FCC PART 15.407
RSS-GEN, ISSUE 4, NOVEMBER 2014
RSS-247, ISSUE 2, FEBRUARY 2017

TEST REPORT

For

SZ DJI TECHNOLOGY CO., LTD

14th floor, West Wing, Skyworth Semiconductor Design Building NO.18 Gaoxin South 4th Ave, Nanshan, Shenzhen, Guangdong, China

FCC ID: SS3-U11X1710
IC: 11805A-U11X1710

Report Type:	**Product Name:**
Original Report	MAVIC AIR

Report Number:	RDG171013002-00A
Report Date:	2017-11-15
Reviewed By:	Jerry Zhang EMC Manager
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *SZ DJI TECHNOLOGY CO., LTD's* product, model number: U11X ***(FCC ID: SS3-U11X1710, IC: 11805A-U11X1710)*** (the "EUT") in this report was a MAVIC AIR,which was measured approximately: 17 cm (L) x 9.5 cm (W) x 4.7 cm (H), rated input voltage: DC 11.55V from rechargeable Li-ion Battery or DC 13.2V from adapter.

Adapter #1 Information:Hunlkey
Model: P1C50
Input: AC 100-240V, 1.4A, 50-60Hz
Output: DC 13.2V, 3.79A(Main), DC 5.0V, 2.0A Total(USB)

Adapter #2 Information:Actel
Model: P1C50
Input: AC 100-240V, 1.4A, 50-60Hz
Output: DC 13.2V, 3.79A(Main), DC 5.0V, 2.0A Total(USB)

Adapter #3 Information:CHICONY
Model: P1C50
Input: AC 100-240V, 1.8A, 50-60Hz
Output: DC 13.2V, 3.79A(Main), DC 5.0V, 2.0A Total(USB)

The measurement and test data of the Spurious Emissions in this report was gathered from production sample serial number: 171013002 (Assigned by BACL, Dongguan). The EUT was received on 2017-10-13.

Objective

This type approval report is prepared on behalf of ***SZ DJI TECHNOLOGY CO., LTD*** in accordance with Part 2-Subpart J, Part 15-Subparts A and E of the Federal Communications Commission's rules. And RSS-247, Issue 2, February 2017, RSS-Gen Issue 4, November 2014 of the Innovation, Science and Economic Development Canada.

The tests were performed in order to determine compliance with FCC Rules Part 15, Subpart E, section 15.203, 15.205, 15.207, 15.209 and 15.407 rules, and RSS-247, Issue 2, February 2017, RSS-Gen Issue 4, November 2014 of the Innovation, Science and Economic Development Canada.

Related Submittal(s)/Grant(s)

FCC submissions with Part 15C DTS, FCC ID: SS3-U11X1710.
FCC submissions with Part 15B JBP, FCC ID: SS3-U11X1710.
ISEDC submissions with RSS-247 DTSs, IC: 11805A-U11X1710.
Part of system submissions with FCC ID:SS3-S01A1710, IC: 11805A-S01A1710.

Test Methodology

All measurements detailed in this Test Report were performed in accordance with ANSI C63.10-2013 "American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices". And RSS-247, Issue 2, February 2017, RSS-Gen Issue 4, November 2014 of the Innovation, Science and Economic Development Canada. And KDB 789033 D02 General U-NII Test Procedures New Rules v01r04

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Dongguan).

Measurement Uncertainty

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Power Spectral Density, conducted	±0.61 dB
Unwanted Emissions, radiated	30M~200MHz: 4.58 dB for Horizontal, 4.59 dB for Vertical 200M~1GHz: 4.83 dB for Horizontal, 5.85 dB for Vertical 1G~6GHz: 4.45 dB, 6G~40GHz: 5.23 dB
Unwanted Emissions, Conducted	±1.5 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China

Bay Area Compliance Laboratories Corp. (Dongguan) has been accredited to ISO/IEC 17025 by CNAS(Lab code: L5662). And accredited to ISO/IEC 17025 by NVLAP(Test Laboratory Accreditation Certificate Number 500069-0), the FCC Designation No. CN5002 under the KDB 974614 D01.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Bay Area Compliance Laboratories Corp. (Dongguan) was registered with ISED Canada under ISED Canada Registration Number 3062D.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The EUT was configured for testing in an engineering mode which was provided by the manufacturer.

For 5725~5850MHz band, the device employs 802.11a/ n ht20/n ht40, and 5M and 10M modes. All modes support 2T2R mode.

The device employs total 8 channels:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	157	5785
151	5755	159	5795
153	5765	161	5805
155	5775	165	5825

For 802.11a and 802.11n ht20 and 5MHz, 10Mhz modes were tested with Channel 149, 157 and 165, 802.11n ht40 mode was tested with Channel 151 and 159.

Per pre-test, the worst mode was 2T2R mode. The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD across all data rates bandwidths, and modulations.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

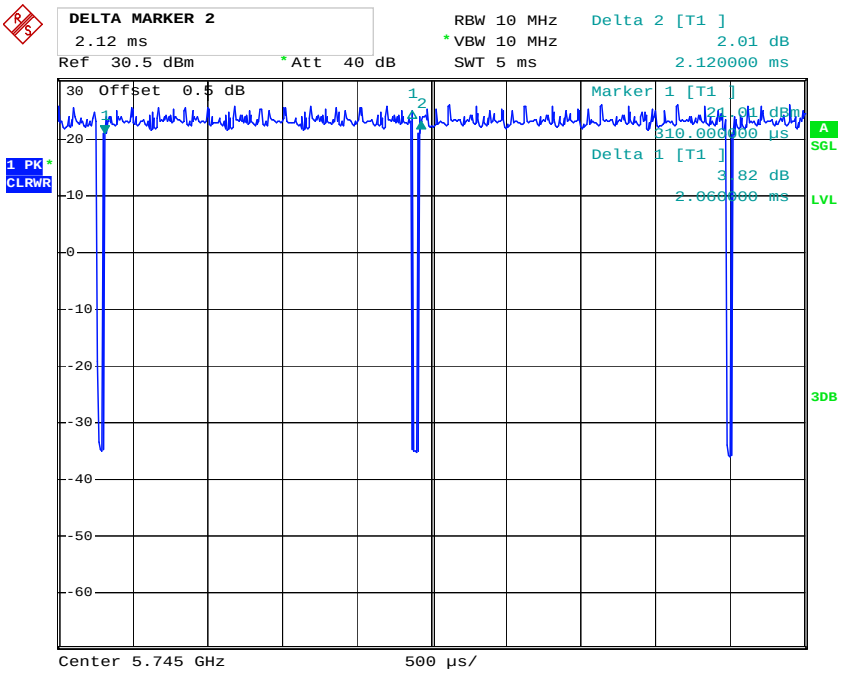
The software "Certification_WM230_UAV_RCU_20171013.exe" was used for testing, which was provided by manufacturer. The maximum power with maximum duty cycle was configured by system default setting.

Test Mode	Test Software Version	Certification_WM230_UAV_RCU_20171013.exe		
802.11a	Test Frequency	5745MHz	5785MHz	5825MHz
	Data Rate	6Mbps	6Mbps	6Mbps
	Power Level Setting Chain0	20	20	20
	Power Level Setting Chain1	20	20	20
802.11n ht20	Test Frequency	5745MHz	5785MHz	5825MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level Setting Chain0	20	20	20
	Power Level Setting Chain1	20	20	20
802.11n ht40	Test Frequency	5755MHz	/	5795MHz
	Data Rate	MCS0	/	MCS0
	Power Level Setting Chain0	18	/	18
	Power Level Setting Chain1	18	/	18
5M	Test Frequency	5745MHz	5785MHz	5825MHz
	Power Level Setting Chain0	24	24	24
	Power Level Setting Chain1	24	24	24
10M	Test Frequency	5745MHz	5785MHz	5825MHz
	Power Level Setting Chain0	24	24	24
	Power Level Setting Chain1	24	24	24

The duty cycle as below:

Mode	T_{on} (ms)	T_{on+off} (ms)	Duty Cycle (%)	Duty Cycle Factor 10*log(1/x) (dB)
802.11 a	2.060	2.120	97.2	0.12
802.11n ht20	1.890	2.000	94.5	0.25
802.11n ht40	0.934	0.988	94.5	0.24
5M	7.960	8.160	97.5	0.11
10M	4.000	4.080	98.0	0.09

802.11a



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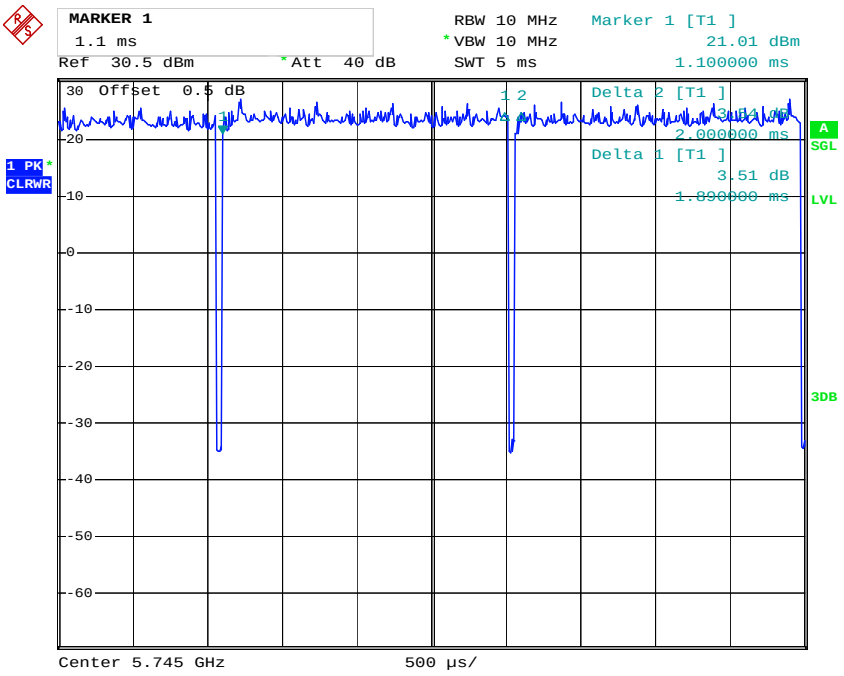
802.11n ht20



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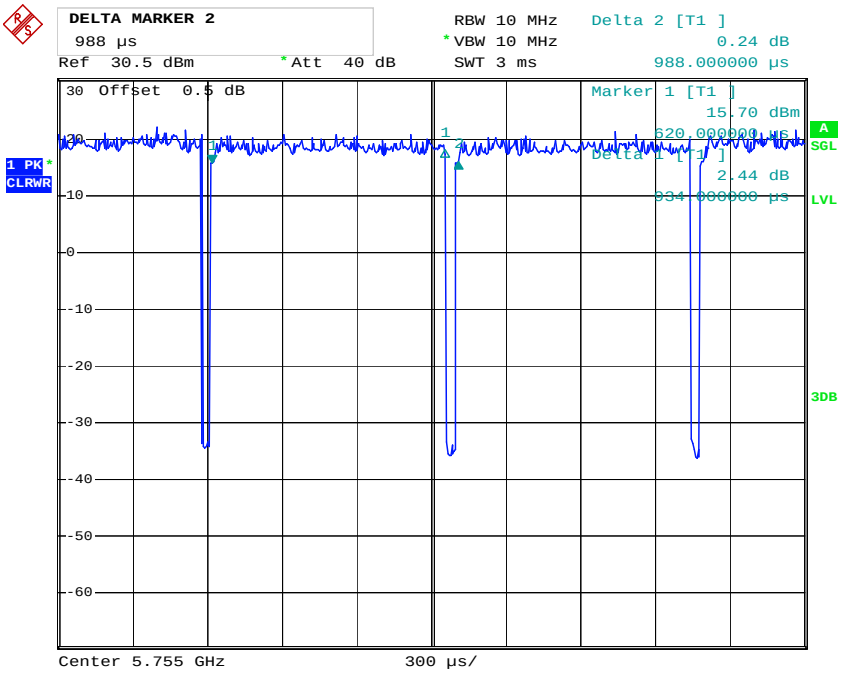
802.11n ht40



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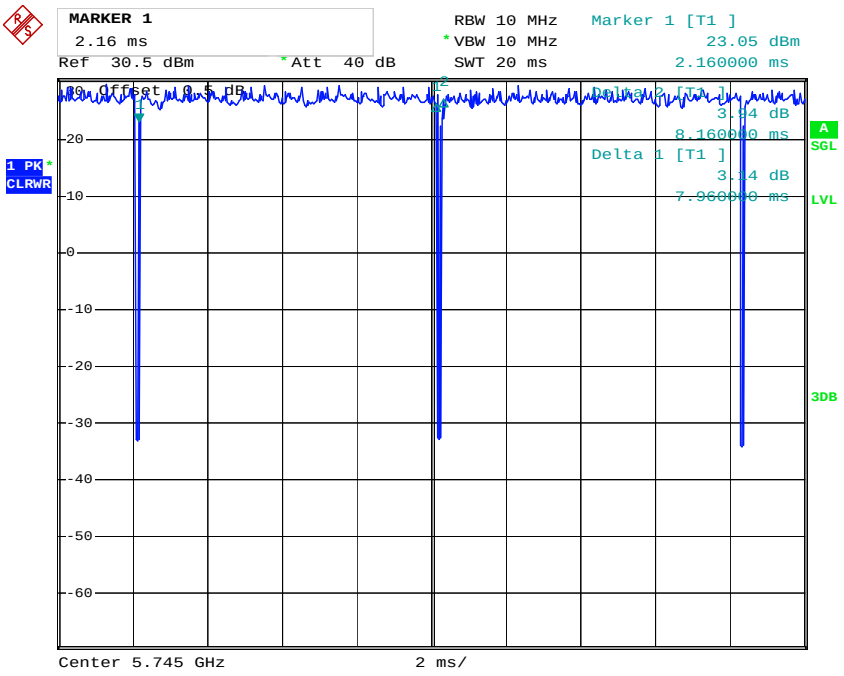
5M



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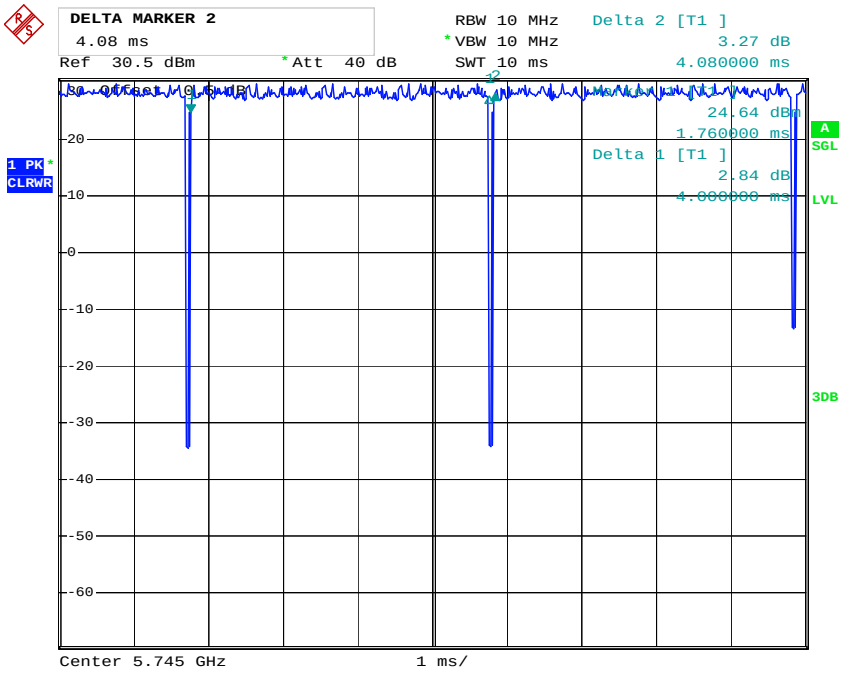
10M



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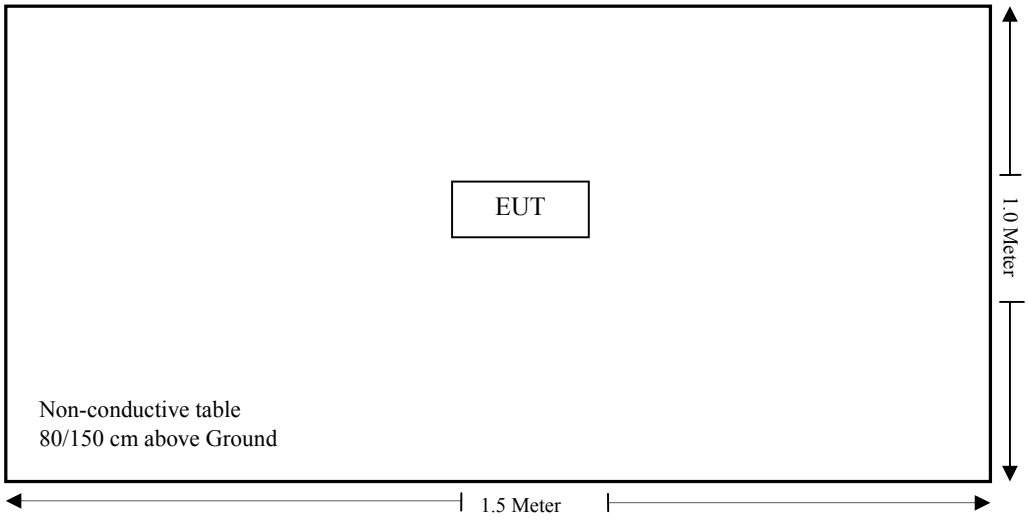
Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

Rules	Description of Test	Result
FCC §15.407 (f) & §1.1310 & §2.1091	Maximum Permissable Exposure (MPE)	Compliance
RSS-102 § 2.5.2	Exemption Limits For Routine Evaluation-RF Exposure Evaluation	Compliance
FCC§15.203 RSS-GEN§8.3	Antenna Requirement	Compliance
FCC§15.207 (a) RSS-Gen §8.8	AC Line Conducted Emissions	Not Applicable
FCC§15.205& §15.209 &§15.407(b) RSS-247§6.2	Undesirable Emission& Restricted Bands	Compliance
FCC§15.407(b) (1),(2),(3),(4) RSS-247§6.2	Out Of Band Emissions	Compliance
FCC§15.407(a) RSS-247 §6.2 RSS-Gen§6.6	Emission Bandwidth	Compliance
FCC§15.407(a) RSS-247 §6.2	Conducted Transmitter Output Power	Compliance
FCC§15.407 (a) RSS-247 §6.2	Power Spectral Density	Compliance
FCC§15.407(g)	Frequency stability	Compliance

FCC §15.407 (f) & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 15.407(f)and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f^2)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data:

Frequency (MHz)	**Antenna Gain**		**Conducted output power including Tune-up Tolerance**		**Evaluation Distance (cm)**	**Power Density (mW/cm^2)**	**MPE Limit (mW/cm^2)**
	(dBi)	**(numeric)**	**(dBm)**	**(mW)**			
5745-5825	3.39	2.18	28	630.96	20.00	0.2741	1.0

The 2.4GHz and 5GHz can`t transmit simultaneously

Result: The device meet FCC MPE at 20 cm distance

RSS-102 § 2.5.2 - EXEMPTION LIMITS FOR ROUTINE EVALUATION – RF EXPOSURE EVALUATION

Applicable Standard

According to RSS-102 § (2.5.2):

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

- below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);
- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the e.i.r.p. was derived.

Calculated Data:

The maximum power including tune-up tolerance is 28dBm@ 5.8 GHz band, the maximum antenna gain is 3.39 dBi @ 5.8GHz band, so the maximum e.r.i.p. is 31.39 dBm (1.377W),

Exemption from Routine Evaluation Limit is:
$1.31 \times 10^{-2} f^{0.6834} = 1.31 \times 10^{-2} \times 5845^{0.6834} = 4.915 > 1.377$ W

So the device is compliance exemption from Routine Evaluation Limits –RF exposure Evaluation.

Result: Compliance

FCC §15.203 ,RSS-GEN§8.3- ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.
Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

According to RSS-Gen §8.3, The applicant for equipment certification, as per RSP-100, must provide a list of all antenna types that may be used with the licence-exempt transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna.
Licence-exempt transmitters that have received equipment certification may operate with different types of antennas. However, it is not permissible to exceed the maximum equivalent isotropically radiated power (e.i.r.p.) limits specified in the applicable standard (RSS) for the licence-exempt apparatus.

Testing shall be performed using the highest gain antenna of each combination of licence-exempt transmitter and antenna type, with the transmitter output power set at the maximum level.9 When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna manufacturer.

User manuals for transmitters equipped with detachable antennas shall also contain the following notice in a conspicuous location:

This radio transmitter (identify the device by certification number or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types approved for use with the transmitter, indicating the maximum permissible antenna gain (in dBi).

Antenna Connector Construction

The EUT has 2 internal antennas, and the antennas gain in the below information list, fulfill the requirement of the item. Please refer to the internal photos.

Antenna Chain	Antenna Type	Antenna gain
0	PCB	2.0 dBi @ 2.4G Band 3.39 dBi @ 5.8G Band
1	PCB	2.0 dBi @ 2.4G Band 3.39 dBi @ 5.8G Band

Result: Compliance.

FCC §15.209, §15.205 , §15.407(b) &RSS-247 §6.2, RSS-GEN§8.10– UNWANTED EMISSION

Applicable Standard

According to FCC §15.407; §15.209; §15.205;

(b) *Undesirable emission limits.* Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

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

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

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

According to RSS-247§6.2

Frequency band 5150-5250 MHz

6.2.1.2 Unwanted emission limits

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

Frequency band 5250-5350 MHz

6.2.2.2 Unwanted emission limits

Devices shall comply with the following:

a) All emissions outside the band 5250-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p.; or

b) All emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz. The device, except devices installed in vehicles, shall be labelled or include in the user manual the following text “for indoor use only.”

Frequency bands 5470-5600 MHz and 5650-5725 MHz:

6.2.3.2 Unwanted emission limits

Emissions outside the band 5470-5600 MHz and 5650-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, devices with bandwidth overlapping the band edge of 5725 MHz can meet the emission limit of -27 dBm/MHz e.i.r.p. at 5850 MHz instead of 5725 MHz.

Frequency band 5725-5850 MHz

6.2.4.2 Unwanted emission limits

Devices operating in the band 5725-5850 MHz with antenna gain greater than 10 dBi can have unwanted emissions that comply with either the limits in this section or in section 5.5 until six (6) months after the publication date of this standard for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2018.

Devices operating in the band 5725-5850 MHz with antenna gain of 10 dBi or less can have unwanted emissions that comply with either the limits in this section or in section 5.5 until April 1, 2018 for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2020.

Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;

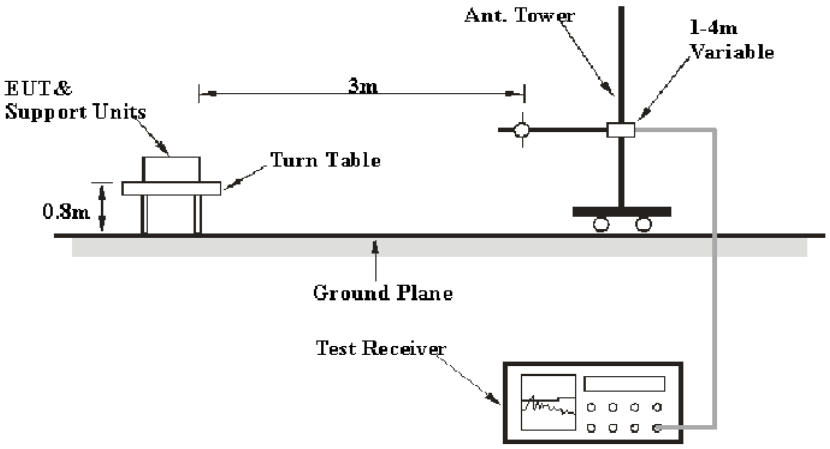
b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;

c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and

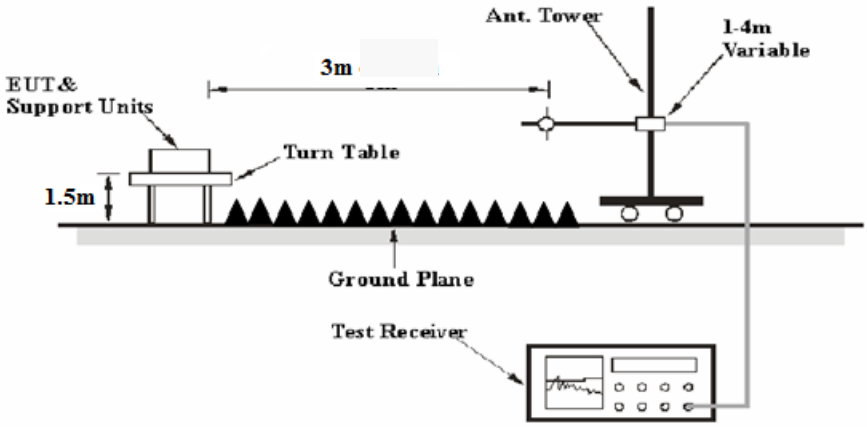
d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

EUT Setup

Below 1 GHz:



Above 1 GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, FCC 15.407 and RSS-247, RSS-Gen limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

30-1000MHz:

Measurement	RBW	Video B/W	IF B/W
QP	120 kHz	300 kHz	120kHz

1GHz- 40GHz:

Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
Ave.	>98%	1MHz	10 Hz
	<98%	1MHz	1/T

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1GHz, peak and Average detection modes for frequencies above 1GHz.

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r04, emission shall be computed as: E [dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Extrapolation result -Limit

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2017-09-01	2018-09-01
Sunol Sciences	Antenna	JB3	A060611-2	2017-08-25	2020-08-25
HP	Amplifier	8447D	2727A05902	2017-09-05	2018-09-05
unknown	Coaxial Cable	4m	C0400/01	2017-09-05	2018-09-05
unknown	Coaxial Cable	0.75m	C0075/01	2017-09-05	2018-09-05
unknown	Coaxial Cable	10m	C1000/01	2017-09-05	2018-09-05
Agilent	Spectrum Analyzer	E4440A	SG43360054	2016-12-08	2017-12-08
ETS-Lindgren	Horn Antenna	3115	000 527 35	2016-01-05	2019-01-05
R&S	Spectrum Analyzer	FSP 38	100478	2016-12-08	2017-12-08
MITEQ	Amplifier	AFS42-00101800-25-S-42	2001271	2017-09-05	2018-09-05
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-02 1304	2017-06-16	2020-06-15
Ducommun Technolagies	Horn Antenna	ARH-2823-02	1007726-01 1302	2016-11-18	2019-11-18
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2017-06-27	2018-06-27
unknown	Coaxial Cable	8m	C0800/01	2017-09-05	2018-09-05
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

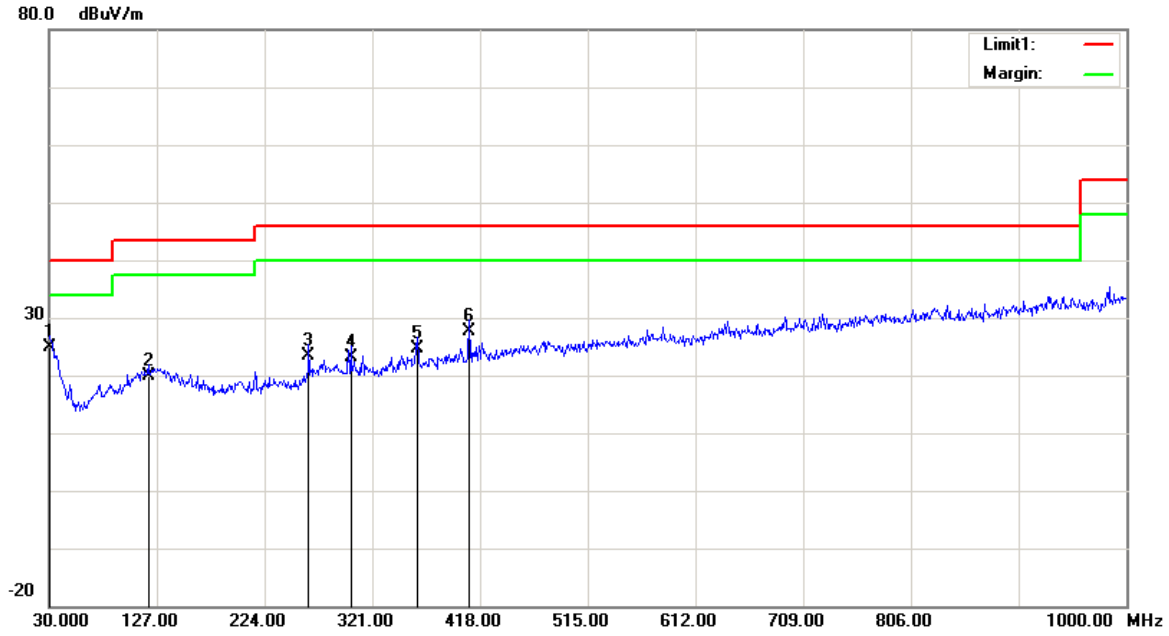
Temperature:	24.8 °C
Relative Humidity:	36 %
ATM Pressure:	101 kPa

The testing was performed by Steven Zuo on 2017-10-28.

Test Mode: Transmitting(2Tx mode was the worst)

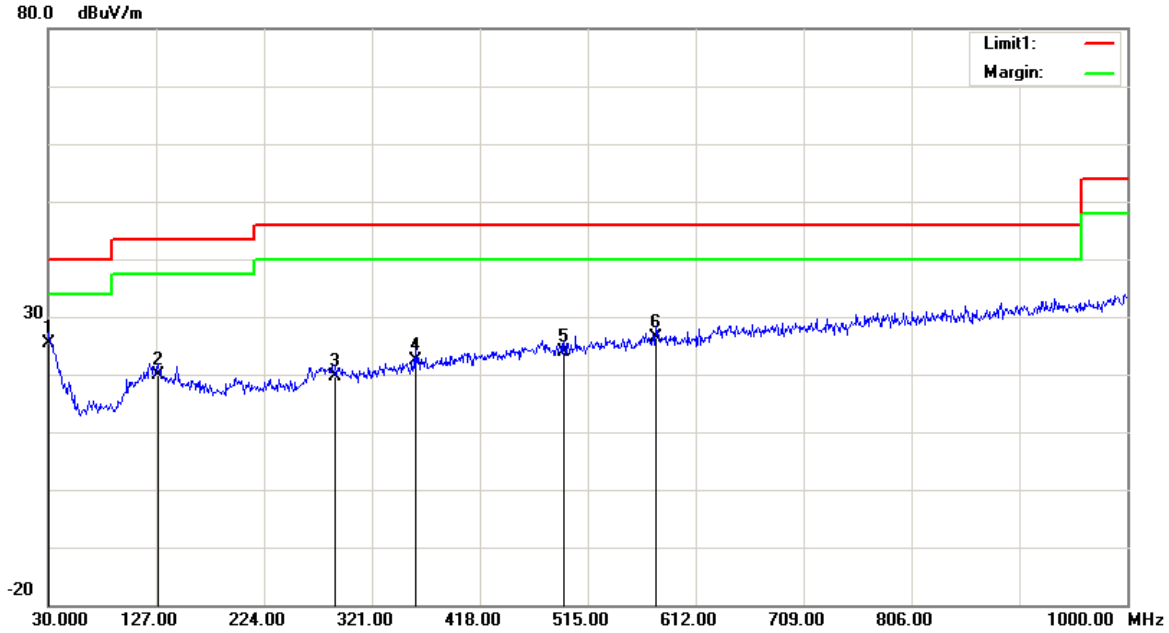
1) 30MHz-1GHz(802.11 a mode middle channel was the worst):

Horizontal:



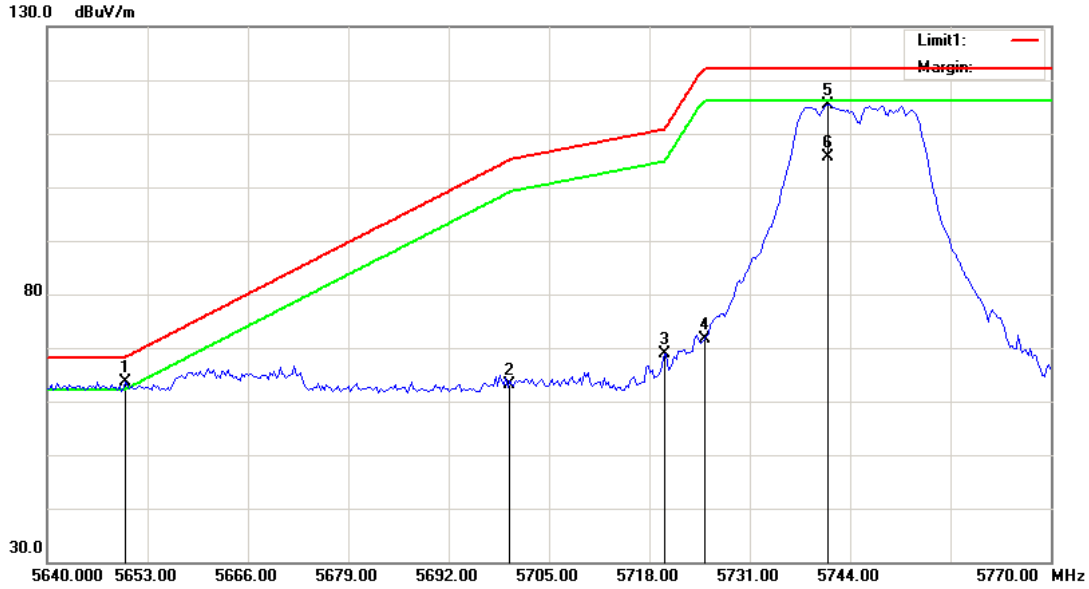
Frequency (MHz)	Receiver Reading (dBμV)	Measurement	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
30.9700	24.45	QP	0.35	24.80	40.00	15.20
119.2400	24.83	QP	-4.93	19.90	43.50	23.60
263.7700	27.80	QP	-4.50	23.30	46.00	22.70
301.6000	27.58	QP	-4.38	23.20	46.00	22.80
361.7400	27.50	QP	-2.90	24.60	46.00	21.40
408.3000	29.72	QP	-2.12	27.60	46.00	18.40

Vertical:



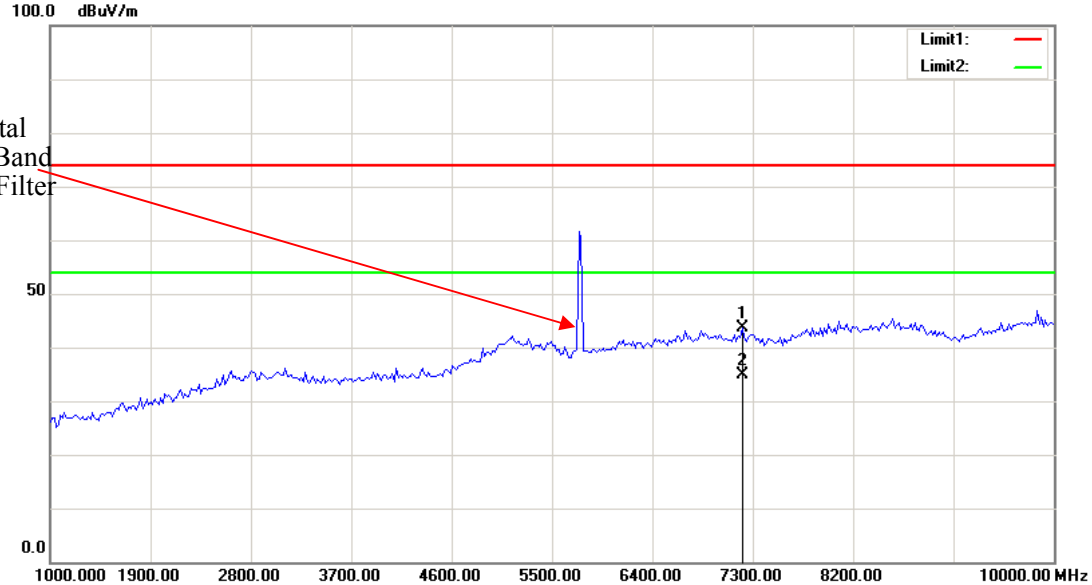
Frequency (MHz)	Receiver Reading (dBµV)	Measurement	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
30.0000	24.32	QP	1.08	25.40	40.00	14.60
128.9400	24.88	QP	-5.08	19.80	43.50	23.70
288.0200	23.62	QP	-3.92	19.70	46.00	26.30
359.8000	25.23	QP	-2.93	22.30	46.00	23.70
493.6600	25.13	QP	-1.23	23.90	46.00	22.10
576.1100	25.88	QP	0.62	26.50	46.00	19.50

802.11a,Low Channel
Horizontal

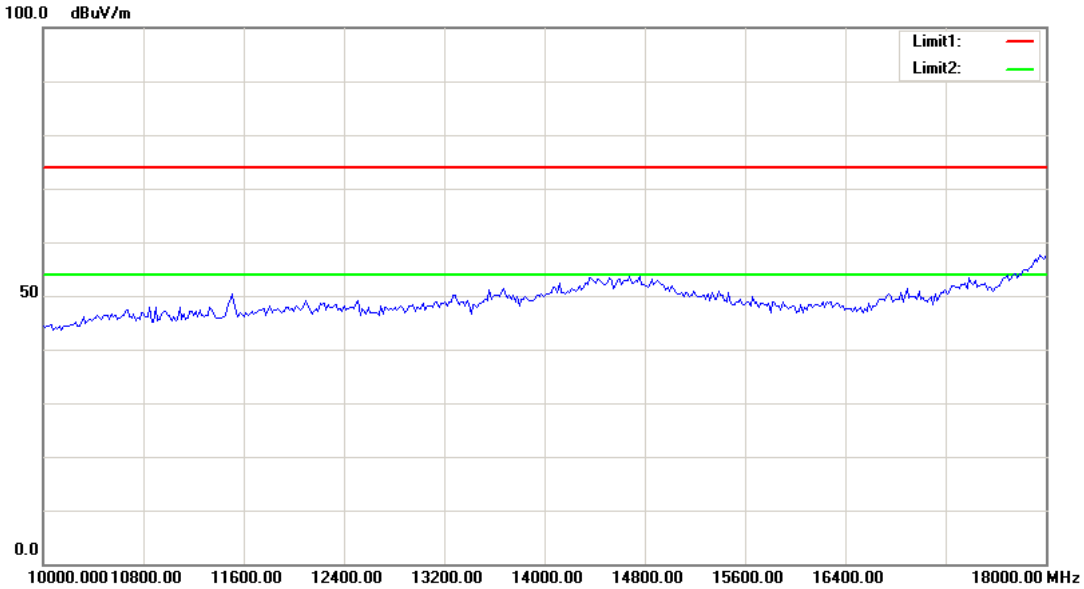


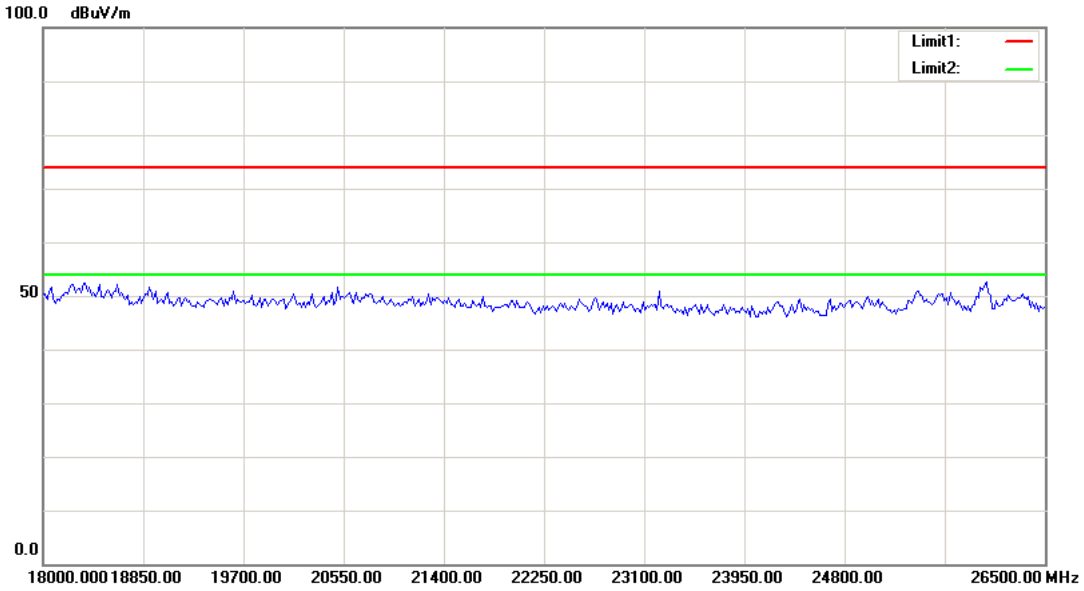
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5650.000	31.76	peak	31.79	63.55	68.20	4.65	125	255	
2	5700.000	31.37	peak	31.86	63.23	105.20	41.97	125	255	
3	5720.000	36.95	peak	31.88	68.83	110.80	41.97	125	255	
4	5725.000	39.76	peak	31.88	71.64	122.20	50.56	125	255	
5	5741.082	83.57	peak	31.89	115.46	N/A	N/A	125	255	Fundamental
6	5741.082	73.62	AVG	31.89	105.51	N/A	N/A	125	255	Fundamental

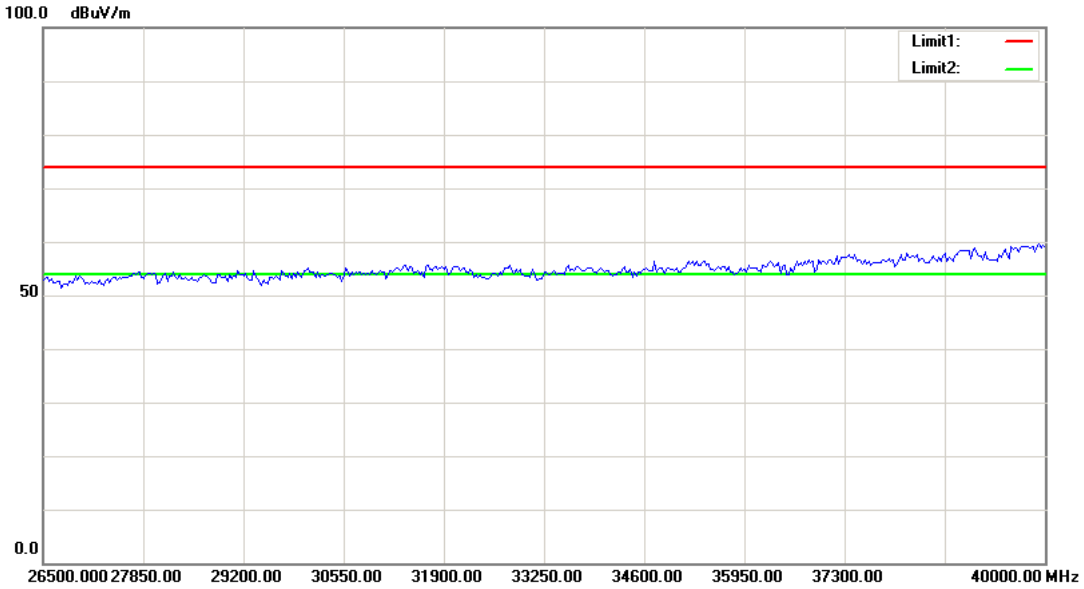
Fundamental Test with Band Rejection Filter



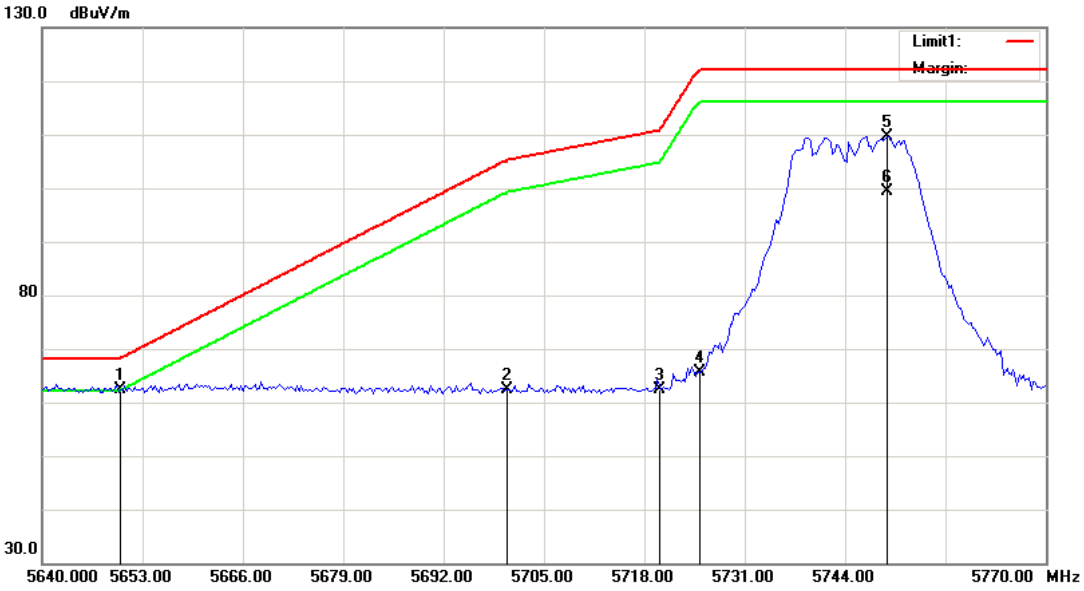
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	7204.409	46.34	peak	-2.68	43.66	74.00	30.34	158	39	
2	7204.409	37.48	AVG	-2.68	34.80	54.00	19.20	158	39	


100.0 dBuV/m
Limit1:
Limit2:
50
0.0
10000.000 10800.00 11600.00 12400.00 13200.00 14000.00 14800.00 15600.00 16400.00 18000.00 MHz


100.0 dBuV/m
Limit1:
Limit2:
50
0.0
18000.000 18850.00 19700.00 20550.00 21400.00 22250.00 23100.00 23950.00 24800.00 26500.00 MHz

