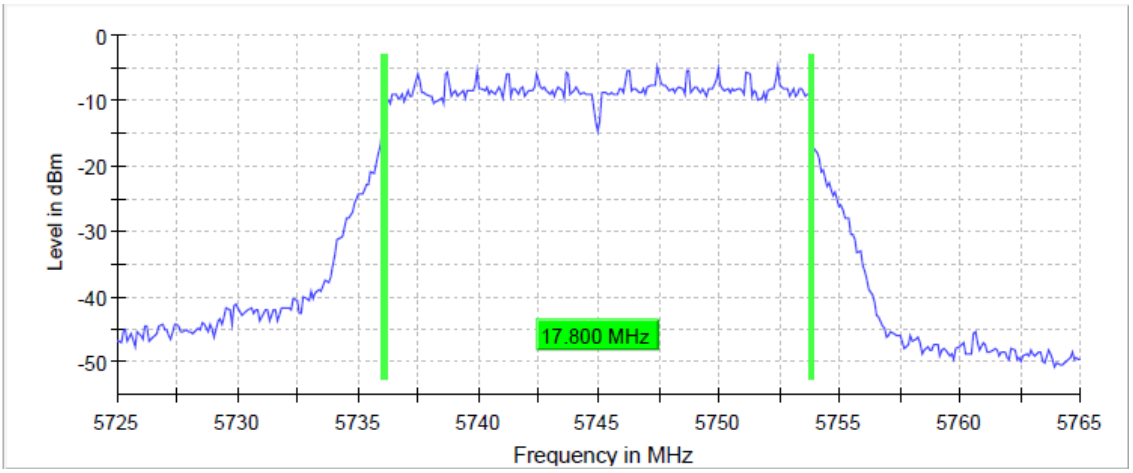
| | |
|---|---|
| **TESTED SAMPLES:** | S/01 |
| **TESTED CONDITIONS MODES:** | TC#02 **(N Mode)** |
| **TEST RESULTS :** | PASS |

**Bandwidth: 20 MHz**

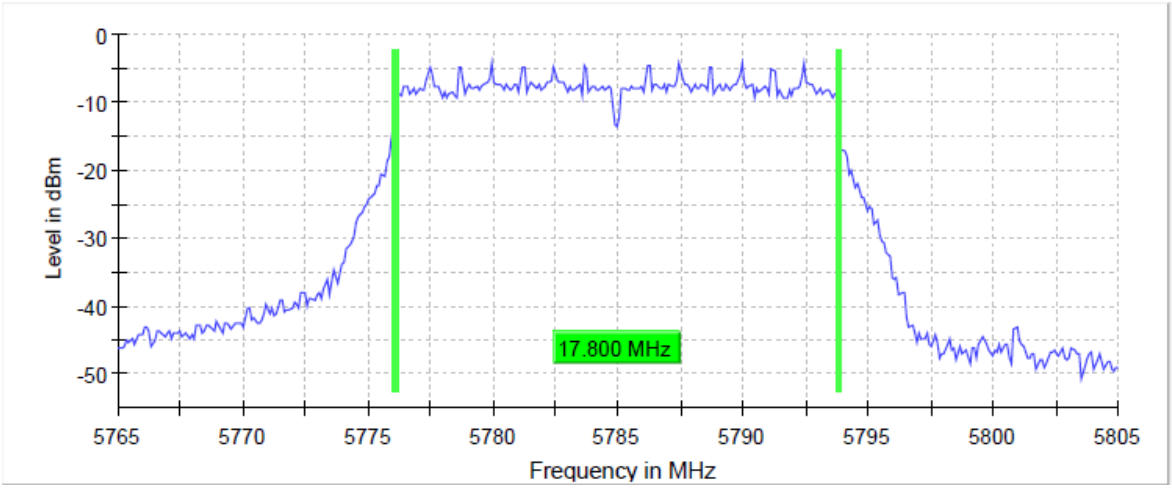
| | Lowest frequency 5745 MHz | Middle frequency 5785 MHz | Highest frequency 5825 MHz |
|---|---|---|---|
| 6dB bandwidth (MHz) | 17.8 | 17.8 | 17.8 |
| Measurement uncertainty (kHz) | <± 8.33 | | |

| TEST RESULTS (Cont.): | 6 dB BANDWIDTH |
|---|---|

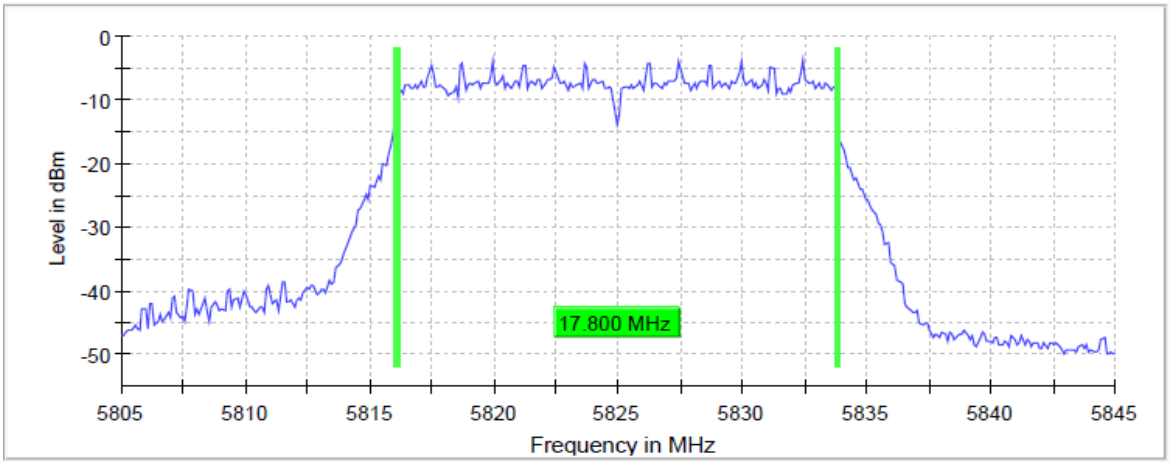
**Lowest Channel**




**Middle Channel**




**Highest Channel**



| TEST RESULTS (Cont.) | |
|---|---|

**Measurement**

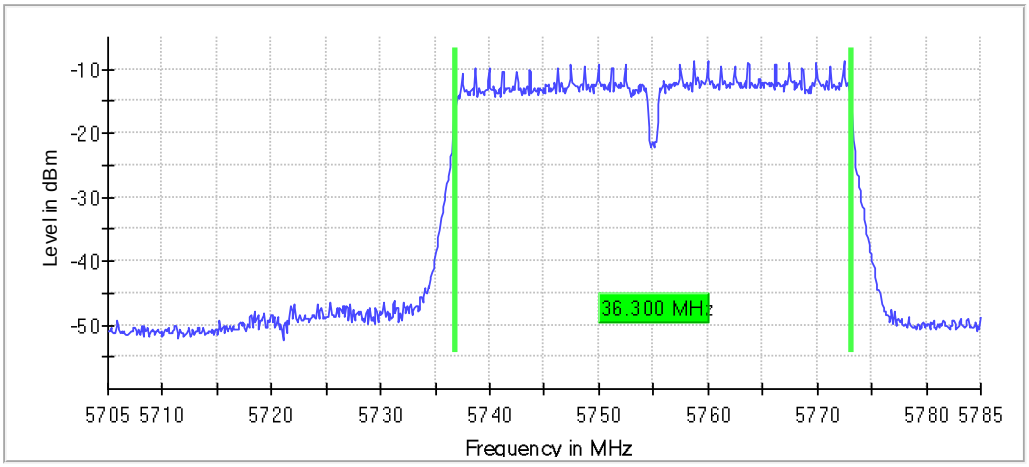
| Setting | Instrument Value | Instrument Value | Instrument Value |
|---|---|---|---|
| Start Frequency | 5.72500 GHz | 5.76500 GHz | 5.80500 GHz |
| Stop Frequency | 5.76500 GHz | 5.80500 GHz | 5.84500 GHz |
| Span | 40.000 MHz | 40.000 MHz | 40.000 MHz |
| RBW | 100.000 kHz | 100.000 kHz | 100.000 kHz |
| VBW | 300.000 KHz | 300.000 KHz | 300.000 KHz |
| SweepPoints | 400 | 400 | 400 |
| Sweeptime | 56.886 us | 56.886 us | 56.886 us |
| Reference Level | 10.000 dBm | 10.000 dBm | 10.000 dBm |
| Attenuation | 30.000 dB | 30.000 dB | 30.000 dB |
| Detector | MaxPeak | MaxPeak | MaxPeak |
| SweepCount | 200 | 200 | 200 |
| Filter | 3 dB | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold | Max Hold |
| Sweeptype | FFT | FFT | FFT |
| Preamp | off | off | off |
| Stablemode | Trace | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB | 0.30 dB |
| Run | 72 / max. 150 | 52 / max. 150 | 48 / max. 150 |
| Stable | 5 / 5 | 5 / 5 | 5 / 5 |
| Max Stable | 0.00 dB | 0.00 dB | 0.01 dB |

| TEST RESULTS (Cont.) | n Mode (40MHz) |
|---|---|

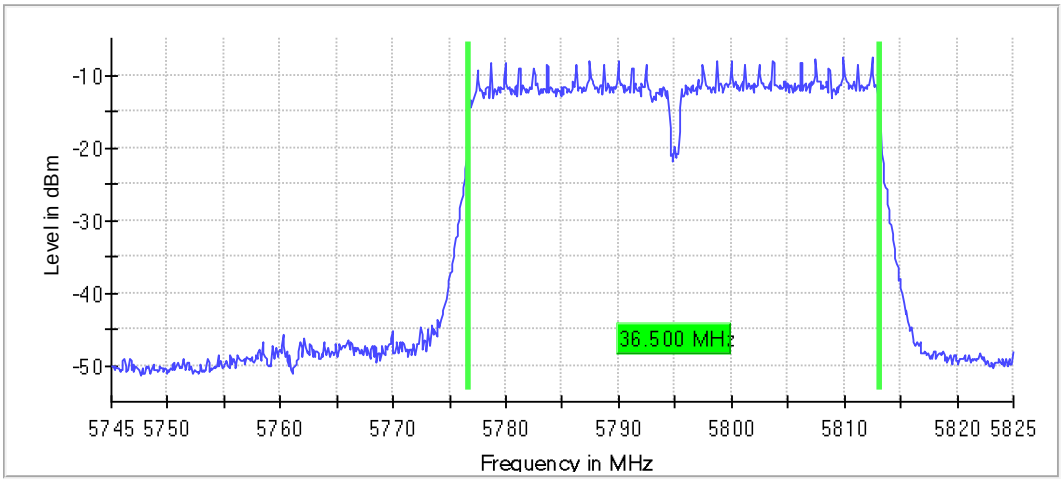
| | Lowest frequency<br>5745 MHz | Highest frequency<br>5785 MHz |
|---|---|---|
| 6dB bandwidth (MHz) | 36.3 | 36.5 |
| Measurement uncertainty (kHz) | <± 8.33 | |

| 6DB BANDWIDTH | |
|---|---|

### Lowest Channel




### Highest Channel



| TEST RESULTS (Cont.) | |
|---|---|

**Measurement**

| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.70500 GHz | 5.74500 GHz |
| Stop Frequency | 5.78500 GHz | 5.82500 GHz |
| Span | 80.000 MHz | 80.000 MHz |
| RBW | 100.000 kHz | 100.000 kHz |
| VBW | 300.000 KHz | 300.000 KHz |
| SweepPoints | 800 | 800 |
| Sweeptime | 94.810 us | 94.810 us |
| Reference Level | 10.000 dBm | 10.000 dBm |
| Attenuation | 30.000 dB | 30.000 dB |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 200 | 200 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | FFT |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB |
| Run | 68 / max. 150 | 150 / max. 150 |
| Stable | 5 / 5 | 4 / 5 |
| Max Stable | 0.08 dB | 0.25 dB |

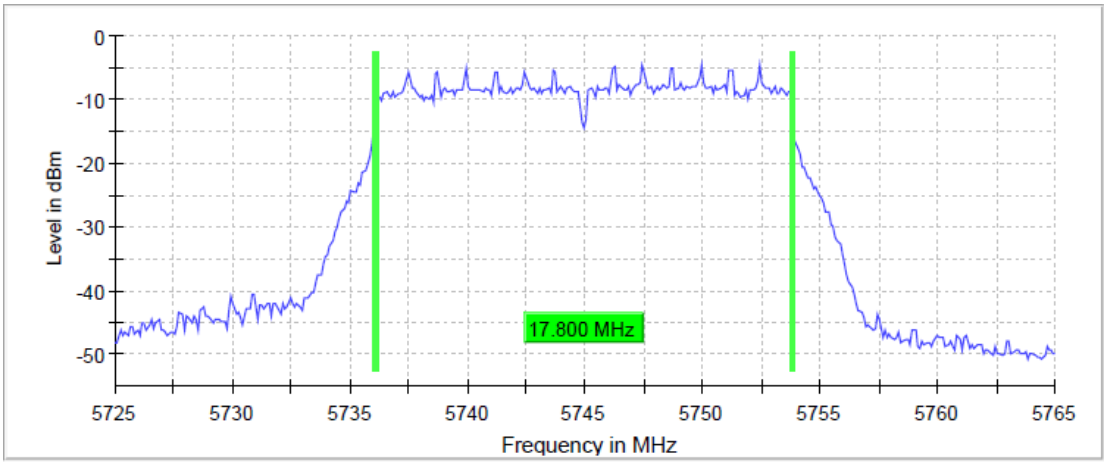
| | |
|---|---|
| **TESTED SAMPLES:** | S/01 |
| **TESTED CONDITIONS MODES:** | TC#03 **(ac mode)** |
| **TEST RESULTS :** | PASS |

**Bandwidth: 20 MHz**

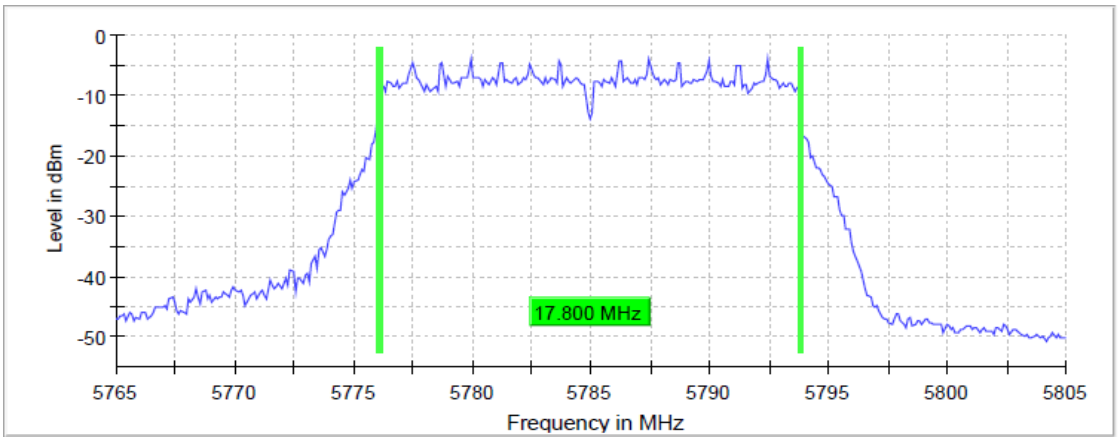
| | Lowest frequency 5745 MHz | Middle frequency 5785 MHz | Highest frequency 5825 MHz |
|---|---|---|---|
| 6db bandwidth (MHz) | 17.8 | 17.8 | 17.8 |
| Measurement uncertainty (kHz) | <± 8.33 | | |

| TEST RESULTS (Cont.): | 6dB BANDWIDTH |
|---|---|

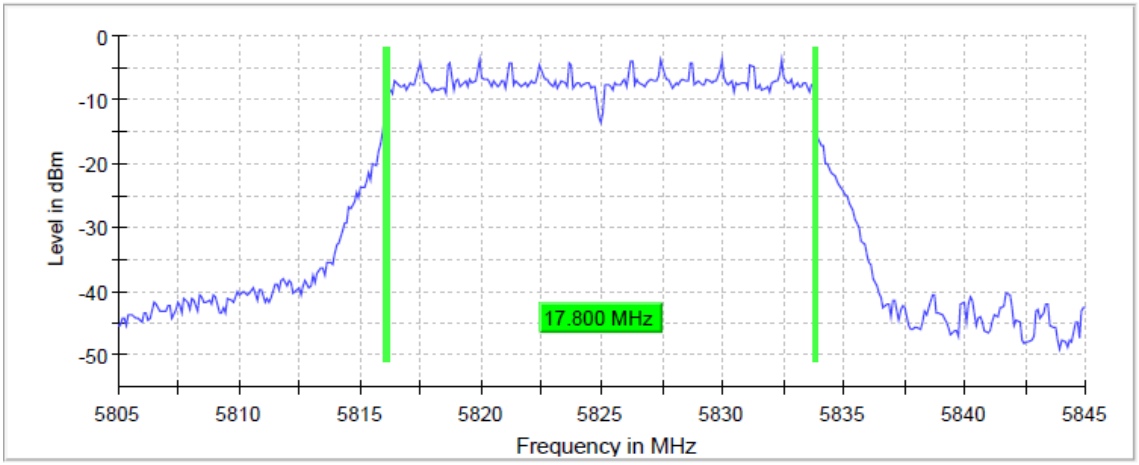
**Lowest Channel**




**Middle Channel**




**Highest Channel**



| TEST RESULTS (Cont.) | |
|---|---|

**Measurement**

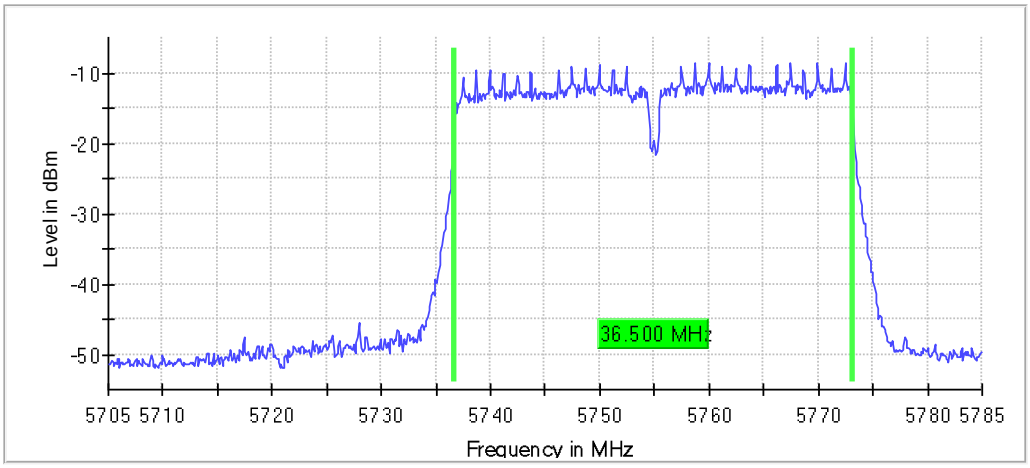
| Setting | Instrument Value | Instrument Value | Instrument Value |
|---|---|---|---|
| Start Frequency | 5.72500 GHz | 5.76500 GHz | 5.80500 GHz |
| Stop Frequency | 5.76500 GHz | 5.80500 GHz | 5.84500 GHz |
| Span | 40.000 MHz | 40.000 MHz | 40.000 MHz |
| RBW | 100.000 kHz | 100.000 kHz | 100.000 kHz |
| VBW | 300.000 KHz | 300.000 KHz | 300.000 KHz |
| SweepPoints | 400 | 400 | 400 |
| Sweeptime | 56.886 us | 56.886 us | 56.886 us |
| Reference Level | 10.000 dBm | 10.000 dBm | 10.000 dBm |
| Attenuation | 30.000 dB | 30.000 dB | 30.000 dB |
| Detector | MaxPeak | MaxPeak | MaxPeak |
| SweepCount | 200 | 200 | 200 |
| Filter | 3 dB | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold | Max Hold |
| Sweeptype | FFT | FFT | FFT |
| Preamp | off | off | off |
| Stablemode | Trace | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB | 0.30 dB |
| Run | 62 / max. 150 | 59 / max. 150 | 91 / max. 150 |
| Stable | 5 / 5 | 5 / 5 | 5 / 5 |
| Max Stable Difference | 0.04 dB | 0.23 dB | 0.03 dB |

| TEST RESULTS (Cont.) | ac Mode (40MHz) |
|---|---|

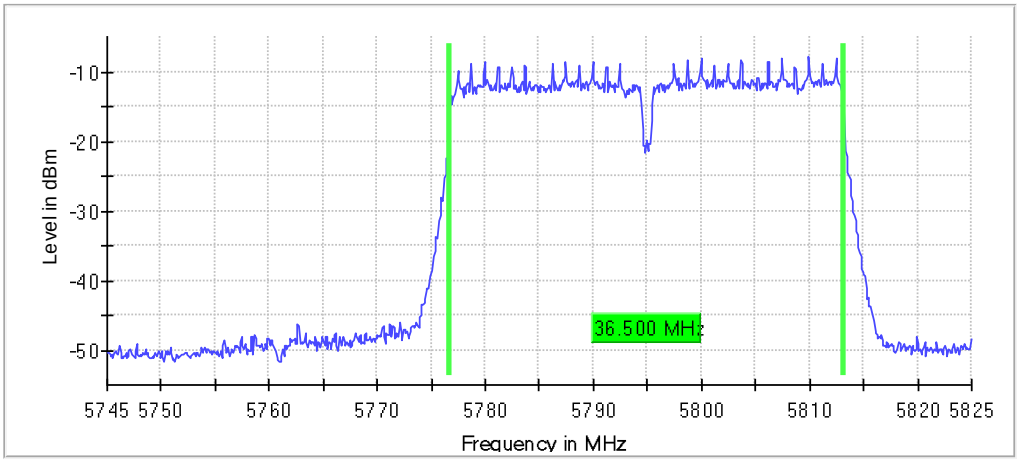
| | Lowest frequency 5745 MHz | Highest frequency 5785 MHz |
|---|---|---|
| 6dB bandwidth (MHz) | 36.5 | 36.5 |
| Measurement uncertainty (kHz) | <± 8.33 | |

| TEST RESULTS (Cont.): | 6dB BANDWIDTH |
|---|---|

**Lowest Channel**




**Highest Channel**



| TEST RESULTS (Cont.) | |
|---|---|

**Measurement**

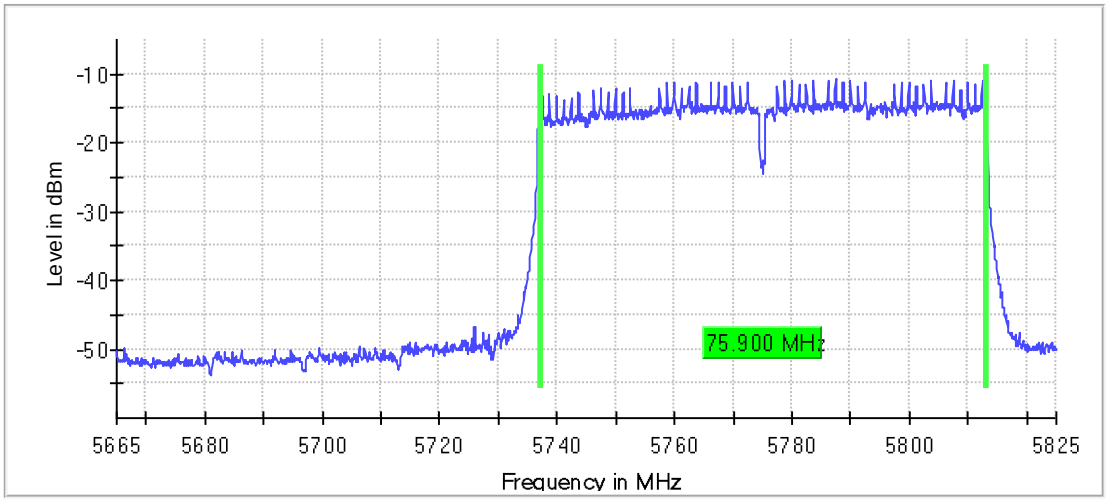
| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.70500 GHz | 5.74500 GHz |
| Stop Frequency | 5.78500 GHz | 5.82500 GHz |
| Span | 80.000 MHz | 80.000 MHz |
| RBW | 100.000 kHz | 100.000 kHz |
| VBW | 300.000 KHz | 300.000 KHz |
| SweepPoints | 800 | 800 |
| Sweeptime | 94.810 µs | 94.810 µs |
| Reference Level | 10.000 dBm | 10.000 dBm |
| Attenuation | 30.000 dB | 30.000 dB |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 200 | 200 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | FFT |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB |
| Run | 77 / max. 150 | 116 / max. 150 |
| Stable | 5 / 5 | 5 / 5 |
| Max Stable Difference | 0.25 dB | 0.01 dB |

| TEST RESULTS (Cont.) | ac Mode (80MHz) |
|---|---|

| | Lowest frequency<br>5745 MHz |
|---|---|
| 6dB bandwidth (MHz) | 75.9 |
| Measurement uncertainty (kHz) | <± 8.33 |

| TEST RESULTS (Cont.): | 6dB BANDWIDTH |
|---|---|

**Lowest Channel**




**Measurement**

| Setting | Instrument Value |
|---|---|
| Start Frequency | 5.66500 GHz |
| Stop Frequency | 5.82500 GHz |
| Span | 160.000 MHz |
| RBW | 100.000 KHz |
| VBW | 300.000 KHz |
| SweepPoints | 1600 |
| Sweeptime | 189.620 µs |
| Reference Level | 10.000 dBm |
| Attenuation | 30.000 dB |
| Detector | MaxPeak |
| SweepCount | 200 |
| Filter | 3 dB |
| Trace Mode | Max Hold |
| Sweeptype | FFT |
| Preamp | off |
| Stablemode | Trace |
| Stablevalue | 0.30 dB |
| Run | 150 / max. 150 |
| Stable | 5 / 5 |
| Max Stable Difference | 0.16 dB |

