

Prüfbericht-Nr.: <i>Test report no.:</i>	CN20DXJL(P15E) 001	Auftrags-Nr.: <i>Order no.:</i>	238490953	Seite 1 von 34 Page 1 of 34
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2020-09-08	
Auftraggeber: <i>Client:</i>	Kingston Technology Company 17600 Newhope Street, Fountain Valley, California 92708, United States			
Prüfgegenstand: <i>Test item:</i>	HyperX CloudX Stinger Core Wireless Headset			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	CS005			
Auftrags-Inhalt: <i>Order content:</i>	FCC Part 15E Test report (WiFi 5GHz)			
Prüfgrundlage: <i>Test specification:</i>	FCC 47CFR Part 15: Subpart E Section 15.407			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2020-09-29			
Prüfmuster-Nr.: <i>Test sample no:</i>	A002920716-001 A002920716-002			
Prüfzeitraum: <i>Testing period:</i>	2020-10-12 - 2020-11-05			
Ort der Prüfung: <i>Place of testing:</i>	EMC/RF Laboratory Taipei			
Prüflaboratorium: <i>Testing laboratory:</i>	Taipei Testing Laboratories			
Prüfergebnis*: <i>Test result*:</i>	Pass			
überprüft von: <i>reviewed by:</i>	 Ryan Chen		genehmigt von: <i>authorized by:</i>	 Brenda Chen
Datum: <i>Date:</i>	2020-11-06		Ausstellungsdatum: <i>Issue date:</i>	2020-11-06
Stellung / Position:	Senior Project Manager		Stellung / Position:	Senior Project Manager
Sonstiges / Other:				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>				
Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>				
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	4 = ausreichend N/A = nicht anwendbar
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory F(ail) = failed a.m. test specification(s)	4 = sufficient N/A = not applicable
5 = mangelhaft N/T = nicht getestet				
5 = poor N/T = not tested				
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. <i>This test report only 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 test mark.</i>				

TEST SUMMARY

Report Section	FCC Clause	Test Item	Result
5.1.1	15.407(a) & 15.203	Antenna Requirement	Pass
5.1.2	15.407(a)	Maximum Conducted Output Power	Pass
5.1.3	15.407(a)	26 dB Bandwidth	Pass
5.1.3	2.1049	99% Occupied Bandwidth	Pass
5.1.4	15.407(e)	6 dB Bandwidth (U-NII-3 Band only)	Pass
5.1.5	15.407(g)	Frequency Stability	Pass
5.1.6	15.407(a)	Power Spectral Density	Pass
5.1.7	15.407(b) & 15.205 & 15.209	Radiated Spurious Emissions and Band Edges	Pass
-	15.407(h) & KDB 905462 D02	Dynamic Frequency Selection	Not Applicable
5.2.1	15.207	Mains Conducted Emission	Pass
6.1	KDB Publication 447498 D01	RF Exposure Compliance	Pass

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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**APPENDIX B - TEST RESULT OF RADIATED SPURIOUS EMISSIONS & MAINS CONDUCTED
EMISSION**

APPENDIX SP - PHOTOGRAPHS OF TEST SETUP

APPENDIX EP - PHOTOGRAPHS OF EUT

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HISTORY OF THIS TEST REPORT

Report No.	Description	Date Issued
CN20DXJL(P15E) 001	Original Release	2020-11-06

1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A - Test Result of Conducted

Appendix B - Test Result of Radiated Spurious Emissions & Mains Conducted Emission

Appendix SP - Photographs of Test Setup

Appendix EP - Photographs of EUT

Applied Standard and Test Levels

Radio
FCC 47CFR Part 15: Subpart E Section 15.407
FCC 47CFR Part 2: Subpart J Section 2.1093
FCC 47CFR Part 2: Subpart J Section 2.1049
ANSI C63.10:2013
KDB Publication 447498 D01
KDB 789033 D02 General UNII Test Procedures New Rules v02r01

1.2 Decision Rule of Conformity

The decision rule of conformity of this test report is following the requirements of the requested standard in the quotation, and agreed among testing laboratory and manufacturer (applicant) to exclude the consideration of Measurement Uncertainty, unless it is required by the specific standard.

2. Test Sites

2.1 Test Laboratory

Taipei Testing Laboratories

11F. No.758, Sec. 4, Bade Rd., Songshan Dist.
Taipei City 105
Taiwan (R.O.C.)

2.2 Test Facility

Taipei Testing Laboratories

No.458-18, Sec. 2, Fenliao Rd., Linkou Dist.,
New Taipei City 244
Taiwan (R.O.C.)
FCC Registration No.: 226631
ISED Registration No.: 25563

2.3 Traceability

All measurement equipment calibrations are traceable to NML(Taiwan)/NIST(USA) or where calibration is performed outside Taiwan, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically in a suitably accredited Calibration Lab. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

All measurement uncertainty values are shown with a coverage factor of $k=2$ to indicate a 95% level of confidence.

Emission Measurement Uncertainty

Parameter	Uncertainty
Radiated Emission (9 kHz ~ 30 MHz)	± 1.15 dB
Radiated Emission (30 MHz ~ 200 MHz)	± 1.30 dB
Radiated Emission (200 MHz ~ 1 GHz)	± 1.30 dB
Radiated Emission (1 GHz ~ 18 GHz)	± 1.54 dB
Radiated Emission (18 GHz ~ 40 GHz)	± 2.52 dB
Mains Conducted Emission	± 1.65 dB

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a HyperX CloudX Stinger Core Wireless Headset. It contains a WLAN compatible module enabling the user to communicate data through a Wireless interface.

For details refer to the User Guide, Data Sheet and Circuit Diagram.

3.2 System Details and Ratings

Basic Information of EUT

Item	EUT information
Kind of Equipment/Test Item	HyperX CloudX Stinger Core Wireless Headset
Type Identification	CS005
FCC ID	JIC-CS005

Technical Specification of EUT

Item	EUT information
Operating Frequency	Band 1: 5180 MHz ~ 5240 MHz Band 4: 5745 MHz ~ 5825 MHz
Channel Spacing	10 MHz
Channel number	Band 1: 4 for 802.11a, 802.11n HT20 Band 4: 5 for 802.11a, 802.11n HT20
Data Rate	802.11a: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps 802.11n: up to MCS7
Operation Voltage	4Vdc
Modulation	OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Maximum Output Power (mW)	5180 ~ 5240 MHz: 5.58 5745 ~ 5825 MHz: 5.62
Antenna Information	Refer to 5.1.1
Accessory Device	Refer to 4.4

3.3 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.4 Submitted Documents

- Circuit Diagram
- Instruction Manual
- Rating Label
- Technical Description

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The test modes were adapted accordingly in reference to the instructions for use.

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output expected by the customer and is going to be fixed on the firmware of the final end product.

Table for Parameters of Test Software Setting

802.11a		802.11n HT20	
Channel	Power Setting	Channel	Power Setting
36	12	36	12
40	11.5	40	12
48	11.5	48	11.5
149	11.5	149	12
157	12.5	157	13
165	13	165	13

4.2 Carrier Frequency and Channel

Band	Channel	Frequency (MHz)	802.11a 802.11n HT20
U-NII-1 (Band 1)	36	5180	V
	38	5190	
	40	5200	V
	42	5210	
	44	5220	V
	46	5230	
	48	5240	V
U-NII-3 (Band 4)	149	5745	V
	151	5755	
	153	5765	V
	155	5775	
	157	5785	V
	159	5795	
	161	5805	V
	165	5825	V

4.3 Test Operation and Test Software

Setup for testing: Test samples are provided with a USB interface which makes it possible to control them through a test software installed on a notebook computer.

This software was running on the laptop computer connected to the EUT. It was used to enable the operation modes listed as below.

Test Software	artgui.exe
---------------	------------

The samples were used as follows:

A002920716-001 for radiated

A002920716-002 for conducted

Full test was applied on all test modes, but only worst case was shown.

The EUT incorporates a SISO function. Physically, the EUT provides two completed transmitters and receivers.

Modulation Mode	Tx Function
802.11a	1TX (SISO)
802.11n HT20	1TX (SISO)

* The modulation and bandwidth are similar for 802.11n mode HT20, therefore investigated worse case as representative mode in test report.

EUT Configure Mode	Applicable To				Description
	Antenna Port Conducted Measurement	Radiated Spurious Emissions above 1 GHz	Radiated Spurious Emissions below 1 GHz	Mains Conducted Emission	
-	√	√	√	√	-

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when position on Z-plane.
2. "-" means no effect.

Antenna Port Conducted Measurement

- ☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	6.0
		5745-5825	149 to 165	149, 157, 165	
-	802.11n HT20	5180-5240	36 to 48	36, 40, 48	MCS0
		5745-5825	149 to 165	149, 157, 165	

Radiated Spurious Emissions (Above 1 GHz)

- ☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	6.0
		5745-5825	149 to 165	149, 157, 165	
-	802.11n HT20	5180-5240	36 to 48	36, 40, 48	MCS0
		5745-5825	149 to 165	149, 157, 165	

Radiated Spurious Emissions (Below 1 GHz)

- ☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
-	802.11n HT20	5180-5240	36 to 48	36	MCS0
-	802.11a	5745-5825	149 to 165	165	6.0

Mains Conducted Emission Test

- ☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
-	802.11a	5745-5825	149 to 165	165	6.0

Test Condition

Test Item	Ambient Temperature	Relative Humidity	Tested by
Conducted Measurement	24.7 °C	65.1 %	Stanislas Charles
Radiated Spurious Emissions above 1 GHz	23.5 °C	67 %	Simon Tsai
Radiated Spurious Emissions below 1 GHz	23.5 °C	67 %	Simon Tsai
Mains Conducted Emission	26 °C	65 %	Kay Wu

4.4 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

Accessory of EUT

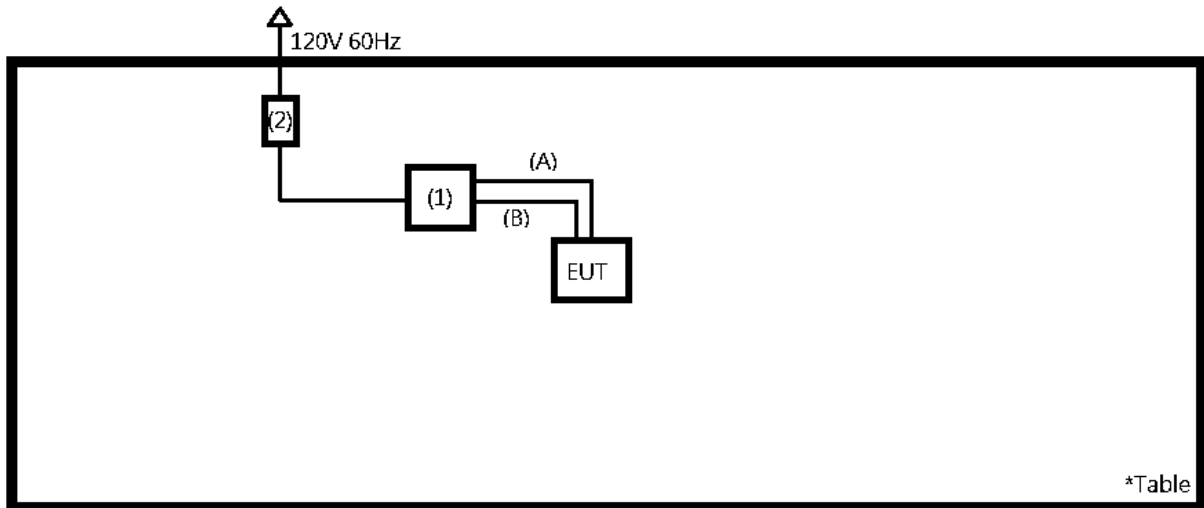
No.	Product	Brand	Model	Description	Remark
B	USB Cable	HYPERX	CS005	45 cm shielded cable w/o core	Radiated and Mains Conducted Tests

Support Unit

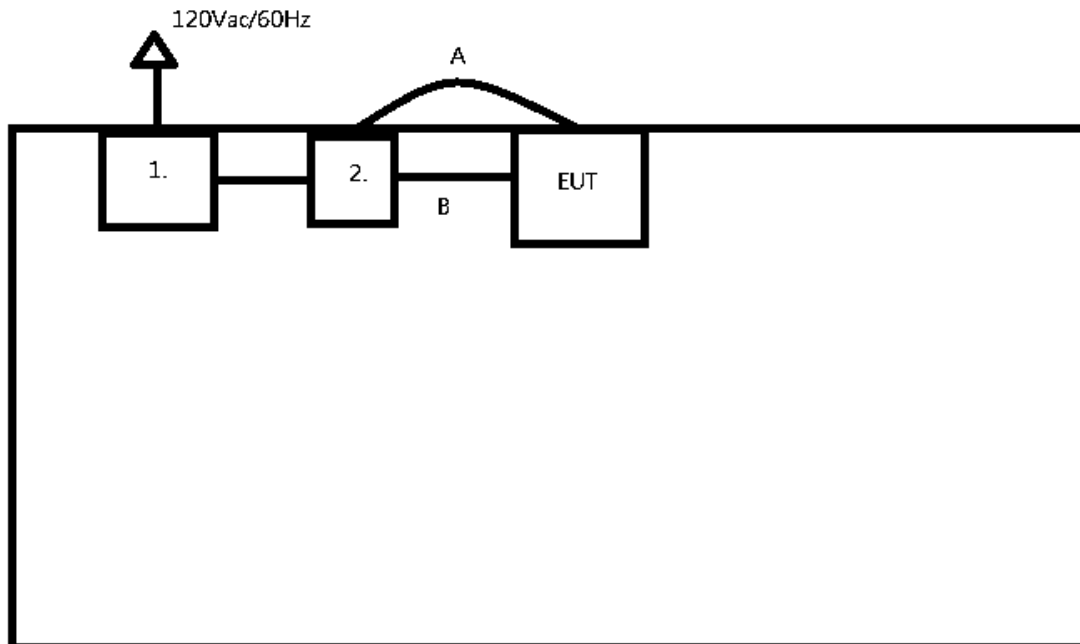
No.	Description	Brand	Model	S/N	Remark
1	Notebook	HP	15-da1046TX	CND911MY2	Radiated Test
2	Adapter	HP	TPN-LA16	-	
1	Adapter	HP	TPN-LA16	-	180 cm shielded cable w/o core
2	Notebook	HP	15-da1046TX	CND911MY2	180 cm shielded cable w/o core
-	Notebook	HP	TPN-C139	CND93662WT	Mains Conducted Test
A	USB to Type C	-	-	-	Conducted Test
					Radiated and Mains Conducted Tests
					60 cm shielded cable w/o

4.5 Test Setup Diagram

<Radiated Spurious Emissions mode>

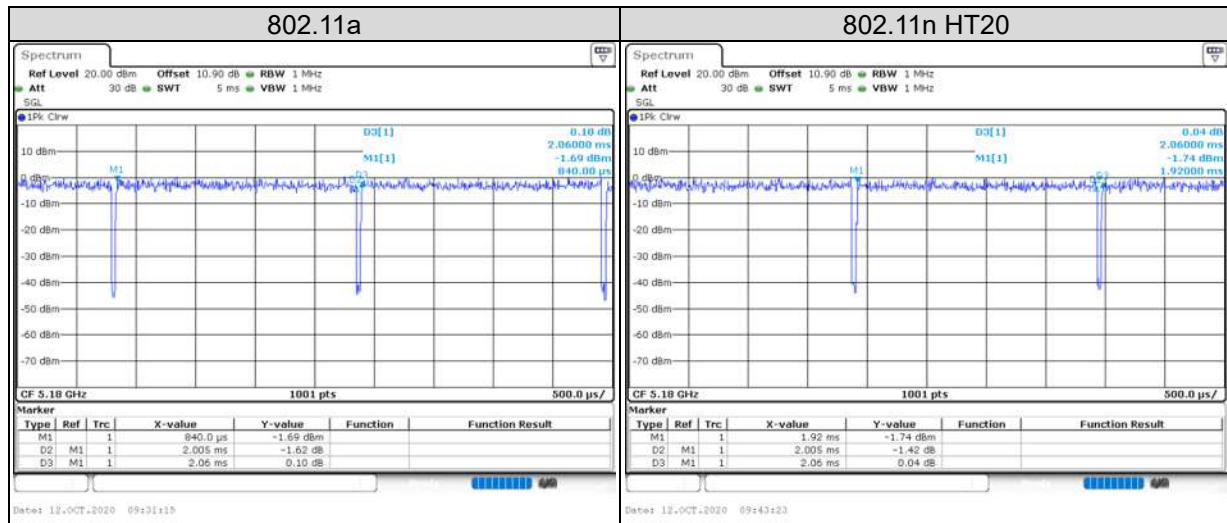


<Mains Conducted Emission mode>



4.6 Duty Cycle of Test Signal

Mode	On + Off Time (ms)	On Time (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11a	2.06	2.005	97.33	0.12
802.11n HT20	2.06	2.005	97.33	0.12



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

Requirement Use of approved antennas only

According to the manufacturer declaration, the EUT's antenna specifications are described as below.
The antenna is used with no possibility of replacement with a non-approved antenna by the end-user.
Therefore, the EUT is considered to comply with this provision.

Frequency(MHz)	Antenna type	Brand name	Model name	Antenna gain
5180~5240	Chip Antenna	Unictron	AA077U	1.3 dBi
5745~5825				0.4 dBi

Refer to EUT photo for details.

5.1.2 Maximum Conducted Output Power

Limit

Operation Band	EUT Category	Limit
U-NII-1	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125 mW (21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	Fixed point-to-point Access Point	1 Watt (30 dBm)
	Indoor Access Point	1 Watt (30 dBm)
	Mobile and Portable client device	250 mW (24 dBm)
U-NII-2A	---	250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-2C	---	250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-3	---	1 Watt (30 dBm)

Note: B* is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

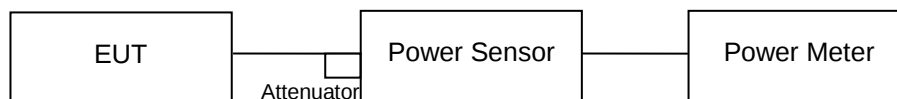
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20 MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Power Meter	Anritsu	ML2495A	1901008	2020/4/6	2021/4/5
Power Sensor	Anritsu	MA2411B	1725269	2020/4/7	2021/4/6

Test Procedures

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst and set the detector to AVERAGE. Duty factor is not added to measured value.