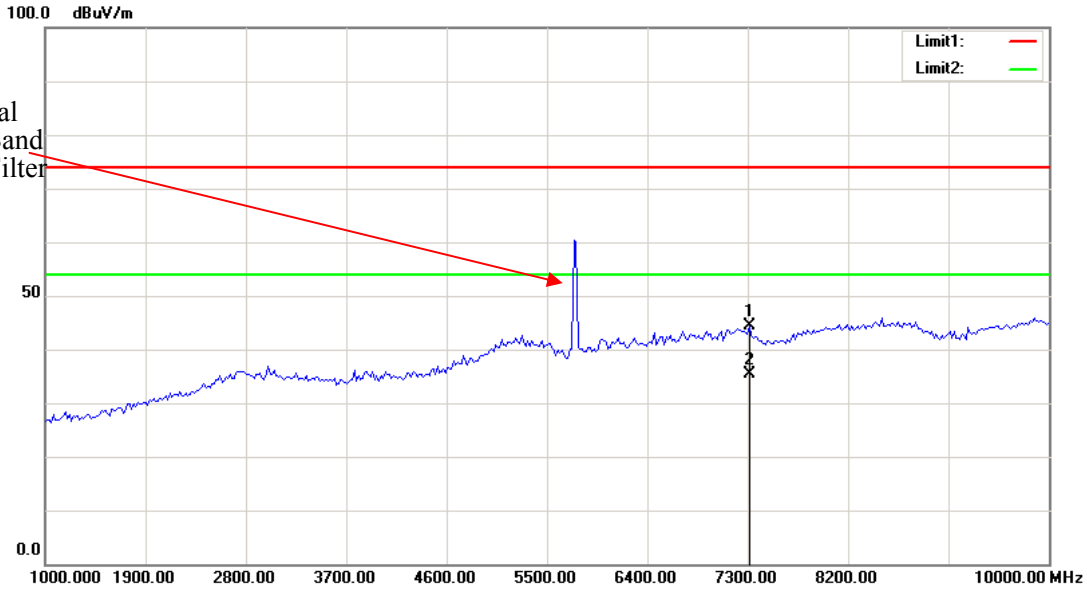


Vertical

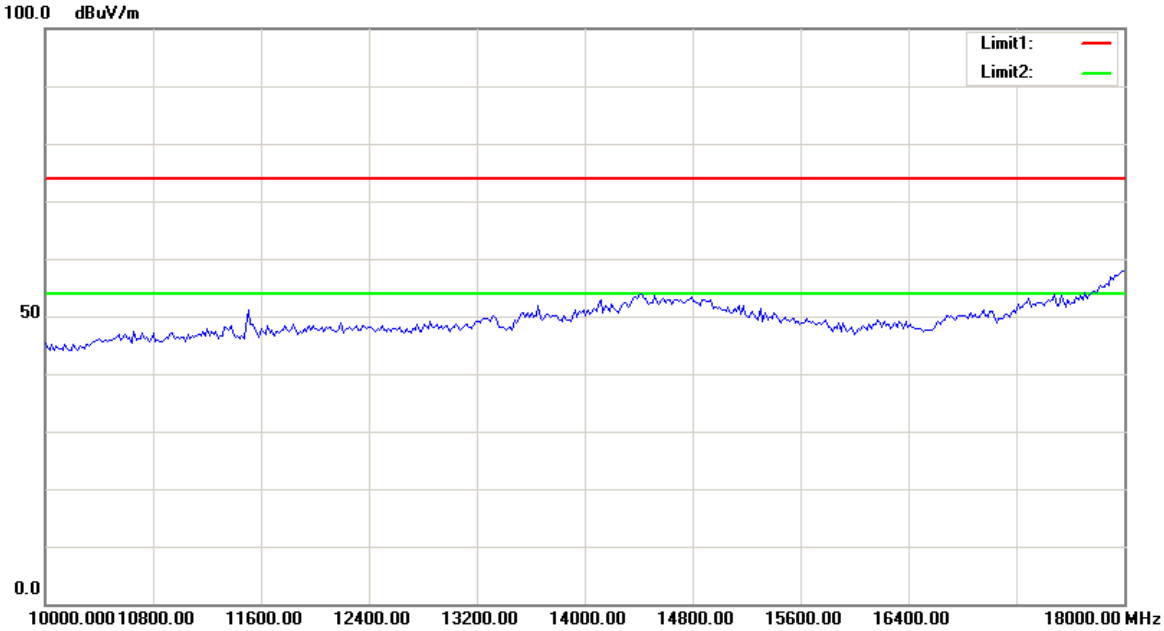


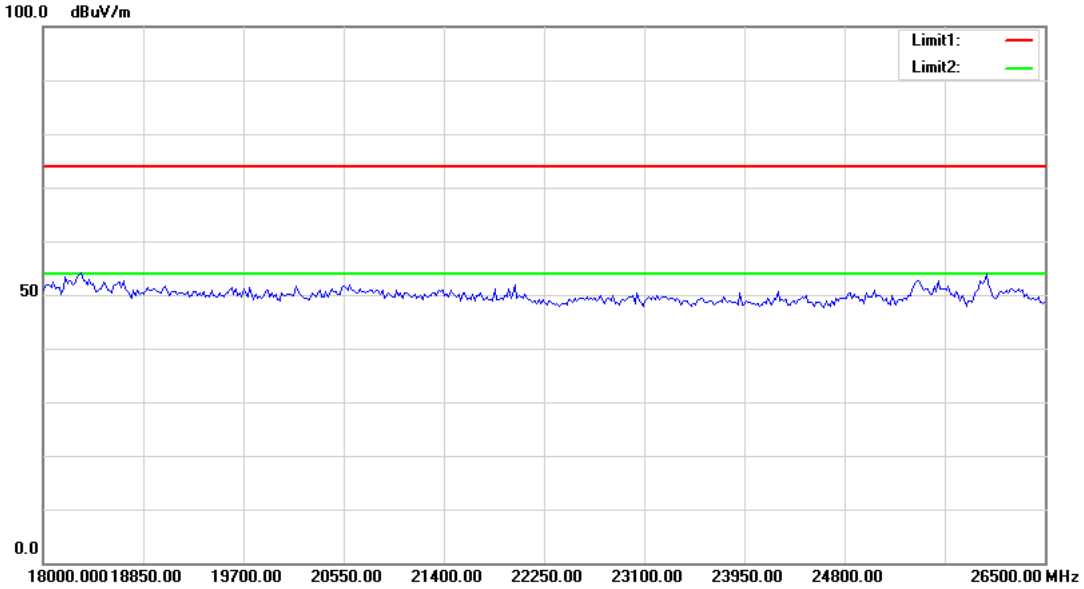
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5650.000	30.61	peak	31.79	62.40	68.20	5.80	148	224	
2	5700.000	30.43	peak	31.86	62.29	105.20	42.91	148	224	
3	5720.000	30.57	peak	31.88	62.45	110.80	48.35	148	224	
4	5725.000	33.83	peak	31.88	65.71	122.20	56.49	148	224	
5	5749.419	77.67	peak	31.89	109.56	N/A	N/A	148	224	Fundamental
6	5749.419	67.59	AVG	31.89	99.48	N/A	N/A	148	224	Fundamental

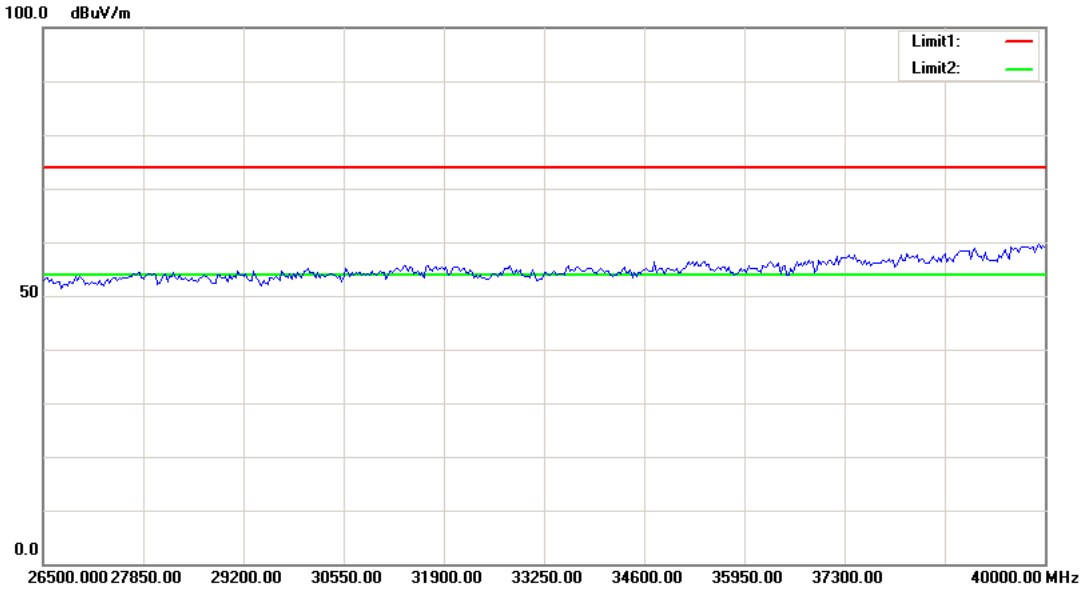
Fundamental
Test with Band
Rejection Filter



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	7312.625	47.03	peak	-2.71	44.32	74.00	29.68	152	34	
2	7312.625	38.13	AVG	-2.71	35.42	54.00	18.58	152	34	

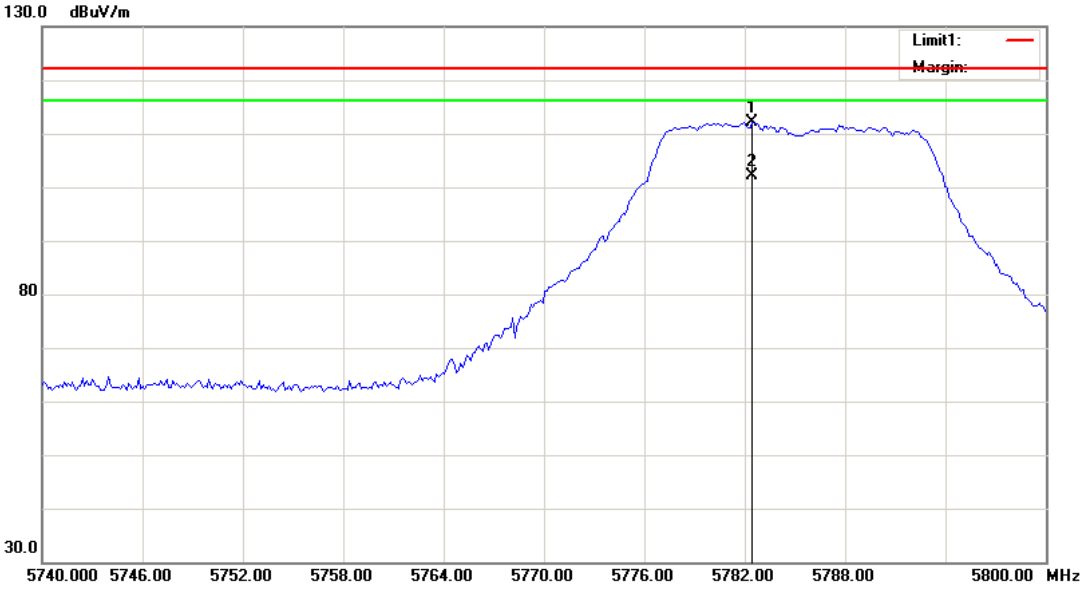






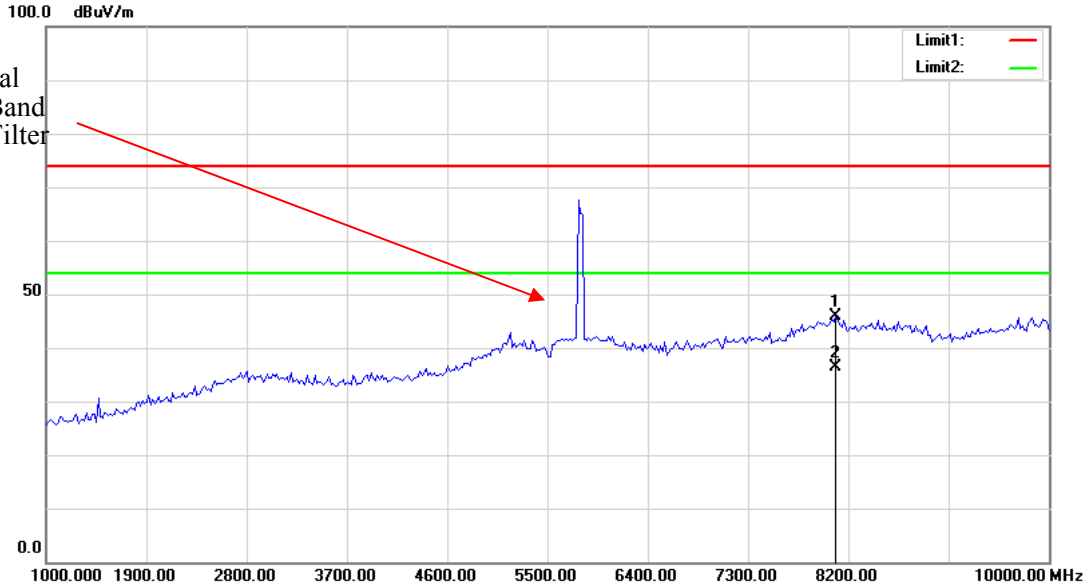
Note: No emission was detected in the range 18-40GHz.

Middle Channel, Horizontal

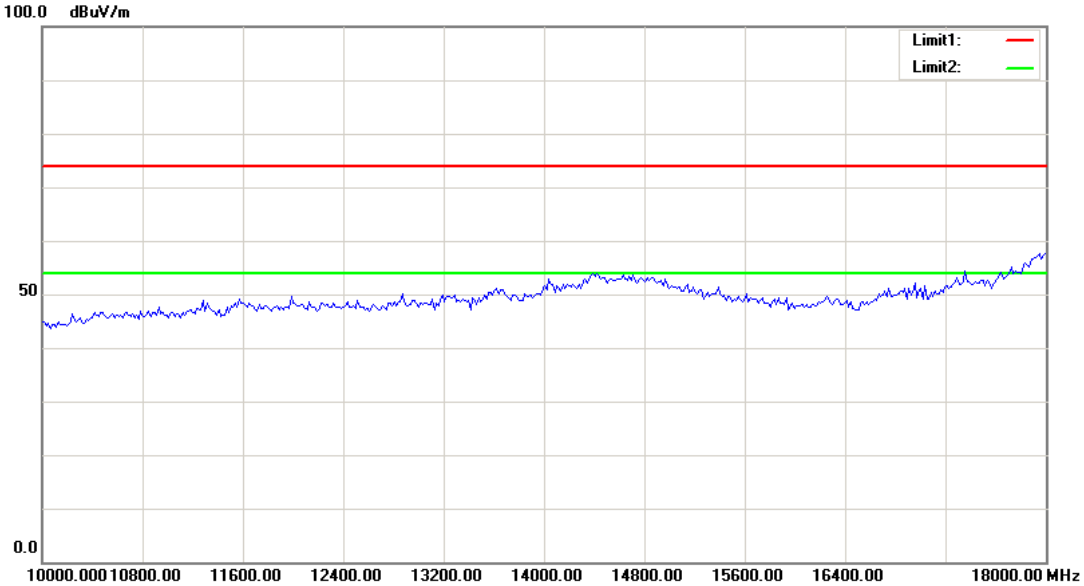


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5782.445	80.16	peak	31.91	112.07	N/A	N/A	125	34	Fundamental
2	5782.445	70.32	AVG	31.91	102.23	N/A	N/A	125	34	Fundamental

Fundamental Test with Band Rejection Filter

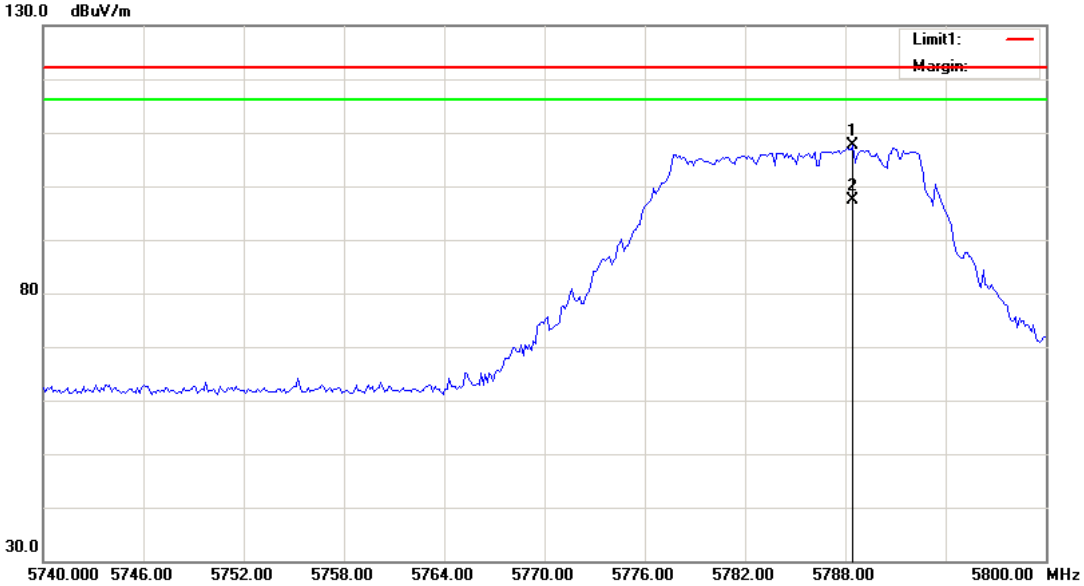


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8088.176	46.85	peak	-1.05	45.80	74.00	28.20	149	57	
2	8088.176	37.49	AVG	-1.05	36.44	54.00	17.56	149	57	



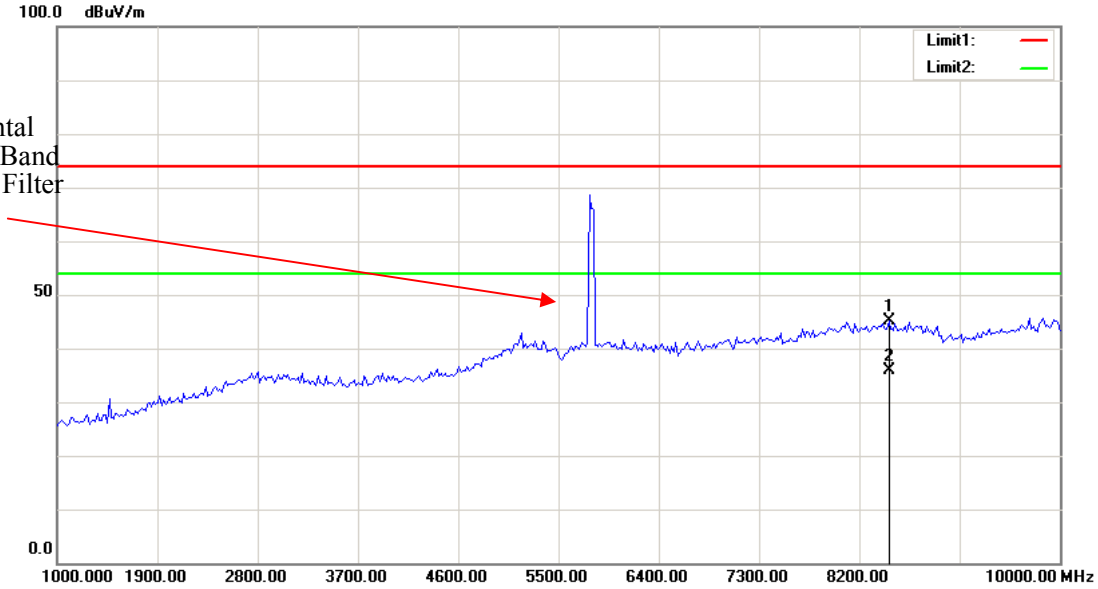
Note: No emission was detected in the range 18-40GHz.

Vertical

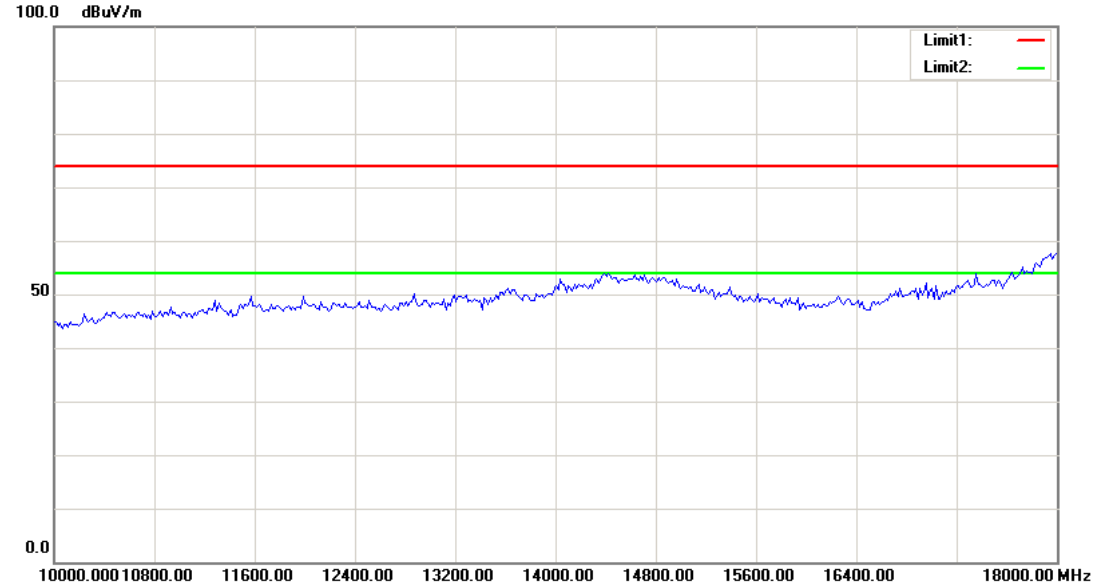


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5788.457	75.70	peak	31.93	107.63	N/A	N/A	159	67	Fundamental
2	5788.457	65.38	AVG	31.93	97.31	N/A	N/A	159	67	Fundamental

Fundamental
Test with Band
Rejection Filter

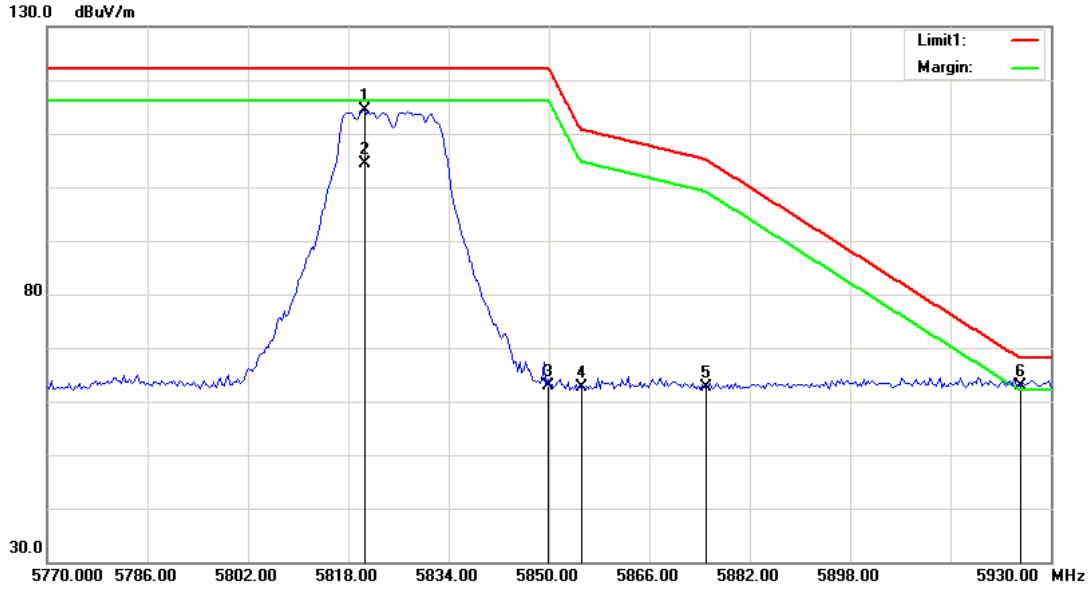


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8466.934	45.74	peak	-0.59	45.15	74.00	28.85	152	334	
2	8466.934	36.49	AVG	-0.59	35.90	54.00	18.10	152	334	

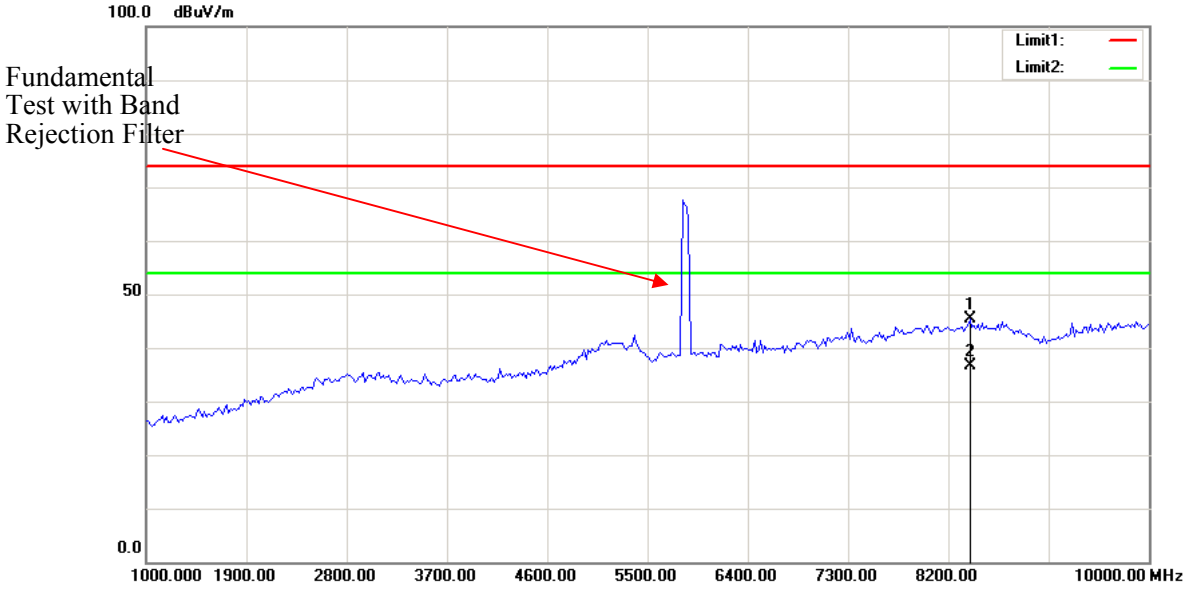


Note: No emission was detected in the range 18-40GHz.

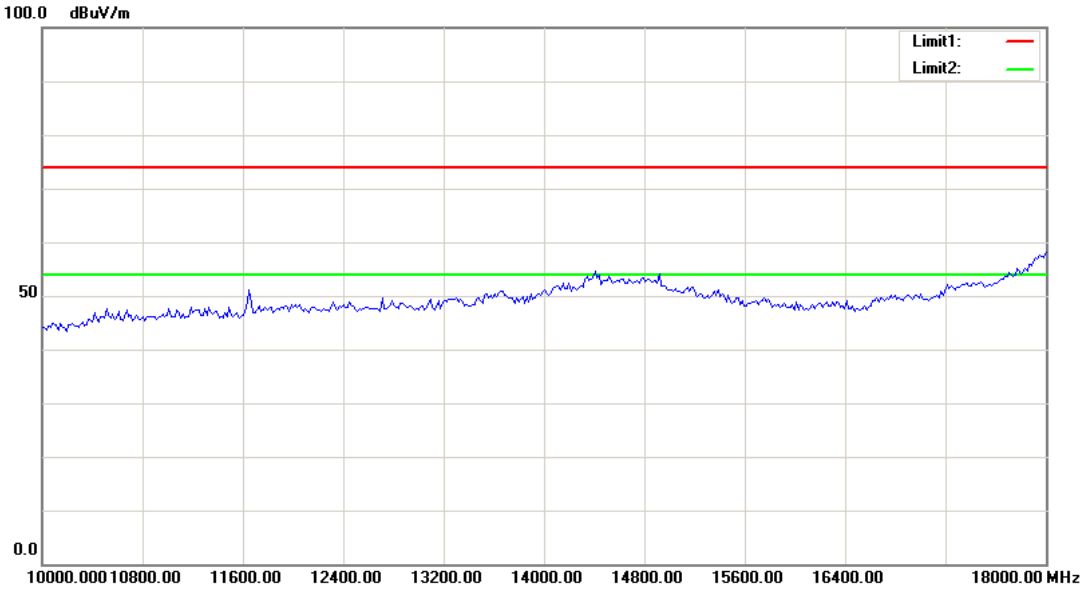
High Channel, Horizontal



No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5820.661	82.44	peak	31.96	114.40	N/A	N/A	153	122	Fundamental
2	5820.661	72.38	AVG	31.96	104.34	N/A	N/A	153	122	Fundamental
3	5850.000	31.01	peak	31.99	63.00	122.20	59.20	153	122	
4	5855.000	30.56	peak	31.99	62.55	110.80	48.25	153	122	
5	5875.000	30.72	peak	32.02	62.74	105.20	42.46	153	122	
6	5925.000	30.88	peak	32.07	62.95	68.20	5.25	153	122	

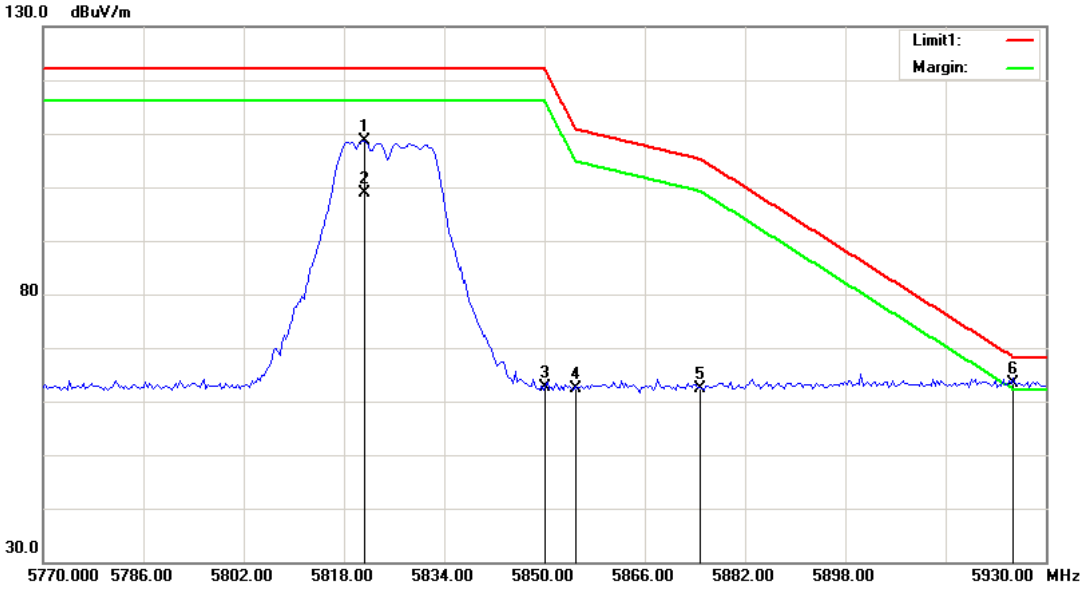


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8394.790	46.13	peak	-0.69	45.44	74.00	28.56	148	79	
2	8394.790	37.32	AVG	-0.69	36.63	54.00	17.37	148	79	

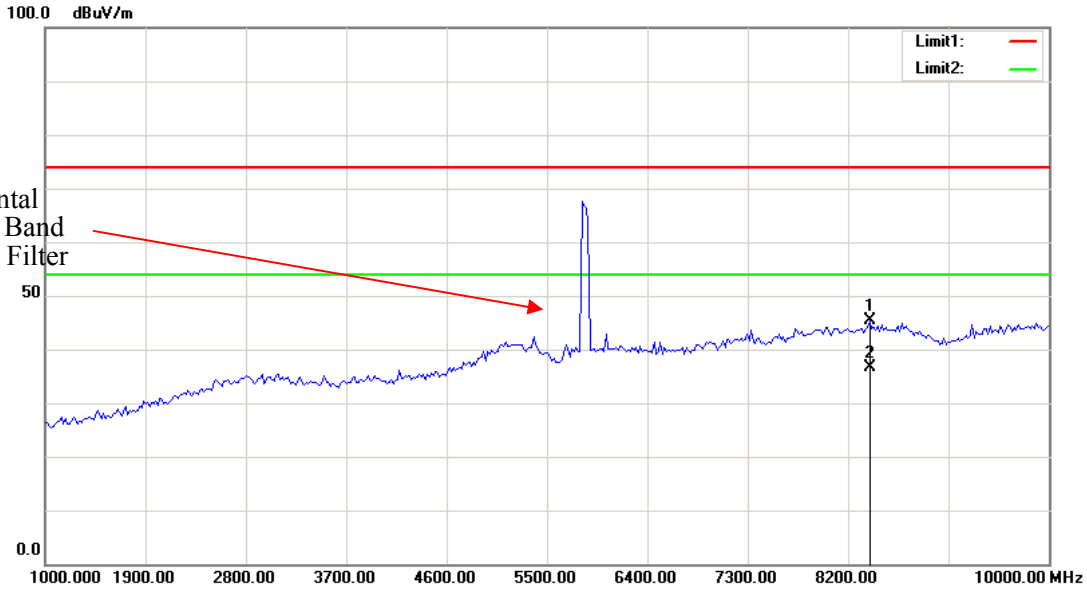


Note: No emission was detected in the range 18-40GHz.

Vertical

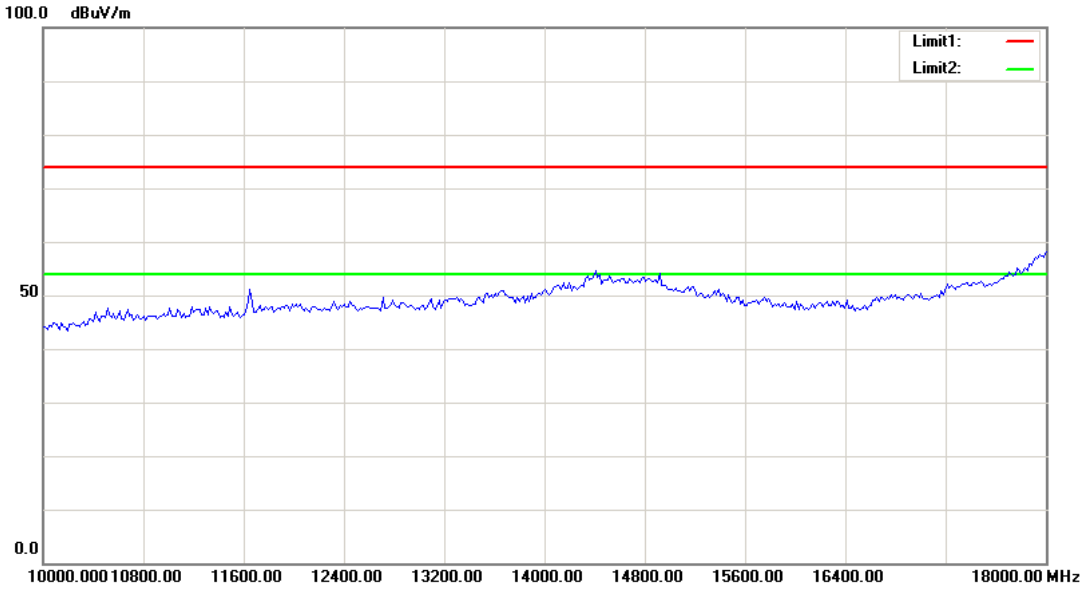


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5821.303	76.71	peak	31.96	108.67	N/A	N/A	159	332	Fundamental
2	5821.303	66.83	AVG	31.96	98.79	N/A	N/A	159	332	Fundamental
3	5850.000	30.54	peak	31.99	62.53	122.20	59.67	159	332	
4	5855.000	30.32	peak	31.99	62.31	110.80	48.49	159	332	
5	5875.000	30.42	peak	32.02	62.44	105.20	42.76	159	332	
6	5925.000	31.27	peak	32.07	63.34	68.20	4.86	159	332	



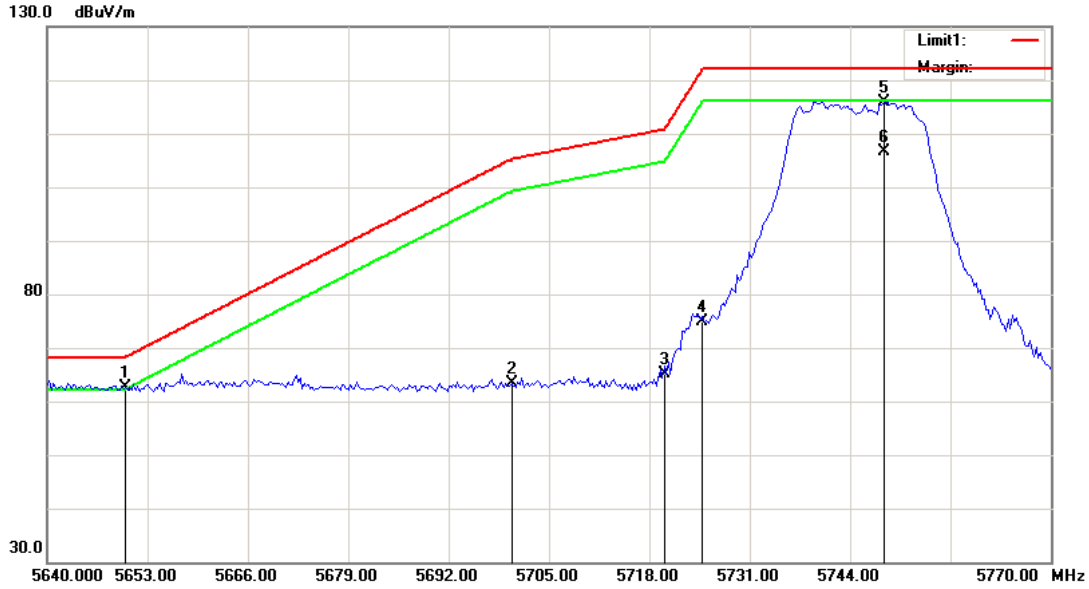
Fundamental Test with Band Rejection Filter

No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8394.790	46.13	peak	-0.69	45.44	74.00	28.56	146	95	
2	8394.790	37.34	AVG	-0.69	36.65	54.00	17.35	146	95	



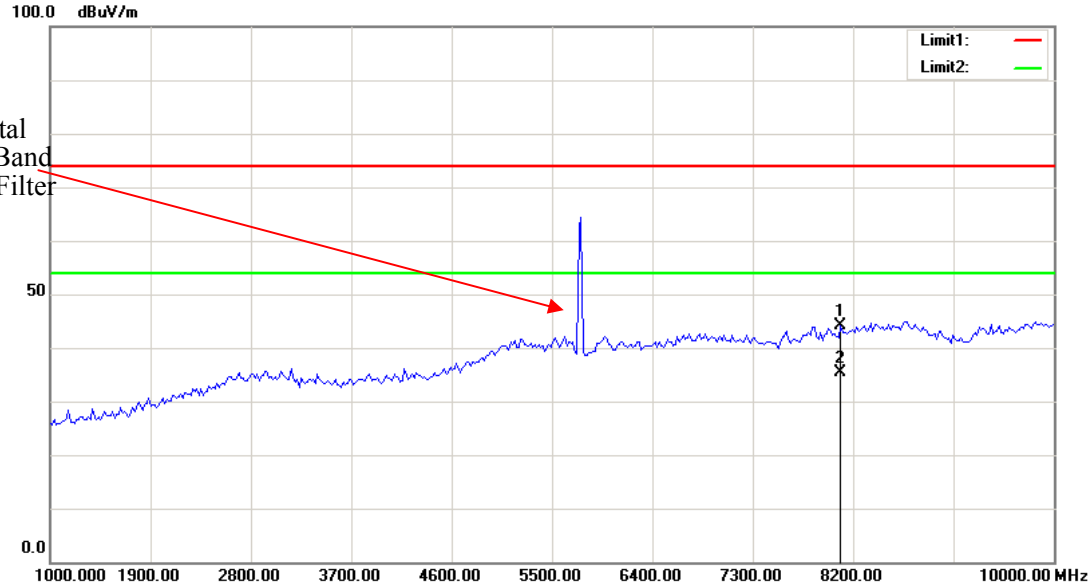
Note: No emission was detected in the range 18-40GHz.

802.11n ht20, Low Channel, Horizontal

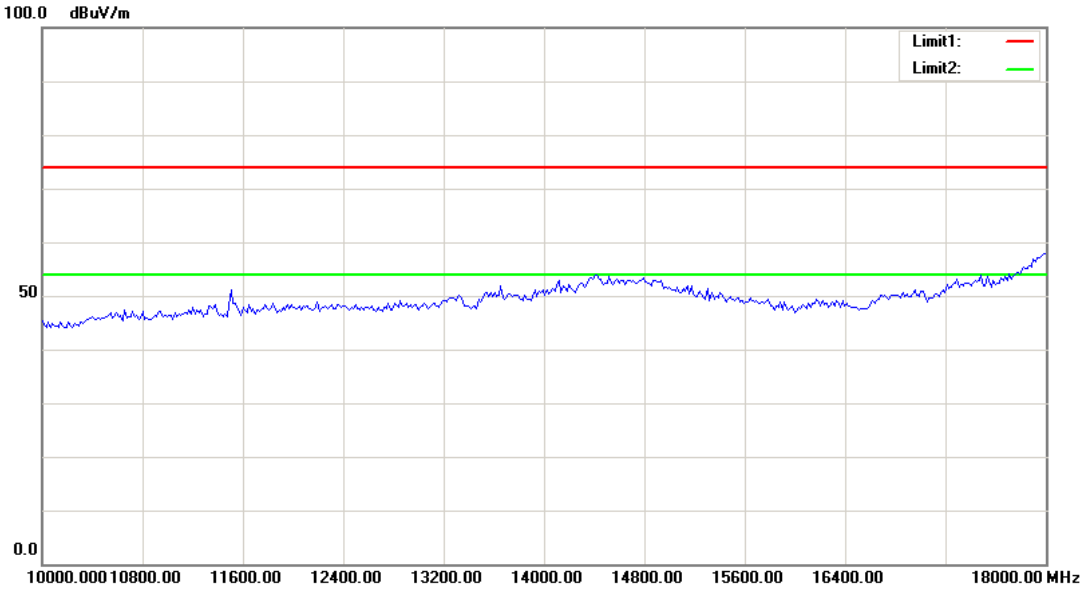


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5650.000	30.81	peak	31.79	62.60	68.20	5.60	159	334	
2	5700.000	31.53	peak	31.86	63.39	105.20	41.81	159	334	
3	5720.000	33.22	peak	31.88	65.10	110.80	45.70	159	334	
4	5725.000	43.06	peak	31.88	74.94	122.20	47.26	159	334	
5	5748.377	84.11	peak	31.89	116.00	N/A	N/A	159	334	Fundamental
6	5748.377	74.62	AVG	31.89	106.51	N/A	N/A	159	334	Fundamental

Fundamental Test with Band Rejection Filter

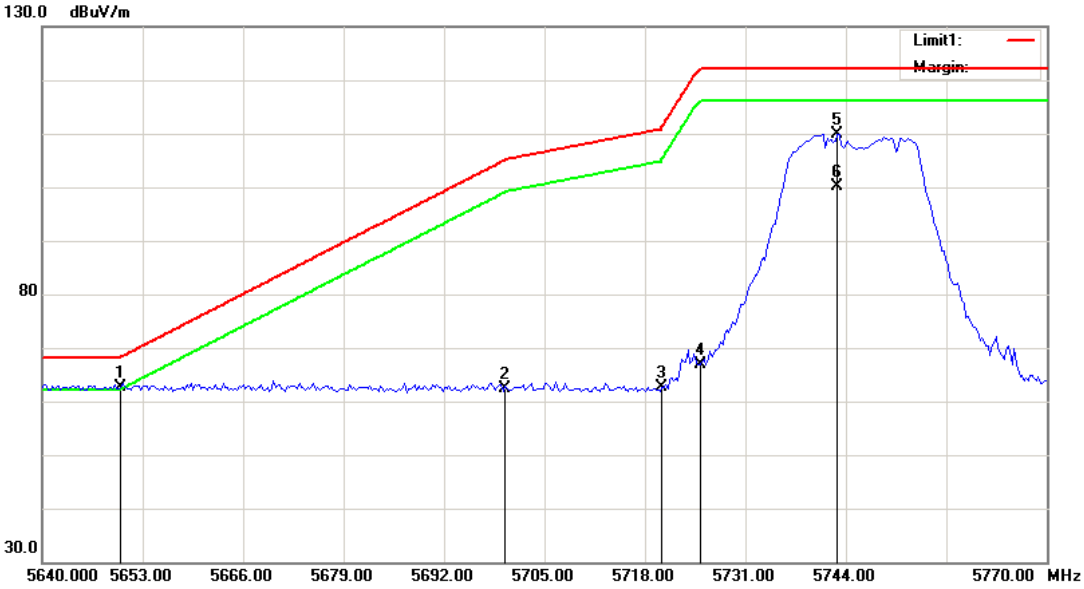


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8088.176	45.24	peak	-1.05	44.19	74.00	29.81	154	223	
2	8088.176	36.37	AVG	-1.05	35.32	54.00	18.68	154	223	



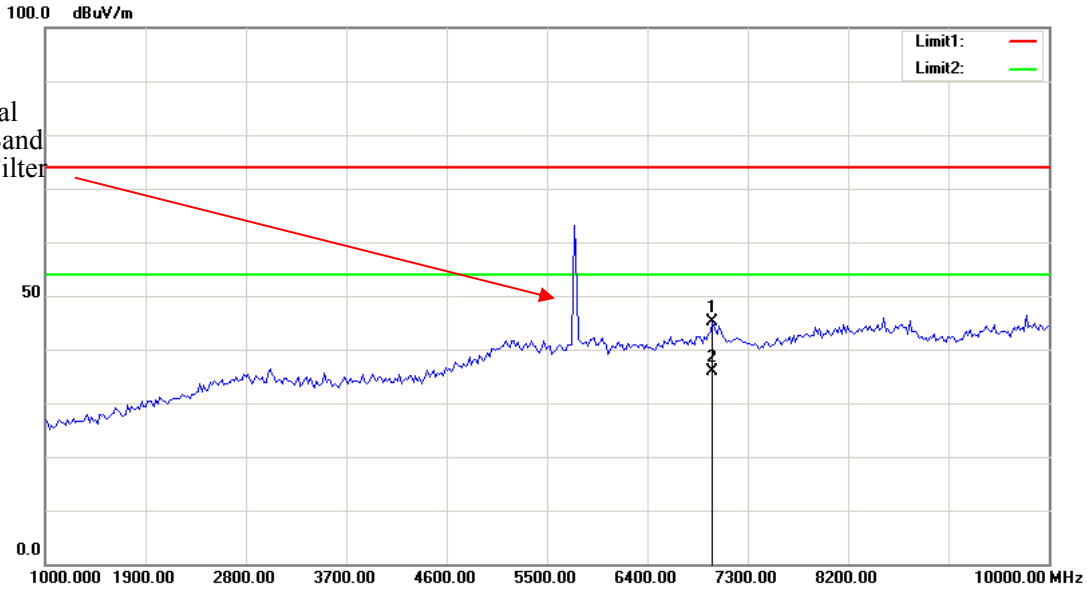
Note: No emission was detected in the range 18-40GHz.

Vertical

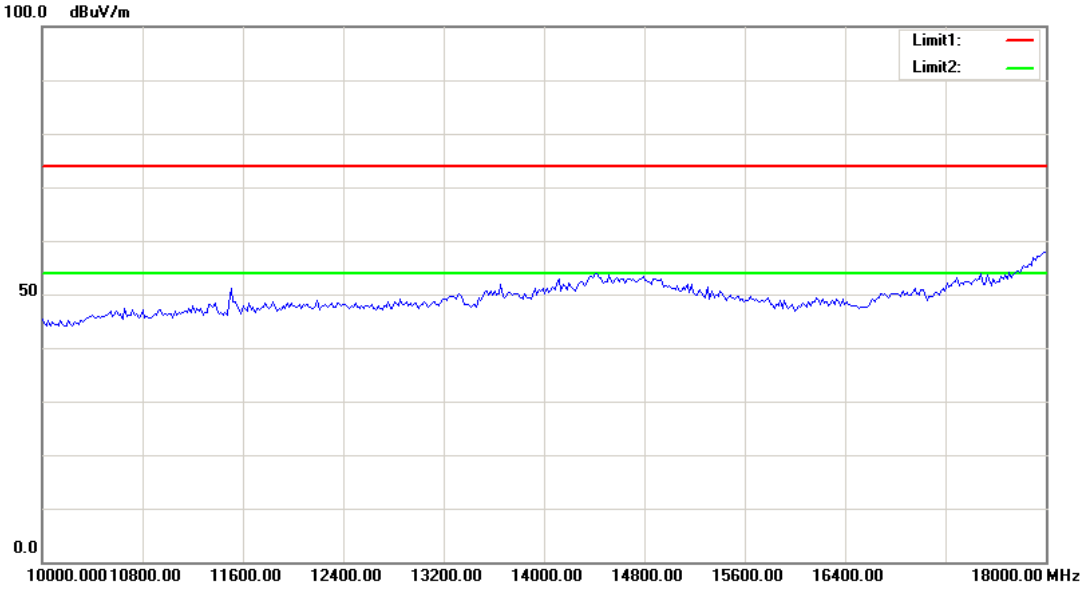


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5650.000	30.83	peak	31.79	62.62	68.20	5.58	142	332	
2	5700.000	30.52	peak	31.86	62.38	105.20	42.82	142	332	
3	5720.000	30.87	peak	31.88	62.75	110.80	48.05	142	332	
4	5725.000	35.09	peak	31.88	66.97	122.20	55.23	142	332	
5	5742.906	78.10	peak	31.89	109.99	N/A	N/A	142	332	Fundamental
6	5742.906	68.15	AVG	31.89	100.04	N/A	N/A	142	332	Fundamental

Fundamental Test with Band Rejection Filter

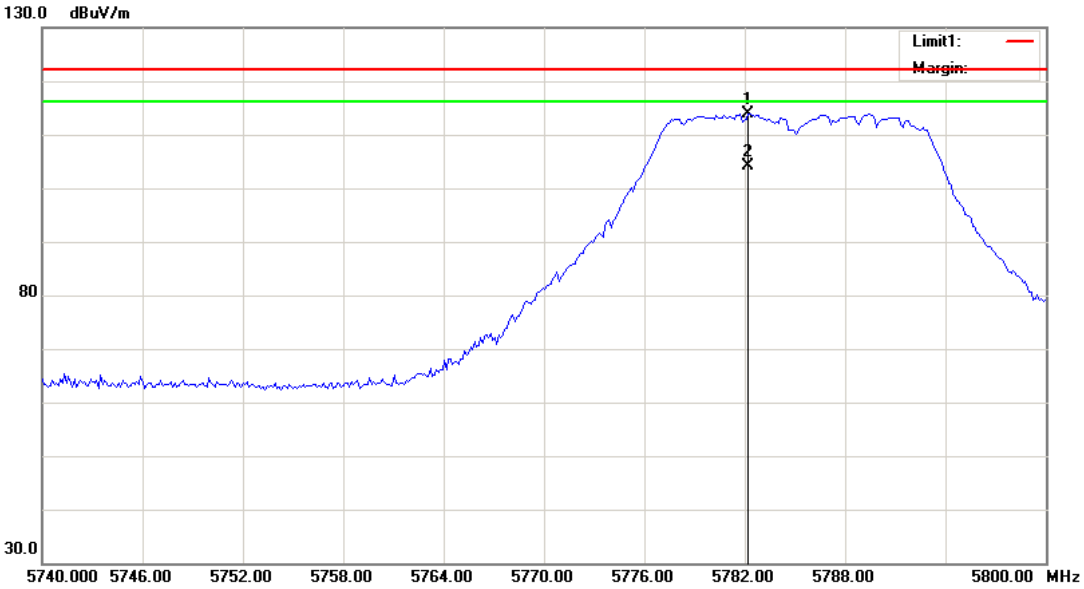


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	6987.976	47.67	peak	-2.62	45.05	74.00	28.95	151	22	
2	6987.976	38.54	AVG	-2.62	35.92	54.00	18.08	151	22	



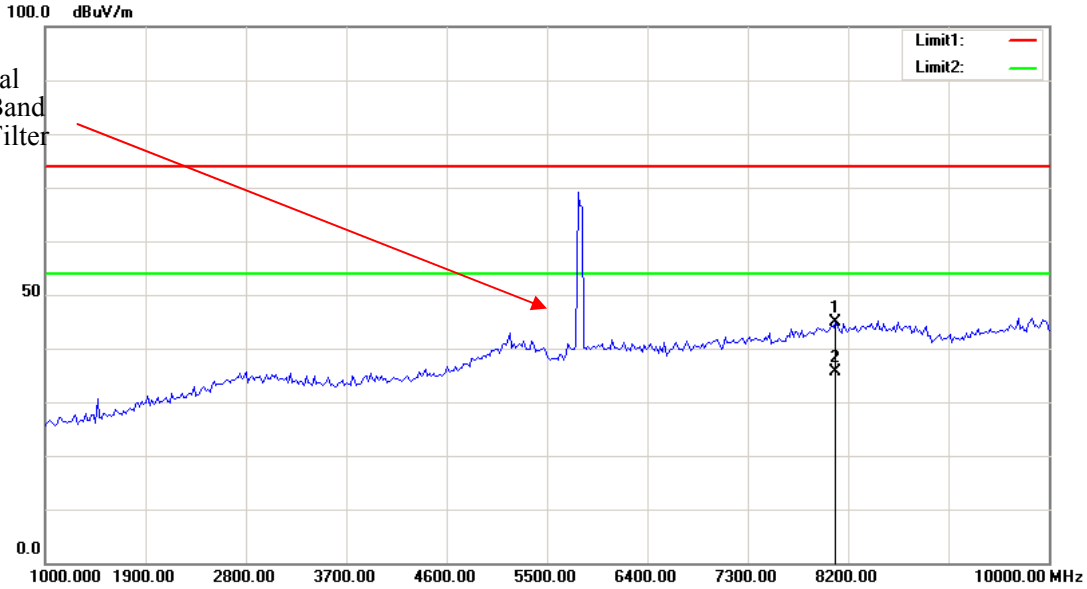
Note: No emission was detected in the range 18-40GHz.