## TEST B.3: POWER LIMITS. MAXIMUM OUTPUT POWER

| | | |
|---|---|---|
| **LIMITS:** | Product standard: | Part 15 Subpart C §15.407 and RSS-247 |
| | Test standard: | Part 15 Subpart C §15.407(a) (3) (4) and RSS-247 6.2.4.1 |

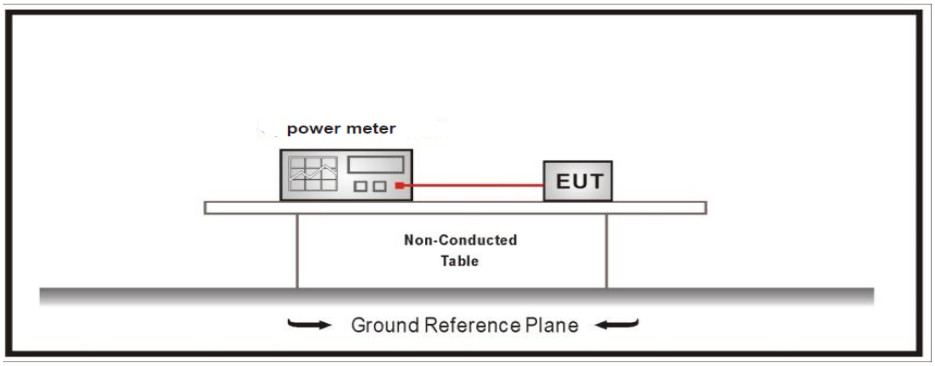
LIMITS

In band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500 KHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

| **TEST SETUP** | |
|---|---|

Measured according to ANSI C63.10, Section 11.9.2.3.2 Method AVGPM-G

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power




| | |
|---|---|
| **TESTED SAMPLES:** | S/01 |
| **TESTED CONDITIONS MODES:** | TC#01 (**a mode)** |
| **TEST RESULTS:** | PASS |

**Bandwidth: 20 MHz**

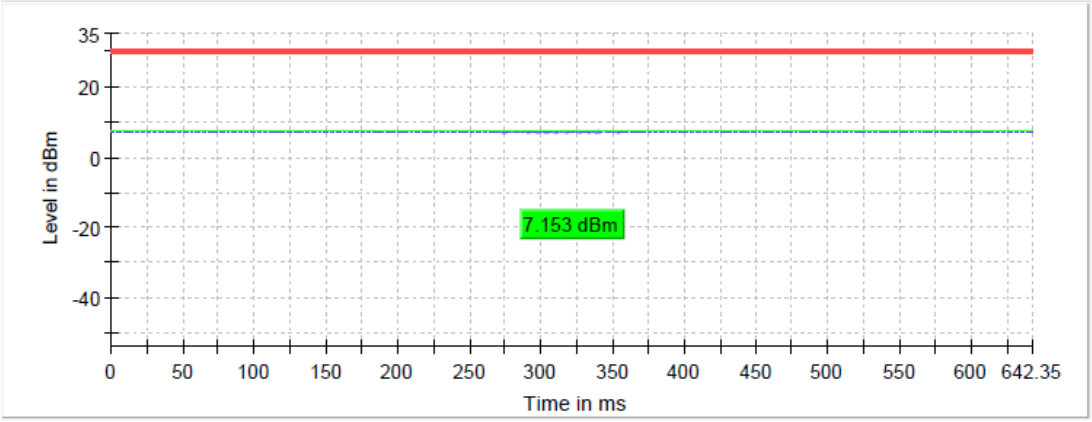
Maximum declared antenna gain: 0.7 dBi

| | Lowest frequency 5745 MHz | Middle frequency 5785 MHz | Highest frequency 5825 MHz |
|---|---|---|---|
| Maximum conducted power (dBm) | 7.2 | 7.8 | 8.2 |
| Maximum EIRP power (dBm) | 7.9 | 8.5 | 8.9 |
| Measurement uncertainty (dB) | <±0.78 | | |

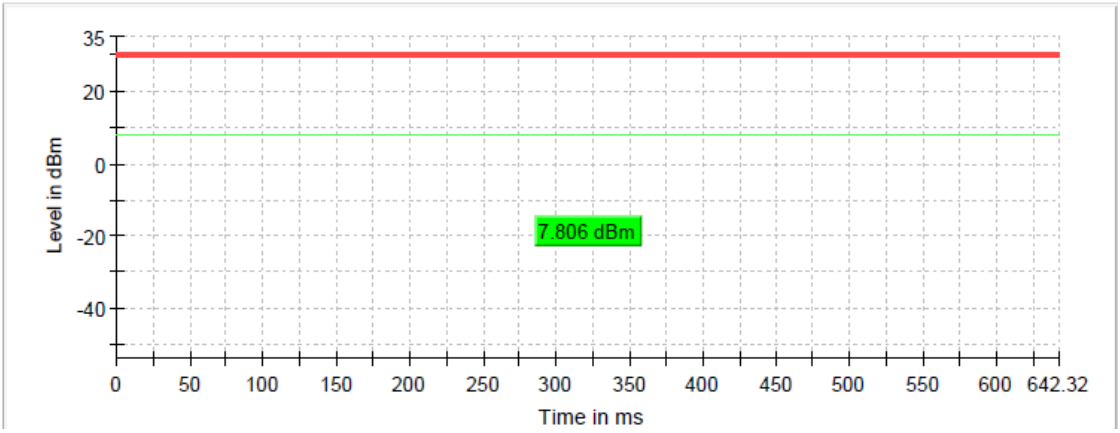
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

| TEST RESULTS (Cont.): | CONDUCTED OUTPUT POWER |
|---|---|

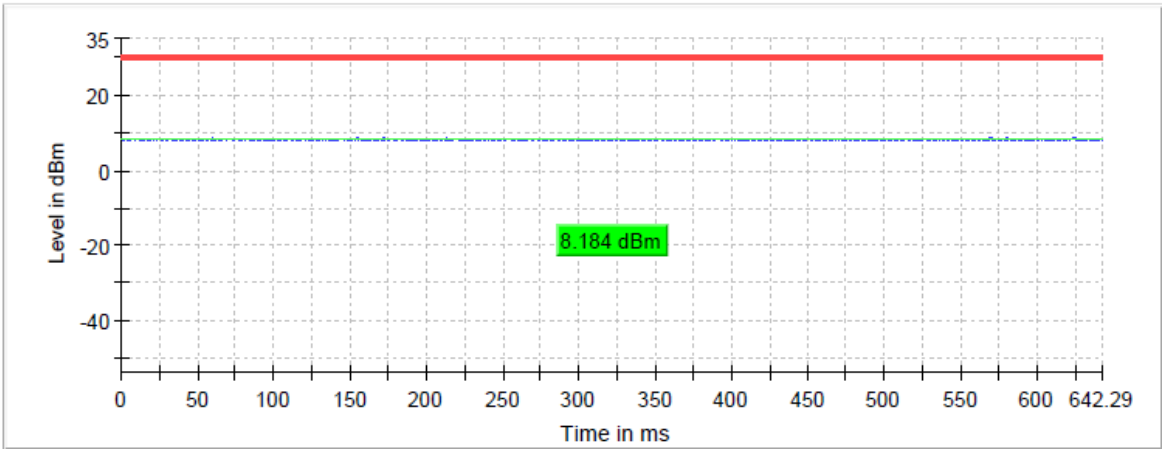
**Lowest Channel**




**Middle Channel**




**Highest Channel**



| TESTED SAMPLES: | S/01 |
|---|---|
| TESTED CONDITIONS MODES: | TC#02 **(n mode)** |
| TEST RESULTS: | PASS |

**Bandwidth: 20 MHz**

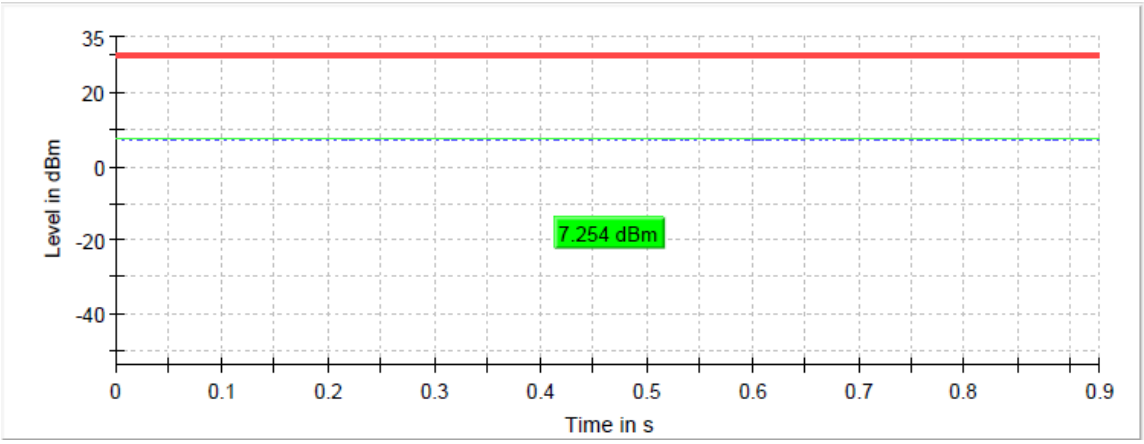
Maximum declared antenna gain: 0.7 dBi

| | Lowest frequency 5745 MHz | Middle frequency 5785 MHz | Highest frequency 5825 MHz |
|---|---|---|---|
| Maximum conducted power (dBm) | 7.3 | 7.8 | 8.3 |
| Maximum EIRP power (dBm) | 8.0 | 8.5 | 9.0 |
| Measurement uncertainty (dB) | <±0.78 | | |

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

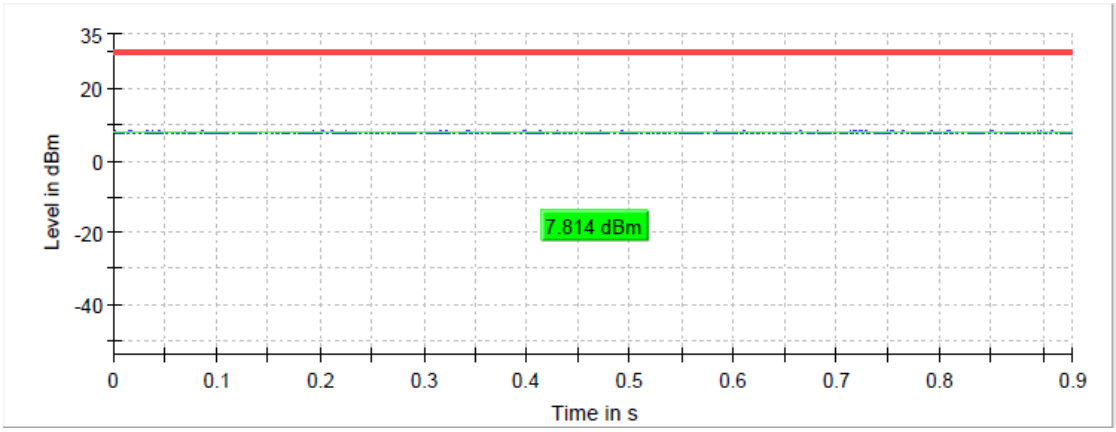
| TEST RESULTS (Cont.): | CONDUCTED OUTPUT POWER |
|---|---|

**Lowest Channel**

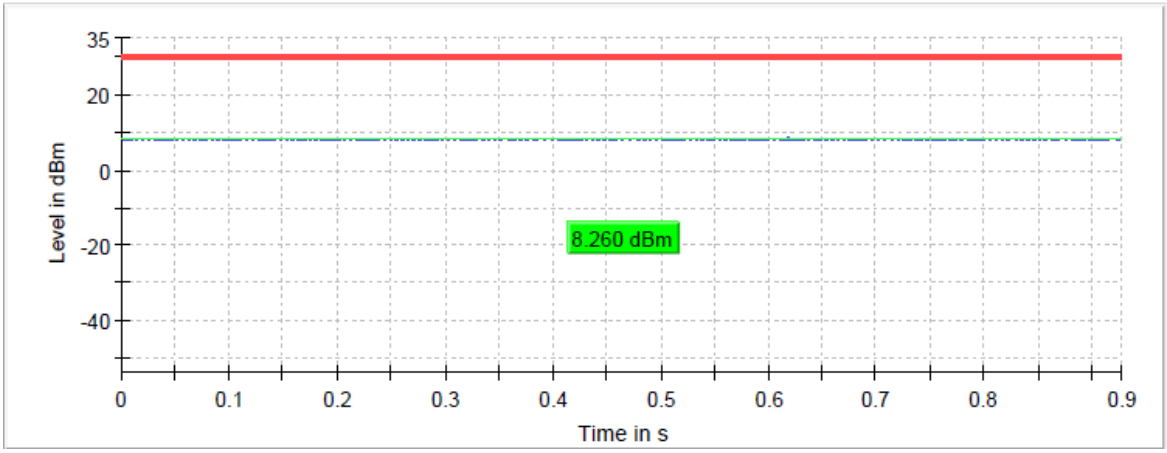


| TEST RESULTS (Cont.) | |
|---|---|

**Middle Channel**




**Highest Channel**




| TEST RESULTS (Cont.): | n Mode (40 MHz) |
|---|---|

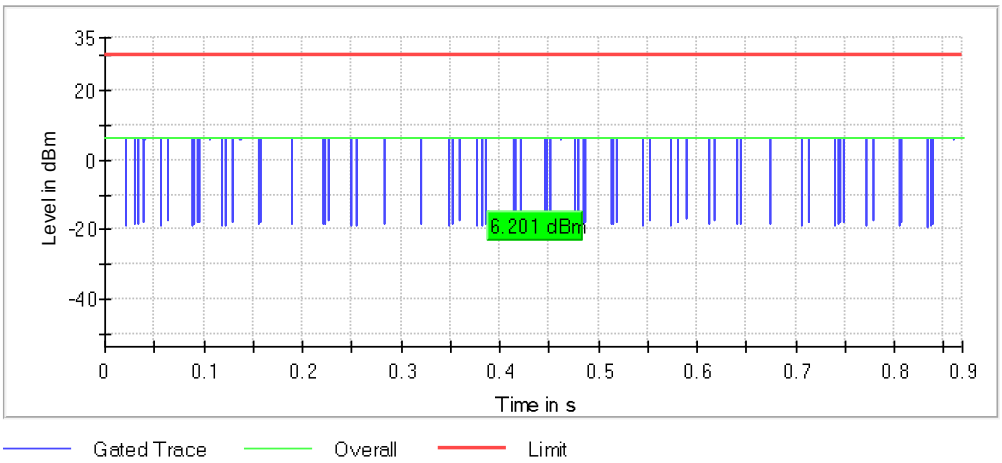
Maximum declared antenna gain: 0.7 dBi

| | Lowest frequency 5745 MHz | Highest frequency 5785 MHz |
|---|---|---|
| Maximum conducted power (dBm) | 6.2 | 6.6 |
| Maximum EIRP power (dBm) | 6.9 | 7.3 |
| Measurement uncertainty (dB) | <±0.78 | |

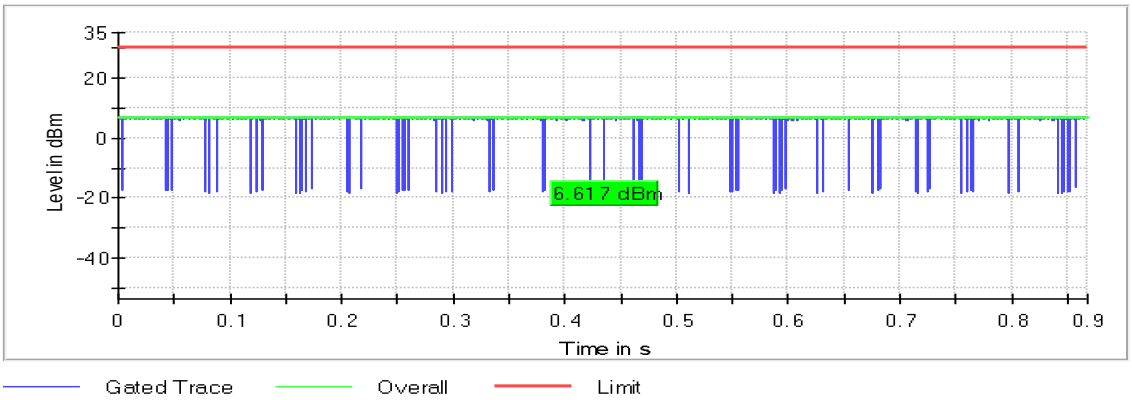
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

| TEST RESULTS (Cont.): | CONDUCTED OUTPUT POWER |
|---|---|

**Lowest Channel**




**Highest Channel**




| TESTED SAMPLES: | S/01 |
|---|---|
| TESTED CONDITIONS MODES: | TC#03 **(ac mode)** |
| TEST RESULTS: | PASS |

**Bandwidth: 20 MHz**

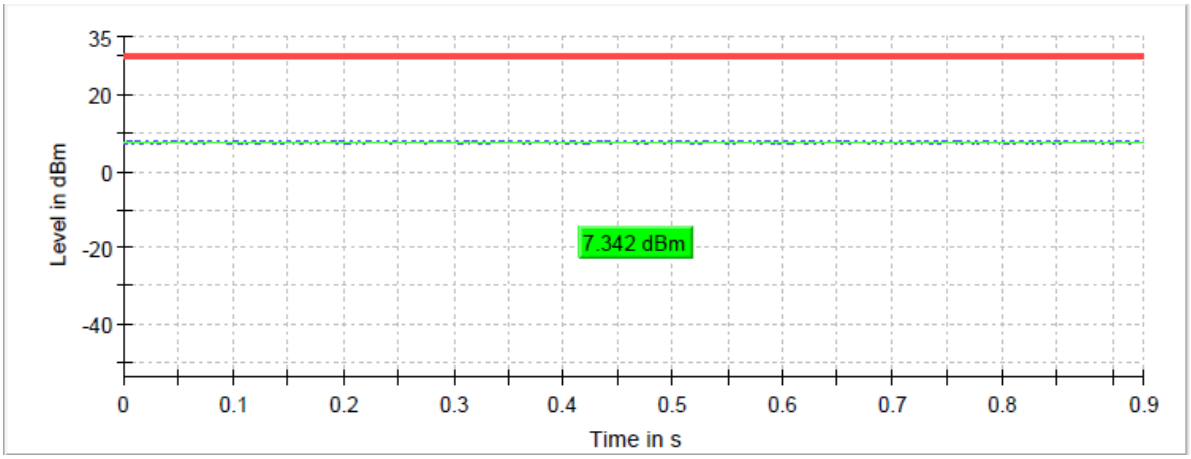
Maximum declared antenna gain: 0.7 dBi

| | Lowest frequency 5745 MHz | Middle frequency 5785 MHz | Highest frequency 5825 MHz |
|---|---|---|---|
| Maximum conducted power (dBm) | 8.2 | 7.3 | 8.3 |
| Maximum EIRP power (dBm) | 8.9 | 8.0 | 9.0 |
| Measurement uncertainty (dB) | <±0.78 | | |

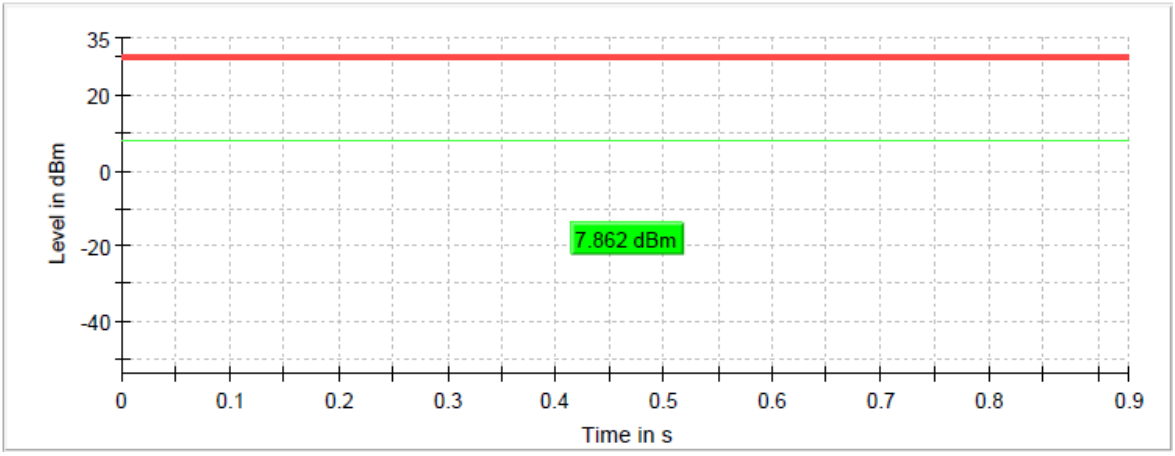
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

| TEST RESULTS (Cont.) | |
|---|---|

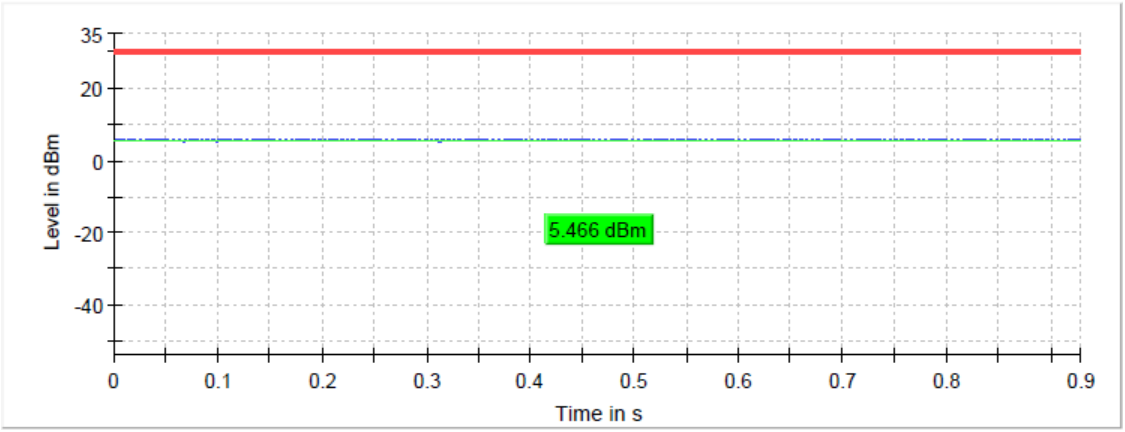
**Lowest Channel**




**Middle Channel**




**Highest Channel**



| TEST RESULTS (Cont.): | ac Mode (40 MHz) |
|---|---|

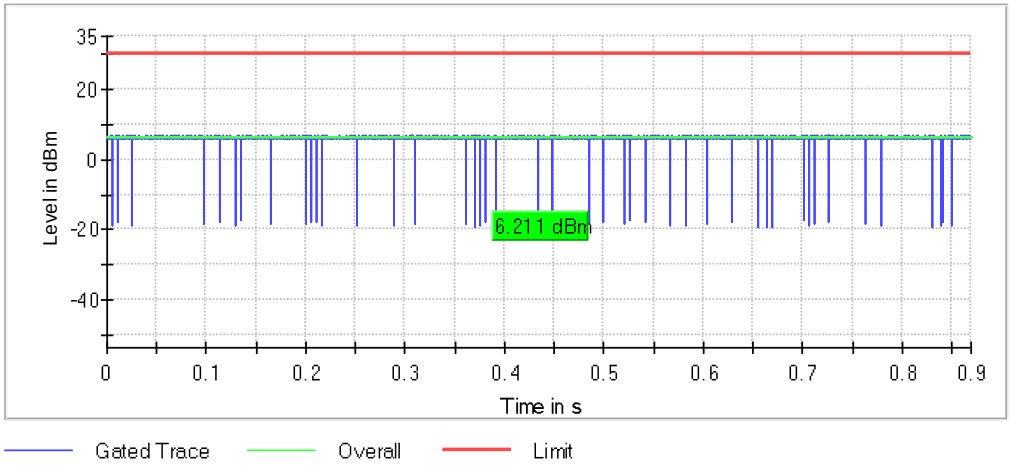
Maximum declared antenna gain: 0.7 dBi

| | Lowest frequency 5745 MHz | Highest frequency 5785 MHz |
|---|---|---|
| Maximum conducted power (dBm) | 6.2 | 6.8 |
| Maximum EIRP power (dBm) | 6.9 | 7.5 |
| Measurement uncertainty (dB) | <±0.78 | |