Test Result

<802.11a>

Channel	Channel Frequency (MHz)	Average Output Power		EIRP Power (dBm)	Limit
		(dBm)	(mW)		
36	5180	7.40	5.50		24.00
40	5200	7.26	5.32		24.00
48	5240	7.42	5.52		24.00
149	5745	7.32	5.40		30.00
157	5785	7.19	5.24		30.00
165	5825	7.32	5.40		30.00

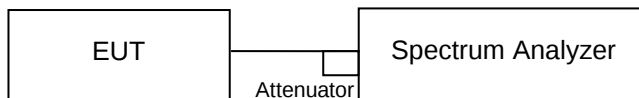
<802.11n HT20>

Channel	Channel Frequency (MHz)	Average Output Power		EIRP Power (dBm)	Limit
		(dBm)	(mW)		
36	5180	7.14	5.18		24.00
40	5200	7.50	5.62		24.00
48	5240	7.19	5.24		24.00
149	5745	7.47	5.58		30.00
157	5785	7.35	5.43		30.00
165	5825	7.16	5.20		30.00

5.1.3 26 dB Bandwidth and 99% Occupied Bandwidth

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV40	101512	2020/2/18	2021/2/16

Test Procedure

- a. Set RBW = approximately 1% of the emission bandwidth.
- b. Set the VBW > RBW.
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
- f. For 99% Bandwidth Measurement, the transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to PEAK. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean power of a given emission.

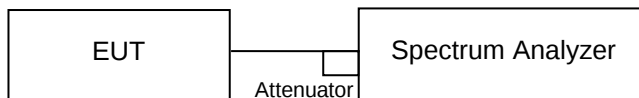
Test Results

Please refer to Appendix A

5.1.4 6 dB Bandwidth

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV40	101512	2020/2/18	2021/2/16

Test Procedure

MEASUREMENT PROCEDURE REF

- Set resolution bandwidth (RBW) = 100 kHz
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

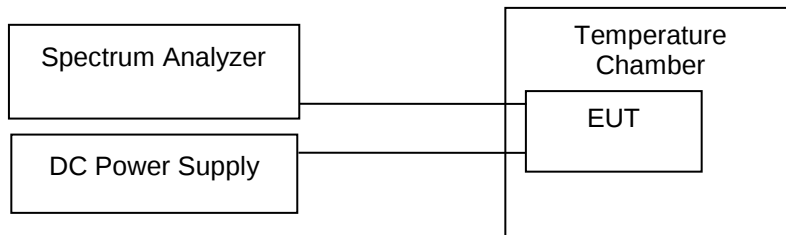
Test Results

Please refer to Appendix A

5.1.5 Frequency Stability Measurement

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV40	101512	2020/2/18	2021/2/16
Thermal Chamber	Giant Force	GHT-150-40-CP-SD	MAA1902-011	2020/3/10	2021/3/9

Test Procedure

- To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
- The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.
- The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

Test Results

Frequency (MHz)	5200			
Voltage (Vdc)	Measurement Frequency (MHz)			Max. Deviation (ppm)
4.2	5199.97077			5.621
4	5199.97221			5.344
3.45	5199.97106			5.565
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
50	5199.94906	5199.94935	5199.94935	5199.94993
40	5199.95051	5199.508	5199.95051	5199.95051
30	5199.96382	5199.96266	5199.96122	5199.95977
20	5199.97221	5199.97164	5199.97106	5199.97106
10	5199.98437	5199.98466	5199.98466	5199.98466
0	5199.99884	5199.99826	5199.99797	5199.9974
-10	5199.99132	5199.99537	5199.99942	5200.00289
-20	5200.00781	5200.00781	5200.0081	5200.00839
Max. Deviation (ppm)	9.796	94.615	9.740	9.629

Frequency (MHz)	5785			
Voltage (Vdc)	Measurement Frequency (MHz)			Max. Deviation (ppm)
4.2	5784.967			5.704
4	5784.96729			5.654
3.45	5784.967			5.704
Temperature (°C)	Measurement Frequency (MHz)			
	0 Minute	2 Minute	5 Minute	10 Minute
50	5784.94472	5784.94501	5784.94443	5784.94501
40	5784.9479	5784.94732	5784.94616	5784.9
30	5784.95369	5784.95369	5784.95369	5784.9534
20	5784.96729	5784.96729	5784.96758	5784.96758
10	5784.98408	5784.98379	5784.98321	5784.98292
0	5784.99711	5784.99711	5784.99711	5784.99682
-10	5785.00492	5785.00434	5785.00579	5785.00521
-20	5785.00926	5785.00955	5785.00926	5785.00926
Max. Deviation (ppm)	10.430	10.375	10.485	18.868

5.1.6 Power Spectral Density

Limit

For the 5.15~5.25GHz Bands:

For mobile and portable client devices in the 5.15~5.25GHz band, the Maximum Power spectral density shall not exceed 11dBm/MHz. For an indoor access point operating in the band 5.15~5.25GHz, the maximum power spectral density shall not exceed 17dBm/MHz.

For the 5.25~5.35GHz and 5.47~5.725GHz Bands:

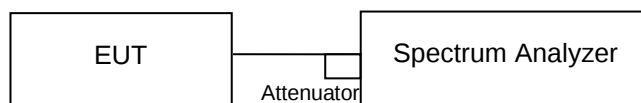
The maximum power spectral density shall not exceed 11dBm/MHz.

For the 5.745~5.85GHz Bands:

The maximum power spectral density shall not exceed 30dBm/500kHz.

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV40	101512	2020/2/18	2021/2/16

Test Procedure

For U-NII-1band:

Using method SA-2

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW $\geq$ 3 MHz, Detector = RMS
3. Sweep time = auto, trigger set to "free run".
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and add 10 log (1/duty cycle)

※For U-NII-3 band:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 500 kHz, Set VBW $\geq$ 3 RBW, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 500 kHz band segment within the fundamental EBW.
4. Sweep time = auto, trigger set to "free run".

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5. Trace average at least 100 traces in power averaging mode.
6. Record the max value and add 10 log (1/duty cycle)

For MIMO mode, calculation method follows FCC KDB 662911 Method 2) a) of power density measurement using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

Test Results

Please refer to Appendix A

5.1.7 Radiated Spurious Emissions

Limit

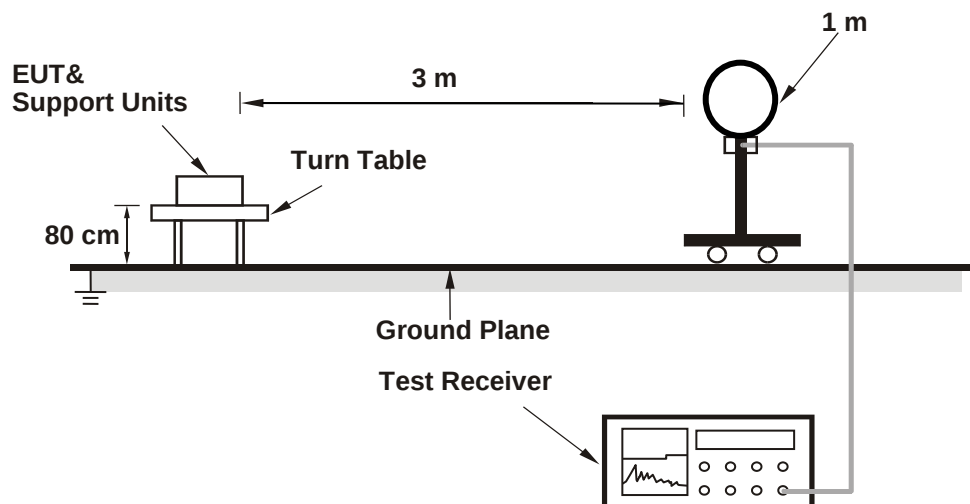
Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must comply with the radiated emission limits specified in §15.209(a).

Emissions radiated outside the restricted and authorized frequency bands must either comply with the radiated emission limits specified for the restricted bands or in §15.407(b).

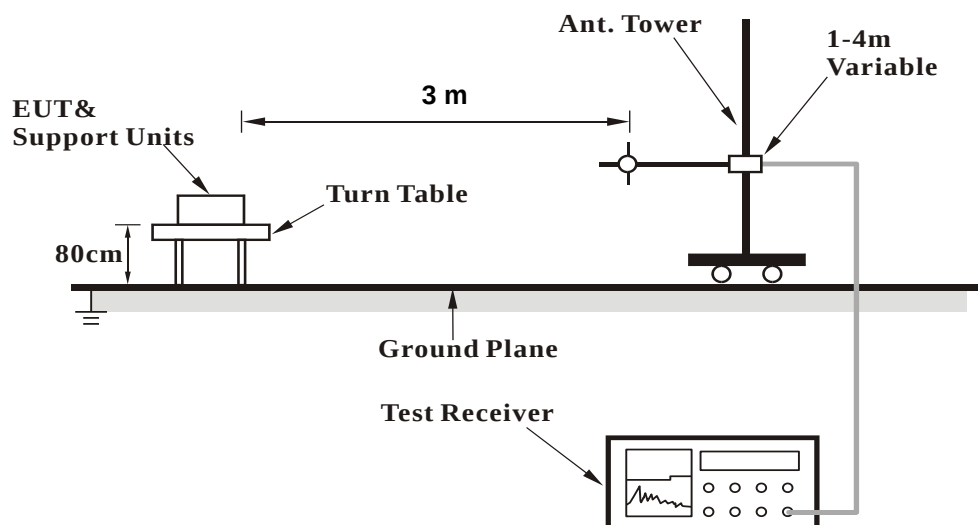
Kind of Test Site 3m Semi-Anechoic Chamber

Test Setup

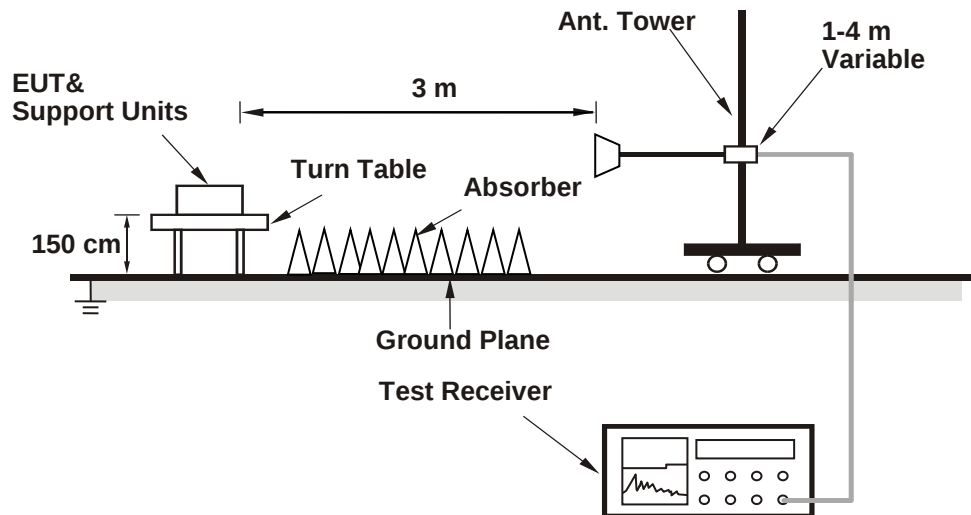
<Radiated Emissions below 30 MHz>



<Radiated Emissions 30 MHz to 1 GHz>



<Radiated Emissions above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV40	101508	2020/3/16	2021/3/15
Receiver	R&S	ESR7	102108	2020/4/22	2021/4/21
Bilog Antenna	SCHWARZBECK	VULB-9168	00951	2020/2/14	2021/2/12
Horn Antenna	ETS-Lindgren	3117	00218930	2019/12/6	2020/12/4
LF-AMP	Agilent	8447D	2944A10772	2020/2/11	2021/2/9
HF-AMP + AC source	EMCI	EMC051845SE	980633	2020/2/17	2021/2/15
HF-AMP + AC source	EMCI	EMC184045SE	980657	2020/2/17	2021/2/15
Horn Antenna	SCHWARZBECK	BBHA 9170	00887	2020/4/10	2021/4/9
Microwave Cable	HUBER+SUHNER	SUCOFLEX 104EA	800056/4EA	2020/3/25	2021/3/24
Microwave Cable	HUBER+SUHNER	SUCOFLEX 104	804680/4	2020/3/25	2021/3/24
Microwave Cable	HUBER+SUHNER	SUCOFLEX 104	MY37202/4	2020/3/25	2021/3/24
Microwave Cable	HUBER+SUHNER	SUCOFLEX 102EA	800898/2EA	2020/4/22	2021/4/21
Microwave Cable	HUBER+SUHNER	SUCOFLEX 102EA	800901/2EA	2020/4/22	2021/4/21
Microwave Cable	HUBER+SUHNER	SUCOFLEX 102EA	801027/2EA	2020/4/22	2021/4/21
Loop Antenna	Chance Most	EMCILPA600 +calibration	287	2020/1/9	2021/1/7

Test Procedures**For Radiated Emissions below 30 MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated Emissions above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98 %) or 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.
5. The Radiated Emissions testing was performed in the X, Y and Z axis orientation. The worst-case Axis orientation is recorded in this test report.

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Test Results

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
Level (dBuV/m) = Reading (dBuV) + Factor (dB/m)

Please refer to Appendix B.

5.2 Mains Emission

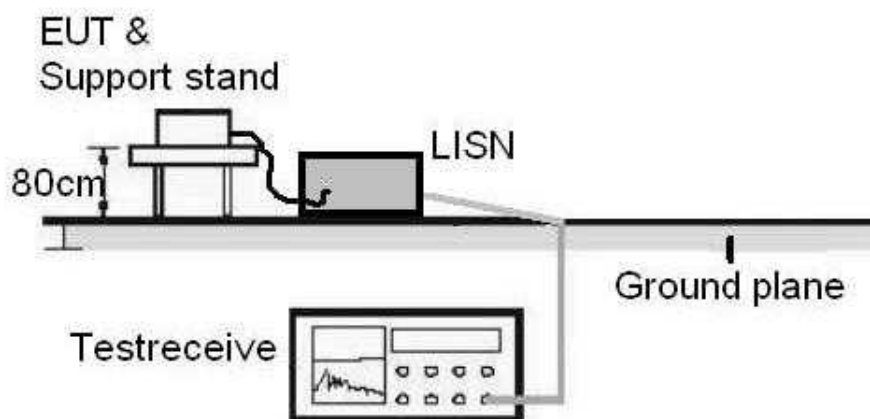
5.2.1 Mains Conducted Emission

Limit

Mains Conducted emissions as defined in §15.207 must comply with the mains conducted emission limits.

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Two-Line V-Network (for EUT)	Rohde & Schwarz	ENV216	101262	2020/08/04	2021/08/04
EMI Test Receiver	R&S	ESR7	102108	2020/4/22	2021/4/21
10dB attenuation	SCHWARZBECK	VTSD 9561 F-N	660	2020/2/24	2021/2/23
Measurement Software	EZ	EZ EMC (Version NB-03A)	N/A	N/A	N/A

Test Procedures

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz – 30 MHz.

Test Results

Please refer to Appendix B.

6. Safety Human Exposure

6.1 RF Exposure Compliance

6.1.1 Electromagnetic Fields

Results

(5180 ~ 5240 MHz):

Therefore the maximum output power of the transmitter is $5.62\text{mW} < 7\text{mW}$, hence the EUT is excluded from SAR evaluation according to FCC KDB publication 447498 D01: Mobile Portable RF Exposure.

(5745 ~ 5825 MHz):

Therefore the maximum output power of the transmitter is $5.58\text{mW} < 6\text{mW}$, hence the EUT is excluded from SAR evaluation according to FCC KDB publication 447498 D01: Mobile Portable RF Exposure.

Appendix A: Test Results of Conducted Test

Test Result of 26 dB Bandwidth

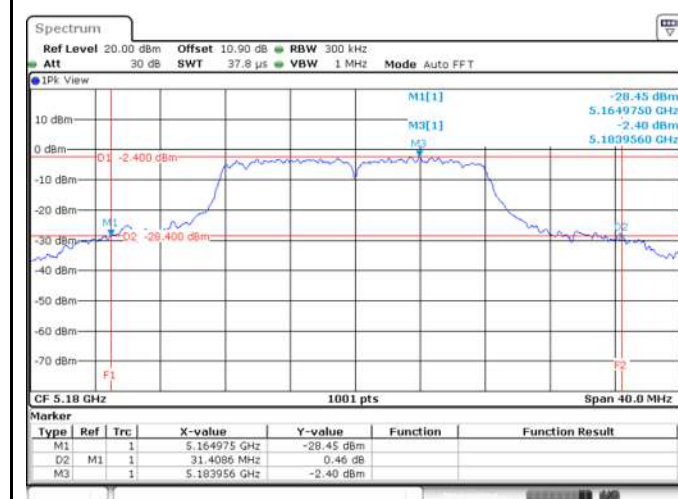
802.11a

Band	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
U-NII-1	36	5180	31.41
	40	5200	27.93
	48	5240	32.73

