



Produkte
Products

| | | | |
|--|--|---|-----------------------------|
| Prüfbericht - Nr.: 02423392 001 | | Seite 1 von 40 | |
| <i>Test Report No.:</i> | | <i>Page 1 of 40</i> | |
| Auftraggeber: <i>Client:</i> | | Redpine Signals Inc. 2107 N.First Street, Suite 680 San Jose, CA 95131-2019 U.S.A | |
| Gegenstand der Prüfung: <i>Test item:</i> | | 802.11 abgn MODULE | |
| Bezeichnung: <i>Identification:</i> | RS9110-N-11-03 | Serien-Nr.: <i>Serial No.</i> | Engineering Sample |
| Wareneingangs-Nr.: <i>Receipt No.:</i> | 1403011050 | Eingangsdatum: <i>Date of receipt:</i> | 07.08.2010 |
| Prüfort: <i>Testing location:</i> | | Refer Page 4 of 40 for test facilities | |
| Prüfgrundlage: <i>Test specification:</i> | | FCC Part 15, Subpart C | |
| Prüfergebnis: <i>Test Result:</i> | | Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). <i>The tests item passed the test specification(s).</i> | |
| Prüflaboratorium: <i>Testing Laboratory:</i> | | TÜV Rheinland (India) Pvt. Ltd. Alpha Tower, Sigma Soft Tech Park, # 7, Whitefield Main Road, Varthur Kodi, Bangalore – 560066, India | |
| geprüft / tested by: | | kontrolliert / reviewed by: | |
| 10.06.2011 Vinay.N Engineer  | | 13.06.2011 ManagerKalyan Varm Manager  | |
| Datum <i>Date</i> | Name/Stellung <i>Name/Position</i> | Unterschrift <i>Signature</i> | Datum <i>Date</i> |
| | | | |
| Sonstiges /Other Aspects: FCC ID : XF6- RS9110N1103 | | | |
| Abkürzungen: P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet | | Abbreviations: P(ass) = passed F(ail) = failed N/A = not applicable N/T = not tested | |
| <p>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</p> <p><i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i></p> | | | |

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Test Result Summary

| Clause | Test Item | Result |
|------------------|--------------------------------|--------|
| FCC 15.247(b)(3) | Maximum Conducted Output Power | Pass |
| FCC 15.247(a)(2) | 6dB Bandwidth | Pass |
| FCC 15.247(e) | Power Spectral Density | Pass |
| FCC 15.247(d) | Band-edge compliance | Pass |
| FCC 15.209 | Radiated Emissions | Pass |

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| Conducted Peak Output Power | Section 15.407 (a)13 |
| Power Spectral Density | Section 15.407 (a)17 |
| Peak Excursion | Section 15.407 (a).. Error! Bookmark not |
| defined. | |
| Spurious Radiated Emissions | Section 15.209 /15.407 (b) (6).....35 |
| Restricted Bands of Operation | Section 15.205..... Error! Bookmark not |
| defined. | |
| Undesirable Emissions | Section 15.407 (b) Error! Bookmark not |
| defined. | |
| Appendix 1: Test Setup Photo | |
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List of Test and Measurement Instruments

Wipro Technologies, Bangalore

List of Test and Measurements

| Equipment | Manufacturer | Type | S/N | Calibration Due Date |
|-----------------------------|-----------------------------|-----------|------------|----------------------|
| EMI Test Receiver | Rohde & Schwarz | ESIB40 | 100306 | 24.03.2012 |
| Hybrid Log Periodic Antenna | TDK | HLP3003C | 130334 | 21.03.2012 |
| Broadband Horn Antenna | Schwarzbeck Mess-Electronik | BBHA9170 | 9170-344 | 21.03.2012 |
| Double Ridged Horn Antenna | Schwarzbeck Mess-Electronik | BBHA9120D | 9120D-687 | 21.03.2012 |
| Pre-Amplifier | TDK-RFSolution | PA-02 | 100008 | 15.02.2012 |
| Spectrum Analyser | Agilent Technologies | E4407B | US41192772 | 27.01.2012 |

Testing Facilities

- 1) Wipro Technologies
Survey No. 70,77,78 / 8A, Dodda Kannelli,
Sarjapur Road, Bangalore – 560 035
India
- 2) HCL Technologies
73-74, Ground Floor,
South Phase, Ambattur Estate,
Ambattur, Chennai – 600058
India

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General Product Information

Product Function and Intended Use

The Product has many applications.viz.

- Multi-mode cellular phones, smart phones, and PDAs needing Wi-Fi capability
- VoWiFi handsets
- Personal Media Players
- Digital still cameras and camcorders

Ratings and System Details

| | | |
|---------------------|---|-------------------------------------|
| Operating Frequency | 5725 – 5850 MHz | |
| No. of channel | 5 | |
| Channel Spacing | 20 MHz | |
| Transmitted Power | 802.11a | 7.44 dBm |
| | 802.11n | 8.00 dBm |
| Modulation | 802.11a | OFDM with BPSK,QPSK, 16-QAM, 64-QAM |
| | 802.11n | BPSK,QPSK,16-QAM,64-QAM |
| Data Rate | 802.11n: 6.5, 13, 19.5, 26, 39, 52, 58.5, 65 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps | |
| Antenna Type | Chip | |
| Number of antenna | One | |
| Antenna Gain | 0.5 dBi | |
| Supply Voltage | 3.1-3.6 V DC | |
| Dimensions | 104 mm x 34 mm x 12 mm (Board) 20 mm x 17.5 mm x 3.45 mm (Module) | |
| Environmental | -40°C to +85°C | |

Test Conditions:

Voltage: 110V AC, 60Hz

Environmental conditions:

Temperature: +23 ° C

RH: 62%

Note: 2.4GHz test results are covered in Test Report : 02422602 001 and 5150 MHz – 5350 MHz, 5470MHz – 5725MHz test results are covered in Test Report :02422603 001

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Operation Descriptions

The RS9110-N-11-03 module is a complete IEEE802.11abgn Wi-Fi client device with an integrated MAC, baseband processor, and RF transceiver and power amplifier. Based on the Redpine's Lite-FiTM RS9110 MAC/baseband processor, the module provides a complete end-to-end solution for ultra low power WLAN applications. It conforms to the draft 802.11n standard in single-stream mode for handheld devices and includes an embedded processor with a rich set of peripherals offering minimal load on a host processor, to which it can connect through SDIO and SPI interfaces. In a small form factor of 20 x 17.5 sq mm and operation on a single power supply.

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Test Set-up and Operation Mode

Principle of Configuration Selection

Emission: The test was performed under continuous transmission to obtain the maximum emissions.

Test Operation and Test Software

- Redpine's Lite-Fi™ device driver which was installed in a Personal Digital Assistant (PDA) was used to control channels, data rates and power levels

Special Accessories and Auxiliary Equipment

The EUT was tested together with the following additional accessory:

- Personal Digital Assistant (PDA) for controlling different transmits channels, transmit profiles and power levels.

Countermeasures to achieve EMC Compliance

- None

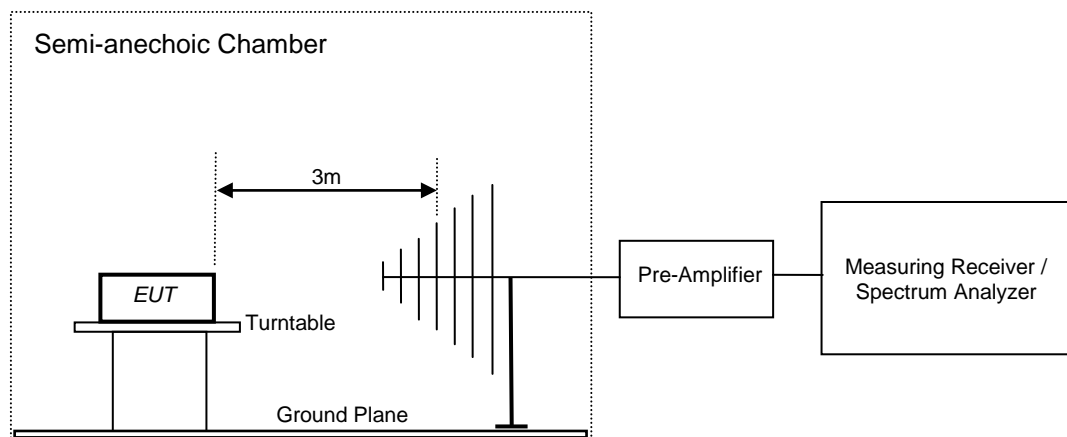
Table of carrier frequencies

| Frequency Band | Channel No. | Frequency (MHz) |
|-----------------|-------------|-----------------|
| 5725 – 5825 MHz | 149 | 5745 |
| | 153 | 5765 |
| | 157 | 5785 |
| | 161 | 5805 |
| | 165 | 5825 |

Test Methodology

Radiated Emission Test

The radiated emission measurement was performed according to the procedures in ANSI C63.4-2003. The equipment under test (EUT) was placed at the middle of the 80 cm high turntable, and the EUT is 3 meters far from the measuring antenna. The turntable was rotated 360° for obtaining the maximum emission. The height of the measuring antennas was scanned between 1m and 4m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained. The measurement above 1000MHz was performed by horn antenna. The measurement below 30MHz was performed by loop antenna. The EUT was rotated around the X-, Y-, and Z-Axis and the results from worst case axis are recorded.



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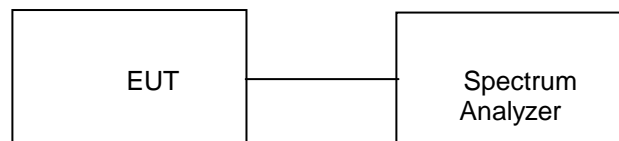
Test Results

99% Occupied Bandwidth

Section 2.1049

Test Specification
Measurement Bandwidth (RBW) FCC Part 15 Section 15.407(a)
300 kHz

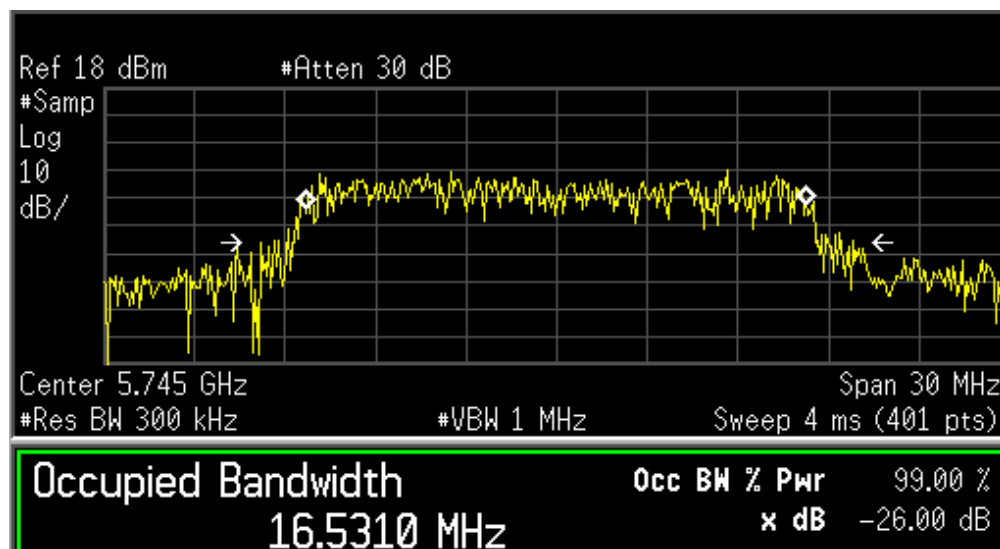
Test Method:



Test Result:

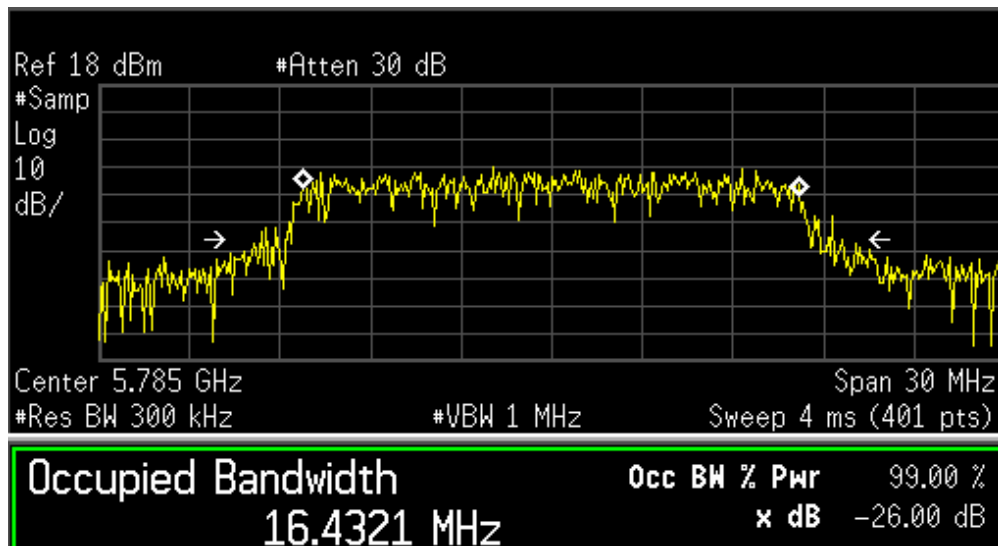
Modulation: 802.11a

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) |
|---------|-----------------|------------------------------|
| 149 | 5745 | 16.53 |
| 157 | 5785 | 16.43 |
| 165 | 5825 | 16.50 |



