FCC PART 15.407

TEST REPORT

For

Autel Robotics Co., Ltd.

9th Floor, Bldg.B1, Zhiyuan, 1001 Xueyuan Rd., Xili, Nanshan, Shenzhen, China

FCC ID: 2AGNTAC5824A

Report Type:	**Product Type:**
Original Report	X-Star series

Test Engineer:	David Lee
Report Number:	RSZ151201006-00A
Report Date:	2016-02-01
Reviewed By:	Candy Li RF Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Autel Robotics Co., Ltd.'s* product, model number: *X-Star (FCC ID: 2AGNTAC5824A)* or the "EUT" in this report was an *X-Star series (a new generation of smart unmanned aerial vehicle),* which was measured approximately: 28.0 cm (L) x 28.0 cm (W) x 18.5 cm (H), rated with input voltage: DC 14.8V Li-Po battery.

**All measurement and test data in this report was gathered from production sample serial number: 1507243 (Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2015-12-01.*

Objective

This type approval report is prepared on behalf of *Autel Robotics Co., Ltd.* in accordance with Part 2-Subpart J, Part 15-Subparts A, B and E of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart E, section 15.203, 15.205, 15.207, 15.209 and 15.407 rules.

Related Submittal(s)/Grant(s)

FCC Part 15.247 DTS submissions with FCC ID: 2AGNTAC5824A.
FCC Part 15.247 DTS and Part 15.407 NII submission with FCC ID: 2AGNTRC5824A.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement uncertainty with RF radiated emission is 5.81 dB for 30MHz-1GHz.and 4.88 dB for above 1GHz, 1.95dB for conducted measurement.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on October 31, 2013. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in an engineering mode, which was provided by manufacturer.

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	**5727**	26	5752	51	5777
2	5728	27	5753	52	5778
3	5729	28	5754	53	5779
4	5730	29	5755	54	5780
5	5731	30	5756	55	5781
6	5732	31	5757	56	5782
7	5733	32	5758	57	5783
8	5734	33	5759	58	5784
9	5735	34	**5760**	59	5785
10	5736	35	5761	60	5786
11	5737	36	5762	61	5787
12	5738	37	5763	62	5788
13	5739	38	5764	63	5789
14	5740	39	5765	64	5790
15	5741	40	5766	65	5791
16	5742	41	5767	66	5792
17	5743	42	5768	67	5793
18	5744	43	5769	68	5794
19	5745	44	5770	69	5795
20	5746	45	5771	70	5796
21	5747	46	5772	71	5797
22	5748	47	5773	72	5798
23	5749	48	5774	73	**5799**
24	5750	49	5775		
25	5751	50	5776		

EUT was tested with Channel 1, 34 and 73.

EUT Exercise Software

No exercise software was used.

Equipment Modifications

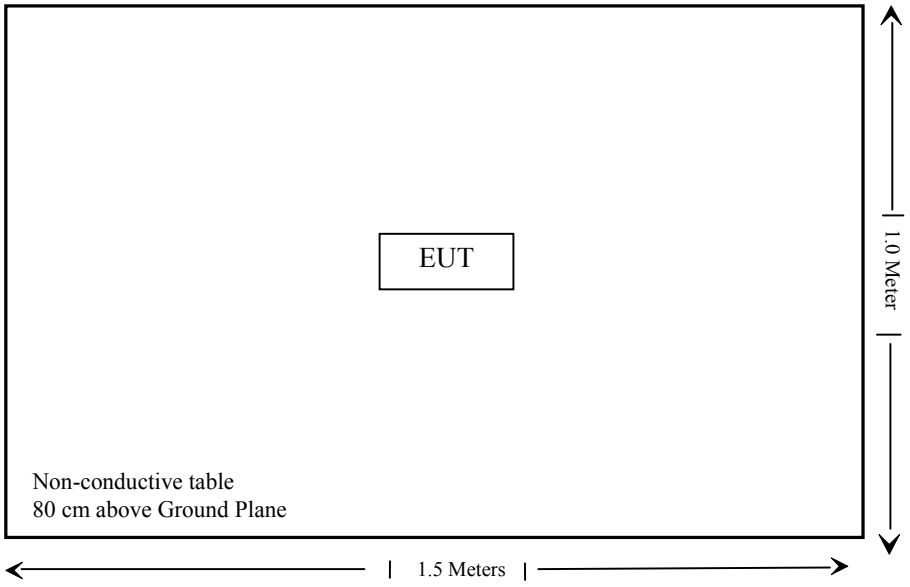
No modification was made to the EUT tested.