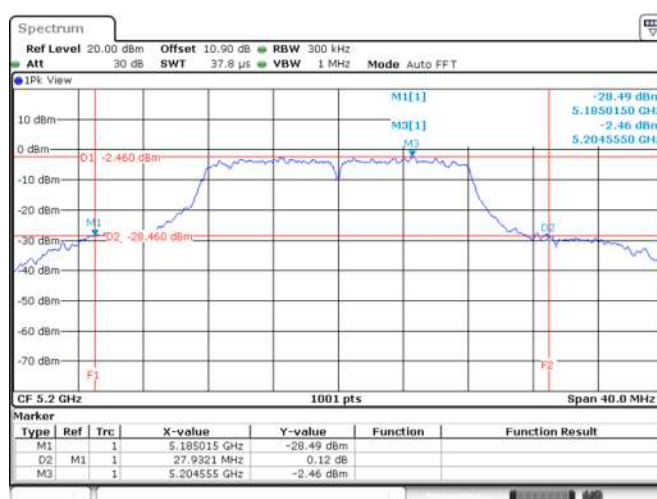
802.11a

Channel 36

Channel 40



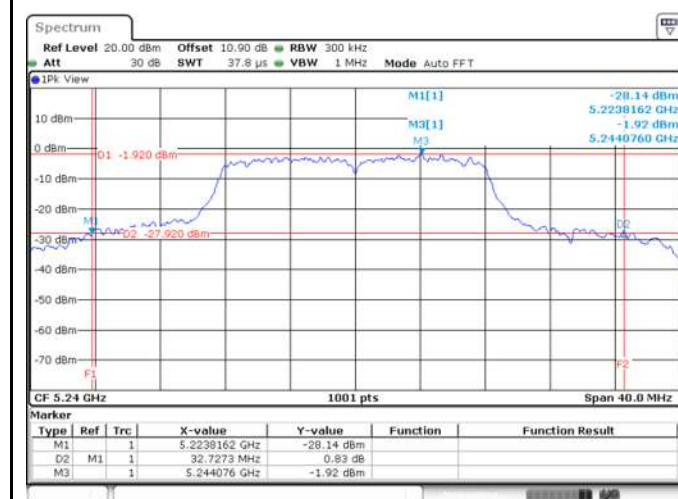
Date: 12.OCT.2020 09:31:33



Date: 12.OCT.2020 09:33:03

802.11a

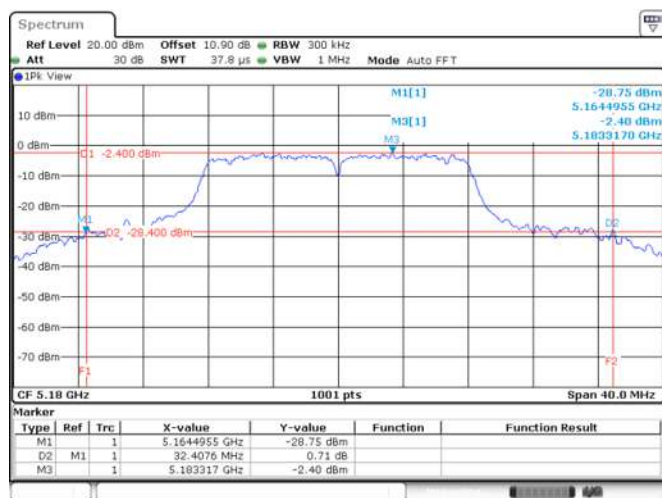
Channel 48



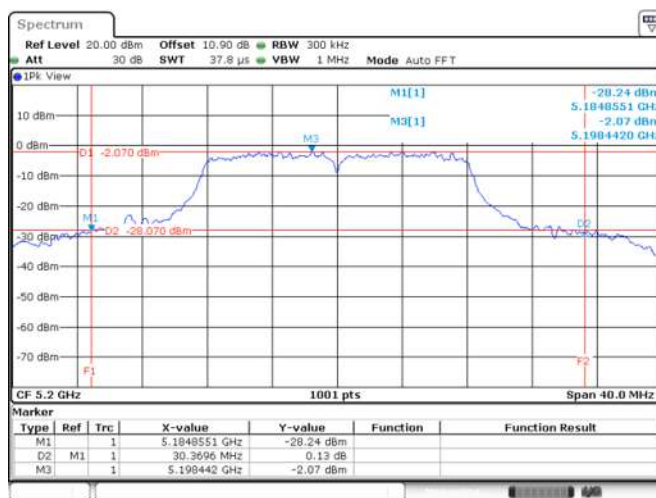
Date: 12.OCT.2020 09:34:27

802.11n HT20

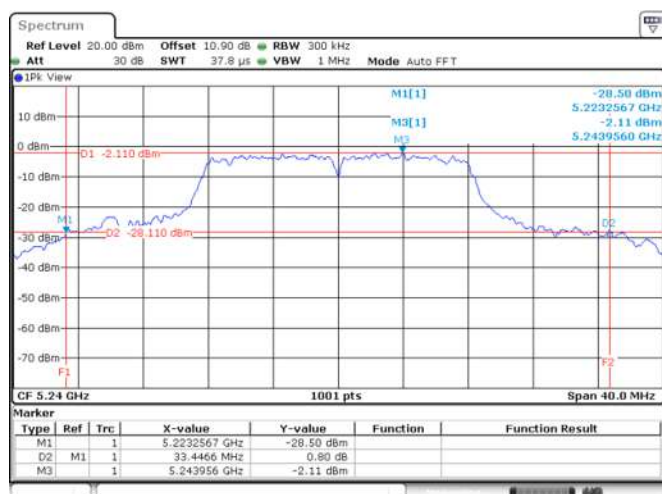
Band	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
U-NII-1	36	5180	32.41
	40	5200	30.37
	48	5240	33.45

802.11n HT20
Channel 36
Channel 40


Date: 12.OCT.2020 09:43:43



Date: 12.OCT.2020 09:45:36

802.11n HT20
Channel 48


Date: 12.OCT.2020 09:47:18

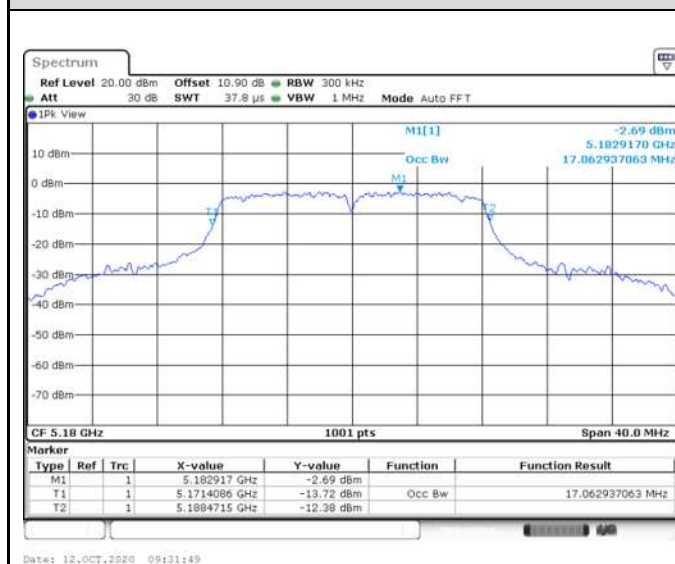
Test Result of 99% Occupied Bandwidth

802.11a

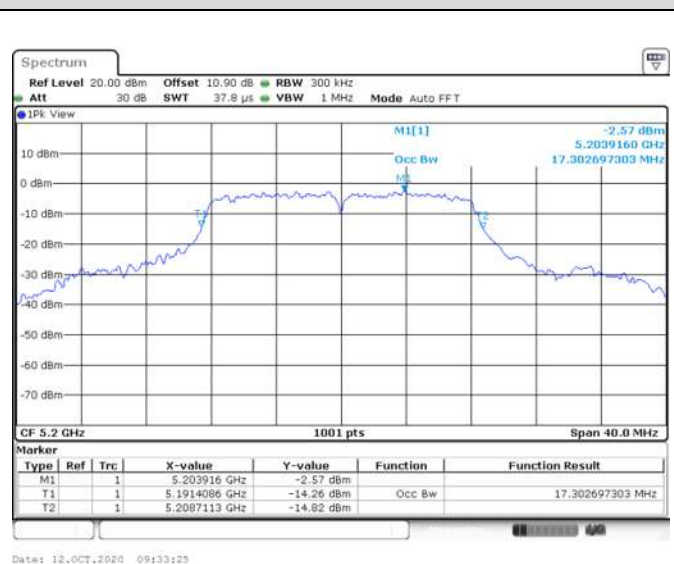
Band	Channel	Frequency (MHz)	99% Bandwidth (MHz)
U-NII-1	36	5180	17.06
	40	5200	17.30
	48	5240	17.34
U-NII-3	149	5745	24.66
	157	5785	24.58
	165	5825	26.73

802.11a

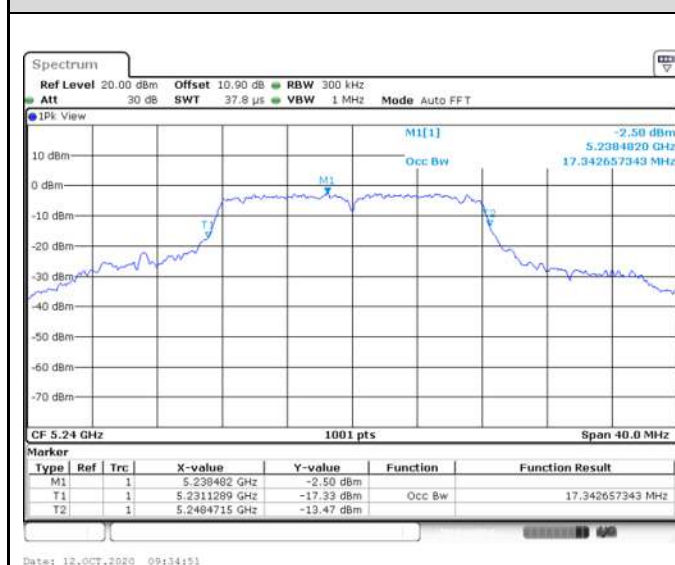
Channel 36



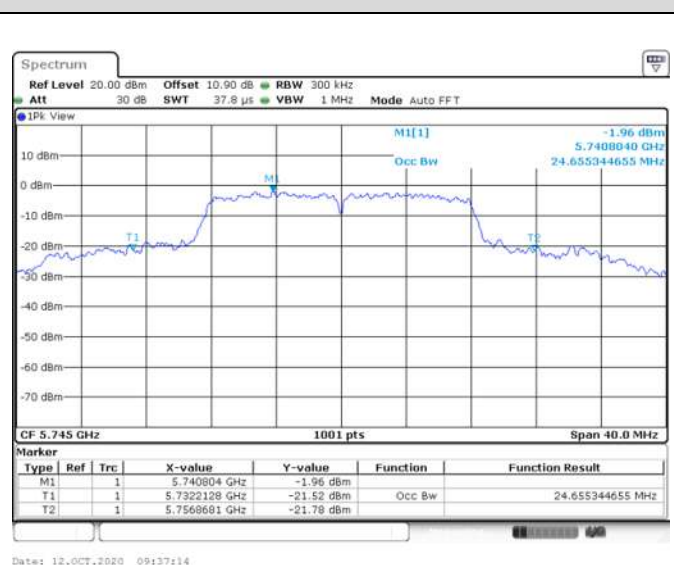
Channel 40



Channel 48



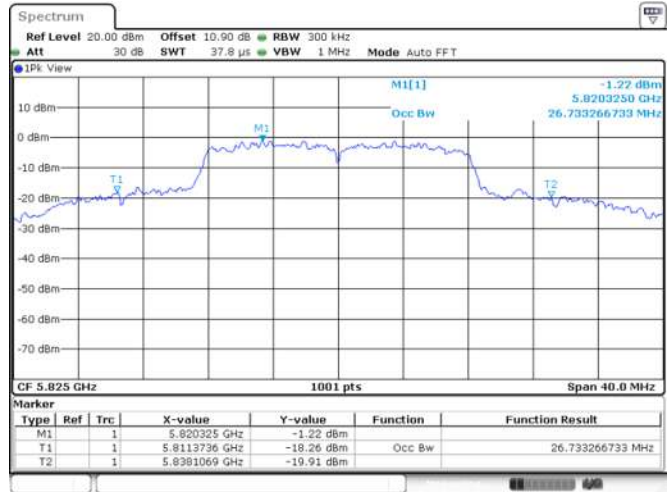
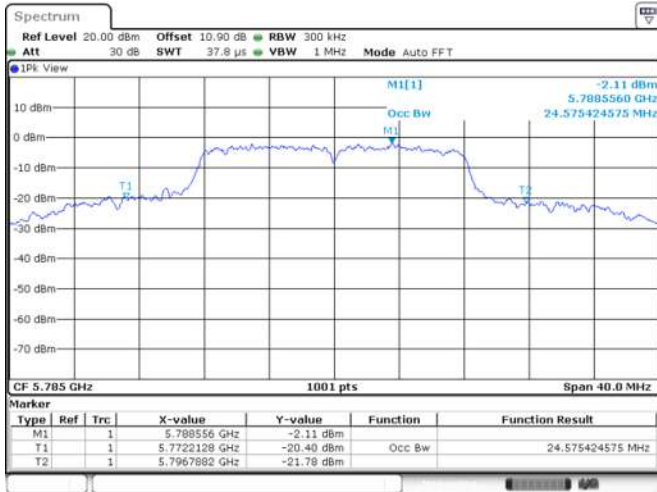
Channel 149



802.11a

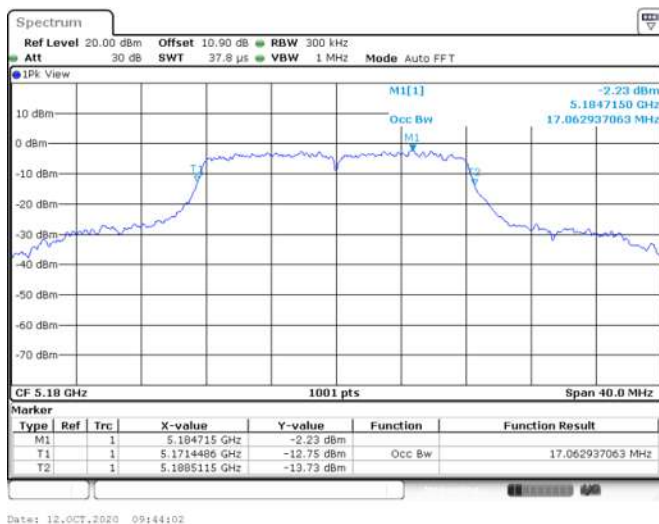
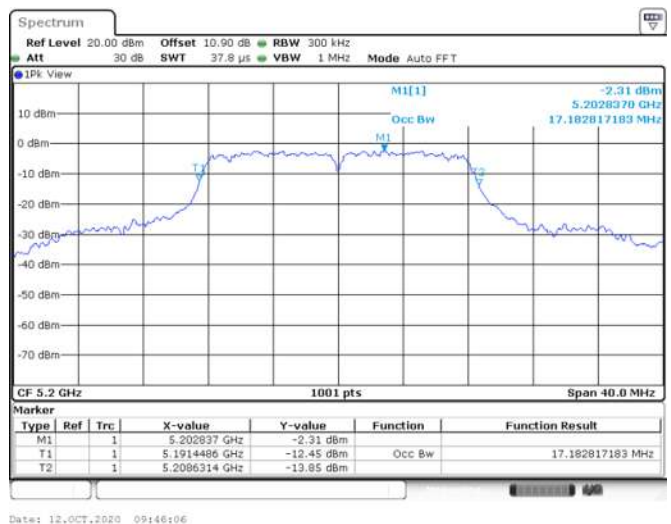
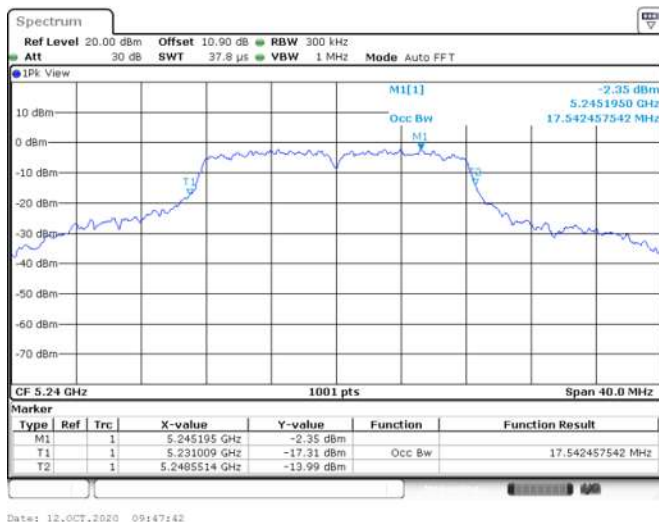
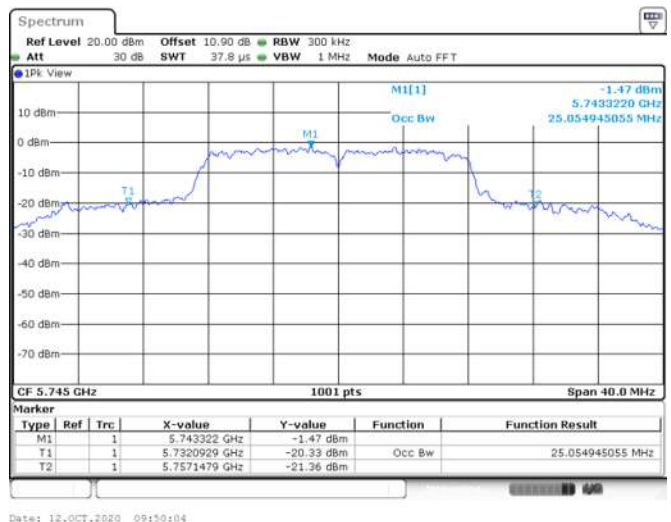
Channel 157

Channel 165



802.11n HT20

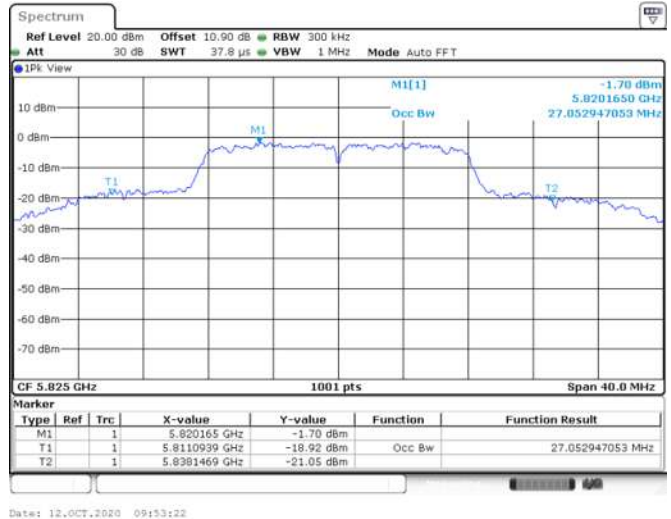
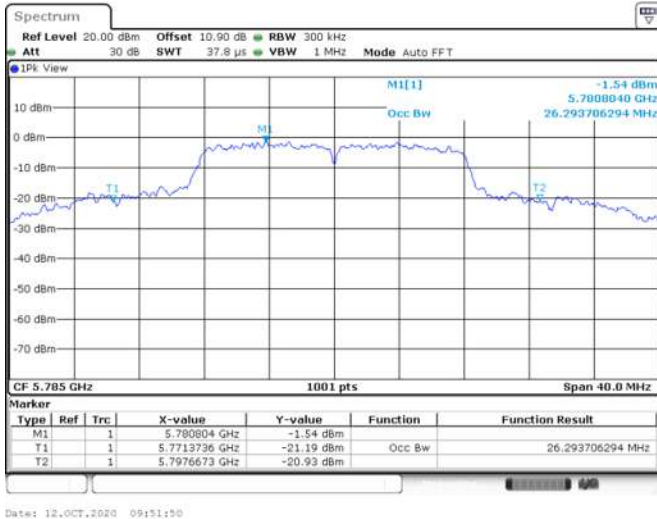
Band	Channel	Frequency (MHz)	99% Bandwidth (MHz)
U-NII-1	36	5180	17.06
	40	5200	17.18
	48	5240	17.54
U-NII-3	149	5745	25.05
	157	5785	26.29
	165	5825	27.05