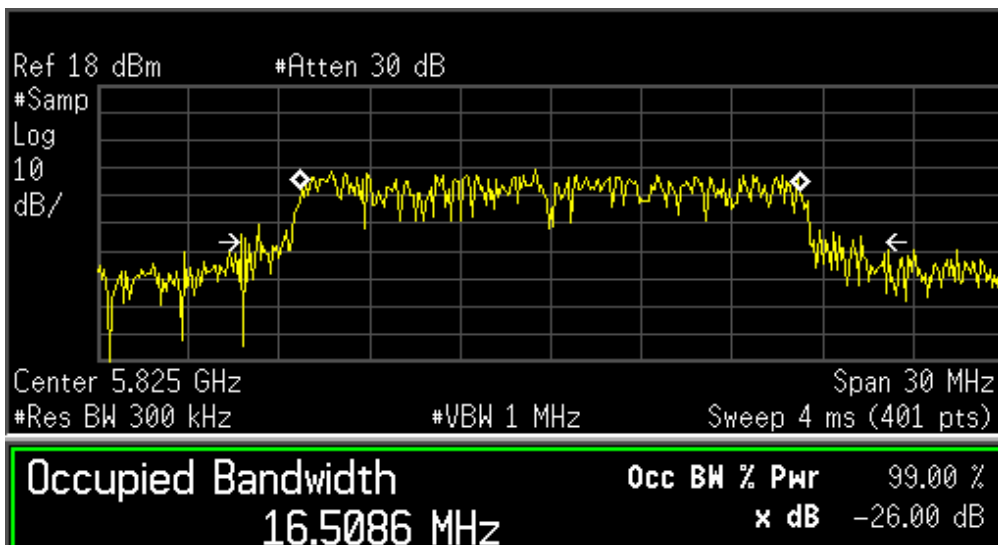
Occupied Bandwidth

Channel Frequency: 5745



Occupied Bandwidth

Channel Frequency: 5785

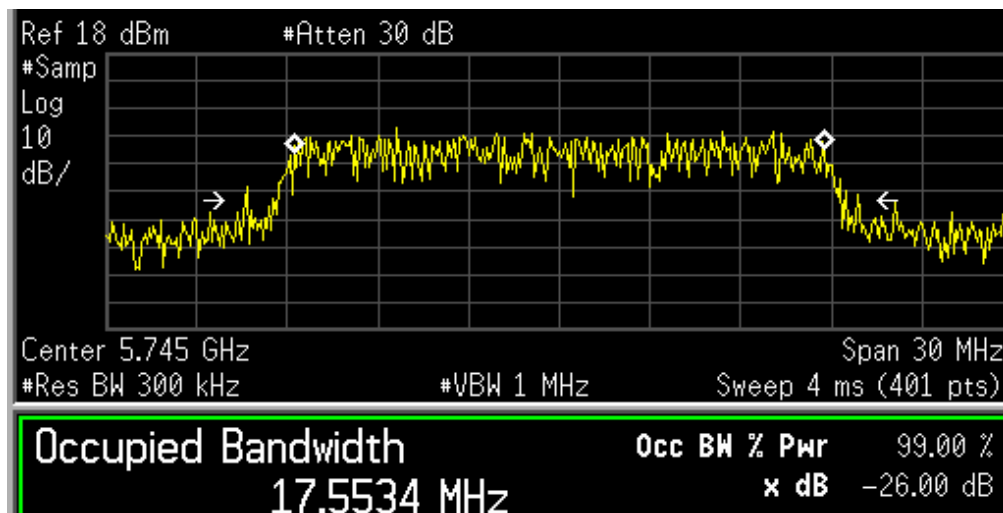


Occupied Bandwidth

Channel Frequency: 5825

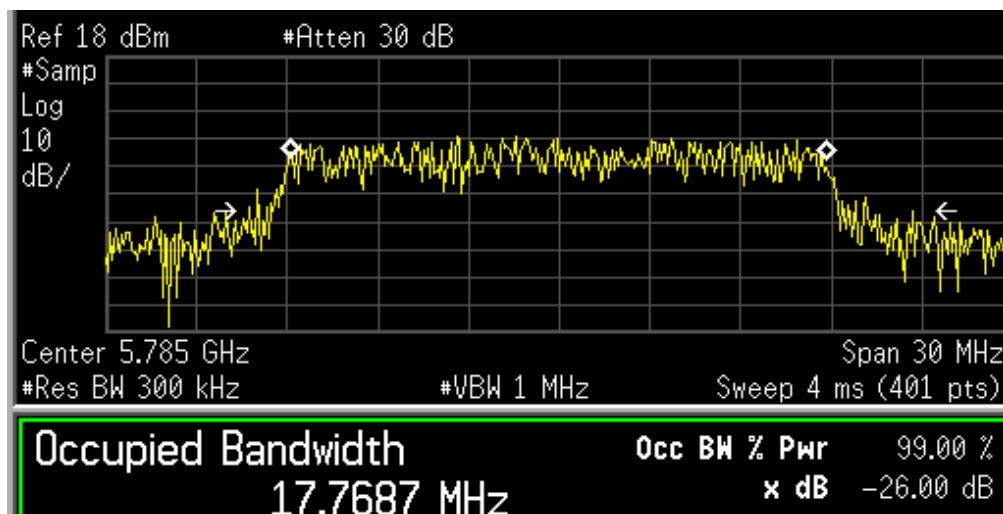
Modulation: 802.11n

| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) |
|---------|-----------------|------------------------------|
| 149 | 5745 | 17.55 |
| 157 | 5785 | 17.76 |
| 165 | 5825 | 17.99 |



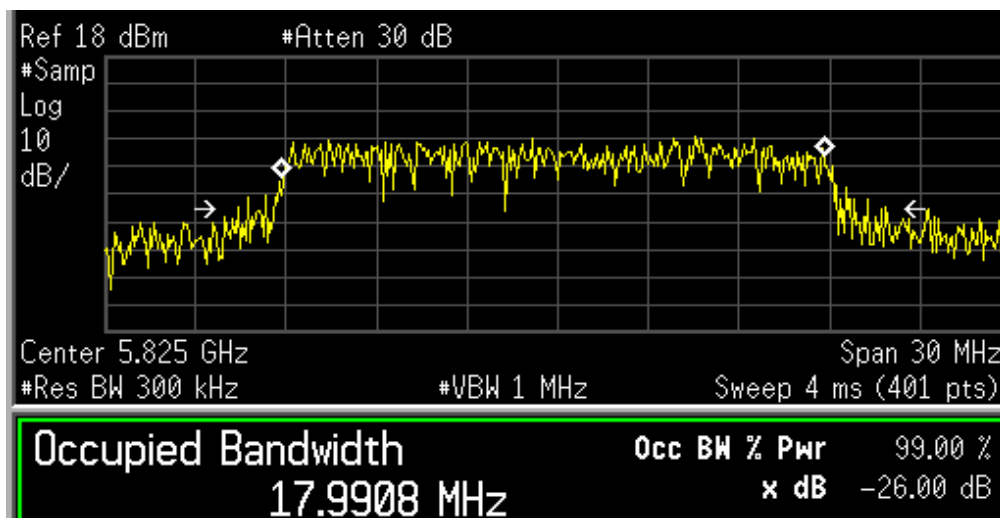
Occupied Bandwidth

Channel Frequency: 5745



Occupied Bandwidth

Channel Frequency: 5785



Occupied Bandwidth

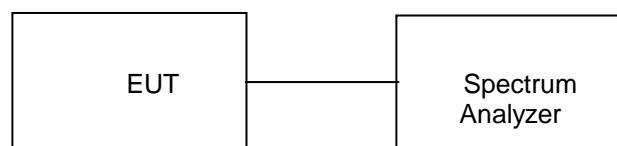
Channel Frequency: 5825

Conducted Peak Output Power Result

Section 15.247(b) (3)
Pass

| | |
|-----------------------------|--|
| Test Specification | FCC Part 15 C |
| Measurement Bandwidth (RBW) | 1 MHz |
| Requirement | For systems using digital modulation in the 5725-5850 MHz bands: 1 Watt.(30dBm). |

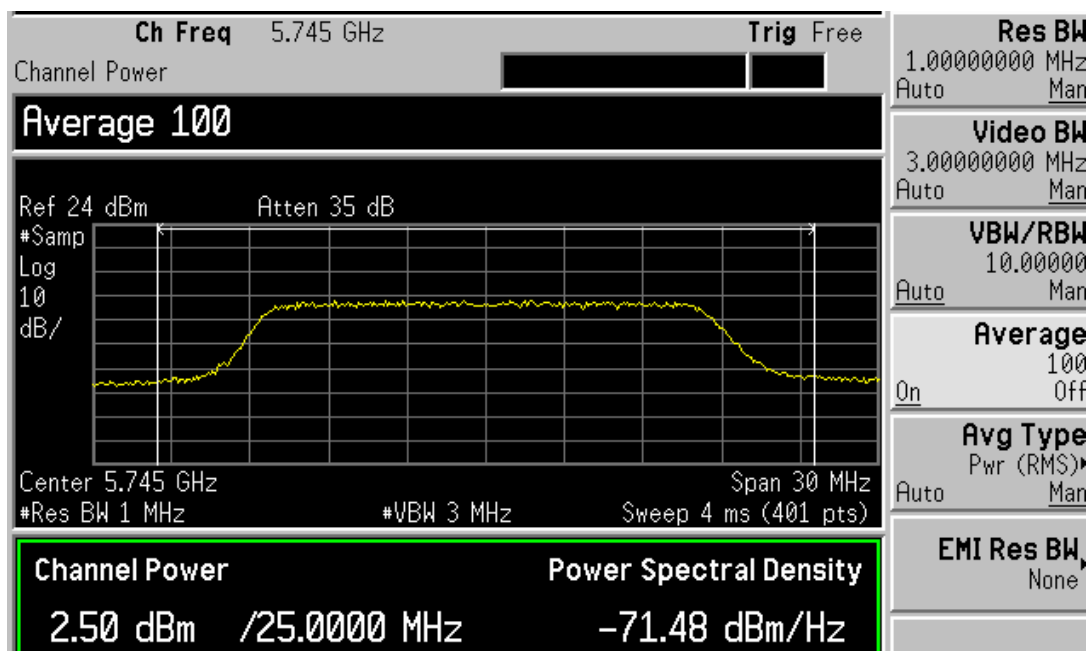
Test Method:



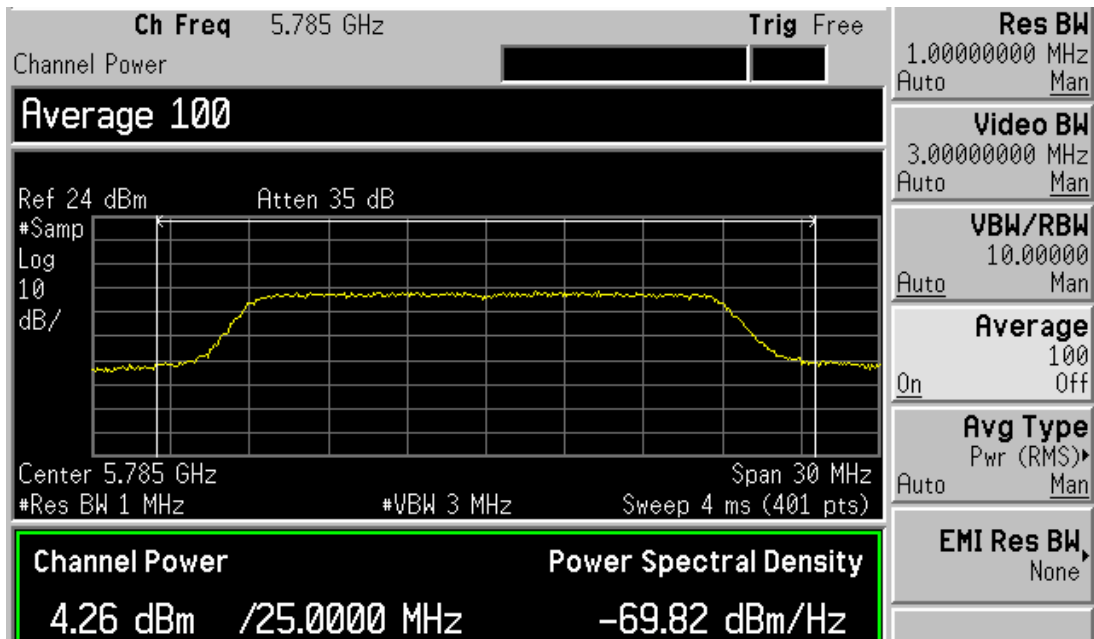
Test Result:

Modulation: 802.11a

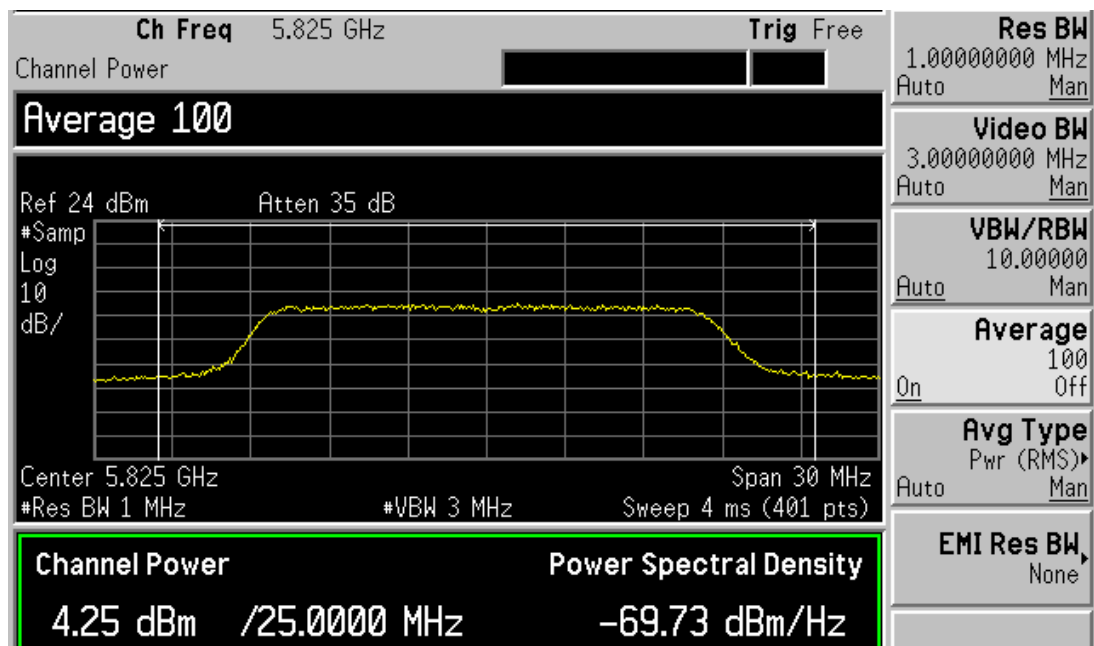
| Channel No. | Frequency (MHz) | Measured RF Output power (dBm) | Cable Loss (dB) | Total Output power (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----------------|--------------------------------|-----------------|--------------------------|-------------|-------------|
| 149 | 5745 | 02.50 | 3.18 | 05.68 | 30.00 | -24.32 |
| 157 | 5785 | 04.26 | 3.18 | 07.44 | 30.00 | -22.56 |
| 165 | 5825 | 04.25 | 3.18 | 07.43 | 30.00 | -22.57 |



Channel Frequency: 5745



Channel Frequency: 5785

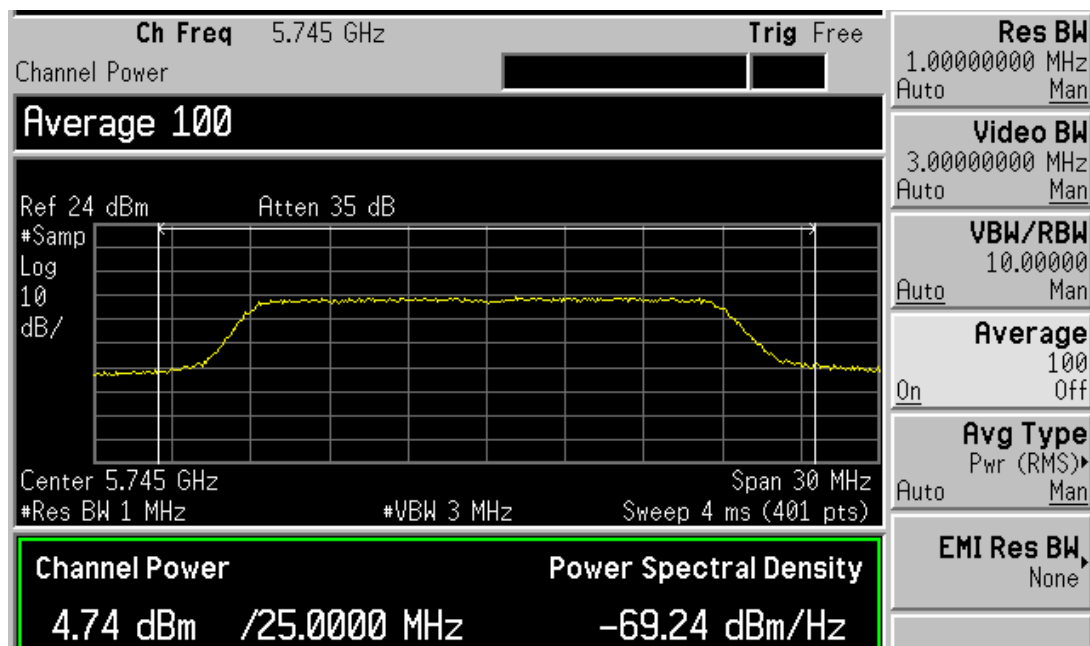


Channel Frequency: 5825

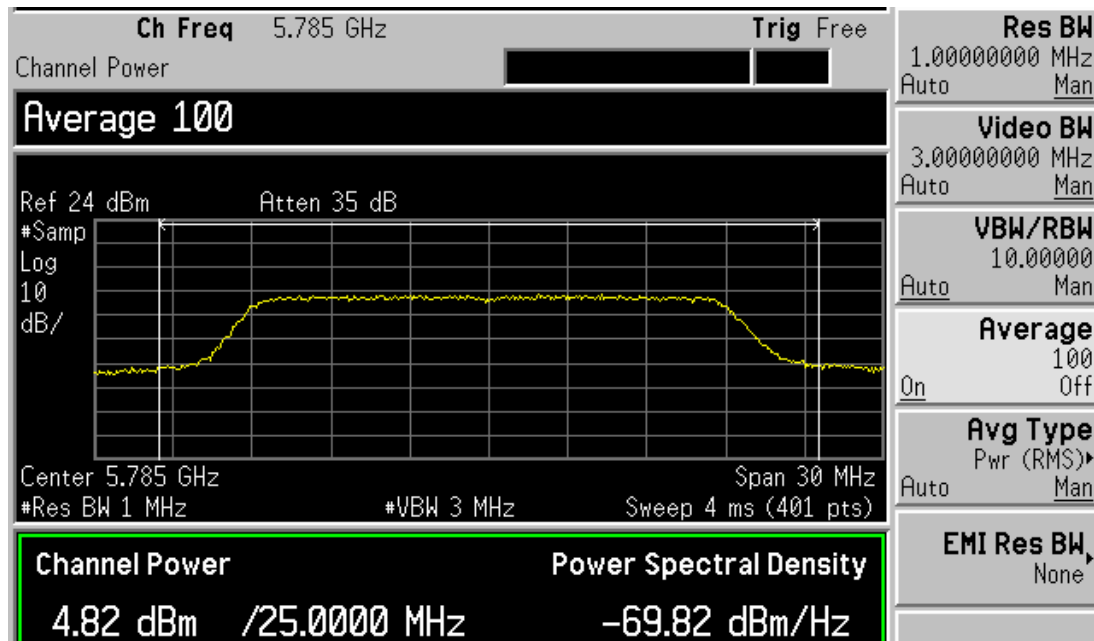
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Modulation: 802.11n