External I/O Cable

Cable Description	Length (m)	From/Port	To
/	/	/	/

Block Diagram of Test Setup

Below 1GHz:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.407 (f), §2.1091	Maximum Permissible Exposure (MPE)	Compliance
§15.203	Antenna Requirement	Compliance
§15.407(b)(6) & §15.207(a)	Conducted Emissions	Not Applicable
FCC §15.205 & §15.209 & §15.407(b) (4),(6),(7)	Undesirable Emission	Compliance
§15.407(b) (4)	Band edge	Compliance
§15.407(e)	6dB Emission Bandwidth	Compliance
§15.407(a) (3)	Conducted Transmitter Output Power	Compliance
§15.407 (a) (3)	Power Spectral Density	Compliance

Not Applicable: The EUT was powered by battery.

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

Applicable Standard

According to FCC §2.1091 and §1.1307(b) (1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

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.

Calculated Formulary:

Predication of MPE limit at a given distance
$S = PG/4\pi R^2$ = 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:

Mode	**Frequency (MHz)**	**Antenna Gain**		**Max tune-up Conducted Power**		**Evaluation Distance (cm)**	**Power Density (mW/cm^2)**	**MPE Limit (mW/cm^2)**
		(dBi)	**(numeric)**	**(dBm)**	**(mW)**			
802.11g	2412-2462	2.5	1.78	15.50	35.48	20	0.013	1.0
802.11n20	2412-2462	2.5	1.78	18.00	63.10	20	0.022	1.0
5.8G	5727-5799	2.5	1.78	15.50	35.48	20	0.013	1.0

According to KDB 447498 D01 General RF Exposure Guidance v06,EUT has one 2.4G Wifi module and one 5.8G module transmitting simultaneously. And the worst case sum of MPE ratio is 0.035 which is less than 1.0, So the collocation exposure exclusion applies.

Result: Compliance

FCC §15.203 – 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.

And according to FCC 47 CFR section 15.407 (a), if the transmitting antennas of directional gain greater than 6dBi are used, the transmit power and power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has a dipole antenna arrangement for 5.8G transmitting, which was permanently attached and the antenna gain is 2.5 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliance.

FCC §15.205 & §15.209 & §15.407(B) (4),(6),(7) – UNDESIRABLE EMISSION & BAND EDGE

Applicable Standard

FCC §15.407 (b) (4), (6), (7); §15.205; §15.209;

For transmitters operating in the 5.725–5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of –17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of –27 dBm/MHz.

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

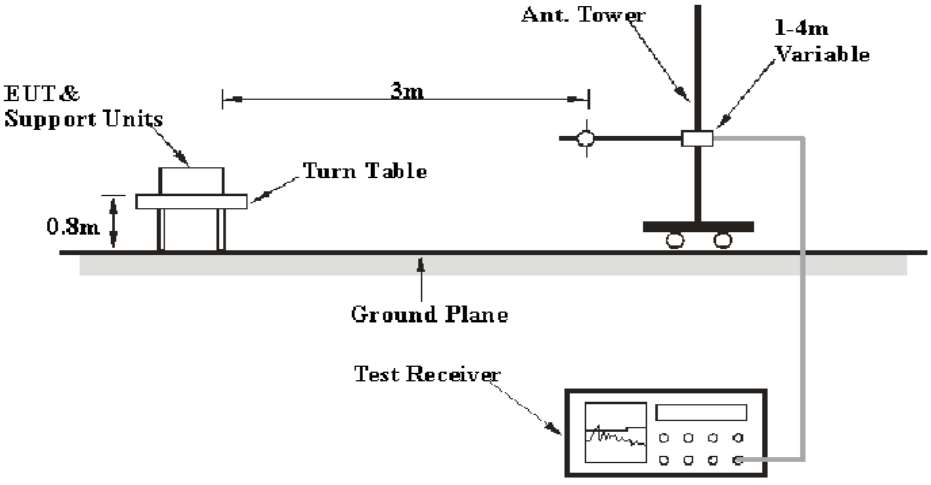
Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