802.11n HT20
Channel 36

Channel 40

Channel 48

Channel 149


802.11n HT20

Channel 157

Channel 165

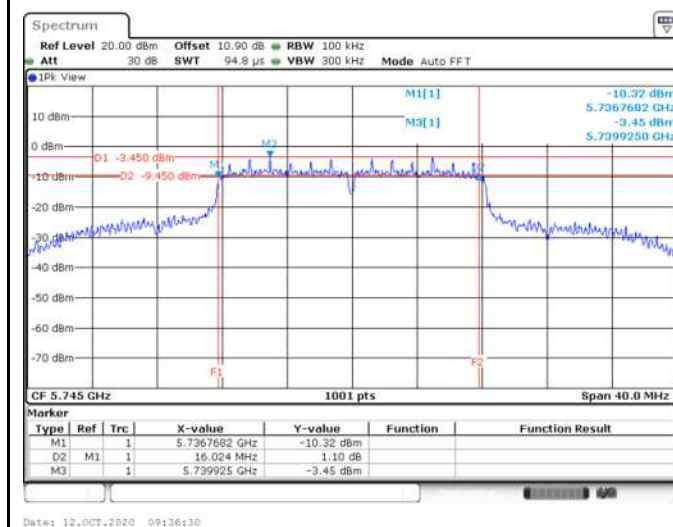


Test Result of 6 dB Bandwidth

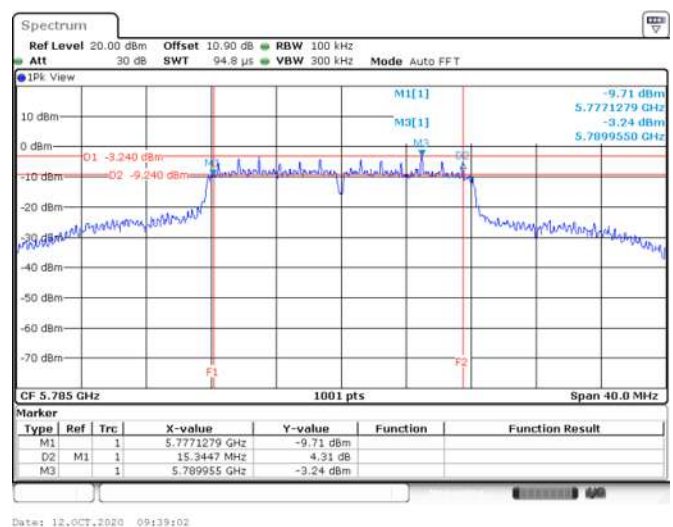
802.11a

Band	Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
U-NII-3	149	5745	16.02
	157	5785	15.34
	165	5825	16.02

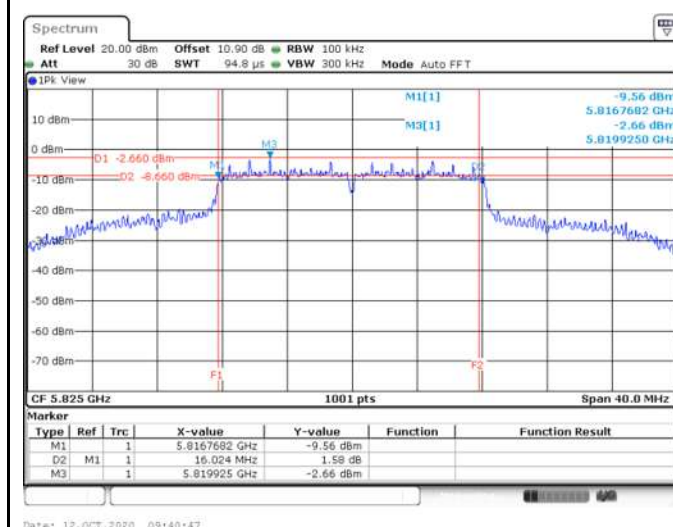
Channel 149



Channel 157



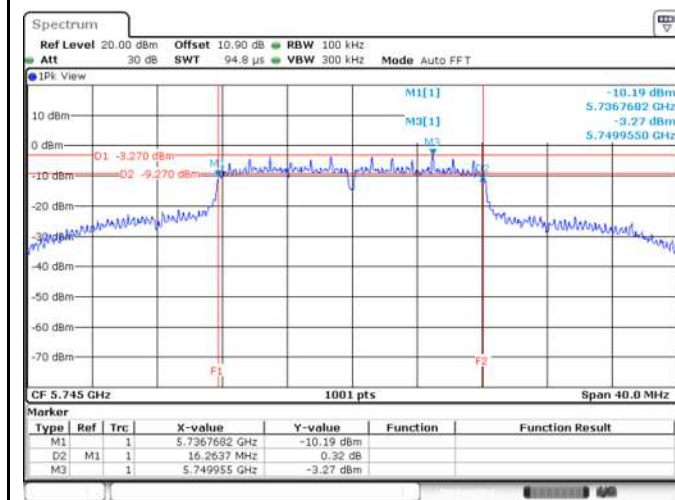
Channel 165



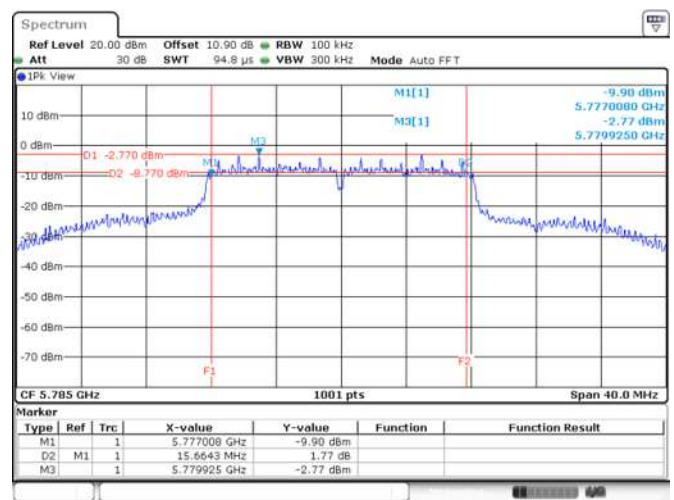
802.11n HT20

Band	Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
U-NII-3	149	5745	16.26
	157	5785	15.66
	165	5825	15.34

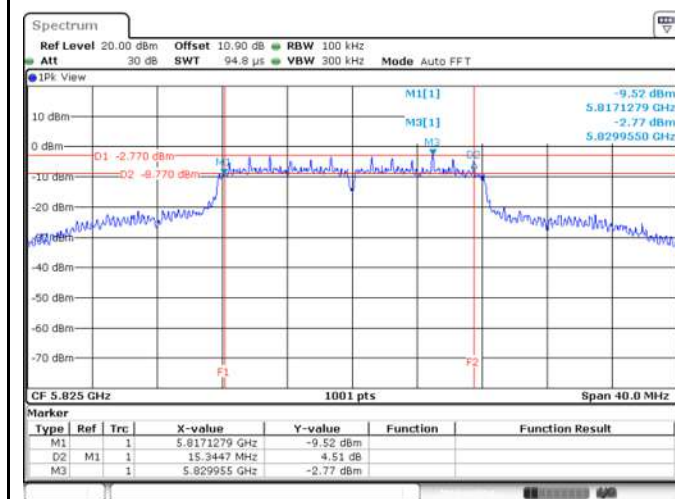
Channel 149



Channel 157



Channel 165



Test Result of Power Spectral Density

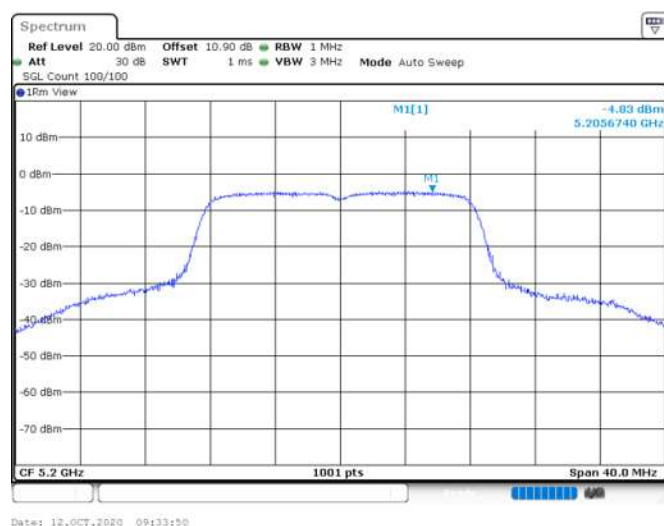
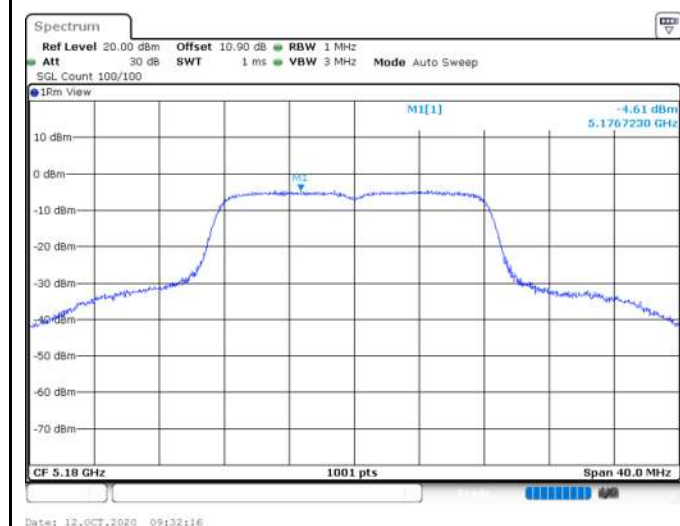
802.11a

Band	Channel	Frequency (MHz)	PSD (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
U-NII-1	36	5180	-4.61	11	Pass
	40	5200	-4.83	11	Pass
	48	5240	-4.70	11	Pass

802.11a

Channel 36

Channel 40

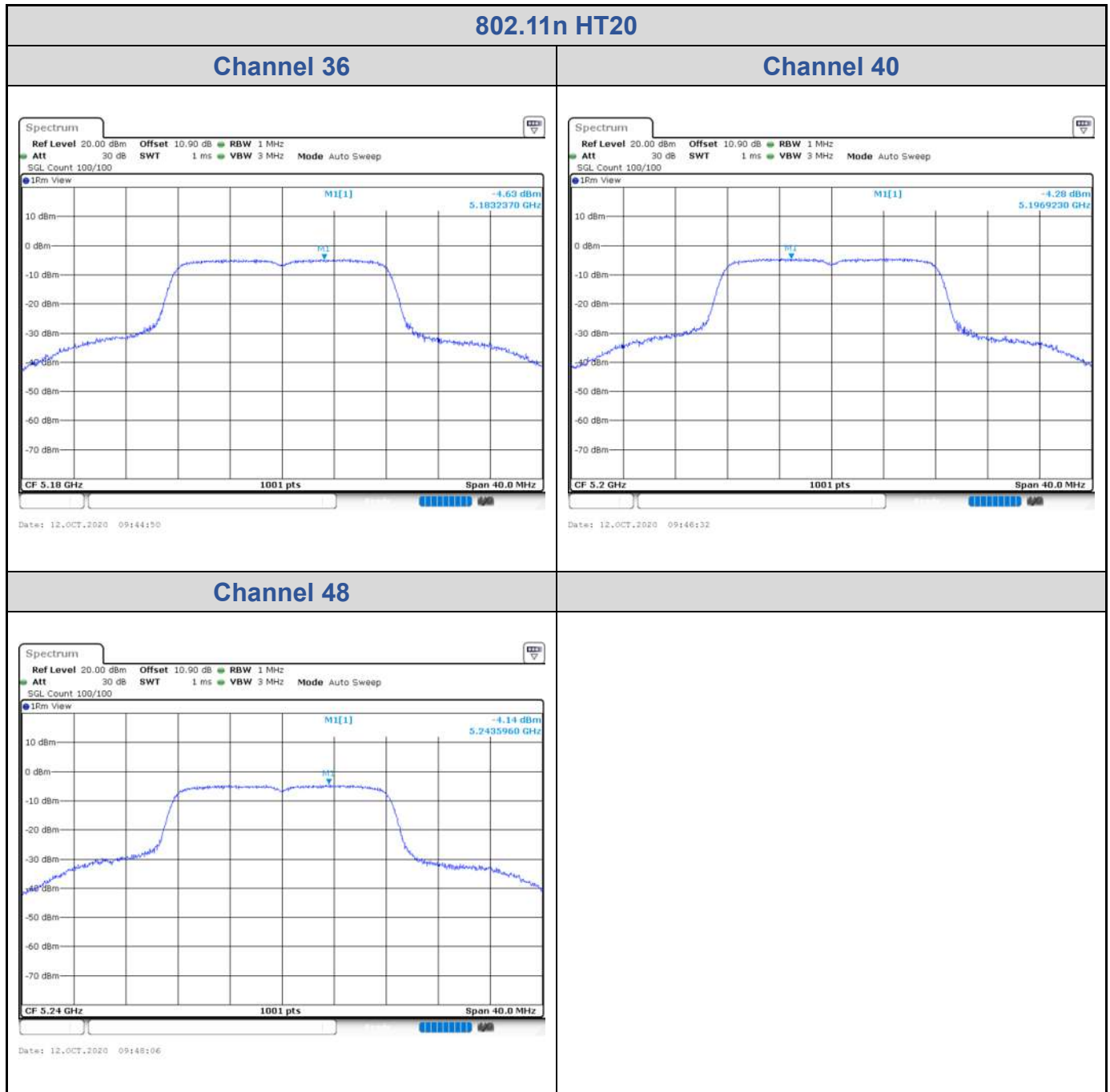


Channel 48



802.11n HT20

Band	Channel	Frequency (MHz)	PSD (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
U-NII-1	36	5180	-4.63	11	Pass
	40	5200	-4.28	11	Pass
	48	5240	-4.14	11	Pass



Test Result of Power Spectral Density

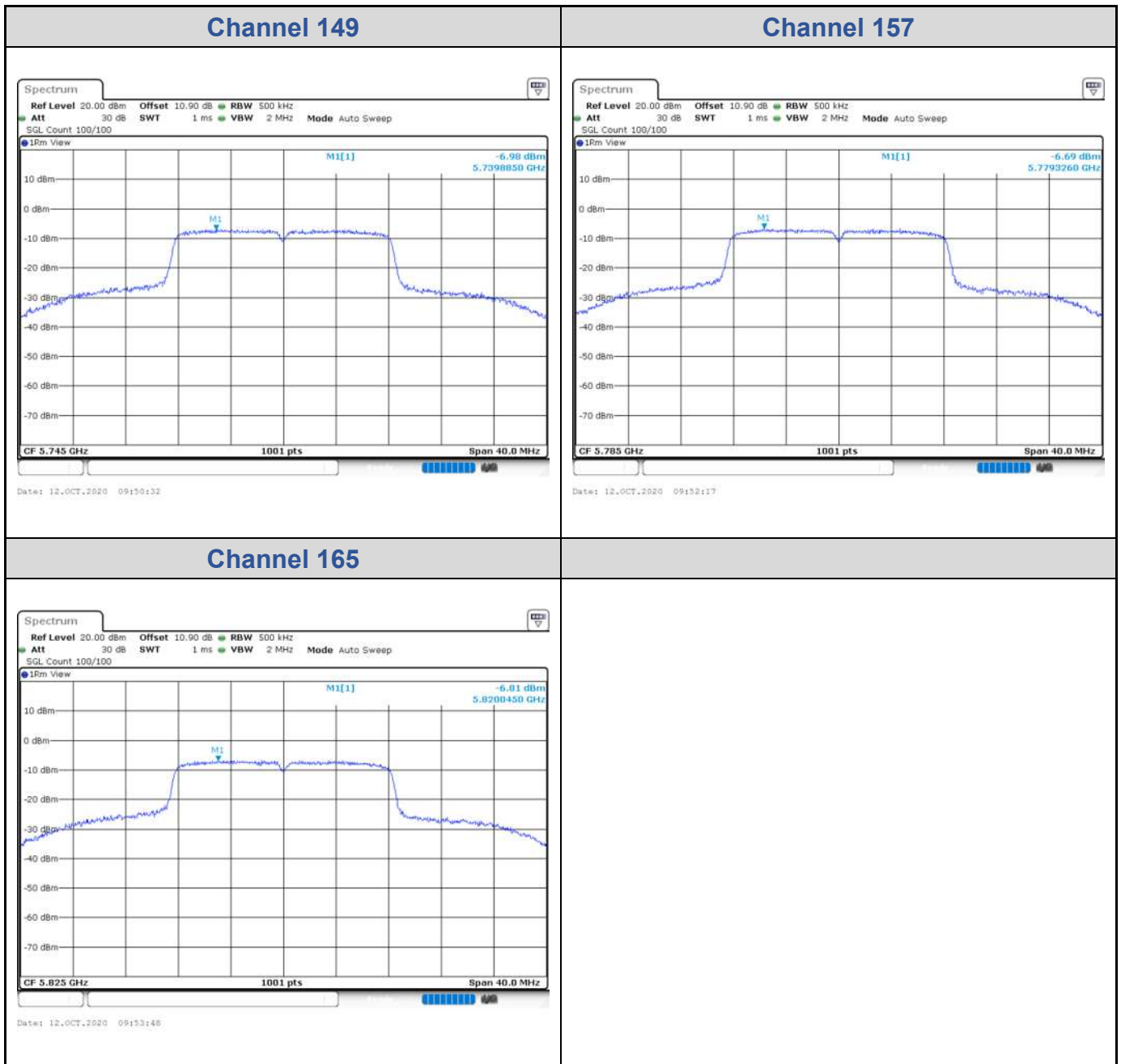
802.11a

Band	Channel	Frequency (MHz)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
U-NII-3	149	5745	-7.27	30	Pass
	157	5785	-7.33	30	Pass
	165	5825	-6.85	30	Pass



802.11n HT20

Band	Channel	Frequency (MHz)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
U-NII-3	149	5745	-6.98	30	Pass
	157	5785	-6.69	30	Pass
	165	5825	-6.81	30	Pass



Appendix B: Test Results of Radiation Spurious Emissions & Mains Conducted Emission