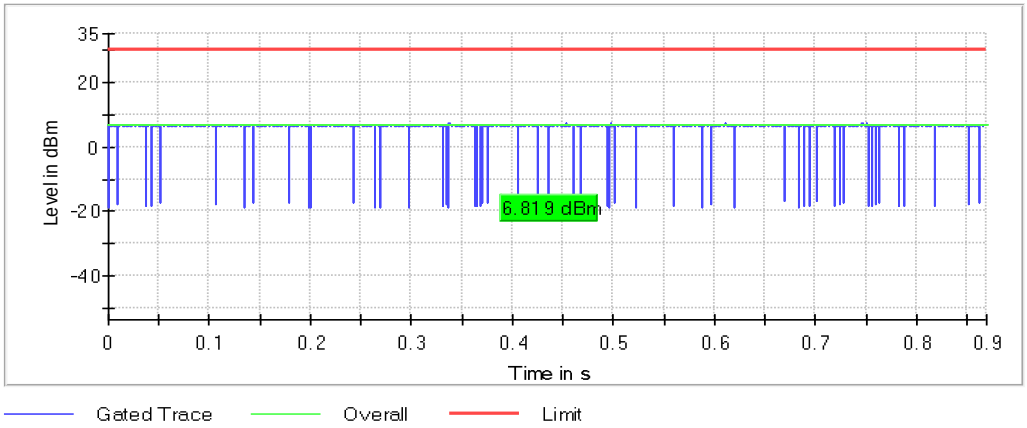
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

| TEST RESULTS (Cont.): | CONDUCTED OUTPUT POWER |
|---|---|

**Lowest Channel**




**Highest Channel**



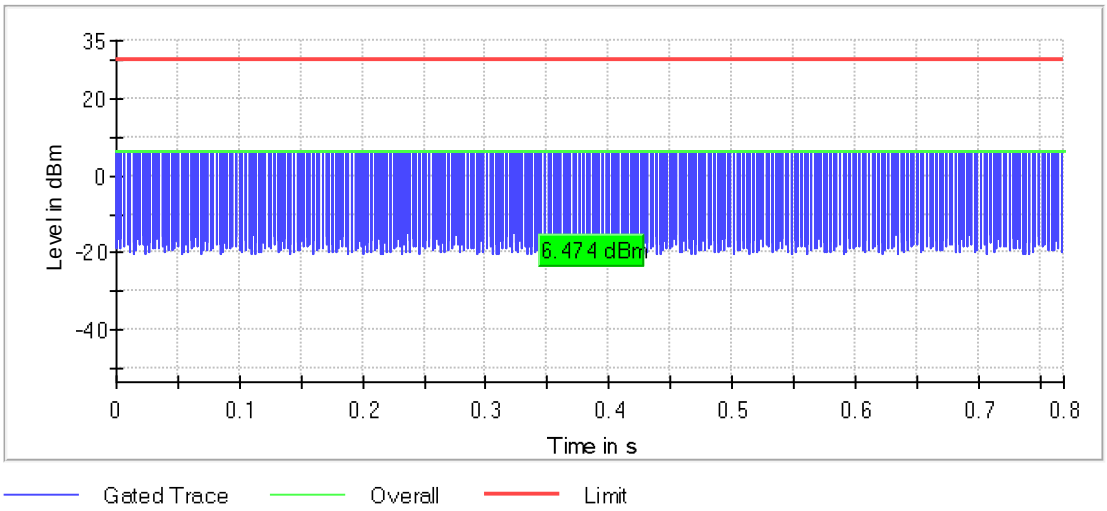
| TEST RESULTS (Cont.) | ac Mode (80 MHz) |
|---|---|

Maximum declared antenna gain: 0.7 dBi

| | Lowest frequency 5745 MHz |
|---|---|
| Maximum conducted power (dBm) | 6.5 |
| Maximum EIRP power (dBm) | 7.2 |
| Measurement uncertainty (dB) | <±0.78 |

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

**Lowest Channel**



## TEST B.4: POWER SPECTRAL DENSITY

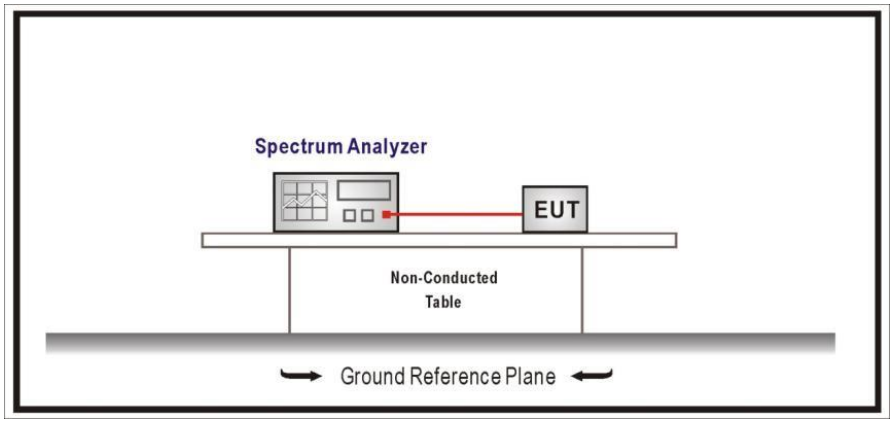
| LIMITS: | Product standard: | Part 15 Subpart C §15.407 and RSS-247 |
|---|---|---|
| | Test standard: | Part 15 Subpart C §15.407(a) (3) (5) and RSS-247 6.2.4.1 |

LIMITS

In the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500 KHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

| TEST SETUP | |
|---|---|

For all modes, the maximum power spectral density level in the fundamental emission was measured using the method according to point F) (Method SA-1) of Guidance 789033 D02 General UNII Test Procedures New Rules v01.



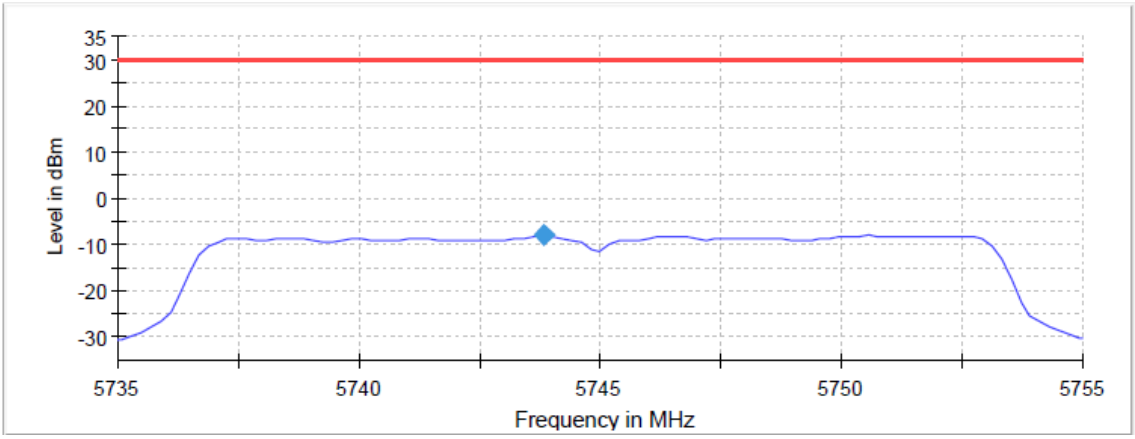

| TESTED SAMPLES: | S/01 |
|---|---|
| TESTED CONDITIONS MODES: | TC#01 **(a mode)** |
| TEST RESULTS: | PASS |

**Bandwidth: 20 MHz**

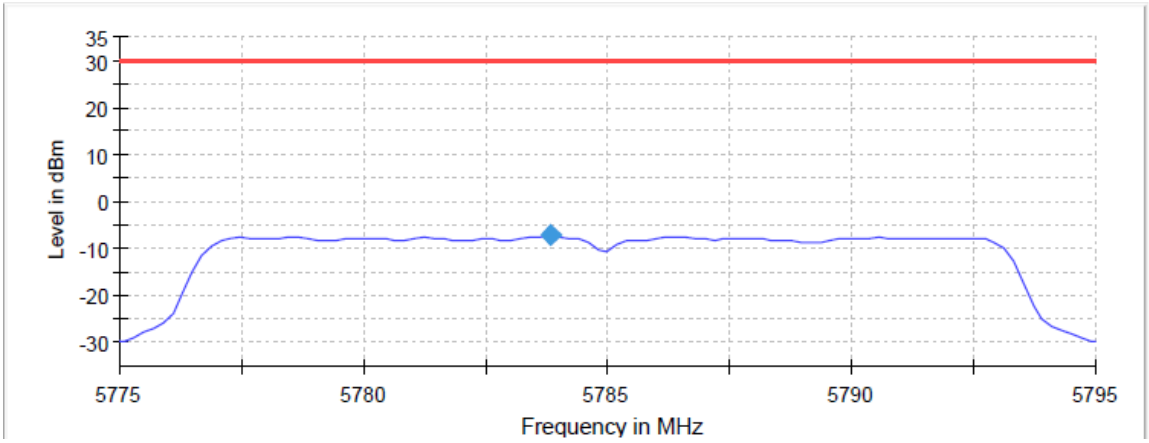
| | Lowest frequency 5745 MHz | Middle frequency 5785 MHz | Highest frequency 5825 MHz |
|---|---|---|---|
| Power spectral density (dBm) | -8.129 | -7.269 | -7.028 |
| Measurement uncertainty (dB) | <±0.78 | | |

| TEST RESULTS (Cont.): | |
|---|---|

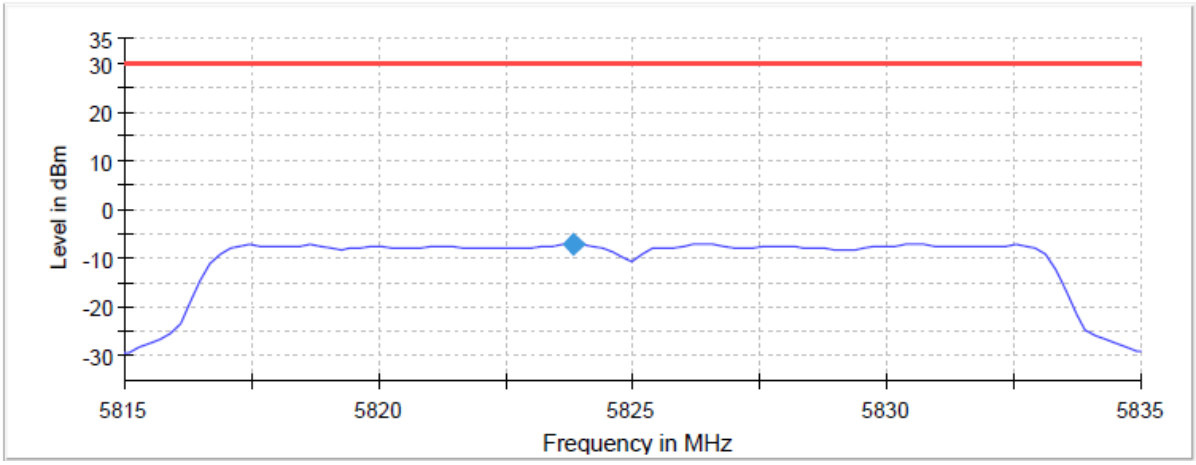
**Low Channel**




**Middle Channel**




**High Channel**



| TEST RESULTS (Cont.): | |
|---|---|

**Measurement**

| Setting | Instrument Value | Instrument Value | Instrument Value |
|---|---|---|---|
| Start Frequency | 5.73500 GHz | 5.77500 GHz | 5.81500 GHz |
| Stop Frequency | 5.75500 GHz | 5.79500 GHz | 5.83500 GHz |
| Span | 20.000 MHz | 20.000 MHz | 20.000 MHz |
| RBW | 500.000 KHz | 500.000 KHz | 500.000 KHz |
| VBW | 2.000 MHz | 2.000 MHz | 2.000 MHz |
| SweepPoints | 101 | 101 | 101 |
| Sweeptime | 2.020 s | 2.020 s | 2.020 s |
| Reference Level | 10.000 dBm | 10.000 dBm | 10.000 dBm |
| Attenuation | 30.000 dB | 30.000 dB | 30.000 dB |
| Detector | RMS | RMS | RMS |
| SweepCount | 3 | 3 | 3 |
| Filter | 3 dB | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold | Max Hold |
| Sweeptype | Sweep | Sweep | Sweep |
| Preamp | off | off | off |
| Stablemode | Trace | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB | 0.30 dB |
| Run | 4 / max. 150 | 4 / max. 150 | 4 / max. 150 |
| Stable | 3 / 3 | 3 / 3 | 3 / 3 |
| Max Stable | 0.02 dB | 0.30 dB | 0.01 dB |

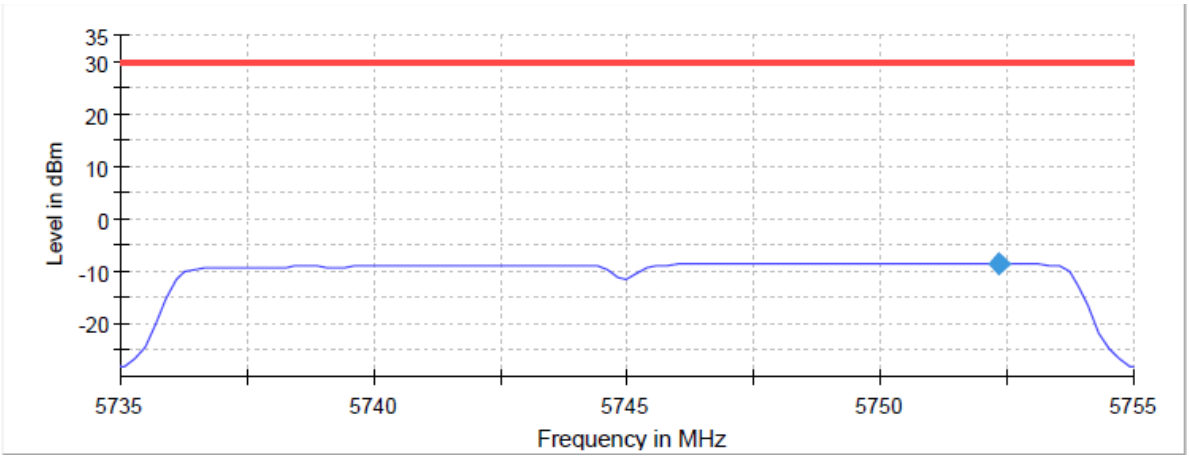
| TEST RESULTS (Cont.): | |
|---|---|
| TESTED SAMPLES: | S/01 |
| TESTED CONDITIONS MODES: | TC#02 (N mode) |
| TEST RESULTS: | PASS |

**Bandwidth: 20 MHz**

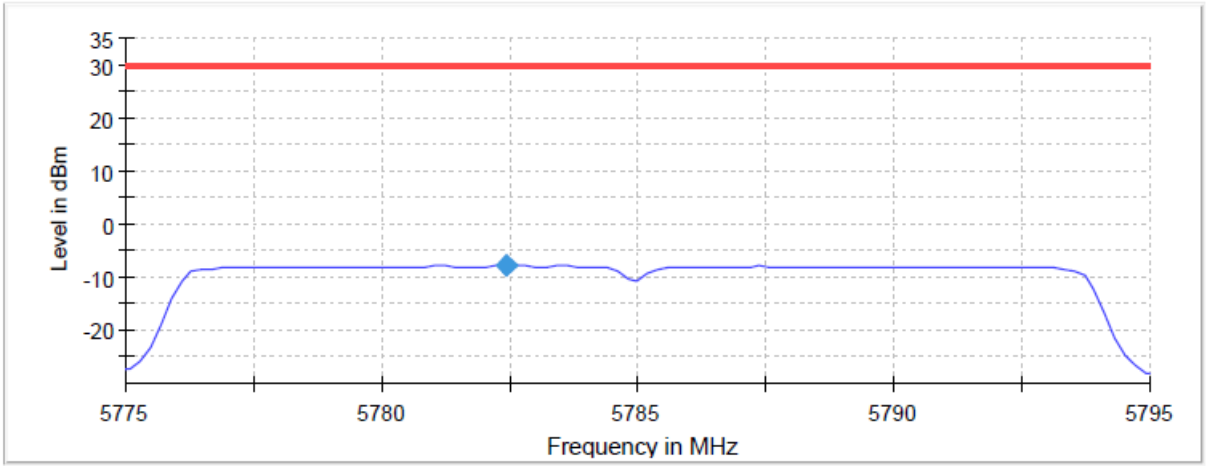
| | Lowest frequency 5745 MHz | Middle frequency 5785 MHz | Highest frequency 5825 MHz |
|---|---|---|---|
| Power spectral density (dBm) | -8.526 | -7.953 | -7.722 |
| Measurement uncertainty (dB) | <±0.78 | | |

| TEST RESULTS (Cont.): | |
|---|---|

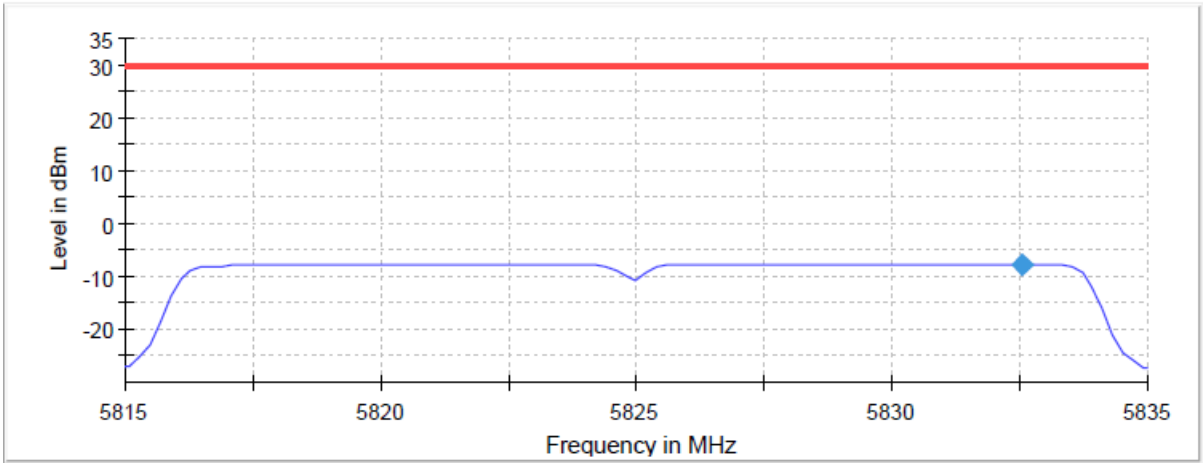
**Low Channel**




**Middle Channel**




**High Channel**



| TEST RESULTS (Cont.): | |
|---|---|

**Measurement**

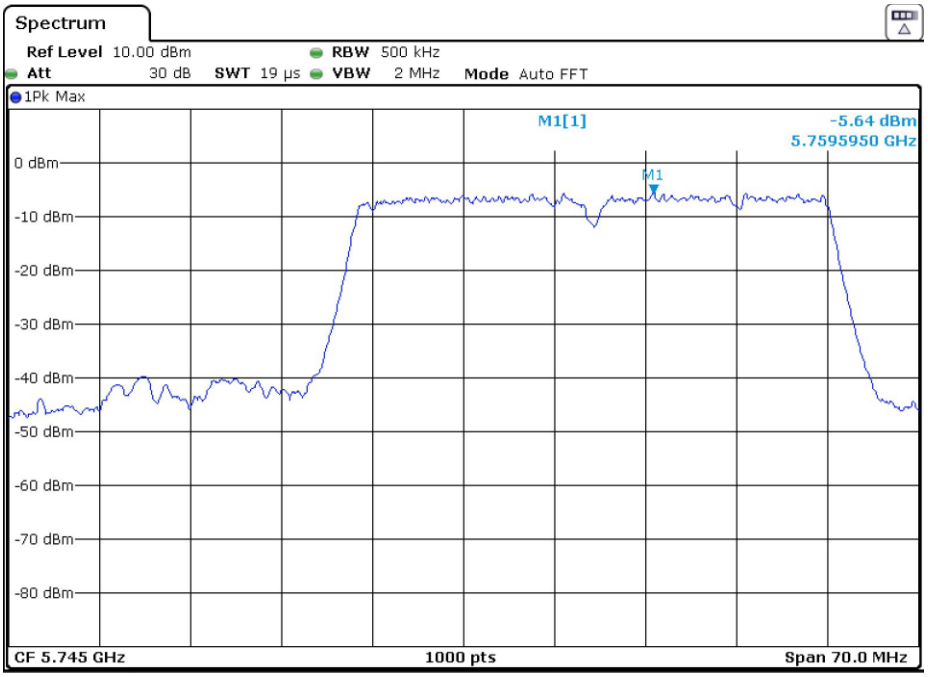
| Setting | Instrument Value | Instrument Value | Instrument Value |
|---|---|---|---|
| Start Frequency | 5.73500 | 5.77500 | 5.81500 |
| Stop Frequency | 5.75500 | 5.79500 | 5.83500 |
| Span | 20.000 | 20.000 | 20.000 |
| RBW | 500.000 | 500.000 | 500.000 |
| VBW | 2.000 MHz | 2.000 MHz | 2.000 MHz |
| SweepPoints | 101 | 101 | 101 |
| Sweeptime | 2.020 s | 2.020 s | 2.020 s |
| Reference Level | 10.000 | 10.000 | 10.000 |
| Attenuation | 30.000 dB | 30.000 dB | 30.000 dB |
| Detector | RMS | RMS | RMS |
| SweepCount | 3 | 3 | 3 |
| Filter | 3 dB | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold | Max Hold |
| Sweeptype | Sweep | Sweep | Sweep |
| Preamp | off | off | off |
| Stablemode | Trace | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB | 0.30 dB |
| Run | 4 / max. | 4 / max. | 4 / max. |
| Stable | 3 / 3 | 3 / 3 | 3 / 3 |
| Max Stable | 0.03 dB | 0.09 dB | 0.07 dB |