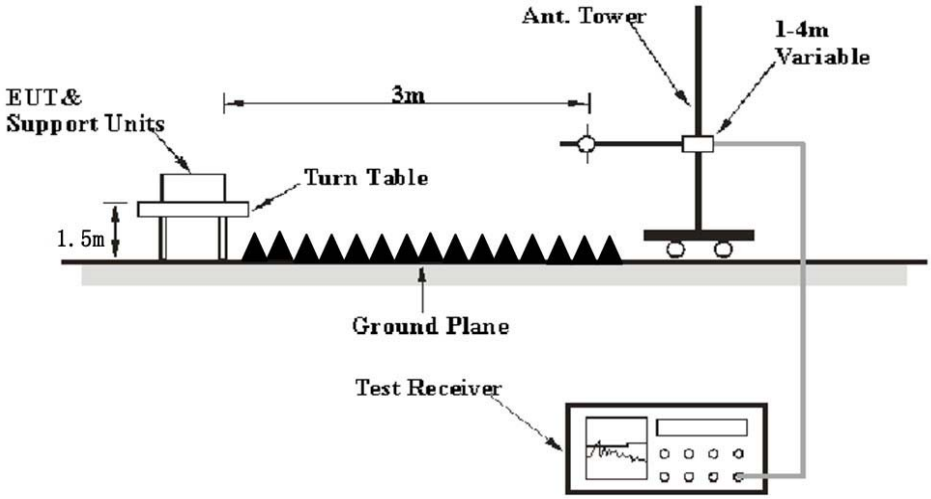
Based on CISPR 16-4-2:2011, the expended combined standard uncertainty of radiation emissions at Bay Area Compliance Laboratories Corp. (Shenzhen) is 5.81 dB for 30MHz-1GHz and 4.88 dB for above 1GHz, 1.95dB for conducted measurement at antenna port. And the uncertainty will not be taken into consideration for the test data recorded in the report.

EUT Setup

Below 1GHz:



Above 1GHz:



The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.209 limits.

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

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:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	PK
	1 MHz	10 Hz	/	Ave.

Test Procedure

Radiated Spurious Emission

During the radiated emission test, the adapter was connected to the AC floor outlet.

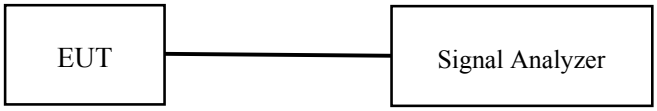
Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all the installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-40GHz, peak and Average detection modes for frequencies above 1GHz.

The EUT is set 3.0 meter away from the testing antenna, which is varied from 1-4 meters, and the EUT is placed on a turntable, the table shall be rotated for 360 degrees to find out the highest emission. The receiving antenna should be changed the polarization both of horizontal and vertical.

Conducted Spurious Emission at Antenna Port

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. The Resolution bandwidth is set to 1MHz, The Video bandwidth is set to ≥ 1MHz, report the peak value out of the oprating band.
3. Repeat above procedures until all frequencies measured were complete.



Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor 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 = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447E	1937A01046	2015-05-06	2016-05-06
Mini	Amplifier	ZVA-183-S+	5969001149	2015-04-23	2016-04-23
DUCOMMUN	Pre-amplifier	ALN-09173030-01	991396-01	2015-08-03	2016-08-03
DUCOMMUN	Pre-amplifier	ALN-22093530-01	991373-01	2015-08-03	2016-08-03
DUCOMMUN	Pre-amplifier	ALN-33144030-01	991373-01	2015-08-03	2016-08-03
Sunol Sciences	Bi-log Antenna	JB1	A040904-2	2014-12-07	2017-12-06
A.H. System	Horn Antenna	SAS-200/571	135	2015-08-18	2018-08-17
the electro-Mechanics Co.	Horn Antenna	3116	9510-2270	2013-10-14	2016-10-13
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2015-12-15	2016-12-14
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2015-12-11	2016-12-11
Agilent	Spectrum Analyzer	8564E	3943A01781	2013-05-09	2016-05-08