Middle Channel, Horizontal

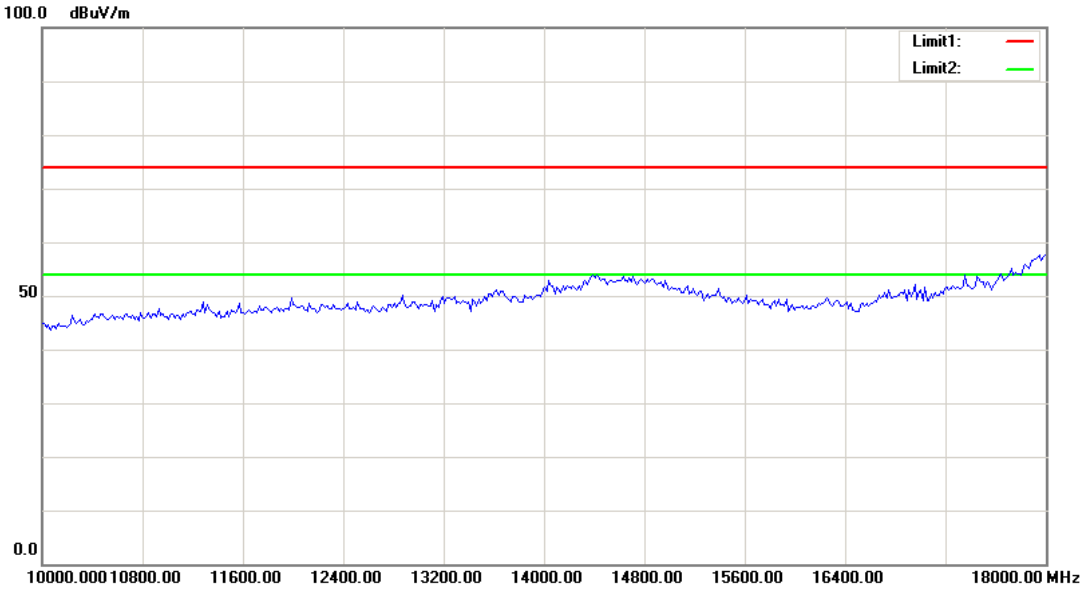


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5782.204	82.09	peak	31.91	114.00	N/A	N/A	124	58	Fundamental
2	5782.204	72.18	AVG	31.91	104.09	N/A	N/A	124	58	Fundamental

Fundamental Test with Band Rejection Filter

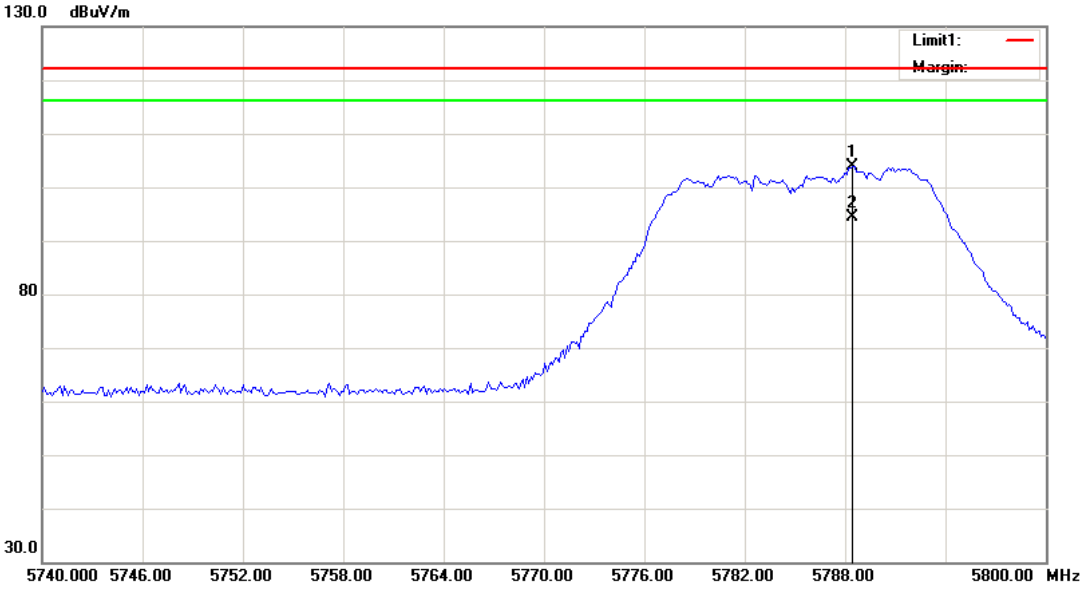


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8088.176	45.85	peak	-1.05	44.80	74.00	29.20	151	133	
2	8088.176	36.62	AVG	-1.05	35.57	54.00	18.43	151	133	



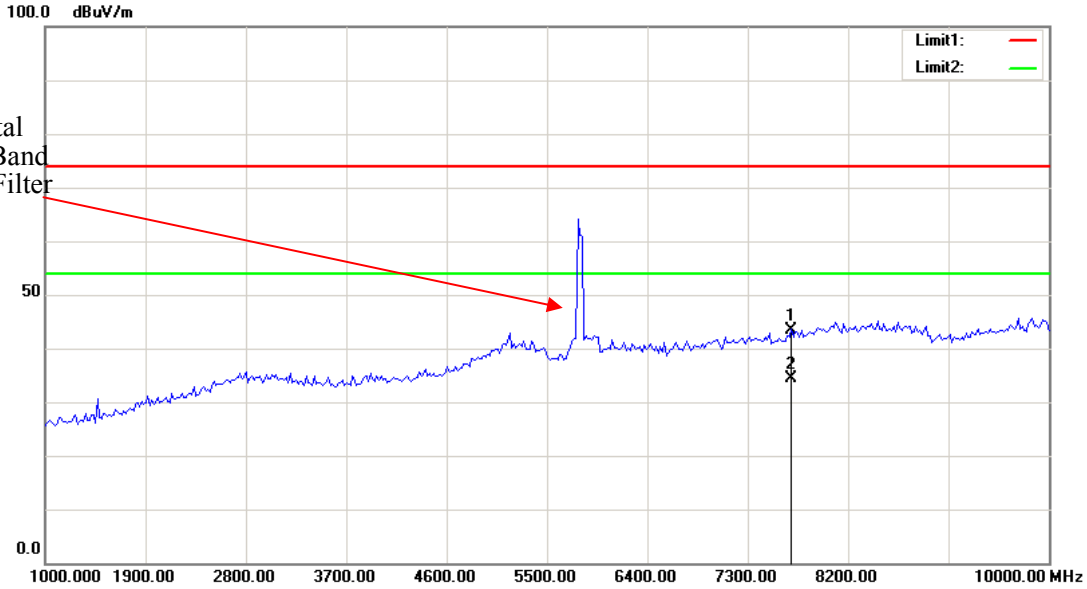
Note: No emission was detected in the range 18-40GHz.

Vertical

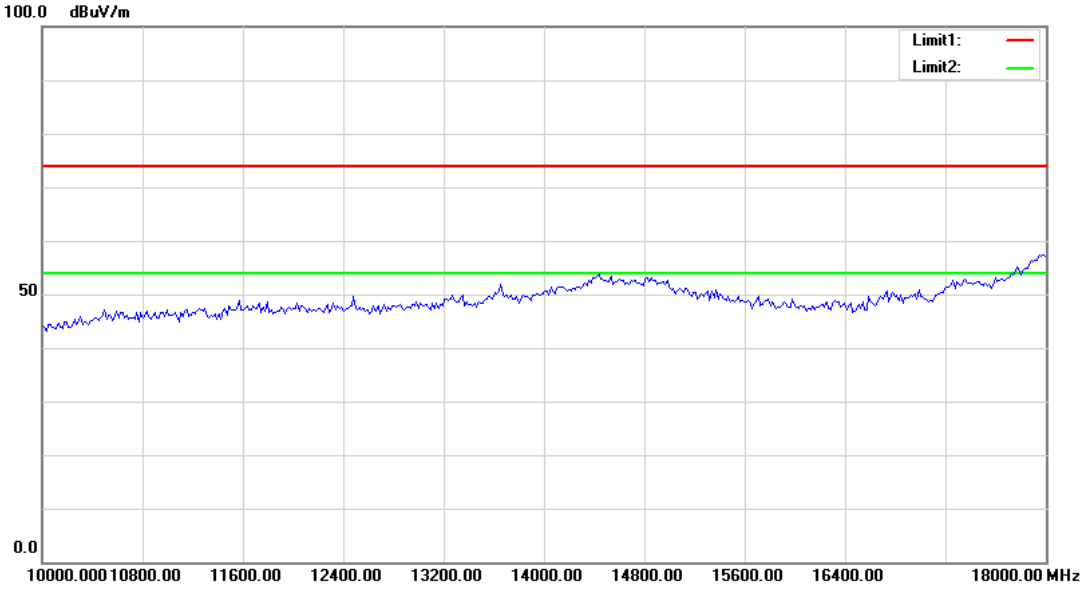


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5788.457	71.99	peak	31.93	103.92	N/A	N/A	148	96	Fundamental
2	5788.457	62.46	AVG	31.93	94.39	N/A	N/A	148	96	Fundamental

Fundamental Test with Band Rejection Filter

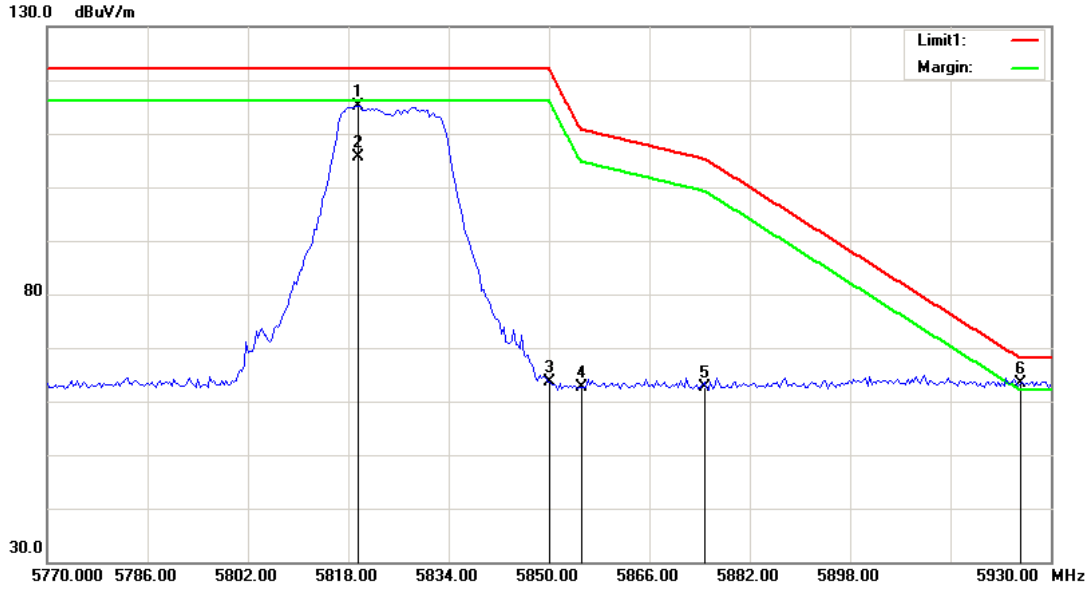


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	7691.383	45.67	peak	-2.17	43.50	74.00	30.50	123	22	
2	7691.383	36.49	AVG	-2.17	34.32	54.00	19.68	123	22	



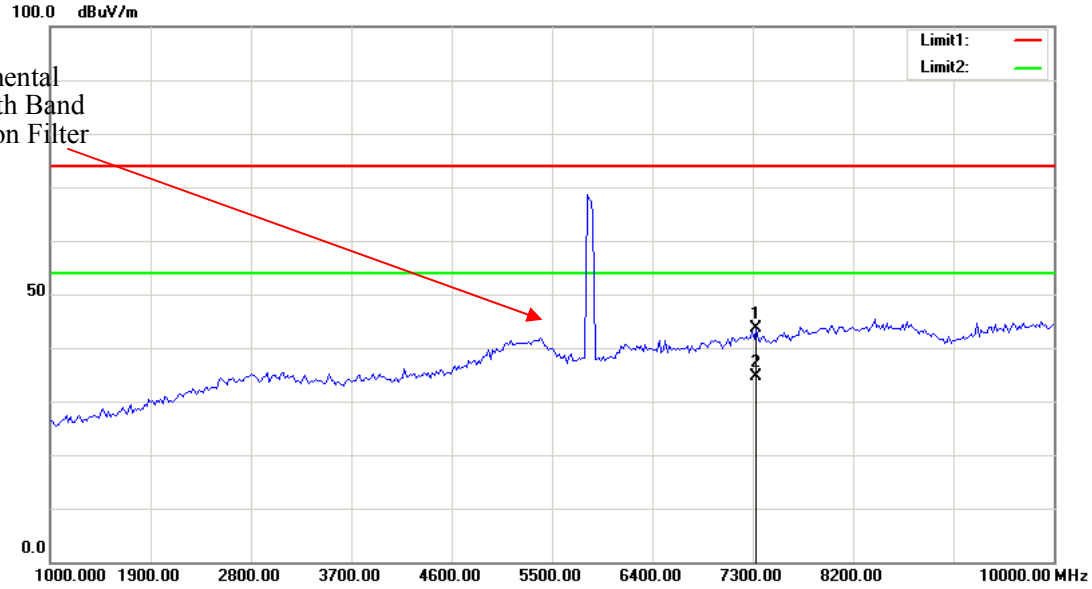
Note: No emission was detected in the range 18-40GHz.

High Channel, Horizontal

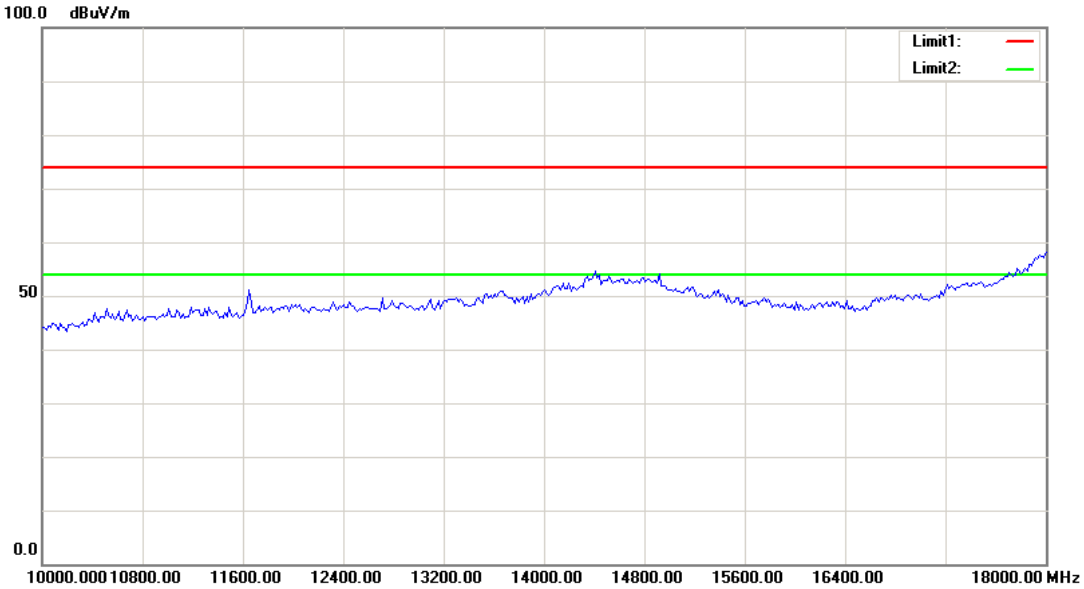


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5819.699	83.24	peak	31.96	115.20	N/A	N/A	148	123	Fundamental
2	5819.699	73.62	AVG	31.96	105.58	N/A	N/A	148	123	Fundamental
3	5850.000	31.68	peak	31.99	63.67	122.20	58.53	148	123	
4	5855.000	30.75	peak	31.99	62.74	110.80	48.06	148	123	
5	5875.000	30.64	peak	32.02	62.66	105.20	42.54	148	123	
6	5925.000	31.27	peak	32.07	63.34	68.20	4.86	148	123	

Fundamental Test with Band Rejection Filter

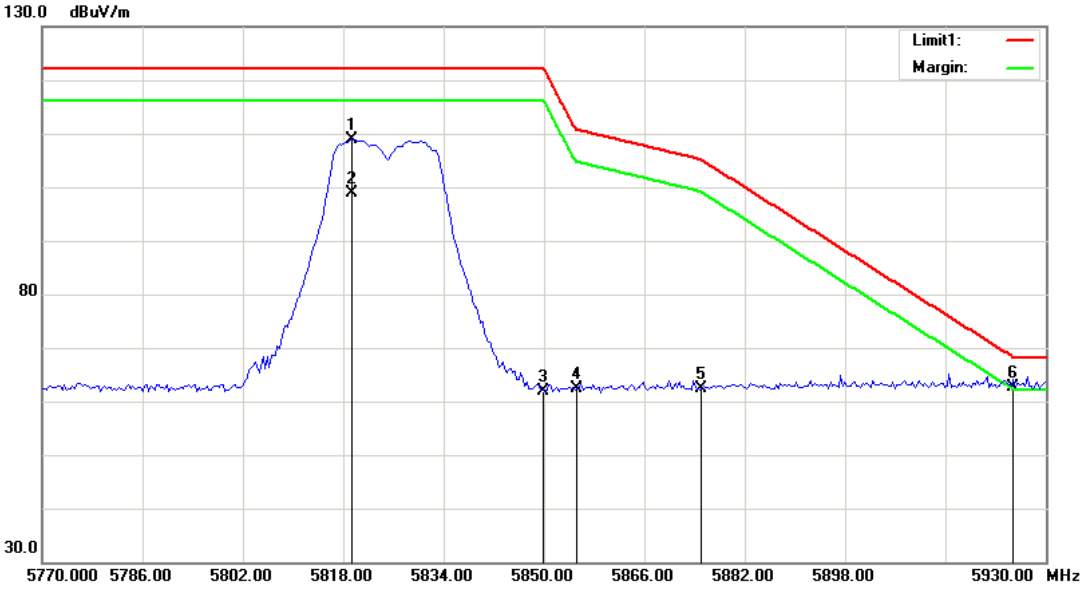


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	7330.661	46.48	peak	-2.73	43.75	74.00	30.25	135	122	
2	7330.661	37.39	AVG	-2.73	34.66	54.00	19.34	135	122	

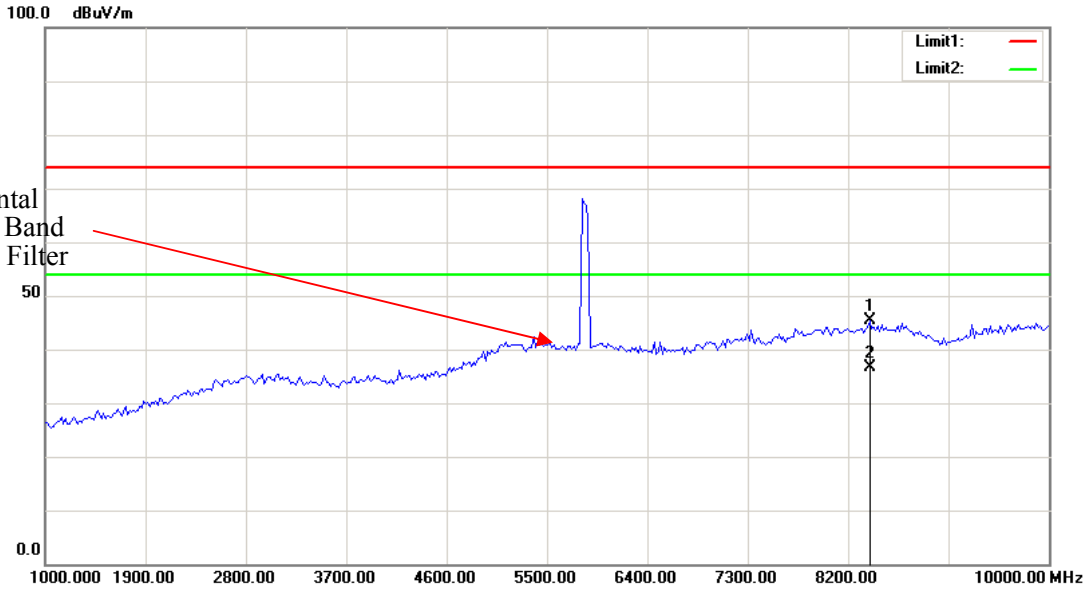


Note: No emission was detected in the range 18-40GHz.

Vertical

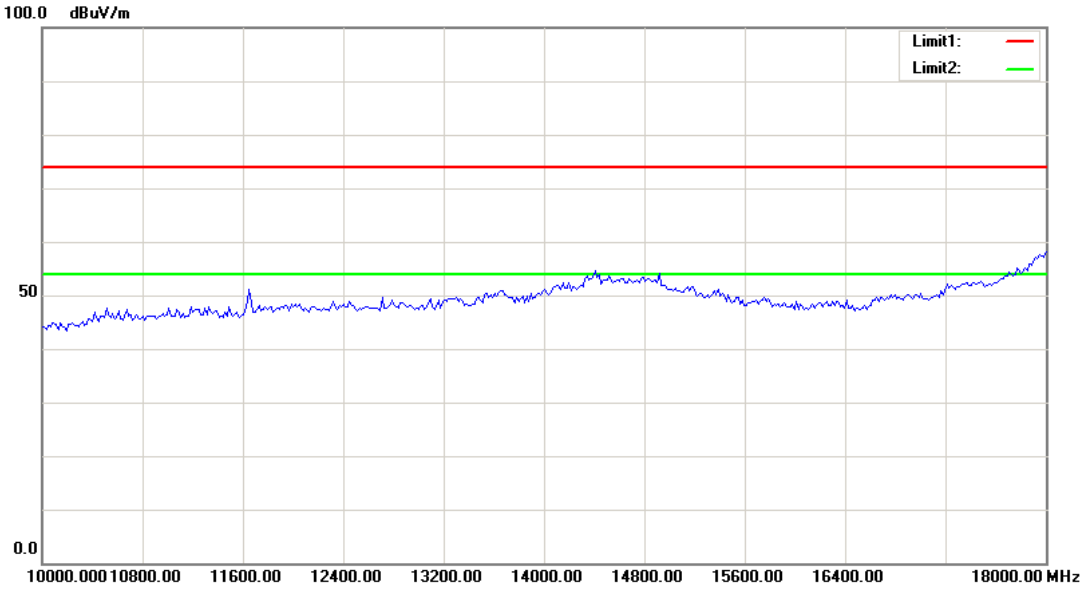


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5819.379	76.96	peak	31.96	108.92	N/A	N/A	135	44	Fundamental
2	5819.379	66.85	AVG	31.96	98.81	N/A	N/A	135	44	Fundamental
3	5850.000	29.99	peak	31.99	61.98	122.20	60.22	135	44	
4	5855.000	30.42	peak	31.99	62.41	110.80	48.39	135	44	
5	5875.000	30.25	peak	32.02	62.27	105.20	42.93	135	44	
6	5925.000	30.67	peak	32.07	62.74	68.20	5.46	135	44	



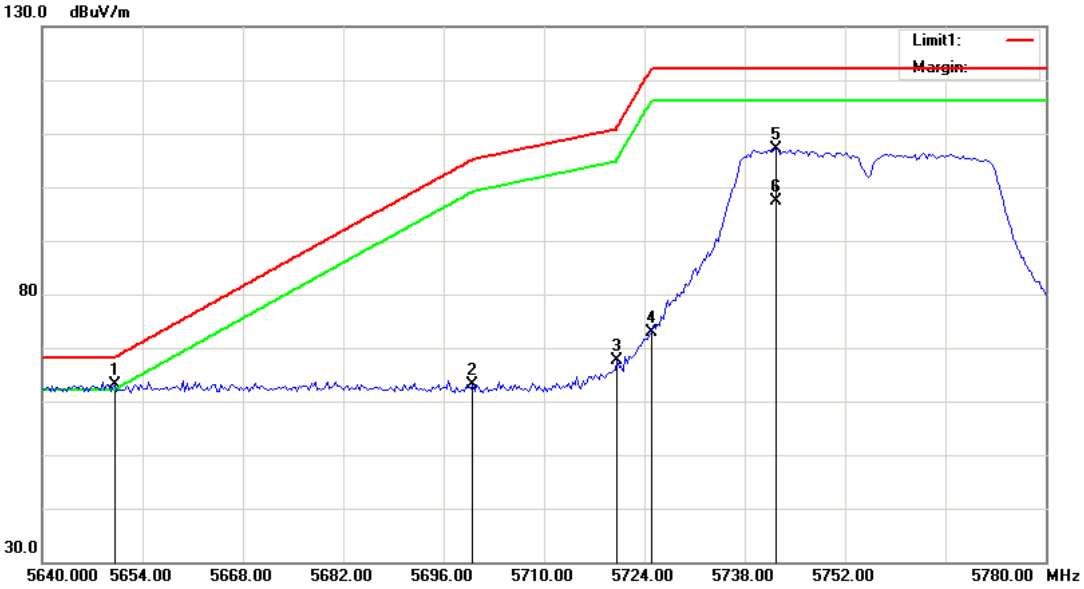
Fundamental Test with Band Rejection Filter

No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8394.790	46.13	peak	-0.69	45.44	74.00	28.56	146	78	
2	8394.790	37.25	AVG	-0.69	36.56	54.00	17.44	146	78	



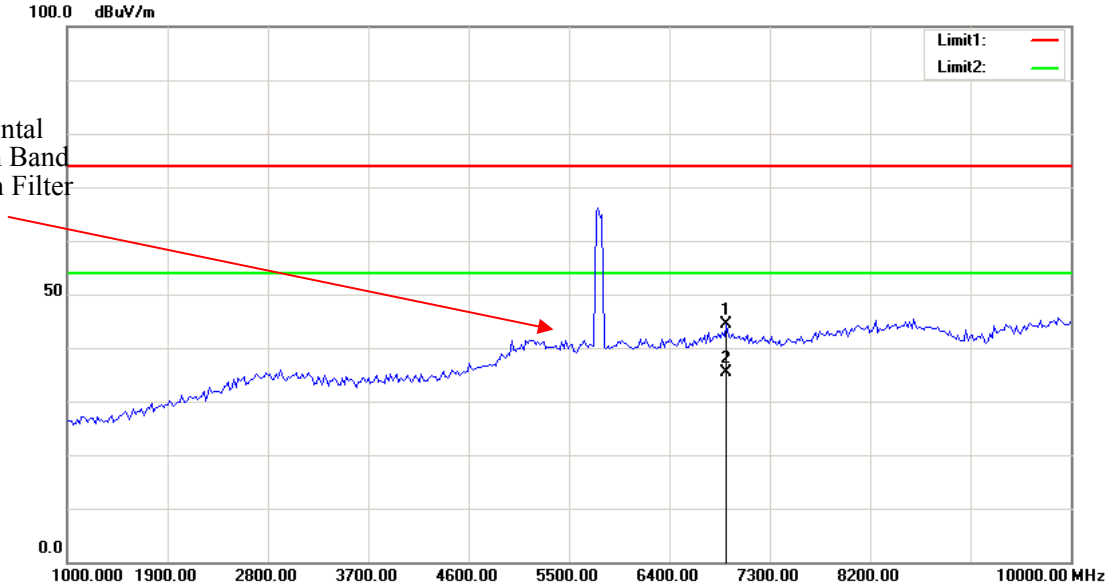
Note: No emission was detected in the range 18-40GHz.

802.11n ht40, Low Channel, Horizontal

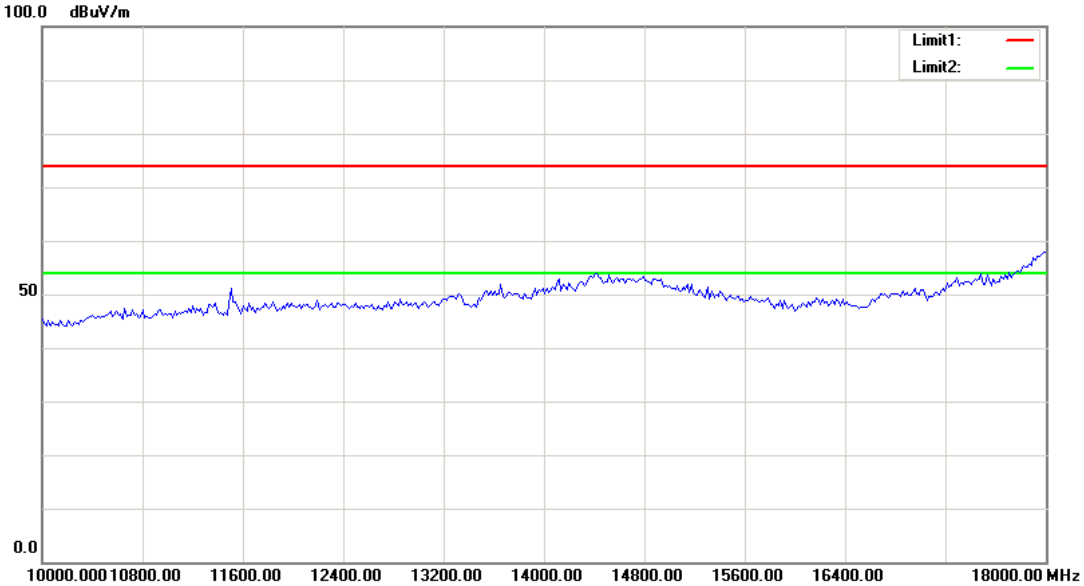


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5650.000	31.23	peak	31.79	63.02	68.20	5.18	145	27	
2	5700.000	31.18	peak	31.86	63.04	105.20	42.16	145	27	
3	5720.000	35.72	peak	31.88	67.60	110.80	43.20	145	27	
4	5725.000	41.12	peak	31.88	73.00	122.20	49.20	145	27	
5	5742.405	75.16	peak	31.89	107.05	N/A	N/A	145	27	Fundamental
6	5742.405	65.52	AVG	31.89	97.41	N/A	N/A	145	27	Fundamental

Fundamental Test with Band Rejection Filter

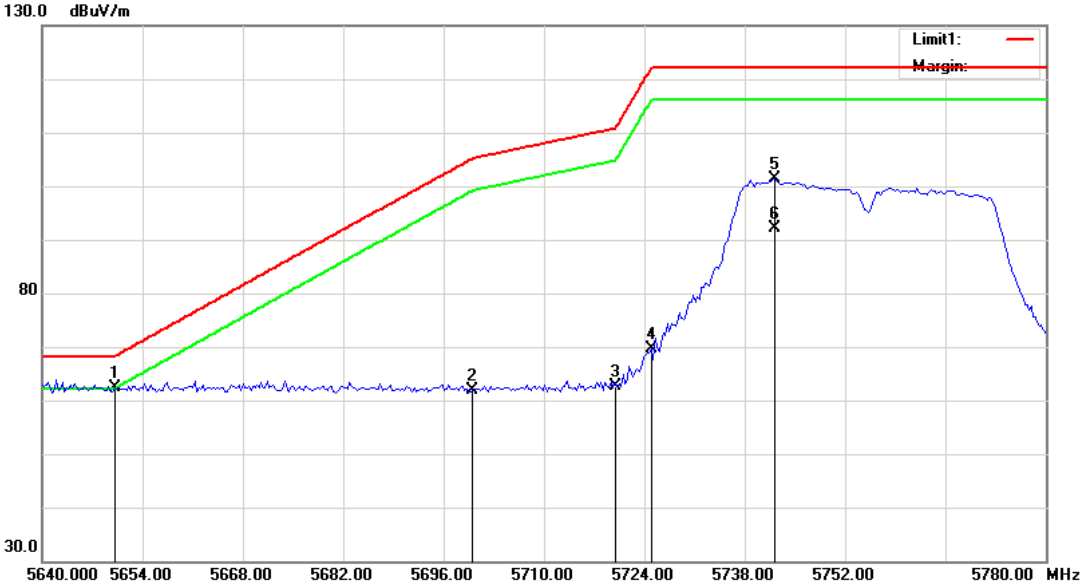


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	6915.832	47.18	peak	-2.85	44.33	74.00	29.67	146	22	
2	6915.832	38.22	AVG	-2.85	35.37	54.00	18.63	146	22	

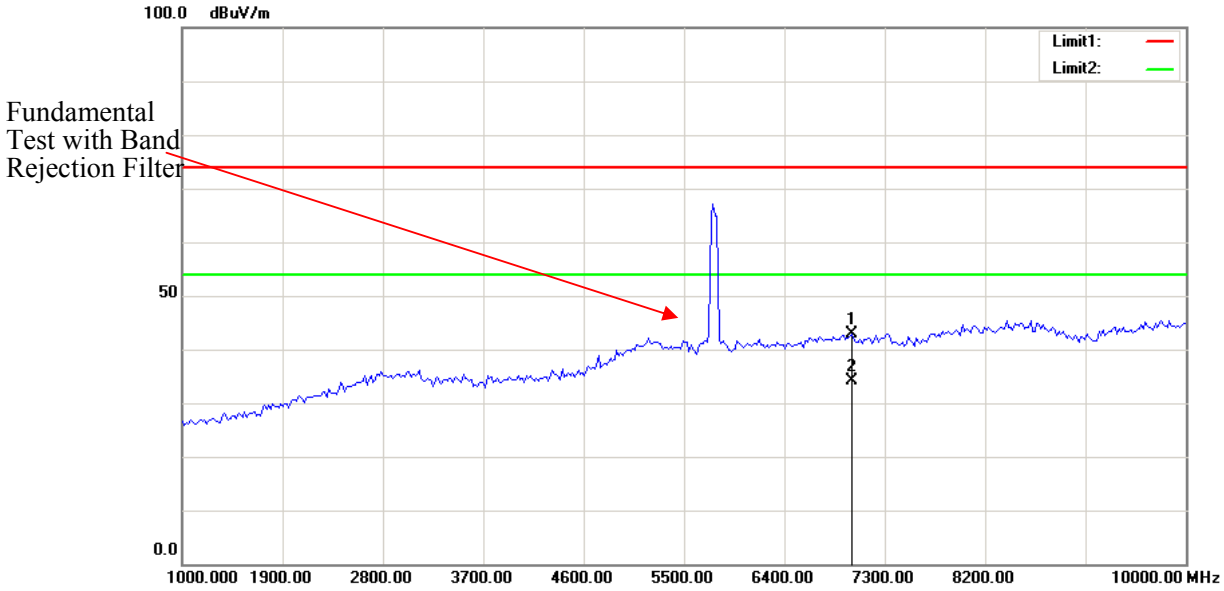


Note: No emission was detected in the range 18-40GHz.

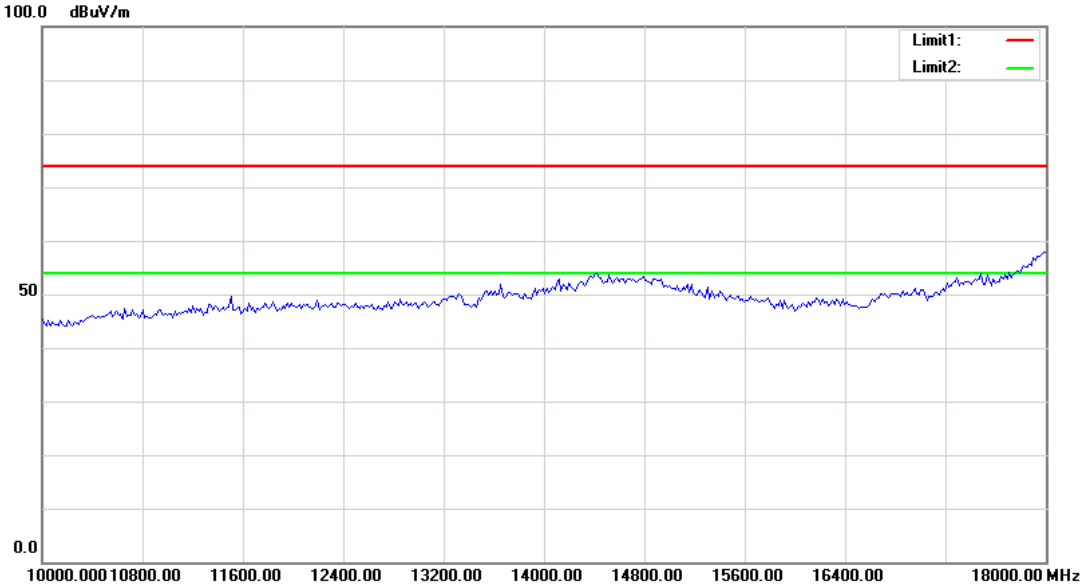
Vertical



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5650.000	30.69	peak	31.79	62.48	68.20	5.72	135	224	
2	5700.000	30.10	peak	31.86	61.96	105.20	43.24	135	224	
3	5720.000	30.69	peak	31.88	62.57	110.80	48.23	135	224	
4	5725.000	37.63	peak	31.88	69.51	122.20	52.69	135	224	
5	5742.124	69.39	peak	31.89	101.28	N/A	N/A	135	224	Fundamental
6	5742.124	60.32	AVG	31.89	92.21	N/A	N/A	135	224	Fundamental

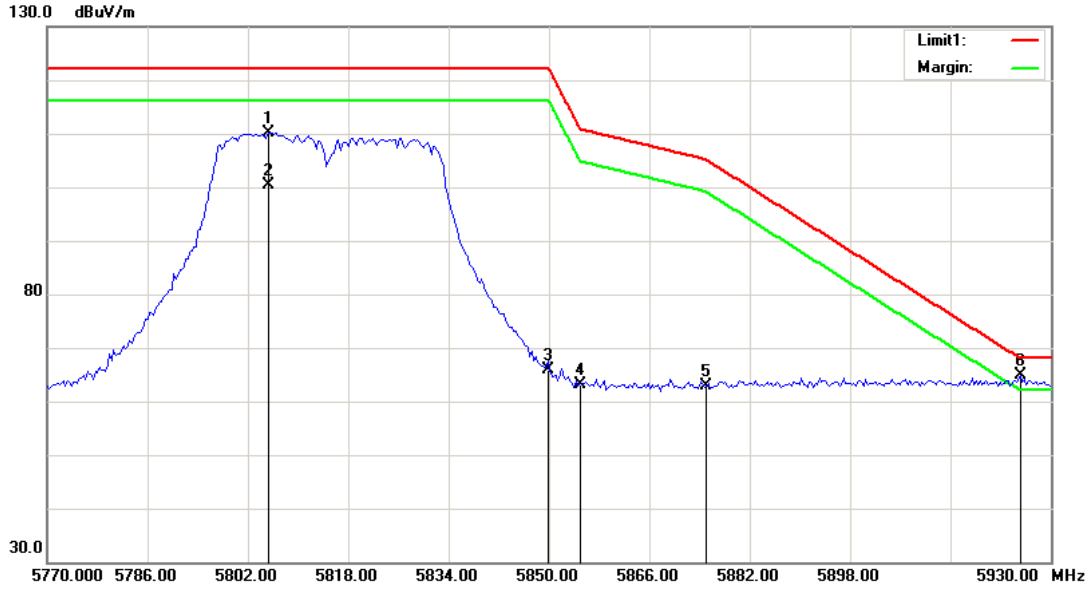


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	7006.012	45.56	peak	-2.59	42.97	74.00	31.03	161	221	
2	7006.012	36.62	AVG	-2.59	34.03	54.00	19.97	161	221	



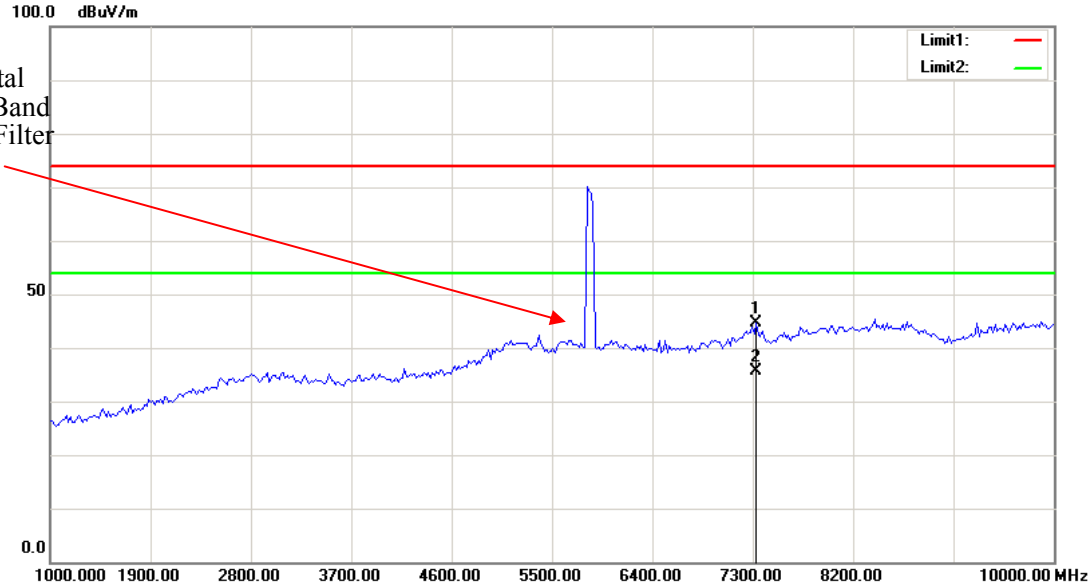
Note: No emission was detected in the range 18-40GHz.

High Channel, Horizontal

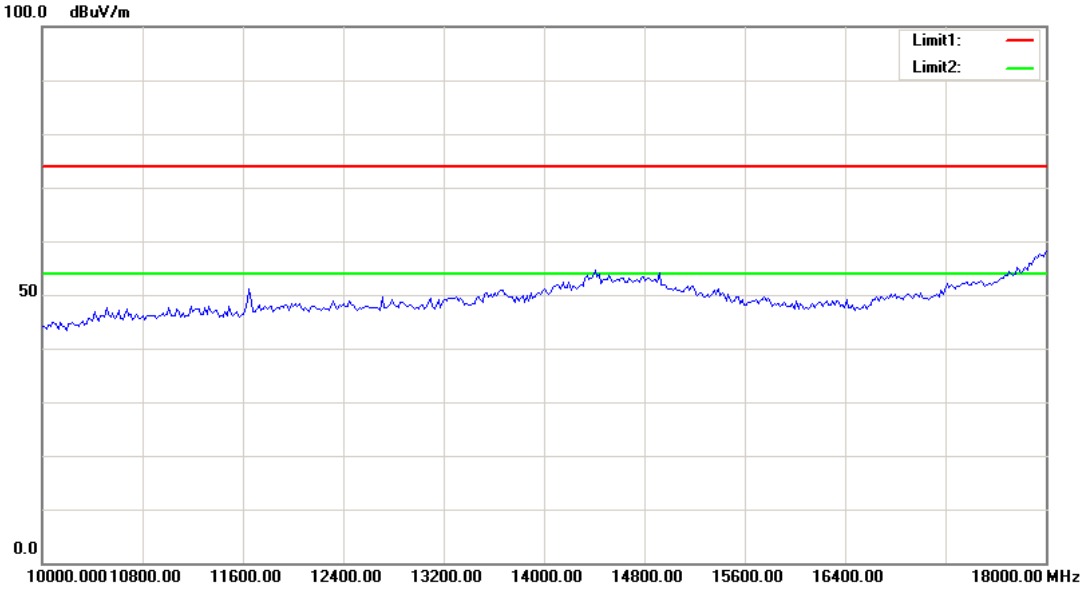


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5805.270	78.27	peak	31.93	110.20	N/A	N/A	143	111	Fundamental
2	5805.270	68.52	AVG	31.93	100.45	N/A	N/A	143	111	Fundamental
3	5850.000	33.77	peak	31.99	65.76	122.20	56.44	143	111	
4	5855.000	31.15	peak	31.99	63.14	110.80	47.66	143	111	
5	5875.000	30.79	peak	32.02	62.81	105.20	42.39	143	111	
6	5925.000	32.78	peak	32.07	64.85	68.20	3.35	143	111	

Fundamental Test with Band Rejection Filter

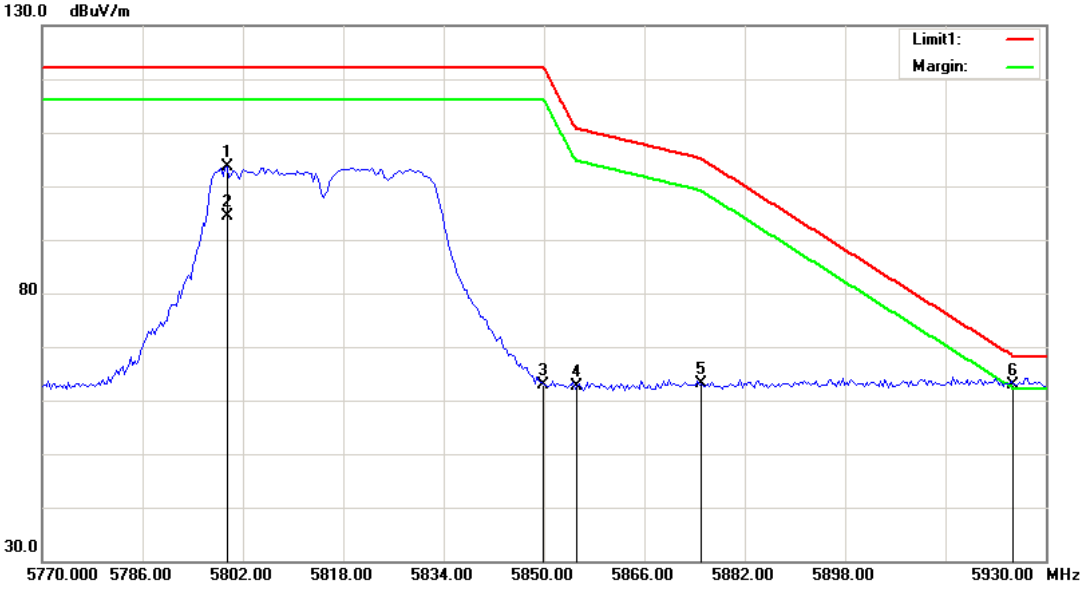


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	7330.661	47.48	peak	-2.73	44.75	74.00	29.25	154	78	
2	7330.661	38.34	AVG	-2.73	35.61	54.00	18.39	154	78	



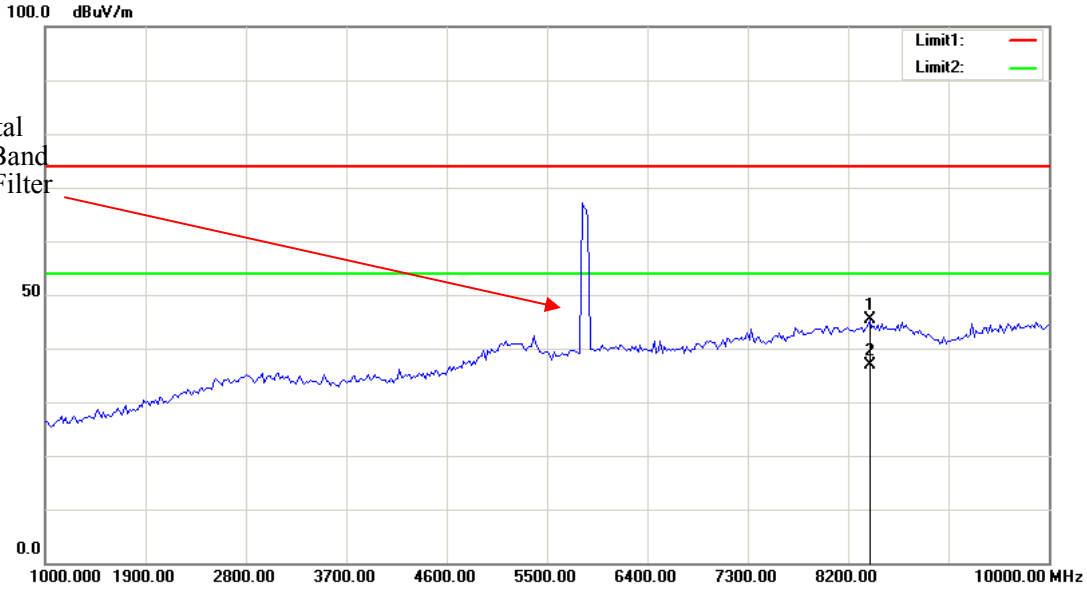
Note: No emission was detected in the range 18-40GHz.