| TEST RESULTS (Cont.): | n Mode(40 MHz) |
|---|---|

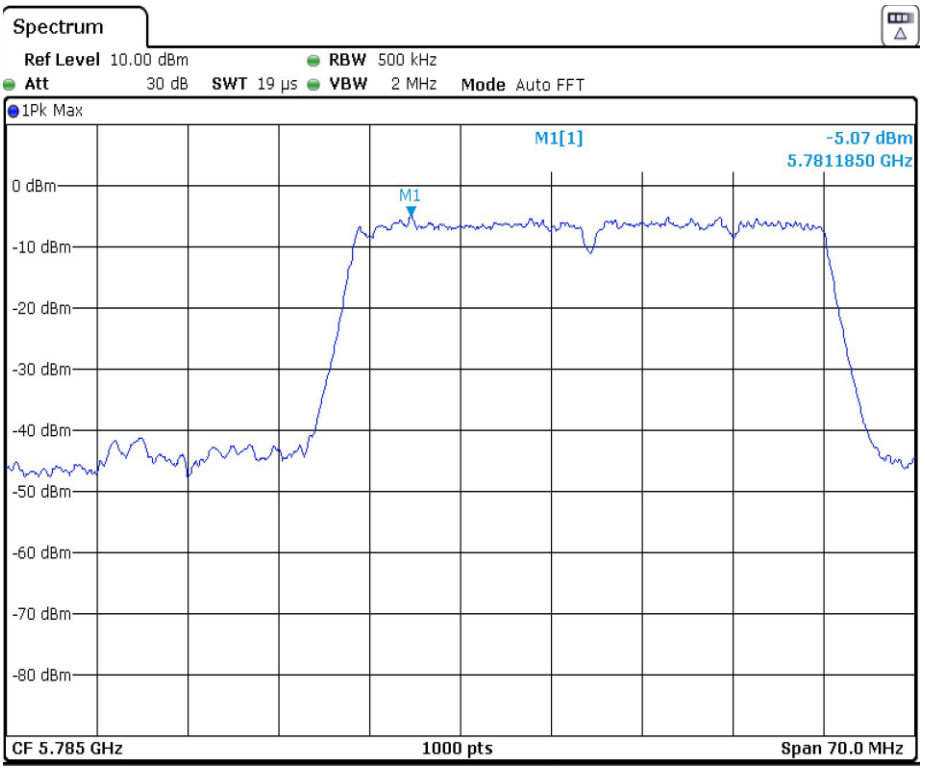
| | Lowest frequency 5745 MHz | Highest frequency 5785 MHz |
|---|---|---|
| Power spectral density (dBm) | -5.64 | -5.07 |
| Measurement uncertainty (dB) | <±0.78 | |

| TEST RESULTS (Cont.): | |
|---|---|

**Lowest Channel**




**Highest Channel**

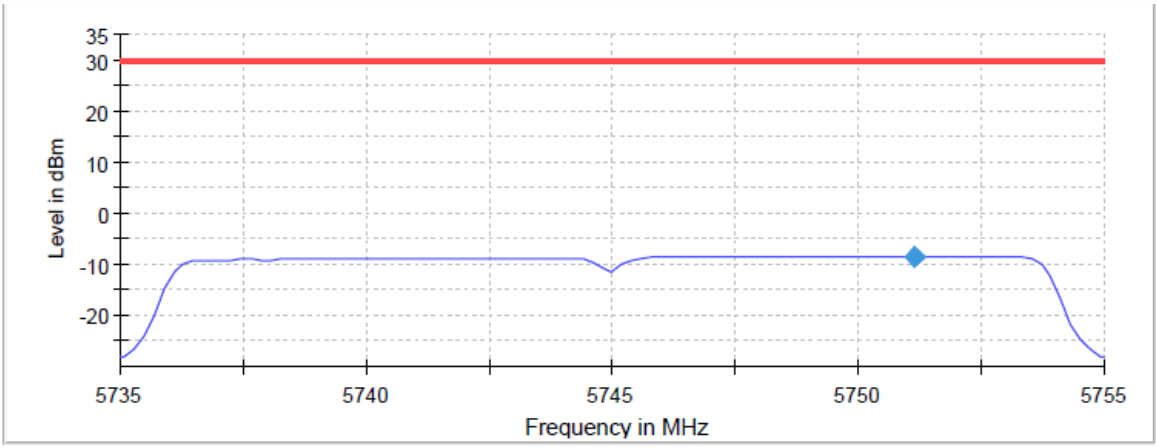


| TESTED SAMPLES: | S/01 |
|---|---|
| TESTED CONDITIONS MODES: | TC#03 **(ac mode)** |
| TEST RESULTS: | PASS |

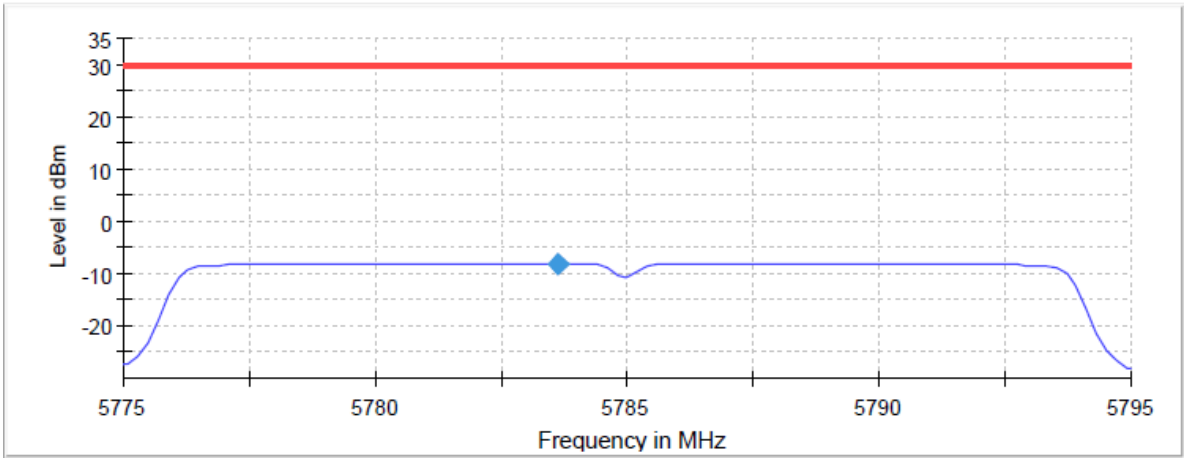
**Bandwidth: 20 MHz**

| | Lowest frequency 5745 MHz | Middle frequency 5785 MHz | Highest frequency 5825 MHz |
|---|---|---|---|
| Power spectral density (dBm) | -8.430 | -8.034 | -7.792 |
| Measurement uncertainty (dB) | <±0.78 | | |

**Lowest Channel**

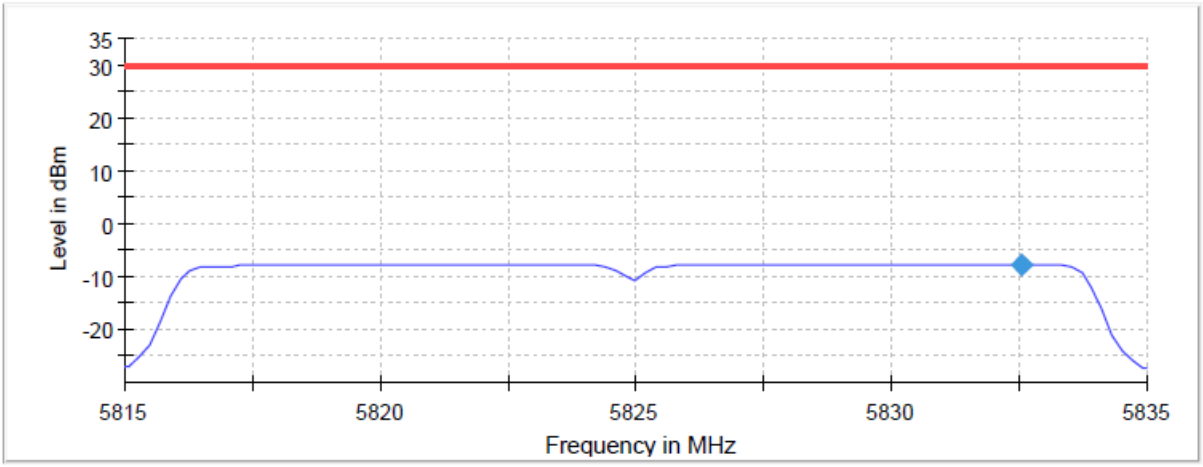



**Middle Channel**



| TEST RESULTS (Cont.) | |
|---|---|

## Highest Channel




**Measurement**

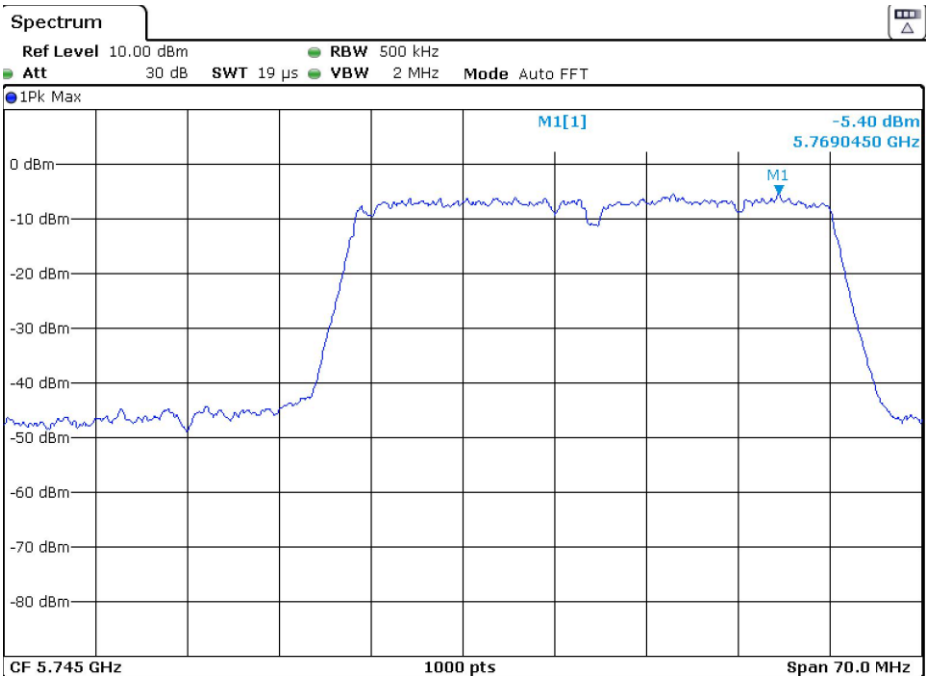
| Setting | Instrument Value | Instrument Value | Instrument Value |
|---|---|---|---|
| Start Frequency | 5.73500 GHz | 5.77500 GHz | 5.81500 GHz |
| Stop Frequency | 5.75500 GHz | 5.79500 GHz | 5.83500 GHz |
| Span | 20.000 MHz | 20.000 MHz | 20.000 MHz |
| RBW | 500.000 KHz | 500.000 KHz | 500.000 KHz |
| VBW | 2.000 MHz | 2.000 MHz | 2.000 MHz |
| SweepPoints | 101 | 101 | 101 |
| Sweeptime | 2.020 s | 2.020 s | 2.020 s |
| Reference Level | 10.000 dBm | 10.000 dBm | 10.000 dBm |
| Attenuation | 30.000 dB | 30.000 dB | 30.000 dB |
| Detector | RMS | RMS | RMS |
| SweepCount | 3 | 3 | 3 |
| Filter | 3 dB | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold | Max Hold |
| Sweeptype | Sweep | Sweep | Sweep |
| Preamp | off | off | off |
| Stablemode | Trace | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB | 0.30 dB |
| Run | 4 / max. 150 | 4 / max. 150 | 4 / max. 150 |
| Stable | 3 / 3 | 3 / 3 | 3 / 3 |
| Max Stable Difference | 0.05 dB | 0.11 dB | 0.02 dB |

| TEST RESULTS (Cont.): | ac Mode (40 MHz) |
|---|---|

| | Lowest frequency 5745 MHz | Highest frequency 5785 MHz |
|---|---|---|
| Power spectral density (dBm) | -5.40 | -5.14 |
| Measurement uncertainty (dB) | <±0.78 | |

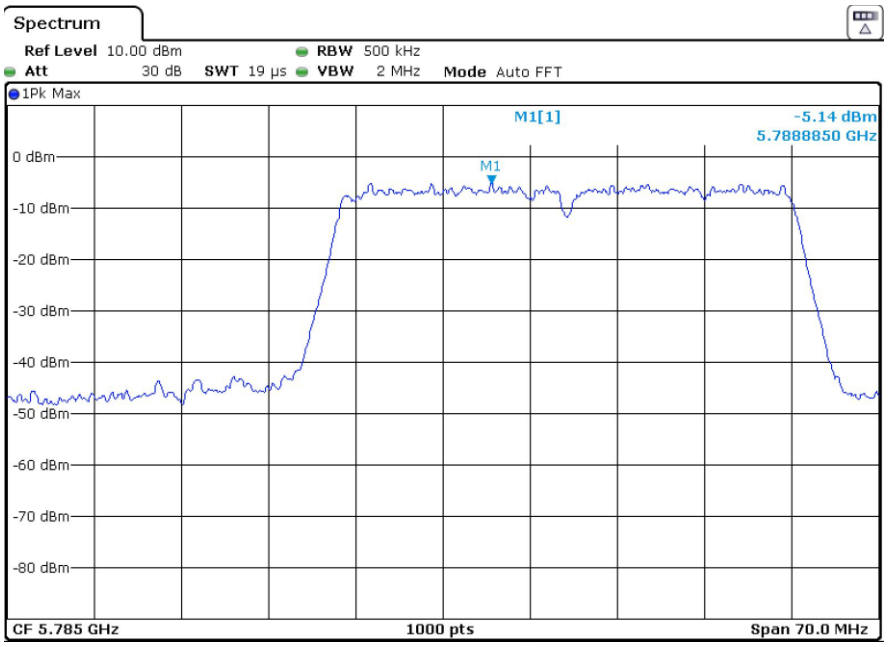
| TEST RESULTS (Cont.): | |
|---|---|

**Lowest Channel**



| TEST RESULTS (Cont.): | |
|---|---|

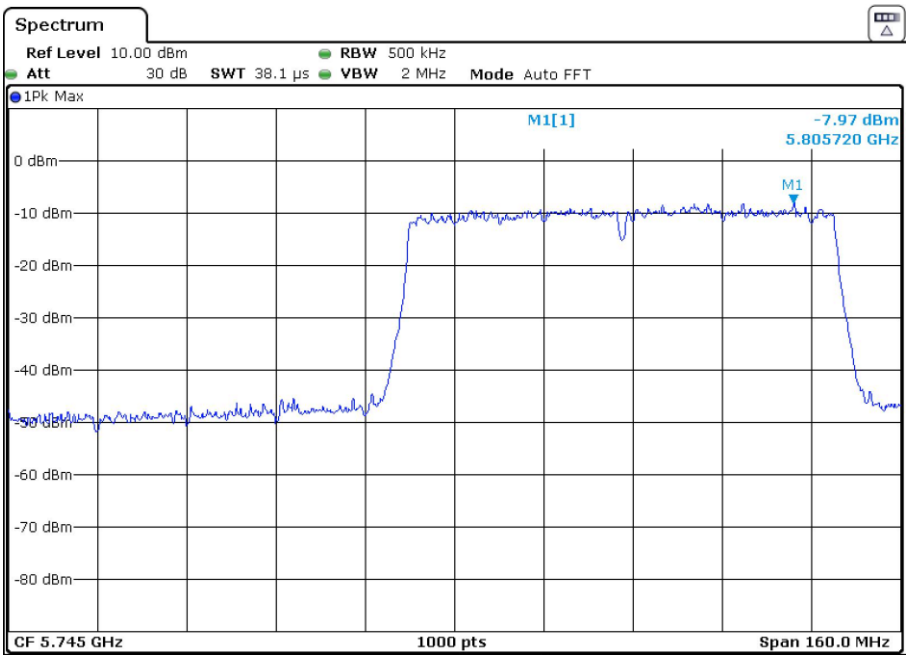
## Highest Channel



| TEST RESULTS (Cont.) | ac Mode (80 MHz) |
|---|---|

| | Lowest frequency<br>5745 MHz |
|---|---|
| Power spectral density (dBm) | -7.97 |
| Measurement uncertainty (dB) | <±0.78 |

**Lowest Channel**



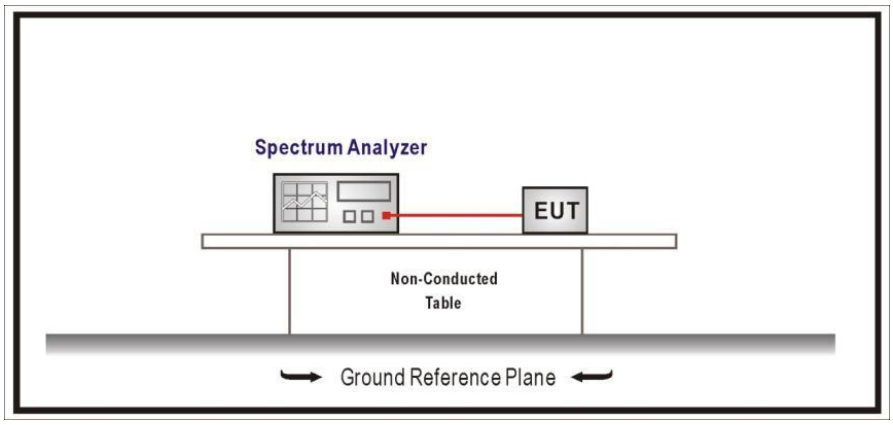
# TEST B.5: BAND-EDGE EMISSIONS COMPLIANCE (TRANSMITTER)

| | | |
|---|---|---|
| **LIMITS:** | Product standard: | Part 15 Subpart C §15.407 and RSS-247 |
| | Test standard: | Part 15 Subpart C §15.407(b)(4) and RSS-247 6.2.4.2 |

LIMITS

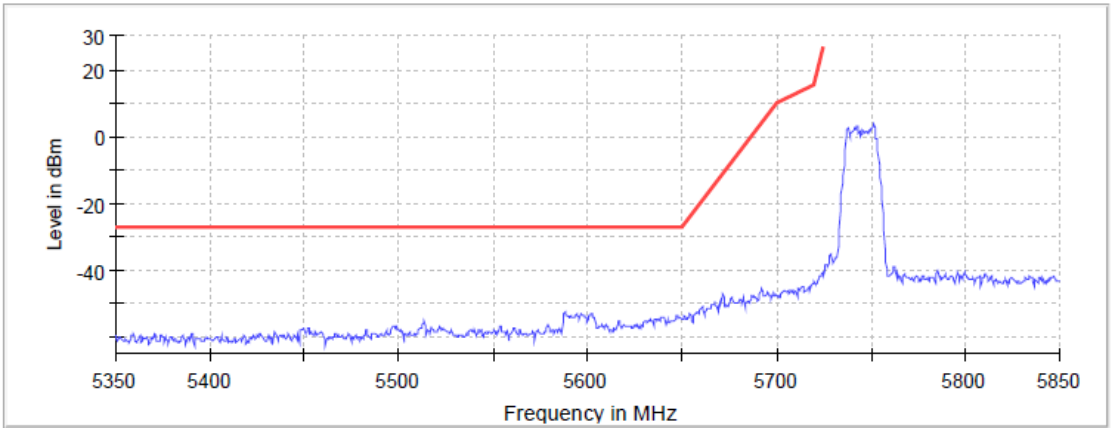
For transmitters operating in the 5.725 – 5.85 GHz band: all emissions shall be limited to a level of -27 dBm /MHz at 75 MHz or more above or below the band-edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below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

| **TEST SETUP** | |
|---|---|




| | |
|---|---|
| **TESTED SAMPLES:** | S/01 |
| **TESTED CONDITIONS MODES:** | TC#01 (a mode) |
| **TEST RESULTS:** | PASS |

**LOWEST CHANNEL**

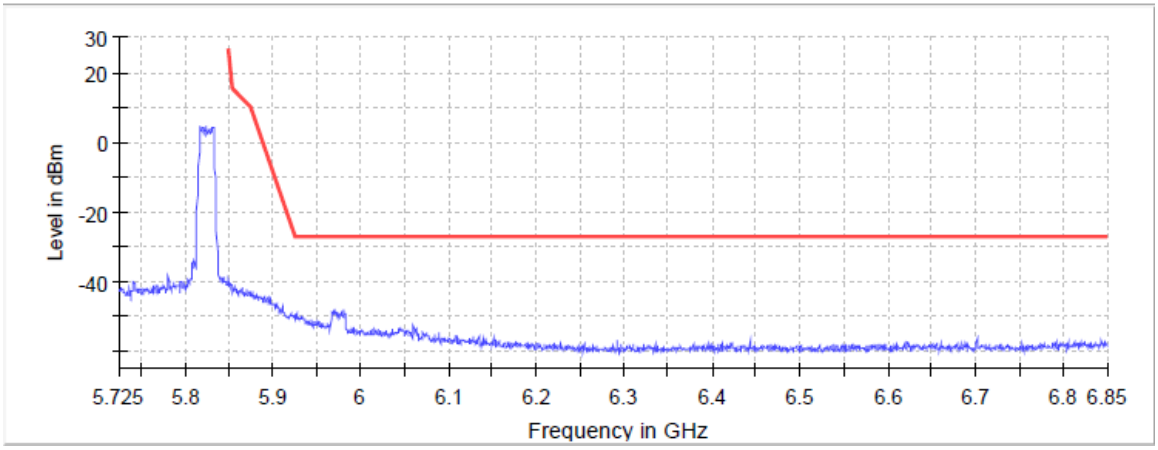


| TEST RESULTS (Cont.) | |
|---|---|

## Measurement

| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.72500 GHz | 5.35000 GHz |
| Stop Frequency | 5.85000 GHz | 5.72500 GHz |
| Span | 125.000 MHz | 375.000 MHz |
| RBW | 1.000 MHz | 1.000 MHz |
| VBW | 3.000 MHz | 3.000 MHz |
| SweepPoints | 250 | 750 |
| Sweeptime | 17.156 µs | 51.469 µs |
| Reference Level | 10.000 dBm | -10.000 dBm |
| Attenuation | 30.000 dB | 10.000 dB |
| Detector | Maxpeak | Maxpeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | FFT |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 8 / max. 150 | 19 / max. 150 |
| Stable | 3 / 3 | 3 / 3 |
| Max Stable Difference | 0.25 dB | 0.00 dB |

| TEST RESULTS (Cont.): | Highest Channel |
|---|---|



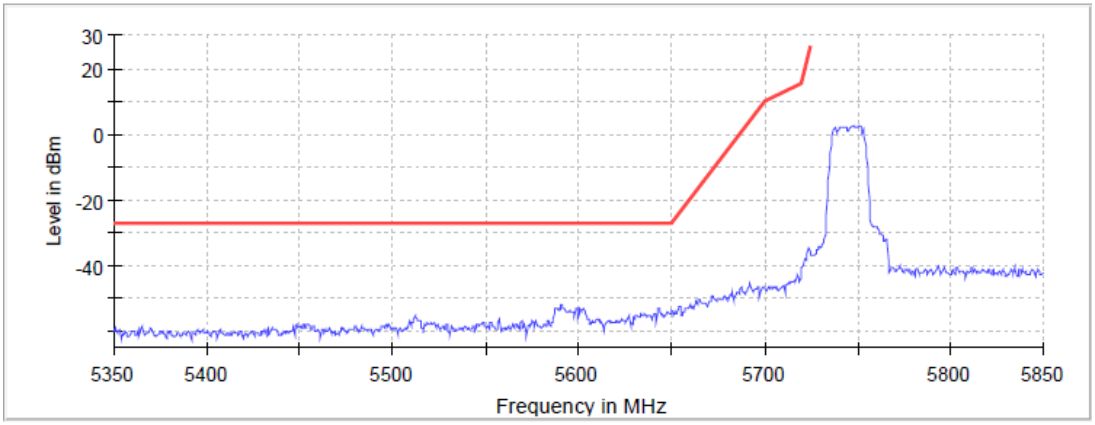

**Measurement**

| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.72500 GHz | 5.85000 GHz |
| Stop Frequency | 5.85000 GHz | 6.85000 GHz |
| Span | 125.000 MHz | 1 GHz |
| RBW | 1.000 MHz | 1.000 MHz |
| VBW | 3.000 MHz | 3.000 MHz |
| SweepPoints | 250 | 2000 |
| Sweeptime | 17.156 µs | 2.00 ms |
| Reference Level | 10.000 dBm | -10.000 dBm |
| Attenuation | 30.000 dB | 10.000 dB |
| Detector | Maxpeak | Maxpeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | Sweep |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 23 / max. 150 | 35 / max. 150 |
| Stable | 3 / 3 | 3 / 3 |
| Max Stable Difference | 0.00 dB | 0.16 dB |