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

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, Section 15.205, 15.209 and 15.407, the worst margin reading as below:

1.00 dB at **5724.6 MHz** in the **Vertical** polarization for **Left Side Band**

Refer to CISPR16-4-2:2011 and CISPR 16-4-1:2009, the measured level is in compliance with the limit if

$$L_m + U_{(Lm)} \leq L_{lim} + U_{cispr}$$

In BACL, $U_{(Lm)}$ is less than U_{cispr}, if L_m is less than L_{lim}, it implies that the EUT complies with the limit.

Test Data

Environmental Conditions

Temperature:	22 ℃
Relative Humidity:	50 %
ATM Pressure:	101.0 kPa

The testing was performed by David Lee on 2016-01-22.

EUT operation mode: Transmitting

Undesirable Emission:

30 MHz-40 GHz:

Frequency	Receiver		Turntable	Rx Antenna		Corrected Factor （dB）	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
Low Channel (5727 MHz)									
400.0	45.01	QP	237	1.1	V	-4.4	40.61	46	5.39
5727.0	60.16	PK	280	1.7	H	42.48	102.64	/	/
5727.0	46.67	Ave.	280	1.7	H	42.48	89.15	/	/
5727.0	70.23	PK	128	1.0	V	42.48	112.71	/	/
5727.0	55.20	Ave.	128	1.0	V	42.48	97.68	/	/
11454.0	47.89	PK	104	1.6	H	18.68	66.57	74	7.43
11454.0	30.68	Ave.	104	1.6	H	18.68	49.36	54	4.64
11454.0	46.87	PK	22	1.9	V	18.68	65.55	74	8.45
11454.0	30.98	Ave.	22	1.9	V	18.68	49.66	54	4.34
Middle Channel (5760 MHz)									
400.0	45.38	QP	81	2.4	V	-4.4	40.98	46	5.02
5760.0	60.37	PK	317	2.0	H	42.39	102.76	/	/
5760.0	45.54	Ave.	317	2.0	H	42.39	87.93	/	/
5760.0	69.72	PK	81	2.3	V	42.39	112.11	/	/
5760.0	55.68	Ave.	81	2.3	V	42.39	98.07	/	/
11520.0	47.27	PK	3	2.1	H	18.68	65.95	74	8.05
11520.0	31.26	Ave.	3	2.1	H	18.68	49.94	54	**4.06**
11520.0	45.54	PK	279	1.7	V	18.68	64.22	74	9.78
11520.0	31.15	Ave.	279	1.7	V	18.68	49.83	54	4.17
High Channel (5799 MHz)									
400.0	45.63	QP	70	1.7	V	-4.4	41.23	46	4.77
5799.0	61.68	PK	324	1.0	H	42.39	104.07	/	/
5799.0	43.76	Ave.	324	1.0	H	42.39	86.15	/	/
5799.0	67.42	PK	23	1.9	V	42.39	109.81	/	/
5799.0	53.09	Ave.	23	1.9	V	42.39	95.48	/	/
11598.0	45.39	PK	12	1.3	H	18.44	63.83	74	10.17
11598.0	31.33	Ave.	12	1.3	H	18.44	49.77	54	4.23
11598.0	47.62	PK	194	1.3	V	18.44	66.06	74	7.94
11598.0	30.90	Ave.	194	1.3	V	18.44	49.34	54	4.66

Note:
The fundamental test without Amplifier. And other spurious emissions are on the system noise floor level.
Corrected Amplitude = Corrected Factor + Reading
Corrected Factor=Antenna factor (RX) + Cable Loss – Amplifier Factor
Margin = Limit- Corr. Amplitude

BAND EDGE:

Frequency	Receiver		Turntable	Rx Antenna		Corrected Factor （dB）	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
Left Side Band									
5724.6	59.74	PK	44	1.4	H	2.72	62.46	74	11.54
5724.6	49.34	Ave.	44	1.4	H	2.72	52.06	54	1.94
5724.6	59.51	PK	167	2.4	V	2.72	62.23	74	11.77
5724.6	50.28	Ave.	167	2.4	V	2.72	53.00	54	1.00
Right Side Band									
5852.4	40.02	PK	74	2.0	H	3.28	43.30	74	30.70
5852.4	38.81	Ave.	74	2.0	H	3.28	42.09	54	11.91
5852.4	43.40	PK	232	2.2	V	3.28	46.68	74	27.32
5852.4	38.84	Ave.	232	2.2	V	3.28	42.12	54	11.88

Note:
Corrected Amplitude = Corrected Factor + Reading
Corrected Factor=Antenna factor (RX) + Cable Loss – Amplifier Factor
Margin = Limit- Corr. Amplitude

FCC §15.407(a) (1) – 6dB EMISSION BANDWIDTH

Applicable Standard

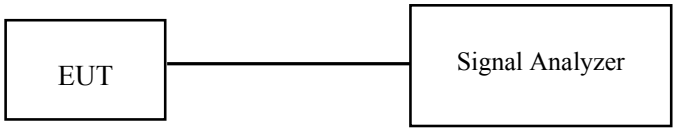
The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

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

Test Procedure

1. Emission Bandwidth (EBW)
a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

2. **Minimum Emission Bandwidth for the band 5.725-5.85 GHz**
Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:
a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 × RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2015-12-11	2016-12-11

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

Test Data

Environmental Conditions

Temperature:	21 ℃
Relative Humidity:	51 %
ATM Pressure:	101.0 kPa

The testing was performed by David Lee on 2016-01-21.