Vertical

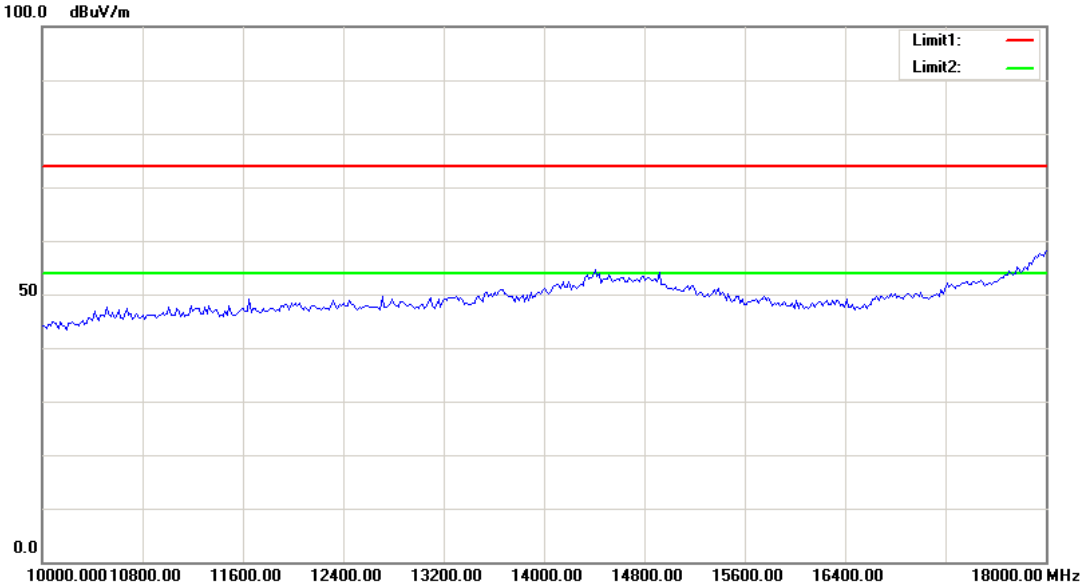


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5799.499	71.64	peak	31.93	103.57	N/A	N/A	155	336	Fundamental
2	5799.499	62.38	AVG	31.93	94.31	N/A	N/A	155	336	Fundamental
3	5850.000	30.92	peak	31.99	62.91	122.20	59.29	155	336	
4	5855.000	30.55	peak	31.99	62.54	110.80	48.26	155	336	
5	5875.000	31.11	peak	32.02	63.13	105.20	42.07	155	336	
6	5925.000	30.76	peak	32.07	62.83	68.20	5.37	155	336	

Fundamental Test with Band Rejection Filter

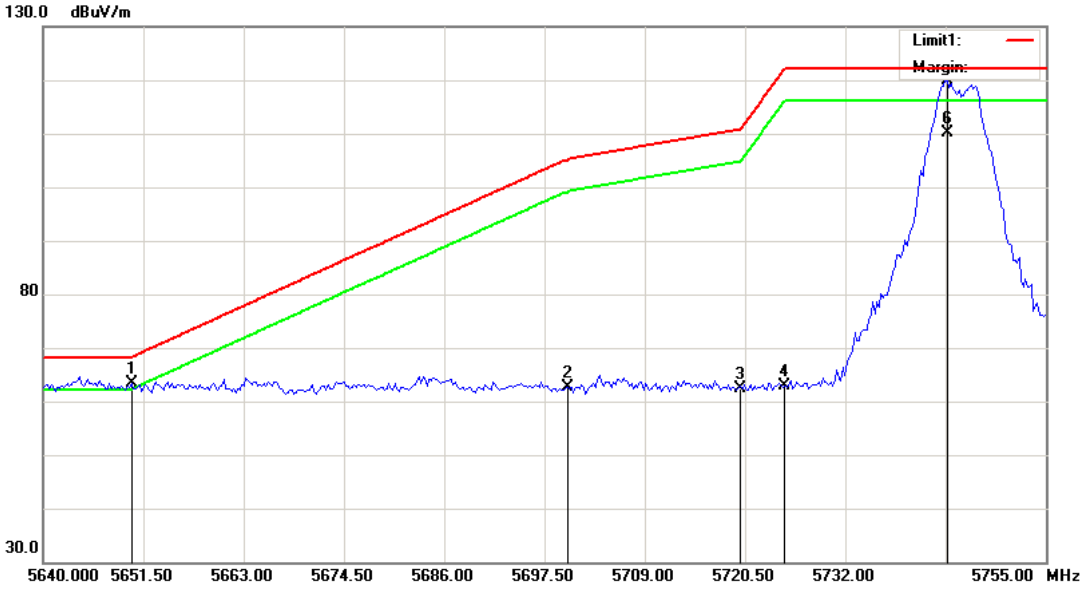


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8394.790	46.13	peak	-0.69	45.44	74.00	28.56	145	23	
2	8394.790	37.52	AVG	-0.69	36.83	54.00	17.17	145	23	



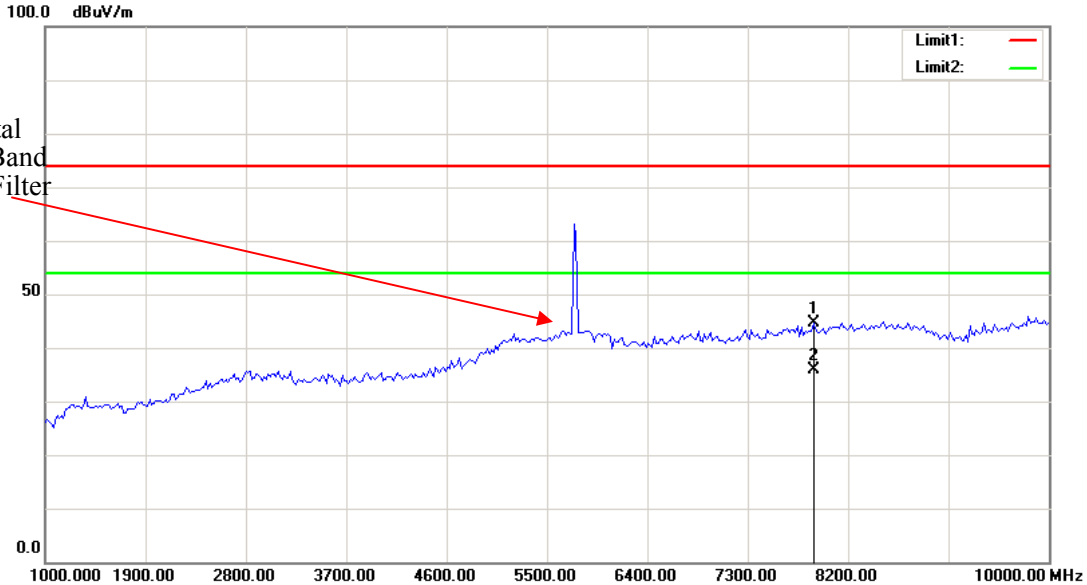
Note: No emission was detected in the range 18-40GHz.

5M, Low Channel, Horizontal

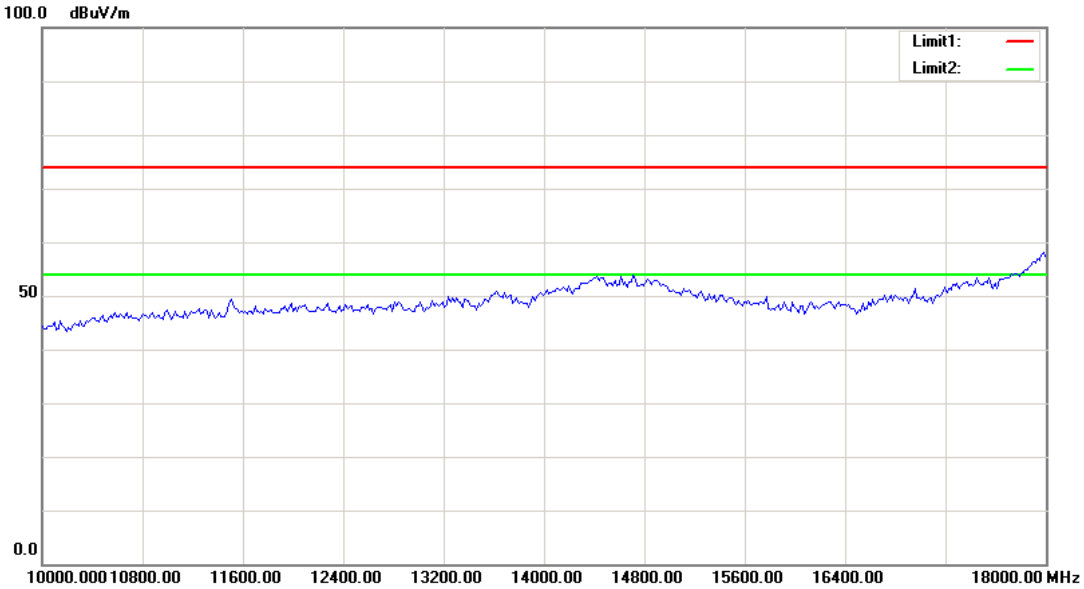


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5650.000	31.52	peak	31.79	63.31	68.20	4.89	152	34	
2	5700.000	30.72	peak	31.86	62.58	105.20	42.62	152	34	
3	5720.000	30.62	peak	31.88	62.50	110.80	48.30	152	34	
4	5725.000	30.90	peak	31.88	62.78	122.20	59.42	152	34	
5	5743.707	88.04	peak	31.89	119.93	N/A	N/A	152	34	Fundamental
6	5743.707	78.35	AVG	31.89	110.24	N/A	N/A	152	34	Fundamental

Fundamental Test with Band Rejection Filter

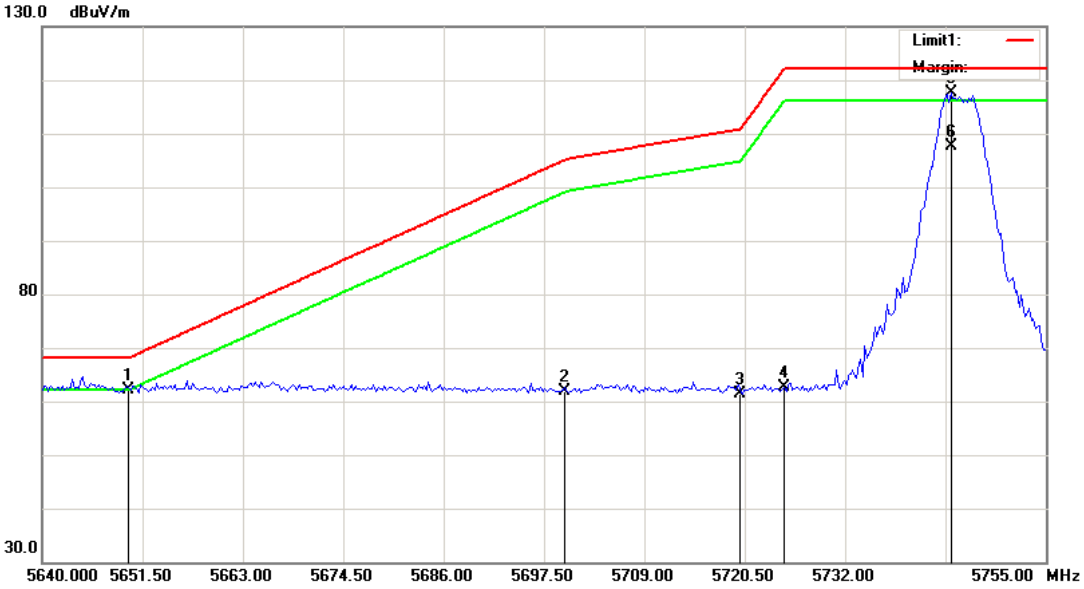


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	7889.779	46.12	peak	-1.52	44.60	74.00	29.40	142	36	
2	7889.779	37.52	AVG	-1.52	36.00	54.00	18.00	142	36	

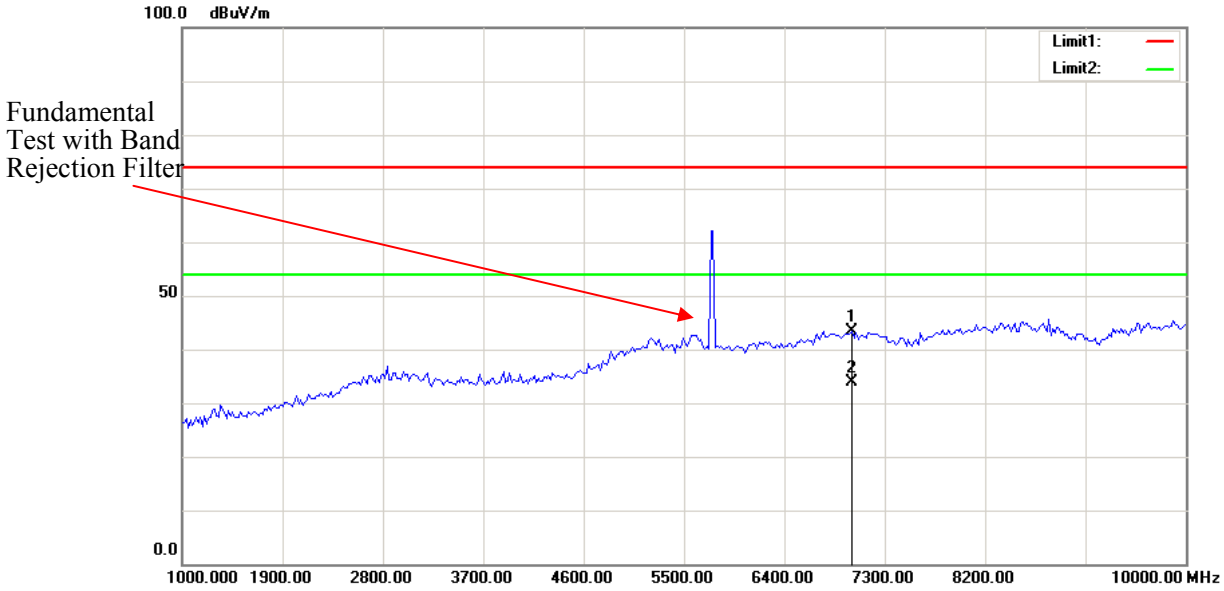


Note: No emission was detected in the range 18-40GHz.

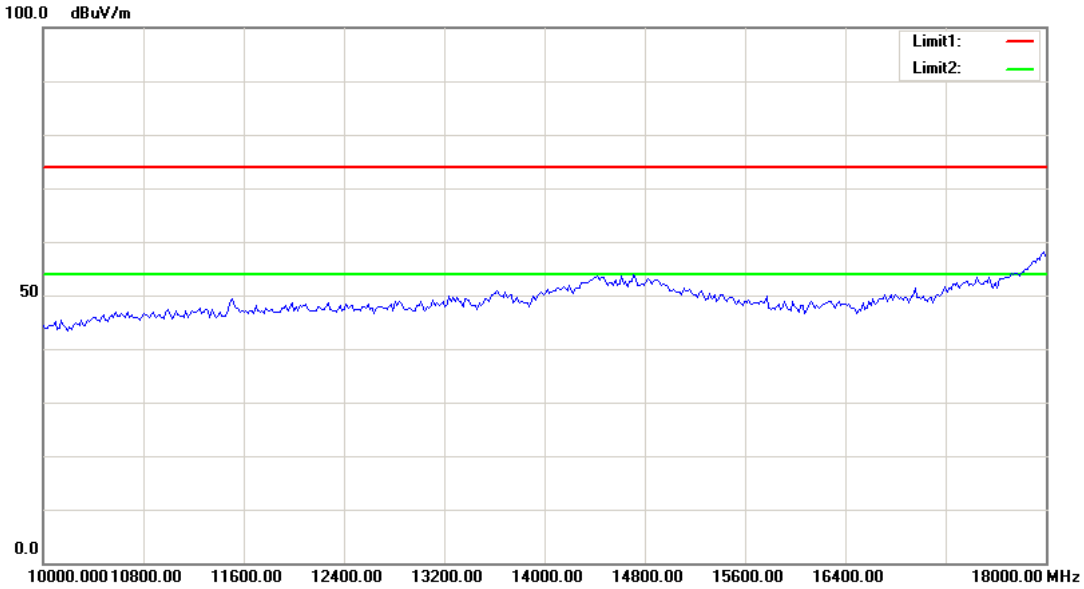
Vertical



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5650.000	30.29	peak	31.79	62.08	68.20	6.12	143	24	
2	5700.000	30.11	peak	31.86	61.97	105.20	43.23	143	24	
3	5720.000	29.44	peak	31.88	61.32	110.80	49.48	143	24	
4	5725.000	30.85	peak	31.88	62.73	122.20	59.47	143	24	
5	5744.168	85.81	peak	31.89	117.70	N/A	N/A	143	24	Fundamental
6	5744.168	75.84	AVG	31.89	107.73	N/A	N/A	143	24	Fundamental

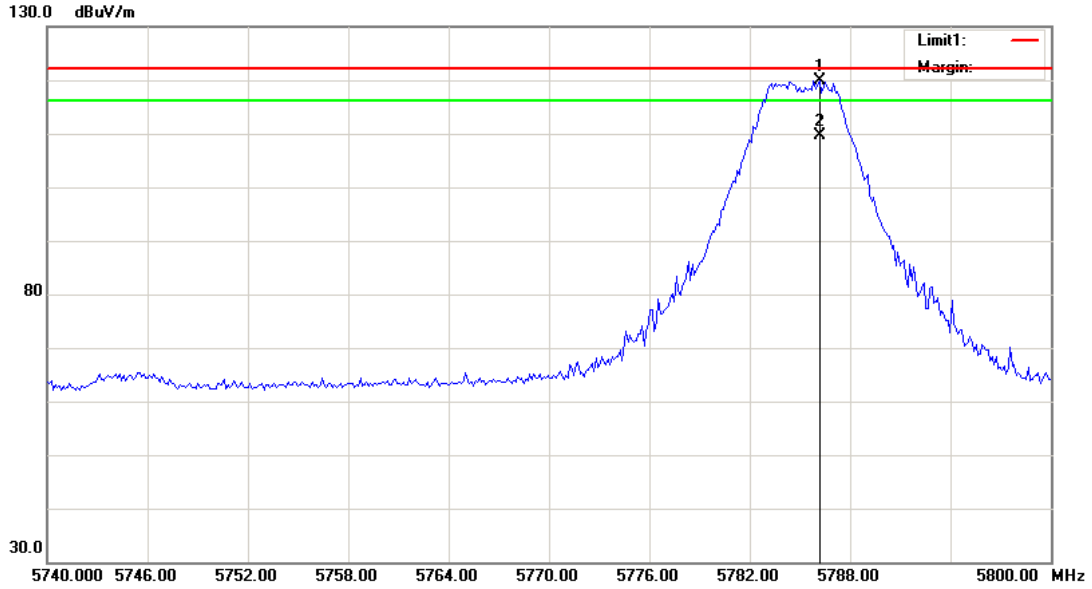


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	7006.012	45.97	peak	-2.59	43.38	74.00	30.62	136	155	
2	7006.012	36.57	AVG	-2.59	33.98	54.00	20.02	136	155	



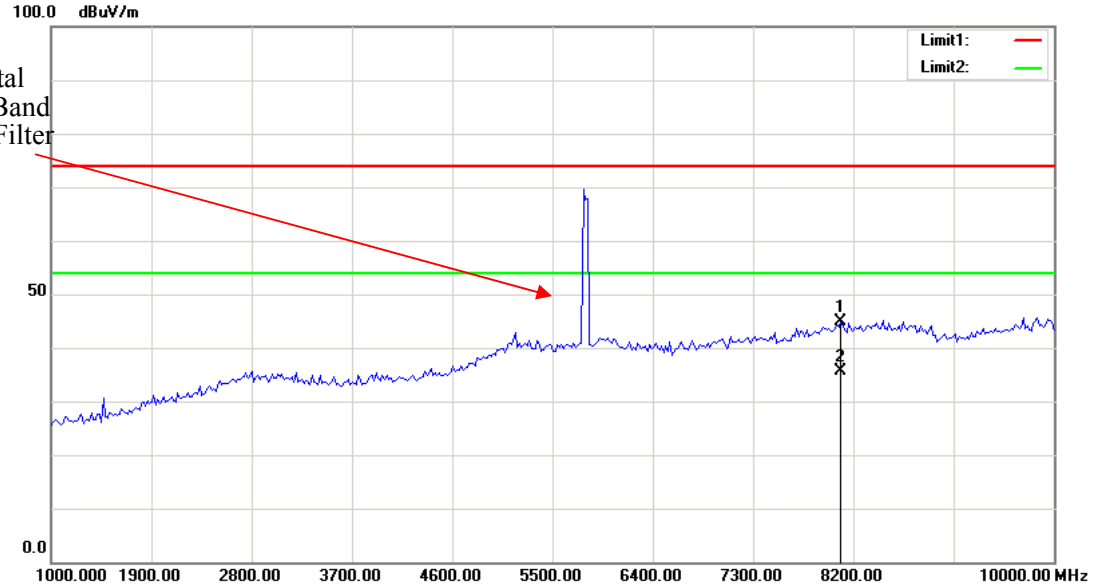
Note: No emission was detected in the range 18-40GHz.

Middle Channel,Horizontal

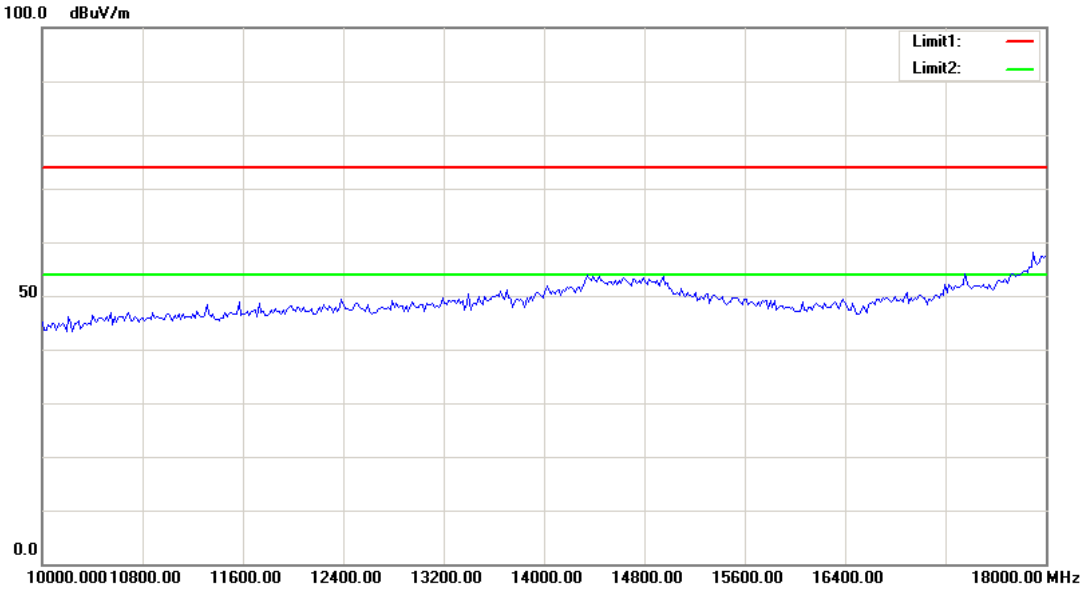


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5786.172	87.88	peak	31.92	119.80	N/A	N/A	148	57	Fundamental
2	5786.172	77.69	AVG	31.92	109.61	N/A	N/A	148	57	Fundamental

Fundamental Test with Band Rejection Filter

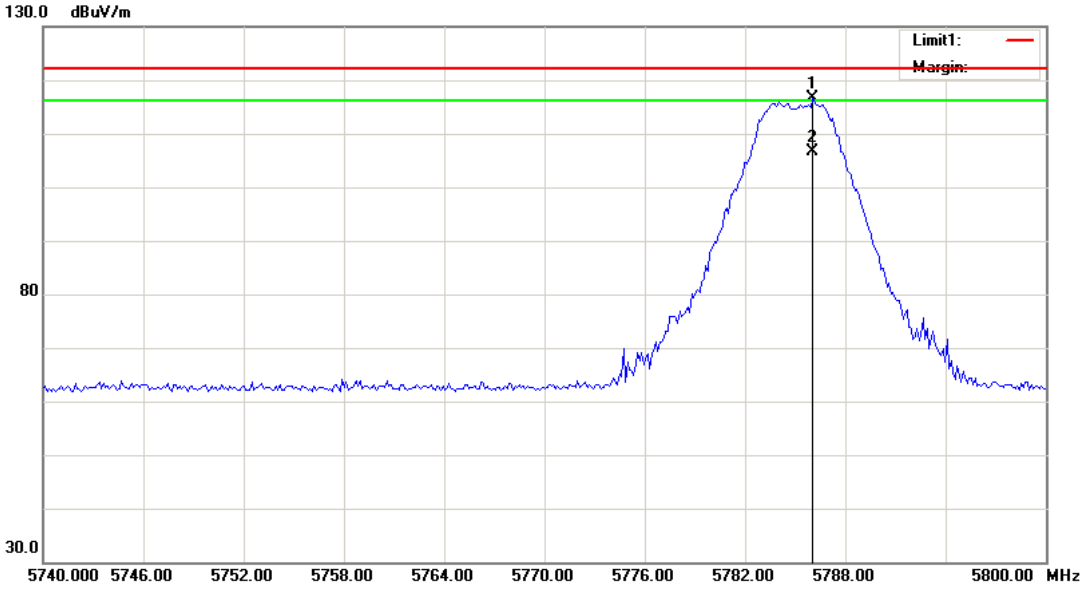


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV/m)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8088.176	45.85	peak	-1.05	44.80	74.00	29.20	154	336	
2	8088.176	36.57	AVG	-1.05	35.52	54.00	18.48	154	336	



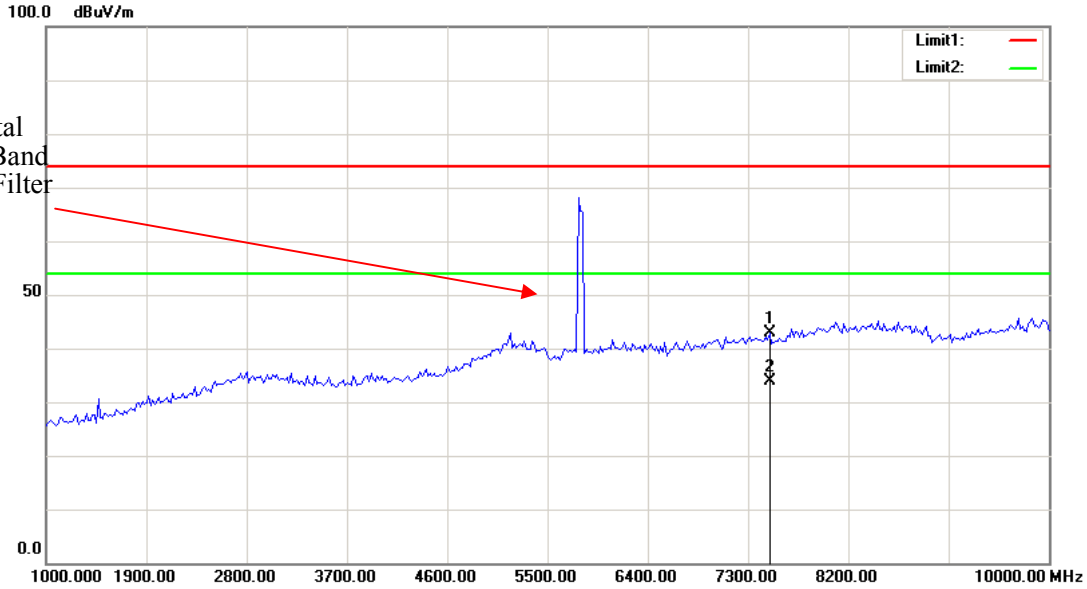
Note: No emission was detected in the range 18-40GHz.

Vertical

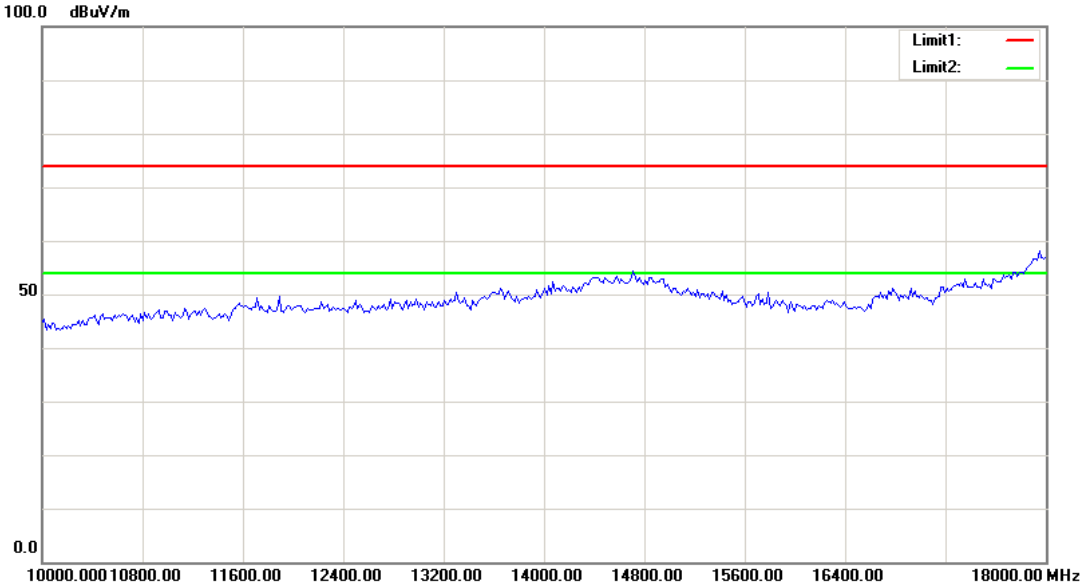


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5786.052	84.66	peak	31.92	116.58	N/A	N/A	162	223	Fundamental
2	5786.052	74.59	AVG	31.92	106.51	N/A	N/A	162	223	Fundamental

Fundamental Test with Band Rejection Filter

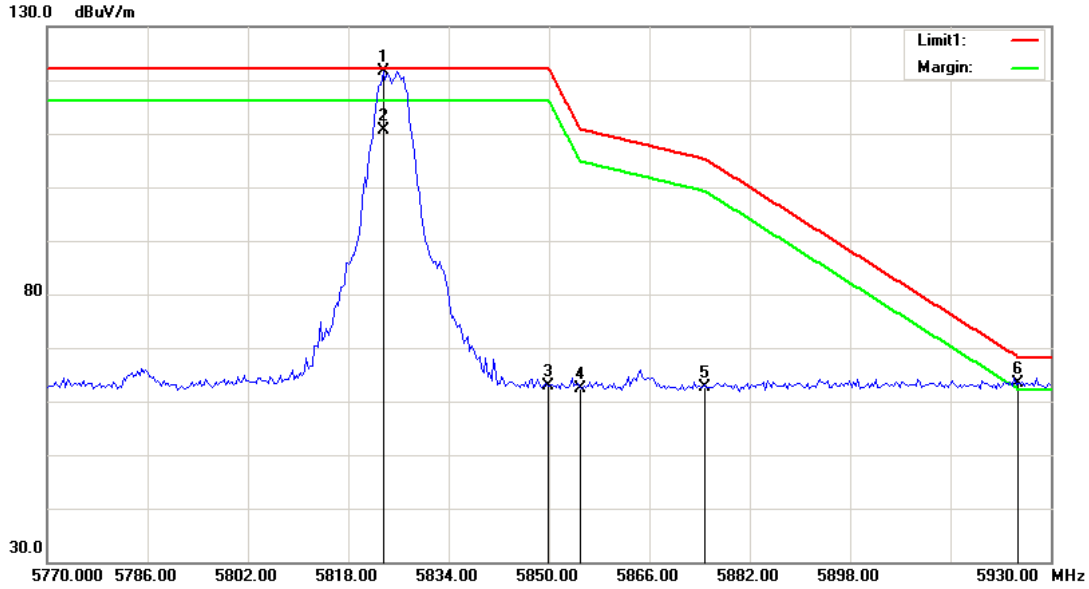


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	7492.986	45.71	peak	-2.79	42.92	74.00	31.08	144	25	
2	7492.986	36.58	AVG	-2.79	33.79	54.00	20.21	144	25	



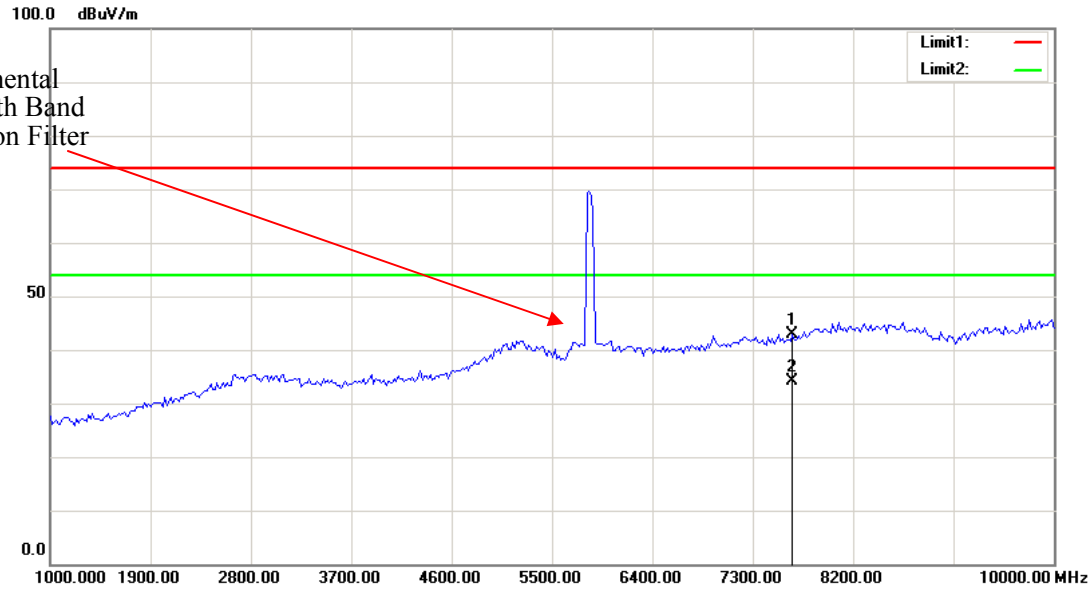
Note: No emission was detected in the range 18-40GHz.

High Channel, Horizontal

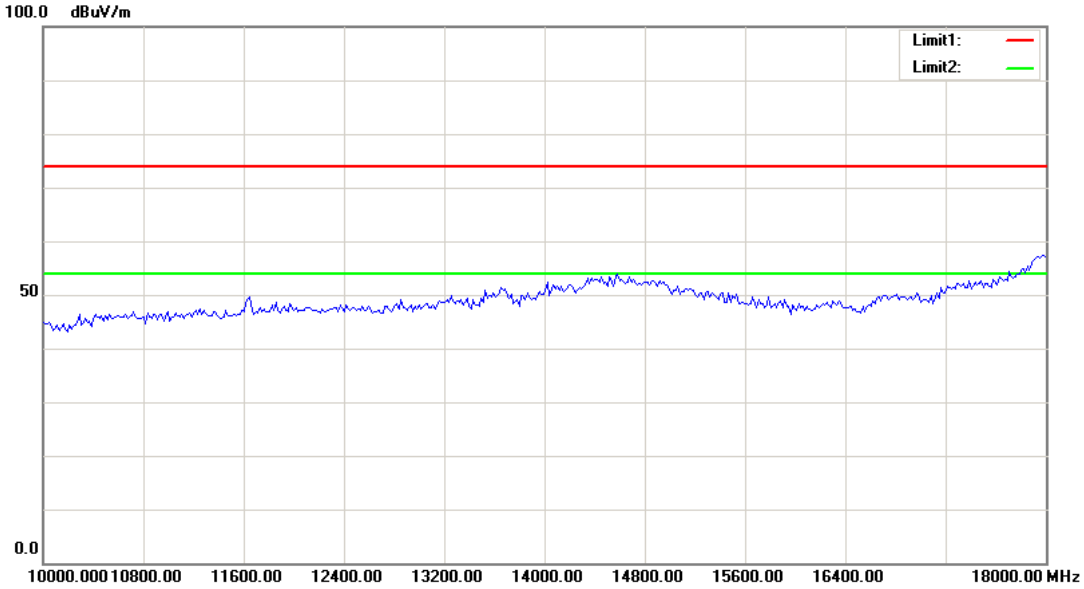


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5823.547	89.76	peak	31.96	121.72	N/A	N/A	148	122	Fundamental
2	5823.547	78.69	AVG	31.96	110.65	N/A	N/A	148	122	Fundamental
3	5850.000	30.89	peak	31.99	62.88	122.20	59.32	148	122	
4	5855.000	30.44	peak	31.99	62.43	110.80	48.37	148	122	
5	5875.000	30.53	peak	32.02	62.55	105.20	42.65	148	122	

Fundamental Test with Band Rejection Filter

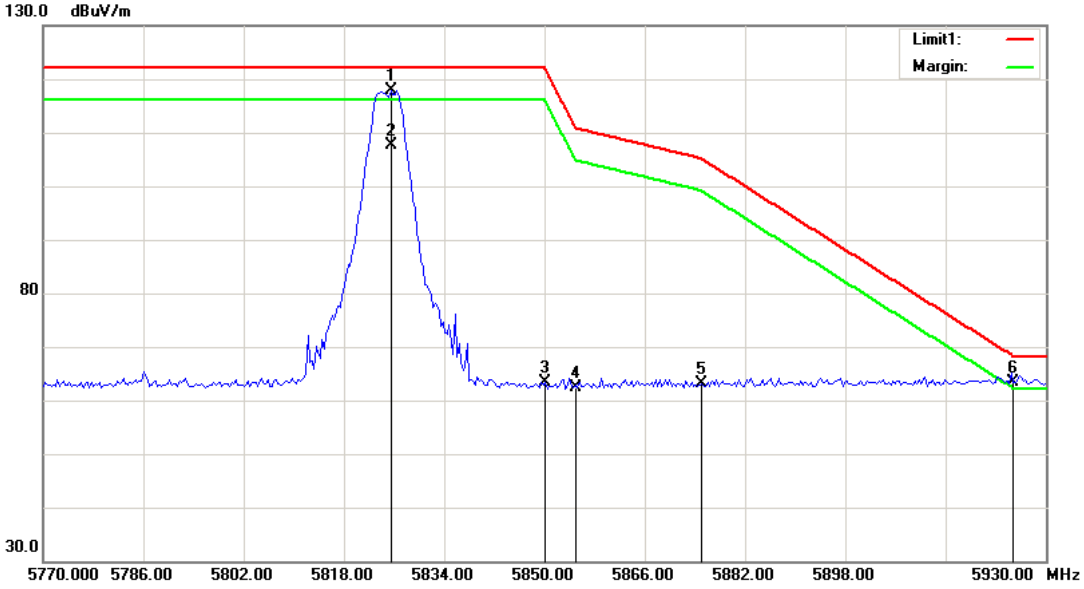


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	7655.310	45.20	peak	-2.29	42.91	74.00	31.09	158	96	
2	7655.310	36.32	AVG	-2.29	34.03	54.00	19.97	158	96	



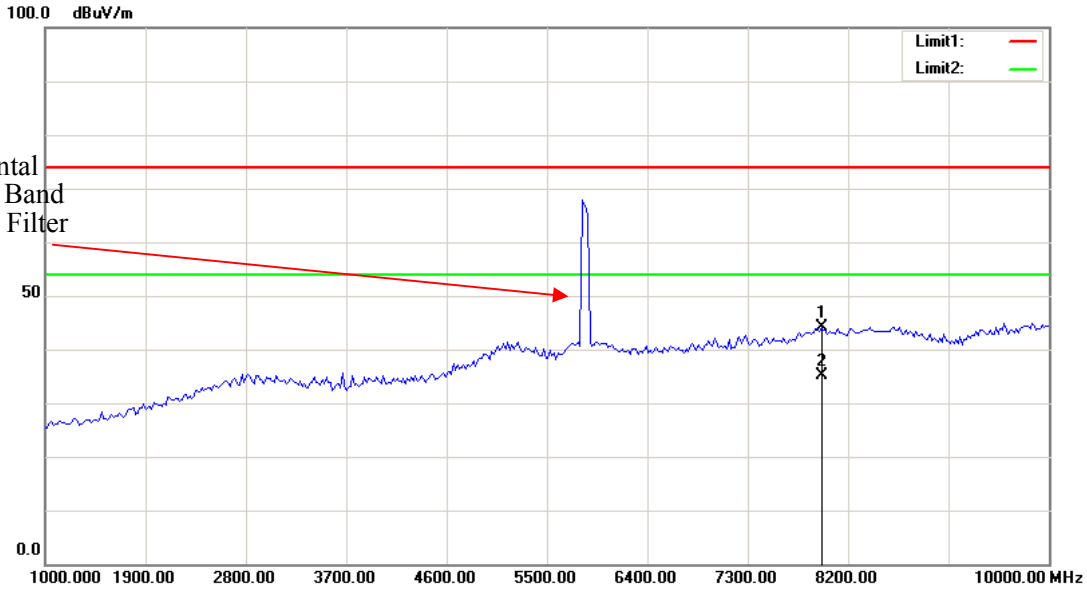
Note: No emission was detected in the range 18-40GHz.

Vertical

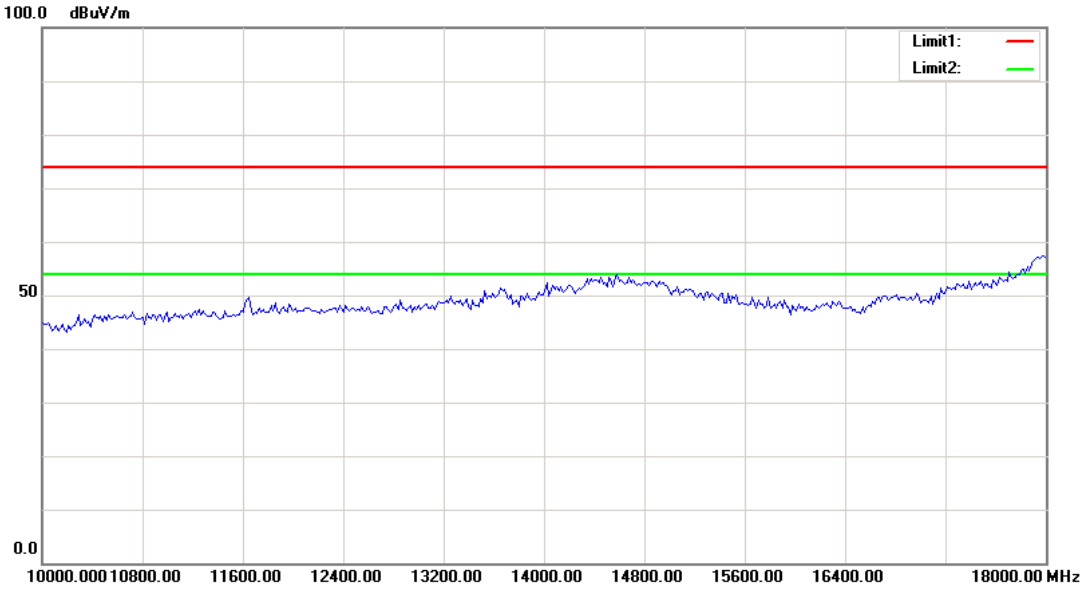


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5825.471	85.87	peak	31.96	117.83	N/A	N/A	145	36	Fundamental
2	5825.471	75.76	AVG	31.96	107.72	N/A	N/A	145	36	Fundamental
3	5850.000	31.37	peak	31.99	63.36	122.20	58.84	145	36	
4	5855.000	30.43	peak	31.99	62.42	110.80	48.38	145	36	
5	5875.000	31.18	peak	32.02	63.20	105.20	42.00	145	36	
6	5925.000	31.19	peak	32.07	63.26	68.20	4.94	145	36	

Fundamental Test with Band Rejection Filter

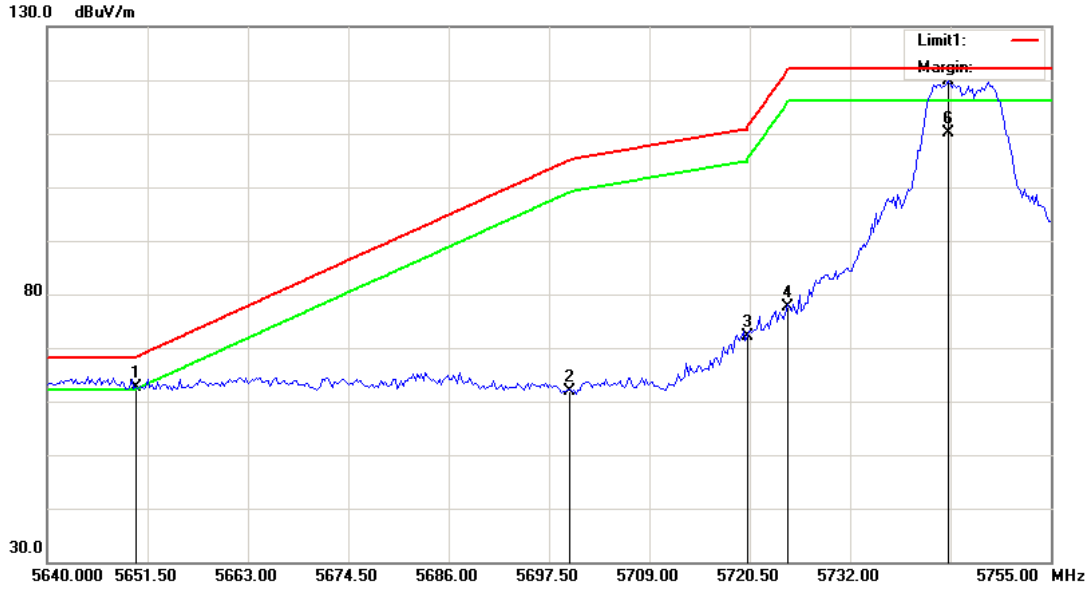


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	7961.924	45.44	peak	-1.28	44.16	74.00	29.84	152	335	
2	7961.924	36.38	AVG	-1.28	35.10	54.00	18.90	152	335	



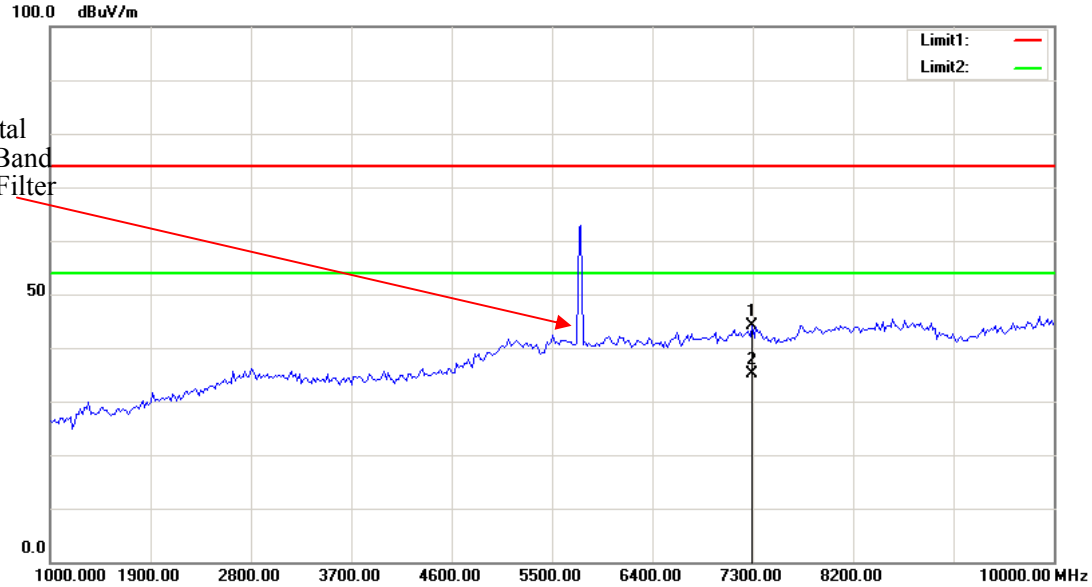
Note: No emission was detected in the range 18-40GHz.