Band Edges, 4.5GHz ~ 5.15GHz

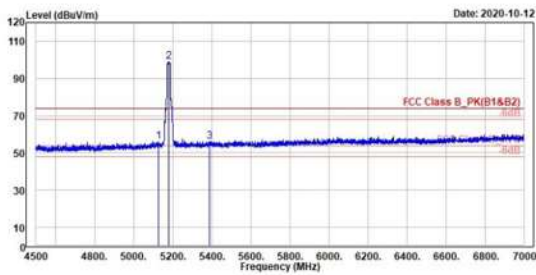
U-NII-1

802.11a

CH 36 (Horizontal) Peak



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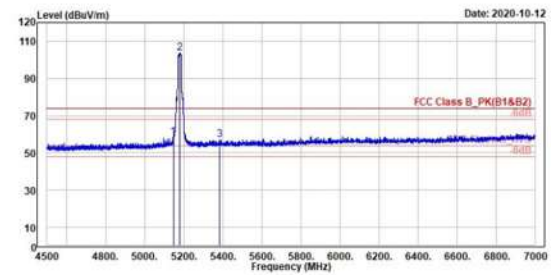


Peak	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	5128.37	56.05	13.60	42.45	74.00	-17.95		277	263	Peak	Horizontal	
2 *	5180.00	98.79	50.09	42.70	74.00	24.79		277	263	Peak	Horizontal	
3	5390.40	56.04	12.82	43.22	74.00	-17.96		277	263	Peak	Horizontal	

CH 36 (Vertical) Peak



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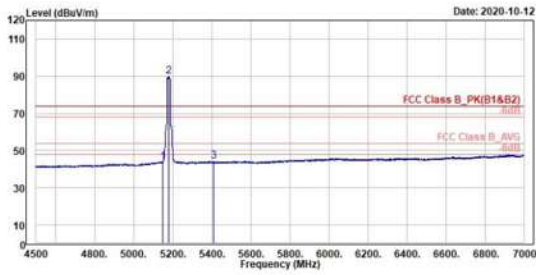
Peak	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	5147.03	50.52	15.97	42.55	74.00	-15.48		106	294	Peak	Vertical	
2 *	5180.00	103.77	61.07	42.70	74.00	29.77		106	294	Peak	Vertical	
3	5385.41	56.85	13.64	43.21	74.00	-17.15		106	294	Peak	Vertical	

802.11a

CH 36 (Horizontal) Average



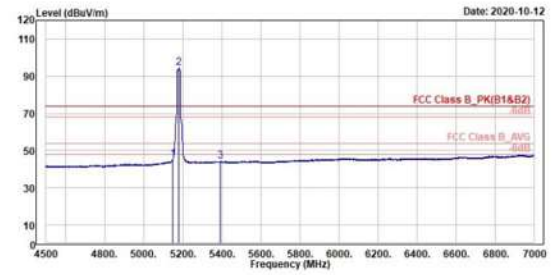
TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec. 2, Fenglin, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



	Freq	Level	hd	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	5149.33	43.91	1.35	42.56	54.00	-10.09	277	263 Average	Horizontal	
2	5180.00	89.72	47.02	42.78	54.00	35.72	277	263 Average	Horizontal	
3	5410.86	44.19	0.97	43.22	54.00	-9.81	277	263 Average	Horizontal	



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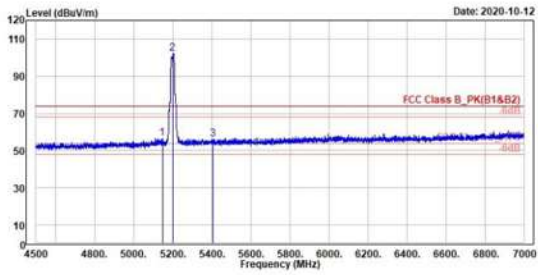
	Freq	Level	Lead	Factor	Over	Apos	Tpos	Remark	Pol/Phase	Note
	FHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	5149.33	45.25	2.69	42.56	54.00	-8.75	106	294	Average	Vertical
2	5100.00	94.30	51.60	42.79	54.00	40.30	106	294	Average	Vertical
3	5394.89	44.48	1.24	43.24	54.00	-9.52	106	294	Average	Vertical

802.11a

CH 40 (Horizontal) Peak



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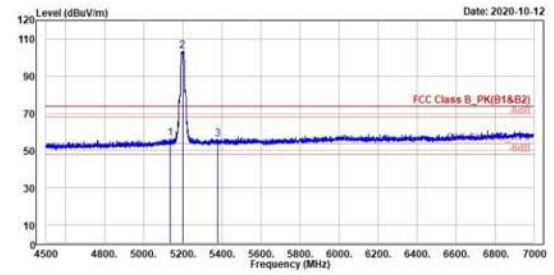


Peak	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5147.83	56.59	14.14	42.55	74.00	-17.31	321	236	Peak	Horizontal	
2 *	5200.00	102.34	59.54	42.80	74.00	28.34	321	236	Peak	Horizontal	
3	5405.37	56.26	13.02	43.24	74.00	-17.74	321	236	Peak	Horizontal	

CH 40 (Vertical) Peak



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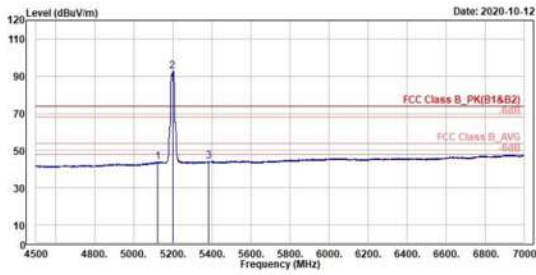
Peak	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5136.35	56.35	13.85	42.50	74.00	-17.65	100	295	Peak	Vertical	
2 *	5200.00	103.42	60.62	42.80	74.00	29.42	100	295	Peak	Vertical	
3	5380.42	56.29	13.09	43.20	74.00	-17.71	100	295	Peak	Vertical	

802.11a

CH 40 (Horizontal) Average



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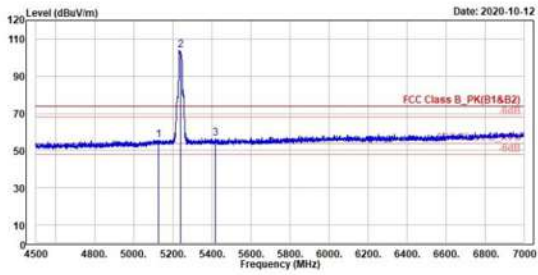
		Freq	Level	hd	Limit	Over	Apos	Tpos	Remark	Pol/Phase	Note
				Level	Line	Line					
		MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1		5122.38	43.00	1.37	42.43	54.00	-10.20	321	236	Average	Horizontal
2	*	5200.00	92.76	49.96	42.80	54.00	30.76	321	236	Average	Horizontal
3		5384.91	44.30	1.09	43.21	54.00	-9.70	321	236	Average	Horizontal

802.11a

CH 48 (Horizontal) Peak



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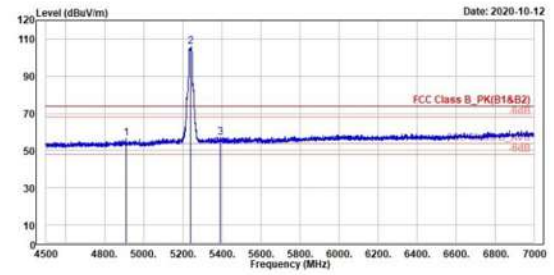


Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	5129.37	55.79	13.33	42.46	74.00	-18.21	320	233	Peak	Horizontal	
2 *	5240.00	105.88	68.89	42.99	74.00	29.88	320	233	Peak	Horizontal	
3	5421.34	56.55	13.37	43.18	74.00	-17.45	320	233	Peak	Horizontal	

CH 48 (Vertical) Peak



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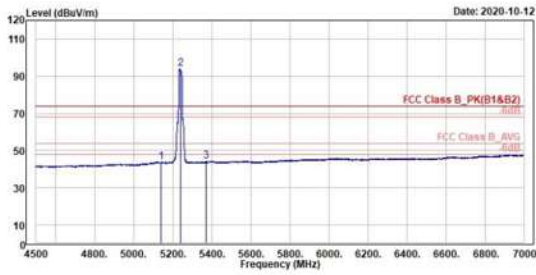
Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	4912.26	56.58	14.64	41.94	74.00	-17.42	103	297	Peak	Vertical	
2 *	5240.00	105.88	63.65	42.99	74.00	31.88	103	297	Peak	Vertical	
3	5392.89	57.23	13.99	43.24	74.00	-16.77	103	297	Peak	Vertical	

802.11a

CH 48 (Horizontal) Average



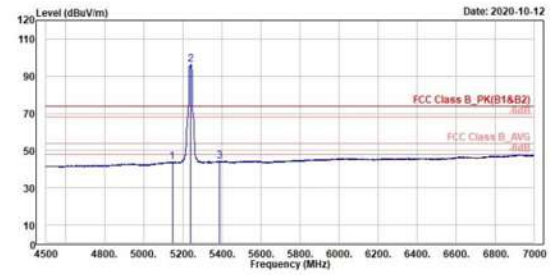
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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5141.35	43.76	1.24	42.52	54.00	-10.24	320	233 Average	Horizontal	
2 *	5240.00	95.99	51.00	42.99	54.00	39.99	320	233 Average	Horizontal	
3	5370.93	44.25	1.08	43.17	54.00	-9.75	320	233 Average	Horizontal	



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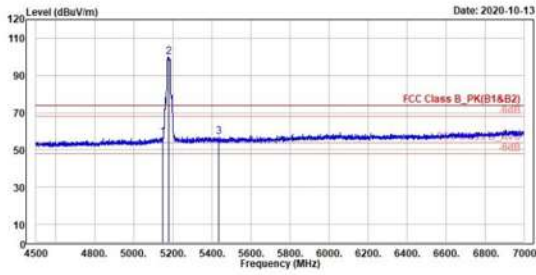
Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5147.83	43.78	1.23	42.55	54.00	-10.22	103	297 Average	Vertical	
2 *	5240.00	96.19	53.20	42.99	54.00	42.19	103	297 Average	Vertical	
3	5387.90	44.18	0.96	43.22	54.00	-9.82	103	297 Average	Vertical	

802.11n HT20

CH 36 (Horizontal) Peak



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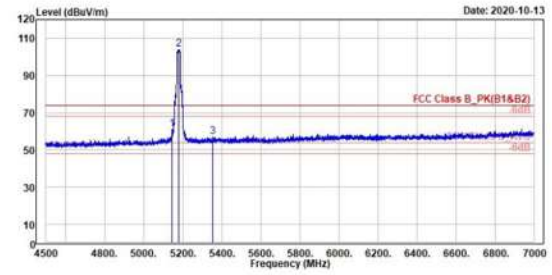


Peak	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5148.83	56.79	14.23	42.56	74.00	-17.21	277	263	Peak	Horizontal	
2 *	5180.00	99.73	57.03	42.70	74.00	25.73	277	263	Peak	Horizontal	
3	5435.32	57.07	13.93	43.14	74.00	-16.93	277	263	Peak	Horizontal	

CH 36 (Vertical) Peak



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Peak	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5145.34	61.11	18.58	42.53	74.00	-12.89	186	294	Peak	Vertical	
2 *	5180.00	103.02	61.12	42.70	74.00	29.02	186	294	Peak	Vertical	
3	5352.97	57.13	14.00	43.13	74.00	-16.87	186	294	Peak	Vertical	

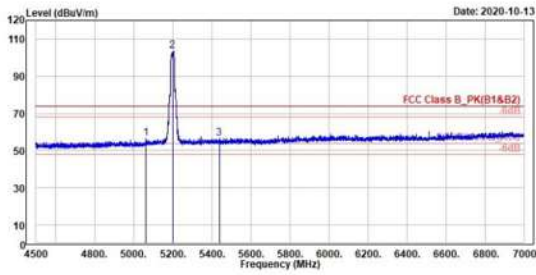
802.11n HT20

CH 40 (Horizontal) Peak

CH 40 (Vertical) Peak



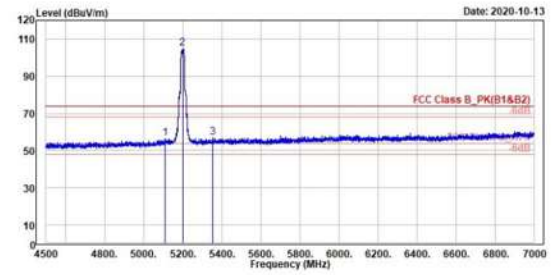
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Peak	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5061.99	56.49	14.35	42.14	74.00	-17.51	323	236	Peak	Horizontal	
2	5200.00	103.37	40.57	42.80	74.00	29.37	323	236	Peak	Horizontal	
3	5439.31	56.51	13.39	43.12	74.00	-17.49	323	236	Peak	Horizontal	



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Peak	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5111.40	56.38	14.00	42.38	74.00	-17.62	102	294	Peak	Vertical	
2	5200.00	104.76	61.96	42.80	74.00	30.76	102	294	Peak	Vertical	
3	5353.46	56.68	13.75	43.13	74.00	-17.12	102	294	Peak	Vertical	

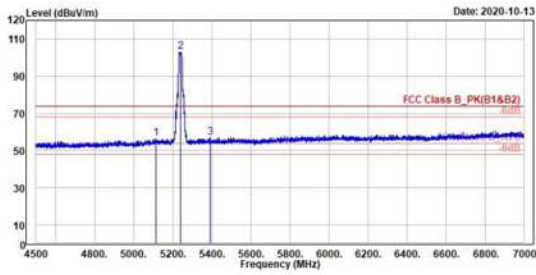
802.11n HT20

CH 48 (Horizontal) Peak

CH 48 (Vertical) Peak



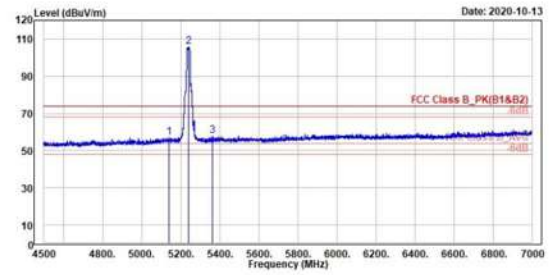
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Peak	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5113.40	56.38	14.00	42.38	74.00	-17.62	319	234	Peak	Horizontal	
2	5240.00	102.98	59.99	42.99	74.00	28.98	319	234	Peak	Horizontal	
3	5392.89	57.24	14.00	43.24	74.00	-16.76	319	234	Peak	Horizontal	



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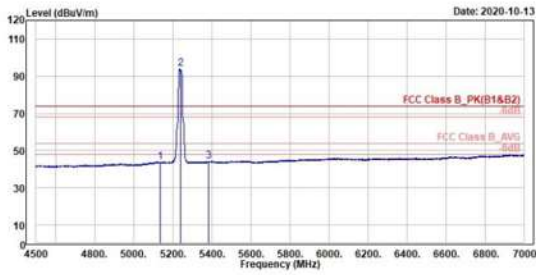
Peak	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5139.85	56.99	14.48	42.51	74.00	-17.01	114	292	Peak	Vertical	
2	5240.00	105.86	62.87	42.99	74.00	31.86	114	292	Peak	Vertical	
3	5362.95	57.90	14.75	43.15	74.00	-16.10	114	292	Peak	Vertical	

802.11n HT20

CH 48 (Horizontal) Average



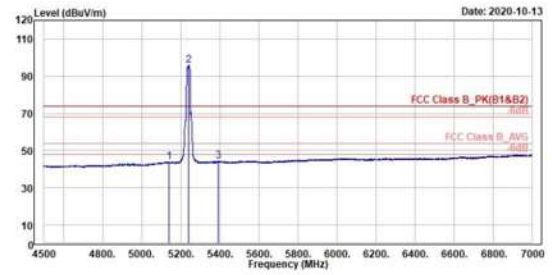
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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5130.35	43.77	1.27	42.50	54.00	-10.23	319	234 Average	Horizontal	
2 *	5240.00	95.78	50.79	42.99	54.00	39.78	319	234 Average	Horizontal	
3	5305.41	44.31	1.10	43.21	54.00	-9.69	319	234 Average	Horizontal	



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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5130.35	43.76	1.25	42.51	54.00	-10.24	114	292 Average	Vertical	
2 *	5240.00	95.89	52.90	42.99	54.00	42.89	114	292 Average	Vertical	
3	5394.39	44.29	1.05	43.24	54.00	-9.71	114	292 Average	Vertical	

Mask, 5.725GHz ~ 5.85GHz

U-NII-3

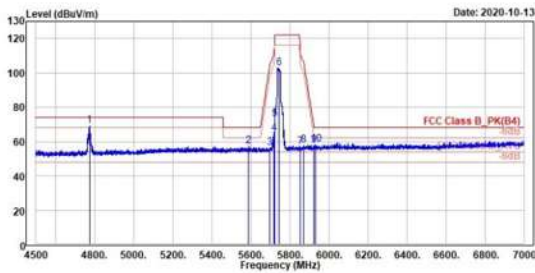
802.11a

CH 149 (Horizontal) Peak

CH 149 (Vertical) Peak



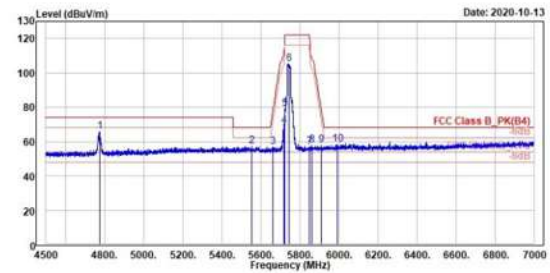
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Peak	Freq	Level	Read	Level	Factor	Limit	Over	Apos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4774.01	69.00	27.25	41.75	74.00	-5.00	337	246	Peak	Horizontal		
2	5589.04	57.18	14.00	43.18	68.20	-11.02	337	246	Peak	Horizontal		
3	5699.84	56.20	12.82	43.38	105.08	-48.88	337	246	Peak	Horizontal		
4	5719.80	64.52	21.16	43.36	110.75	-46.23	337	246	Peak	Horizontal		
5	5724.30	72.96	29.61	43.35	120.60	-47.64	337	246	Peak	Horizontal		
6	5745.00	102.00	59.47	43.33	122.20	-19.40	337	246	Peak	Horizontal		
7	5854.56	56.62	13.09	43.53	111.80	-55.18	337	246	Peak	Horizontal		
8	5870.53	58.07	14.44	43.63	106.45	-48.38	337	246	Peak	Horizontal		
9	5922.94	57.82	13.88	43.94	69.72	-11.90	337	246	Peak	Horizontal		
10	5931.42	58.39	14.40	43.99	68.20	-9.81	337	246	Peak	Horizontal		