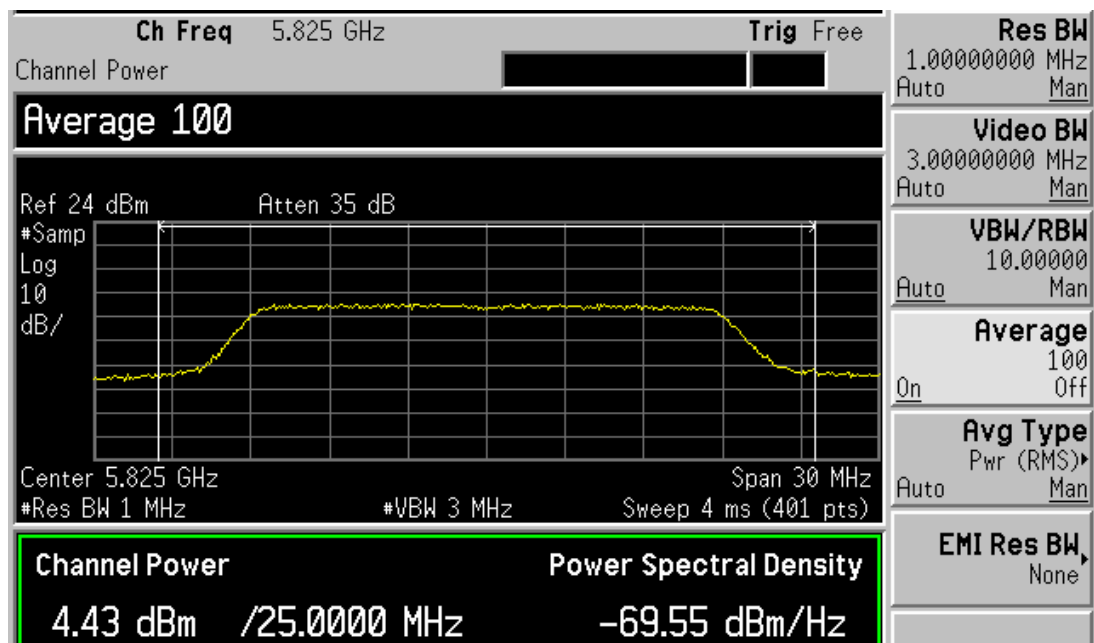
| Channel | Frequency (MHz) | Measured RF Output power (dBm) | Cable Loss (dB) | Total Output power (dBm) | Limit (dBm) | Margin (dBm) |
|---------|-----------------|--------------------------------|-----------------|--------------------------|-------------|--------------|
| 149 | 5745 | 04.74 | 3.18 | 07.92 | 30.00 | -22.08 |
| 157 | 5785 | 04.82 | 3.18 | 08.00 | 30.00 | -22.00 |
| 165 | 5825 | 04.43 | 3.18 | 07.61 | 30.00 | -22.39 |



Channel Frequency: 5745



Channel Frequency: 5785



Channel Frequency: 5825

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6 dB Bandwidth

Result

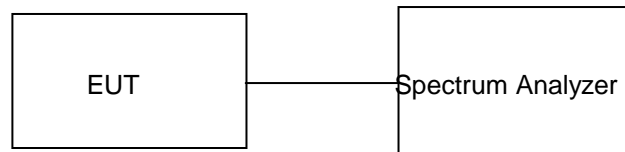
Section 15.247(a)(2)

Pass

Test Specification
Requirement

FCC Part 15 Section 15.247 (a) (2)
The minimum 6 dB bandwidth shall be at least 500 kHz.

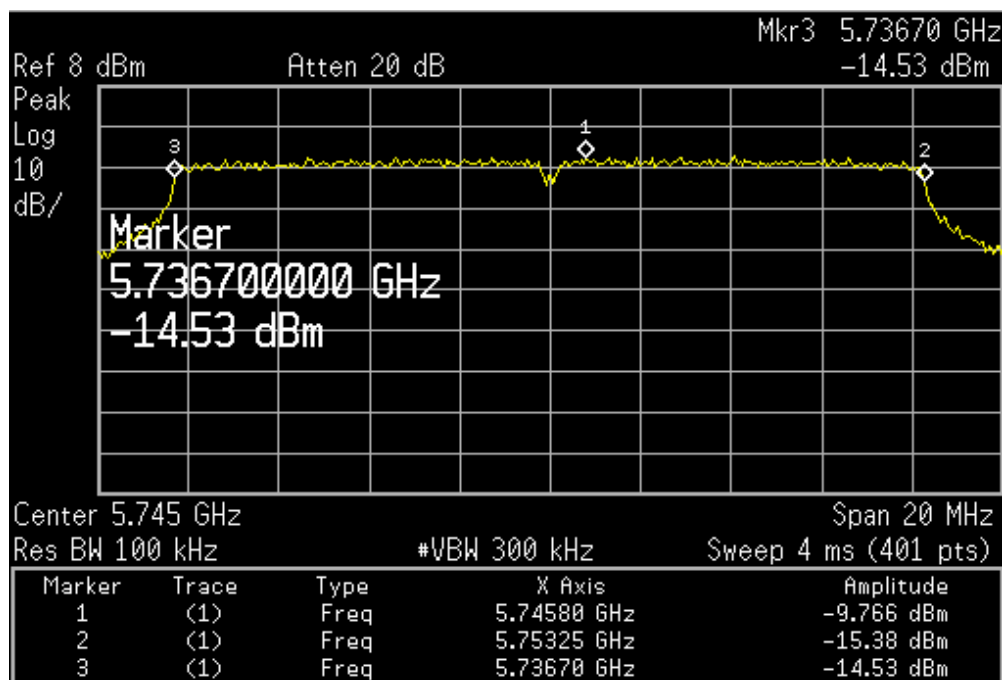
Test Method:



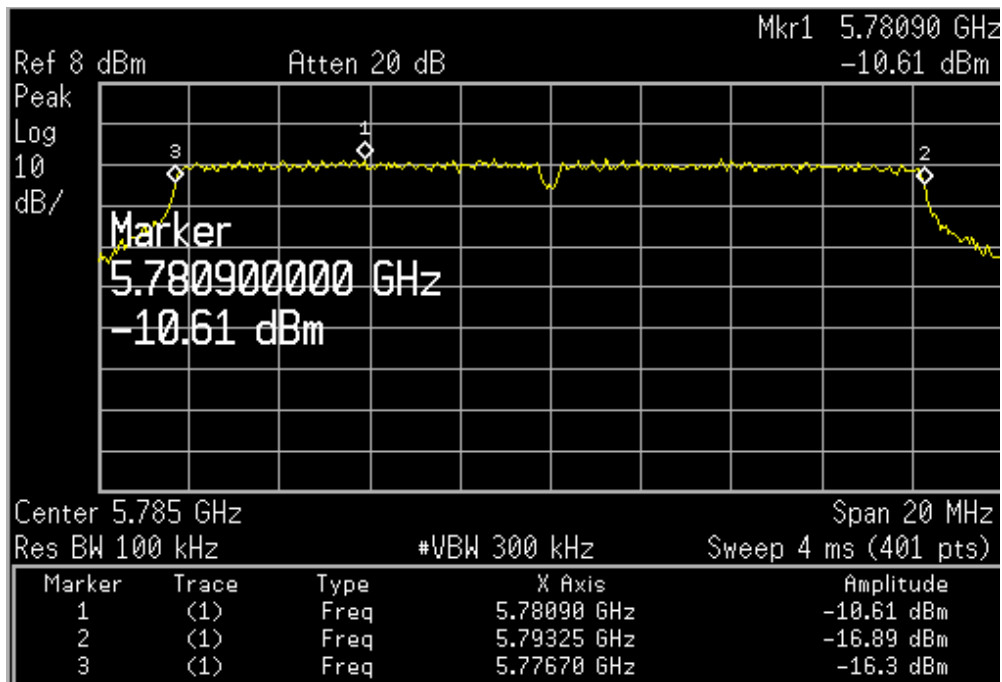
Test Result:

Modulation: 802.11a

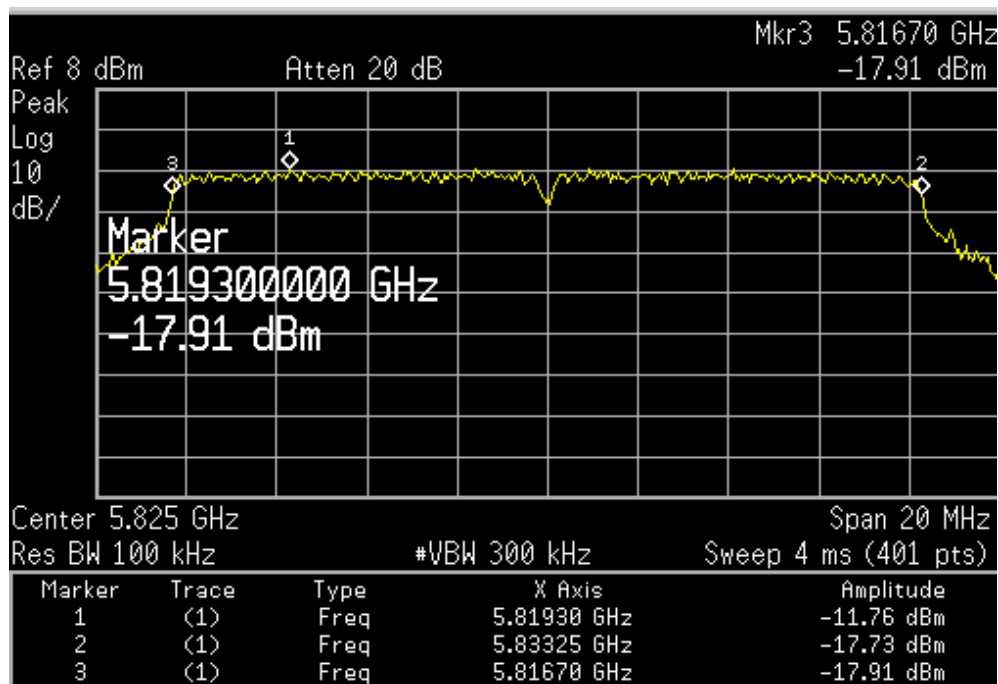
| Carrier Frequency (MHz) | Lower Frequency (MHz) | Upper Frequency (MHz) | 6 dB Bandwidth (MHz) |
|-------------------------|-----------------------|-----------------------|----------------------|
| 5745 | 5735.70 | 5753.25 | 17.55 |
| 5785 | 5776.70 | 5793.25 | 16.55 |
| 5825 | 5816.70 | 5833.25 | 16.55 |



Channel Frequency: 5745MHz



Channel Frequency: 5785

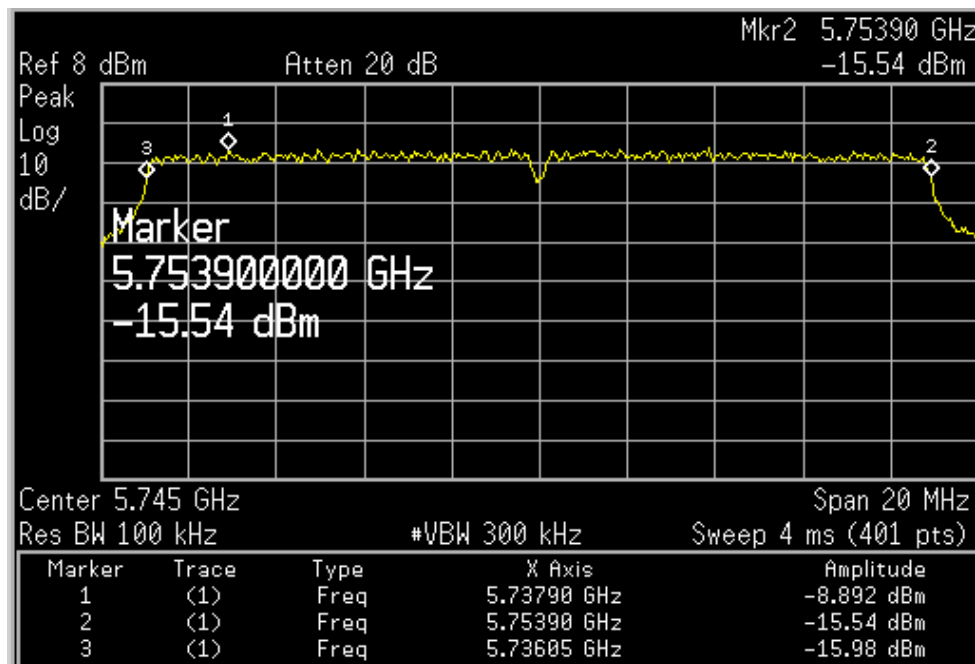


Channel Frequency: 5825

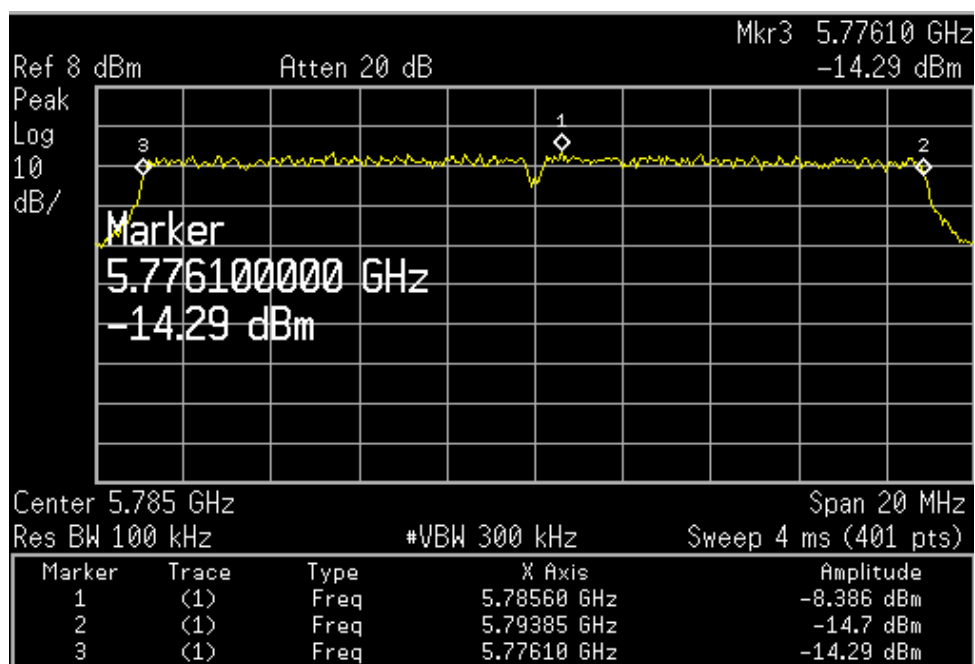
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Modulation: 802.11n

| Carrier Frequency (MHz) | Lower Frequency (MHz) | Upper Frequency (MHz) | 6 dB Bandwidth (MHz) |
|-------------------------|-----------------------|-----------------------|----------------------|
| 5745 | 5736.05 | 5753.90 | 17.85 |
| 5785 | 5776.10 | 5793.85 | 17.75 |
| 5825 | 5816.05 | 5833.85 | 17.80 |