| TESTED SAMPLES: | S/01 |
|---|---|
| TESTED CONDITIONS MODES: | TC#02 (n mode) |
| TEST RESULTS: | PASS |

**Bandwidth: 20 MHz**

**Lowest Channel**

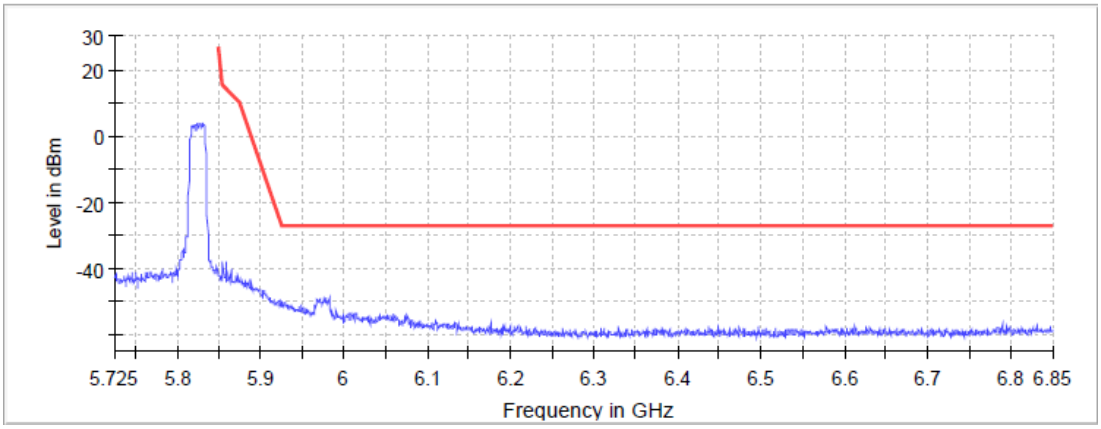



Measurement

| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.72500 GHz | 5.35000 GHz |
| Stop Frequency | 5.85000 GHz | 5.72500 GHz |
| Span | 125.000 MHz | 375.000 MHz |
| RBW | 1.000 MHz | 1.000 MHz |
| VBW | 3.000 MHz | 3.000 MHz |
| SweepPoints | 250 | 750 |
| Sweeptime | 17.156 µs | 51.469 µs |
| Reference Level | 10.000 dBm | -10.000 dBm |
| Attenuation | 30.000 dB | 10.000 dB |
| Detector | Maxpeak | Maxpeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | FFT |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 17 / max. 150 | 12 / max. 150 |
| Stable | 3 / 3 | 3 / 3 |
| Max Stable Difference | 0.00 dB | 0.00 dB |

| TEST RESULTS (Cont.): | |
|---|---|

**Highest Channel**

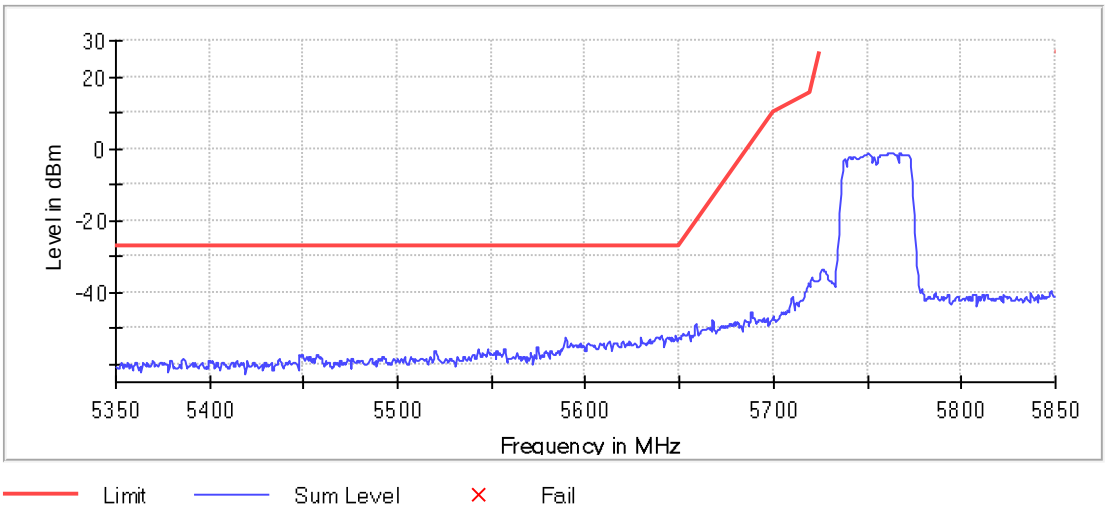



Measurement

| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.72500 GHz | 5.85000 GHz |
| Stop Frequency | 5.85000 GHz | 6.85000 GHz |
| Span | 125.000 MHz | 1 GHz |
| RBW | 1.000 MHz | 1.000 MHz |
| VBW | 3.000 MHz | 3.000 MHz |
| SweepPoints | 250 | 2000 |
| Sweeptime | 17.156 µs | 2.00 ms |
| Reference Level | 10.000 dBm | -10.000 dBm |
| Attenuation | 30.000 dB | 10.000 dB |
| Detector | Maxpeak | Maxpeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | Sweep |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 9 / max. 150 | 16 / max. 150 |
| Stable | 3 / 3 | 3 / 3 |
| Max Stable | 0.00 dB | 0.16 dB |

| TEST RESULTS (Cont.): | n Mode (40 MHz) |
|---|---|

Low**est Channel**

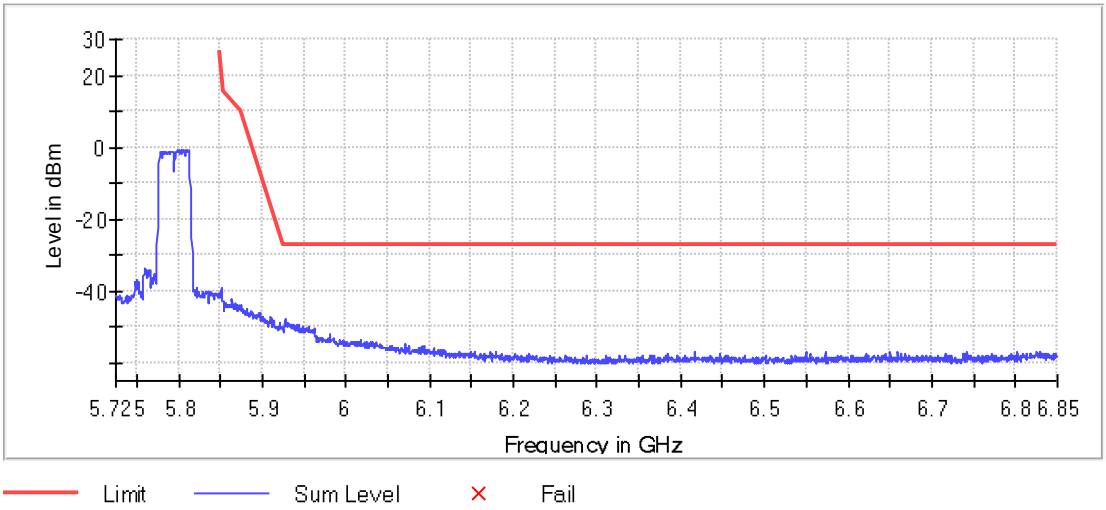



Measurement

| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.72500 GHz | 5.35000 GHz |
| Stop Frequency | 5.85000 GHz | 5.72500 GHz |
| Span | 125.000 MHz | 375.000 MHz |
| RBW | 1.000 MHz | 1.000 MHz |
| VBW | 3.000 MHz | 3.000 MHz |
| SweepPoints | 250 | 750 |
| Sweeptime | 17.156 µs | 51.469 µs |
| Reference Level | 10.000 dBm | -10.000 dBm |
| Attenuation | 30.000 dB | 10.000 dB |
| Detector | Maxpeak | Maxpeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | FFT |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 23 / max. 150 | 12 / max. 150 |
| Stable | 3 / 3 | 3 / 3 |
| Max Stable Difference | 0.14 dB | 0.00 dB |

| TEST RESULTS (Cont.): | |
|---|---|

**Highest Channel**



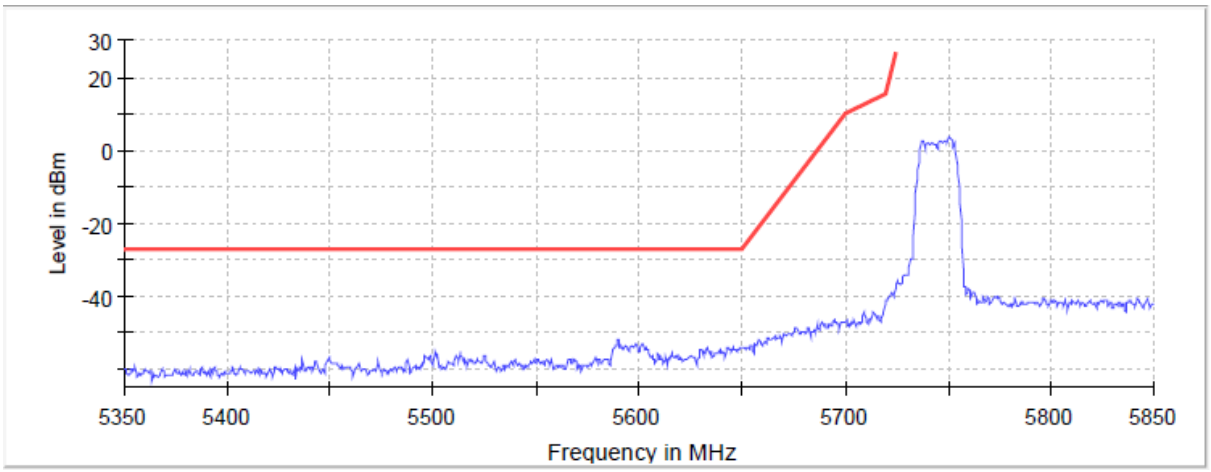

Measurement

| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.72500 GHz | 5.85000 GHz |
| Stop Frequency | 5.85000 GHz | 6.85000 GHz |
| Span | 125.000 MHz | 1 GHz |
| RBW | 1.000 MHz | 1.000 MHz |
| VBW | 3.000 MHz | 3.000 MHz |
| SweepPoints | 250 | 2000 |
| Sweeptime | 17.156 µs | 2.00 ms |
| Reference Level | 10.000 dBm | -10.000 dBm |
| Attenuation | 30.000 dB | 10.000 dB |
| Detector | Maxpeak | Maxpeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | Sweep |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 19 / max. 150 | 49 / max. 150 |
| Stable | 3 / 3 | 3 / 3 |
| Max Stable Difference | 0.40 dB | 0.38 dB |

| TESTED SAMPLES: | S/01 |
|---|---|
| TESTED CONDITIONS MODES: | TC#03 (ac mdoe) |
| TEST RESULTS: | PASS |

**Bandwidth: 20 MHz**

**Lowest Channel:**

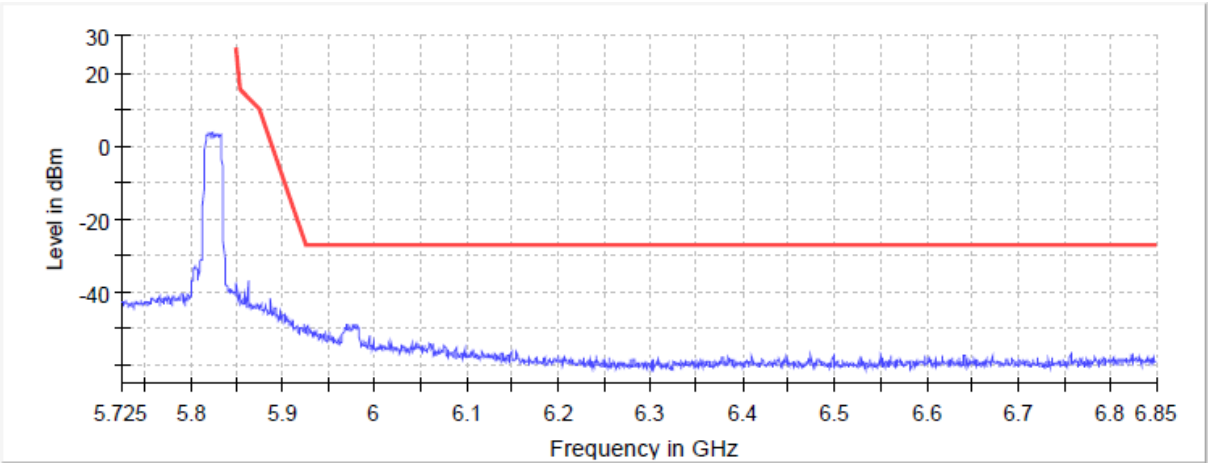



Measurement

| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.72500 GHz | 5.35000 GHz |
| Stop Frequency | 5.85000 GHz | 5.72500 GHz |
| Span | 125.000 MHz | 375.000 MHz |
| RBW | 1.000 MHz | 1.000 MHz |
| VBW | 3.000 MHz | 3.000 MHz |
| SweepPoints | 250 | 750 |
| Sweeptime | 17.156 µs | 51.469 µs |
| Reference Level | 10.000 dBm | -10.000 dBm |
| Attenuation | 30.000 dB | 10.000 dB |
| Detector | Maxpeak | Maxpeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | FFT |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 18 / max. 150 | 9 / max. 150 |
| Stable | 3 / 3 | 3 / 3 |
| Max Stable Difference | 0.14 dB | 0.00 dB |

| TEST RESULTS (Cont.): | |
|---|---|

**Highest Channel**

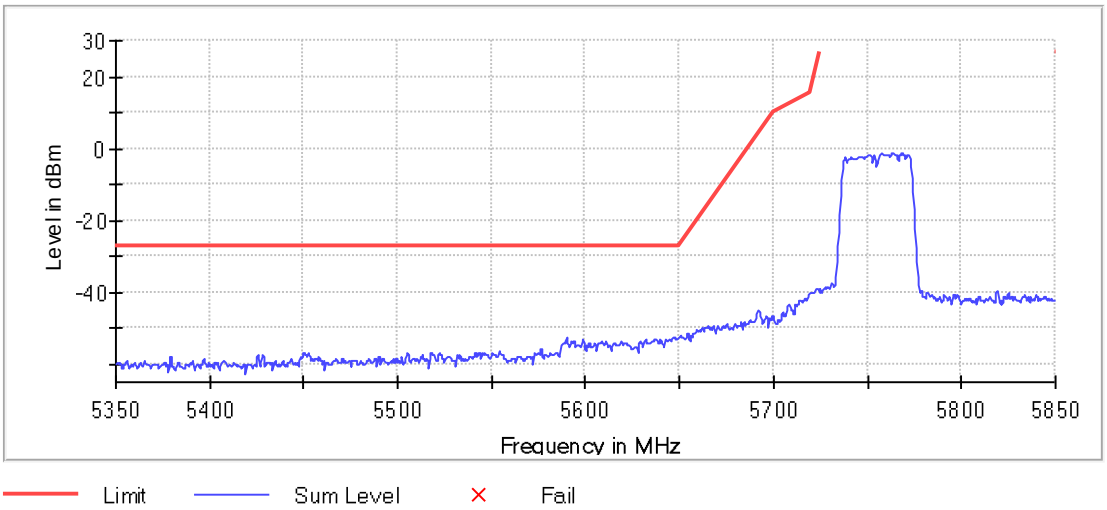



Measurement

| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.72500 GHz | 5.85000 GHz |
| Stop Frequency | 5.85000 GHz | 6.85000 GHz |
| Span | 125.000 MHz | 1 GHz |
| RBW | 1.000 MHz | 1.000 MHz |
| VBW | 3.000 MHz | 3.000 MHz |
| SweepPoints | 250 | 2000 |
| Sweeptime | 17.156 µs | 2.00 ms |
| Reference Level | 10.000 dBm | -10.000 dBm |
| Attenuation | 30.000 dB | 10.000 dB |
| Detector | Maxpeak | Maxpeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | Sweep |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 13 / max. 150 | 12 / max. 150 |
| Stable | 3 / 3 | 3 / 3 |
| Max Stable Difference | 0.00 dB | 0.00 dB |

| TEST RESULTS (Cont.): | ac mode (40 MHz) |
|---|---|

Low**est Channel**

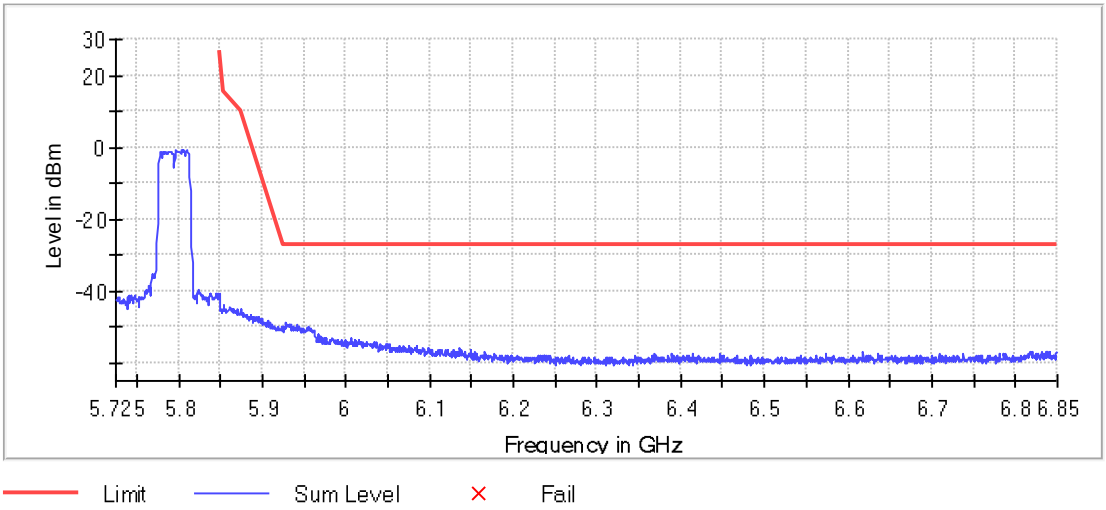



Measurement

| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.72500 GHz | 5.35000 GHz |
| Stop Frequency | 5.85000 GHz | 5.72500 GHz |
| Span | 125.000 MHz | 375.000 MHz |
| RBW | 1.000 MHz | 1.000 MHz |
| VBW | 3.000 MHz | 3.000 MHz |
| SweepPoints | 250 | 750 |
| Sweeptime | 17.156 µs | 51.469 µs |
| Reference Level | 10.000 dBm | -10.000 dBm |
| Attenuation | 30.000 dB | 10.000 dB |
| Detector | Maxpeak | Maxpeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | FFT |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 18 / max. 150 | 26 / max. 150 |
| Stable | 3 / 3 | 3 / 3 |
| Max Stable Difference | 0.35 dB | 0.00 dB |

| TEST RESULTS (Cont.): | |
|---|---|

## Highest Channel

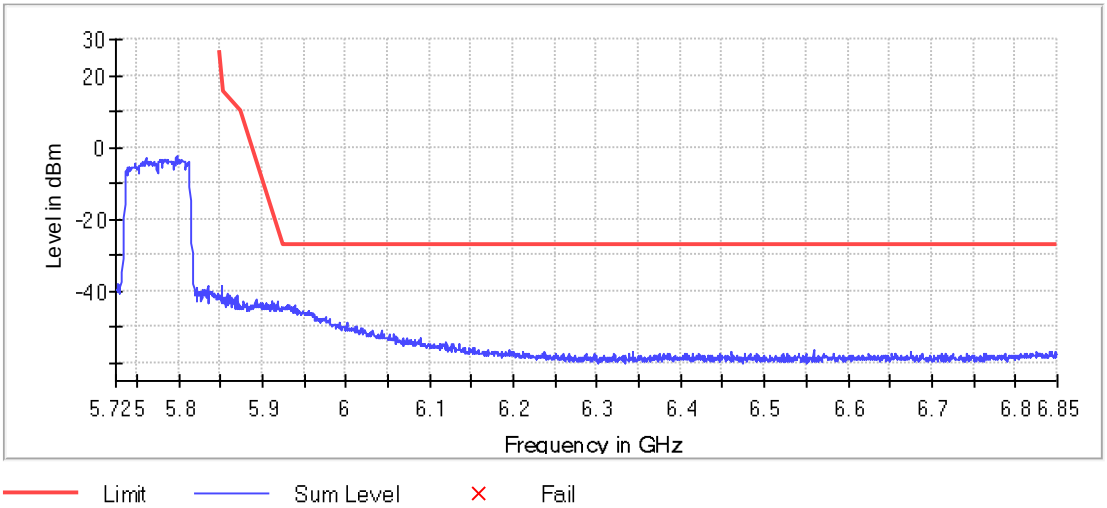



Measurement

| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.72500 GHz | 5.85000 GHz |
| Stop Frequency | 5.85000 GHz | 6.85000 GHz |
| Span | 125.000 MHz | 1 GHz |
| RBW | 1.000 MHz | 1.000 MHz |
| VBW | 3.000 MHz | 3.000 MHz |
| SweepPoints | 250 | 2000 |
| Sweeptime | 17.156 µs | 2.00 ms |
| Reference Level | 10.000 dBm | -10.000 dBm |
| Attenuation | 30.000 dB | 10.000 dB |
| Detector | Maxpeak | Maxpeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | Sweep |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 15 / max. 150 | 35 / max. 150 |
| Stable | 3 / 3 | 3 / 3 |
| Max Stable Difference | 0.00 dB | 0.04 dB |

| TEST RESULTS (Cont.): | ac mode (80 MHz) |
|---|---|

**Highest Channel**




Measurement

| Setting | Instrument Value | Instrument Value |
|---|---|---|
| Start Frequency | 5.72500 GHz | 5.85000 GHz |
| Stop Frequency | 5.85000 GHz | 6.85000 GHz |
| Span | 125.000 MHz | 1 GHz |
| RBW | 1.000 MHz | 1.000 MHz |
| VBW | 3.000 MHz | 3.000 MHz |
| SweepPoints | 250 | 2000 |
| Sweeptime | 17.156 µs | 2.00 ms |
| Reference Level | 10.000 dBm | -10.000 dBm |
| Attenuation | 30.000 dB | 10.000 dB |
| Detector | Maxpeak | Maxpeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | FFT | Sweep |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 33 / max. 150 | 89 / max. 150 |
| Stable | 3 / 3 | 3 / 3 |
| Max Stable Difference | 0.44 dB | 0.02 dB |

## TEST B.6: UNDESIRABLE RADIATED EMISSIONS (TRANSMITTER)

| | | |
|---|---|---|
| **LIMITS:** | Product standard: | Part 15 Subpart C §15.407 and RSS-247 |
| | Test standard: | Part 15 Subpart C §15.407(b) (4)(6)(7) and RSS-247 6.2.4.2 |

LIMITS

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 increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c) / RSS-Gen):

| Frequency Range (MHz) | Field strength (µV/m) | Field strength (dBµV/m) | Measurement distance (m) |
|---|---|---|---|
| 0.009-0.490 | 2400/F(kHz) | - | 300 |
| 0.490-1.705 | 24000/F(kHz) | - | 30 |
| 1.705 - 30.0 | 30 | - | 30 |
| 30 - 88 | 100 | 40 | 3 |
| 88 - 216 | 150 | 43.5 | 3 |
| 216 - 960 | 200 | 46 | 3 |
| 960 - 25000 | 500 | 54 | 3 |

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function

| **TEST SETUP** | |
|---|---|

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at 3 m for the frequency range 30-1000 MHz (Bilog antenna) and at 1m for the frequency range 1-40 GHz (1 GHz-18 GHz and 18 GHz-40 GHz Double ridge horn antennas).