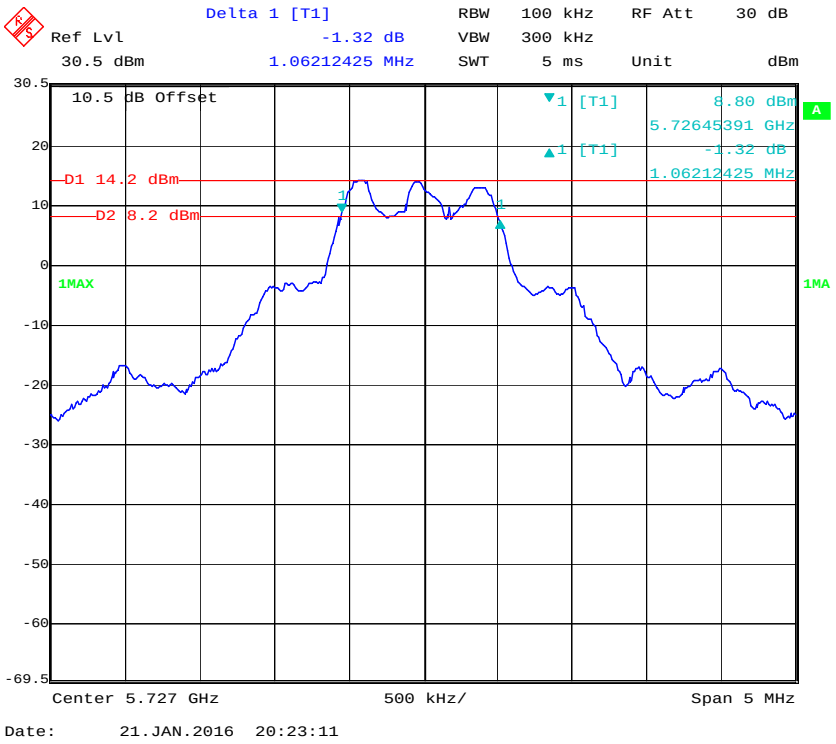
EUT operation mode: Transmitting

Test Result: Pass

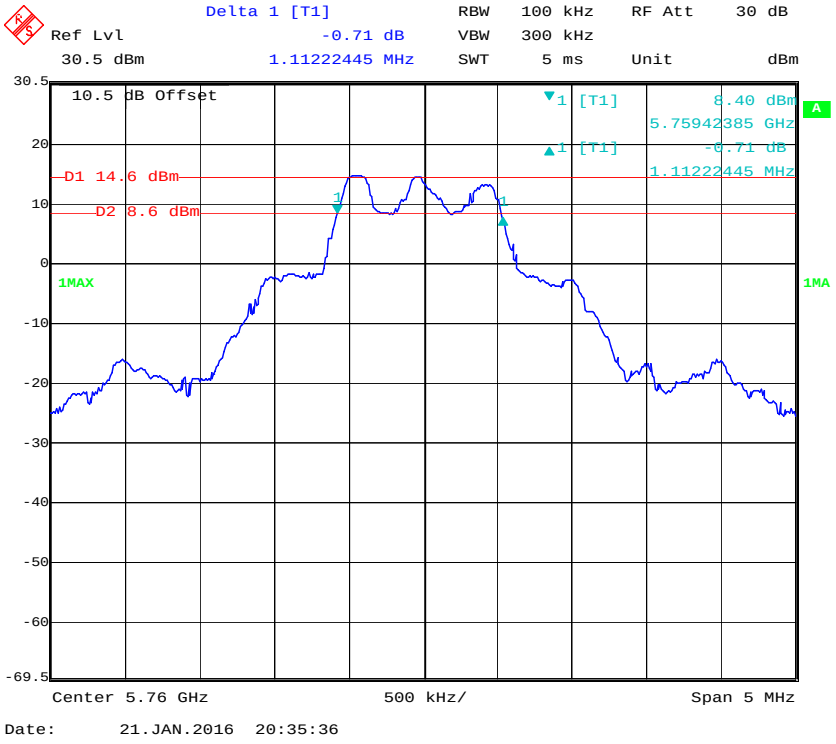
Please refer to the following tables and plots.

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)
Low	5727	1.062	≥500
Middle	5760	1.112	≥500
High	5799	1.092	≥500

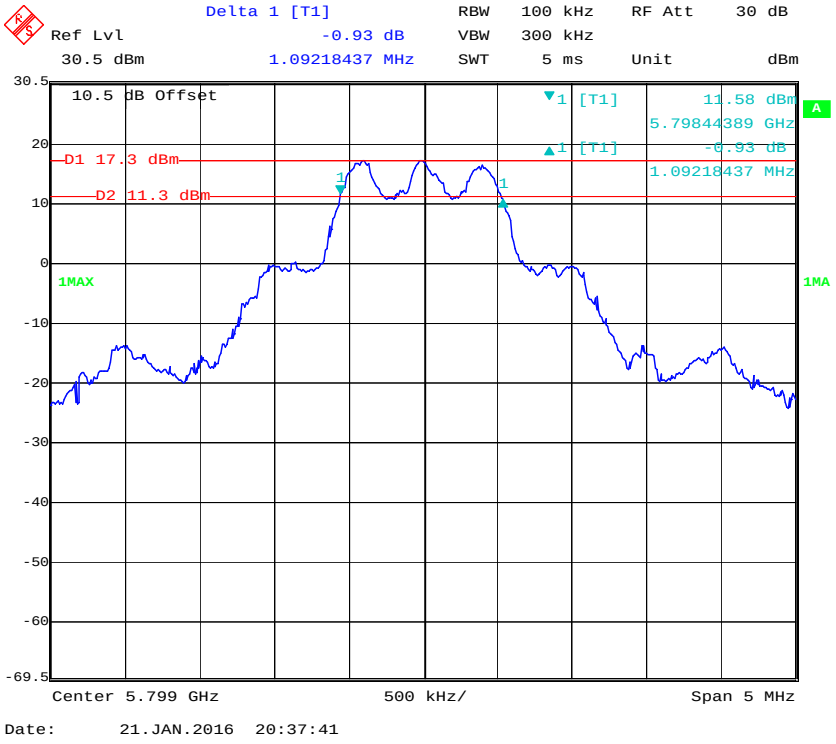
6dB Emission Bandwidth, Low Channel



6dB Emission Bandwidth, Middle Channel



6dB Emission Bandwidth, High Channel



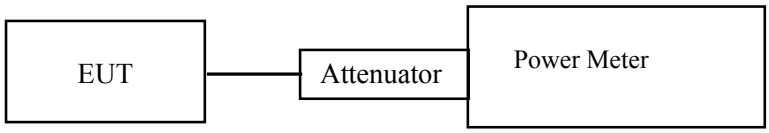
FCC §15.407(a) (3) – CONDUCTED TRANSMITTER OUTPUT POWER

Applicable Standard

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.