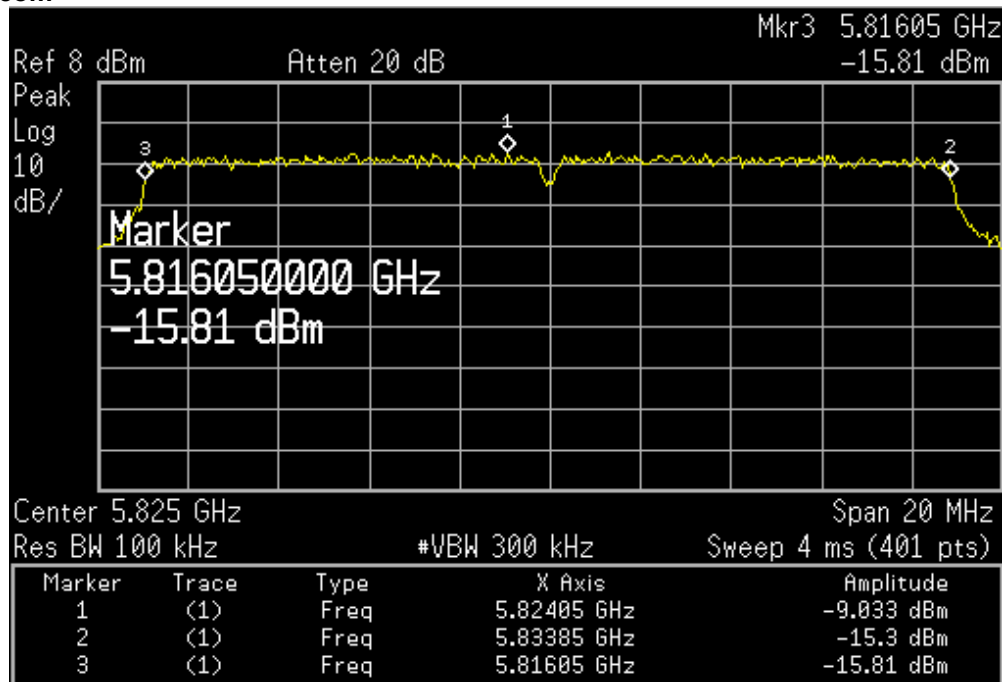


Channel Frequency: 5745MHz



Channel Frequency: 5785MHz

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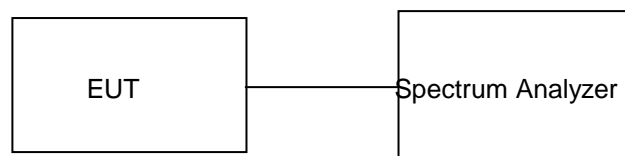


Channel Frequency: 5825MHz

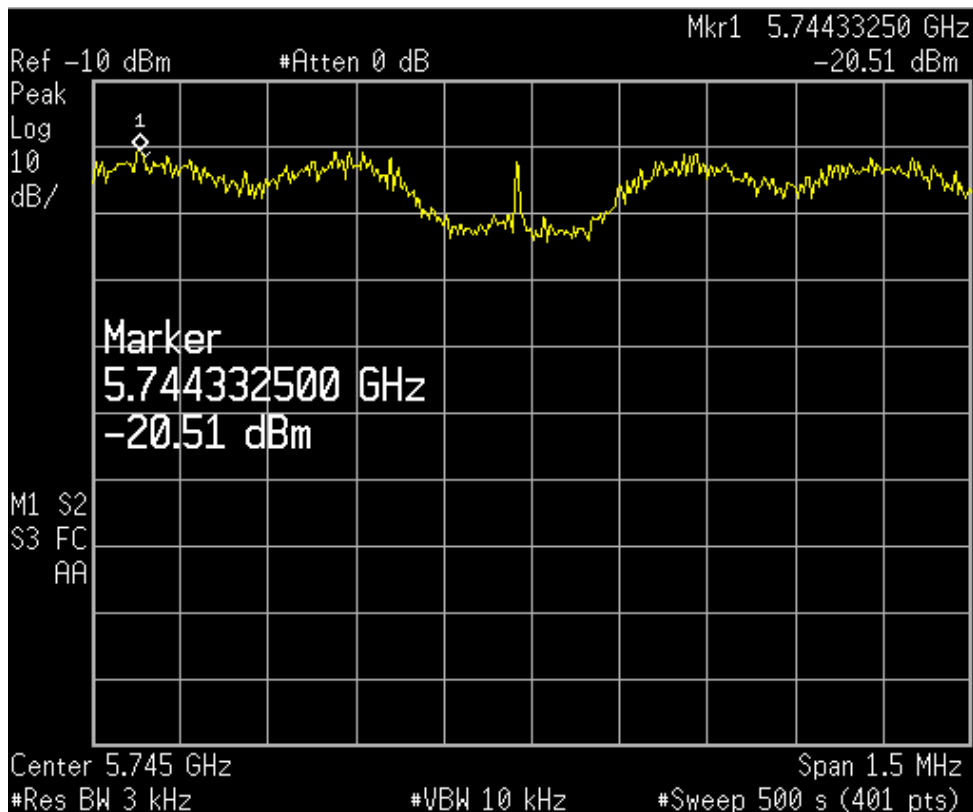
**Power Spectral Density
Result****Section 15.247(e)
Pass**

Test Specification
Detector Function
Requirement

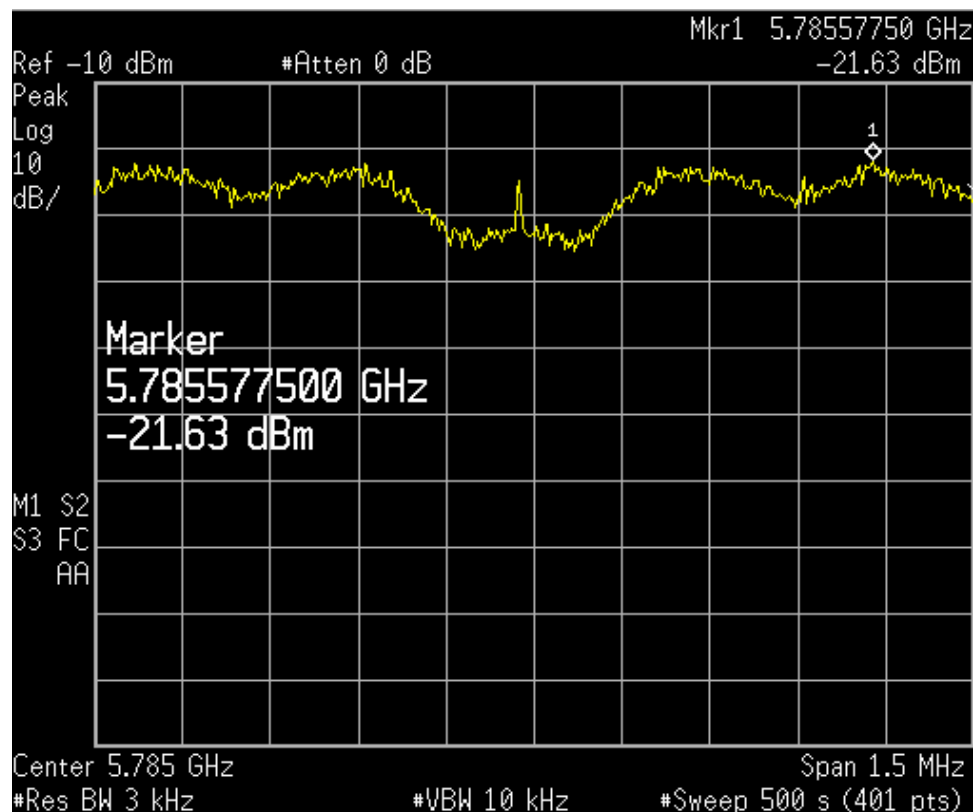
FCC Part 15 Section 15.247 (e)
Peak
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Test Method:**Test Result:****Modulation: 802.11a**

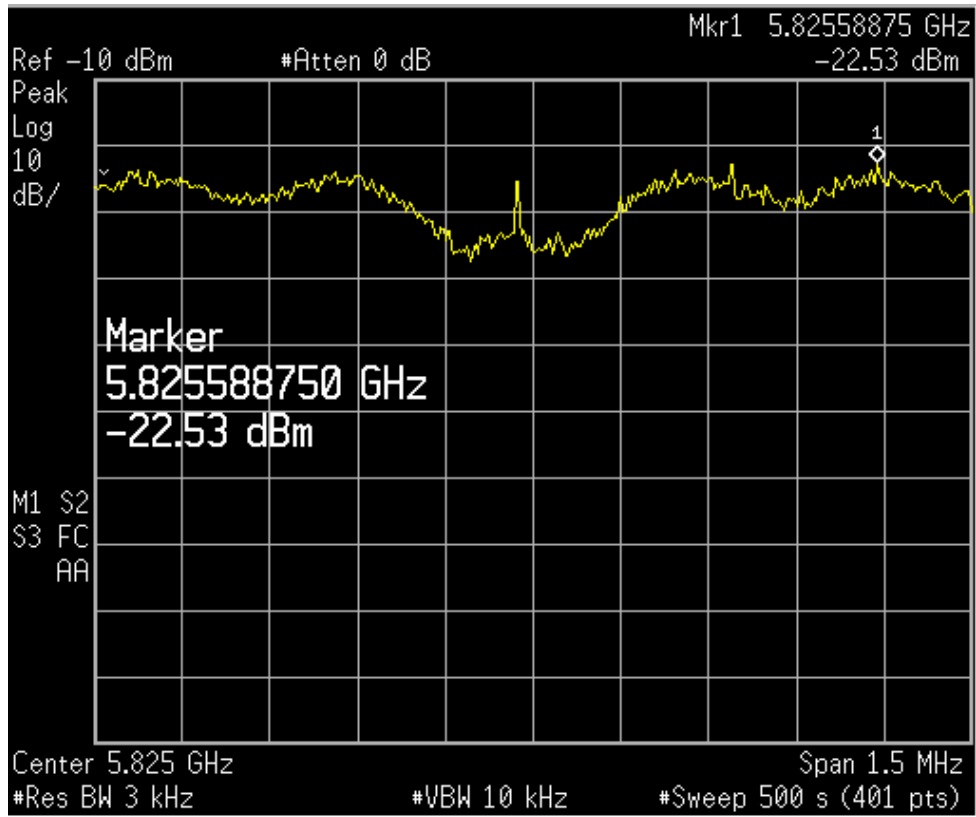
| Channel No. | Frequency (MHz) | Measured RF Output power (dBm) | Cable Loss (dB) | Total Output power (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----------------|--------------------------------|-----------------|--------------------------|-------------|-------------|
| 149 | 5745 | -20.51 | 3.18 | -17.33 | 8.00 | -25.33 |
| 157 | 5785 | -21.63 | 3.18 | -18.45 | 8.00 | -26.45 |
| 165 | 5825 | -22.53 | 3.18 | -19.35 | 8.00 | -27.35 |