10M, Low Channel, Horizontal

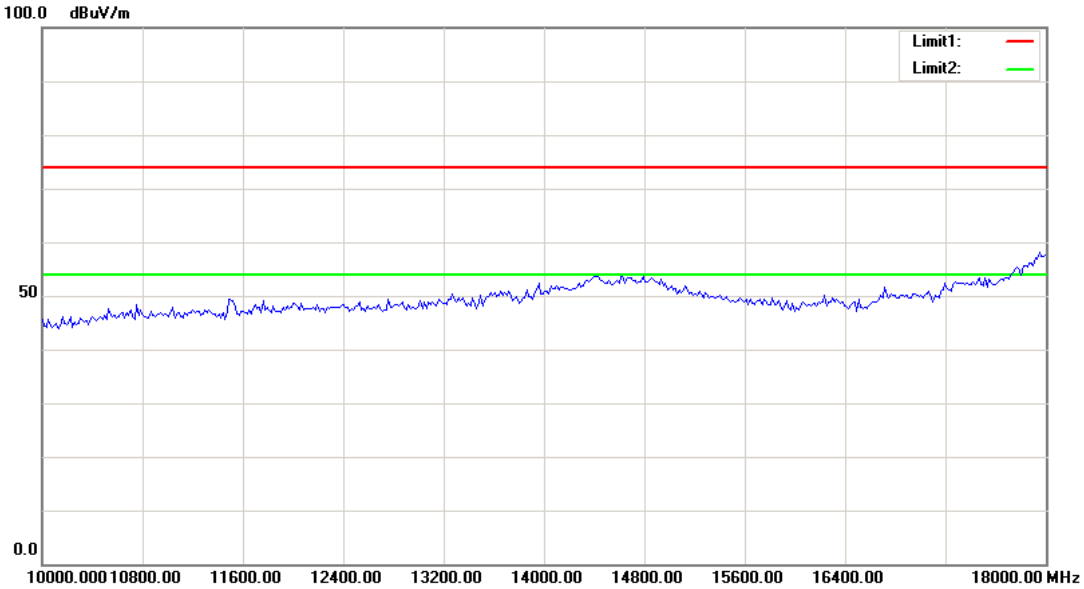


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5650.000	30.72	peak	31.79	62.51	68.20	5.69	136	22	
2	5700.000	30.00	peak	31.86	61.86	105.20	43.34	136	22	
3	5720.000	40.31	peak	31.88	72.19	110.80	38.61	136	22	
4	5725.000	45.79	peak	31.88	77.67	122.20	44.53	136	22	
5	5743.247	88.02	peak	31.89	119.91	N/A	N/A	136	22	Fundamental
6	5743.247	78.16	AVG	31.89	110.05	N/A	N/A	136	22	Fundamental

Fundamental Test with Band Rejection Filter

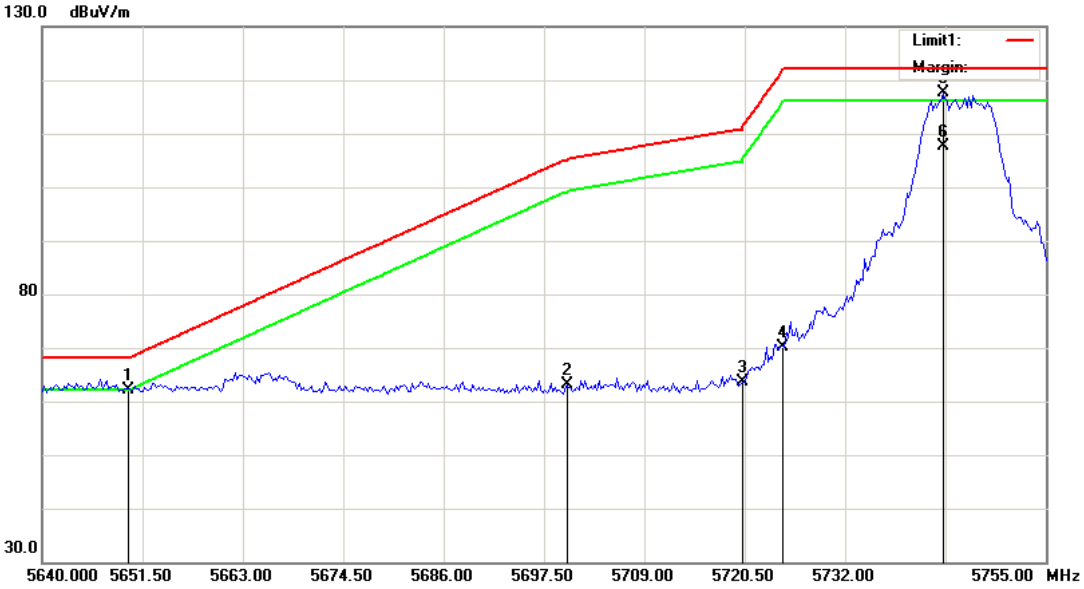


No.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	7294.589	46.91	peak	-2.70	44.21	74.00	29.79	151	24	
2	7294.589	37.88	AVG	-2.70	35.18	54.00	18.82	151	24	

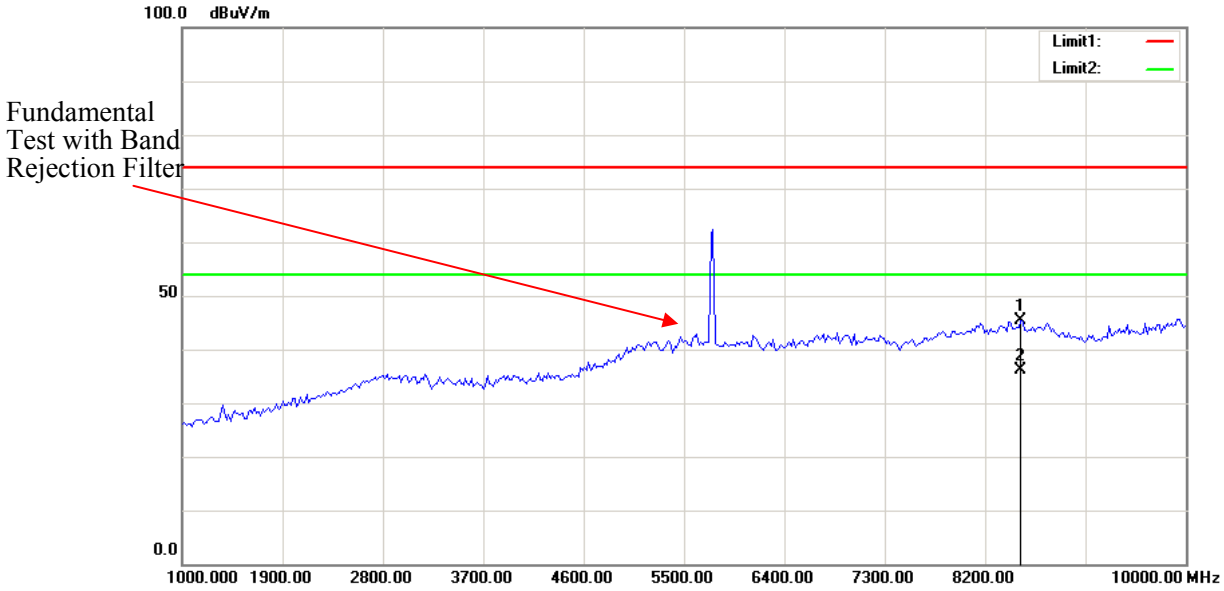


Note: No emission was detected in the range 18-40GHz.

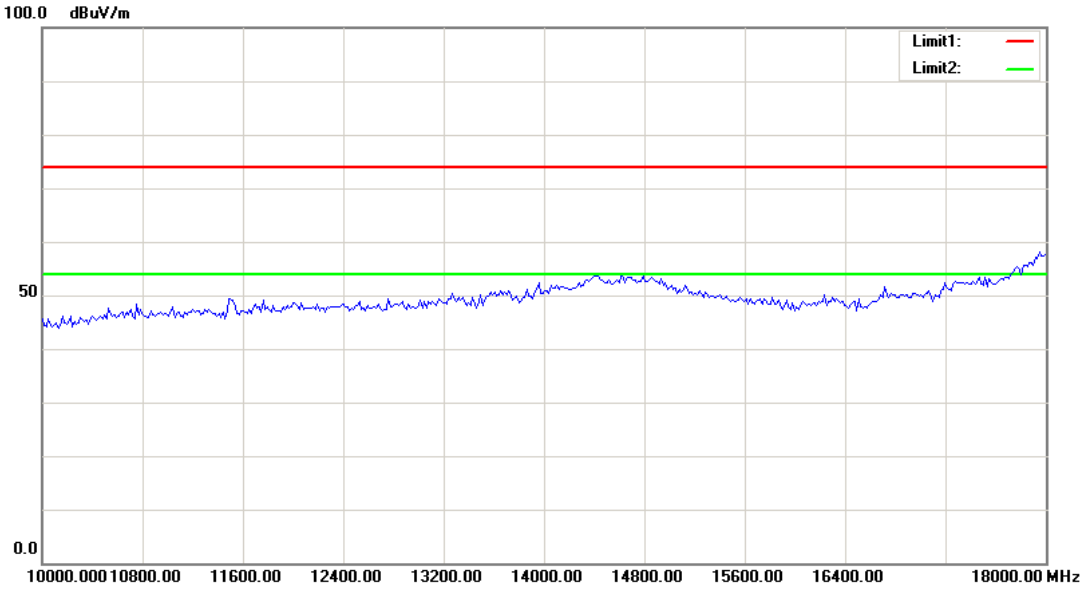
Vertical



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5650.000	30.38	peak	31.79	62.17	68.20	6.03	145	26	
2	5700.000	31.20	peak	31.86	63.06	105.20	42.14	145	26	
3	5720.000	31.63	peak	31.88	63.51	110.80	47.29	145	26	
4	5725.000	38.29	peak	31.88	70.17	122.20	52.03	145	26	
5	5743.247	85.66	peak	31.89	117.55	N/A	N/A	145	26	Fundamental
6	5743.247	75.84	AVG	31.89	107.73	N/A	N/A	145	26	Fundamental

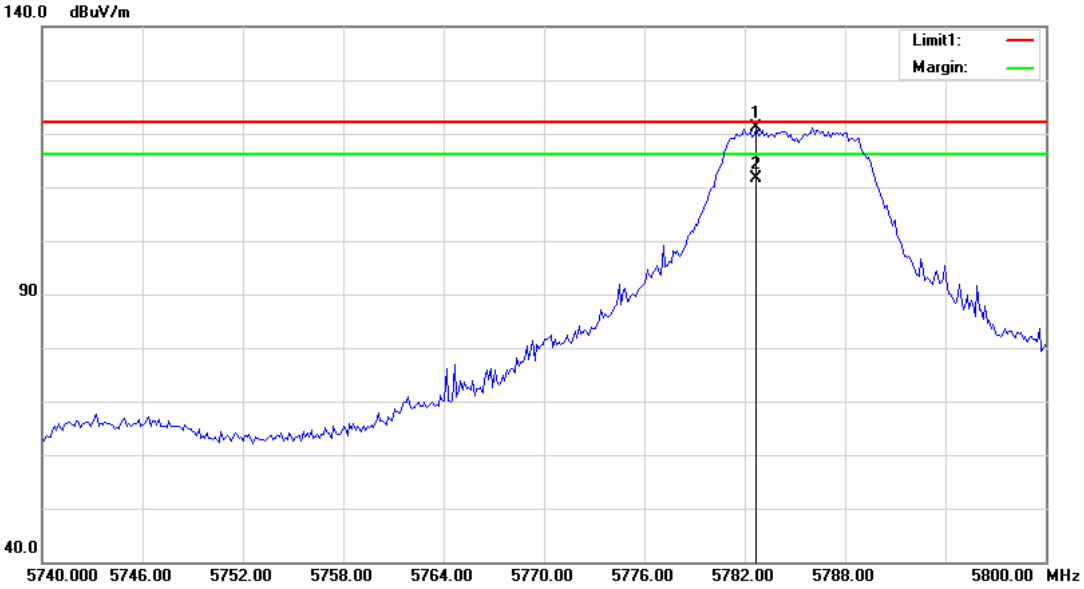


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8521.042	45.86	peak	-0.52	45.34	74.00	28.66	135	226	
2	8521.042	36.59	AVG	-0.52	36.07	54.00	17.93	135	226	



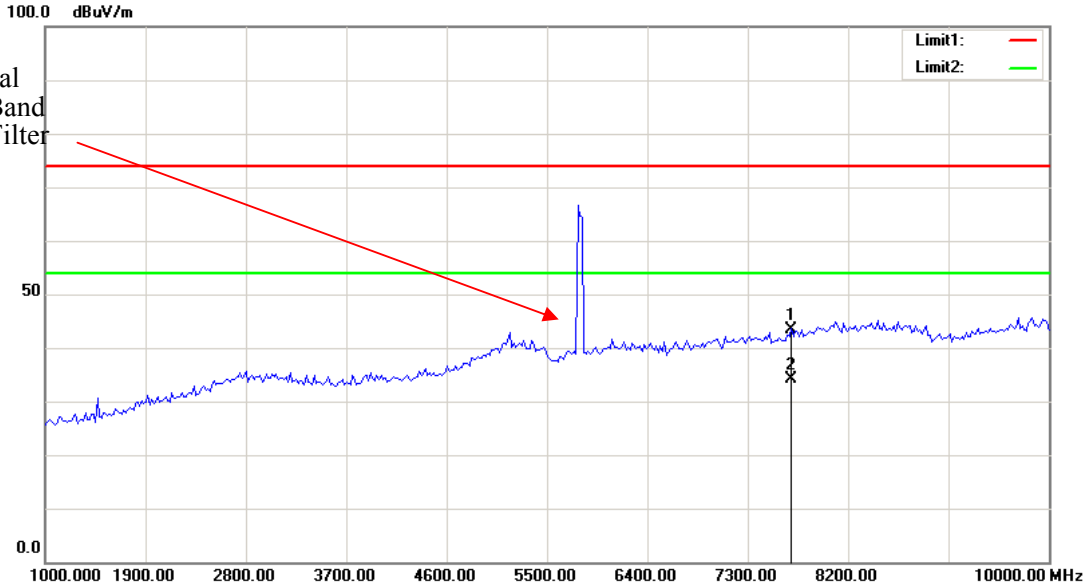
Note: No emission was detected in the range 18-40GHz.

Middle Channel, Horizontal

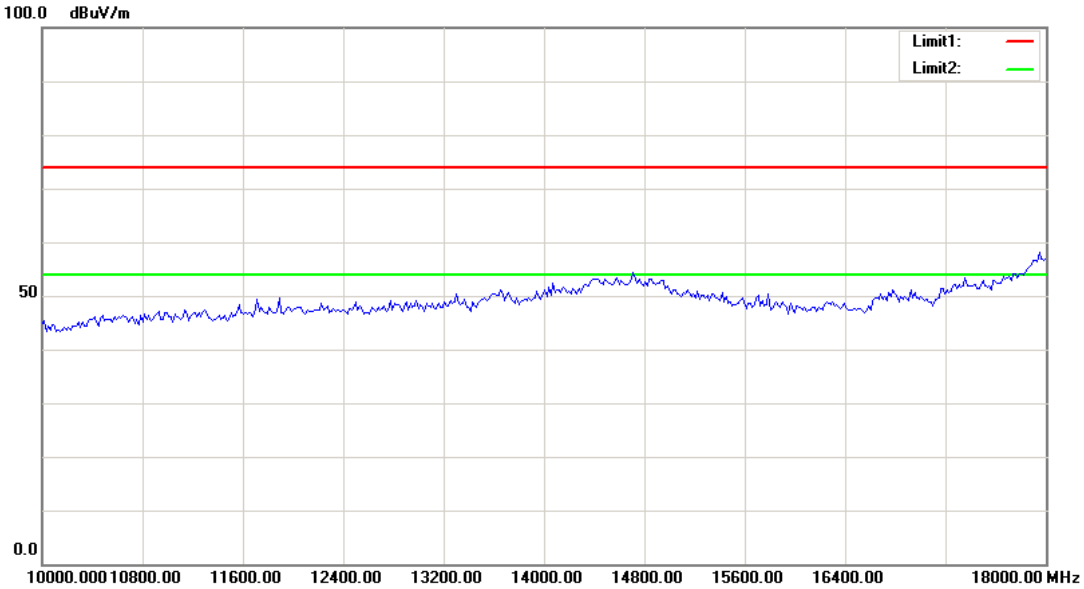


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5782.685	89.26	peak	31.91	121.17	N/A	N/A	148	57	Fundamental
2	5782.685	79.65	AVG	31.91	111.56	N/A	N/A	148	57	Fundamental

Fundamental Test with Band Rejection Filter

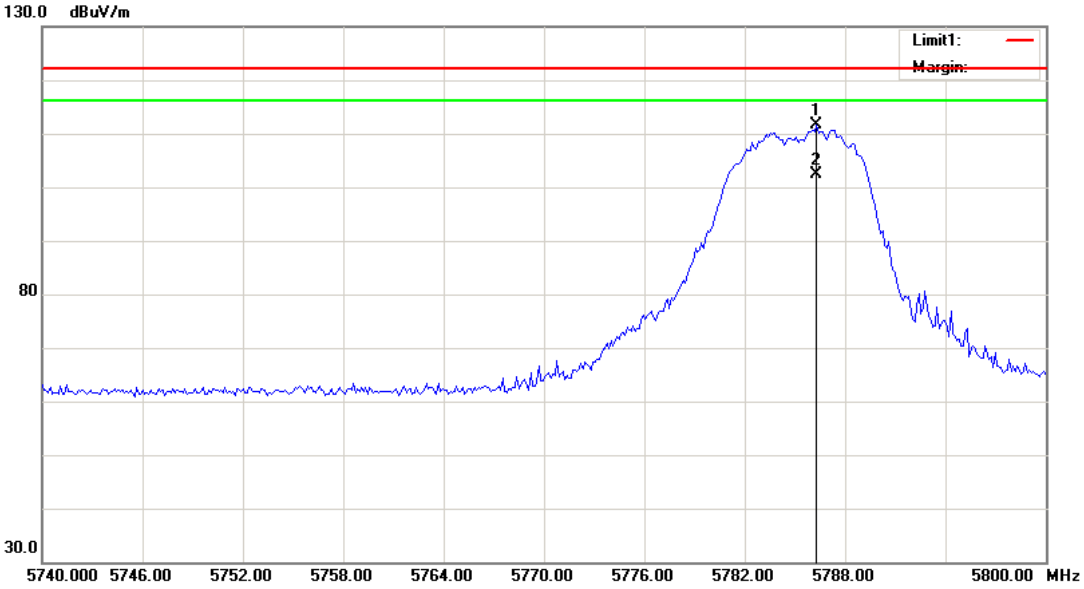


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	7691.383	45.67	peak	-2.17	43.50	74.00	30.50	148	227	
2	7691.383	36.38	AVG	-2.17	34.21	54.00	19.79	148	227	



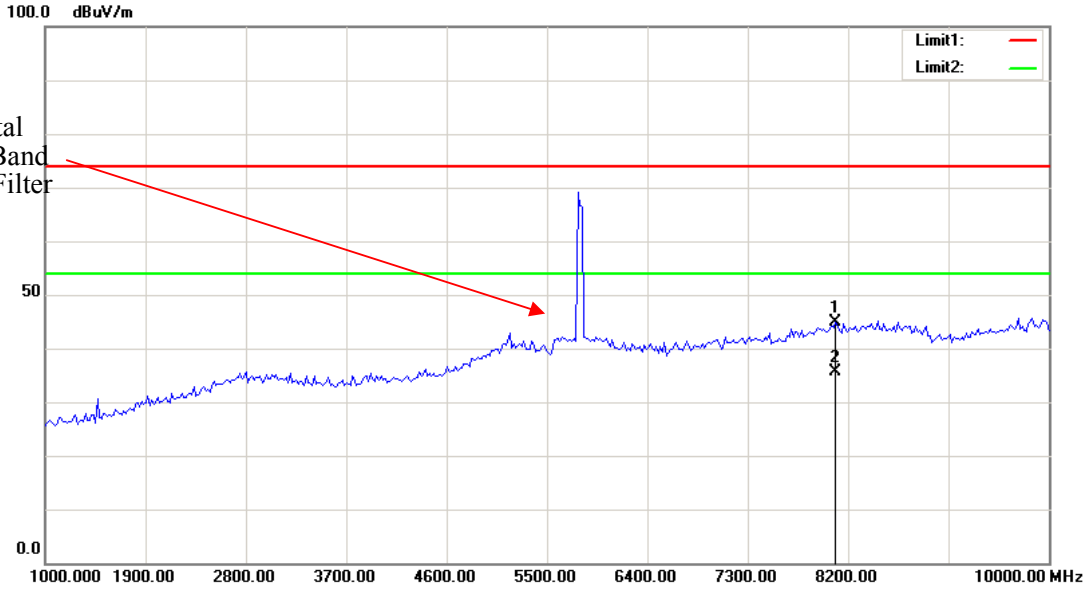
Note: No emission was detected in the range 18-40GHz.

Vertical

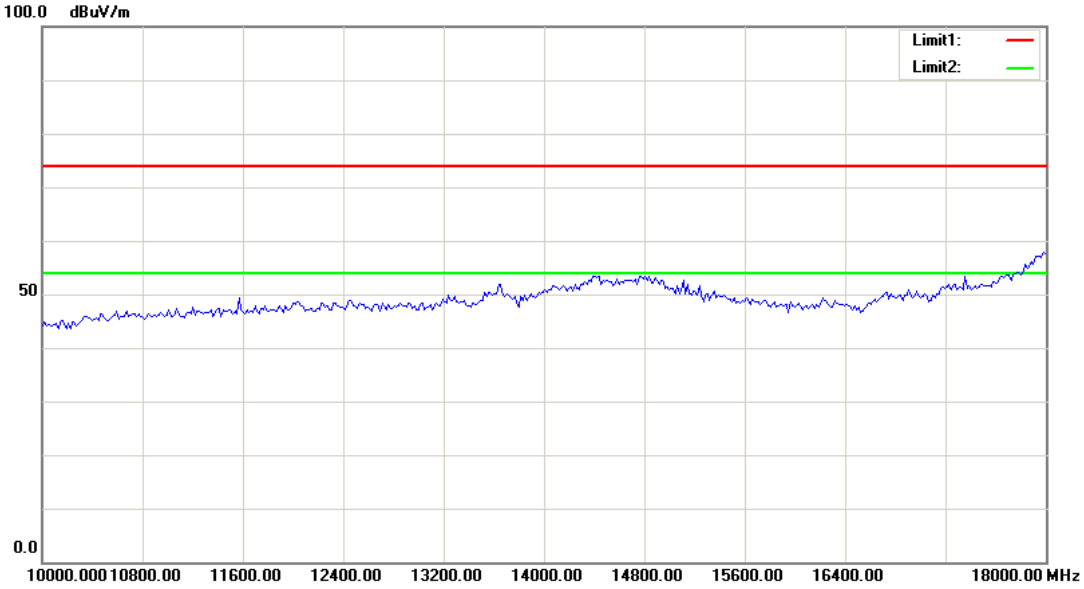


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5786.292	79.66	peak	31.92	111.58	N/A	N/A	153	22	Fundamental
2	5786.292	70.38	AVG	31.92	102.30	N/A	N/A	153	22	Fundamental

Fundamental Test with Band Rejection Filter

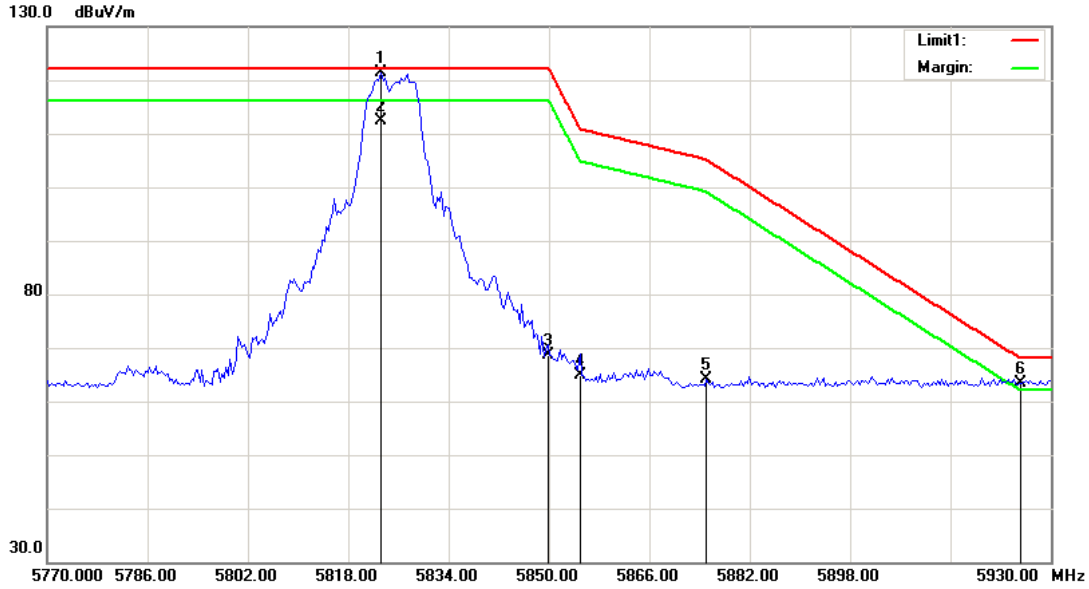


No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8088.176	45.85	peak	-1.05	44.80	74.00	29.20	145	69	
2	8088.176	36.79	AVG	-1.05	35.74	54.00	18.26	145	69	



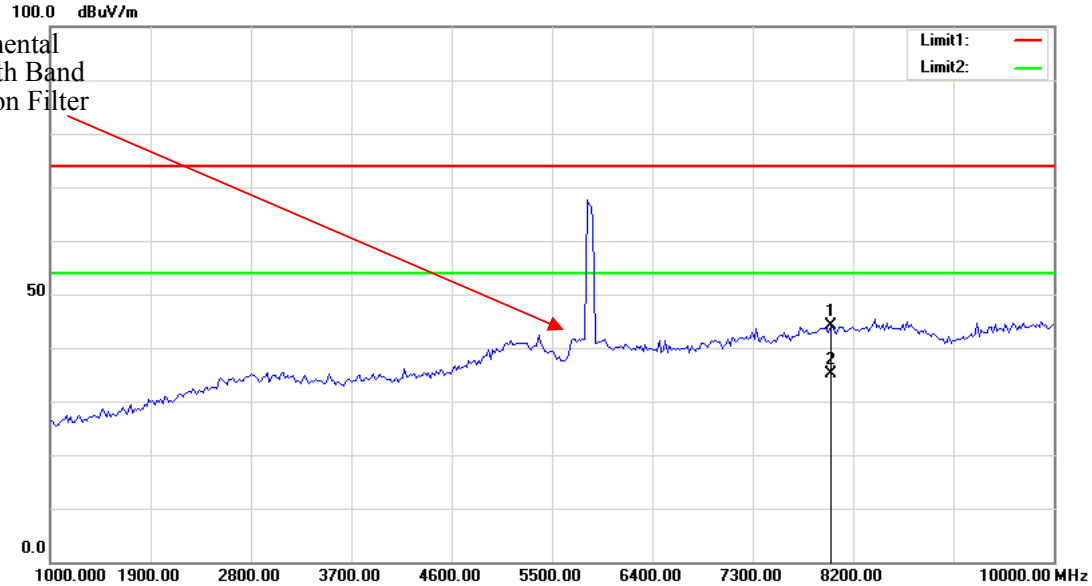
Note: No emission was detected in the range 18-40GHz.

High Channel, Horizontal

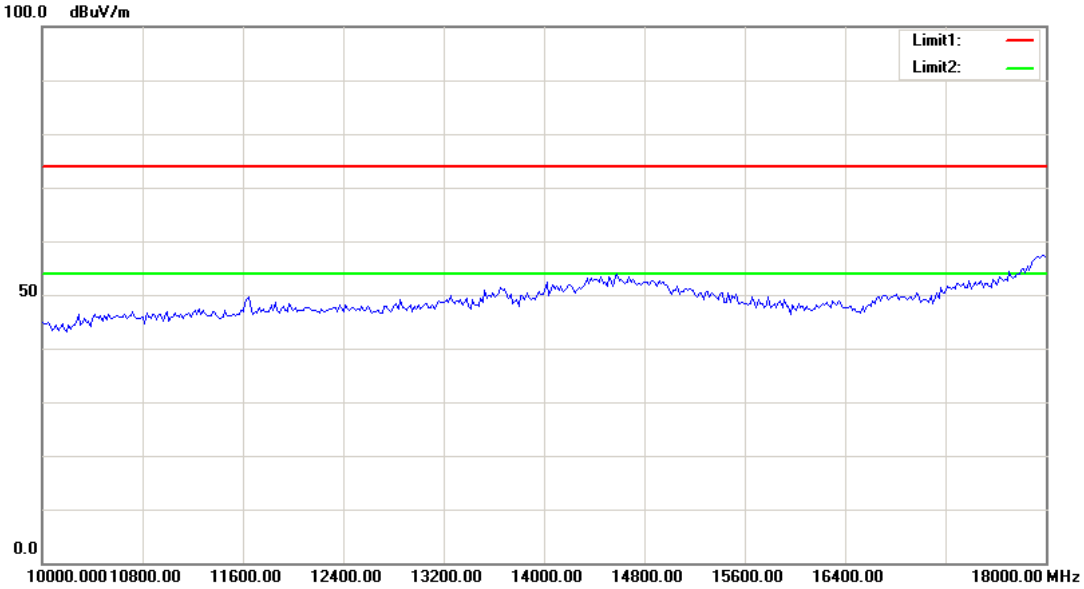


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	5823.226	89.42	peak	31.96	121.38	N/A	N/A	156	224	Fundamental
2	5823.226	80.37	AVG	31.96	112.33	N/A	N/A	156	224	Fundamental
3	5850.000	36.74	peak	31.99	68.73	122.20	53.47	156	224	
4	5855.000	32.88	peak	31.99	64.87	110.80	45.93	156	224	
5	5875.000	32.06	peak	32.02	64.08	105.20	41.12	156	224	
6	5925.000	31.40	peak	32.07	63.47	68.20	4.73	156	224	

Fundamental Test with Band Rejection Filter

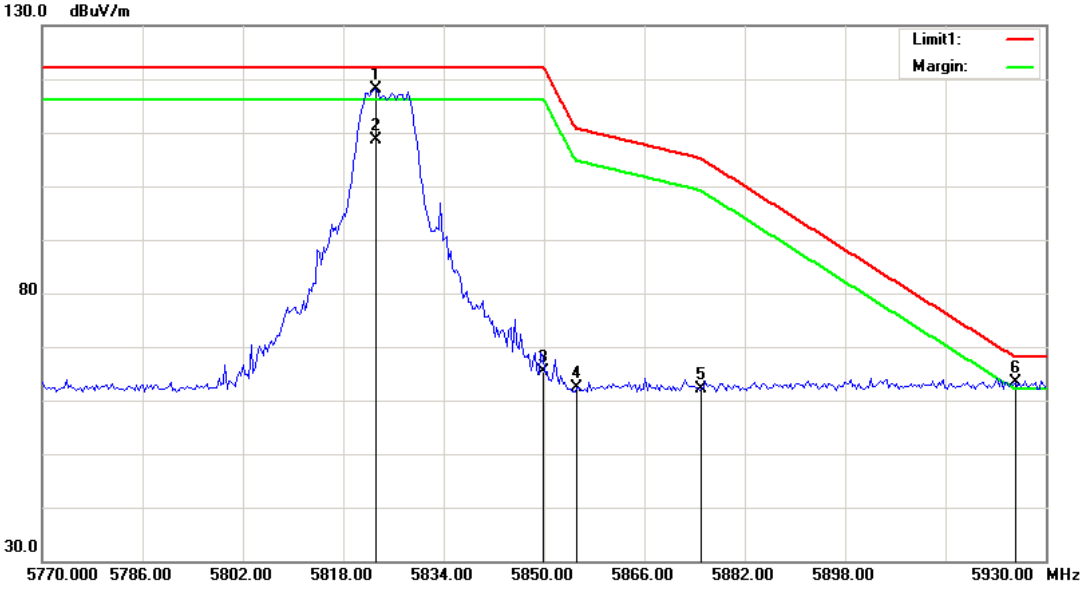


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	7997.996	45.25	peak	-1.16	44.09	74.00	29.91	175	224	
2	7997.996	36.31	AVG	-1.16	35.15	54.00	18.85	175	224	

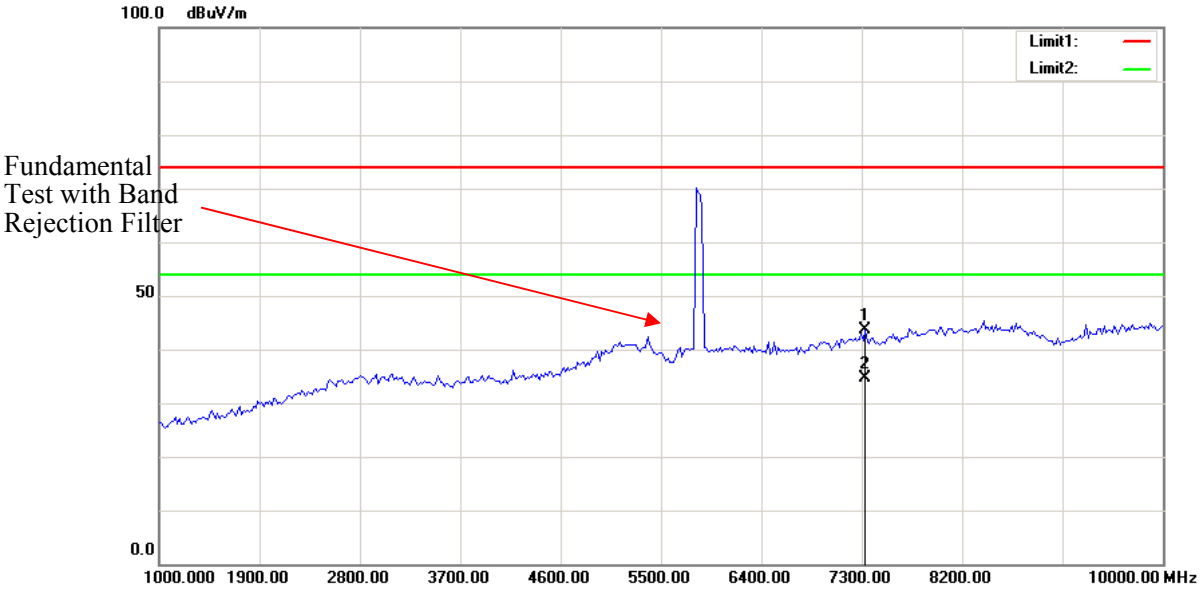


Note: No emission was detected in the range 18-40GHz.

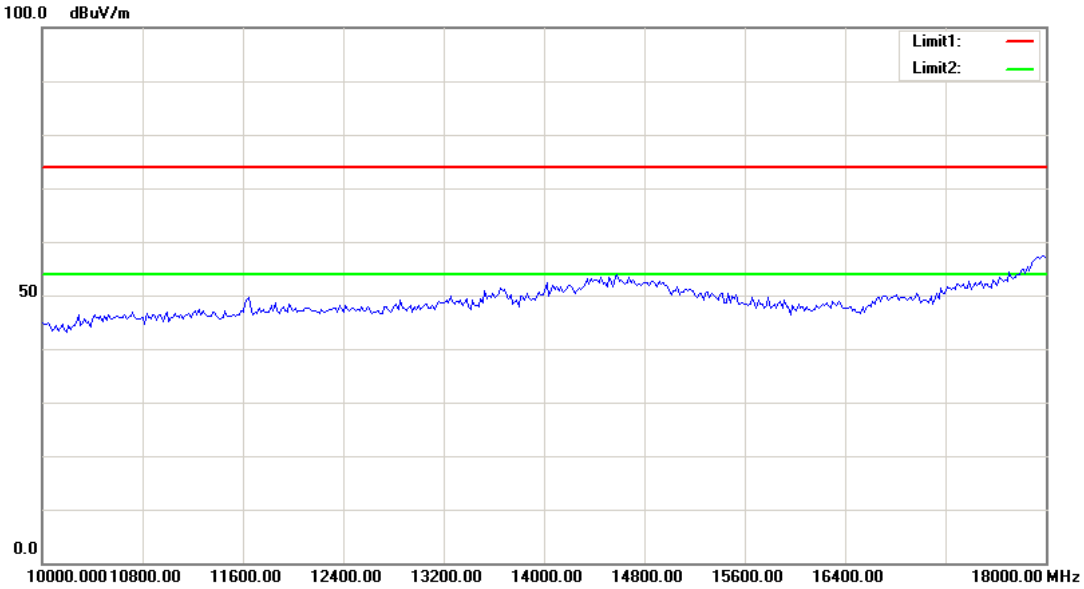
Vertical



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	5823.226	86.14	peak	31.96	118.10	N/A	N/A	147	25	Fundamental
2	5823.226	76.58	AVG	31.96	108.54	N/A	N/A	147	25	Fundamental
3	5850.000	33.42	peak	31.99	65.41	122.20	56.79	147	25	
4	5855.000	30.42	peak	31.99	62.41	110.80	48.39	147	25	
5	5875.000	30.14	peak	32.02	62.16	105.20	43.04	147	25	
6	5925.000	31.29	peak	32.07	63.36	68.20	4.84	147	25	



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	7330.661	46.48	peak	-2.73	43.75	74.00	30.25	144	53	
2	7330.661	37.35	AVG	-2.73	34.62	54.00	19.38	144	53	



Note: No emission was detected in the range 18-40GHz.

FCC §15.407(a)& RSS-247 §6.2,RSS-Gen §6.6– EMISSION BANDWIDTH

Applicable Standard

15.407(a), RSS-247 §6.2 and RSS-Gen §6.6

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESPI	100120	2016-12-08	2017-12-08
Unknown	Coaxial Cable	0.1m	C-1	Each Time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r04.

Test Data

Environmental Conditions

Temperature:	27.8 °C
Relative Humidity:	44 %
ATM Pressure:	101 kPa

The testing was performed by Robin Zheng on 2017-10-27.

Test Result: Pass.

Please refer to the following tables and plots.

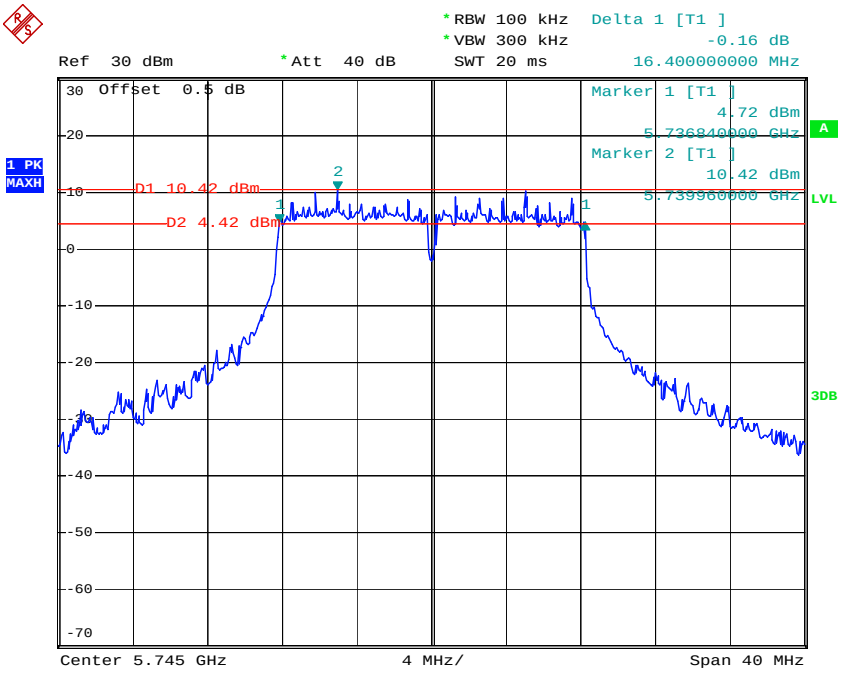
Test mode: Transmitting (Test was performed at chain 0)

Mode	Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limits (MHz)
802.11 a	Low	5745	16.40	16.80	≥0.5
	Middle	5785	16.32	16.72	≥0.5
	High	5825	16.48	16.72	≥0.5
802.11n ht20	Low	5745	17.36	18.00	≥0.5
	Middle	5785	17.20	18.00	≥0.5
	High	5825	17.36	17.92	≥0.5
802.11n ht40	Low	5755	35.84	37.12	≥0.5
	High	5795	36.00	37.12	≥0.5
5M	Low	5745	4.16	4.60	≥0.5
	Middle	5785	4.16	4.44	≥0.5
	High	5825	4.16	4.44	≥0.5
10M	Low	5745	8.24	10.36	≥0.5
	Middle	5785	8.24	8.52	≥0.5
	High	5825	8.24	8.52	≥0.5

Note: For 5725-5850MHz band, the 99% Occupied Bandwidth have not fall into the band 5470-5725MHz.