Test Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.
3. Add a correction factor to the display.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Power Meter	N1912A	MY5000448	2015-12-18	2016-12-17
HP	Power Sensor	N1921A	MY54210016	2015-12-18	2016-12-17

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

Test Data

Environmental Conditions

Temperature:	23 ℃
Relative Humidity:	50 %
ATM Pressure:	101.0 kPa

The testing was performed by David Lee on 2016-02-03.

EUT operation mode: Transmitting

Test Result: Pass

Channel	Frequency (MHz)	Max Conducted Average Output Power (dBm)	Limit (dBm)
Low	5727	13.19	30
Middle	5760	14.72	30
High	5799	15.18	30

FCC §15.407(a) (3) – POWER SPECTRAL DENSITY

Applicable Standard

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.

Test Procedure

Set span to encompass the entire EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.

a) Set RBW = 500 kHz.

b) Set VBW ≥ 2 MHz.

c) Detector = RMS.

d) Trace mode = max hold.

e) Sweep = auto couple.

f) Allow the trace to stabilize.

g) Measure the maximum value.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2015-12-11	2016-12-11

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

Test Data

Environmental Conditions

Temperature:	22 ℃
Relative Humidity:	51 %
ATM Pressure:	101.0 kPa

The testing was performed by David Lee on 2016-02-03.