Channel Frequency: 5745MHz



Channel Frequency: 5785MHz

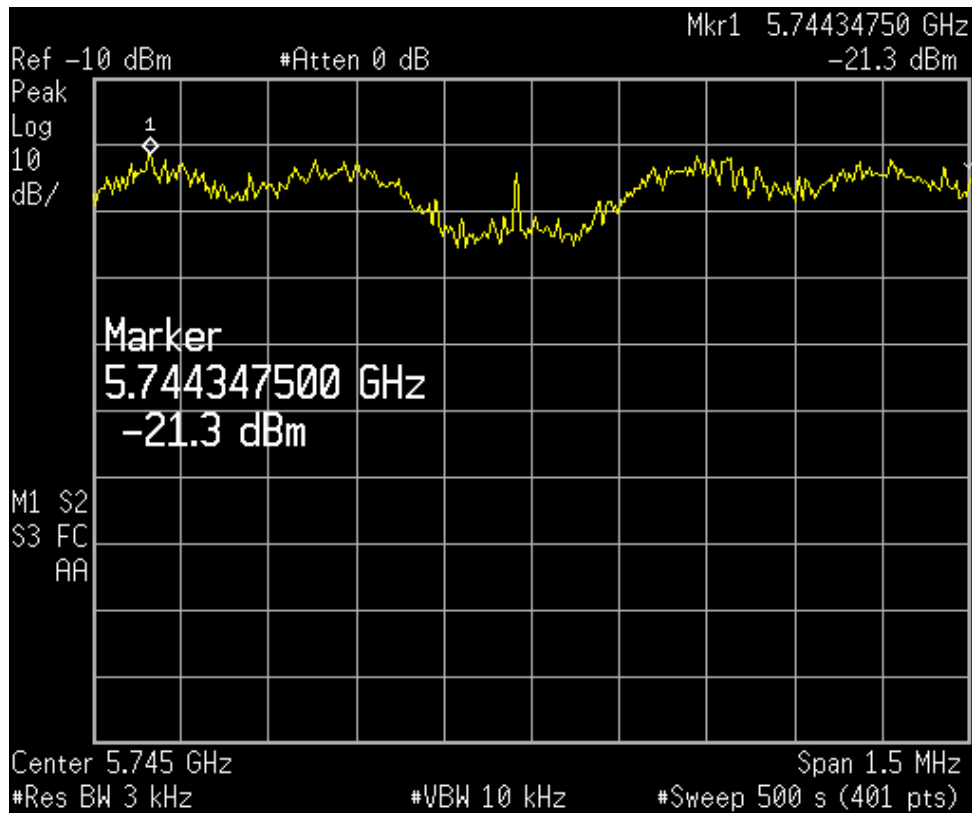


Channel Frequency: 5825MHz

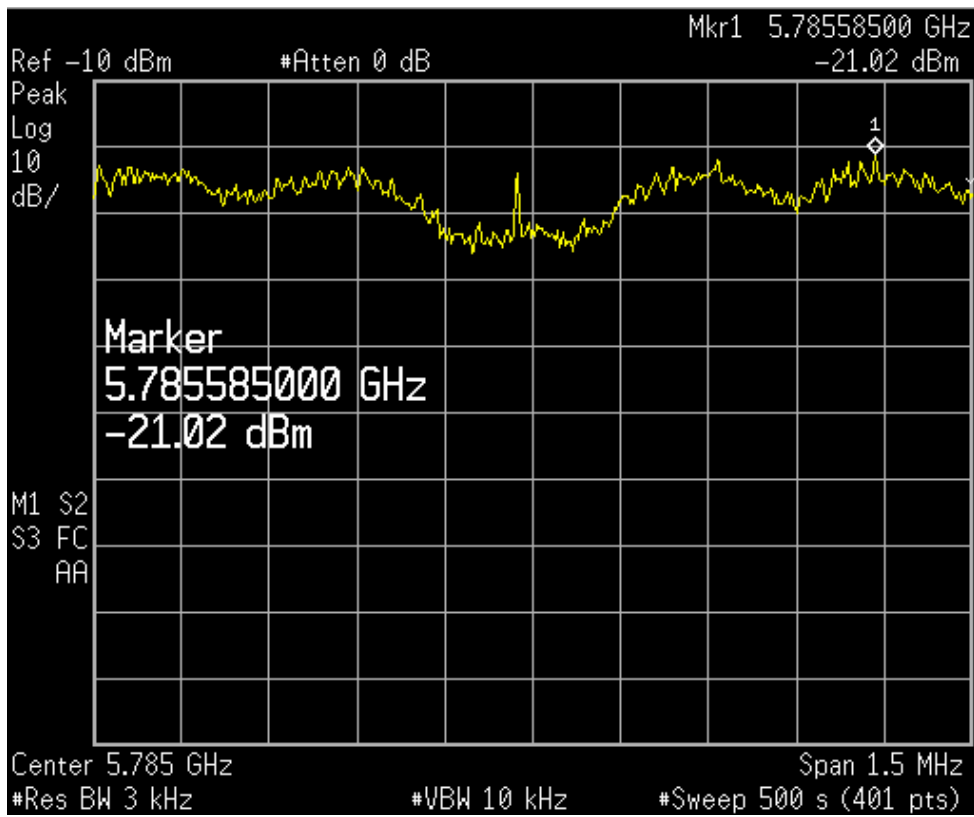
www.tuv.com

Modulation: 802.11n

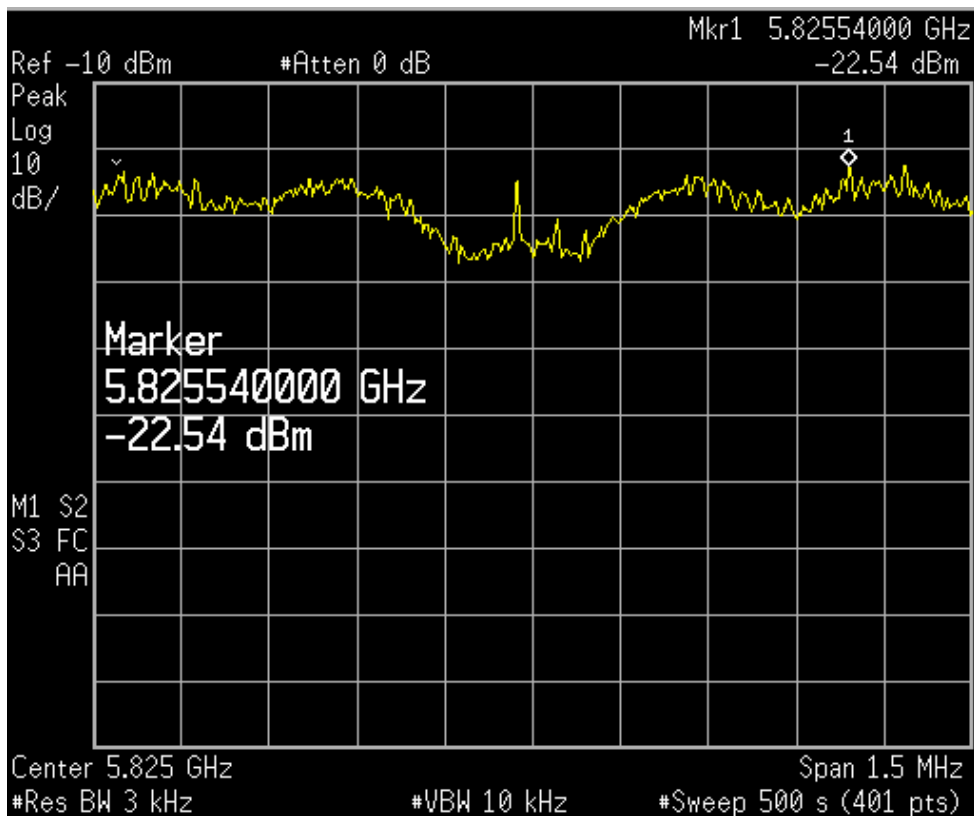
| Channel No. | Frequency (MHz) | Measured RF Output power (dBm) | Cable Loss (dB) | Total Output power (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----------------|--------------------------------|-----------------|--------------------------|-------------|-------------|
| 149 | 5745 | -21.30 | 3.18 | -18.12 | 8.00 | -26.12 |
| 157 | 5785 | -21.02 | 3.18 | -17.84 | 8.00 | -25.84 |
| 165 | 5825 | -22.54 | 3.18 | -19.36 | 8.00 | -27.36 |



Channel Frequency: 5745MHz



Channel Frequency: 5785MHz



Channel Frequency: 5825MHz

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Band-edge Compliance

Result

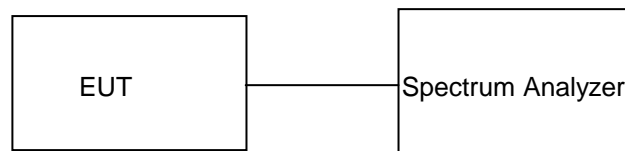
Section 15.247(d)
Pass

Test Specification
Detector Function
Requirement

FCC Part 15 C
Peak

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

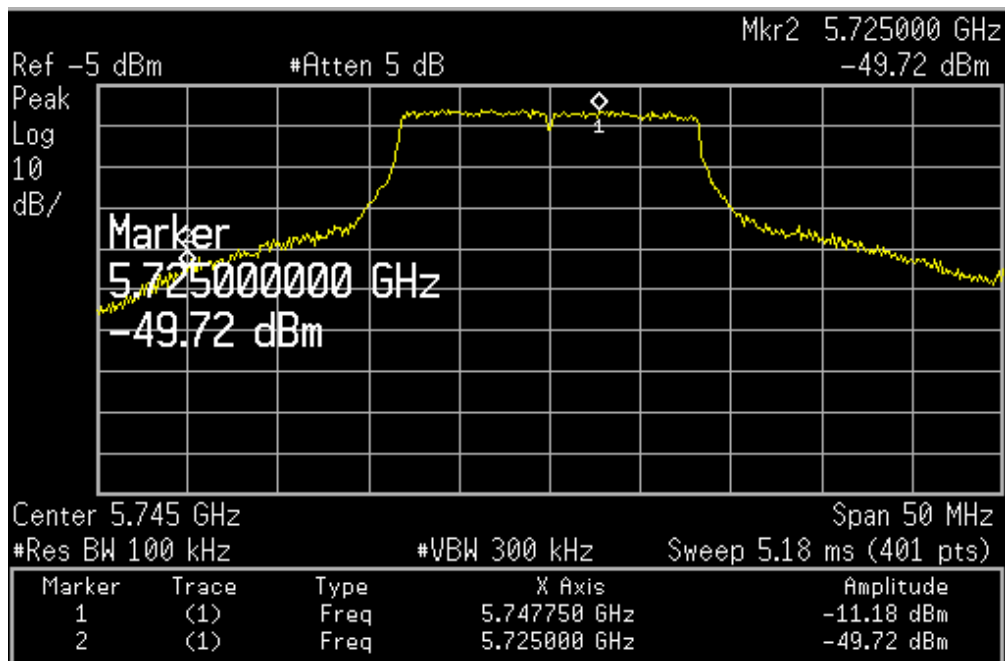
Test Method:



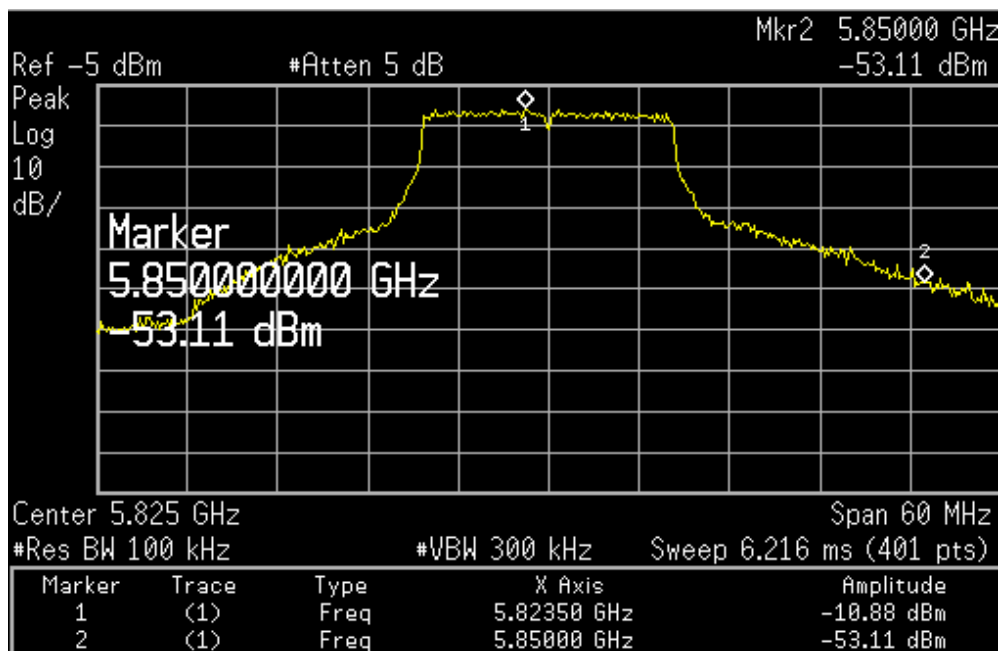
Test Result:

Modulation: 802.11a

| Channel | Fundamental Frequency (MHz) | Value at Band Edge | | Limit (dB) |
|---------|-----------------------------|--------------------|------------|------------|
| | | Frequency (MHz) | Value (dB) | |
| Low | 5745 | 5725 | -49.72 | -20.00 |
| High | 5825 | 5850 | -53.11 | -20.00 |



Channel Frequency: 5745 MHz

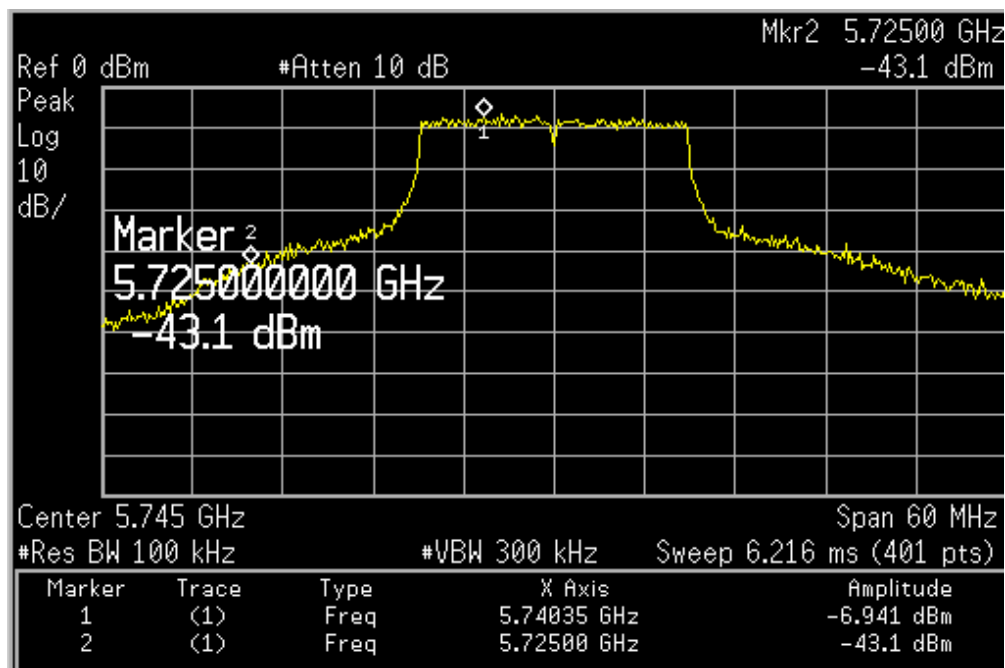


Channel Frequency: 5825 MHz

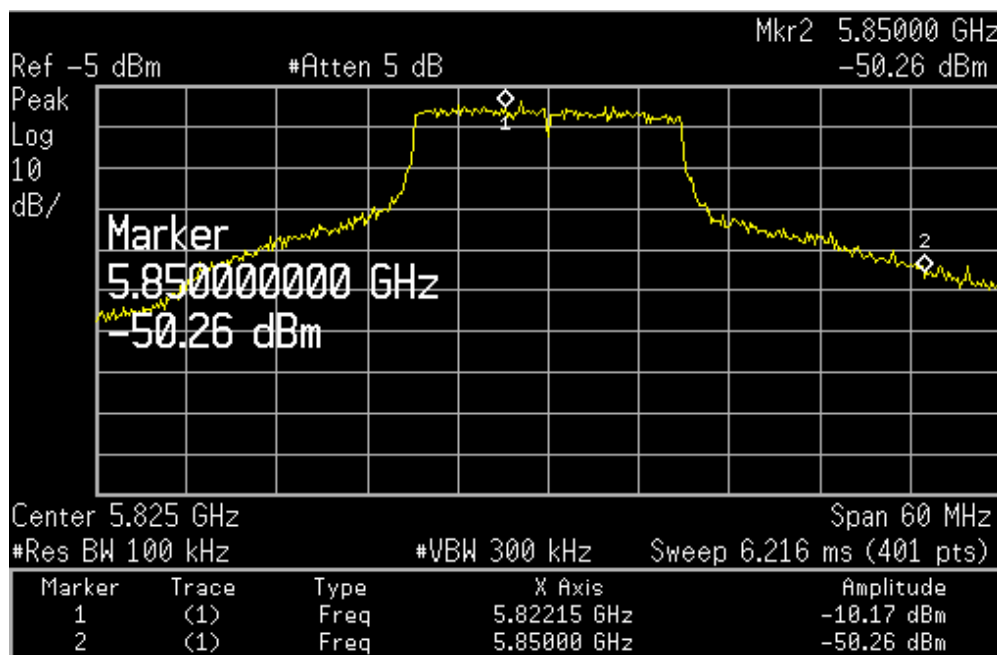
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Modulation: 802.11n

| Channel | Fundamental Frequency (MHz) | Value at Band Edge | | Limit (dB) |
|---------|-----------------------------|--------------------|------------|------------|
| | | Frequency (MHz) | Value (dB) | |
| Low | 5745 | 5725 | -43.10 | -20.00 |
| High | 5825 | 5850 | -50.26 | -20.00 |