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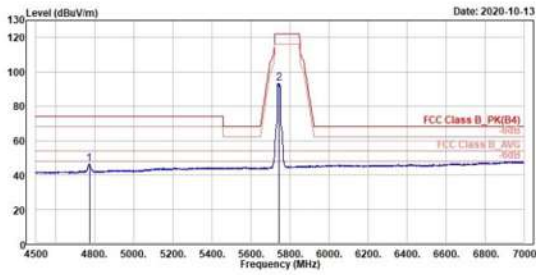
Peak	Freq	Level	Read	Level	Factor	Limit	Over	Apos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4775.01	65.67	23.91	41.76	74.00	-8.33	115	294	Peak	Vertical		
2	5554.60	57.22	14.14	43.08	68.20	-10.98	115	294	Peak	Vertical		
3	5663.41	56.00	13.74	43.06	78.15	-21.35	115	294	Peak	Vertical		
4	5718.31	69.17	25.81	43.36	110.33	-41.16	115	294	Peak	Vertical		
5	5724.30	78.93	35.58	43.35	120.60	-41.67	115	294	Peak	Vertical		
6	5745.00	105.04	61.71	43.33	122.20	-17.16	115	294	Peak	Vertical		
7	5852.07	56.06	13.35	43.51	117.49	-60.63	115	294	Peak	Vertical		
8	5864.05	57.62	14.03	43.59	108.27	-50.65	115	294	Peak	Vertical		
9	5909.46	57.70	13.82	43.88	79.66	-21.96	115	294	Peak	Vertical		
10	5992.81	58.29	14.10	44.19	68.20	-9.91	115	294	Peak	Vertical		

802.11a

CH 149 (Horizontal) Average



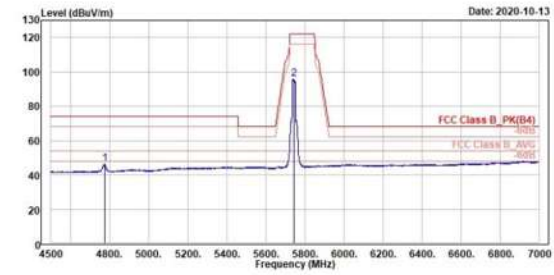
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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4774.01	46.67	4.92	41.75	54.00	-7.33	337	246	Average	Horizontal	
2 *	5745.00	93.50	50.17	43.33	54.00	39.50	337	246	Average	Horizontal	



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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4775.50	46.25	4.49	41.76	54.00	-7.75	115	294	Average	Vertical	
2 *	5745.00	93.71	52.38	43.33	54.00	43.71	115	294	Average	Vertical	

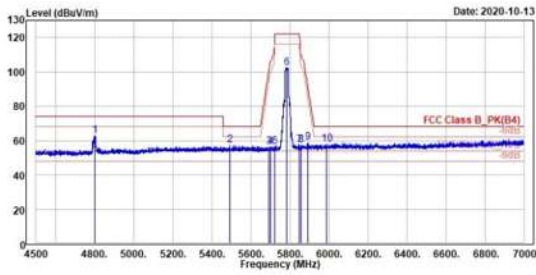
802.11a

CH 157 (Horizontal) Peak

CH 157 (Vertical) Peak



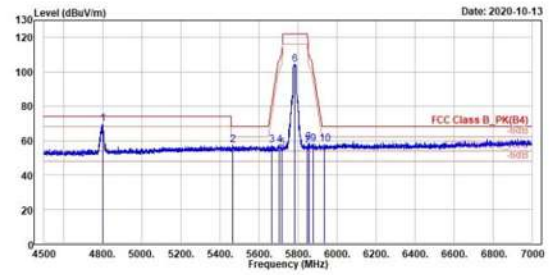
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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4880.96	62.59	20.91	41.68	74.00	-11.41	349	248	Peak	Horizontal	
2	5493.71	57.58	14.28	43.22	68.20	-10.70	349	248	Peak	Horizontal	
3	5694.85	56.24	12.90	43.34	101.40	-45.16	349	248	Peak	Horizontal	
4	5782.84	56.51	13.14	43.37	105.99	-49.48	349	248	Peak	Horizontal	
5	5722.30	56.26	12.90	43.36	116.04	-59.78	349	248	Peak	Horizontal	
6	5785.00	102.55	59.13	43.42	122.20	-19.65	349	248	Peak	Horizontal	
7	5851.57	57.10	13.59	43.51	118.63	-61.53	349	248	Peak	Horizontal	
8	5859.55	57.25	13.69	43.56	109.52	-52.27	349	248	Peak	Horizontal	
9	5894.99	58.99	15.19	43.80	90.37	-31.38	349	248	Peak	Horizontal	
10	5989.82	57.75	13.57	44.18	68.20	-10.45	349	248	Peak	Horizontal	



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4882.46	69.49	27.81	41.68	74.00	-4.51	106	295	Peak	Vertical	
2	5488.26	57.22	14.07	43.15	68.20	-10.98	106	295	Peak	Vertical	
3	5668.98	57.53	14.42	43.11	82.22	-24.69	106	295	Peak	Vertical	
4	5704.83	57.29	13.91	43.38	106.55	-49.26	106	295	Peak	Vertical	
5	5719.00	55.58	12.22	43.36	110.75	-55.17	106	295	Peak	Vertical	
6	5785.00	104.47	61.05	43.42	122.20	-17.73	106	295	Peak	Vertical	
7	5851.57	56.93	13.42	43.51	118.63	-61.70	106	295	Peak	Vertical	
8	5856.56	58.59	15.05	43.54	110.36	-51.77	106	295	Peak	Vertical	
9	5882.01	58.01	14.30	43.71	99.99	-41.98	106	295	Peak	Vertical	
10	5938.91	57.60	13.58	44.02	68.20	-10.60	106	295	Peak	Vertical	

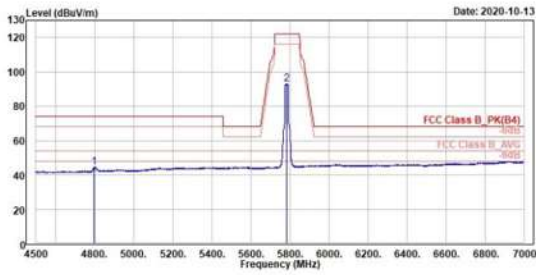
802.11a

CH 157 (Horizontal) Average

CH 157 (Vertical) Average



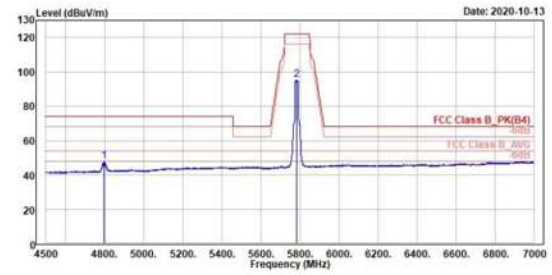
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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4798.46	44.55	2.87	41.68	54.00	-9.45	349	248 Average	Horizontal	
2 *	5785.00	93.00	49.58	43.42	54.00	39.00	349	248 Average	Horizontal	



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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4799.96	47.76	6.08	41.68	54.00	-6.24	186	295 Average	Vertical	
2 *	5785.00	93.27	51.85	43.42	54.00	41.27	186	295 Average	Vertical	

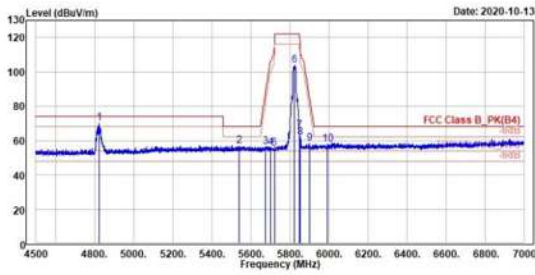
802.11a

CH 165 (Horizontal) Peak

CH 165 (Vertical) Peak



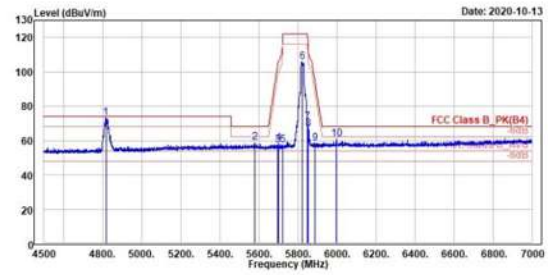
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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4823.42	70.38	20.63	41.75	74.00	-3.62	328	248 Peak	Horizontal		
2	5539.63	56.66	13.56	43.10	68.20	-11.54	328	248 Peak	Horizontal		
3	5675.88	56.40	13.23	43.17	87.39	-30.99	328	248 Peak	Horizontal		
4	5784.33	55.97	12.59	43.38	106.41	-50.44	328	248 Peak	Horizontal		
5	5724.30	55.31	11.95	43.36	114.91	-59.60	328	248 Peak	Horizontal		
6	5825.00	103.82	60.34	43.48	122.20	-18.38	328	248 Peak	Horizontal		
7	5858.07	65.62	22.12	43.50	122.04	-56.42	328	248 Peak	Horizontal		
8	5855.06	61.65	18.12	43.53	110.78	-49.13	328	248 Peak	Horizontal		
9	5900.98	58.24	14.41	43.83	85.94	-27.70	328	248 Peak	Horizontal		
10	5992.31	57.88	13.70	44.18	68.20	-10.32	328	248 Peak	Horizontal		



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4817.43	73.31	31.59	41.72	74.00	-0.69	113	294 Peak	Vertical		
2	5580.86	58.62	15.47	43.15	68.20	-9.58	113	294 Peak	Vertical		
3	5695.85	57.57	14.22	43.35	102.14	-44.57	113	294 Peak	Vertical		
4	5782.34	58.43	15.05	43.38	105.86	-47.43	113	294 Peak	Vertical		
5	5724.30	57.44	14.09	43.35	120.60	-63.16	113	294 Peak	Vertical		
6	5825.00	105.77	62.29	43.48	122.20	-16.43	113	294 Peak	Vertical		
7	5851.07	70.52	27.01	43.51	119.76	-49.24	113	294 Peak	Vertical		
8	5855.56	66.86	23.33	43.53	110.64	-43.78	113	294 Peak	Vertical		
9	5888.50	58.42	14.66	43.76	95.18	-36.76	113	294 Peak	Vertical		
10	5996.81	60.57	16.37	44.20	68.20	-7.63	113	294 Peak	Vertical		

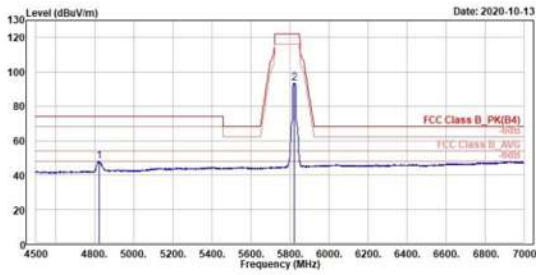
802.11a

CH 165 (Horizontal) Average

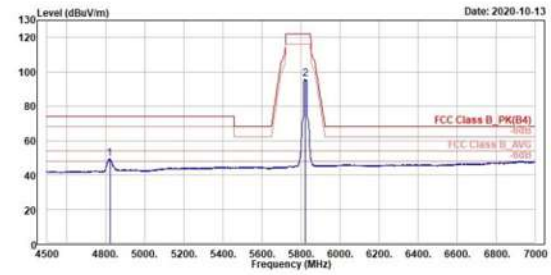
CH 165 (Vertical) Average



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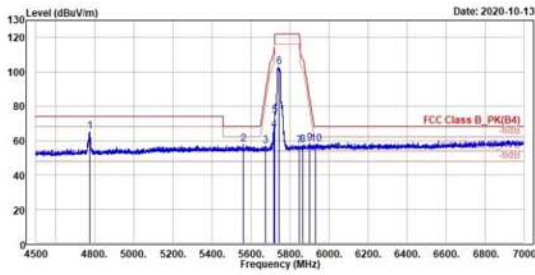
802.11n HT20

CH 149 (Horizontal) Peak

CH 149 (Vertical) Peak



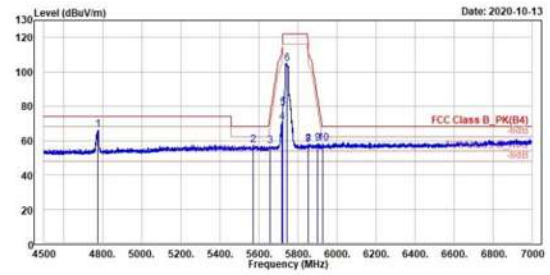
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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4775.58	65.38	23.54	41.76	74.00	-8.70	337	246	Peak	Horizontal	
2	5563.59	58.81	14.98	43.83	68.20	-10.39	337	246	Peak	Horizontal	
3	5674.89	56.71	13.55	43.16	66.66	-29.95	337	246	Peak	Horizontal	
4	5719.80	66.23	22.87	43.36	110.75	-44.52	337	246	Peak	Horizontal	
5	5724.30	74.68	31.25	43.35	120.68	-46.00	337	246	Peak	Horizontal	
6	5745.00	102.73	59.40	43.33	122.20	-19.47	337	246	Peak	Horizontal	
7	5852.07	56.75	13.24	43.51	117.49	-60.74	337	246	Peak	Horizontal	
8	5868.54	57.15	13.53	43.62	107.81	-49.86	337	246	Peak	Horizontal	
9	5981.98	58.34	14.49	43.85	85.20	-26.86	337	246	Peak	Horizontal	
10	5931.92	57.98	13.91	43.99	68.20	-10.30	337	246	Peak	Horizontal	



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4777.00	66.89	24.34	41.75	74.00	-7.91	115	294	Peak	Vertical	
2	5570.07	57.27	14.15	43.12	68.20	-10.93	115	294	Peak	Vertical	
3	5659.91	56.75	13.72	43.03	75.56	-18.81	115	294	Peak	Vertical	
4	5718.31	70.71	27.35	43.36	110.33	-39.62	115	294	Peak	Vertical	
5	5724.30	79.28	35.93	43.35	120.68	-41.32	115	294	Peak	Vertical	
6	5745.00	105.01	61.68	43.33	122.20	-17.19	115	294	Peak	Vertical	
7	5854.06	57.55	14.03	43.52	112.94	-55.39	115	294	Peak	Vertical	
8	5855.56	57.78	14.25	43.53	110.64	-52.86	115	294	Peak	Vertical	
9	5903.97	58.13	14.27	43.86	83.72	-25.59	115	294	Peak	Vertical	
10	5928.43	58.47	14.50	43.97	68.20	-9.73	115	294	Peak	Vertical	

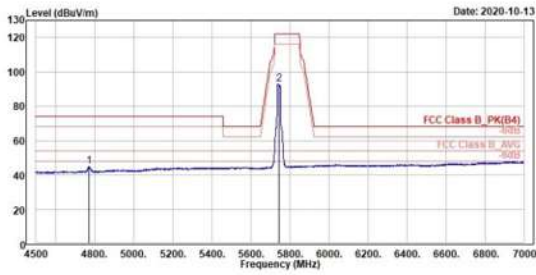
802.11n HT20

CH 149 (Horizontal) Average

CH 149 (Vertical) Average



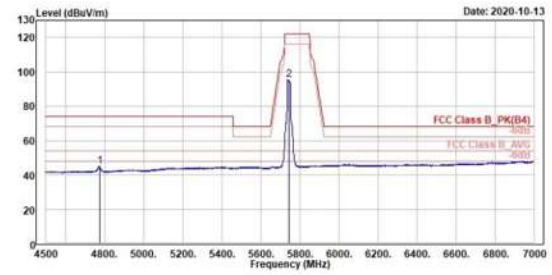
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Peak	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4772.01	44.96	3.28	41.76	54.00	-9.04	337	246	Average	Horizontal	
2 *	5745.00	93.01	49.68	43.33	54.00	39.01	337	246	Average	Horizontal	



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Peak	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4774.51	44.07	3.11	41.76	54.00	-9.13	115	294	Average	Vertical	
2 *	5745.00	95.59	52.26	43.33	54.00	41.59	115	294	Average	Vertical	

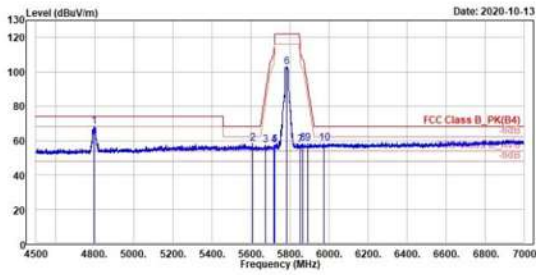
802.11n HT20

CH 157 (Horizontal) Peak

CH 157 (Vertical) Peak



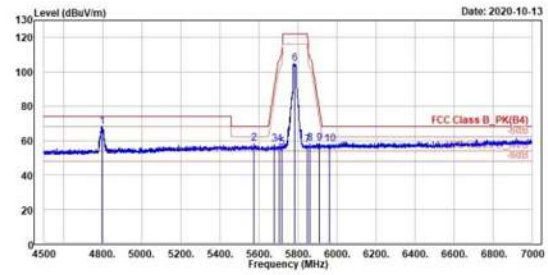
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	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4798.96	68.41	26.73	41.68	74.00	-5.59		332	246	Peak	Horizontal	
2	5612.00	58.21	15.06	43.15	68.20	-9.99		332	246	Peak	Horizontal	
3	5676.38	57.17	14.00	43.17	87.76	-30.59		332	246	Peak	Horizontal	
4	5719.31	57.23	13.87	43.36	110.61	-53.38		332	246	Peak	Horizontal	
5	5722.80	57.38	14.03	43.35	117.18	-59.80		332	246	Peak	Horizontal	
6	5785.00	102.92	59.50	43.42	122.20	-19.28		332	246	Peak	Horizontal	
7	5854.56	57.52	13.99	43.53	111.80	-54.28		332	246	Peak	Horizontal	
8	5867.04	58.13	14.52	43.61	107.43	-49.30		332	246	Peak	Horizontal	
9	5894.49	58.46	14.66	43.88	90.74	-32.26		332	246	Peak	Horizontal	
10	5977.34	58.32	14.18	44.14	68.20	-9.88		332	246	Peak	Horizontal	



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	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4796.97	68.48	26.72	41.68	74.00	-5.60		114	293	Peak	Vertical	
2	5576.06	58.19	15.05	43.14	68.20	-10.01		114	293	Peak	Vertical	
3	5682.37	57.70	14.47	43.23	92.19	-34.49		114	293	Peak	Vertical	
4	5705.83	57.86	14.48	43.38	106.83	-48.97		114	293	Peak	Vertical	
5	5728.00	56.03	12.67	43.36	112.63	-56.60		114	293	Peak	Vertical	
6	5785.00	104.84	61.42	43.42	122.20	-17.36		114	293	Peak	Vertical	
7	5850.57	57.21	13.71	43.50	120.90	-63.69		114	293	Peak	Vertical	
8	5861.55	58.44	14.87	43.57	108.96	-50.52		114	293	Peak	Vertical	
9	5911.46	58.48	14.59	43.89	78.19	-19.71		114	293	Peak	Vertical	
10	5962.37	57.96	13.86	44.10	68.20	-10.24		114	293	Peak	Vertical	