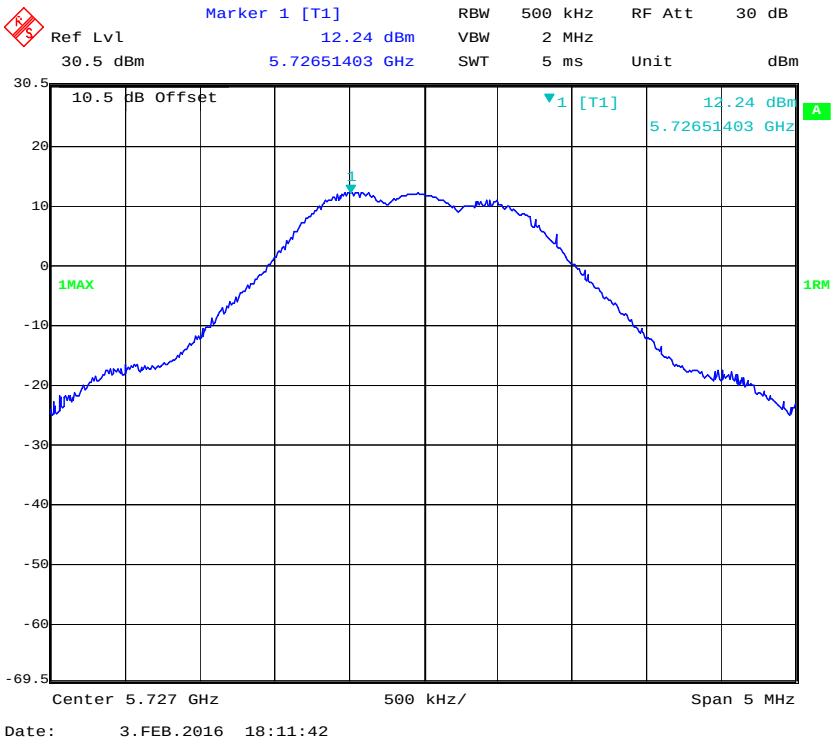
EUT operation mode: Transmitting

Test Result: Pass

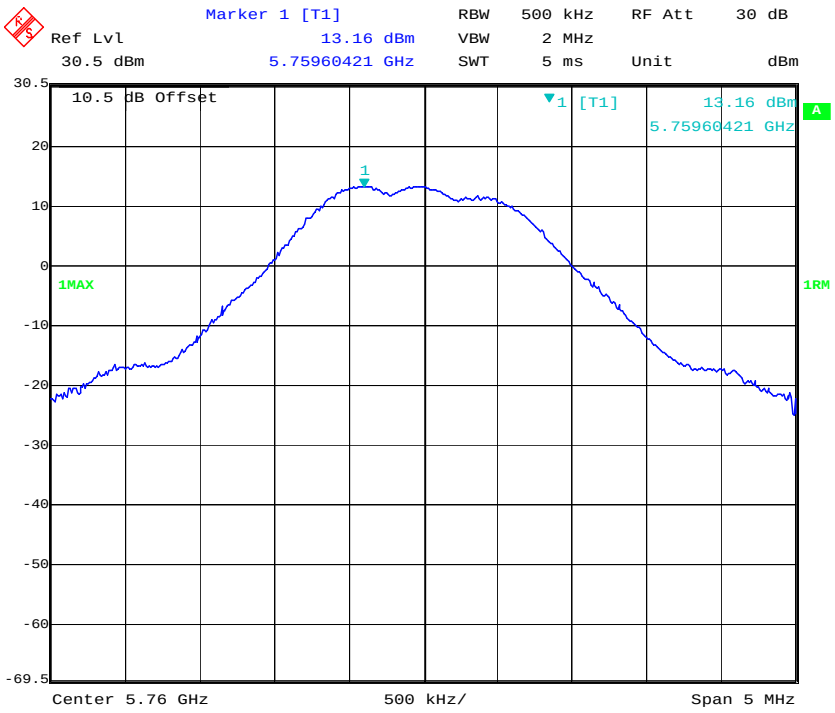
Please refer to the following tables and plots.

Channel	Frequency	PSD	Limit
	(MHz)	(dBm/500kHz)	(dBm/500kHz)
Low	5727	12.24	≤30
Middle	5760	13.16	≤30
High	5799	14.46	≤30

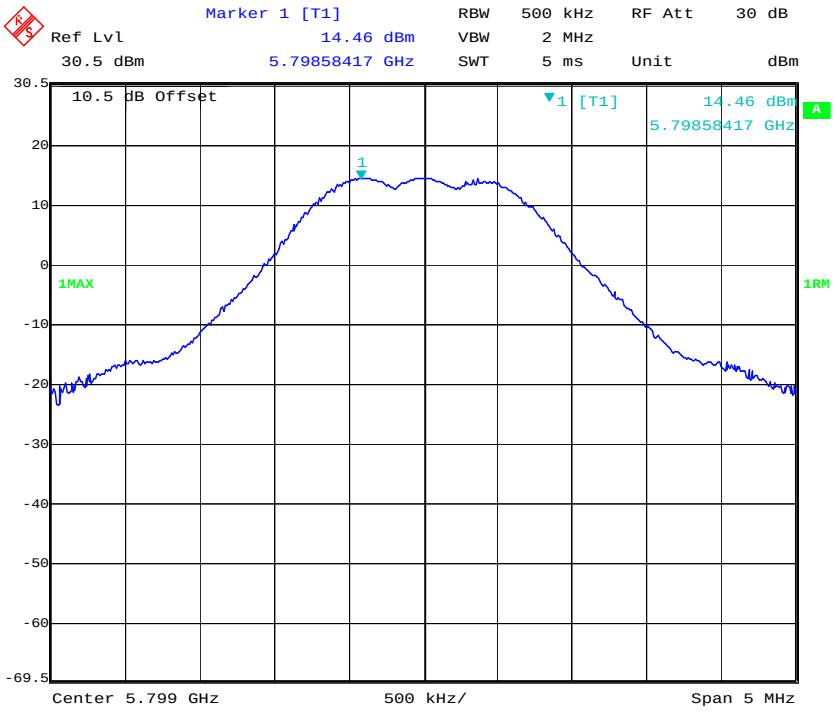
Power Spectral Density, Low Channel



Power Spectral Density, Middle Channel



Power Spectral Density, High Channel



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