Channel Frequency: 5745 MHz

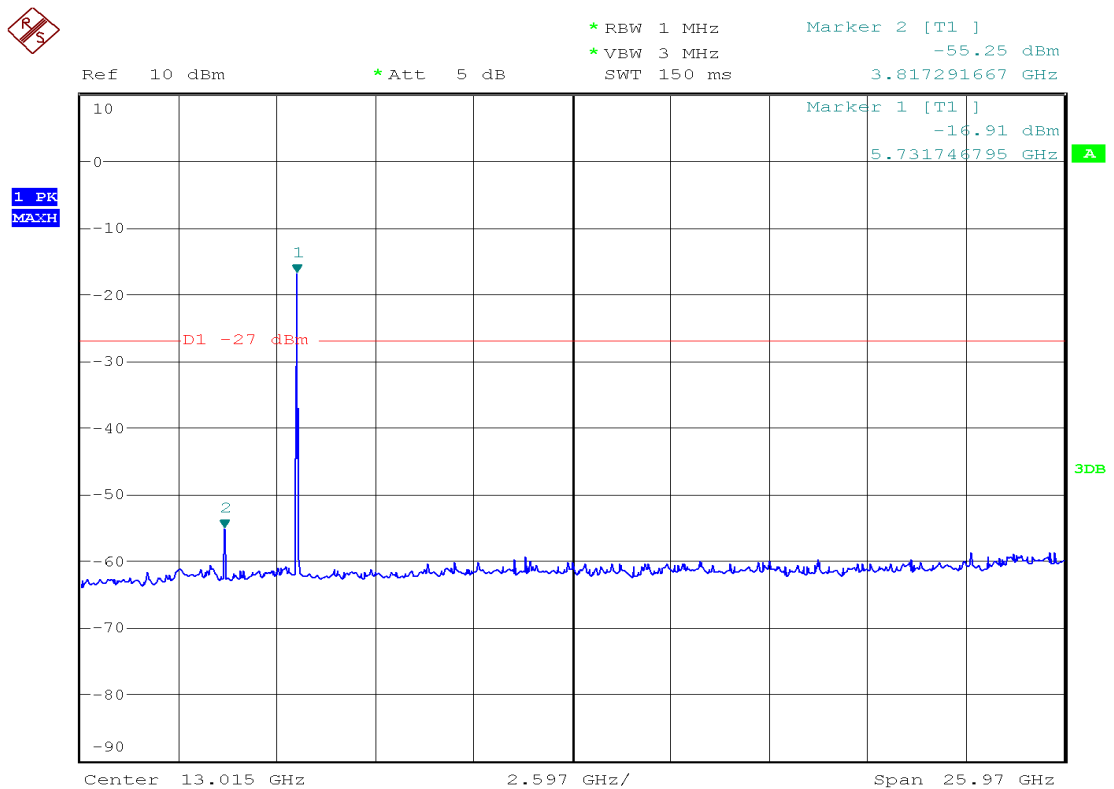
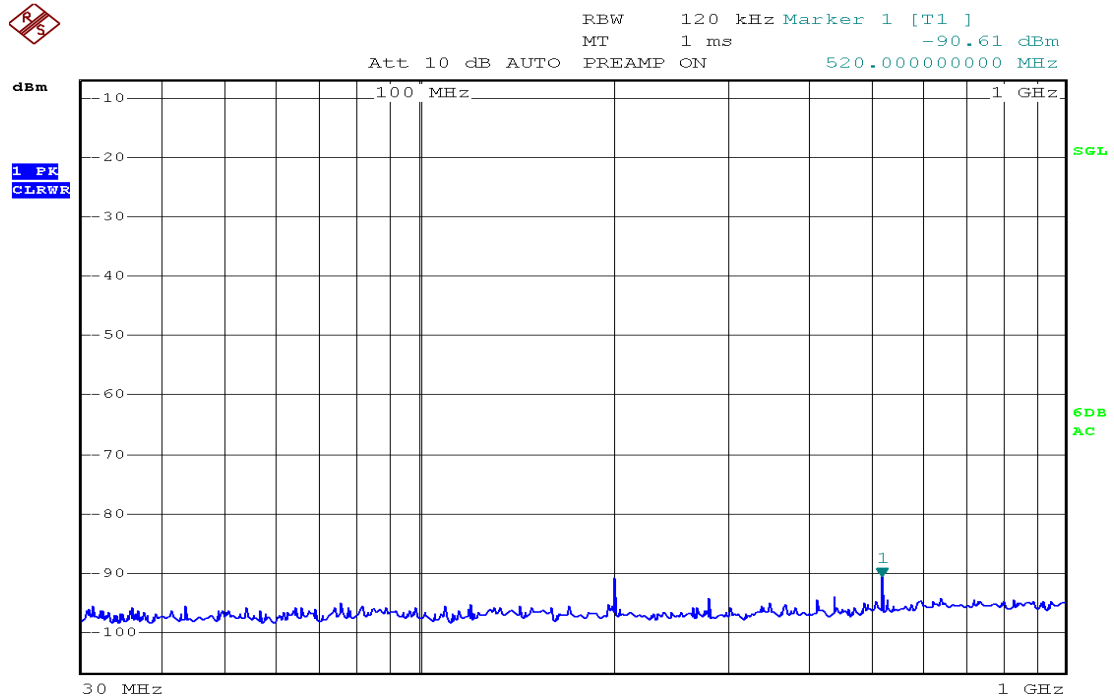


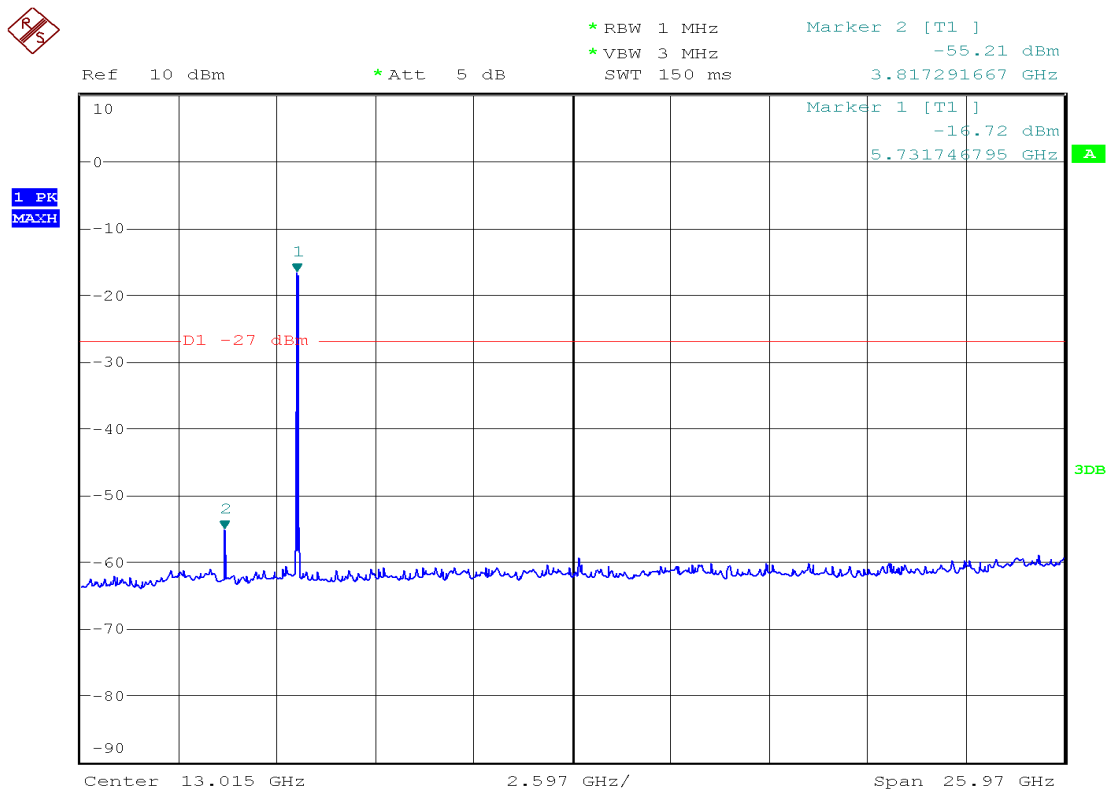
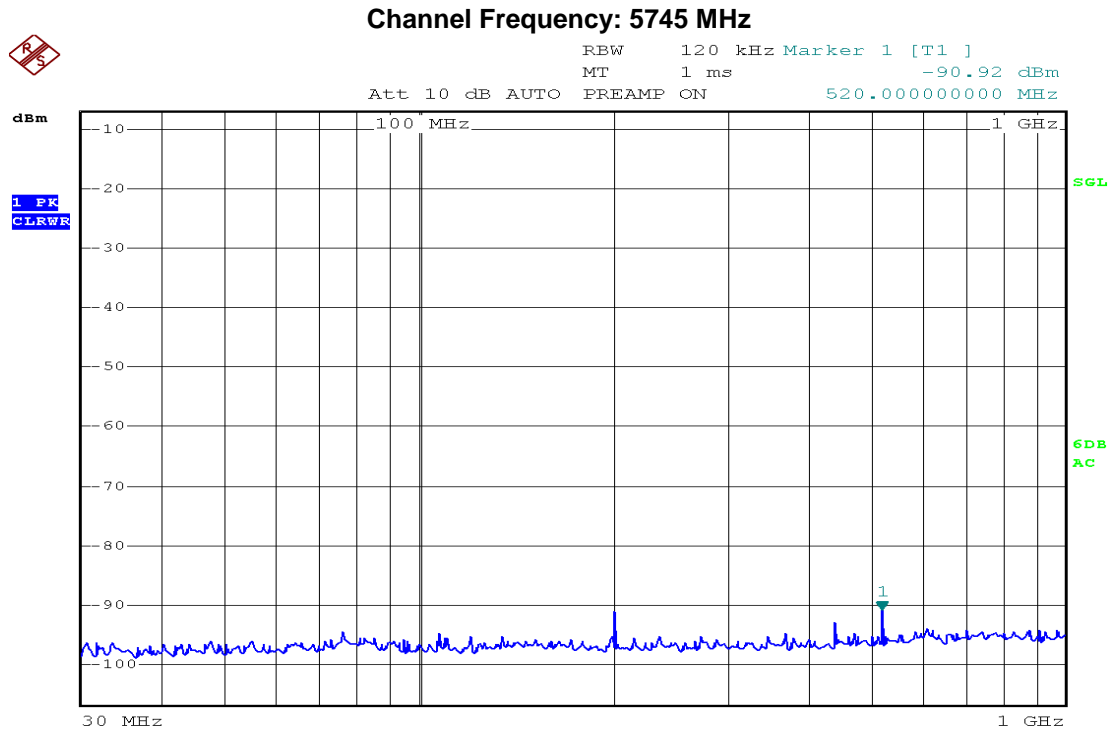
Channel Frequency: 5825 MHz

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Conducted Spurious Emission

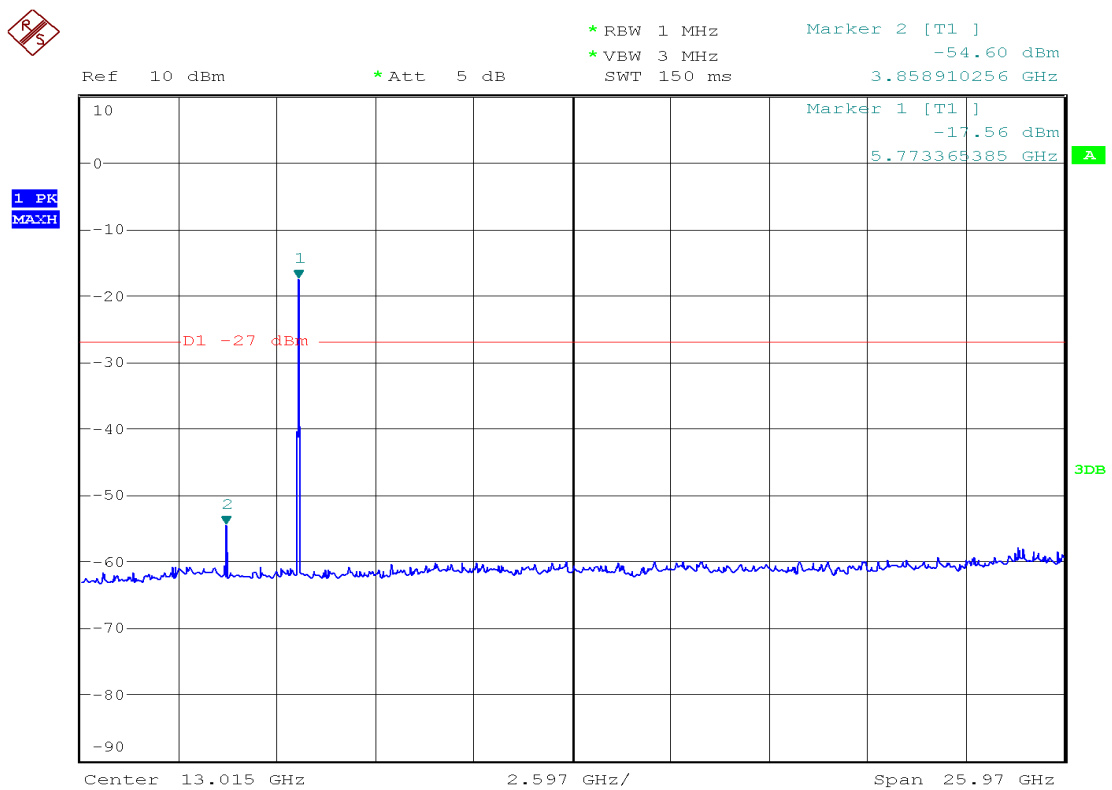
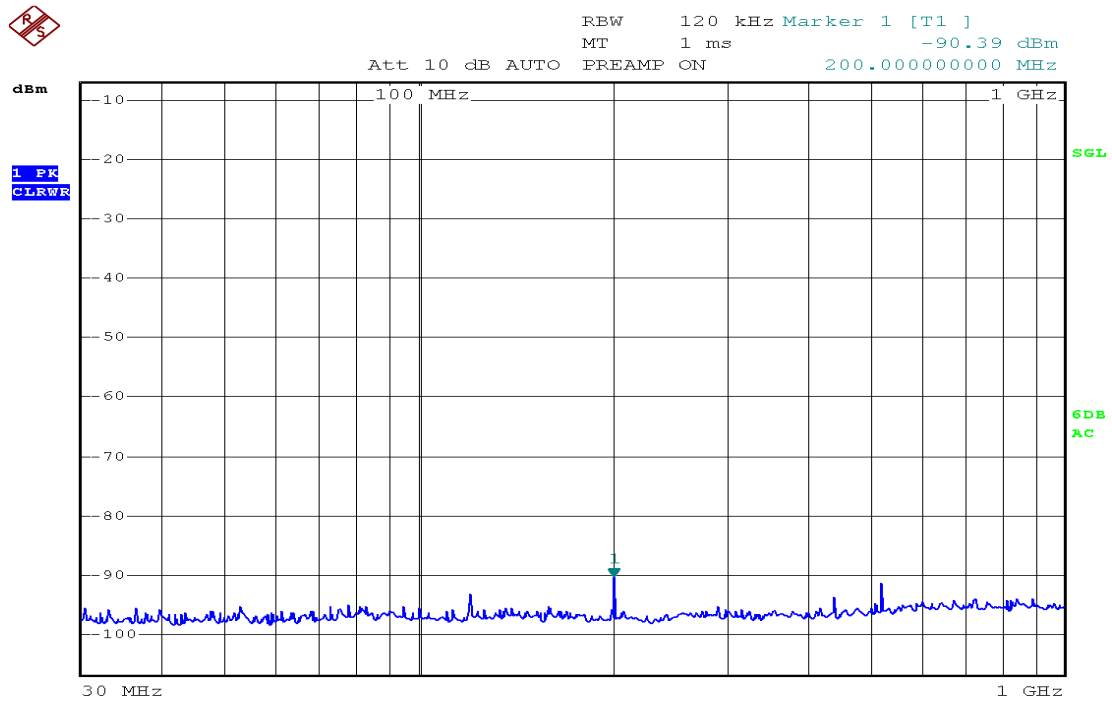
Modulation: 802.11a