For radiated emissions in the range 1-40 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

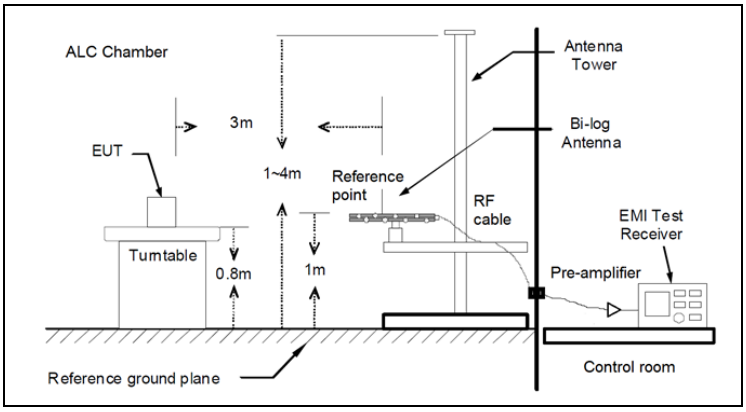
The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

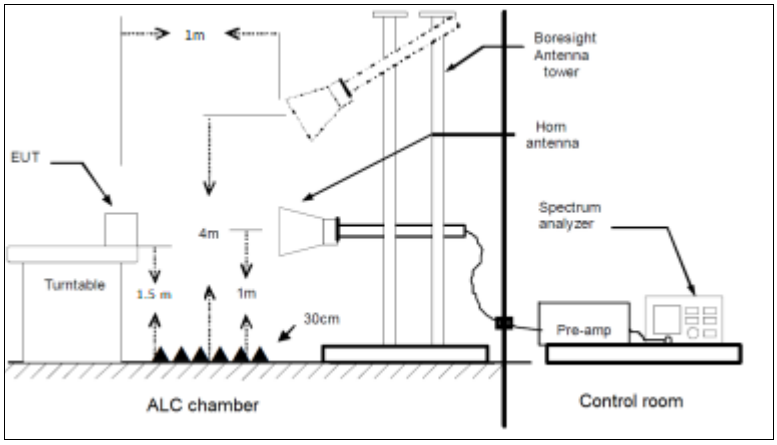
The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

| TEST SETUP (CONT.) | |
|---|---|

Radiated measurements Setup f < 1 GHz




Radiated measurements setup f > 1 GHz




| TESTED SAMPLES: | S/02 |
|---|---|
| TESTED CONDITIONS MODES: | TC#01 (a mode) |
| TEST RESULTS: | PASS |

**Co-Location**

The test was performed with the equipment transmitting first with only the WiFi 5 GHz (WLAN0 CORE0) radio and repeated with the 2.4 GHz BT-EDR (WLAN 0), WiFi 2.4GHz (WLAN0 CORE1) radios transmitting simultaneously to check the impact of the co-location of the other radio interfaces. The results and plots below show the worst results obtained.

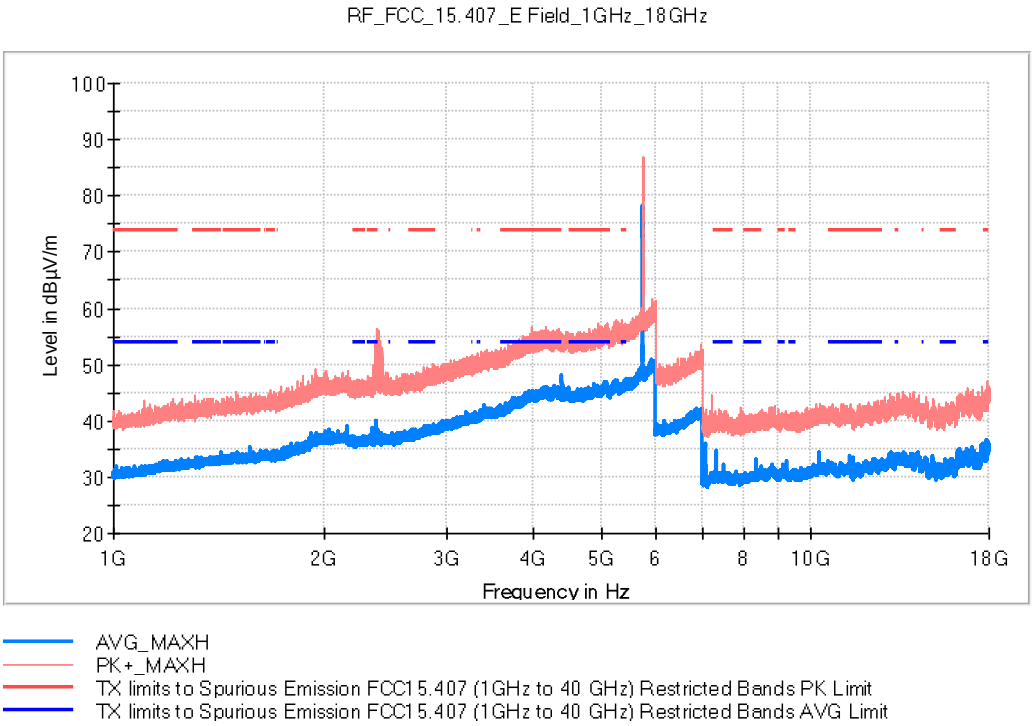
**Frequency range 30 MHz – 1000 MHz**

The spurious emissions below 1 GHz do not depend on the operating channel selected in the EUT.

**Frequency range 1 GHz – 40 GHz**
The results and plots below show the maximum measured levels in the 1- 40 GHz range.

| TEST RESULTS (Cont.) | |
|---|---|
| FREQUENCY RANGE | 1 GHz – 18 GHz |

## Low Channel

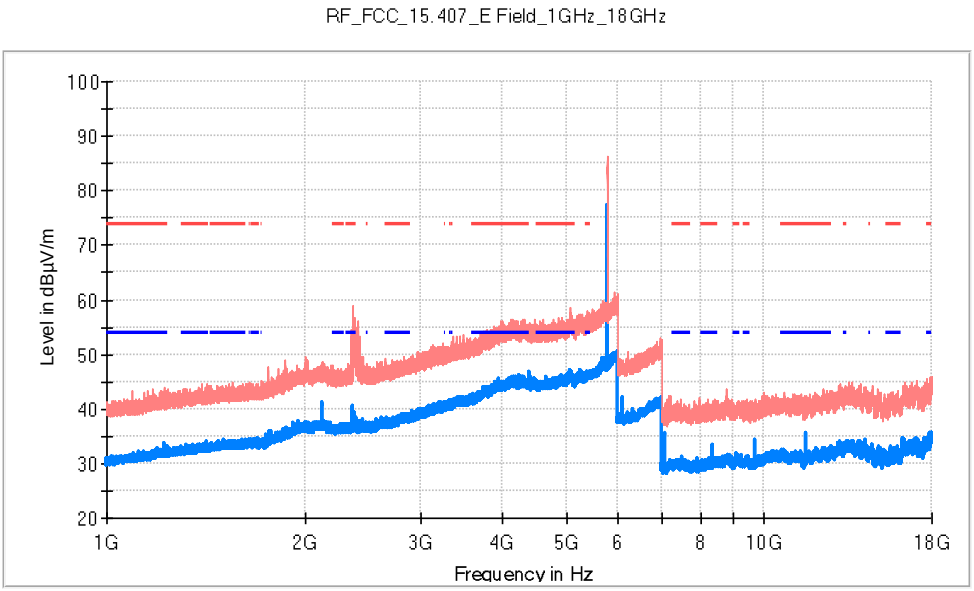



**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 5752.343750 | 84.53 | 78.18 | V | Fundamental |
| 10288.800000 | 40.15 | 34.22 | H | |

| TEST RESULTS (Cont.) | |
|---|---|

## Middle Channel

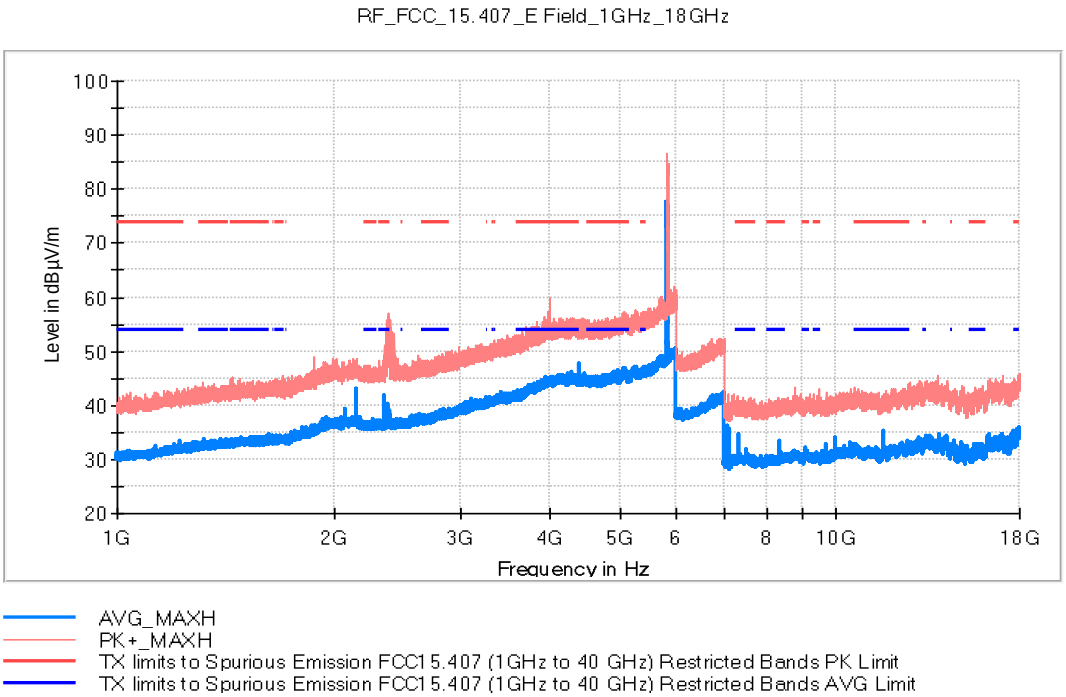



**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 5791.093750 | 84.49 | 77.29 | V | Fundamental |
| 11570.000000 | 40.95 | 35.63 | V | |

| TEST RESULTS (Cont.) | |
|---|---|

## High Channel

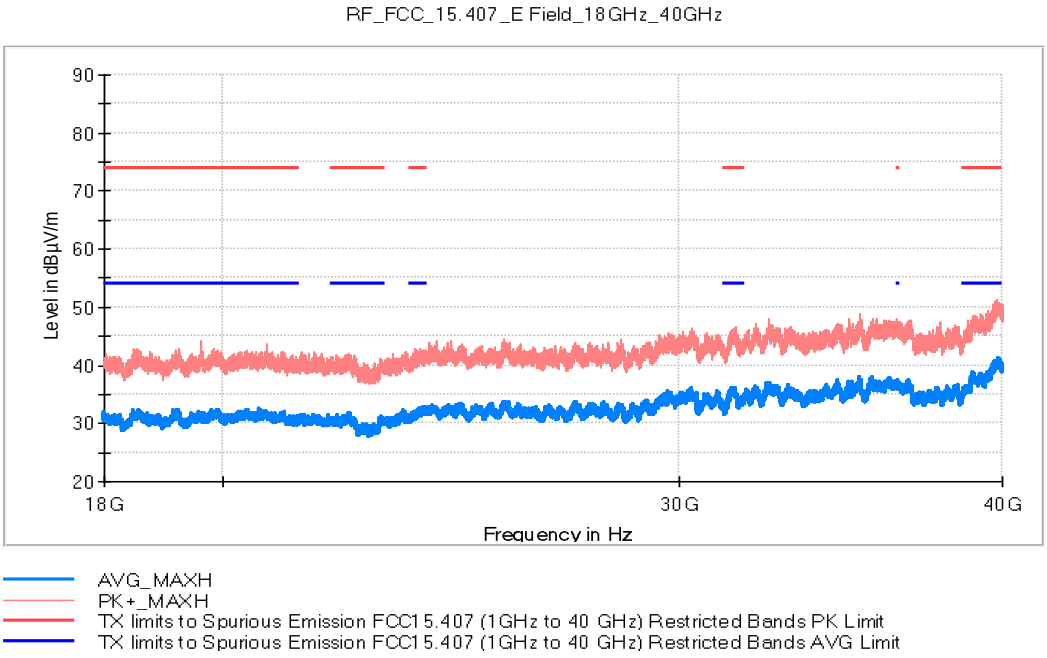



**Maximizations**

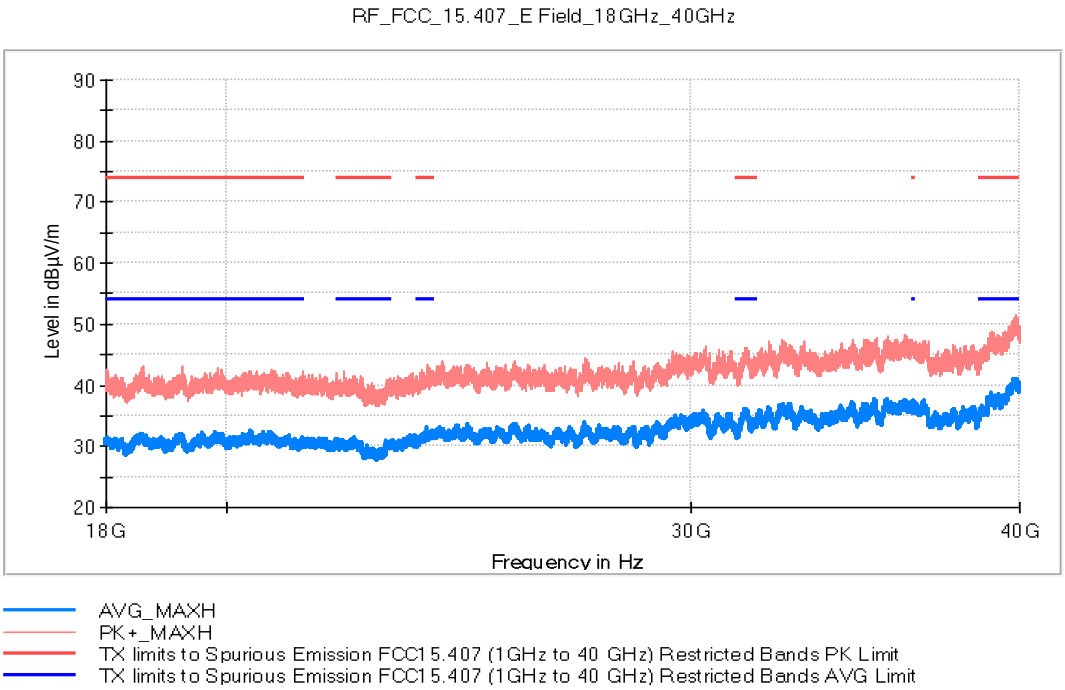
| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 5831.875000 | 84.29 | 77.72 | H | Fundamental |
| 11650.000000 | 41.79 | 35.29 | V | |

| TEST RESULTS (Cont.) | |
|---|---|
| **FREQUENCY RANGE** | **18 GHz – 40 GHz** |

## Low Channel

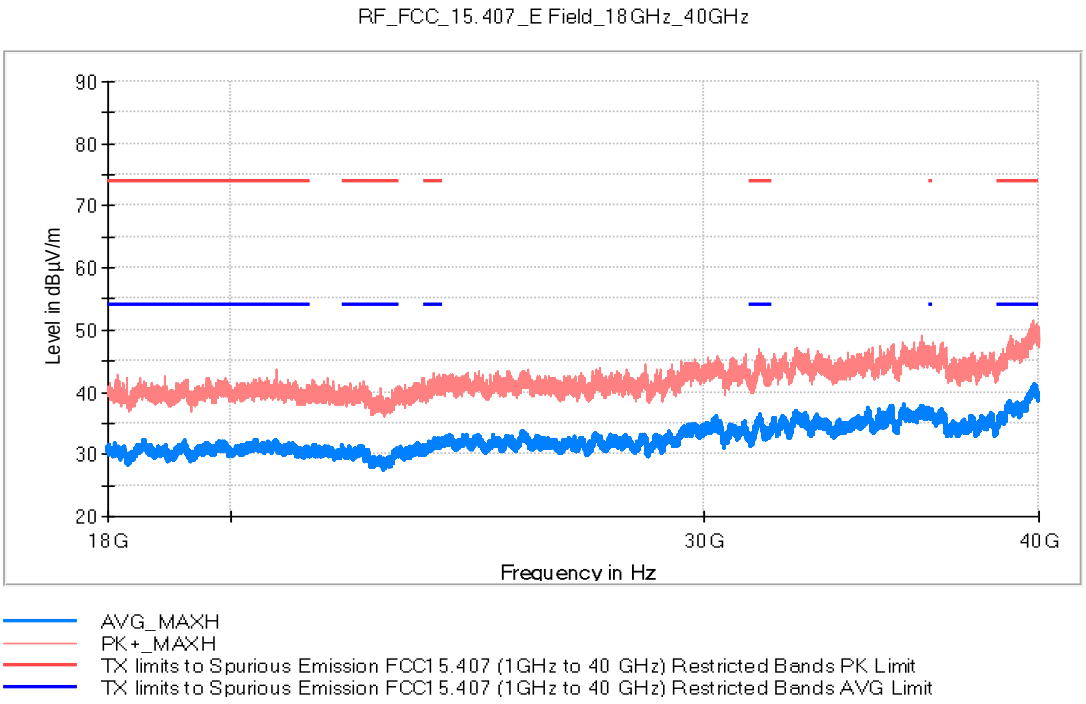



## Middle Channel



| TEST RESULTS (Cont.) | |
|---|---|

## High Channel




| TESTED SAMPLES: | S/02 |
|---|---|
| TESTED CONDITIONS MODES: | TC#02 (n mode) |
| TEST RESULTS: | PASS |

**Co-Location**

The test was performed with the equipment transmitting first with only the WiFi 5 GHz (WLAN0 CORE0) radio and repeated with the 2.4 GHz BT-EDR (WLAN 0), WiFi 2.4GHz (WLAN0 CORE1) radios transmitting simultaneously to check the impact of the co-location of the other radio interfaces. The results and plots below show the worst results obtained.

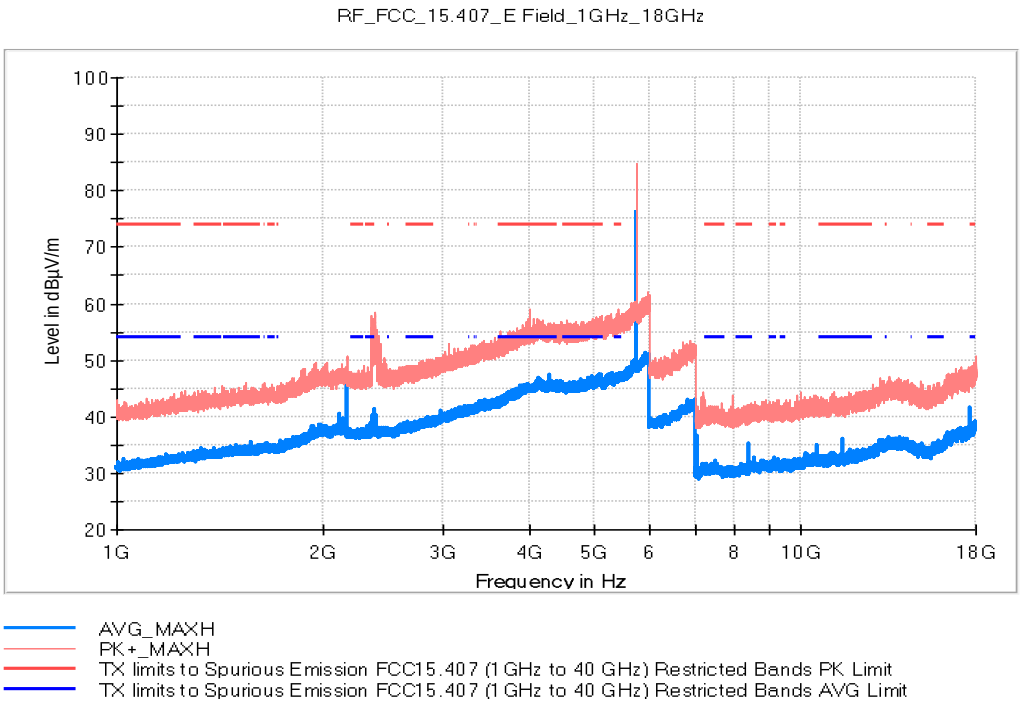
**Frequency range 30 MHz – 1000 MHz**

The spurious emissions below 1 GHz do not depend on the operating channel selected in the EUT.

**Frequency range 1 GHz – 40 GHz**
The results and plots below show the maximum measured levels in the 1- 40 GHz range.

| TEST RESULTS (Cont.) | n mode (20 MHz) |
|---|---|
| FREQUENCY RANGE | 1 GHz – 18 GHz |

## Low Channel

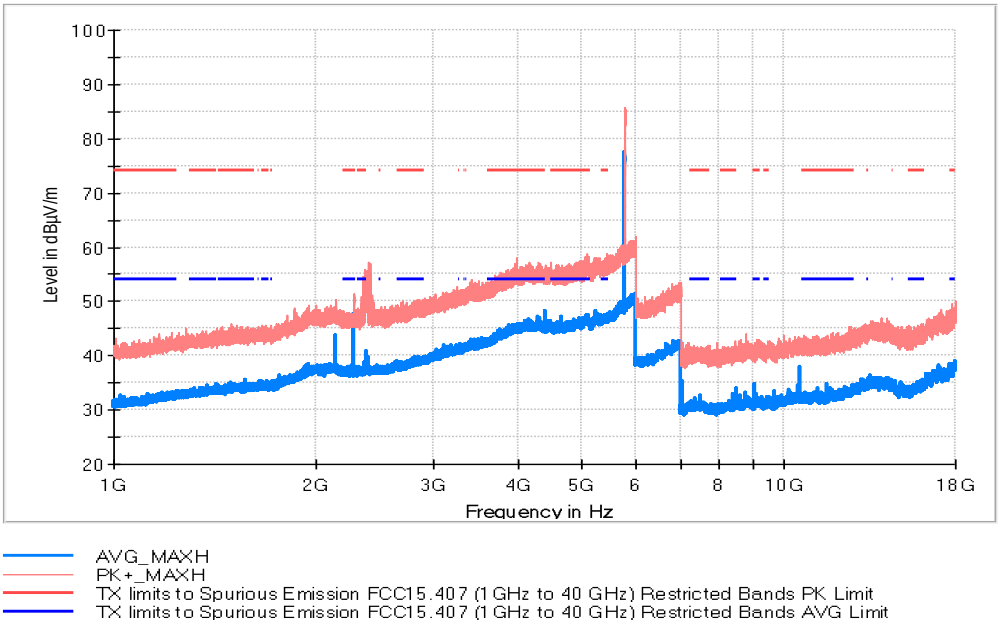



**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 2172.656250 | 50.06 | 46.78 | V | |
| 5744.062500 | 82.50 | 76.14 | V | Fundamental |
| 7055.200000 | 41.81 | 36.58 | H | |
| 8378.000000 | 42.17 | 35.21 | V | |
| 11490.000000 | 42.71 | 35.96 | V | |
| 17638.400000 | 46.91 | 41.58 | V | |

| TEST RESULTS (Cont.) | |
|---|---|

## Middle Channel

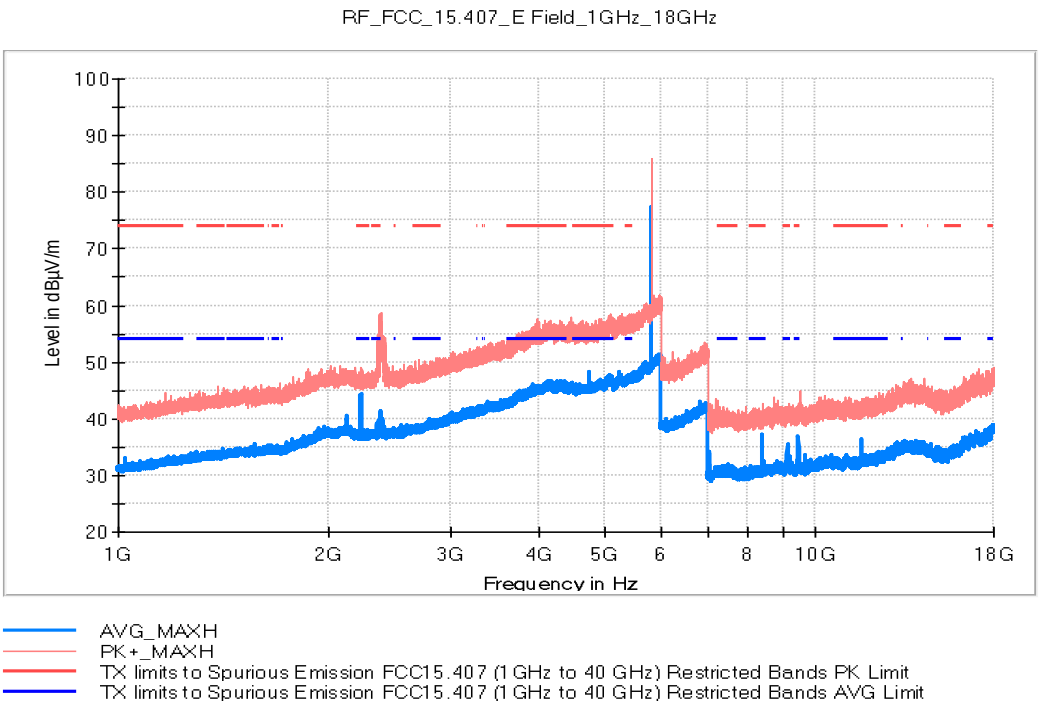



**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 2141.406250 | 49.40 | 43.87 | V | |
| 2280.625000 | 51.46 | 47.79 | V | |
| 5782.343750 | 83.38 | 77.50 | V | Fundamental |
| 7055.200000 | 41.24 | 35.36 | V | |
| 10582.800000 | 43.20 | 38.00 | H | |
| 11569.600000 | 42.99 | 34.70 | H | |