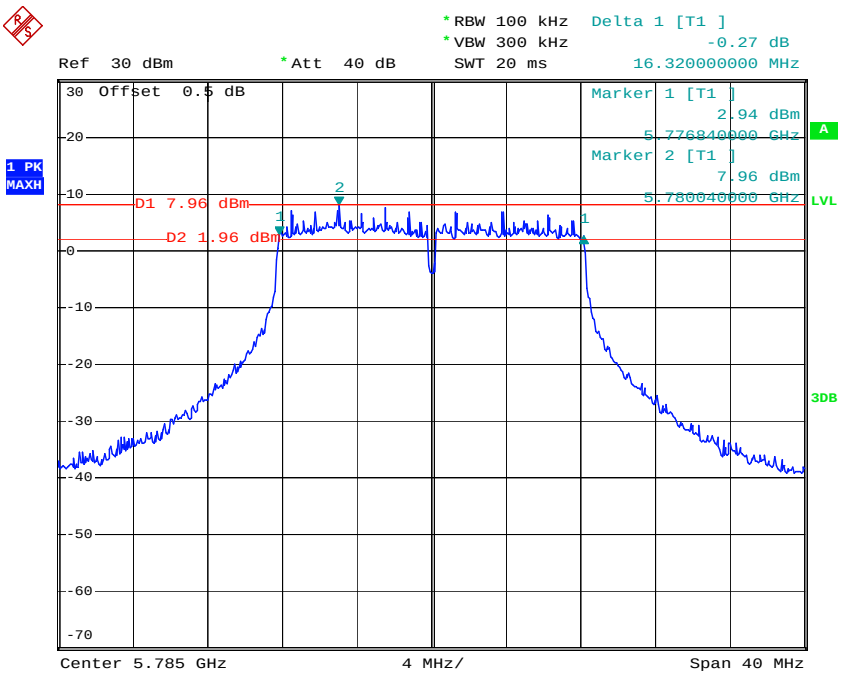
6dB Bandwidth:

802.11a Low Channel



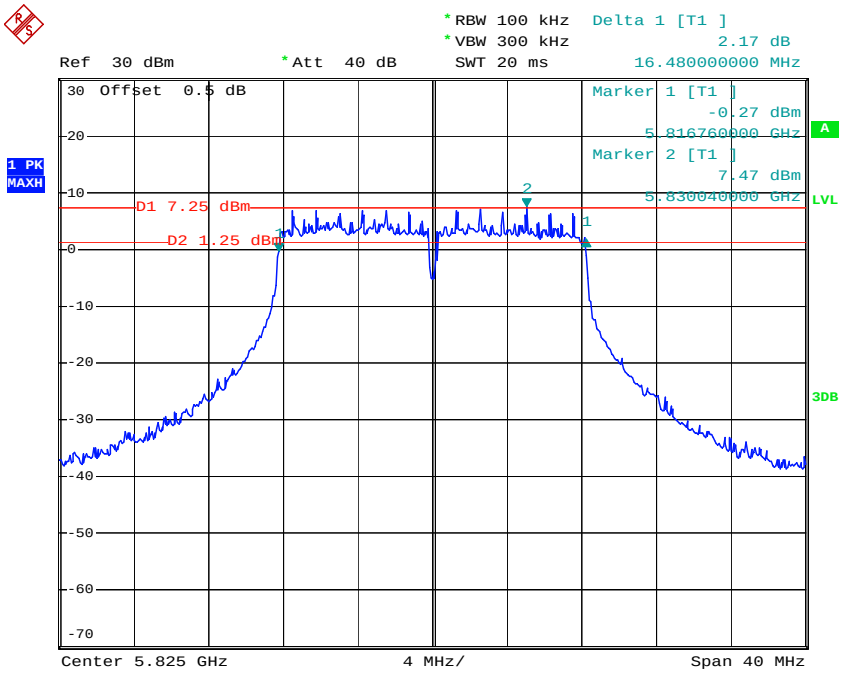
Date: 27.OCT.2017 12:38:48

802.11a Middle Channel



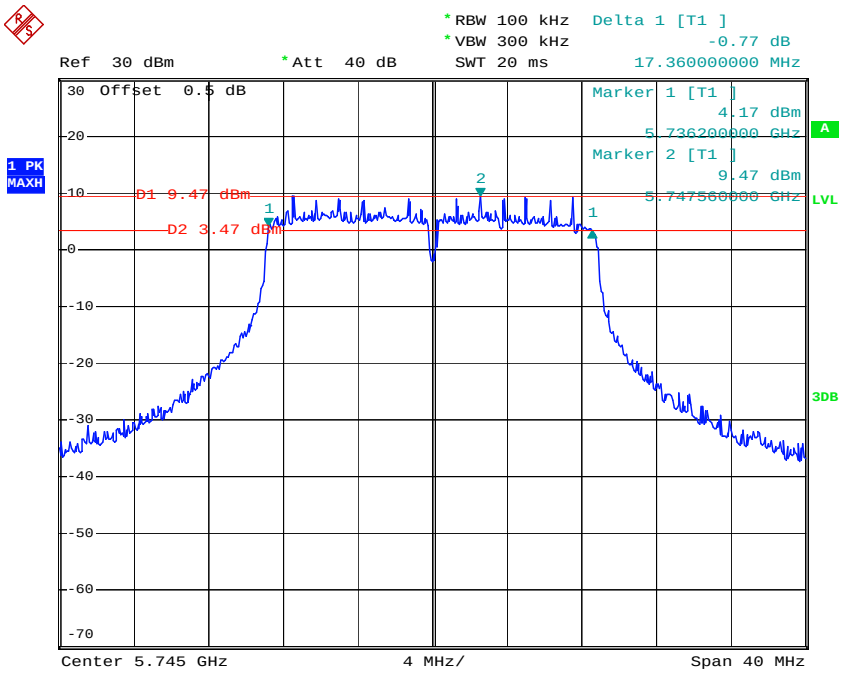
Date: 27.OCT.2017 12:41:18

802.11a High Channel



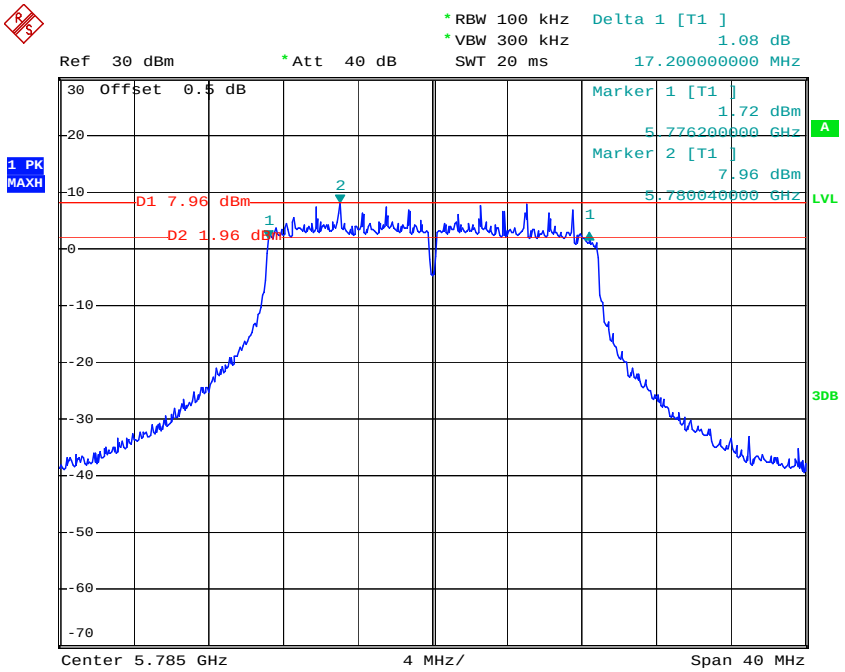
Date: 27.OCT.2017 12:43:17

802.11ht20 Low Channel



Date: 27.OCT.2017 12:50:24

802.11ht20 Middle Channel



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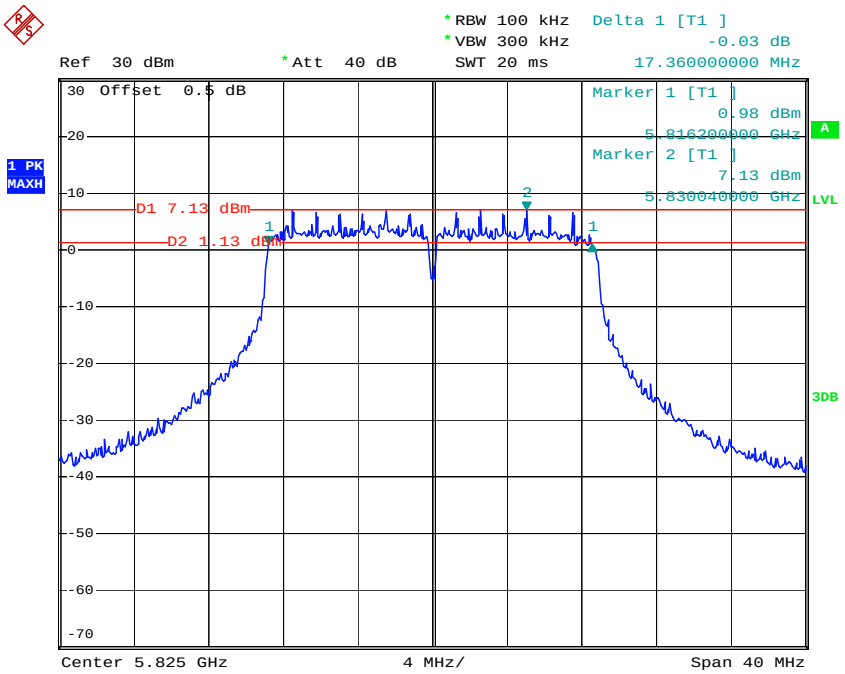
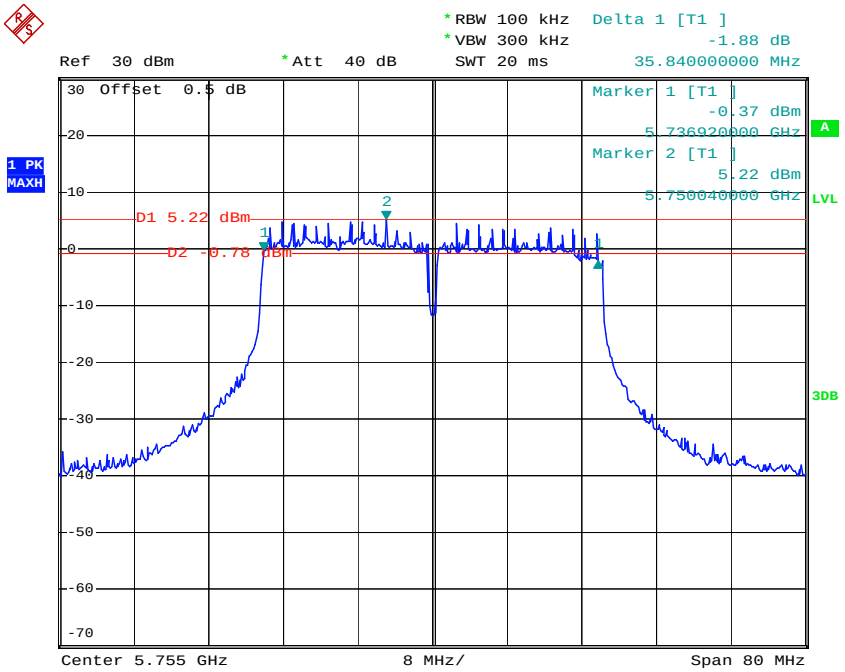
802.11ht20 High Channel



Date: 27.OCT.2017 12:46:01

802.11ht40 Low Channel



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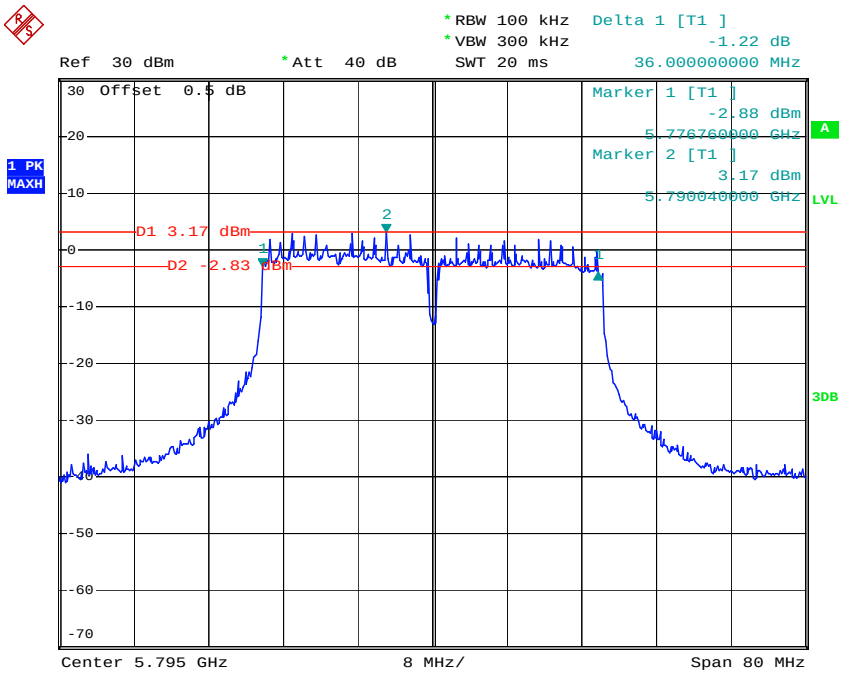
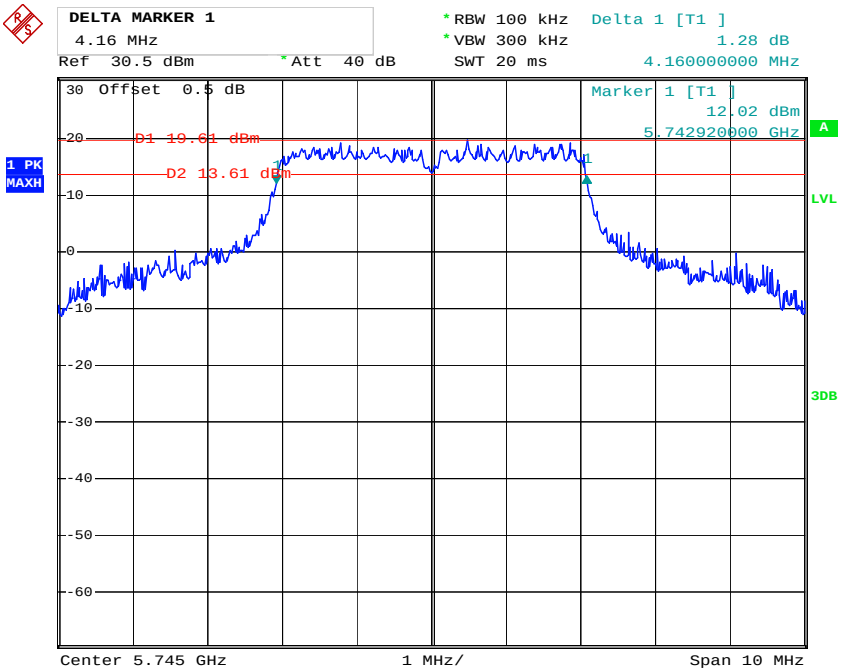


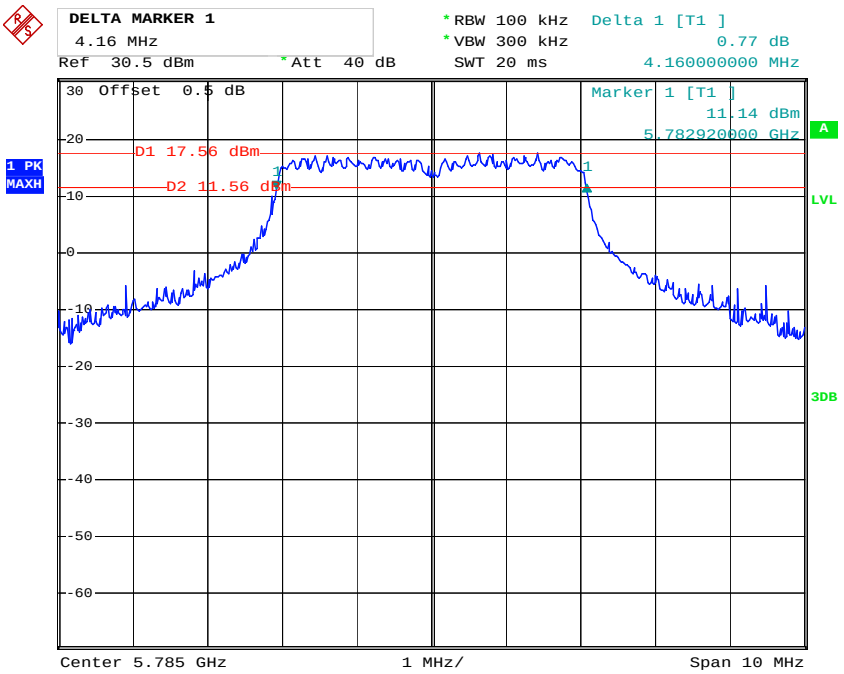
Date: 27.OCT.2017 12:56:23

5M Low Channel



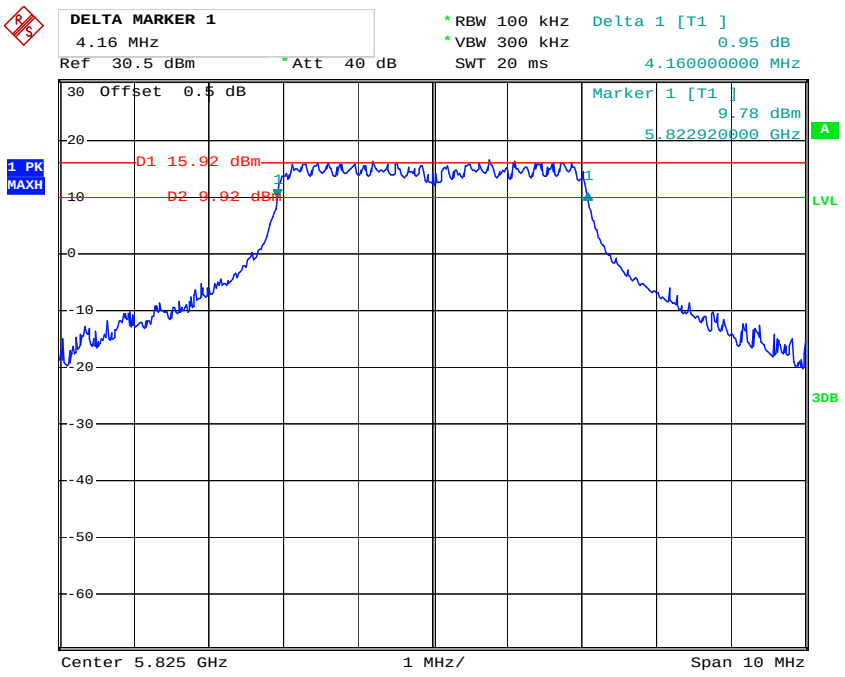
Date: 27.OCT.2017 14:48:49

5M Middle Channel



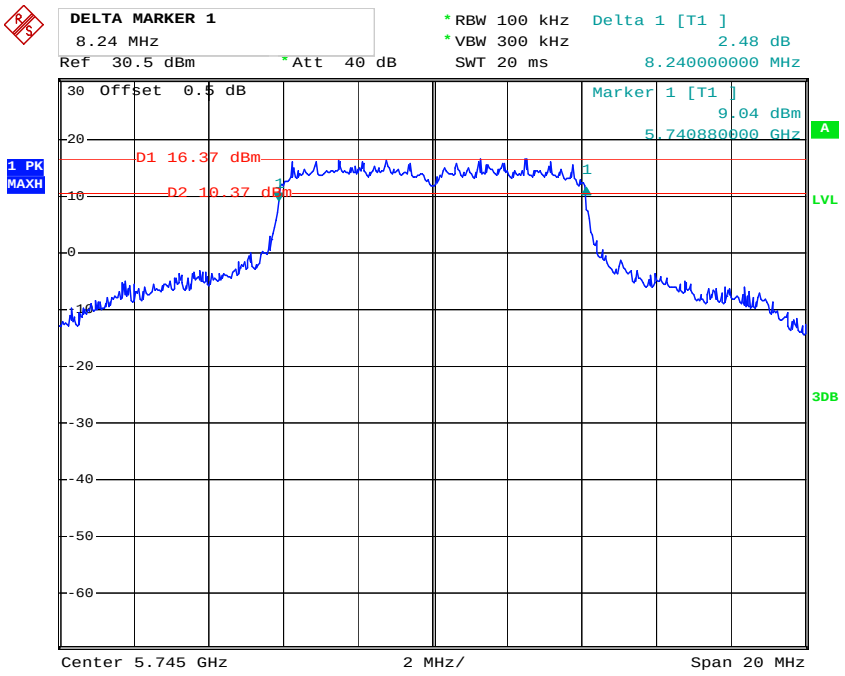
Date: 27.OCT.2017 15:02:11

5M High Channel



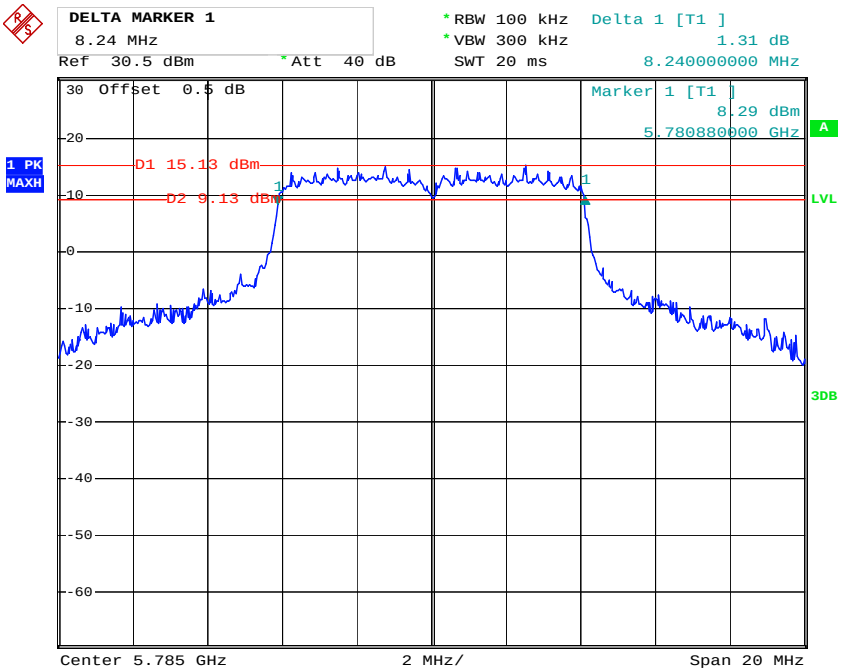
Date: 27.OCT.2017 14:44:07

10M Low Channel



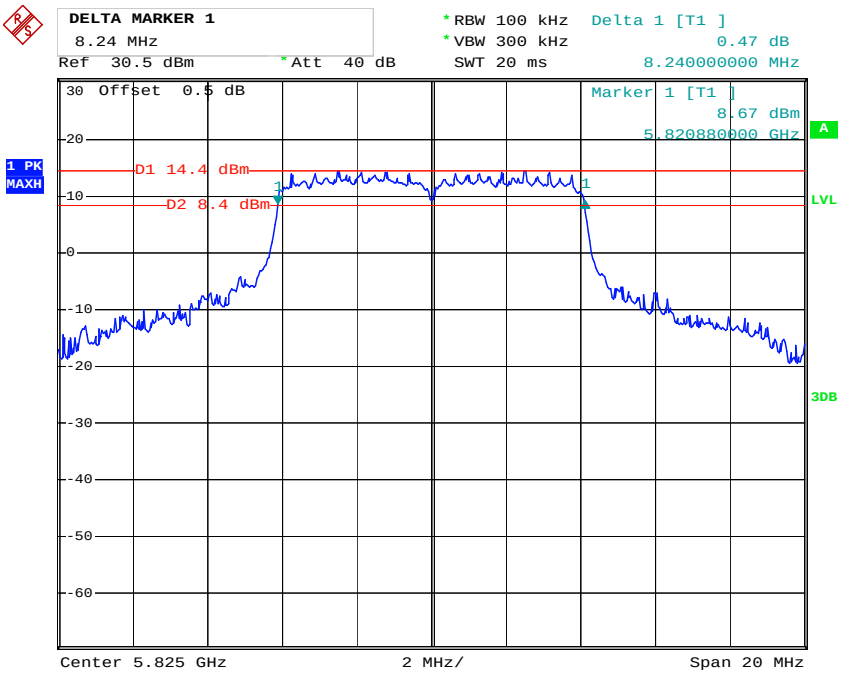
Date: 27.OCT.2017 14:47:51

10M Middle Channel



Date: 27.OCT.2017 14:46:50

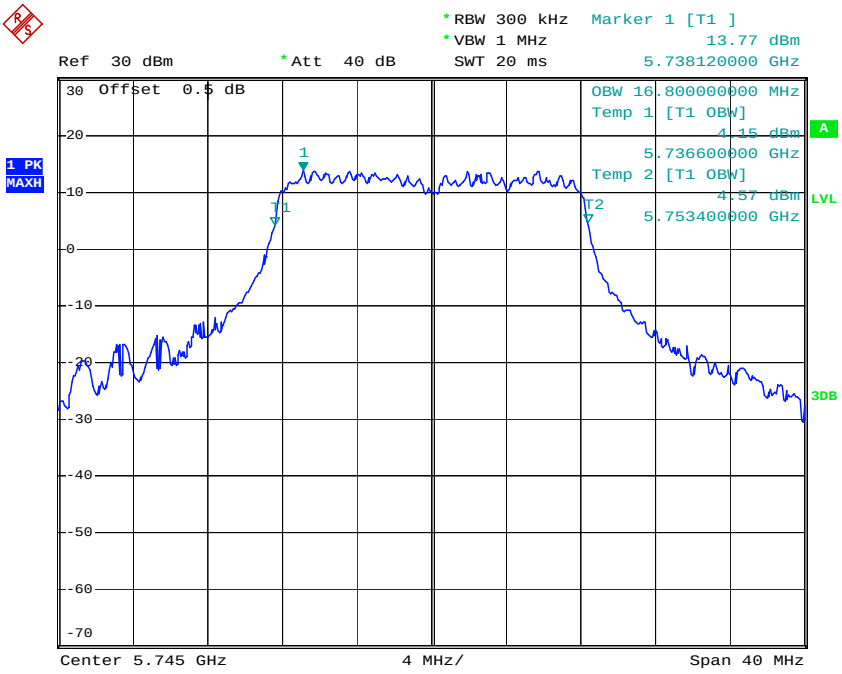
10M High Channel



Date: 27.OCT.2017 14:45:23

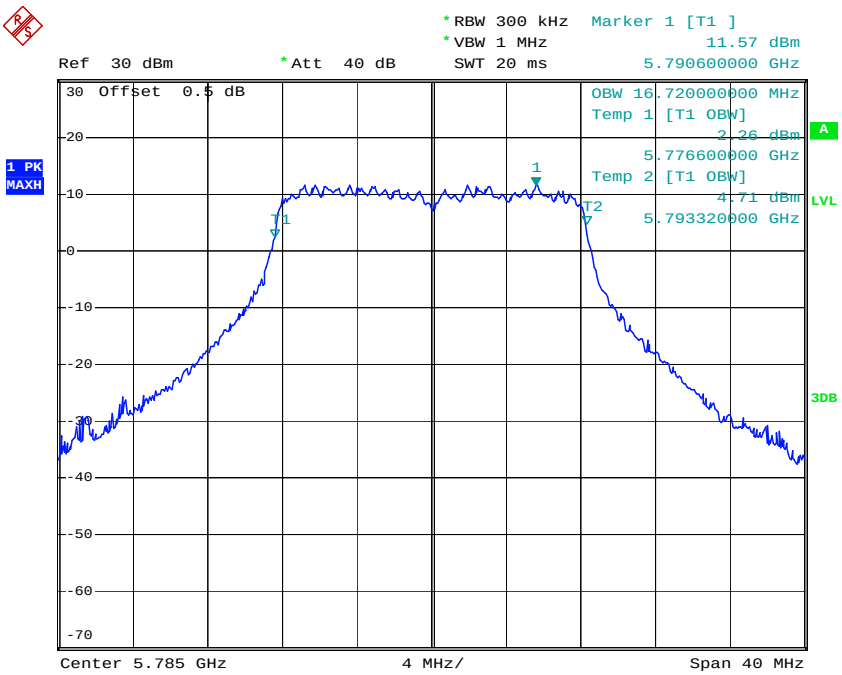
99% Occupied Bandwidth:

802.11a Low Channel



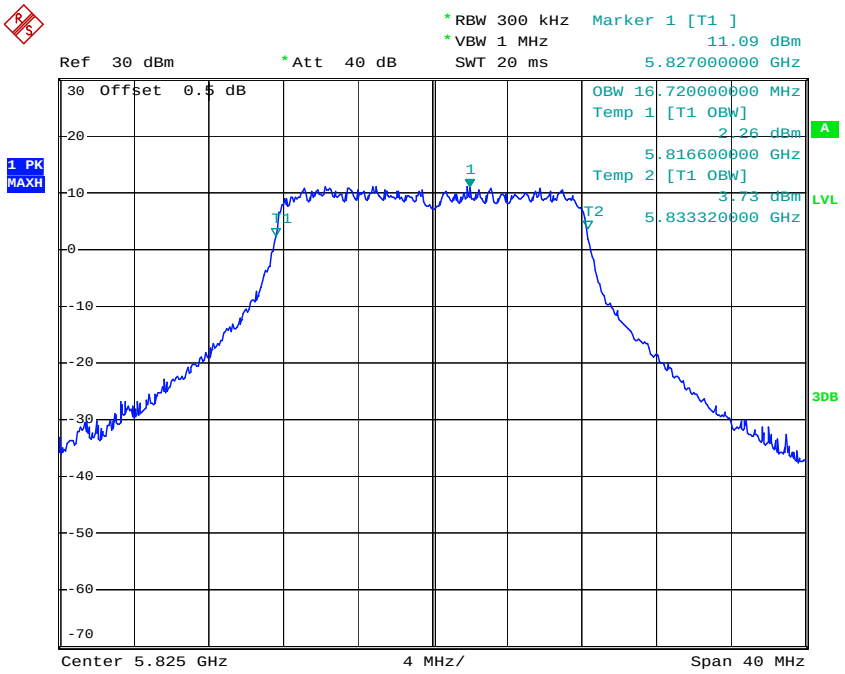
Date: 27.OCT.2017 12:39:04

802.11a Middle Channel



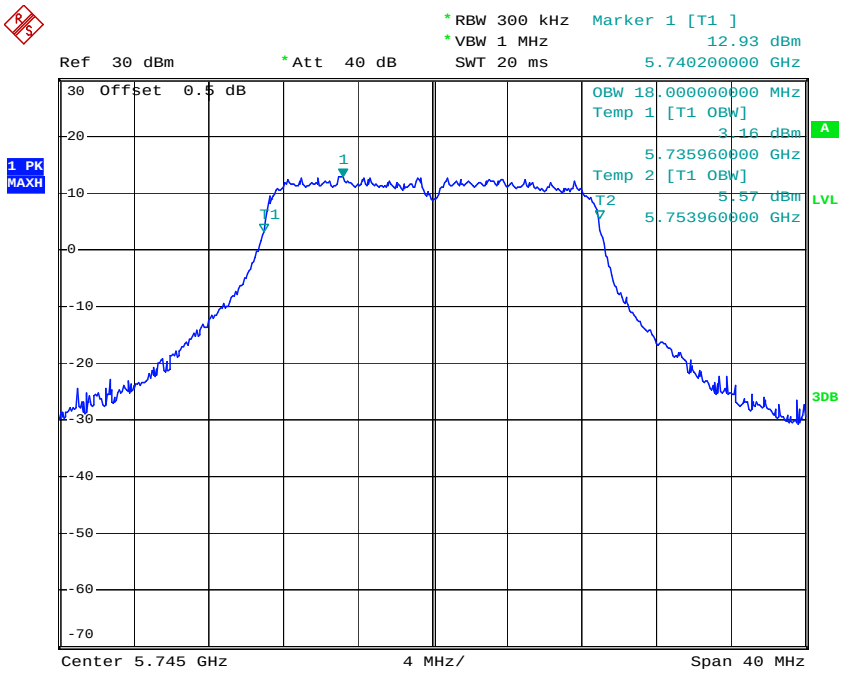
Date: 27.OCT.2017 12:41:34

802.11a High Channel



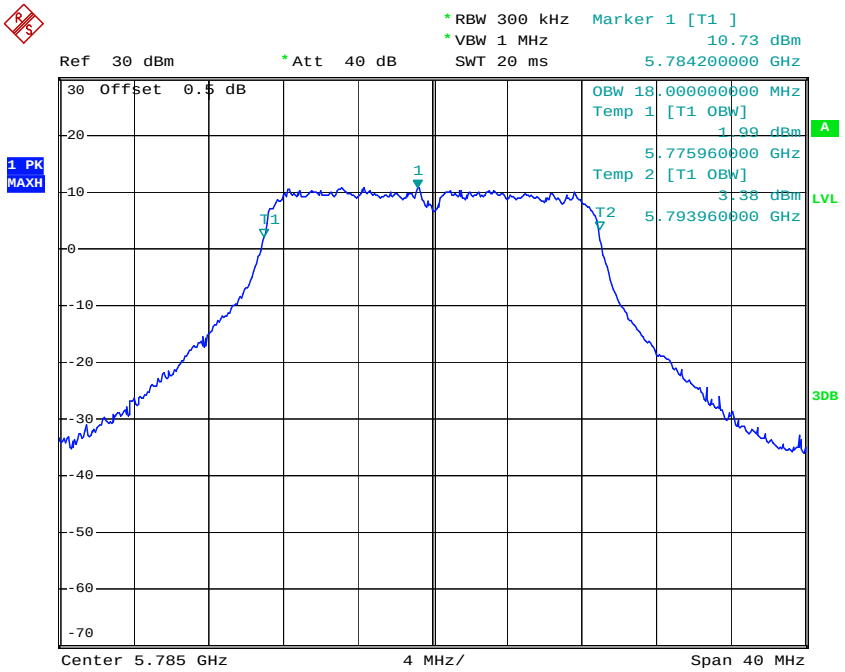
Date: 27.OCT.2017 12:43:34

802.11ht20 Low Channel



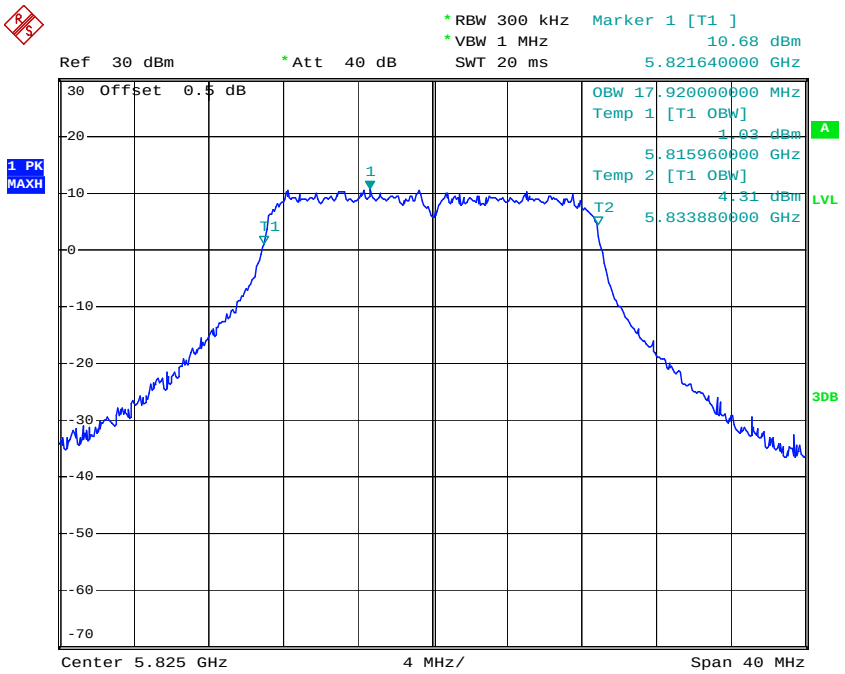
Date: 27.OCT.2017 12:50:40

802.11ht20 Middle Channel



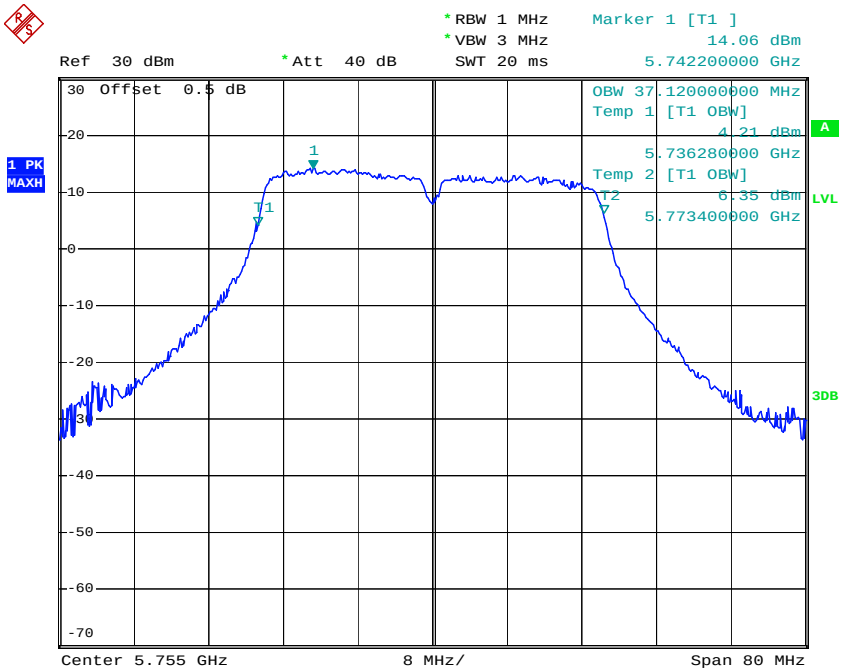
Date: 27.OCT.2017 12:48:56

802.11ht20 High Channel



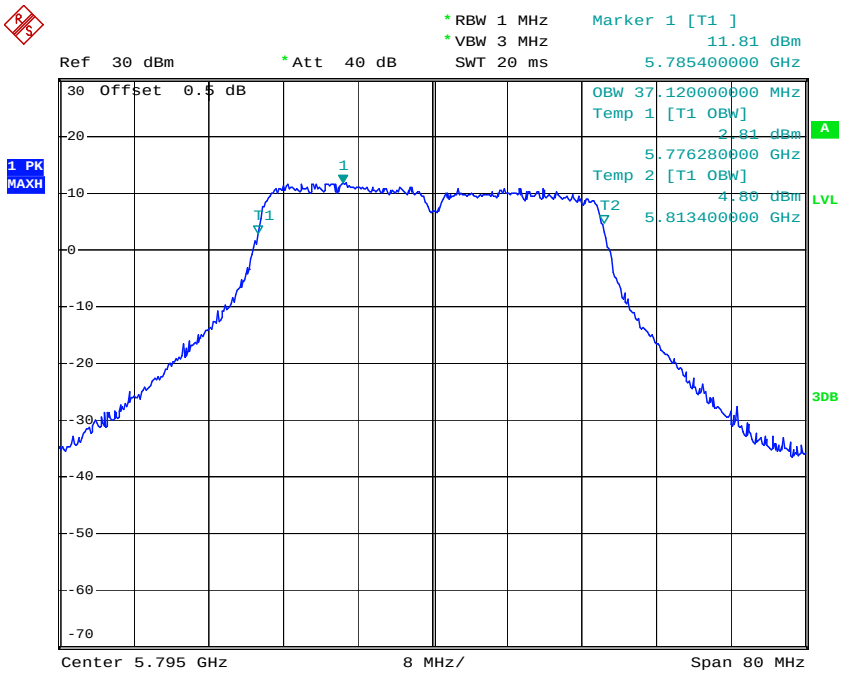
Date: 27.OCT.2017 12:46:18

802.11ht40 Low Channel



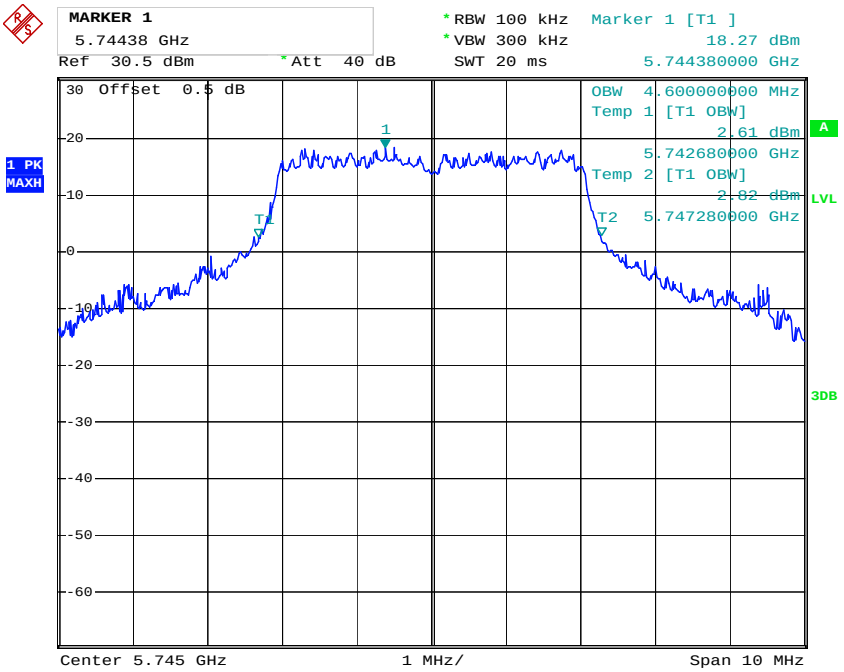
Date: 27.OCT.2017 12:53:35

802.11ht40 High Channel



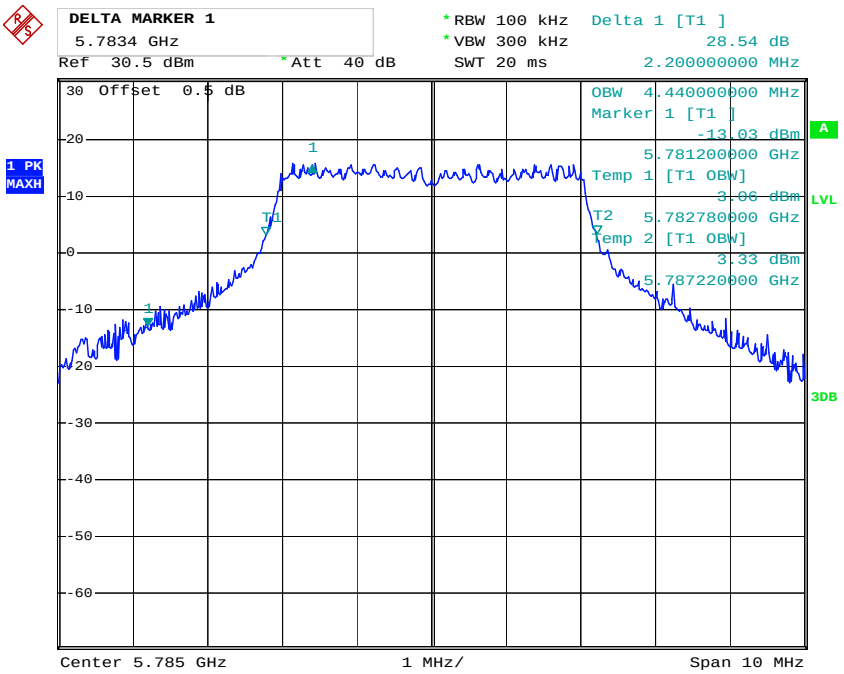
Date: 27.OCT.2017 12:56:39

5M Low Channel



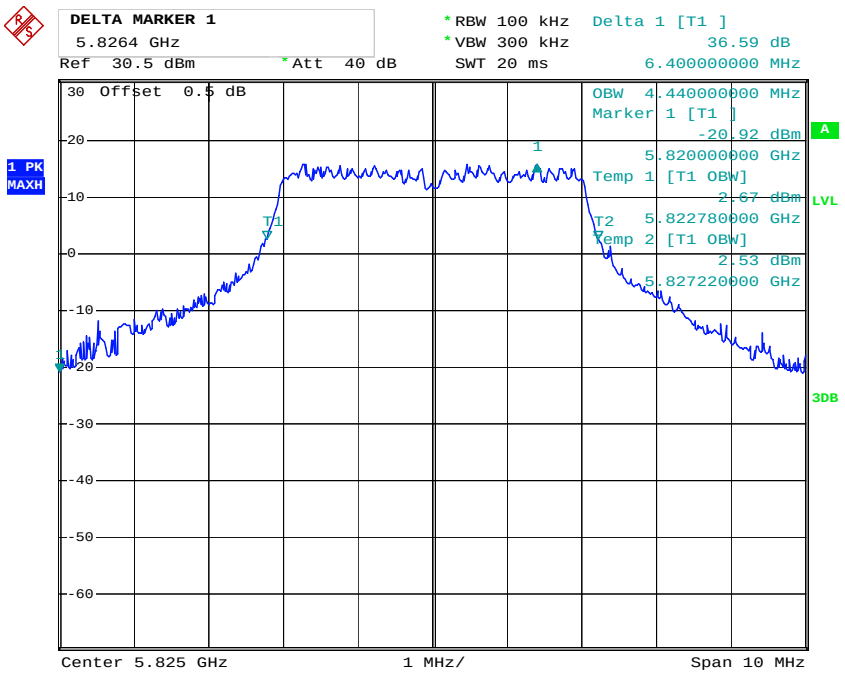
Date: 27.OCT.2017 14:35:52

5M Middle Channel



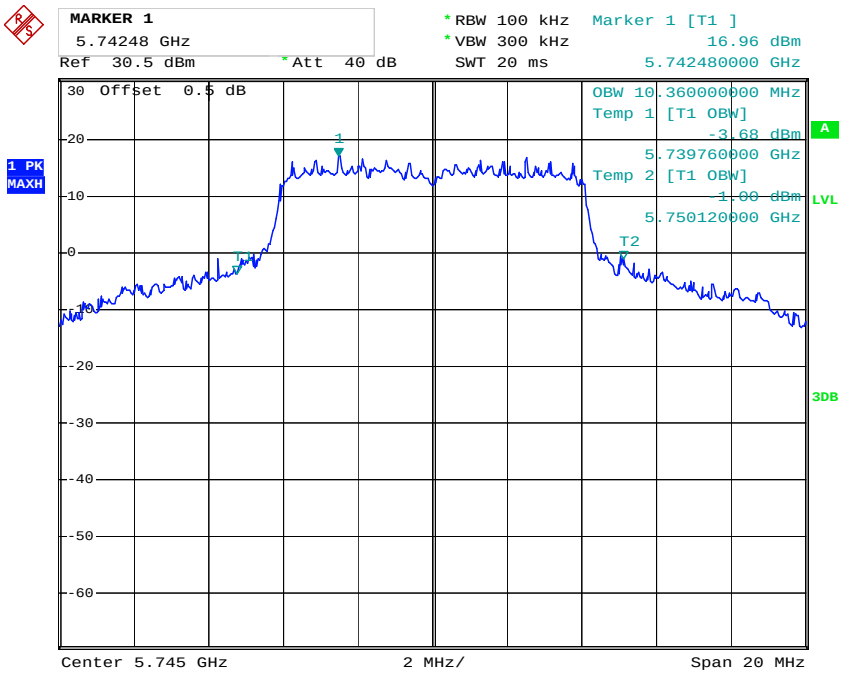
Date: 27.OCT.2017 14:38:33

5M High Channel



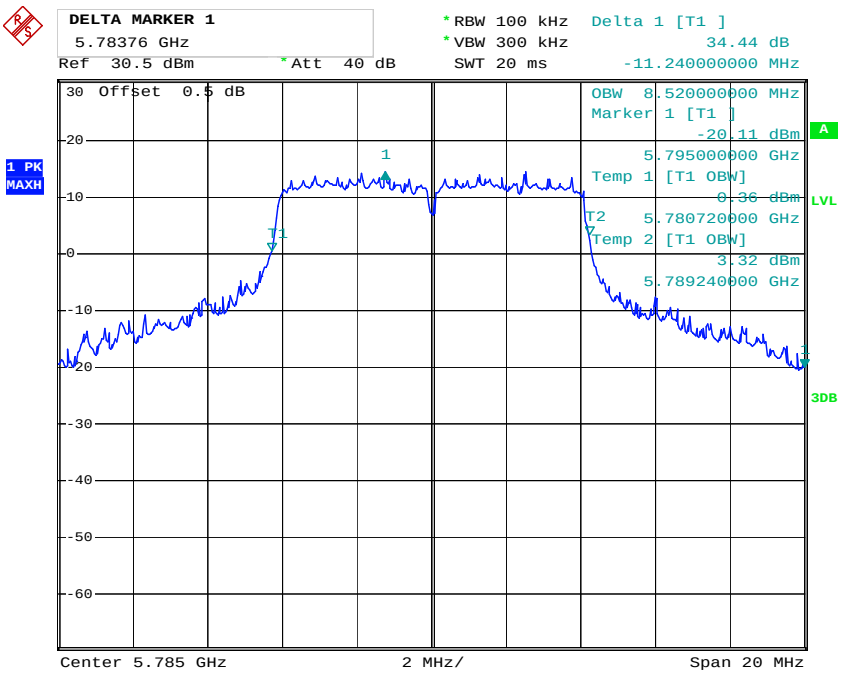
Date: 27.OCT.2017 14:39:24

10M Low Channel



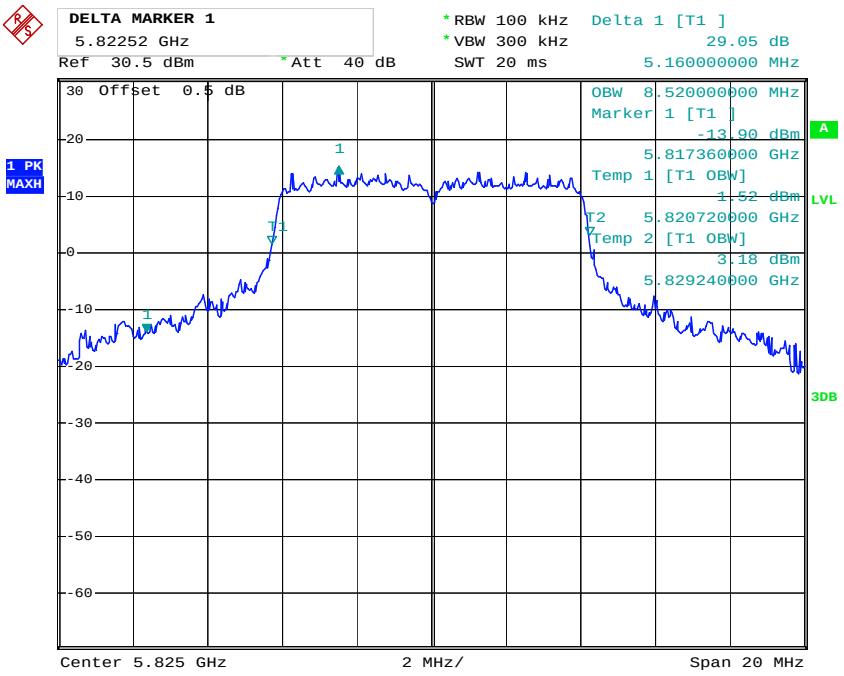
Date: 27.OCT.2017 14:34:46

10M Middle Channel



Date: 27.OCT.2017 14:29:41

10M High Channel



Date: 27.OCT.2017 14:28:47

FCC §15.407(a) & RSS-247 §6.2– MAXIMUM CONDUCTED OUTPUT POWER

Applicable Standard

According to FCC §15.407(a)

(a) Power limits:

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum

power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(4) The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

According to RSS-247 §6.2:

Frequency band 5150-5250 MHz

6.2.1.1 Power limits

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less stringent. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 $\log_{10}$B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

Frequency band 5250-5350 MHz

6.2.2.1 Power limits

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less. Devices shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

Devices, other than devices installed in vehicles, shall comply with the following:

a) The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band;

b) The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Frequency bands 5470-5600 MHz and 5650-5725 MHz

6.2.3.1 Power limits

The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Frequency band 5725-5850 MHz

6.2.4.1 Power limits

For equipment operating in the band 5725-5850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz.

The maximum conducted output power shall not exceed 1 W. The output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint[3] systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Wideband Power Sensor	N1921A	MY54210016	2016-11-03	2017-11-03
Agilent	Wideband Power Sensor	N1921A	MY54170013	2016-11-03	2017-11-03
Agilent	P-Series Power Meter	N1912A	MY5000448	2016-11-03	2017-11-03
Unknown	Coaxial Cable	0.1m	C-1	Each Time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r04.

Test Data

Environmental Conditions

Temperature:	27.8 °C
Relative Humidity:	44 %
ATM Pressure:	101 kPa

The testing was performed by Robin Zheng on 2017-10-27.

Test Mode: Transmitting

Mode	Frequency (MHz)	Conducted Average Output Power (dBm)			Limit (dBm)	Result
		Chain 0	Chain 1	Total		
802.11 a	5745	19.62	18.85	22.26	30	PASS
	5785	17.45	17.76	20.62	30	PASS
	5825	17.61	18.15	20.9	30	PASS
802.11ht20	5745	19.42	19.06	22.25	30	PASS
	5785	17.25	17.77	20.53	30	PASS
	5825	17.45	18.17	20.84	30	PASS
802.11ht40	5755	17.34	16.83	20.1	30	PASS
	5795	15.52	16.33	18.95	30	PASS
5M	5745	23.35	22.75	26.07	30	PASS
	5785	21.61	21.66	24.65	30	PASS
	5825	22.24	22.11	25.19	30	PASS
10M	5745	24.32	23.87	27.11	30	PASS
	5785	22.84	23.02	25.94	30	PASS
	5825	23.51	23.74	26.64	30	PASS

Note:
The dutycycle factor have been added in the result.
The maximum antenna gain is 3.39dBi in 5GHz band. The device employed Cyclic Delay Diversity (CDD) for MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;

So:

Directional gain = G_{ANT} + Array Gain = 3.39dBi < 6dBi

FCC §15.407(a)& RSS-247 §6.2 - POWER SPECTRAL DENSITY

Applicable Standard

According to FCC §15.407(a)

(a) Power limits:

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output

power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

According to RSS-247 §6.2:

Frequency band 5150-5250 MHz

6.2.1.1 Power limits

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less stringent. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 $\log_{10}$B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

Frequency band 5250-5350 MHz

6.2.2.1 Power limits

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less. Devices shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

Devices, other than devices installed in vehicles, shall comply with the following:

a) The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band;

b) The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Frequency bands 5470-5600 MHz and 5650-5725 MHz

6.2.3.1 Power limits

The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Frequency band 5725-5850 MHz

6.2.4.1 Power limits

For equipment operating in the band 5725-5850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz.