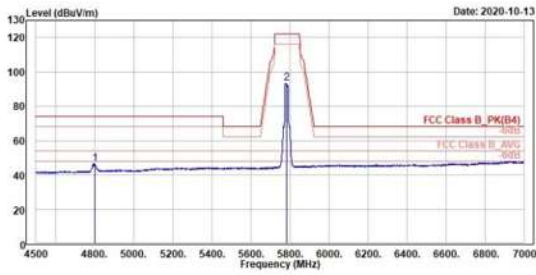
802.11n HT20

CH 157 (Horizontal) Average

CH 157 (Vertical) Average



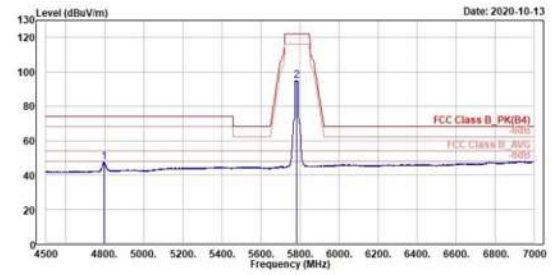
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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4880.46	46.47	4.79	41.68	54.00	-7.53	332	246 Average	Horizontal	
2 *	5785.00	93.39	49.97	43.42	54.00	39.39	332	246 Average	Horizontal	



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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4796.47	47.26	5.58	41.68	54.00	-6.74	114	293 Average	Vertical	
2 *	5785.00	95.07	51.65	43.42	54.00	41.07	114	293 Average	Vertical	

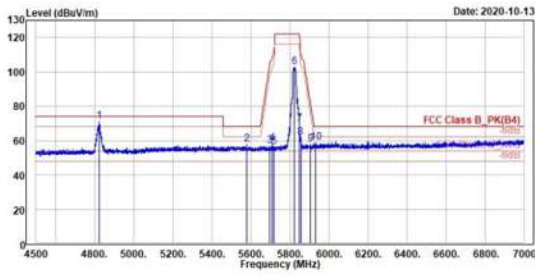
802.11n HT20

CH 165 (Horizontal) Peak

CH 165 (Vertical) Peak



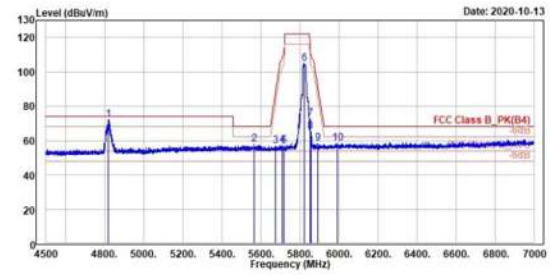
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	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4822.42	71.00	29.27	41.73	74.00	-3.00	317	235 Peak	Horizontal	
2	5581.05	57.89	14.74	43.15	68.20	-10.31	317	235 Peak	Horizontal	
3	5696.85	56.91	13.56	43.35	102.88	-45.97	317	235 Peak	Horizontal	
4	5712.32	58.47	15.10	43.37	108.65	-50.18	317	235 Peak	Horizontal	
5	5721.30	56.10	12.74	43.36	113.77	-57.67	317	235 Peak	Horizontal	
6	5825.00	102.68	59.20	43.48	122.20	-19.52	317	235 Peak	Horizontal	
7	5850.07	69.49	25.99	43.50	122.04	-52.55	317	235 Peak	Horizontal	
8	5856.56	61.85	18.31	43.54	110.36	-48.51	317	235 Peak	Horizontal	
9	5985.47	58.03	14.17	43.86	82.61	-24.58	317	235 Peak	Horizontal	
10	5934.42	58.70	14.70	44.00	68.20	-9.50	317	235 Peak	Horizontal	



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	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4820.42	72.07	30.34	41.73	74.00	-1.93	100	293 Peak	Vertical	
2	5567.08	57.66	14.55	43.11	68.20	-10.54	100	293 Peak	Vertical	
3	5677.88	56.93	13.74	43.19	88.87	-31.94	100	293 Peak	Vertical	
4	5709.32	57.20	13.83	43.37	107.81	-50.61	100	293 Peak	Vertical	
5	5720.00	56.62	13.26	43.36	112.63	-56.01	100	293 Peak	Vertical	
6	5825.00	104.86	61.38	43.48	122.20	-17.34	100	293 Peak	Vertical	
7	5852.57	72.90	29.38	43.52	116.35	-43.45	100	293 Peak	Vertical	
8	5856.56	65.21	21.67	43.54	110.36	-45.15	100	293 Peak	Vertical	
9	5894.49	58.32	14.52	43.80	90.74	-32.42	100	293 Peak	Vertical	
10	5992.81	58.48	14.29	44.19	68.20	-9.72	100	293 Peak	Vertical	

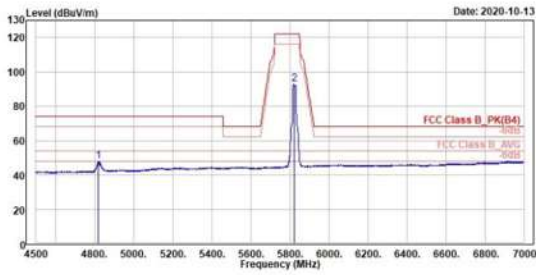
802.11n HT20

CH 165 (Horizontal) Average

CH 165 (Vertical) Average



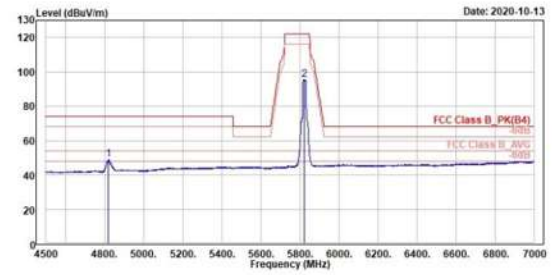
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Peak	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4817.93	47.93	6.28	41.73	54.00	-6.07	317	235	Average	Horizontal	
2 *	5825.00	93.07	49.59	43.48	54.00	39.07	317	235	Average	Horizontal	



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Peak	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4817.93	48.97	7.24	41.73	54.00	-5.03	100	293	Average	Vertical	
2 *	5825.00	95.48	51.92	43.48	54.00	41.48	100	293	Average	Vertical	

Spurious Emissions, Tx Mode, 1GHz ~ 40GHz
U-NII-1

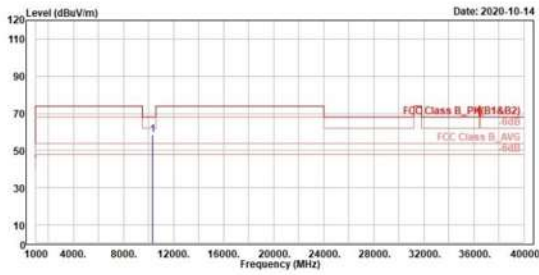
802.11a

CH 36 (Horizontal)

CH 36 (Vertical)



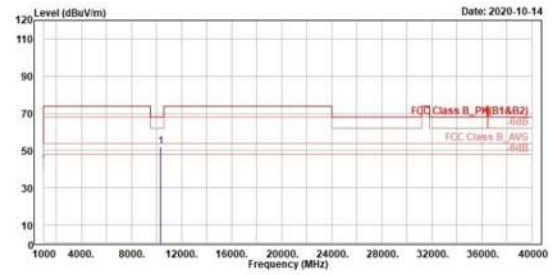
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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
10360.00	58.18	61.99	-3.61	68.20	-10.02	100	128	Peak	Horizontal	



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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
10360.00	51.89	55.70	-3.61	68.20	-16.31	200	114	Peak	Vertical	

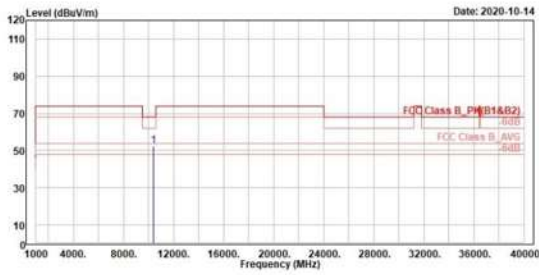
802.11a

CH 40 (Horizontal)

CH 40 (Vertical)



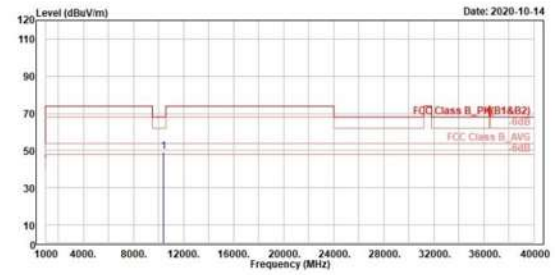
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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1 10400.00	52.65	56.37	-3.72	68.20	+15.55	300	107	Peak	Horizontal	



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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1 10400.00	49.31	53.03	-3.72	68.20	-18.89	200	108	Peak	Vertical	

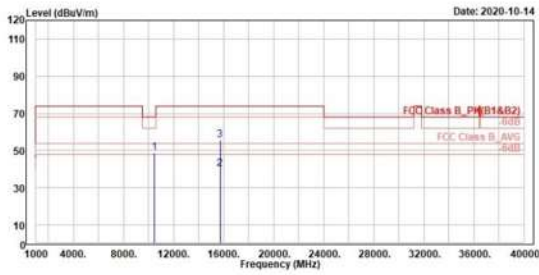
802.11a

CH 48 (Horizontal)

CH 48 (Vertical)



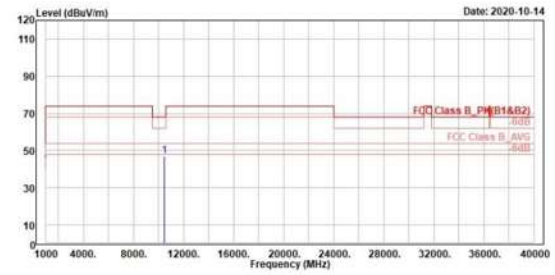
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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	10480.00	48.98	52.62	-3.64	68.20	-19.22	280	104	Peak	Horizontal	
2	15720.00	49.18	36.46	3.64	54.00	-13.90	186	67	Average	Horizontal	
3	15720.00	55.74	52.18	3.64	74.00	-18.26	186	67	Peak	Horizontal	



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	10480.00	46.98	50.54	-3.64	68.20	-21.30	300	331	Peak	Vertical	

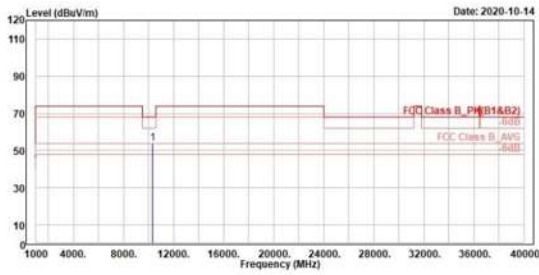
802.11n HT20

CH 36 (Horizontal)

CH 36 (Vertical)



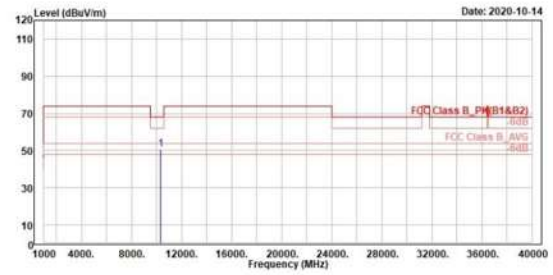
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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	10360.00	53.79	57.60	-3.81	68.20	-14.41	200	258 Peak	Horizontal	



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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	10360.00	50.69	54.50	-3.81	68.20	-17.51	100	265 Peak	Vertical	

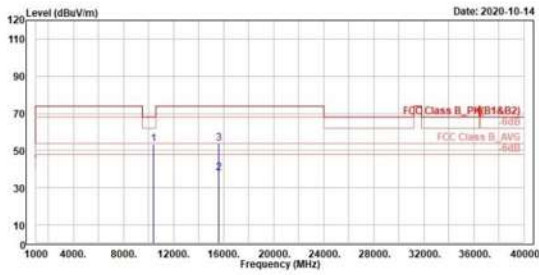
802.11n HT20

CH 40 (Horizontal)

CH 40 (Vertical)



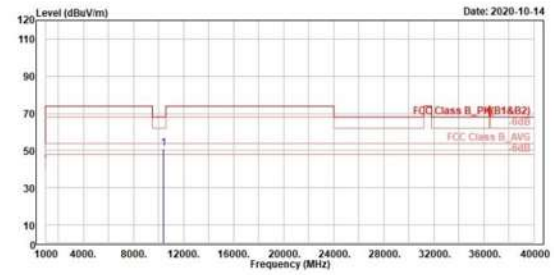
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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	10400.00	53.44	57.16	-3.72	68.20	-14.76	280	165 Peak	Horizontal	
2	15600.00	37.95	34.53	3.42	54.00	-16.05	256	62 Average	Horizontal	
3	15600.00	54.03	50.61	3.42	74.00	-19.97	256	62 Peak	Horizontal	



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Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	10400.00	50.96	54.68	-3.72	68.20	-17.24	100	95 Peak	Vertical	

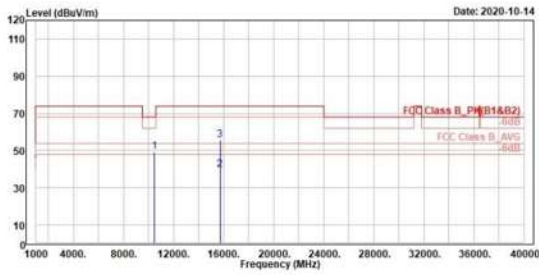
802.11n HT20

CH 48 (Horizontal)

CH 48 (Vertical)



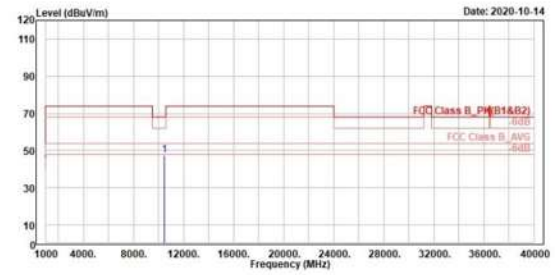
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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	10480.00	49.24	52.88	-3.64	68.20	-18.96	280	120	Peak	Horizontal	
2	15720.00	39.48	35.84	3.64	54.00	-14.52	184	66	Average	Horizontal	
3	15720.00	55.67	52.03	3.64	74.00	-18.33	184	66	Peak	Horizontal	



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	10480.00	47.50	51.14	-3.64	68.20	-20.70	300	310	Peak	Vertical	

U-NII-3

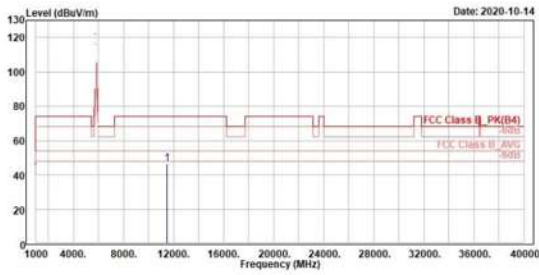
802.11a

CH 149 (Horizontal)

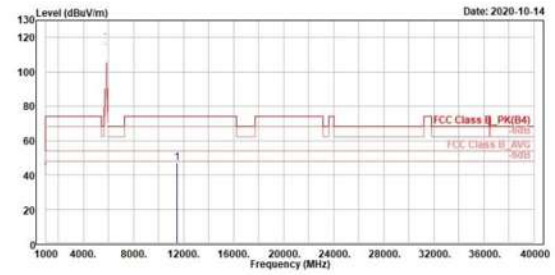
CH 149 (Vertical)



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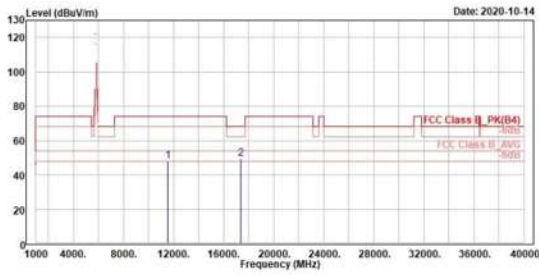
802.11a

CH 157 (Horizontal)

CH 157 (Vertical)



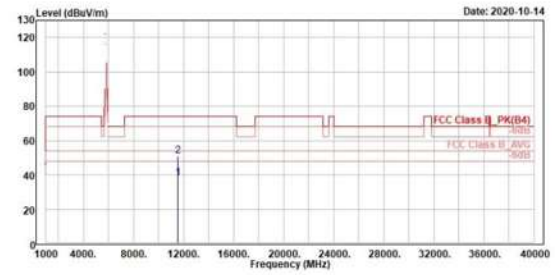
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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	11570.00	47.93	49.45	-1.52	74.00	-26.07	200	368	Peak	Horizontal	
2	17355.00	49.64	43.12	6.52	68.20	-18.56	200	62	Peak	Horizontal	



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	11570.00	37.87	39.39	-1.52	54.00	-16.13	100	84	Average	Vertical	
2	11570.00	50.97	52.49	-1.52	74.00	-23.03	100	84	Peak	Vertical	

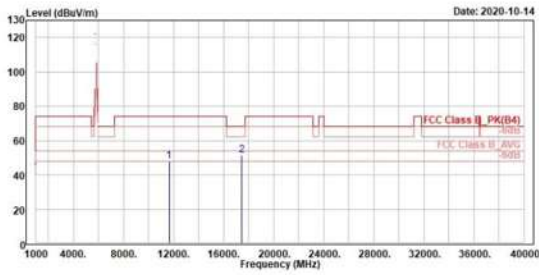
802.11a

CH 165 (Horizontal)

CH 165 (Vertical)



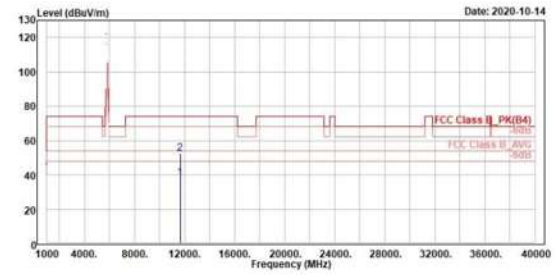
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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	11650.00	47.74	49.10	-1.36	74.00	-26.26	300	42	Peak	Horizontal	
2	12475.00	51.49	45.12	6.37	68.20	-16.71	300	48	Peak	Horizontal	