| TEST RESULTS (Cont.) | |
|---|---|

## High Channel

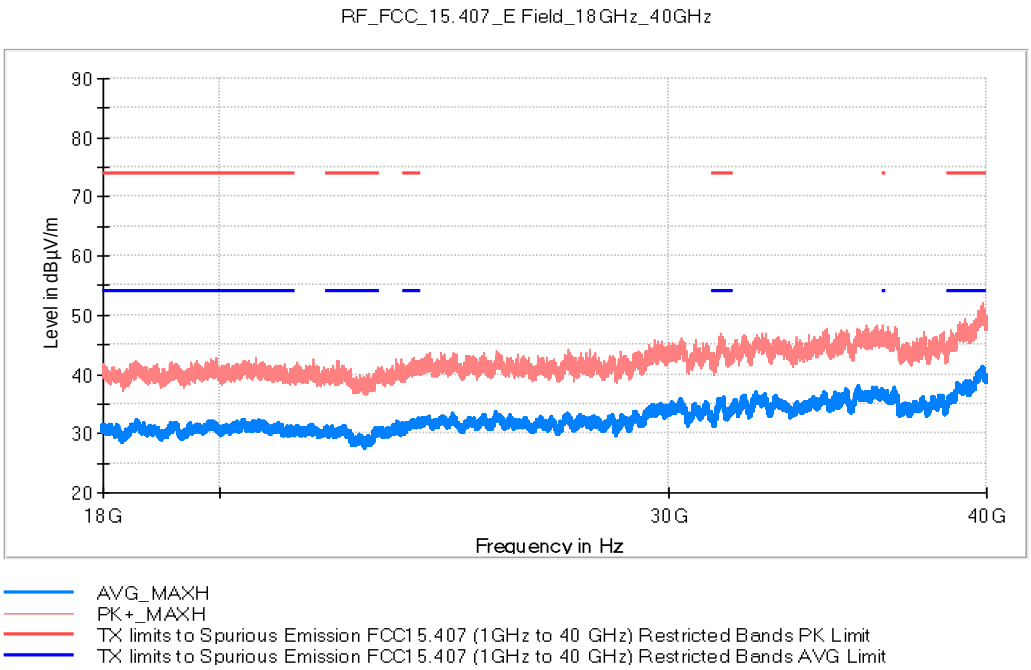



**Maximizations**

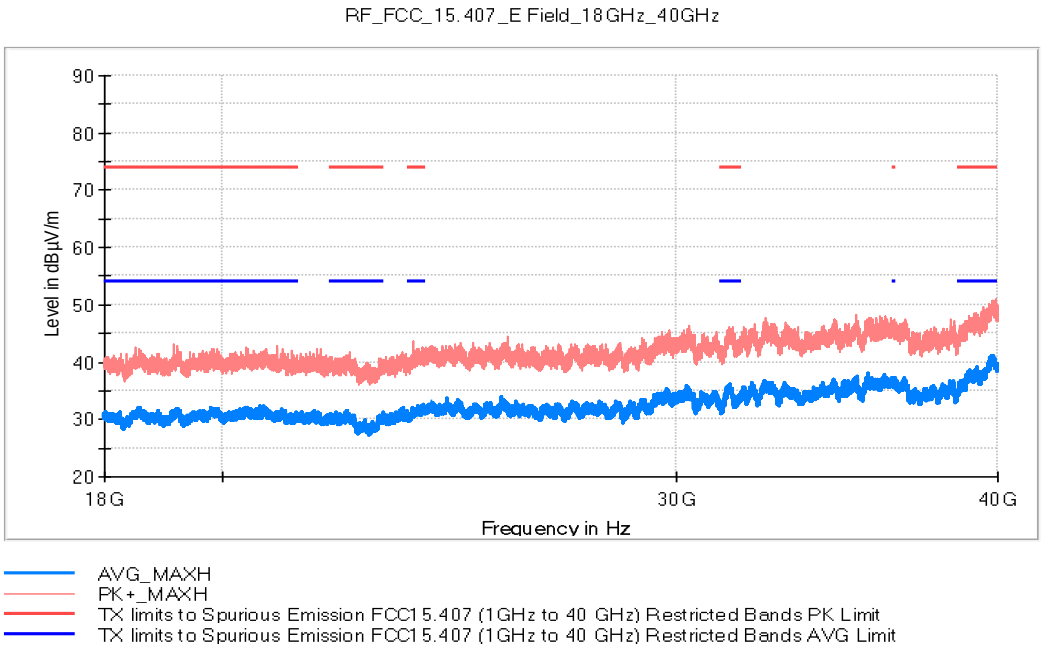
| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 2232.812500 | 48.46 | 44.35 | V | |
| 4750.937500 | 55.13 | 48.32 | V | |
| 5823.593750 | 84.87 | 77.42 | V | Fundamental |
| 8378.000000 | 42.66 | 37.17 | V | |
| 9472.400000 | 42.64 | 36.90 | V | |
| 11650.000000 | 41.82 | 36.27 | V | |

| TEST RESULTS (Cont.) | |
|---|---|
| **FREQUENCY RANGE** | **18 GHz – 40 GHz** |

## Low Channel

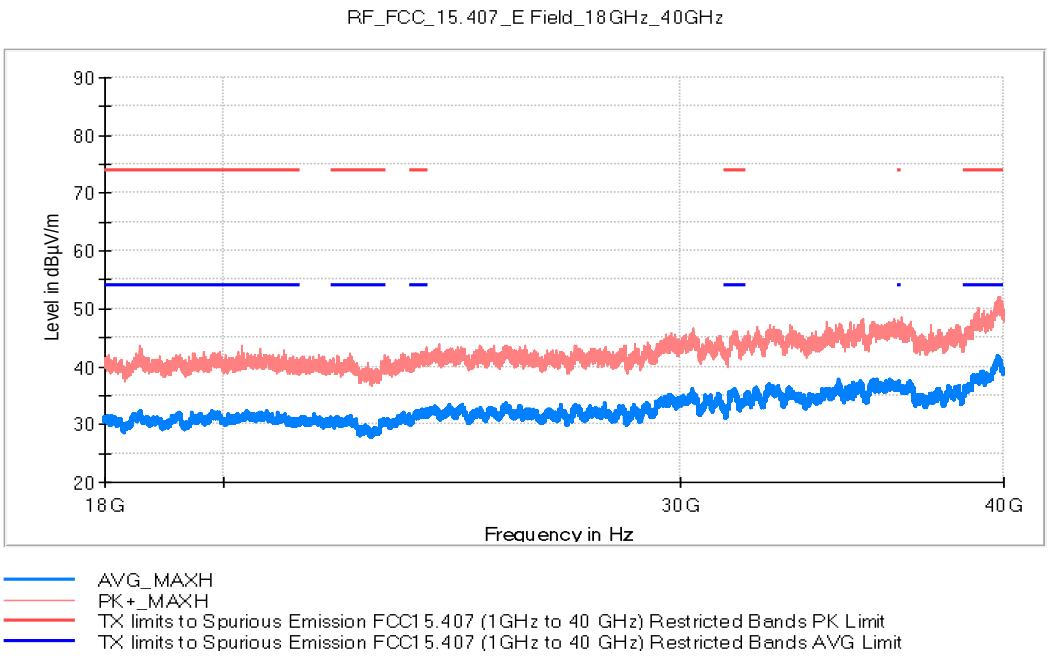



## Middle Channel



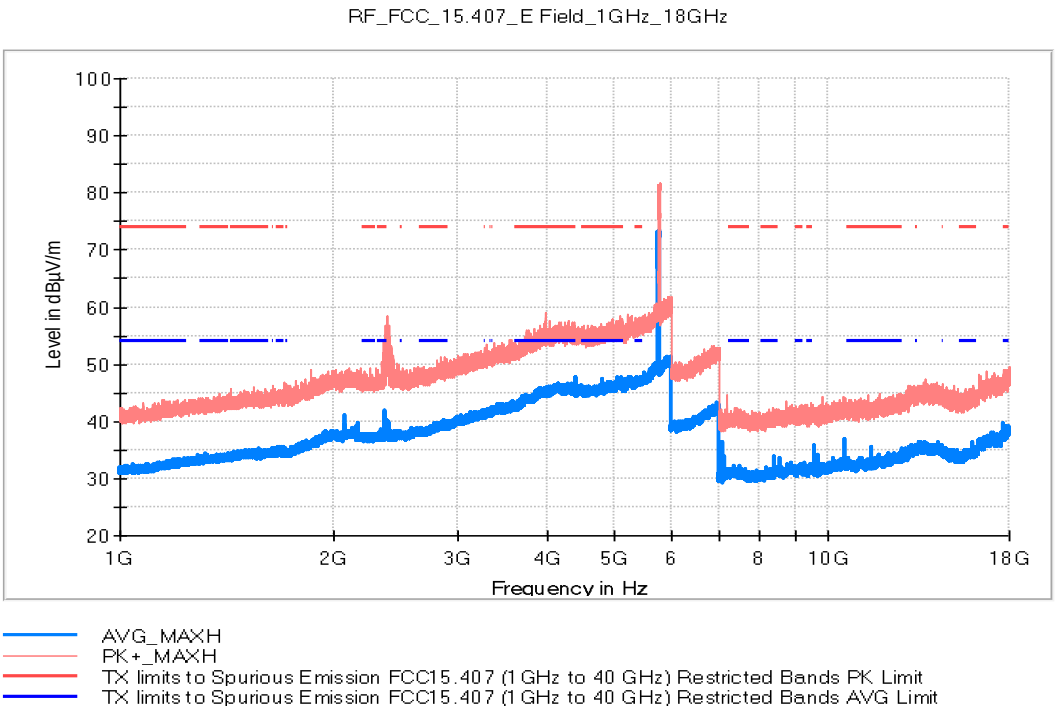
| TEST RESULTS (Cont.) | |
|---|---|

## High Channel



| TEST RESULTS (Cont.) | n mode (40 MHz) |
|---|---|
| FREQUENCY RANGE | 1 GHz – 18 GHz |

## Low Channel

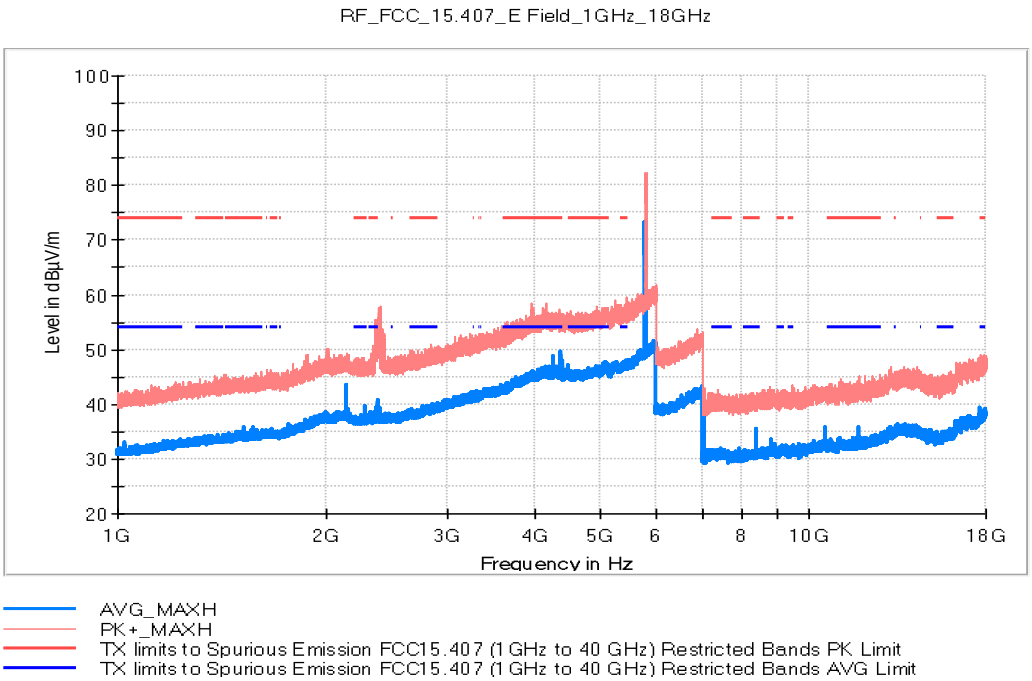



**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 2362.187500 | 48.46 | 41.78 | V | |
| 5772.031250 | 81.03 | 73.51 | V | Fundamental |
| 9549.200000 | 41.20 | 35.65 | V | |
| 10582.800000 | 42.80 | 36.89 | H | |
| 11510.000000 | 42.22 | 35.57 | H | |
| 17638.000000 | 46.64 | 39.66 | V | |

| TEST RESULTS (Cont.) | |
|---|---|

## High Channel

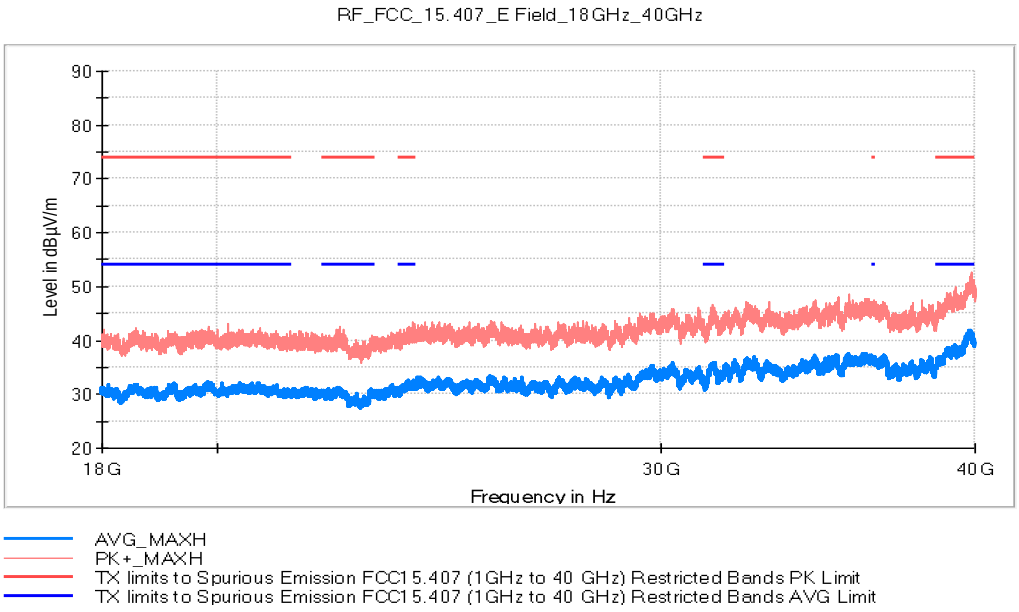



**Maximizations**

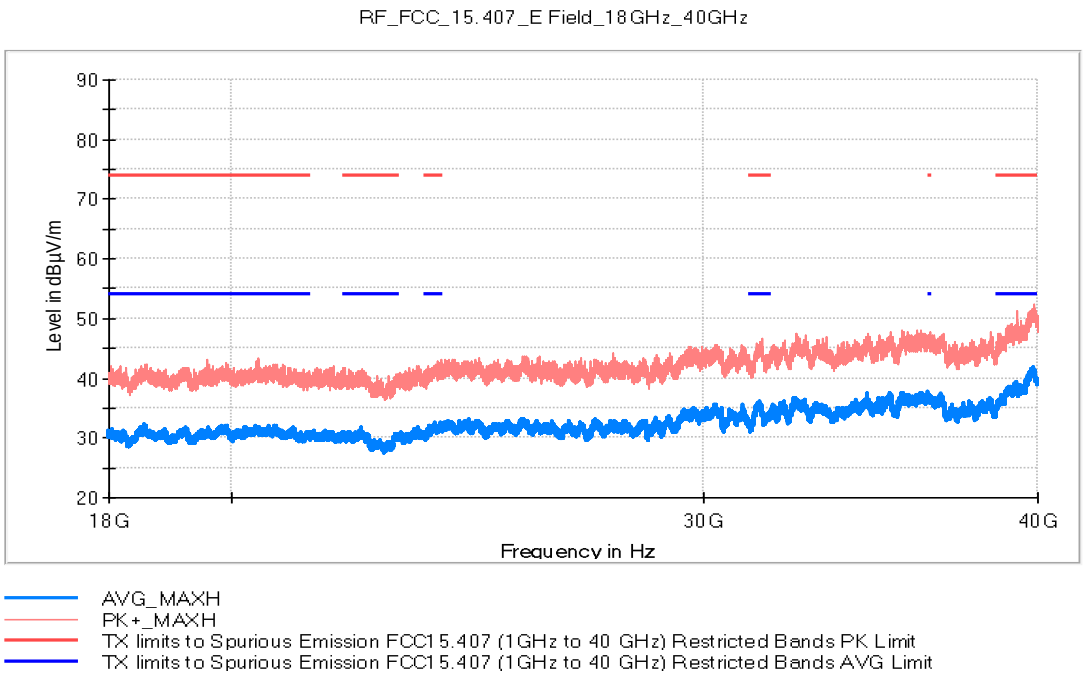
| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 2376.562500 | 50.80 | 40.78 | V | |
| 5812.500000 | 81.41 | 73.55 | H | Fundamental |
| 8378.000000 | 40.60 | 35.49 | V | |
| 10582.400000 | 42.44 | 35.82 | H | |
| 11823.200000 | 43.11 | 35.74 | V | |
| 17638.000000 | 46.92 | 39.35 | V | |

| TEST RESULTS (Cont.) | |
|---|---|
| **FREQUENCY RANGE** | **18 GHz – 40 GHz** |

## Low Channel




## High Channel



| | |
|---|---|
| **TESTED SAMPLES:** | S/02 |
| **TESTED CONDITIONS MODES:** | TC#03 (ac mode) |
| **TEST RESULTS:** | PASS |

**Co-Location**

The test was performed with the equipment transmitting first with only the WiFi 5 GHz (WLAN0 CORE0) radio and repeated with the 2.4 GHz BT-EDR (WLAN 0), WiFi 2.4GHz (WLAN0 CORE1) radios transmitting simultaneously to check the impact of the co-location of the other radio interfaces. The results and plots below show the worst results obtained.

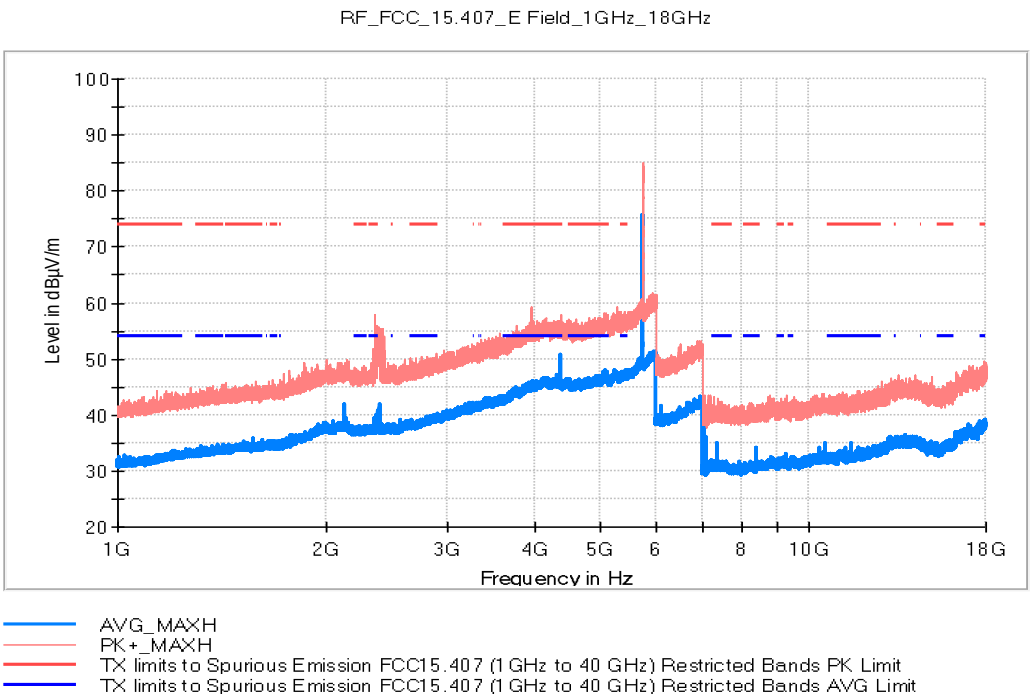
**Frequency range 30 MHz – 1000 MHz**

The spurious emissions below 1 GHz do not depend on the operating channel selected in the EUT.