Channel Frequency: 5785 MHz

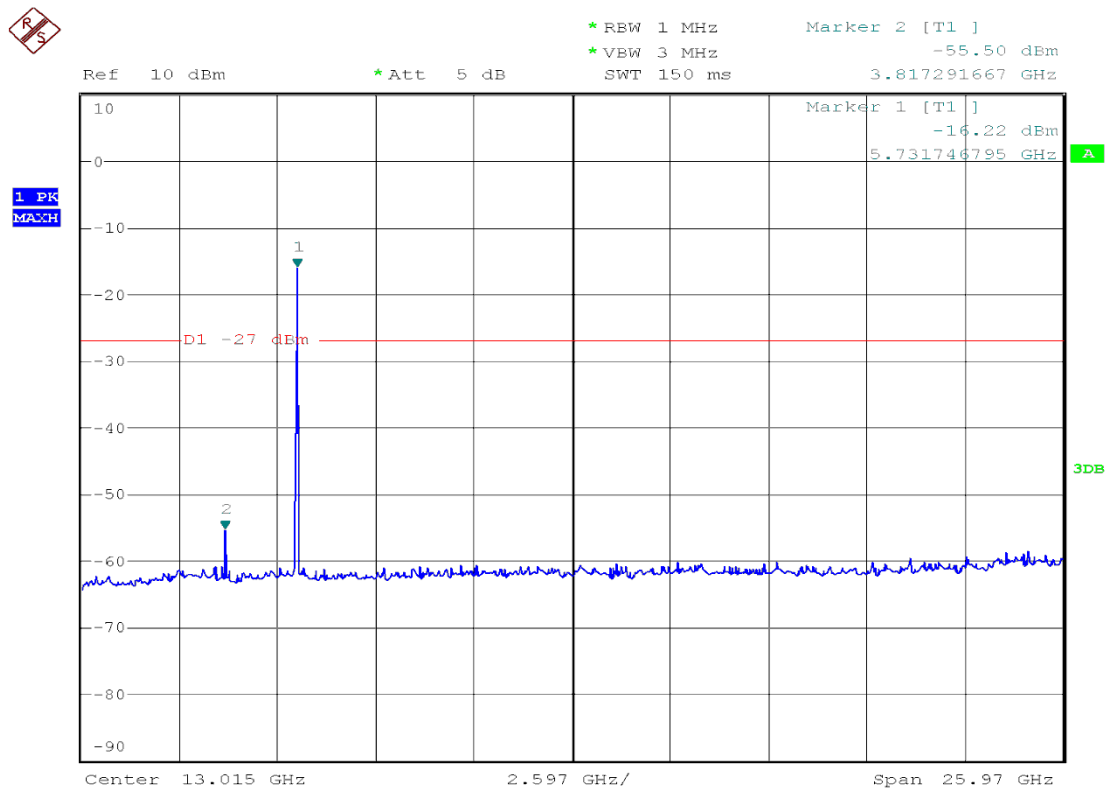
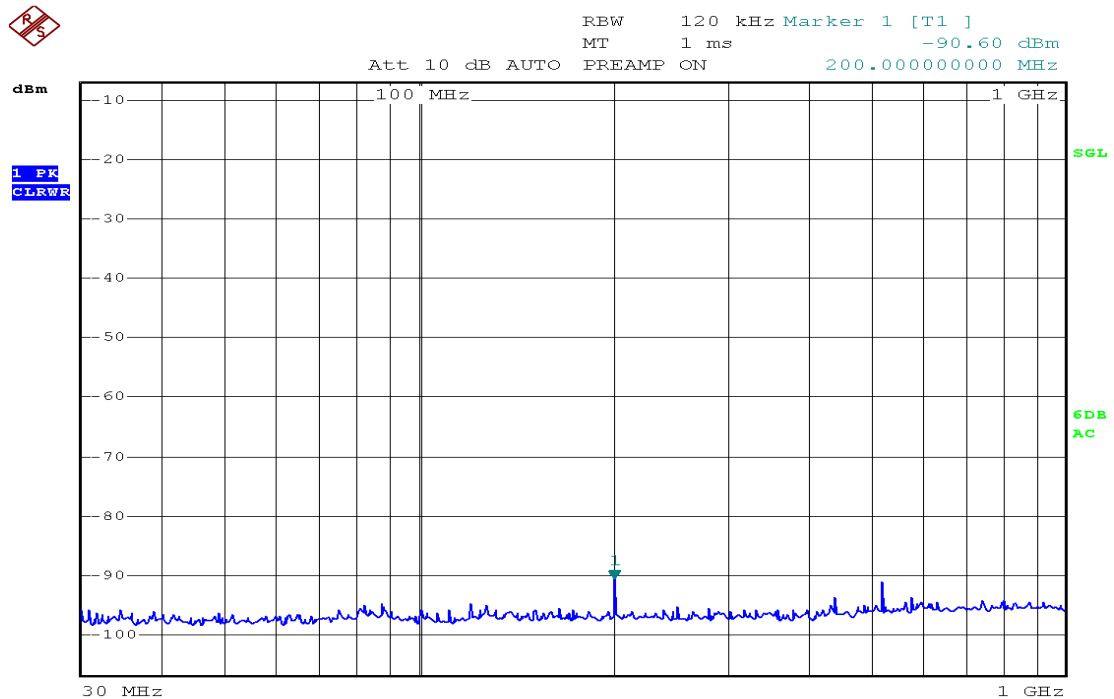
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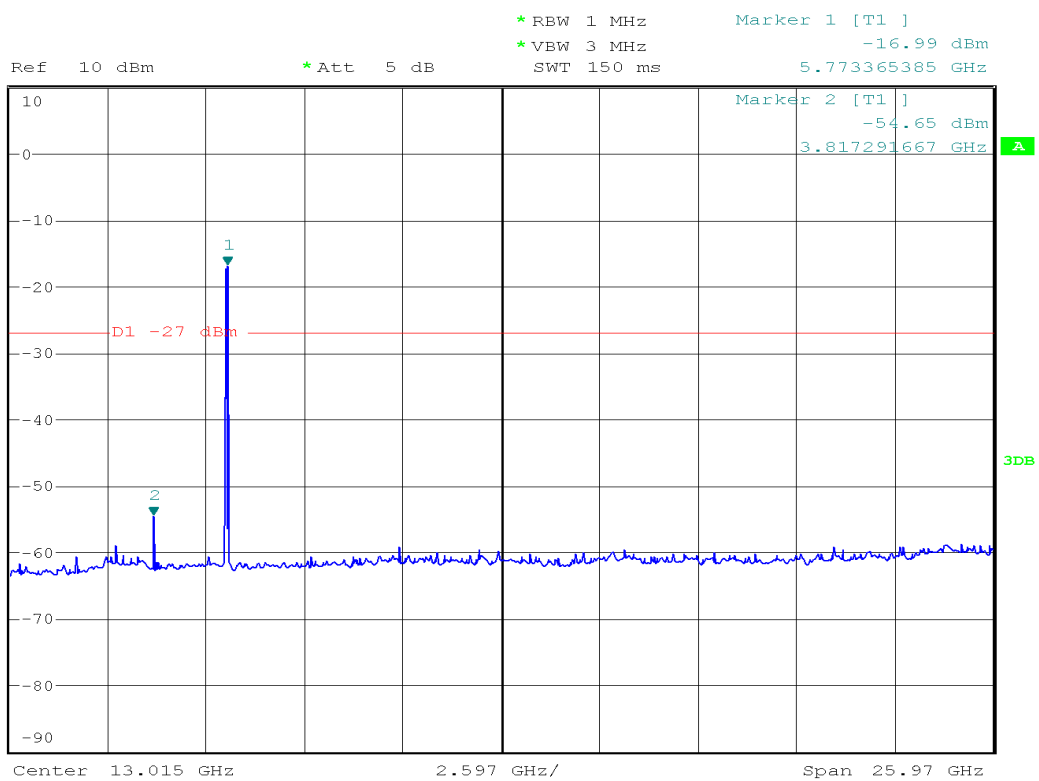
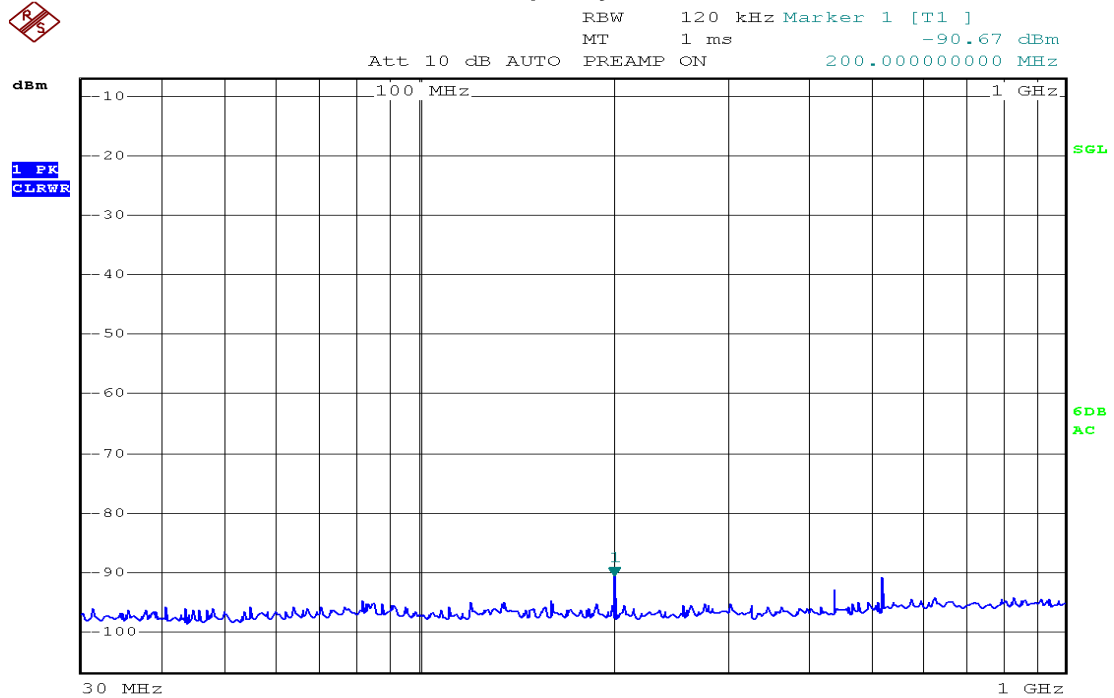


Channel Frequency: 5825 MHz

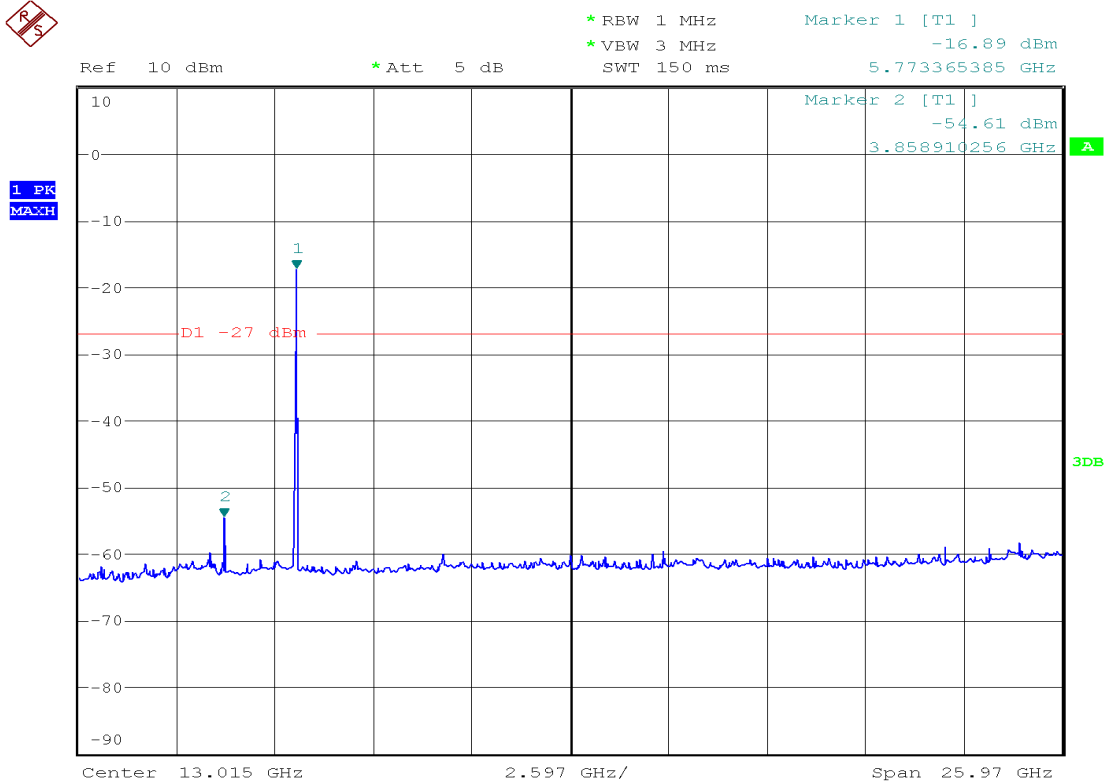
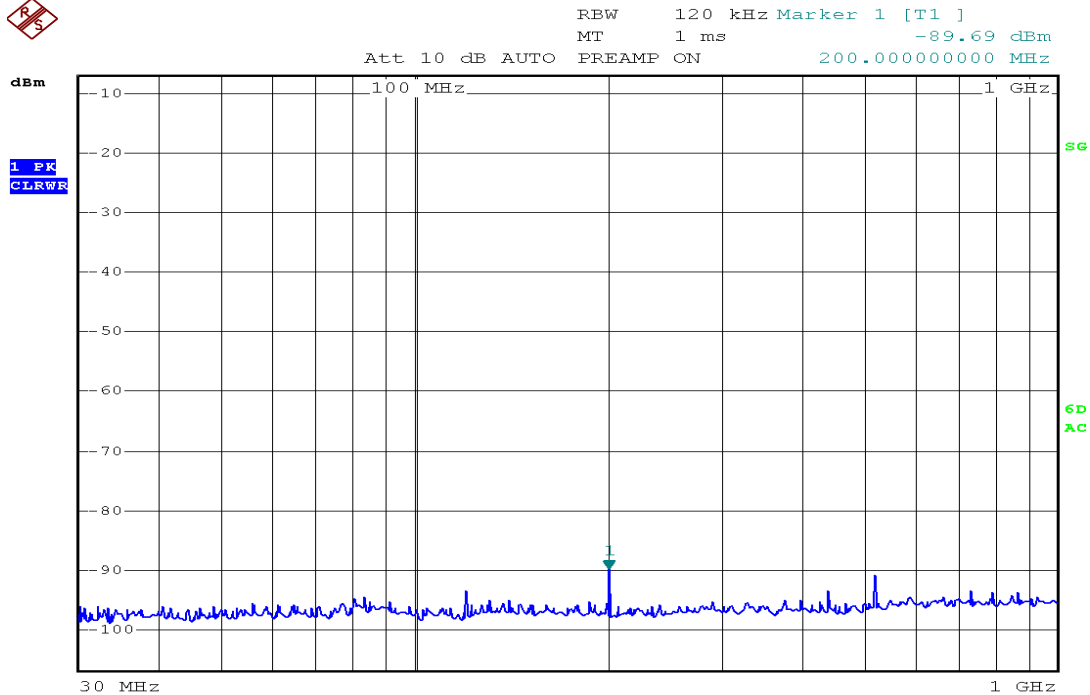
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Modulation: 802.11n




Channel Frequency: 5745 MHz

Channel Frequency: 5785 MHz

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Channel Frequency: 5825 MHz

Spurious Radiated Emissions
Result**Section 15.209**
Pass

| | |
|----------------------|--|
| Test Specification | FCC Part 15 Section 15.209 |
| Test Method | ANSI C63.4-2003 |
| Measurement Location | Semi Anechoic Chamber |
| Measuring Distance | 3m |
| Detection | QP for frequency below 1GHz, Peak/Average for frequency above 1GHz |
| Requirement | Should Comply with the limits stated in the below table. |

Limit for Radiated Emission of Section 15.209:

| Frequency (MHz) | Field strength ($\mu\text{V/m}$) | Field strength ($\text{dB}\mu\text{V/m}$) | Distance of Measurement (m) |
|-----------------|------------------------------------|---|-----------------------------|
| 0.009 – 0.490 | 2400/F(kHz) | 48.50 – 13.80 | 300* |
| 0.490 – 1.705 | 24000/F(kHz) | 33.80 – 23.00 | 30* |
| 1.705 -30 | 30 | 29.54 | 30* |
| 30-88 | 100 | 40.0 | 3 |
| 88-216 | 150 | 43.5 | 3 |
| 216-960 | 200 | 46.0 | 3 |
| Above 960 | 500 | 54.0 | 3 |

Remark: * the limit shows in the table above of frequency range 0.009 – 0.490, 0.490 – 1.705 MHz and 1.705-30MHz is at 300 meter, 30 meter and 30 meter range respectively, which corresponds to 88,50 – 53.80, 53.80 – 43.00 and 49.5dB $\mu\text{V/m}$ at 3m range by extrapolation calculation and the measurement of loop antenna.