The maximum conducted output power shall not exceed 1 W. The output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint[3] systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r04

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESPI	100120	2016-12-08	2017-12-08
Unknown	Coaxial Cable	0.1m	C-1	Each Time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	26.7 ~ 27.8 °C
Relative Humidity:	40 ~64%
ATM Pressure:	100.8 ~ 102.1 kPa

The testing was performed by Robin Zheng from 2017-10-27 to 2017-11-13.

Test Mode: Transmitting

Test Result:Compliance.Please refer to the following table and plot.

Mode	Frequency (MHz)	Reading (dBm/300kHz)		Dutycycle Factor	Power Spectral Density (dBm/500kHz)	
		Chain 0	Chain 1	dB	Total	Limit
802.11 a	5745	7.59	4.55	0.12	11.68	29.61
	5785	5.4	4.46	0.12	10.3	29.61
	5825	4.62	3.78	0.12	9.57	29.61
802.11 ht20	5745	6.95	5.84	0.25	11.91	29.61
	5785	4.95	3.64	0.25	9.82	29.61
	5825	4.75	4.04	0.25	9.89	29.61
802.11 ht40	5755	1.9	0.55	0.24	6.75	29.61
	5795	0.59	-0.5	0.24	5.55	29.61
5M	5745	15.88	14.1	0.11	20.42	29.61
	5785	13.72	12.56	0.11	18.52	29.61
	5825	13.31	12.85	0.11	18.42	29.61
10M	5745	14.22	12.35	0.09	18.7	29.61
	5785	12.65	11.95	0.09	17.63	29.61
	5825	12.57	12.04	0.09	17.63	29.61

Note 1: The device employed Cyclic Delay Diversity (CDD) for MIMO transmitting, per C63.10-2013 clause 14.4.3.2.5 b, Directional gain may be calculated by using the formulas applicable to equal gain antennas with GANT set equal to the gain of the antenna having the highest gain;

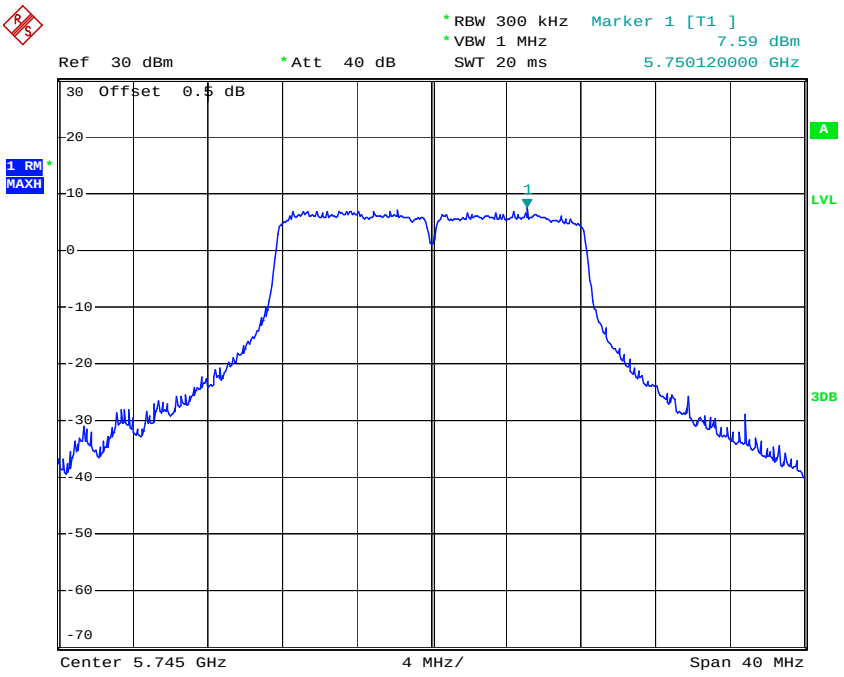
For power density measurements,

Array Gain = 10 log(NANT/NSS) dB.
So:
Directional gain = GANT + Array Gain = 3.39+10*log(2) =6.39 dBi

Note 2: For 5.8GHz band, If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

Chain 0:

802.11a Low Channel



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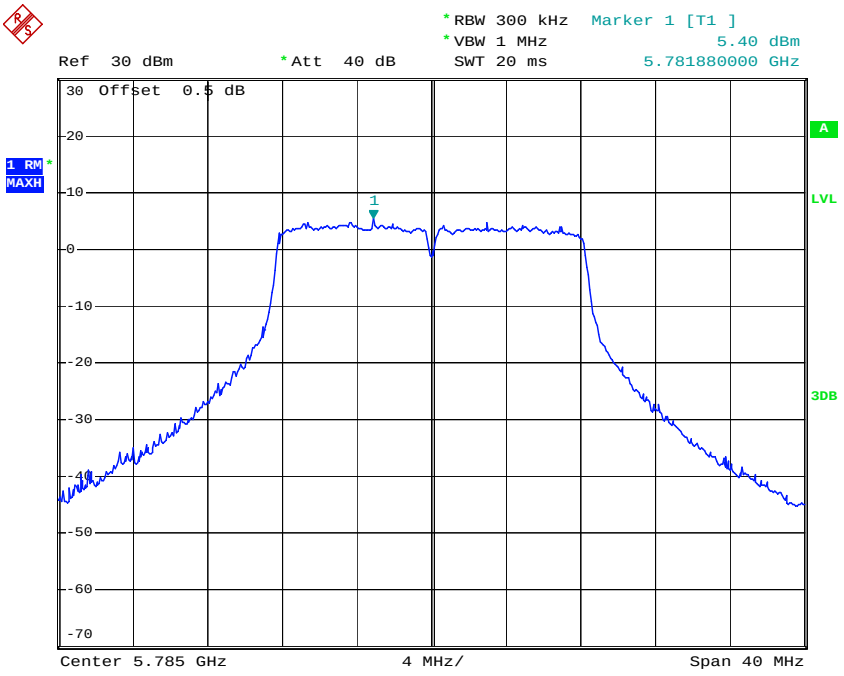
802.11a Middle Channel



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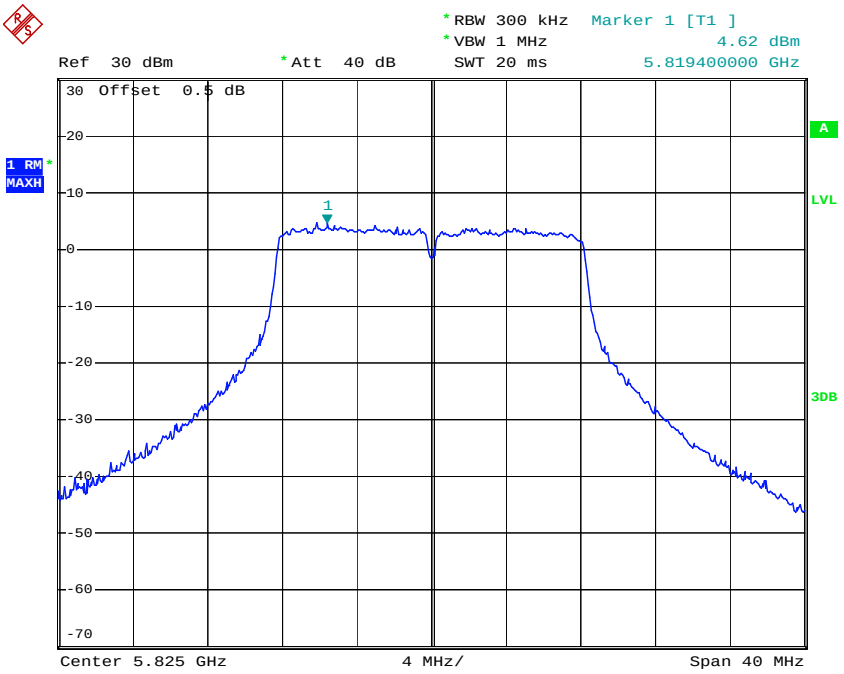
802.11a High Channel



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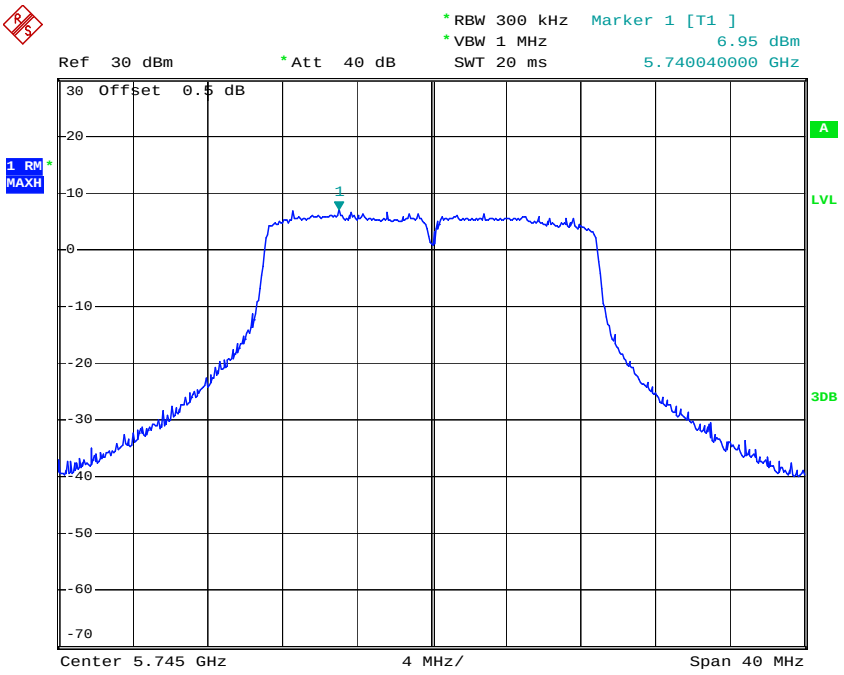

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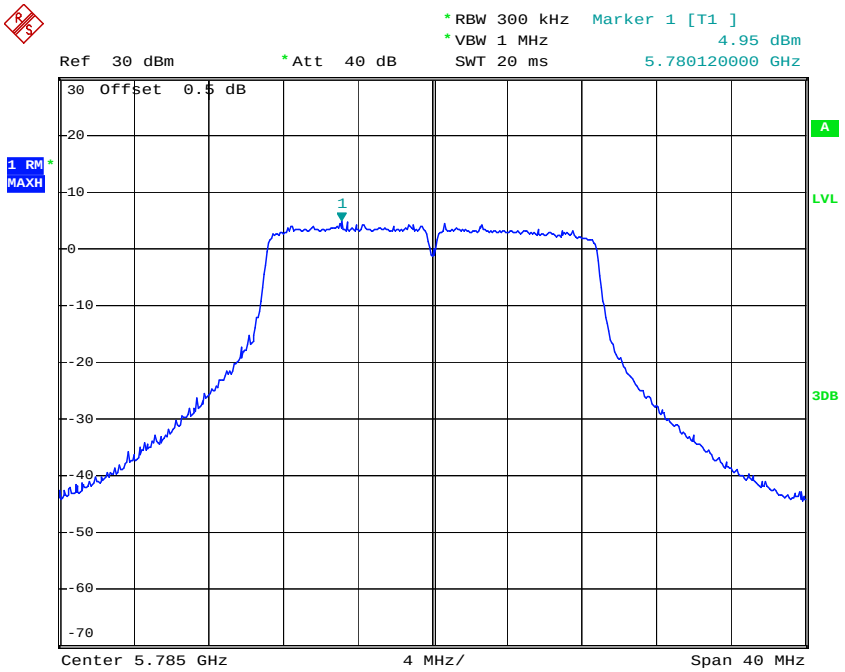

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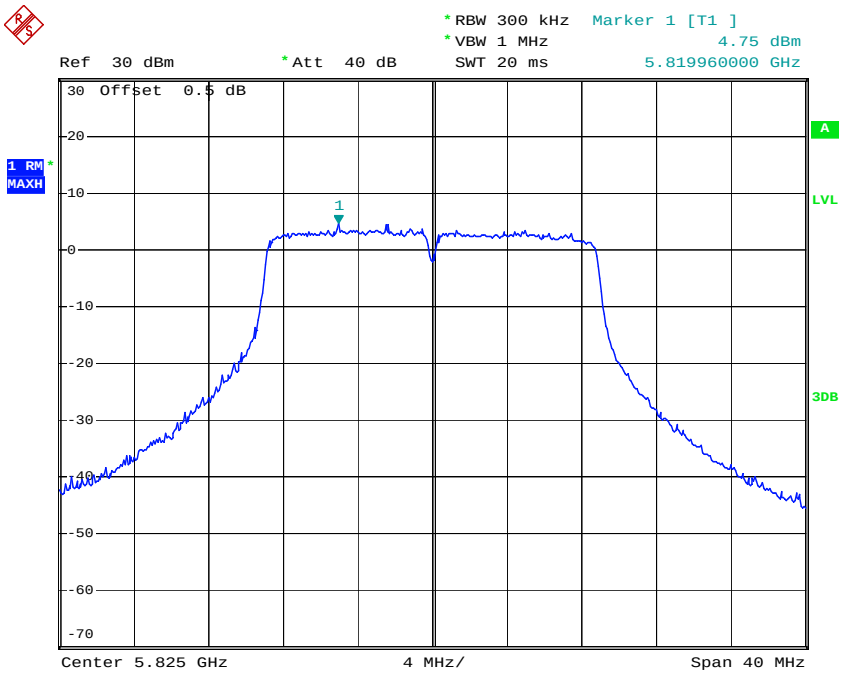

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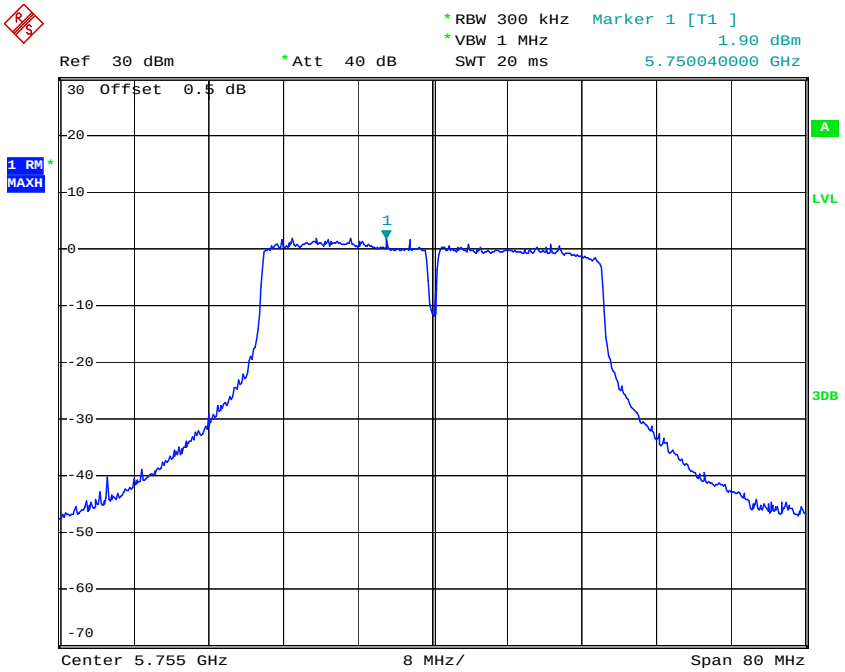

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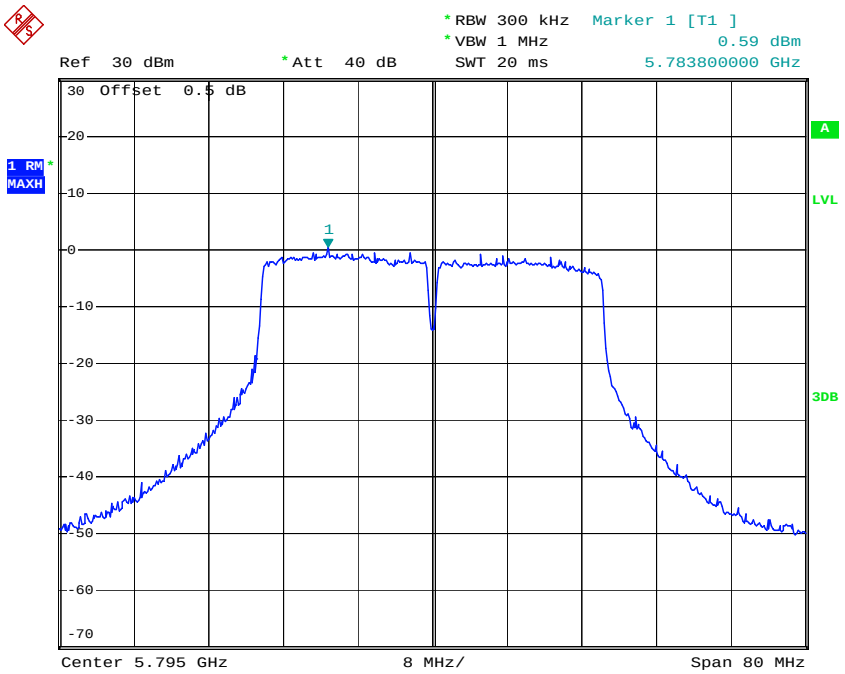

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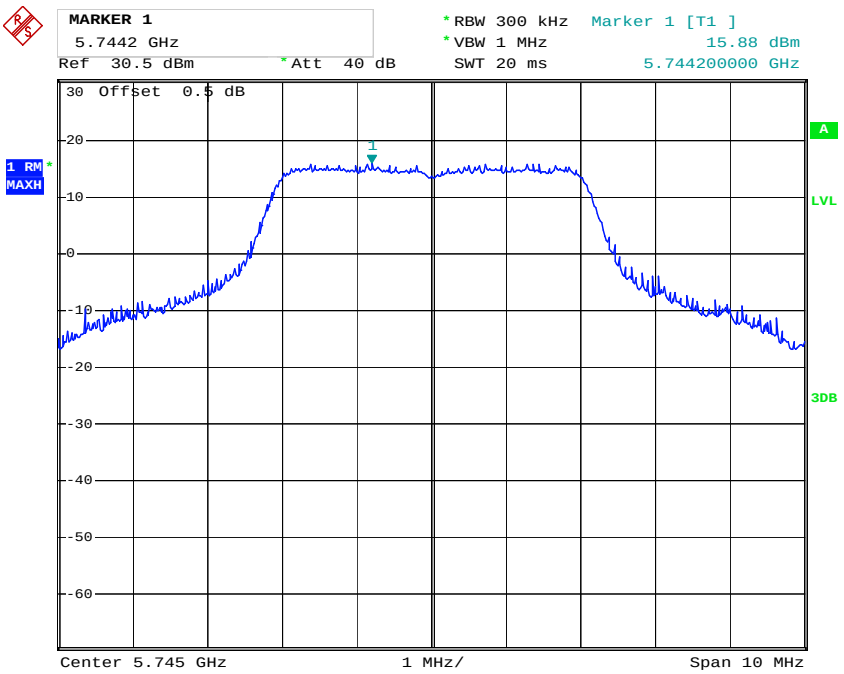
5M Low Channel



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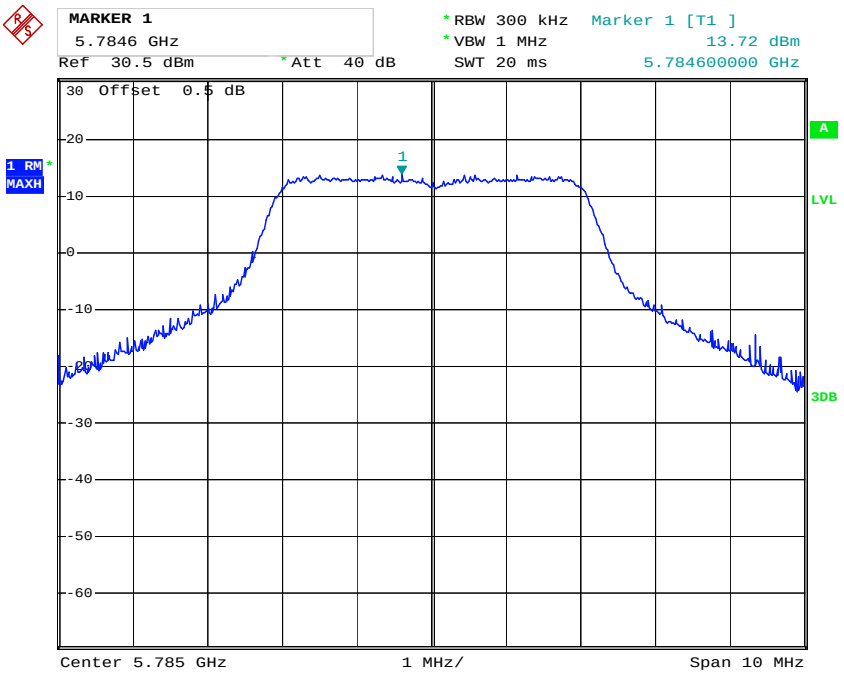
5M Middle Channel



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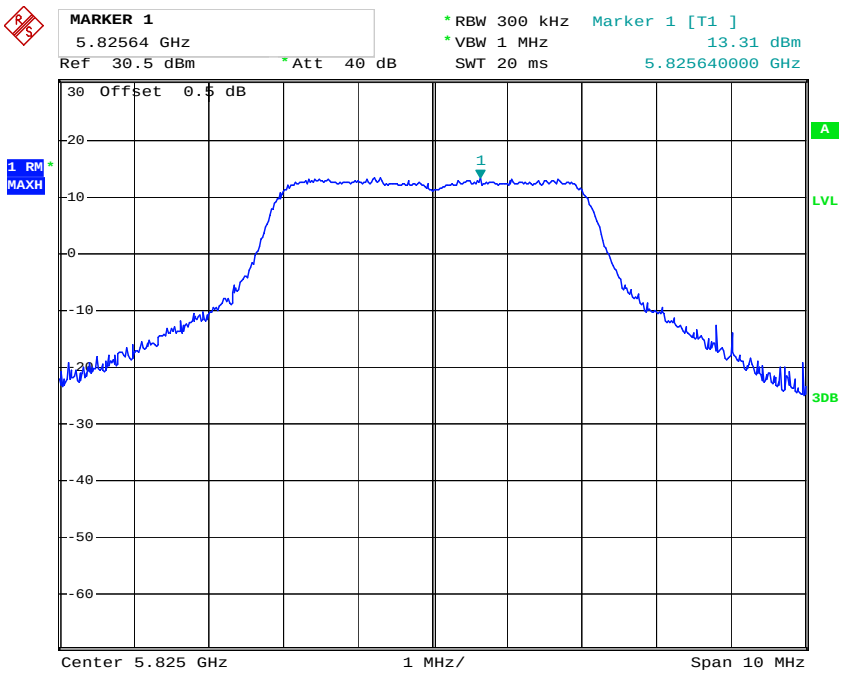
5M High Channel



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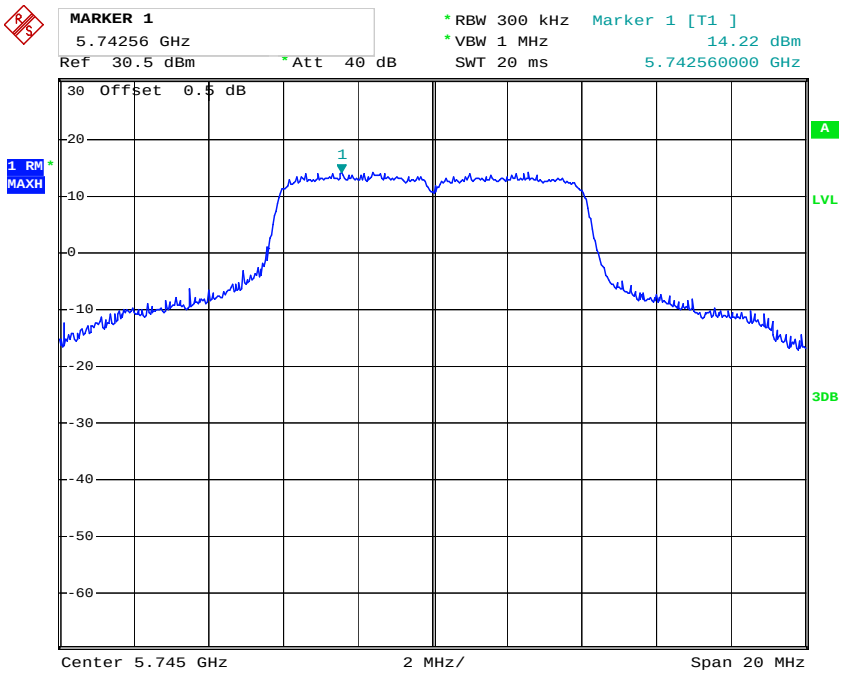
10M Low Channel



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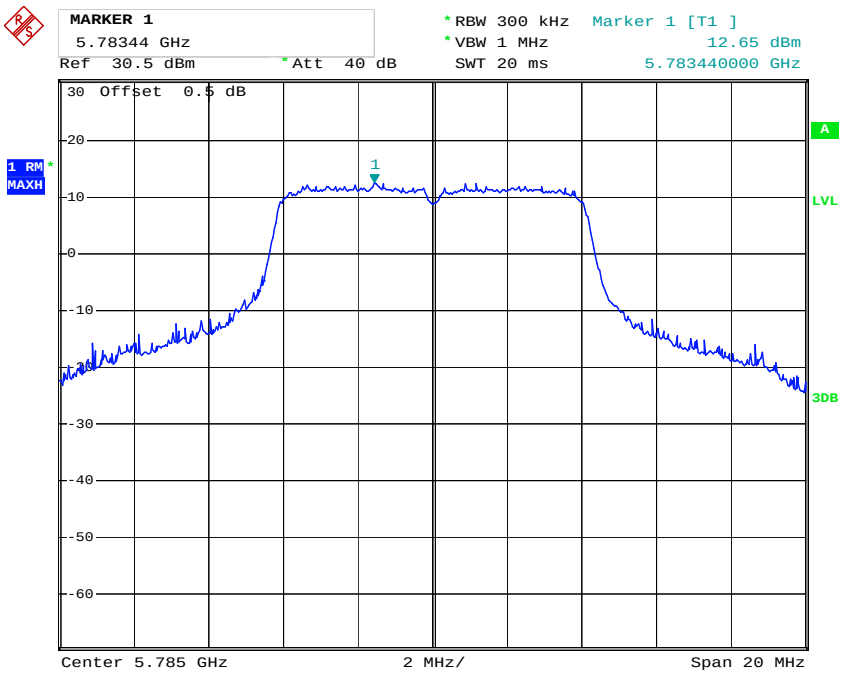

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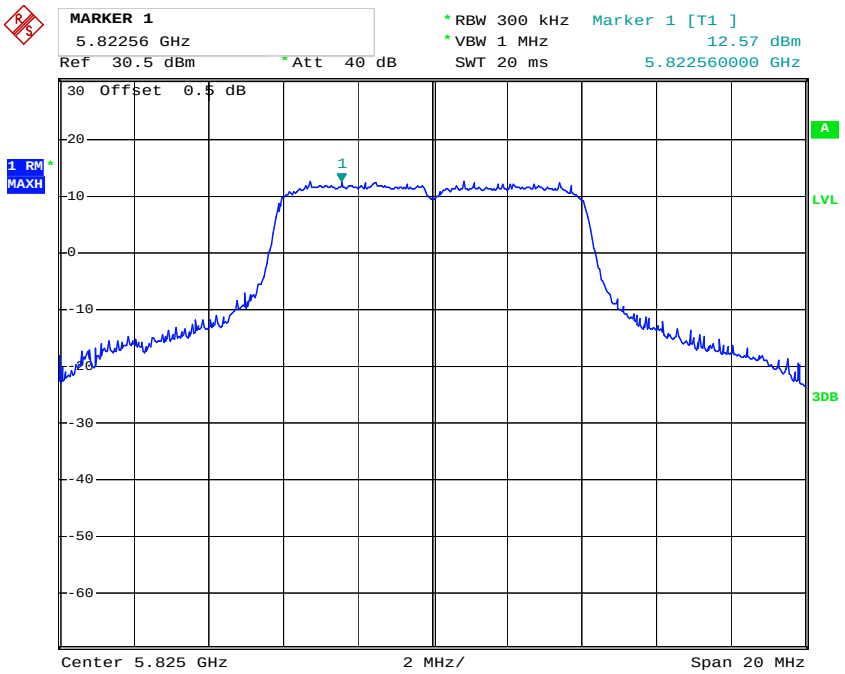

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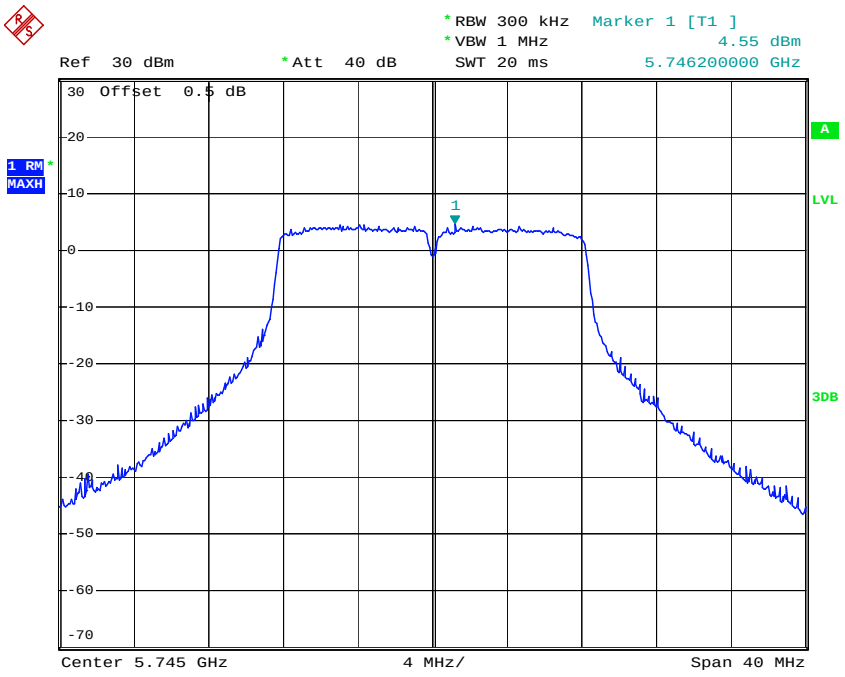
Chain 1:

802.11a Low Channel



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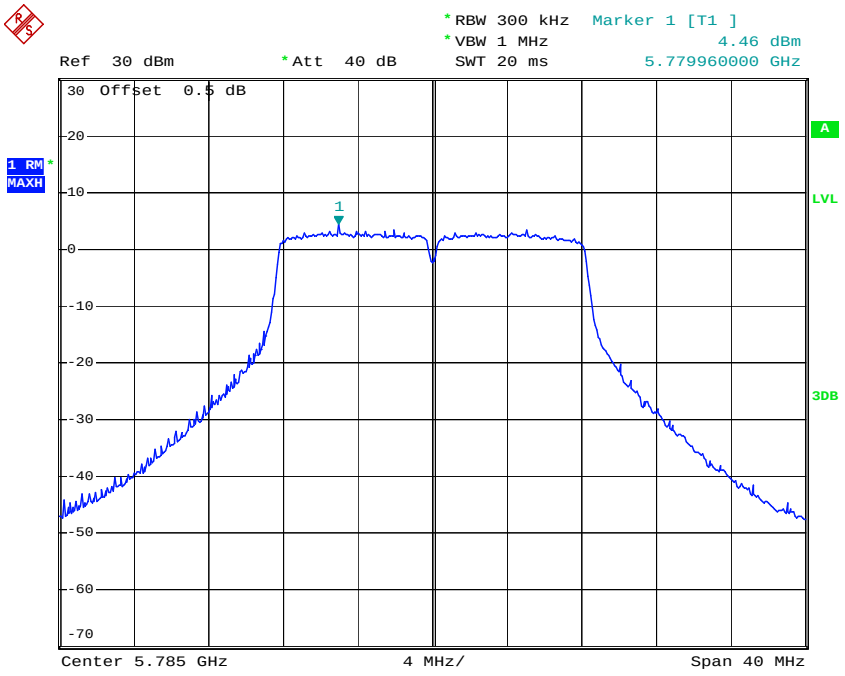
802.11a Middle Channel



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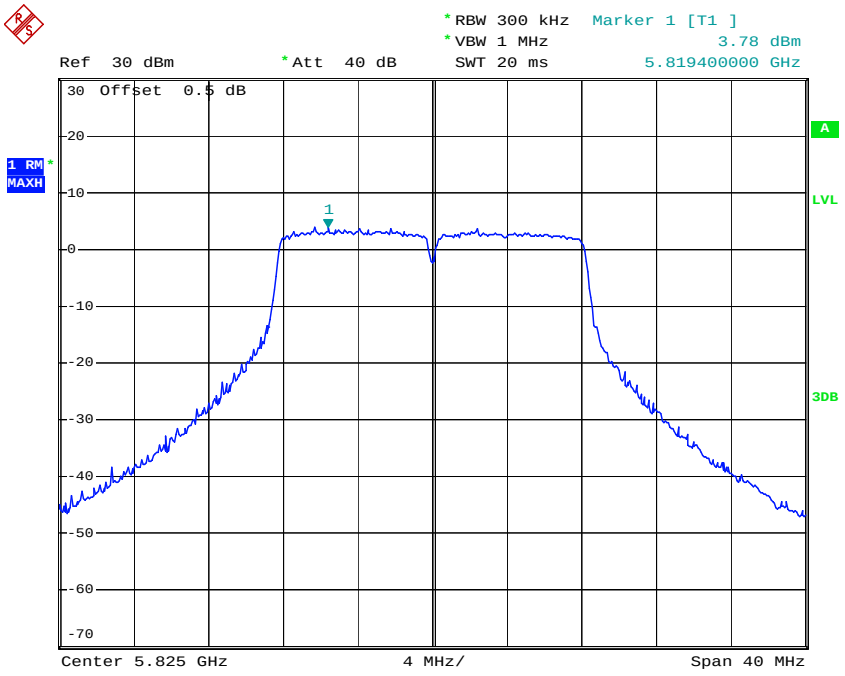
802.11a High Channel



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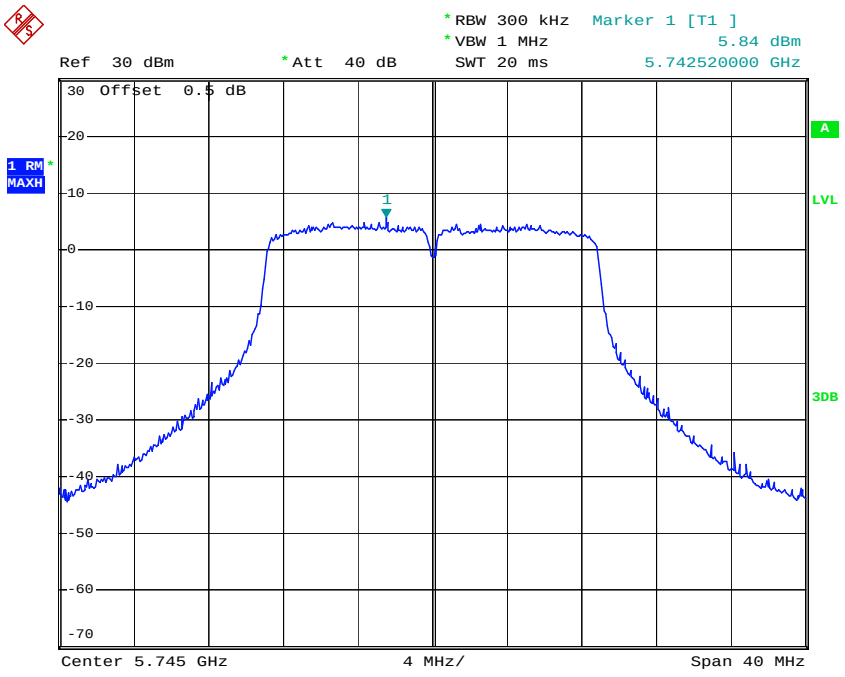

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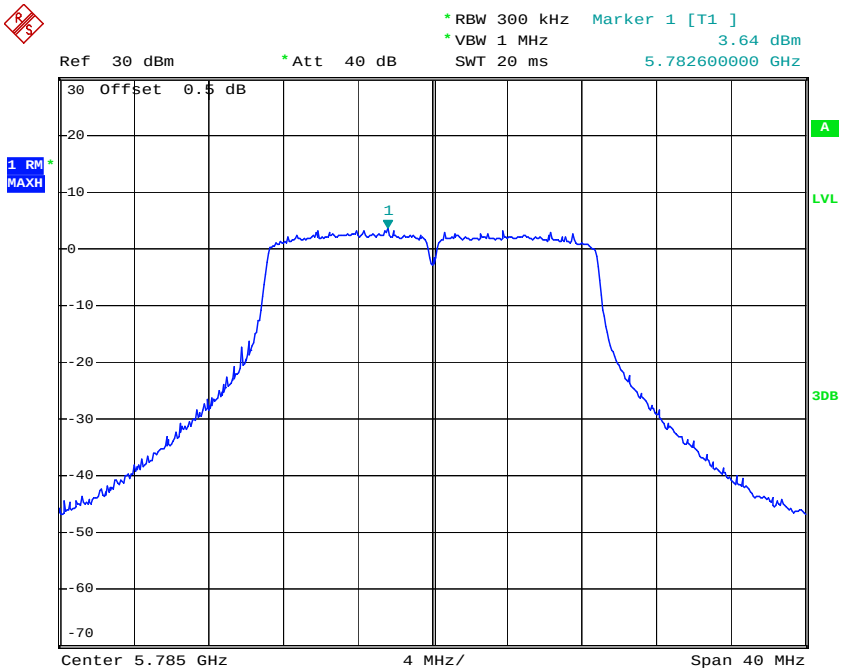

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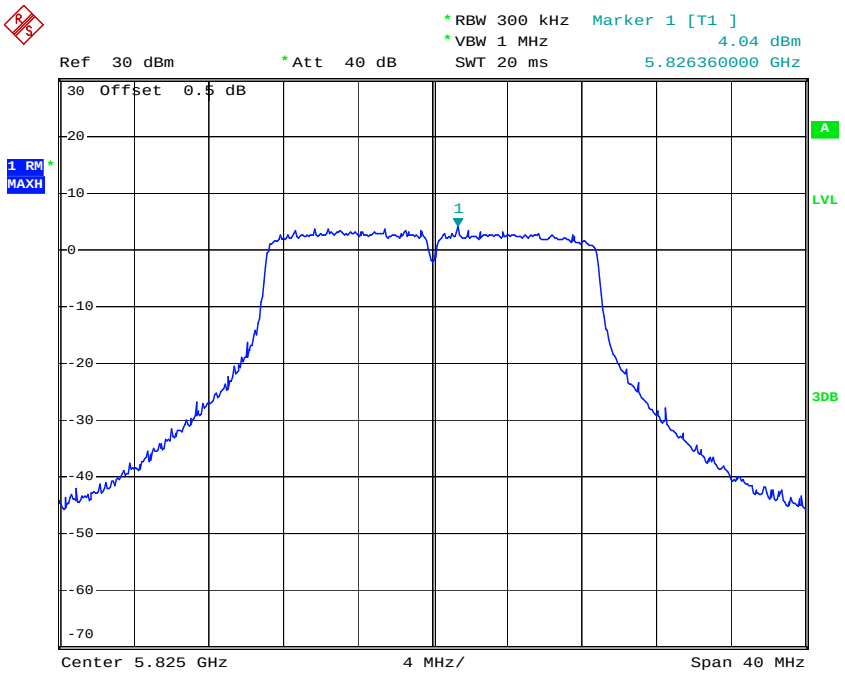

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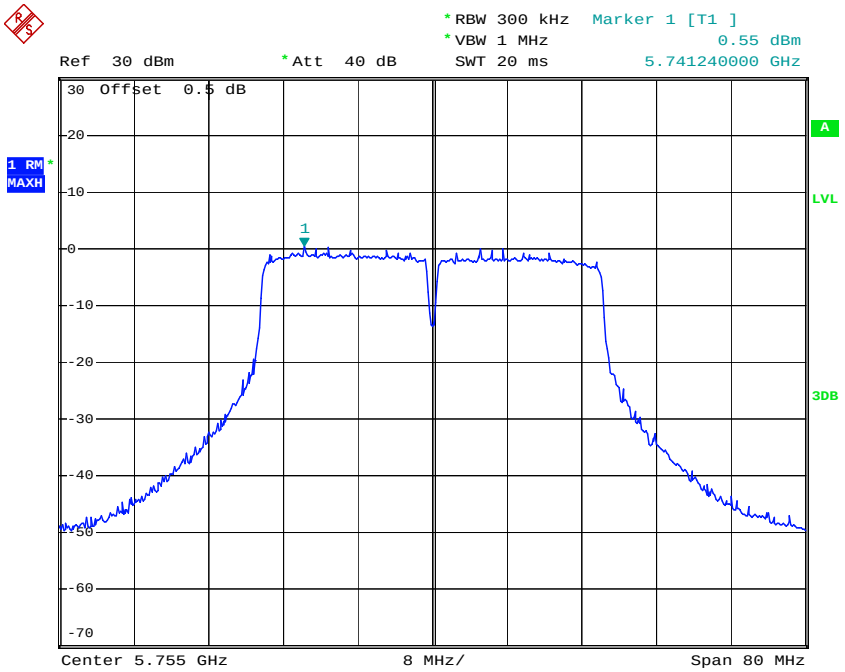

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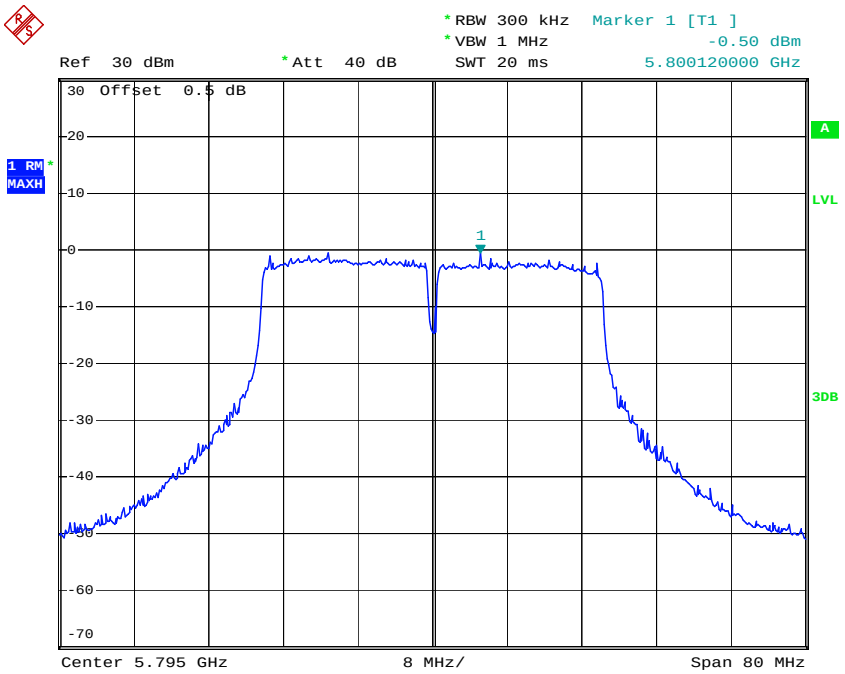
802.11n ht40 High Channel



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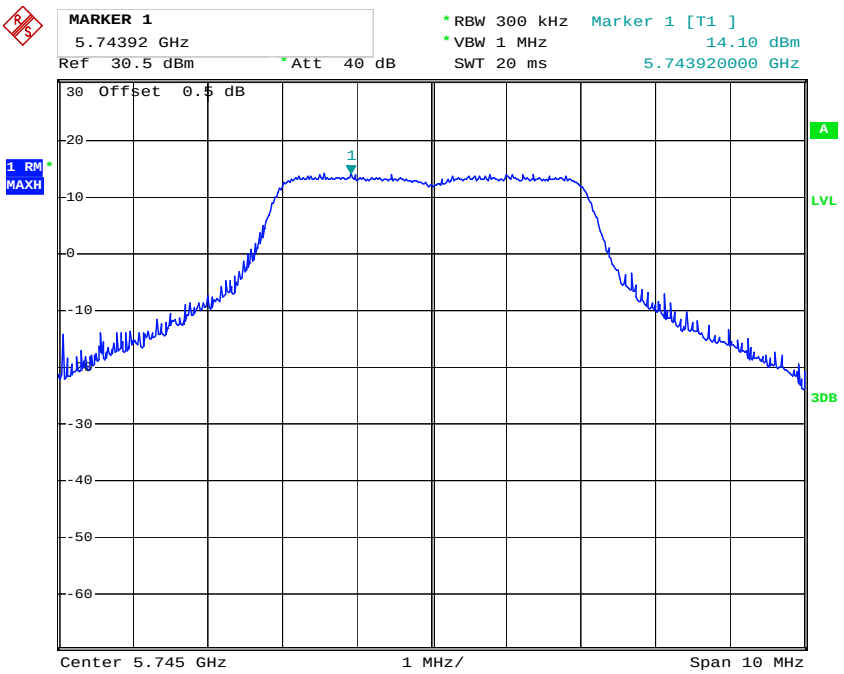
5M Low Channel



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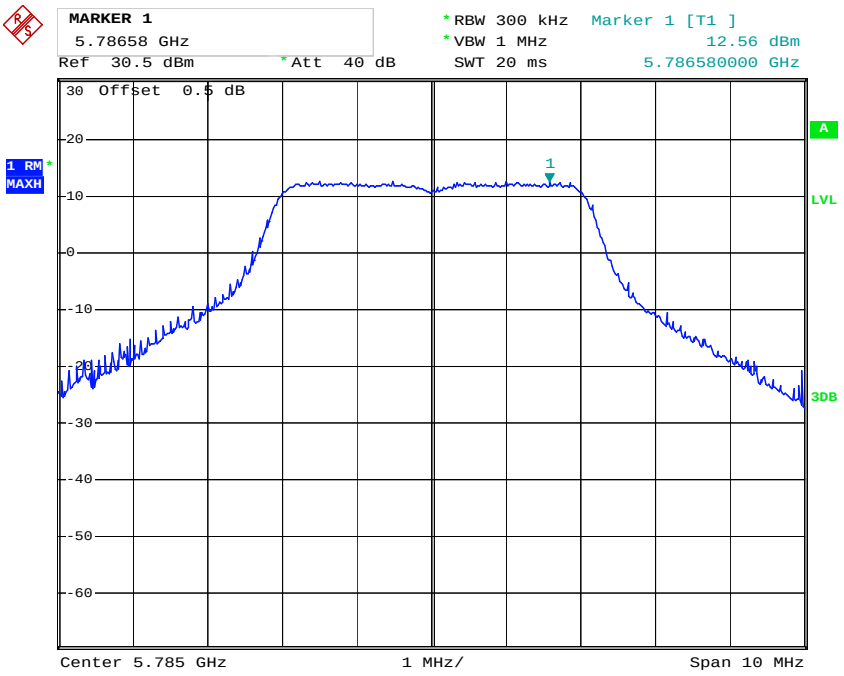
5M Middle Channel



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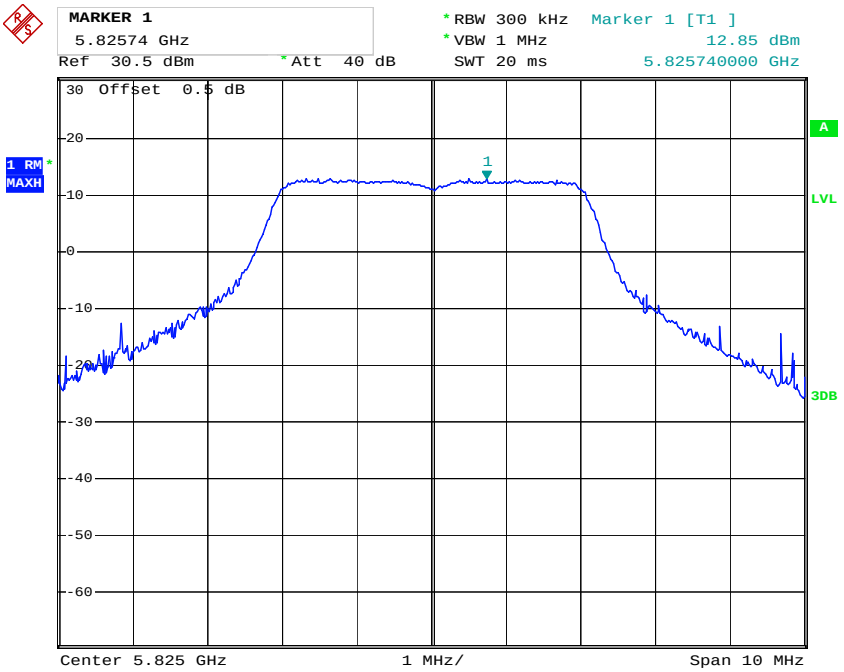

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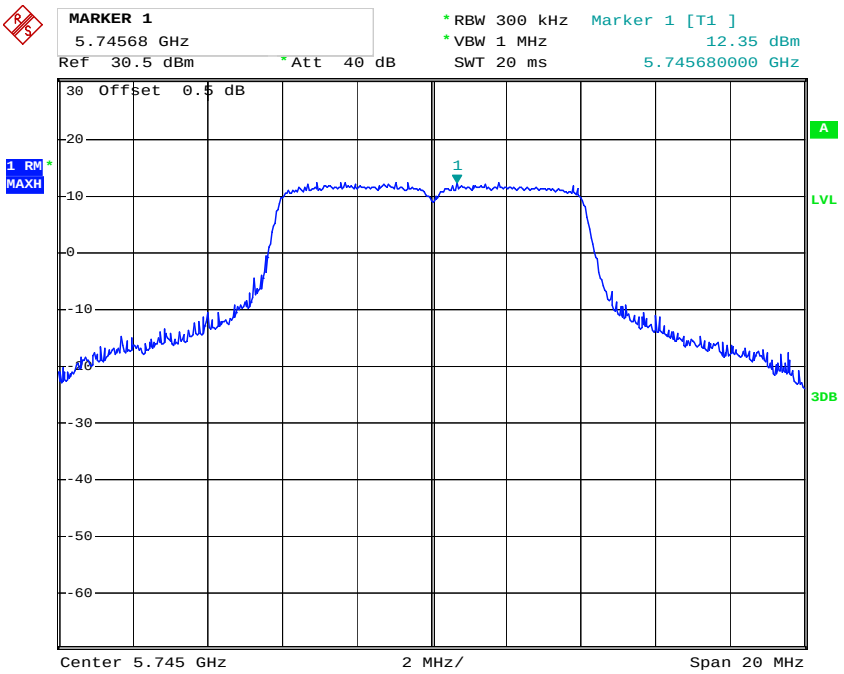
10M Low Channel



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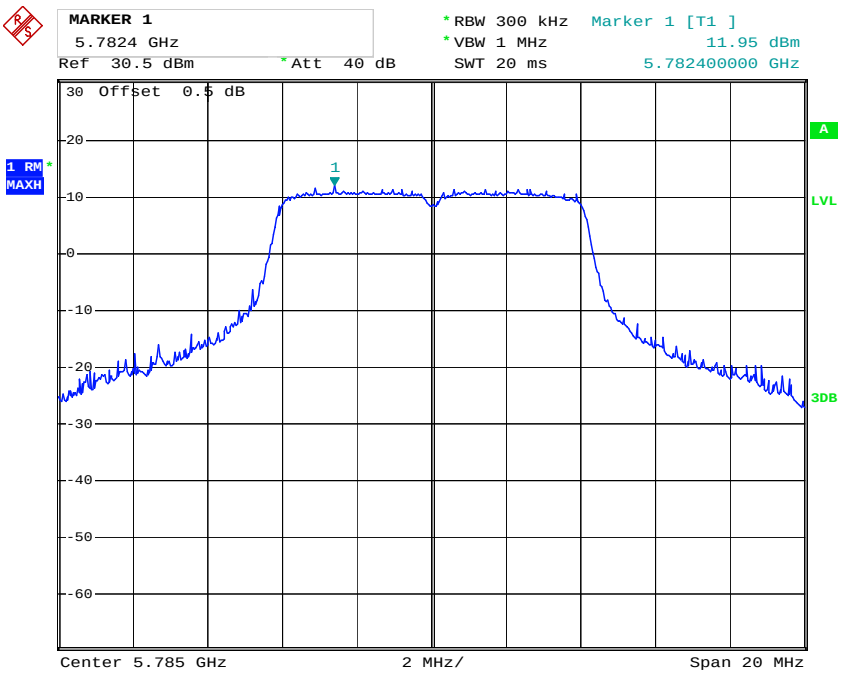
10M Middle Channel



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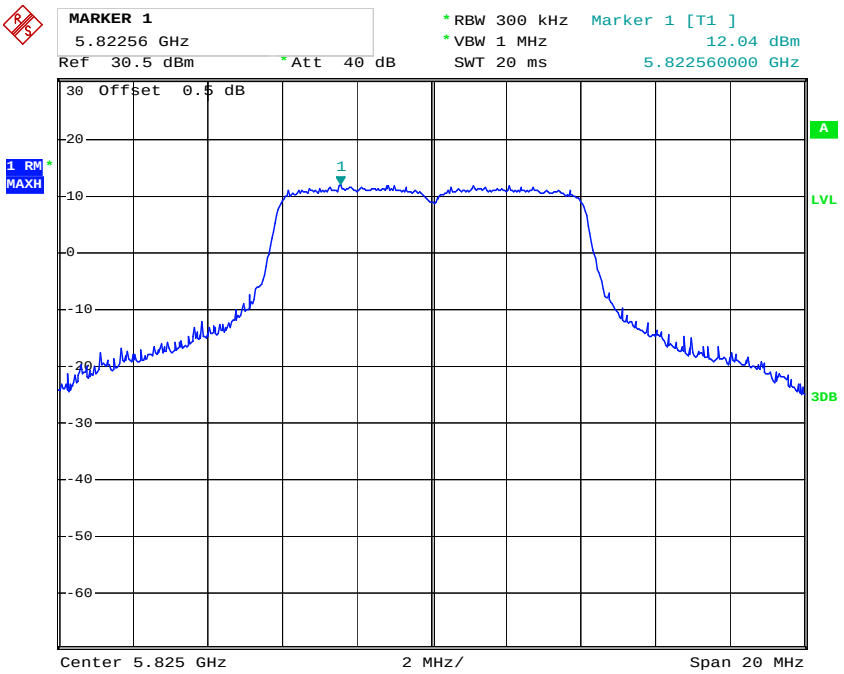
10M High Channel



Date: 13.NOV.2017 19:21:54

FCC §15.407(b)& RSS-247 §6.2 – OUT- OF-BAND EMISSIONS

Applicable Standard

FCC §15.407

(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

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

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

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

According to RSS-247§6.2

Frequency band 5150-5250 MHz

6.2.1.2 Unwanted emission limits

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

Frequency band 5250-5350 MHz

6.2.2.2 Unwanted emission limits

Devices shall comply with the following:

a) All emissions outside the band 5250-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p.; or

b) All emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz. The device, except devices installed in vehicles, shall be labelled or include in the user manual the following text "for indoor use only."