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	11650.00	38.17	39.53	-1.36	54.00	-15.83	100	57	Average	Vertical	
2	11650.00	52.58	53.94	-1.36	74.00	-21.42	100	57	Peak	Vertical	

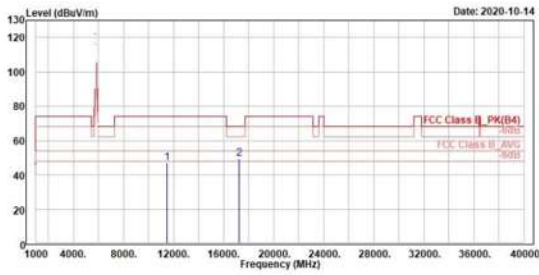
802.11n HT20

CH 149 (Horizontal)

CH 149 (Vertical)



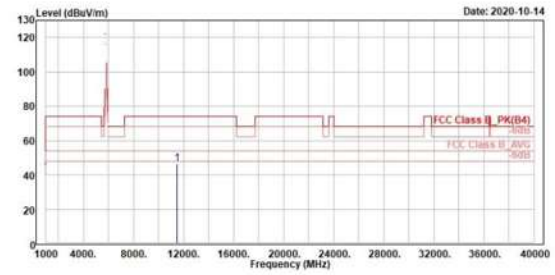
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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	11490.00	46.76	48.48	-1.72	74.00	-27.24	200	0	Peak	Horizontal	
2	17235.00	49.63	43.27	6.36	68.20	-18.57	200	43	Peak	Horizontal	



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	11490.00	46.61	48.33	-1.72	74.00	-27.39	100	82	Peak	Vertical	

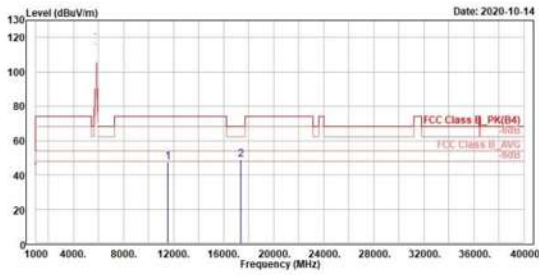
802.11n HT20

CH 157 (Horizontal)

CH 157 (Vertical)



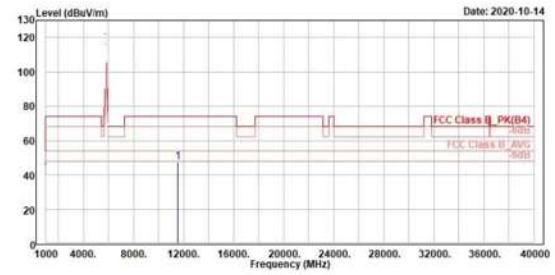
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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	11570.00	47.61	49.13	-1.52	74.00	-26.39	200	182	Peak	Horizontal	
2	17355.00	48.70	42.18	6.52	68.20	-19.58	100	72	Peak	Horizontal	



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	11570.00	47.55	49.07	-1.52	74.00	-26.45	100	72	Peak	Vertical	

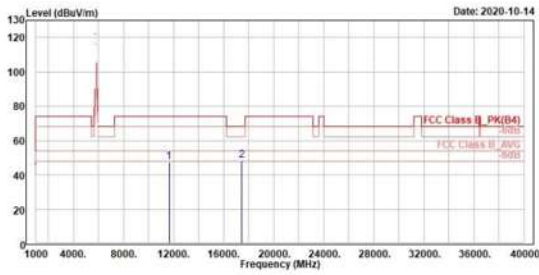
802.11n HT20

CH 165 (Horizontal)

CH 165 (Vertical)



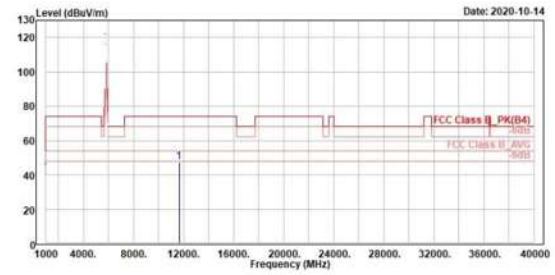
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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	11658.00	47.44	48.88	-1.36	74.00	-26.56	200	368	Peak	Horizontal	
2	12475.00	48.62	42.25	6.37	68.20	-19.58	100	70	Peak	Horizontal	



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	11658.00	47.67	49.03	-1.36	74.00	-26.33	146	368	Peak	Vertical	

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

U-NII-1

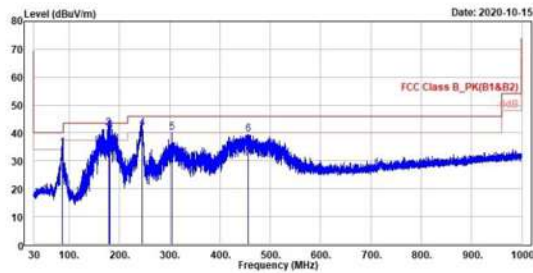
802.11an20

CH 36 (Horizontal)

CH 36 (Vertical)



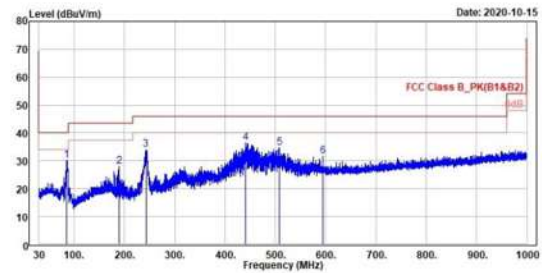
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	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
Freq	Level	Level		Line	Limit					
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	85.87	34.53	47.63	-13.18	40.00	-5.47	200	165 QP	Horizontal	
2	178.51	41.62	49.68	-8.26	43.50	-1.88	200	165 QP	Horizontal	
3	181.71	40.89	49.68	-8.71	43.50	-2.61	200	165 QP	Horizontal	
4	244.95	41.66	49.83	-8.17	46.00	-4.34	100	212 QP	Horizontal	
5	384.41	40.06	46.40	-6.34	46.00	-5.94	100	228 QP	Horizontal	
6	455.44	39.57	43.25	-3.68	46.00	-6.43	200	28 QP	Horizontal	



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	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
Freq	Level	Level		Line	Limit					
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	85.58	30.11	43.17	-13.06	40.00	-9.89	348	360 QP	Vertical	
2	188.89	27.97	37.57	-9.68	43.50	-15.53	182	360 QP	Vertical	
3	242.62	33.92	42.14	-8.22	46.00	-12.08	100	251 QP	Vertical	
4	441.57	36.38	40.27	-3.89	46.00	-9.62	200	226 QP	Vertical	
5	508.60	34.65	37.67	-3.02	46.00	-11.35	200	247 QP	Vertical	
6	594.83	31.61	33.13	-1.52	46.00	-14.39	100	251 QP	Vertical	

U-NII-3

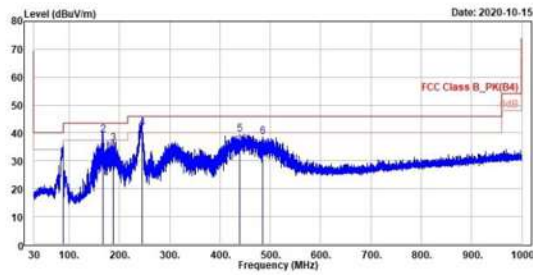
802.11a

CH 165 (Horizontal)

CH 165 (Vertical)



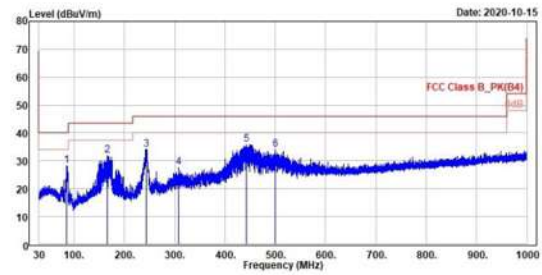
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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	87.42	30.27	43.56	-13.29	40.00	-9.73	200	146	QP	Horizontal	
2	167.45	39.33	46.55	-7.22	43.50	-4.17	200	360	QP	Horizontal	
3	187.82	36.34	45.85	-9.51	43.50	-7.16	200	360	QP	Horizontal	
4	244.95	41.00	49.97	-8.97	46.00	-4.20	100	179	QP	Horizontal	
5	439.24	39.52	43.44	-3.92	46.00	-6.48	100	200	QP	Horizontal	
6	484.74	38.55	42.03	-3.48	46.00	-7.45	200	26	QP	Horizontal	



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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	85.58	28.15	41.21	-13.06	40.00	-11.85	300	203	QP	Vertical	
2	165.12	31.79	39.06	-7.27	43.50	-11.71	200	302	QP	Vertical	
3	242.92	34.20	42.41	-8.21	46.00	-11.80	200	311	QP	Vertical	
4	307.13	27.65	33.95	-6.30	46.00	-18.35	100	175	QP	Vertical	
5	441.96	35.81	39.69	-3.88	46.00	-10.19	200	236	QP	Vertical	
6	499.58	34.01	37.22	-3.21	46.00	-11.99	200	230	QP	Vertical	

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

U-NII-1

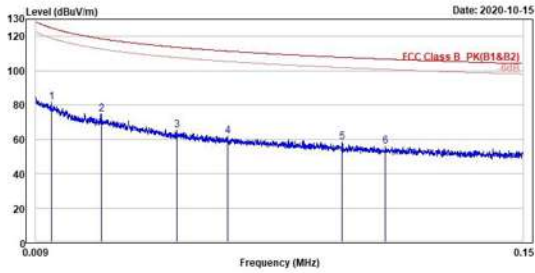
802.11an20

CH 36 (Open) 9kHz ~ 150kHz

CH 36 (Open) 150kHz ~ 30MHz



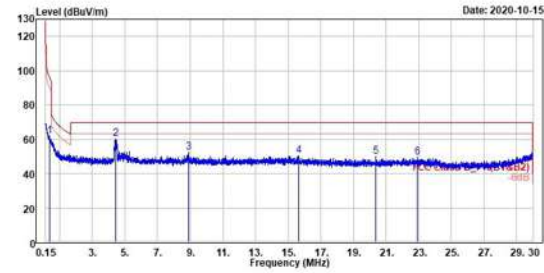
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	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	0.01	81.59	4.94	76.65	124.99	-43.40	100	85 QP	Open	
2	0.03	74.75	3.63	71.12	118.68	-43.93	100	285 QP	Open	
3	0.05	65.46	0.35	65.11	113.65	-48.19	100	139 QP	Open	
4	0.06	61.78	-1.29	63.07	111.41	-49.63	100	113 QP	Open	
5	0.10	58.25	-1.27	59.52	107.80	-49.55	100	2 QP	Open	
6	0.11	55.90	-2.76	58.66	106.75	-50.85	100	41 QP	Open	



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	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	0.38	61.97	13.12	48.85	96.80	-34.11	100	346 QP	Open	
2	4.45	60.29	21.96	38.33	69.50	-9.21	100	138 QP	Open	
3	8.91	52.51	14.70	37.81	69.50	-16.99	100	237 QP	Open	
4	15.62	50.61	13.00	37.61	69.50	-18.89	100	47 QP	Open	
5	20.39	49.68	13.50	36.18	69.50	-19.82	100	0 QP	Open	
6	22.90	49.28	13.67	35.61	69.50	-20.22	100	203 QP	Open	

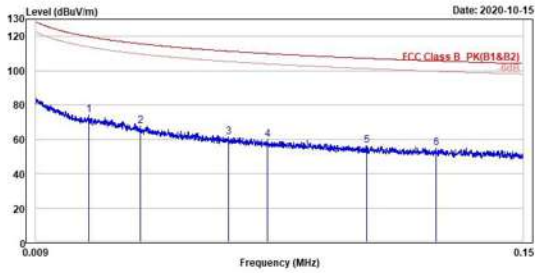
802.11an20

CH 36 (Close) 9kHz ~ 150kHz

CH 36 (Close) 150kHz ~ 30MHz



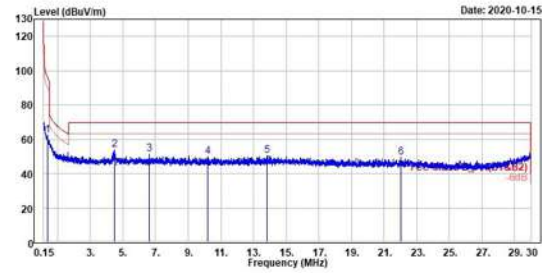
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	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	0.02	74.15	2.38	71.77	119.68	-45.73	100	344	QP	Close		
2	0.04	67.96	0.20	67.76	115.70	-47.74	100	0	QP	Close		
3	0.06	61.10	-1.94	63.04	111.37	-50.27	100	26	QP	Close		
4	0.08	59.79	-1.90	61.69	109.98	-50.19	100	51	QP	Close		
5	0.10	56.30	-2.67	58.97	107.19	-50.89	100	302	QP	Close		
6	0.12	54.82	-2.99	57.81	105.67	-50.85	100	125	QP	Close		



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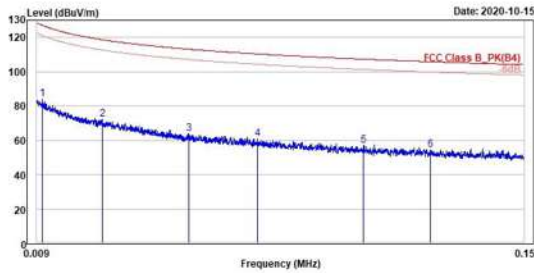
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	0.37	62.31	13.40	48.91	96.15	-33.84	100	25	QP	Close		
2	4.47	53.90	15.57	38.33	69.50	-15.60	100	309	QP	Close		
3	6.63	51.64	13.28	38.36	69.50	-17.86	100	174	QP	Close		
4	10.22	50.14	12.64	37.50	69.50	-19.36	100	209	QP	Close		
5	13.85	50.54	12.95	37.59	69.50	-18.96	100	2	QP	Close		
6	22.04	49.25	13.39	35.86	69.50	-20.25	100	328	QP	Close		

U-NII-3

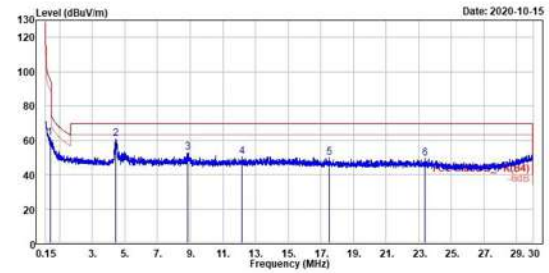
802.11a

CH 165 (Open) 9kHz ~ 150kHz

CH 165 (Open) 150kHz ~ 30MHz



Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	0.01	83.85	5.37	78.48	127.10	-43.25	100	156	QP	Open	
2	0.03	72.21	1.11	71.10	118.65	-46.44	100	368	QP	Open	
3	0.05	63.77	-0.87	64.64	113.12	-49.35	100	17	QP	Open	
4	0.07	60.96	-1.07	62.03	110.34	-49.38	100	347	QP	Open	
5	0.10	56.85	-2.19	59.04	107.28	-50.43	100	294	QP	Open	
6	0.12	54.31	-3.61	57.92	105.00	-51.49	100	333	QP	Open	



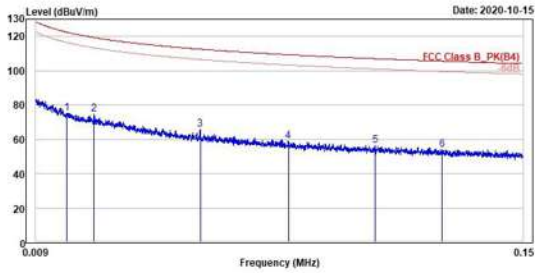
Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	0.41	61.17	12.96	48.21	95.35	-34.18	100	226	QP	Open	
2	4.45	60.76	22.43	38.33	69.50	-8.74	100	31	QP	Open	
3	8.83	53.13	15.30	37.83	69.50	-16.37	100	360	QP	Open	
4	12.18	50.53	13.21	37.32	69.50	-18.97	100	348	QP	Open	
5	17.49	49.70	12.71	36.99	69.50	-19.80	100	360	QP	Open	
6	23.39	49.50	14.19	35.31	69.50	-20.00	100	320	QP	Open	

802.11a

CH 165 (Close) 9kHz ~ 150kHz



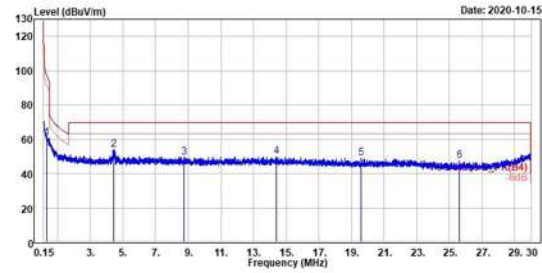
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	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	0.02	75.33	1.57	73.76	122.45	-47.12	100	51 QP	Close	
2	0.03	74.52	3.04	71.48	119.34	-44.82	100	2 QP	Close	
3	0.06	65.56	1.43	64.13	112.54	-46.98	100	266 QP	Close	
4	0.08	58.87	-2.21	61.08	109.31	-50.44	100	179 QP	Close	
5	0.11	56.33	-2.51	58.84	107.00	-50.67	100	332 QP	Close	
6	0.13	53.95	-3.76	57.71	105.55	-51.60	100	227 QP	Close	



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	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	0.34	60.89	11.23	49.66	97.02	-36.13	100	0 QP	Close	
2	4.41	53.79	15.46	38.33	69.50	-15.71	100	349 QP	Close	
3	8.76	49.47	11.62	37.85	69.50	-20.03	100	65 QP	Close	
4	14.39	49.82	12.16	37.66	69.50	-19.68	100	168 QP	Close	
5	19.58	48.88	12.55	36.33	69.50	-20.62	100	270 QP	Close	
6	25.60	47.66	13.48	34.18	69.50	-21.84	100	361 QP	Close	

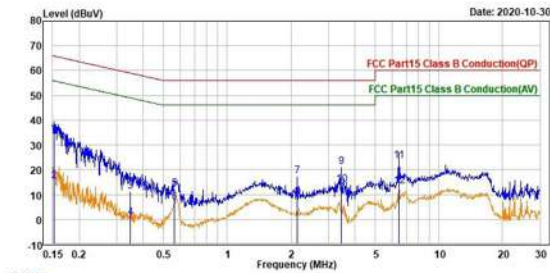
Mains Conducted Emission, (150kHz ~ 30MHz)

Worst Band

(Line)



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(Neutral)



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