**Frequency range 1 GHz – 40 GHz**
The results and plots below show the maximum measured levels in the 1- 40 GHz range.

| | |
|---|---|
| **TEST RESULTS (Cont.)** | **ac mode (20 MHz)** |
| **FREQUENCY RANGE** | **1 GHz – 18 GHz** |

**Low Channel**

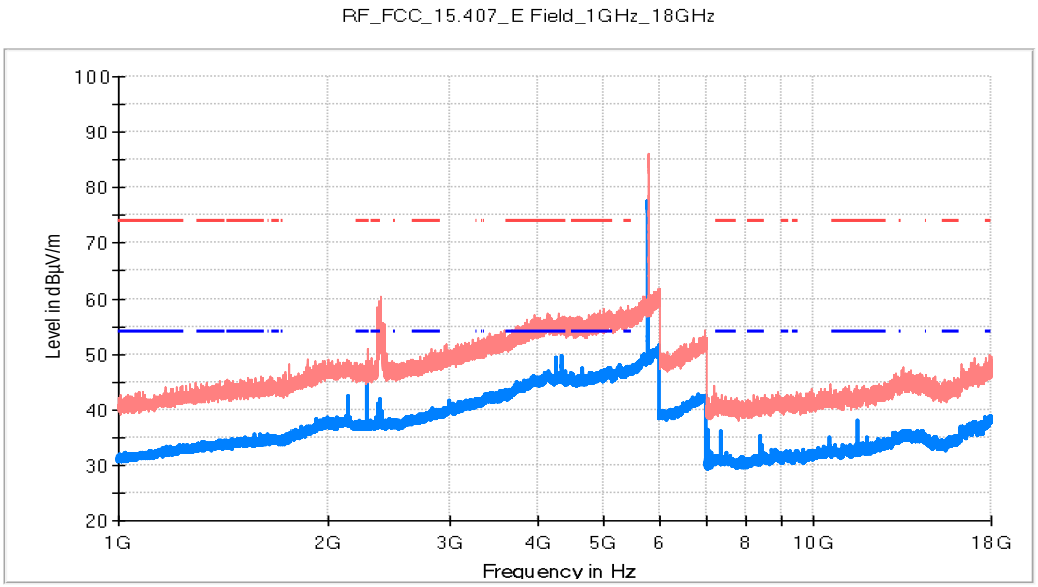



**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 2392.187500 | 50.72 | 41.77 | V | |
| 4374.062500 | 57.90 | 50.83 | V | |
| 5747.031250 | 83.83 | 75.72 | V | Fundamental |
| 7349.200000 | 41.19 | 34.97 | V | |
| 10582.800000 | 42.21 | 34.84 | V | |
| 11490.000000 | 43.21 | 34.94 | V | |

| TEST RESULTS (Cont.) | |
|---|---|

## Mid Channel



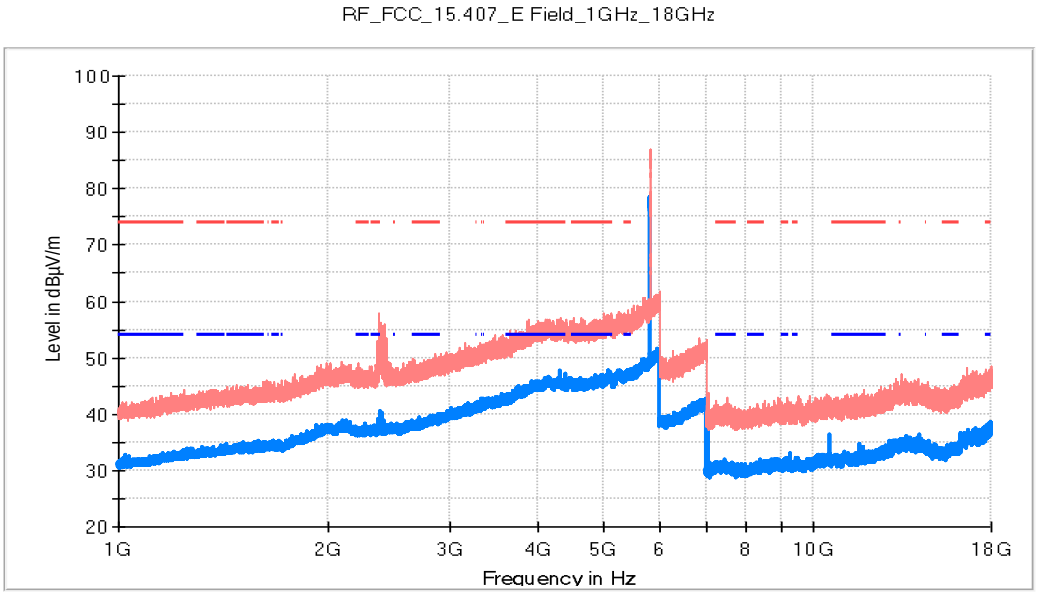

AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1 GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1 GHz to 40 GHz) Restricted Bands AVG Limit

**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 2275.937500 | 50.18 | 46.80 | V | |
| 4340.625000 | 55.54 | 49.49 | V | |
| 5780.625000 | 85.31 | 77.61 | V | Fundamental |
| 7349.200000 | 41.89 | 35.96 | V | |
| 8378.000000 | 41.16 | 35.28 | V | |
| 11570.000000 | 42.87 | 37.96 | V | |

| TEST RESULTS (Cont.) | |
|---|---|

## High Channel

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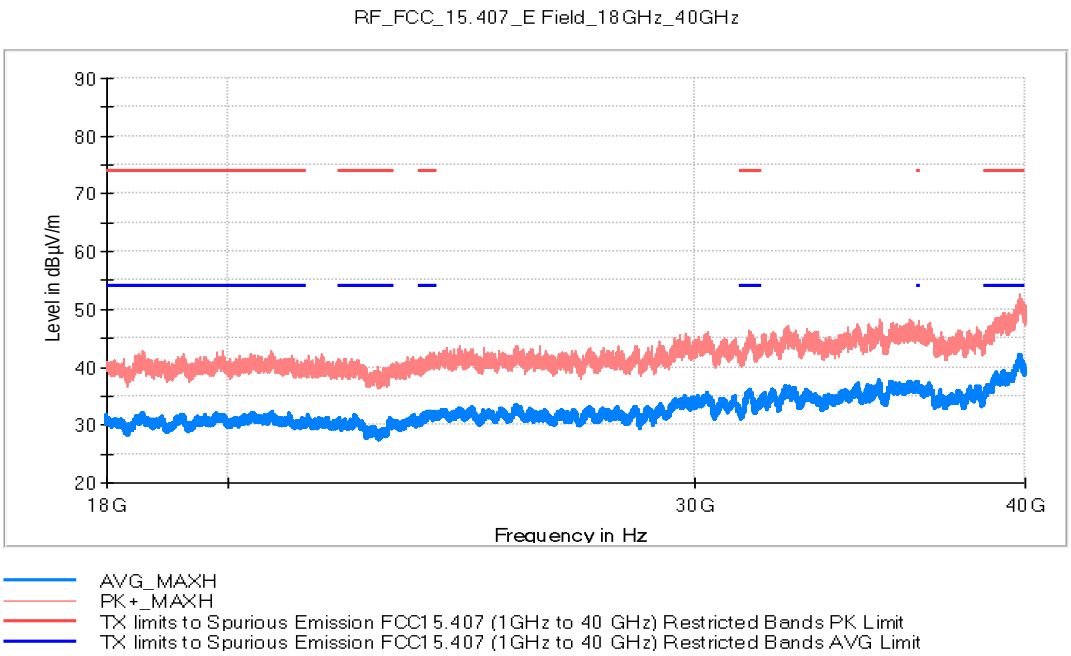
**Maximizations**

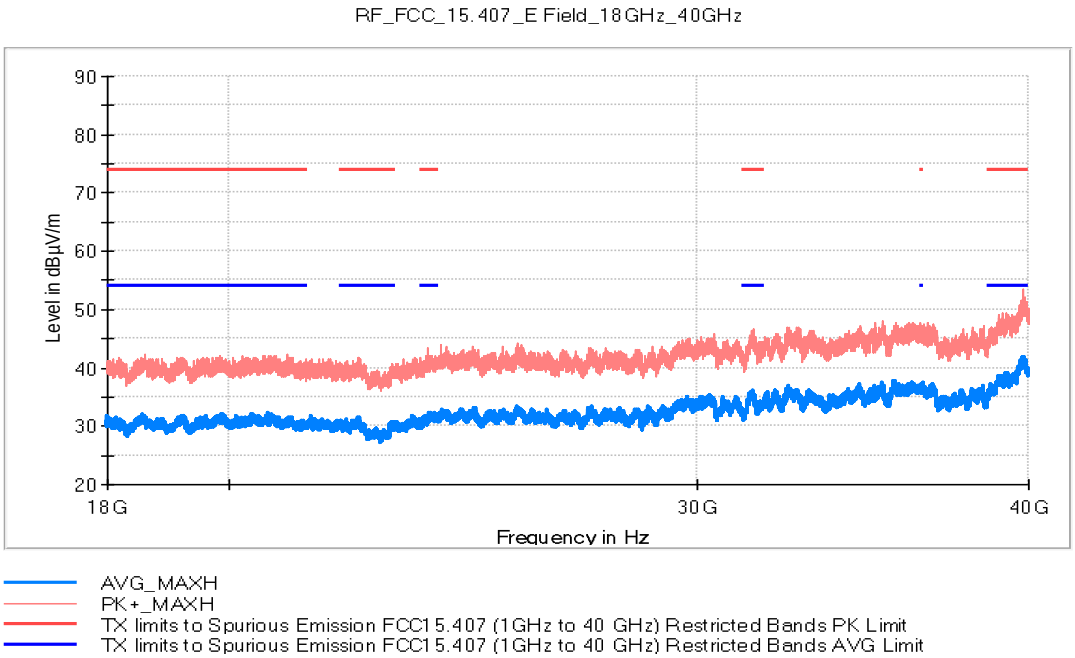
| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 2376.718750 | 52.28 | 40.24 | V | |
| 5826.562500 | 86.23 | 78.33 | H | Fundamental |
| 7054.800000 | 43.38 | 39.16 | H | |
| 10582.800000 | 41.58 | 36.35 | H | |

| TEST RESULTS (Cont.) | |
|---|---|
| **FREQUENCY RANGE** | **18 GHz – 40 GHz** |

## Low Channel

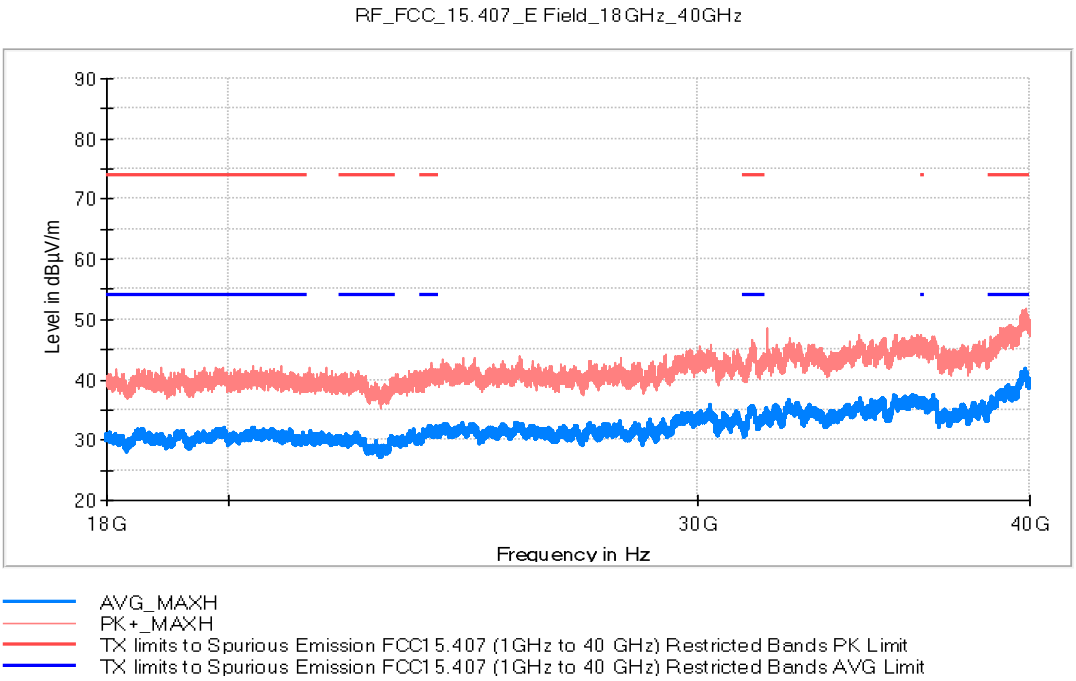



## Middle Channel



| TEST RESULTS (Cont.) | |
|---|---|

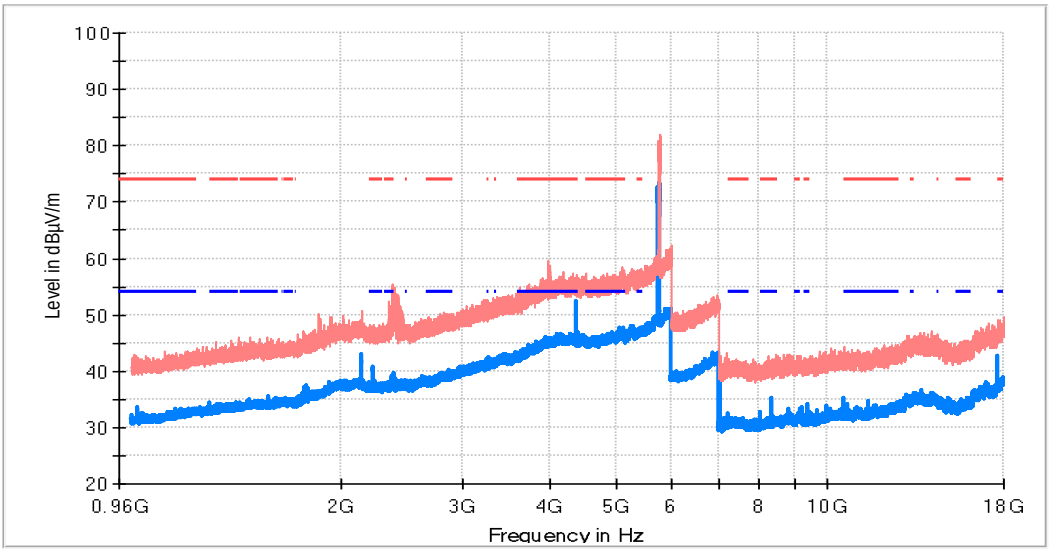
## High Channel



| TEST RESULTS (Cont.) | ac mode (40 MHz) |
|---|---|
| FREQUENCY RANGE | 1 GHz – 18 GHz |

## Low Channel

RF_FCC_15.407_E Field_1GHz_18GHz



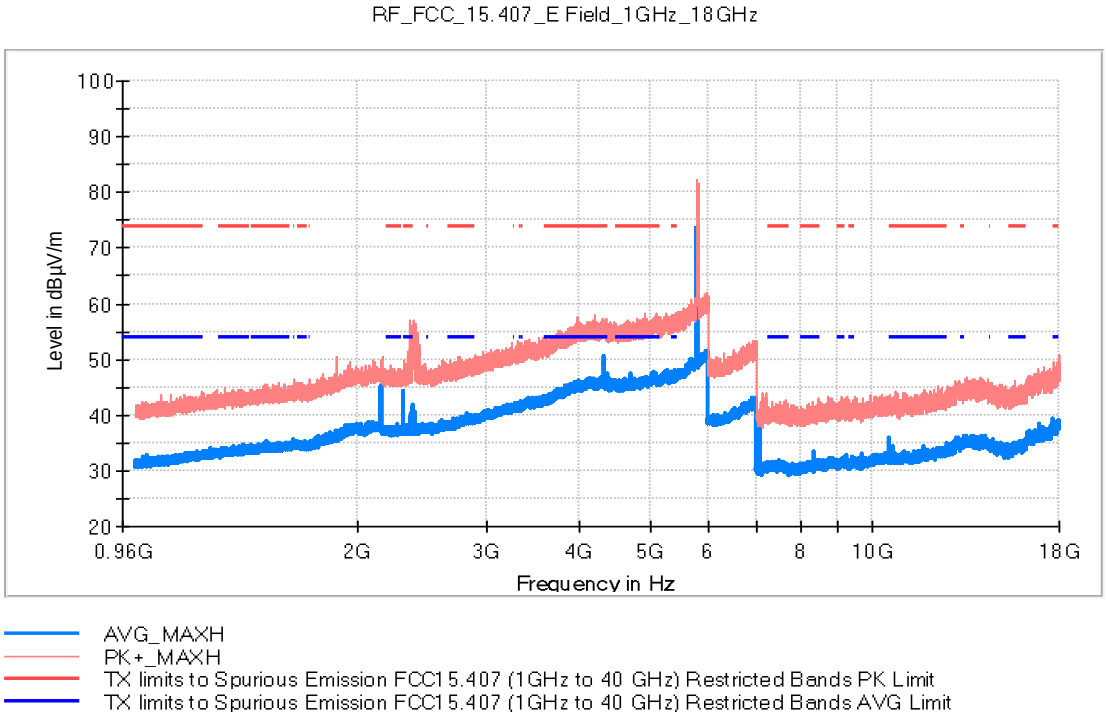

AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1 GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1 GHz to 40 GHz) Restricted Bands AVG Limit

**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 4371.718750 | 56.13 | 52.43 | V | |
| 5768.125000 | 80.93 | 73.29 | V | Fundamental |
| 8378.000000 | 40.95 | 35.23 | V | |
| 10582.800000 | 42.11 | 35.35 | H | |
| 13733.600000 | 45.53 | 36.52 | V | |
| 17638.400000 | 49.03 | 42.67 | V | |

| TEST RESULTS (Cont.) | |
|---|---|

## High Channel

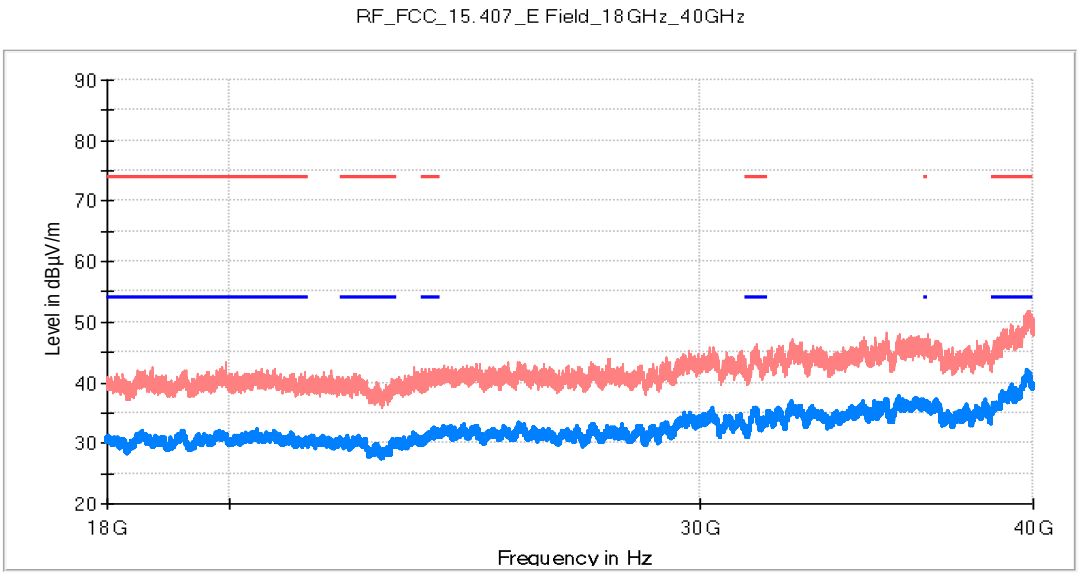



**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 2160.625000 | 50.04 | 45.41 | V | |
| 2311.718750 | 49.96 | 44.40 | V | |
| 4335.625000 | 56.19 | 50.66 | V | |
| 5809.531250 | 80.24 | 73.51 | H | Fundamental |
| 7055.200000 | 41.66 | 37.49 | V | |
| 10582.800000 | 43.15 | 35.85 | H | |
| 17638.000000 | 46.45 | 39.44 | V | |

| TEST RESULTS (Cont.) | |
|---|---|
| **FREQUENCY RANGE** | **18 GHz – 40 GHz** |

## Low Channel

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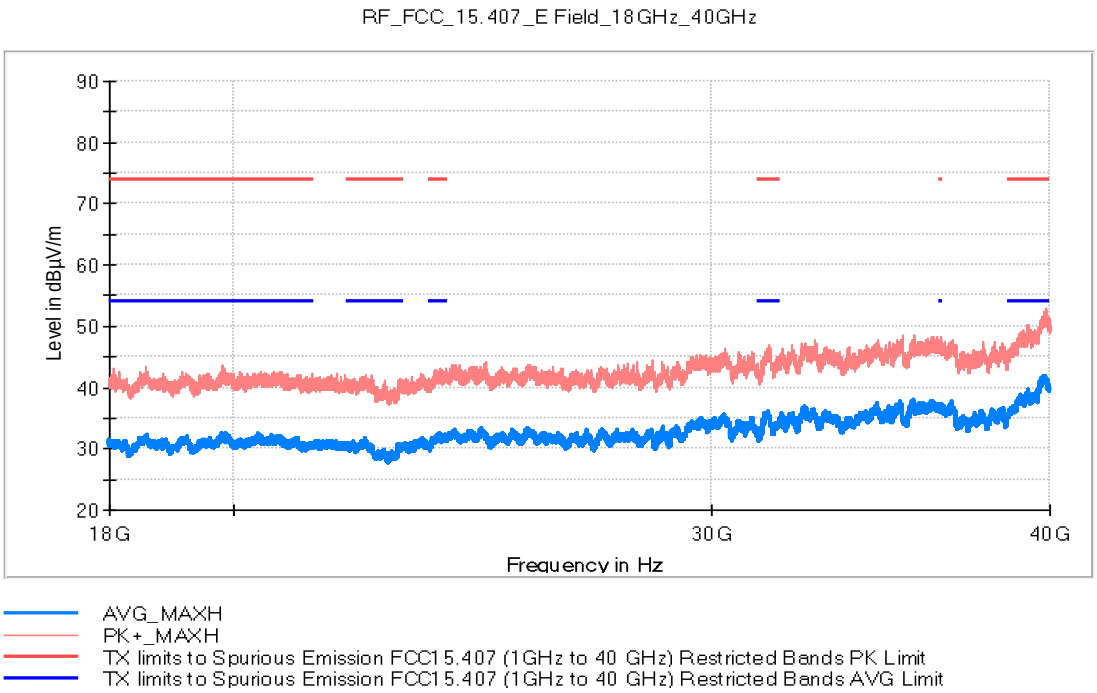
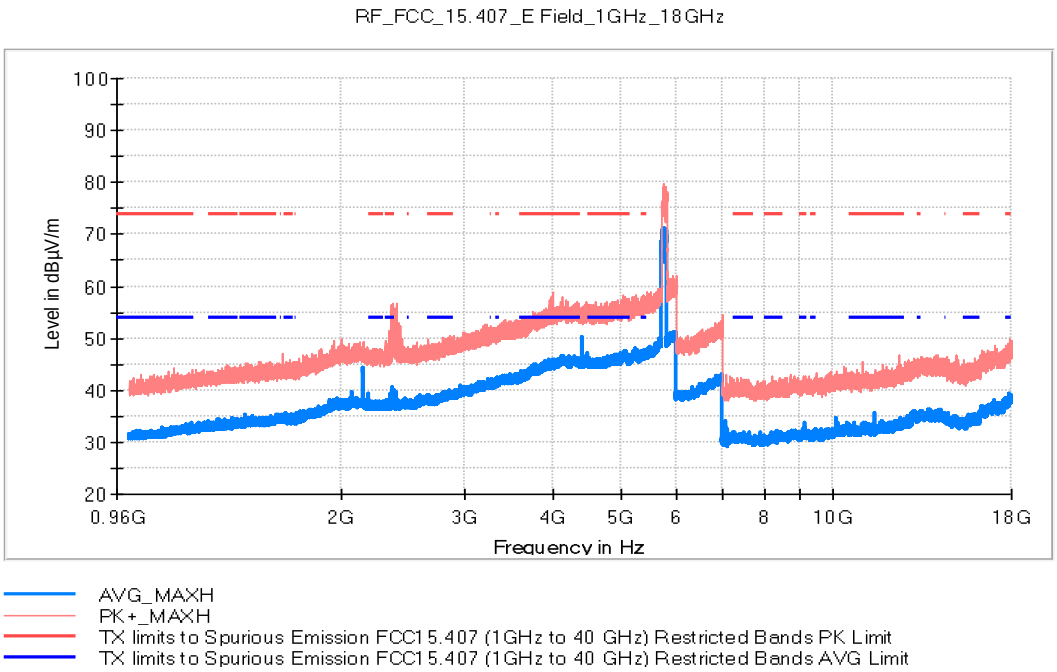
## High Channel



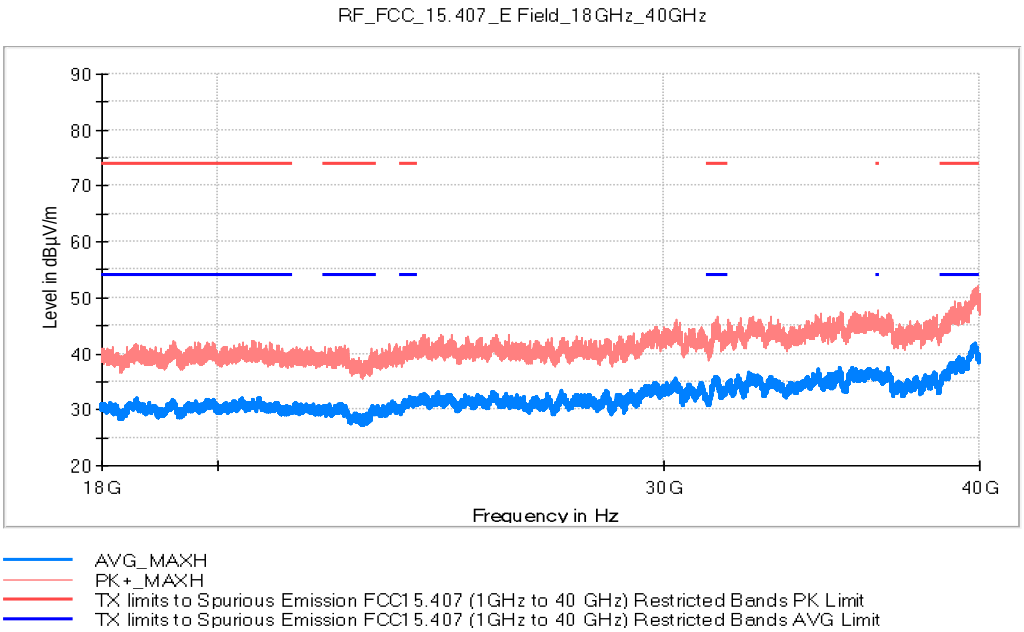
| TEST RESULTS (Cont.) | ac mode (80 MHz) |
|---|---|
| FREQUENCY RANGE | 1 GHz – 18 GHz |

## Mid Channel




**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comments |
|---|---|---|---|---|
| 2150.937500 | 48.35 | 44.13 | V | |
| 2377.187500 | 53.10 | 40.52 | V | |
| 4407.812500 | 55.90 | 50.13 | V | |
| 5762.343750 | 77.34 | 71.19 | V | Fundamental |
| 10147.200000 | 43.10 | 34.59 | H | |
| 11549.600000 | 43.33 | 35.54 | V | |
| 2150.937500 | 48.35 | 44.13 | V | |

| TEST RESULTS (Cont.) | |
|---|---|
| **FREQUENCY RANGE** | **18 GHz – 40 GHz** |

## Mid Channel