The emission limits shown in the above table are based on measurements employing a 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.

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Test results:

Modulation: 802.11a

| Fundamental Frequency (MHz) | Antenna Polarization | Spurious Emission (MHz) | Field Strength (dBµV/m) | Limit (dBµV/m) | Margin (dB) |
|-----------------------------|----------------------|-------------------------|---------------------------|------------------|---------------|
| 5745.00 | V | 33.96 | 22.90 | 40.00 | -17.10 |
| | | 35.96 | 26.80 | 40.00 | -13.20 |
| | | 40.00 | 29.40 | 40.00 | -10.60 |
| | | 44.20 | 20.50 | 40.00 | -19.50 |
| | | 77.96 | 21.50 | 40.00 | -18.50 |
| | | 87.44 | 25.90 | 40.00 | -14.10 |
| | | 147.12 | 24.10 | 43.50 | -19.40 |
| | | 162.48 | 24.30 | 43.50 | -19.20 |
| | | 200.00 | 30.50 | 43.50 | -13.00 |
| | | 399.98 | 39.80 | 46.00 | -06.20 |
| | | 400.00 | 41.20 | 46.00 | -04.80 |
| | | 600.02 | 39.60 | 46.00 | -06.40 |
| | | 680.00 | 38.40 | 46.00 | -07.60 |
| | | 5748.80(P) | 75.00 | - | * |
| | | 5750.00(AV) | 64.30 | - | * |
| | | 11495.65 (P) | 55.42 | 68.23 | -12.81 |
| | | 11494.65 (Av) | 41.25 | 54.00 | -12.75 |
| | H | 170.16 | 30.00 | 43.50 | -13.50 |
| | | 200.00 | 36.60 | 46.50 | -06.90 |
| | | 200.00 | 33.00 | 46.00 | -10.50 |
| | | 279.98 | 37.50 | 46.00 | -08.50 |
| | | 440.00 | 39.70 | 46.00 | -06.30 |
| | | 680.00 | 36.90 | 46.00 | -09.10 |
| | | 5748.80(P) | 72.40 | - | * |
| | | 5750.40(AV) | 61.80 | - | * |
| | | 11495.65 (P) | 54.20 | 68.23 | -14.03 |
| | | 11493.65 (Av) | 41.58 | 54.00 | -12.42 |
| 5765.00 | V | 33.96 | 22.90 | 40.00 | -17.10 |
| | | 35.96 | 26.80 | 40.00 | -13.20 |
| | | 40.00 | 29.40 | 40.00 | -10.60 |
| | | 87.44 | 25.90 | 40.00 | -14.10 |
| | | 136.48 | 21.60 | 43.50 | -21.90 |
| | | 147.12 | 24.10 | 43.50 | -19.40 |
| | | 162.48 | 24.30 | 43.50 | -19.20 |
| | | 200.00 | 30.50 | 43.50 | -13.00 |
| | | 399.98 | 39.80 | 46.00 | -06.20 |
| | | 400.00 | 41.20 | 46.00 | -04.80 |
| | | 600.02 | 39.60 | 46.00 | -06.40 |
| | | 680.00 | 38.40 | 46.00 | -07.60 |
| | | 5762.00(P) | 75.40 | - | * |

| | | | | | |
|----------------|----------|--------------|-------|-------|--------|
| | | 5760.80(AV) | 63.80 | - | * |
| | | 11534.35(P) | 51.34 | 68.23 | -16.89 |
| | | 11536.35(Av) | 39.85 | 54.00 | -14.15 |
| | H | 170.16 | 30.00 | 43.50 | -13.50 |
| | | 200.00 | 36.60 | 46.50 | -06.90 |
| | | 200.00 | 33.00 | 46.00 | -10.50 |
| | | 279.98 | 37.50 | 46.00 | -08.50 |
| | | 440.00 | 39.70 | 46.00 | -06.30 |
| | | 680.00 | 36.90 | 46.00 | -09.10 |
| | | 5760.80(P) | 70.70 | - | * |
| | | 5761.20(AV) | 60.00 | - | * |
| | | 11524.35(P) | 54.62 | 68.23 | -13.61 |
| | | 11525.35(Av) | 40.62 | 54.00 | -13.38 |
| 5785.00 | V | 33.96 | 22.90 | 40.00 | -17.10 |
| | | 35.96 | 26.80 | 40.00 | -13.20 |
| | | 40.00 | 29.40 | 40.00 | -10.60 |
| | | 200.00 | 30.50 | 43.50 | -13.00 |
| | | 399.98 | 39.80 | 46.00 | -06.20 |
| | | 400.00 | 41.20 | 46.00 | -04.80 |
| | | 600.02 | 39.60 | 46.00 | -06.40 |
| | | 680.00 | 38.40 | 46.00 | -07.60 |
| | | 5788.80(P) | 75.80 | - | * |
| | | 5788.00(AV) | 65.20 | - | * |
| | | 11570.23(P) | 53.65 | 68.23 | -14.58 |
| | | 11573.10(Av) | 40.71 | 54.00 | -13.29 |
| | H | 170.16 | 30.00 | 43.50 | -13.50 |
| | | 200.00 | 36.60 | 46.50 | -06.90 |
| | | 200.00 | 33.00 | 46.00 | -10.50 |
| | | 279.98 | 37.50 | 46.00 | -08.50 |
| | | 440.00 | 39.70 | 46.00 | -06.30 |
| | | 680.00 | 36.90 | 46.00 | -09.10 |
| | | 5788.80(P) | 74.30 | - | * |
| | | 5788.00(AV) | 63.70 | - | * |
| | | 11570.23(P) | 52.63 | 68.23 | -15.60 |
| | | 11572.10(Av) | 41.74 | 54.00 | -12.26 |
| 5825.00 | H | 280.00 | 35.08 | 46.00 | -10.92 |
| | | 520.05 | 34.92 | 46.00 | -11.08 |
| | | 600.00 | 27.05 | 46.00 | -18.95 |
| | | 680.00 | 31.81 | 46.00 | -14.19 |
| | | 5825.00(P) | 91.93 | * | - |
| | | 5825.00 (Av) | 88.46 | * | - |
| | | 11650.00 (P) | 53.53 | 68.23 | -14.7 |
| | | 11651.00(Av) | 40.36 | 54.00 | -13.64 |
| | V | 200.00 | 34.22 | 43.5 | -09.28 |
| | | 440.05 | 41.64 | 46.00 | -04.36 |

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| | | | | | |
|--|--|---------------|-------|-------|--------|
| | | 520.00 | 42.04 | 46.00 | -03.96 |
| | | 520.05 | 42.29 | 46.00 | -03.71 |
| | | 600.00 | 40.81 | 46.00 | -05.19 |
| | | 5825.00 (P) | 94.9 | * | - |
| | | 5825.00 (Av) | 91.46 | * | - |
| | | 11650.00 (P) | 56.43 | 68.23 | -11.8 |
| | | 11651.20 (Av) | 41.86 | 54.00 | -12.14 |

* Operation Band
P-->Peak
AV-->Average

Modulation: 802.11n

| Fundamental Frequency (MHz) | Antenna Polarization | Spurious Emission (MHz) | Field Strength (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------------------|----------------------|-------------------------|-------------------------|----------------|-------------|
| 5745.00 | V | 33.96 | 22.90 | 40.00 | -17.10 |
| | | 35.96 | 26.80 | 40.00 | -13.20 |
| | | 40.00 | 29.40 | 40.00 | -10.60 |
| | | 44.00 | 20.50 | 40.00 | -19.50 |
| | | 54.32 | 17.30 | 40.00 | -22.70 |
| | | 77.96 | 21.50 | 40.00 | -18.50 |
| | | 87.44 | 25.90 | 40.00 | -14.10 |
| | | 200.00 | 30.50 | 43.50 | -13.00 |
| | | 399.98 | 39.80 | 46.00 | -06.20 |
| | | 440.0 | 41.20 | 46.00 | -04.80 |
| | | 600.02 | 39.60 | 46.00 | -06.40 |
| | | 680.00 | 38.40 | 46.00 | -07.60 |
| | | 951.86 | 32.80 | 46.00 | -13.20 |
| | | 5748.40(P) | 67.30 | - | * |
| | | 5748.80(AV) | 64.20 | - | * |
| | | 11488.23(P) | 52.30 | 68.23 | -15.93 |
| | | 11489.20(Av) | 41.36 | 54.00 | -12.64 |
| | H | 32.00 | 11.60 | 40.00 | -28.40 |
| | | 170.16 | 30.00 | 43.50 | -13.50 |
| | | 200.00 | 36.60 | 43.50 | -06.90 |
| | | 200.00 | 33.00 | 43.50 | -10.50 |
| | | 279.98 | 37.50 | 46.00 | -08.50 |
| | | 440.00 | 39.70 | 46.00 | -06.30 |
| | | 680.00 | 36.90 | 46.00 | -09.10 |
| | | 921.26 | 32.90 | 46.00 | -13.10 |
| | | 5748.00(P) | 68.80 | - | * |
| | | 5749.60(AV) | 59.80 | - | * |
| 5765.00 | V | 11488.41(P) | 51.25 | 68.23 | -16.98 |
| | | 11489.75Av) | 40.36 | 54.00 | -13.64 |
| | V | 33.96 | 22.90 | 40.00 | -17.10 |
| | | 35.96 | 26.80 | 40.00 | -13.20 |

| | | | | | |
|---------|---|--------------|-------|-------|--------|
| | | 40.00 | 29.40 | 40.00 | -10.60 |
| | | 77.96 | 21.50 | 40.00 | -18.50 |
| | | 87.44 | 25.90 | 40.00 | -14.10 |
| | | 147.12 | 24.10 | 43.50 | -19.40 |
| | | 162.48 | 24.30 | 43.50 | -19.20 |
| | | 200.00 | 30.50 | 43.50 | -13.00 |
| | | 399.98 | 39.80 | 46.00 | -06.20 |
| | | 440.0 | 41.20 | 46.00 | -04.80 |
| | | 600.02 | 39.60 | 46.00 | -06.40 |
| | | 680.00 | 38.40 | 46.00 | -07.60 |
| | | 951.86 | 32.80 | 46.00 | -13.20 |
| | | 5759.60(P) | 73.30 | - | * |
| | | 5760.90(AV) | 63.90 | - | * |
| | | 11532.20(P) | 52.65 | 68.23 | -15.58 |
| | | 11534.20(Av) | 39.65 | 54.00 | -14.35 |
| | H | 32.00 | 11.60 | 40.00 | -28.40 |
| | | 170.16 | 30.00 | 43.50 | -13.50 |
| | | 200.00 | 36.60 | 43.50 | -06.90 |
| | | 200.00 | 33.00 | 43.50 | -10.50 |
| | | 279.98 | 37.50 | 46.00 | -08.50 |
| | | 440.00 | 39.70 | 46.00 | -06.30 |
| | | 680.00 | 36.90 | 46.00 | -09.10 |
| | | 921.26 | 32.90 | 46.00 | -13.10 |
| | | 5767.60(P) | 68.60 | - | * |
| | | 5760.80(AV) | 59.30 | - | * |
| | | 11532.20(P) | 52.30 | 68.23 | -15.93 |
| | | 11534.20(Av) | 41.85 | 54.00 | -12.15 |
| 5785.00 | V | 33.96 | 22.90 | 40.00 | -17.10 |
| | | 35.96 | 26.80 | 40.00 | -13.20 |
| | | 40.00 | 29.40 | 40.00 | -10.60 |
| | | 44.00 | 20.50 | 40.00 | -19.50 |
| | | 54.32 | 17.30 | 40.00 | -22.70 |
| | | 77.96 | 21.50 | 40.00 | -18.50 |
| | | 87.44 | 25.90 | 40.00 | -14.10 |
| | | 147.12 | 24.10 | 43.50 | -19.40 |
| | | 162.48 | 24.30 | 43.50 | -19.20 |
| | | 200.00 | 30.50 | 43.50 | -13.00 |
| | | 399.98 | 39.80 | 46.00 | -06.20 |
| | | 440.0 | 41.20 | 46.00 | -04.80 |
| | | 600.02 | 39.60 | 46.00 | -06.40 |
| | | 680.00 | 38.40 | 46.00 | -07.60 |
| | | 951.86 | 32.80 | 46.00 | -13.20 |
| | | 5788.00(P) | 74.50 | - | * |
| | | 5786.40(AV) | 65.30 | - | * |
| | | 11579.65(P) | 51.50 | 68.23 | -16.73 |
| | | 11576.23(Av) | 41.23 | 54.00 | -12.77 |
| | H | 32.00 | 11.60 | 40.00 | -28.40 |
| | | 170.16 | 30.00 | 43.50 | -13.50 |
| | | 200.00 | 36.60 | 43.50 | -06.90 |
| | | 200.00 | 33.00 | 43.50 | -10.50 |

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|----------------|----------|---------------|-------|-------|--------|
| | | 279.98 | 37.50 | 46.00 | -08.50 |
| | | 440.00 | 39.70 | 46.00 | -06.30 |
| | | 680.00 | 36.90 | 46.00 | -09.10 |
| | | 921.26 | 32.90 | 46.00 | -13.10 |
| | | 5789.60(P) | 73.80 | - | * |
| | | 5788.80(AV) | 64.40 | - | * |
| | | 11579.65(P) | 52.32 | 68.23 | -15.91 |
| | | 11576.23(Av) | 39.65 | 54.00 | -14.35 |
| 5825.00 | H | 200.00 | 34.95 | 43.50 | -08.55 |
| | | 360.00 | 37.84 | 46.00 | -08.16 |
| | | 440.05 | 39.13 | 46.00 | -06.87 |
| | | 520.00 | 35.52 | 46.00 | -10.48 |
| | | 5825.00 (P) | 89.80 | * | - |
| | | 5825.00 (Av) | 84.10 | * | - |
| | | 11650.00 (P) | 53.28 | 68.23 | -14.95 |
| | | 11650.00 (Av) | 40.51 | 54.00 | -13.49 |
| | V | 200.00 | 35.30 | 43.50 | -08.20 |
| | | 440.05 | 41.90 | 46.00 | -04.10 |
| | | 520.00 | 42.59 | 46.00 | -03.41 |
| | | 520.05 | 40.62 | 46.00 | -05.38 |
| | | 600.00 | 40.22 | 46.00 | -05.78 |
| | | 680.05 | 39.51 | 46.00 | -06.49 |
| | | 5825.00 (P) | 94.38 | * | - |
| | | 5825.00 (Av) | 90.91 | * | - |
| | | 11650.00 (P) | 57.88 | 68.23 | -10.35 |
| | | 11650.00 (Av) | 42.06 | 54.00 | -11.94 |

* Operation Band
P-->Peak detector
AV-->Average