Frequency bands 5470-5600 MHz and 5650-5725 MHz:

6.2.3.2 Unwanted emission limits

Emissions outside the band 5470-5600 MHz and 5650-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, devices with bandwidth overlapping the band edge of 5725 MHz can meet the emission limit of -27 dBm/MHz e.i.r.p. at 5850 MHz instead of 5725 MHz.

Frequency band 5725-5850 MHz

6.2.4.2 Unwanted emission limits

Devices operating in the band 5725-5850 MHz with antenna gain greater than 10 dBi can have unwanted emissions that comply with either the limits in this section or in section 5.5 until six (6) months after the publication date of this standard for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2018.

Devices operating in the band 5725-5850 MHz with antenna gain of 10 dBi or less can have unwanted emissions that comply with either the limits in this section or in section 5.5 until April 1, 2018 for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2020.

Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;

b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;

c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and

d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r04.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESPI	100120	2016-12-08	2017-12-08
Unknown	Coaxial Cable	0.1m	C-1	Each Time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	27.8 °C
Relative Humidity:	44 %
ATM Pressure:	101 kPa

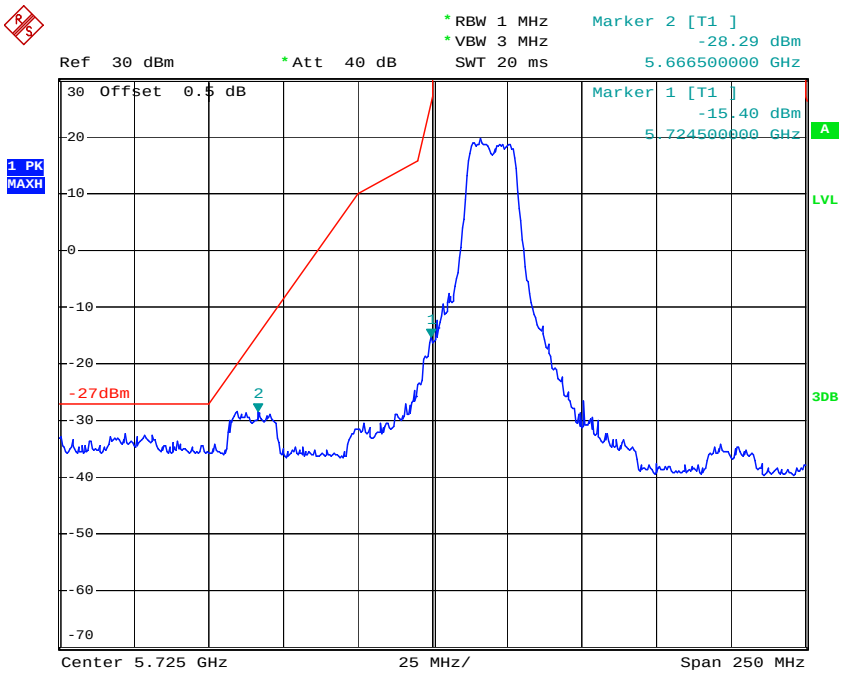
The testing was performed by Robin Zheng from 2017-10-27 to 2017-10-28.

Test Result: Pass.

All emissions under limit with 6.38dBc(antenna gain is 3.38dBi), combined two chain meets the requirement. Please refer to the following plots.

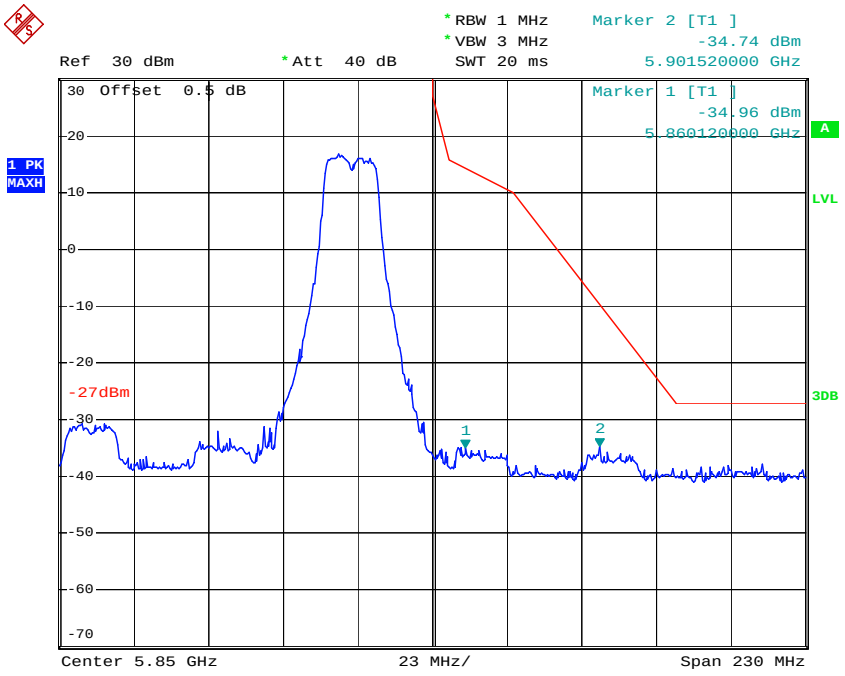
Chain 0:

802.11a Low Channel



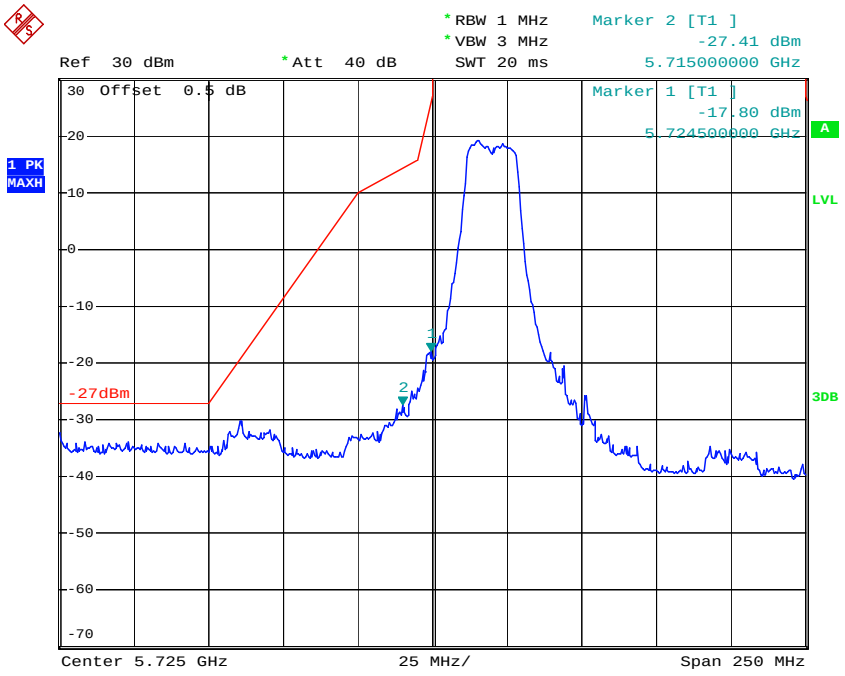
Date: 27.OCT.2017 12:40:19

802.11a High Channel



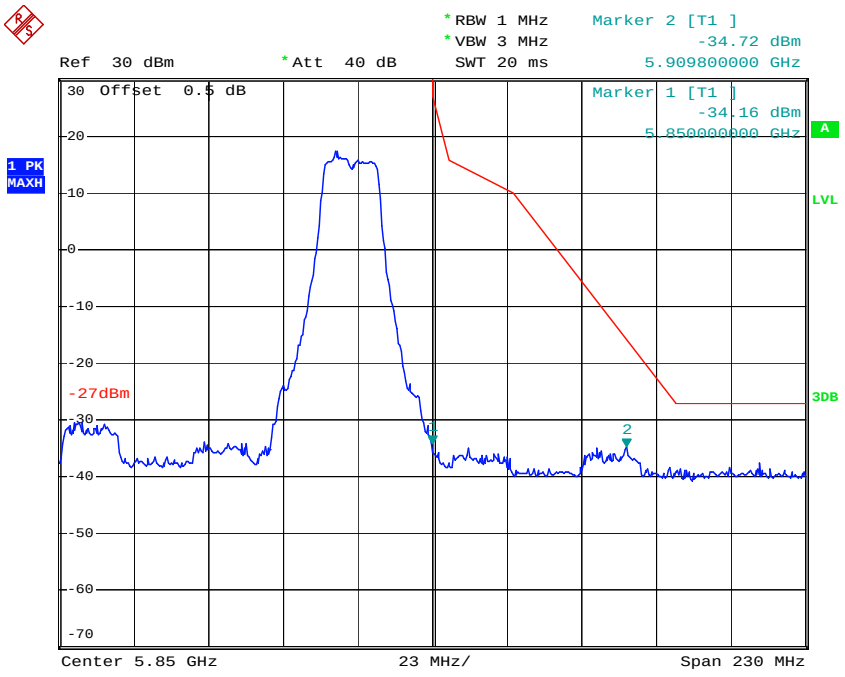
Date: 27.OCT.2017 12:44:22

802.11n ht20 Low Channel



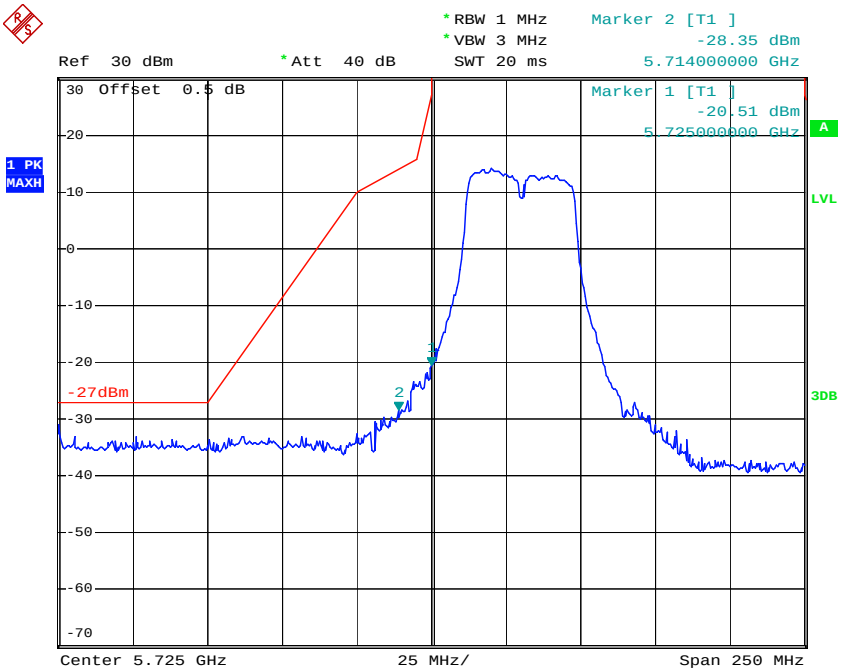
Date: 27.OCT.2017 12:51:35

802.11n ht20 High Channel



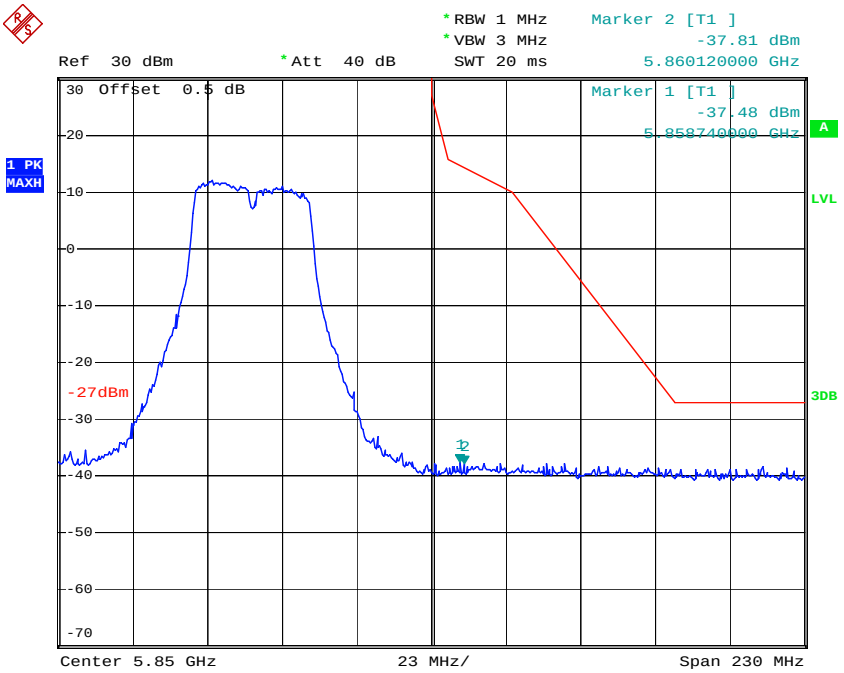
Date: 27.OCT.2017 12:47:18

802.11n ht40 Low Channel



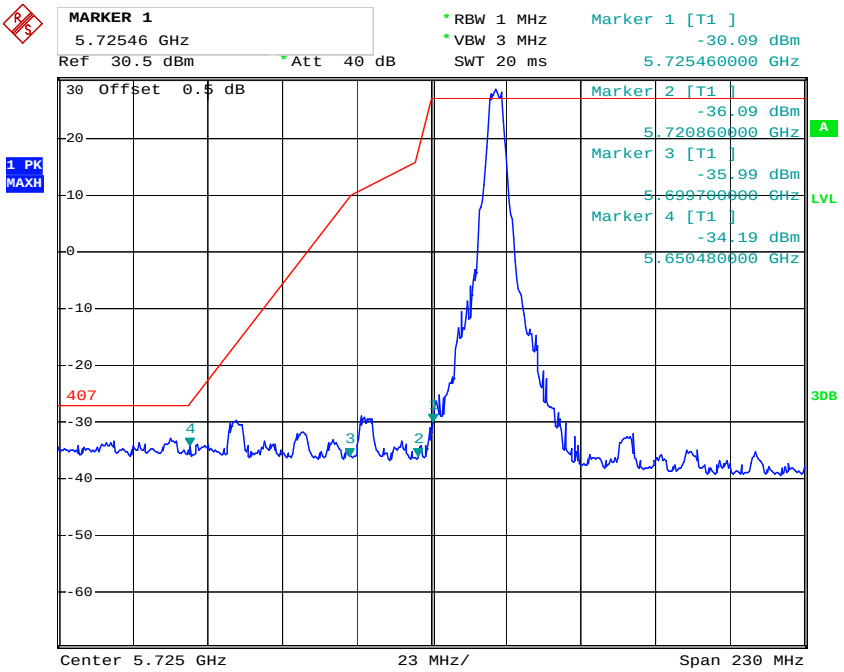
Date: 27.OCT.2017 12:54:32

802.11n ht40 High Channel



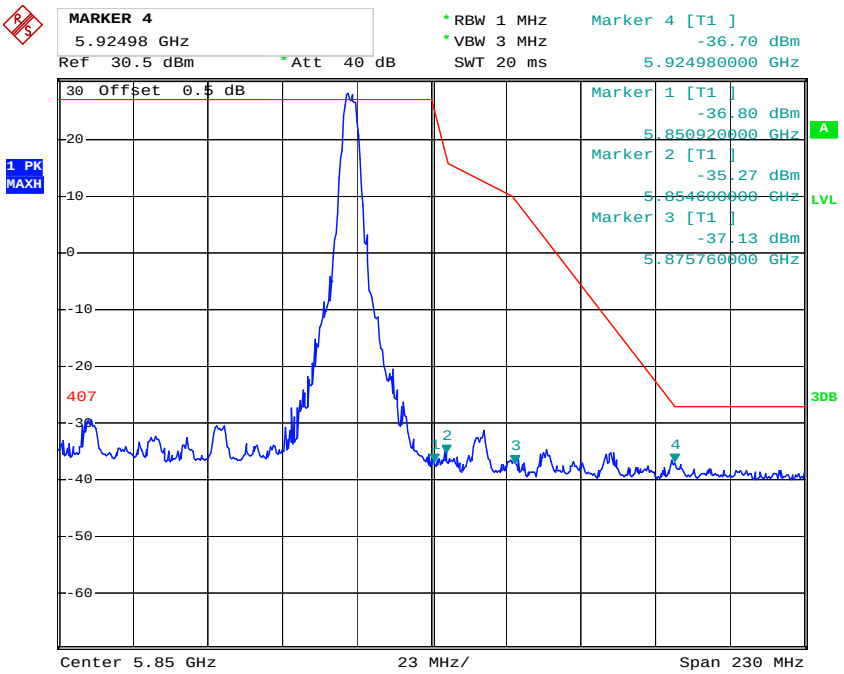
Date: 27.OCT.2017 12:57:30

5M Low Channel



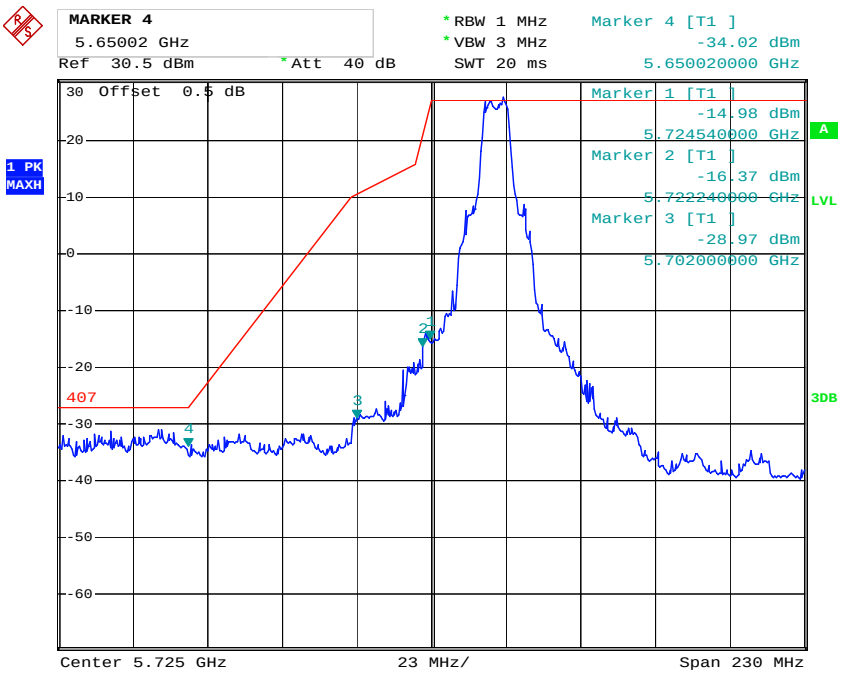
Date: 27.OCT.2017 15:48:59

5M High Channel



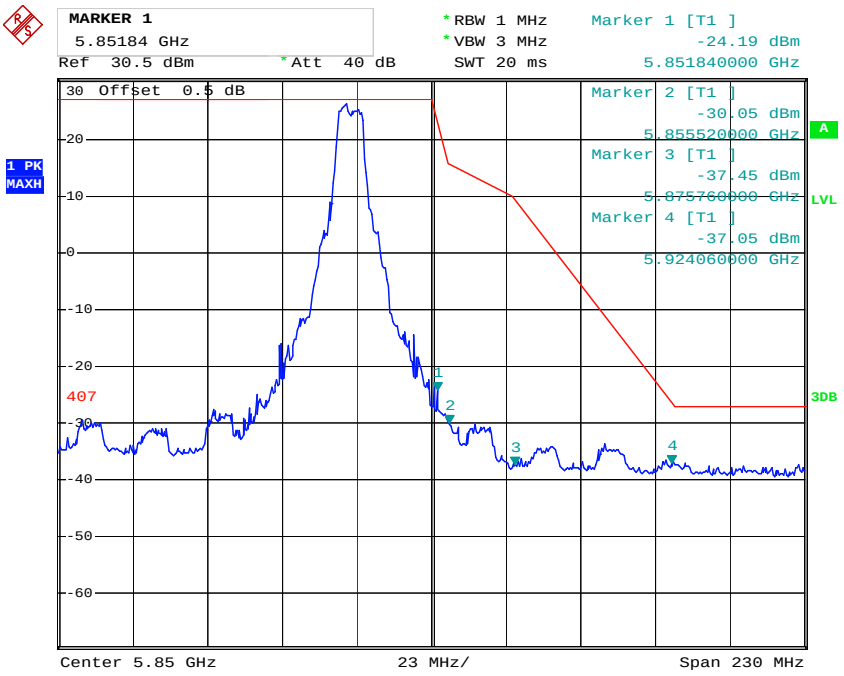
Date: 27.OCT.2017 15:47:50

10M Low Channel



Date: 27.OCT.2017 15:49:55

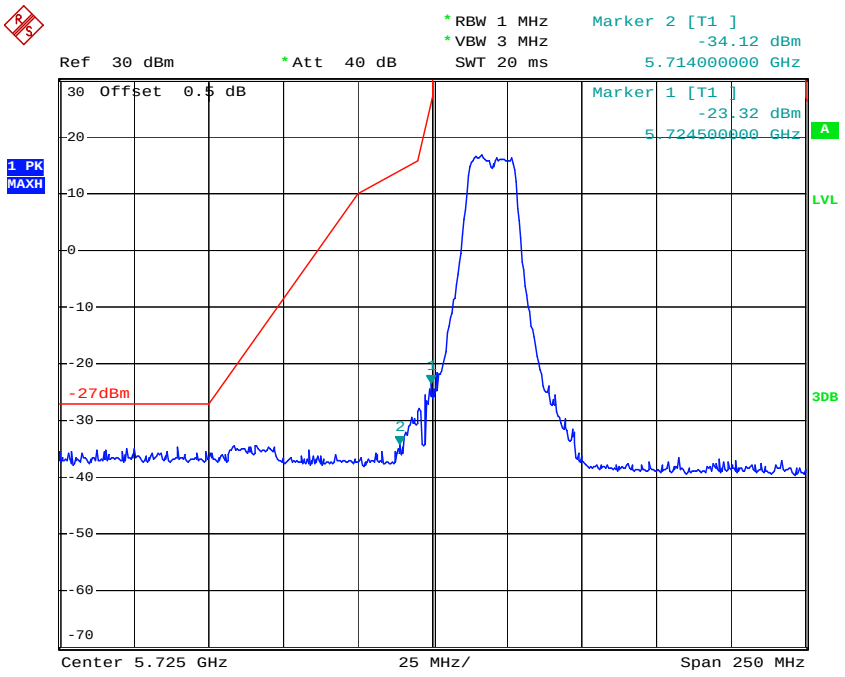
10M High Channel



Date: 27.OCT.2017 15:51:14

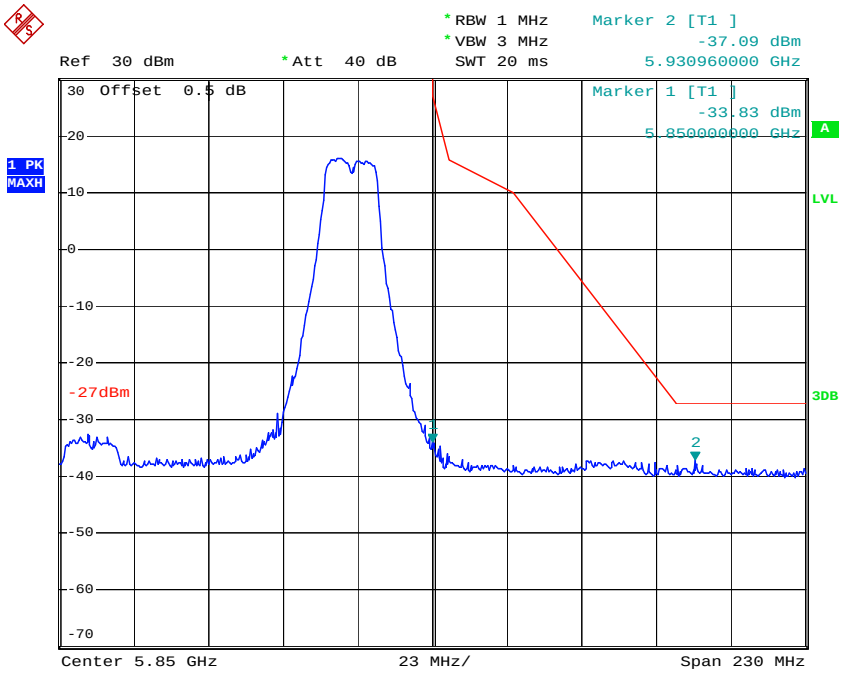
Chain 1:

802.11a Low Channel



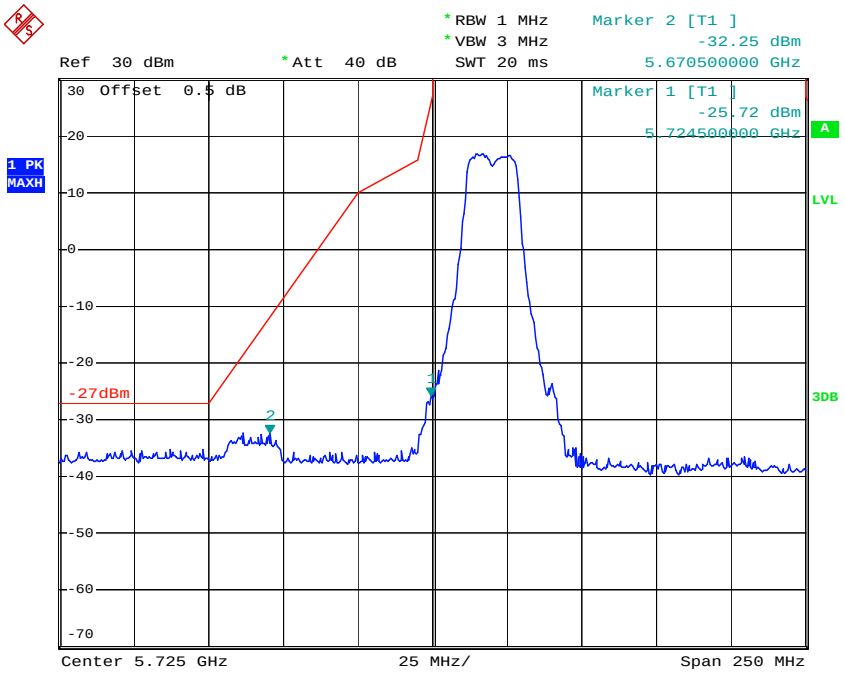
Date: 27.OCT.2017 13:23:18

802.11a High Channel



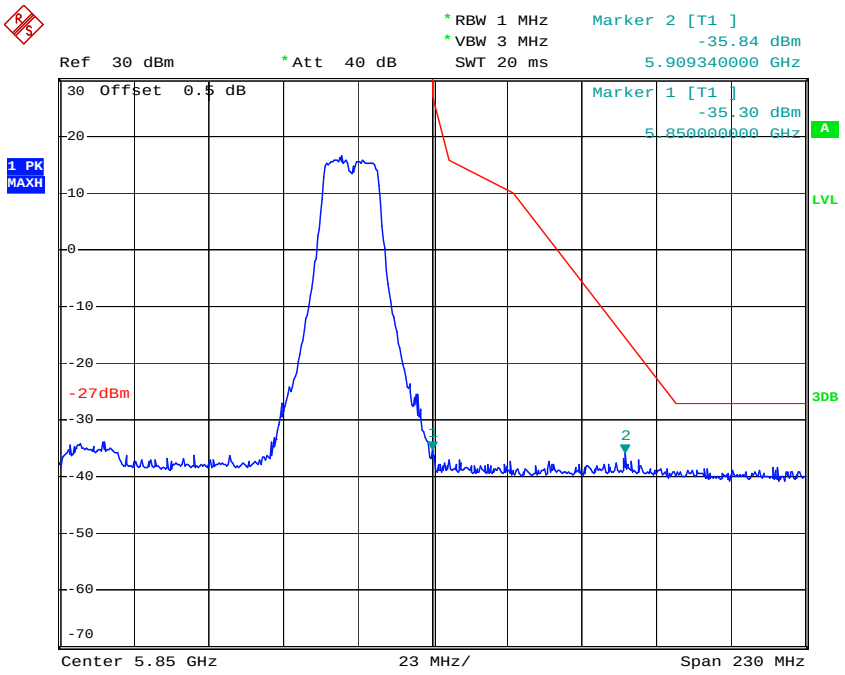
Date: 27.OCT.2017 13:18:45

802.11n ht20 Low Channel



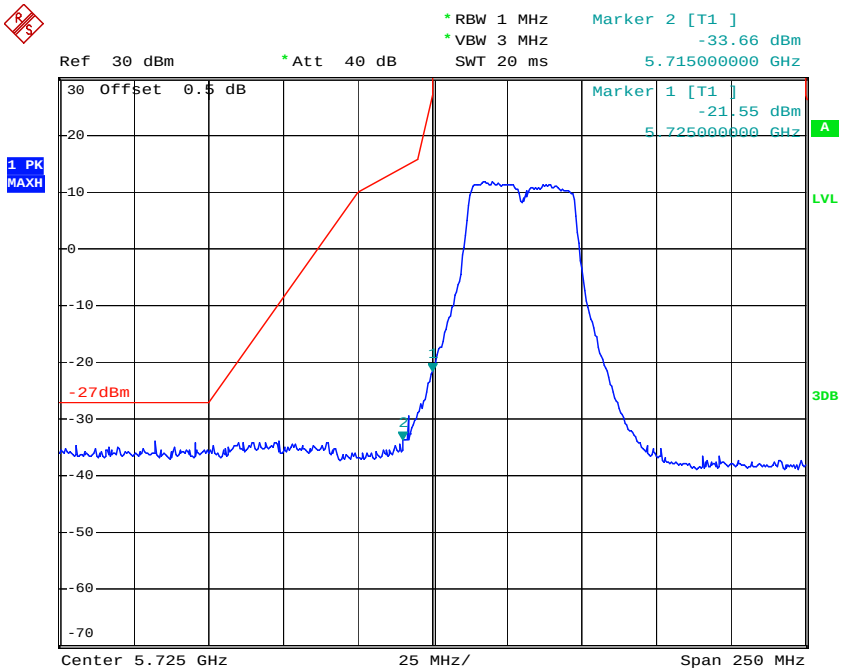
Date: 27.OCT.2017 13:09:07

802.11n ht20 High Channel



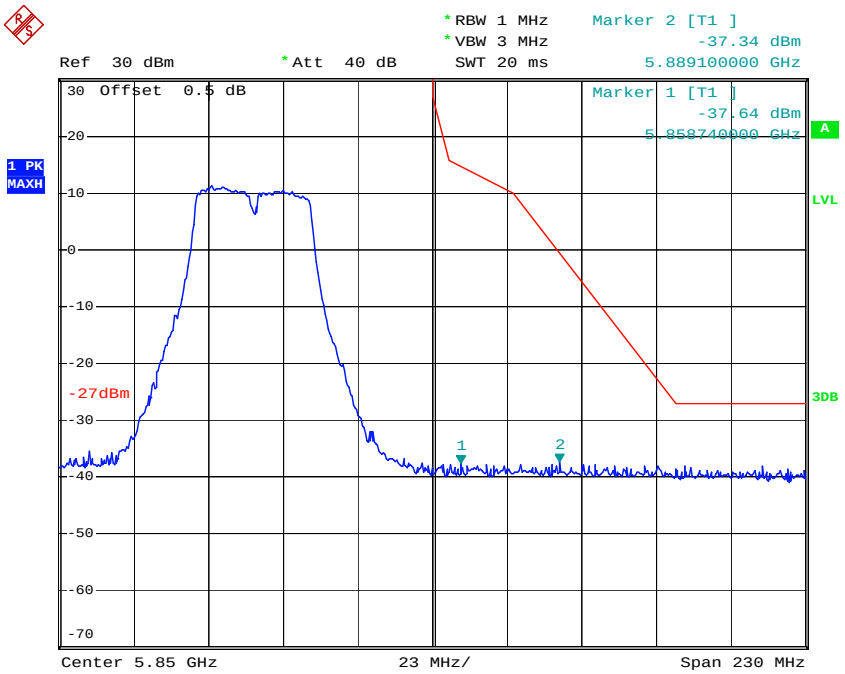
Date: 27.OCT.2017 13:15:57

802.11n ht40 Low Channel



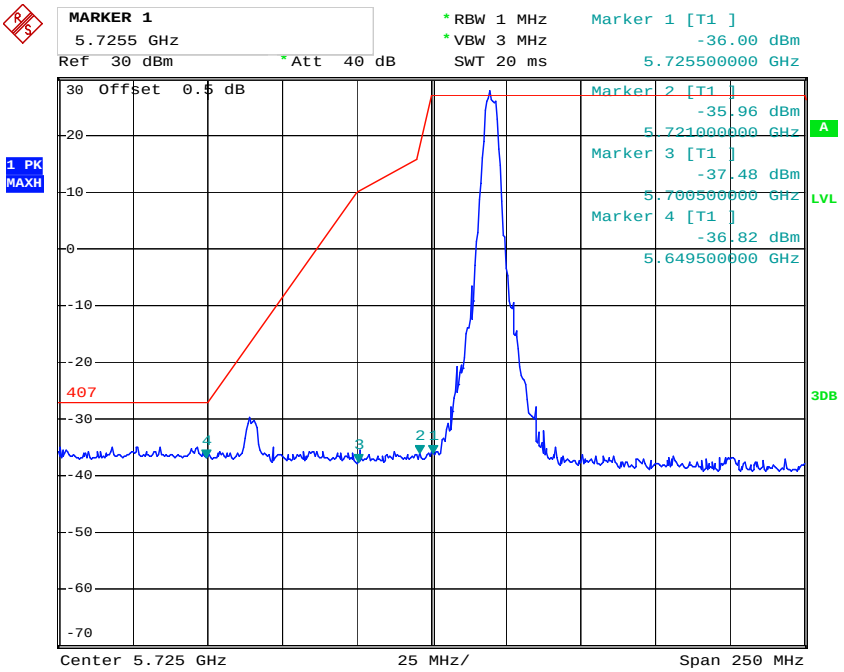
Date: 27.OCT.2017 13:05:57

802.11n ht40 High Channel



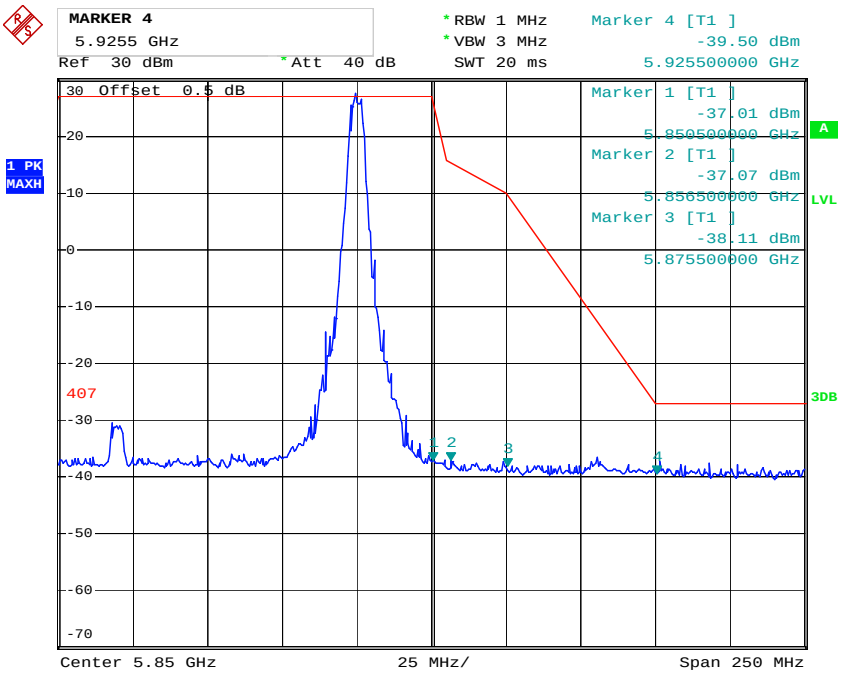
Date: 27.OCT.2017 13:03:05

5M Low Channel



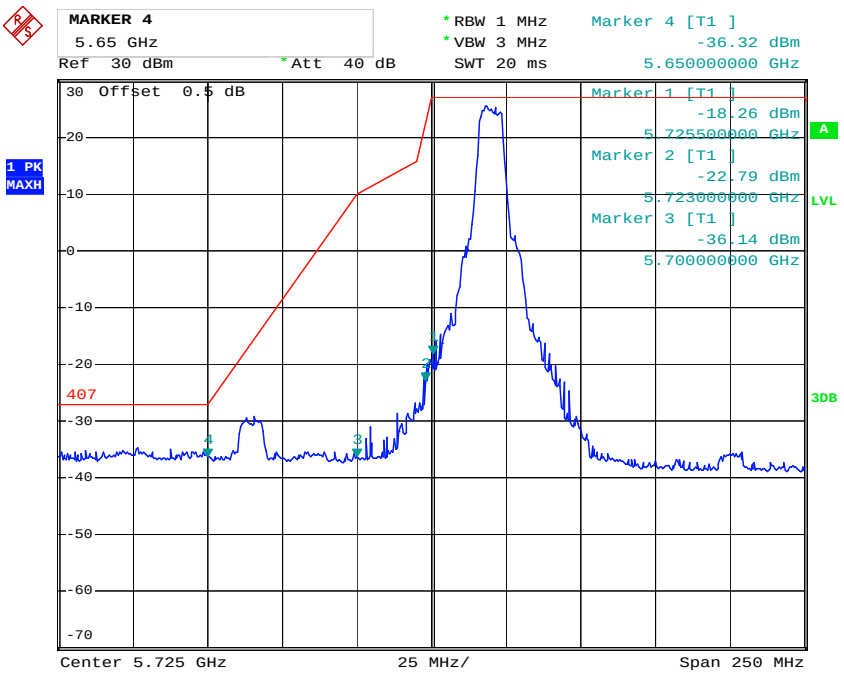
Date: 28.OCT.2017 09:10:38

5M High Channel



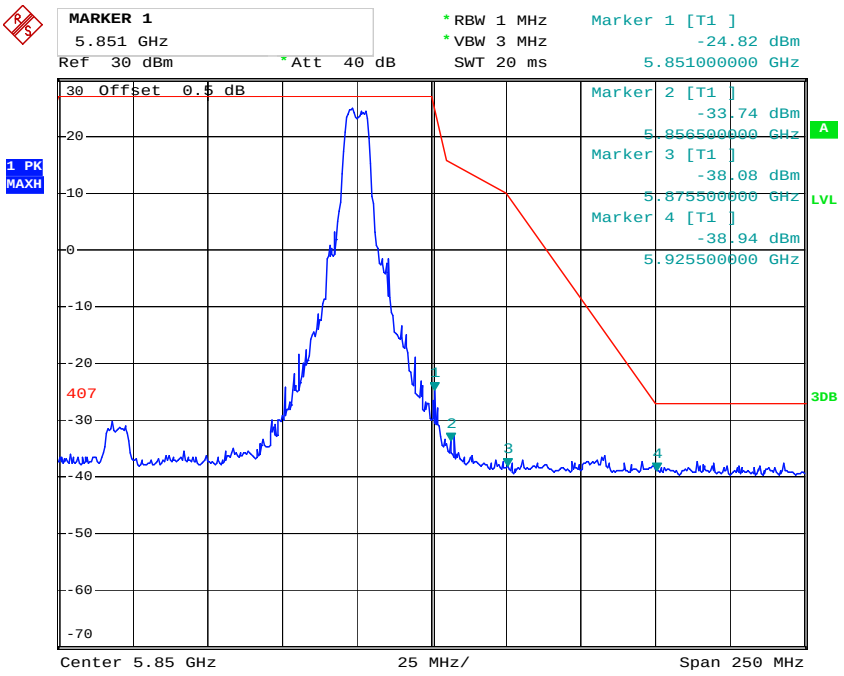
Date: 28.OCT.2017 09:09:36

10M Low Channel



Date: 28.OCT.2017 09:06:49

10M High Channel



Date: 28.OCT.2017 09:08:44

FCC §15.407(g) – FREQUENCY STABILITY

Applicable Standard

FCC §15.407

(g) Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

Test Procedure

According to C63.10-2013 clause 6.8.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESPI	100120	2016-12-08	2017-12-08
Dongzhixu	High Temperature Test Chamber	DP1000	201105083-4	2017-09-10	2018-09-10
UNI-T	Multimeter	UT39A	M130199938	2017-04-02	2018-04-02
Unknown	Coaxial Cable	0.1m	C-1	Each Time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	27.8 °C
Relative Humidity:	44 %
ATM Pressure:	101 kPa

The testing was performed by Robin Zheng on 2017-10-27.

Test mode: Transmitting

Test Result: Compaint

5725-5850MHz:

802.11a

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{DC}	MHz	MHz	
0	11.55	5736.6000	5833.2000	f_L and f_H Within 5725~5850MHz range
10		5736.6012	5833.2004	
20		5736.6032	5833.2012	
30		5736.6013	5833.2002	
40		5736.6022	5833.2014	
25	13.2	5736.6012	5833.2022	
25	10.7	5736.6014	5833.2002	

802.11n ht20:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{DC}	MHz	MHz	
0	11.55	5735.9600	5833.8830	f_L and f_H Within 5725~5850MHz range
10		5735.9612	5833.8842	
20		5735.9613	5833.8834	
30		5735.9614	5833.8845	
40		5735.9612	5833.8865	
25	13.2	5735.9615	5833.8844	
25	10.7	5735.9611	5833.8843	

802.11n ht40:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{DC}	MHz	MHz	
0	11.55	5736.2805	5813.4012	f_L and f_H Within 5725~5850MHz range
10		5736.2812	5813.4032	
20		5736.2832	5813.4022	
30		5736.2822	5813.4011	
40		5736.2812	5813.4014	
25	13.2	5736.2812	5813.4043	
25	10.7	5736.2832	5813.4023	

5M:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{DC}	MHz	MHz	
0	11.55	5742.6832	5827.2231	f_L and f_H Within 5725~5850MHz range
10		5742.6812	5827.2223	
20		5742.6824	5827.2254	
30		5742.6834	5827.2243	
40		5742.6823	5827.2243	
25	13.2	5742.6821	5827.2221	
25	10.7	5742.6822	5827.2234	

10M:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{DC}	MHz	MHz	
0	11.55	5740.3432	5829.2407	f_L and f_H Within 5725~5850MHz range
10		5740.3412	5829.2417	
20		5740.3424	5829.2413	
30		5740.344	5829.2414	
40		5740.3445	5829.2412	
25	13.2	5740.3431	5829.2415	
25	10.7	5740.3421	5829.2415	

Note: the f_L and f_H determined by 99% Occupied bandwidth low edge at Low test channel and High edge at High test channel.

***** *END OF REPORT* *****