ACCREDITED
TESTING LABORATORY
CERTIFICATE # 4821.01

BACL
Bay Area Compliance Labs Corp.

FCC PART 15.247

TEST REPORT

For

Autel Robotics Co., Ltd.

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

FCC ID: 2AGNTEF7RC2400A

Report Type:	**Product Type:**
Original Report	EF7

Report Number:	RSZ180925005-00B
Report Date:	2018-11-09
Reviewed By:	Simon Wang RF Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F., West Wing, Third 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: *EF7-1 (FCC ID: 2AGNTEF7RC2400A)* or the "EUT" in this report was an *EF7,* which was measured approximately: 190 mm (L) × 181 mm (W) × 60 mm (H), rated with input voltage: DC 3.7 V powered by battery or DC 5V/9V/12V from adapter for charging.

Adapter information:
Model: XA3_130
Input: AC 100-240V, 50/60Hz, 1.5A
Output: DC 13.05V, 3.83A (Main); 5.0V 3.0A, 9.0V 2.0A, 12V 1.5A (USB)

**All measurement and test data in this report was gathered from production sample serial number: 180925005 (Assigned by BACL, shenzhen).The EUT supplied by the applicant was received on 2018-09-25.*

Objective

This report is prepared on behalf of *Autel Robotics Co., Ltd.* in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commission's rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Related Submittal(s)/Grant(s)

Submissions with the plane unit of a system with FCC ID: 2AGNTEVOA2400A.

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

Measurement Uncertainty

Parameter		uncertainty
Occupied Channel Bandwidth		±5%
RF output power, conducted		±1.5dB
Unwanted Emission, conducted		±1.5dB
Emissions, Radiated	Below 1GHz	±4.75dB
	Above 1GHz	±4.88dB
Temperature		±3℃
Humidity		±6%
Supply voltages		±0.4%

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F., West Wing, Third Phase of Wanli Industrial Building, Shihua Road, Futian Free Trade Zone, Shenzhen, Guangdong, China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 342867, the FCC Designation No. : CN1221.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062B.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

For 2.4GHz: 1.4MHz, mode, 71 channels are provided to testing

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2403.5	36	2438.5
2	2404.5	……	……
3	2405.5	……	……
……	……	……	……
……	……	71	2473.5
……	……	/	/
35	2437.5	/	/

CH1, CH37, CH71 was tested.

For 2.4GHz: 3MHz, 10MHz mode, 65 channels are provided to testing

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2407.5	33	2439.5
2	2408.5	……	……
3	2409.5	……	……
……	……	……	……
……	……	……	……
……	……	64	2470.5
32	2438.5	65	2471.5

CH1, CH33, CH65 was tested.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

"secureCRT" software was used during test.

For 2.4GHz band:

Antenna 0:

Item	Power level		
	Low channel	Middle channel	High channel
1.4M Mode	12	12	10
3M Mode	13	13	11
10M Mode	13	13	11

Antenna 1:

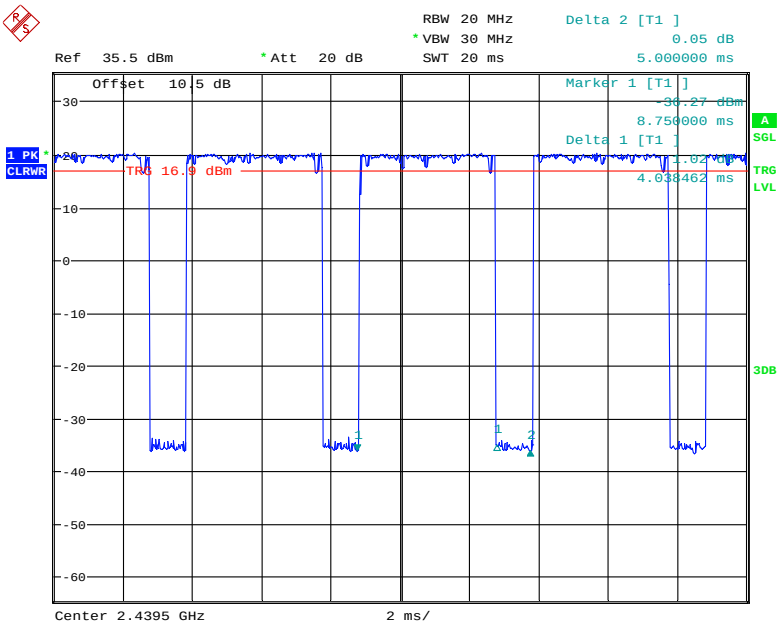
Item	Power level		
	Low channel	Middle channel	High channel
1.4M Mode	11	11	11
3M Mode	12	12	12
10M Mode	12	12	11

Duty cycle

For 2.4 GHz Antenna 0:

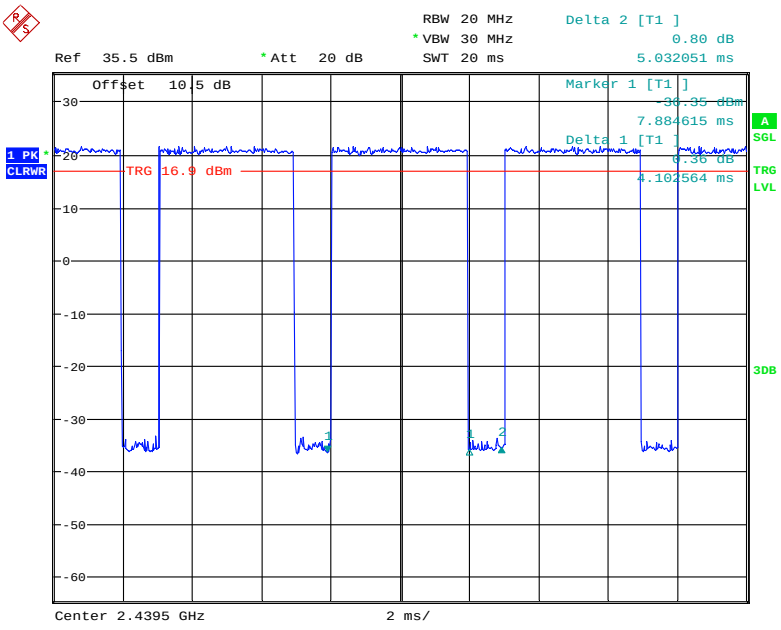
Item	Duty Cycle (%)	T(ms)	1/T(kHz)	VBW Setting	10log(1/x)
1.4M Mode	80	4.0	0.25	1kHz	1.0
3M Mode	80	4.0	0.25	1kHz	1.0
10M Mode	80	4.0	0.25	1kHz	1.0

1.4M Mode



Date: 16.OCT.2018 14:03:06

3M Mode



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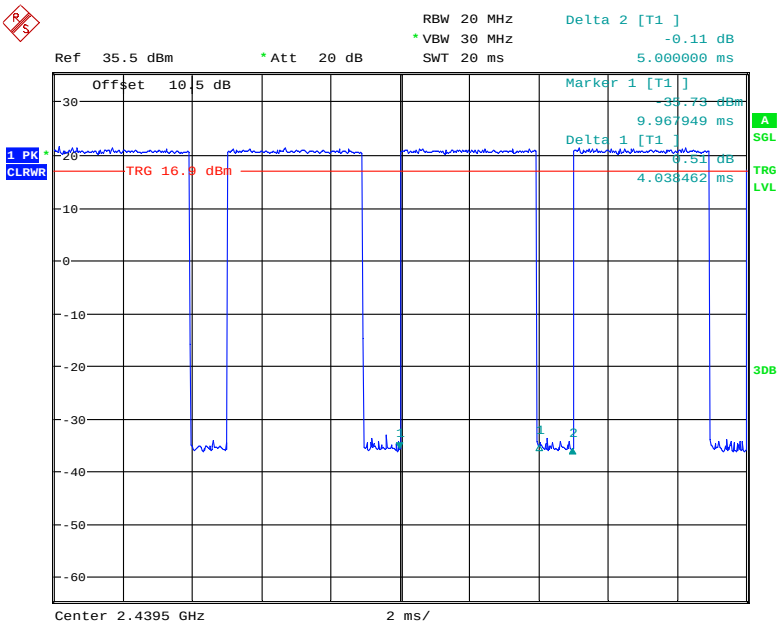
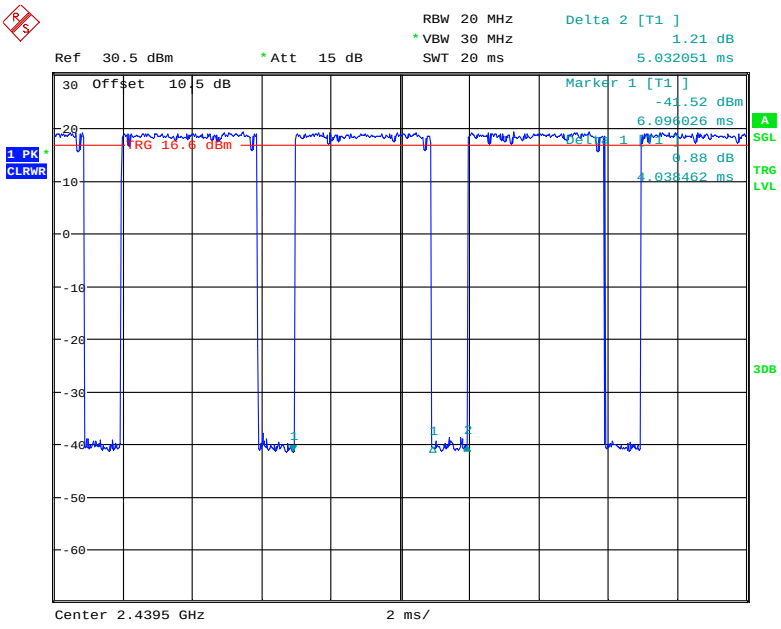
10M Mode



For 2.4GHz Antenna 1:

Item	Duty Cycle (%)	T(ms)	1/T(kHz)	VBW Setting	10log(1/x)
1.4M Mode	80	4.0	0.25	1kHz	1
3M Mode	80	4.0	0.25	1kHz	1
10M Mode	80	4.0	0.25	1kHz	1

1.4M Mode



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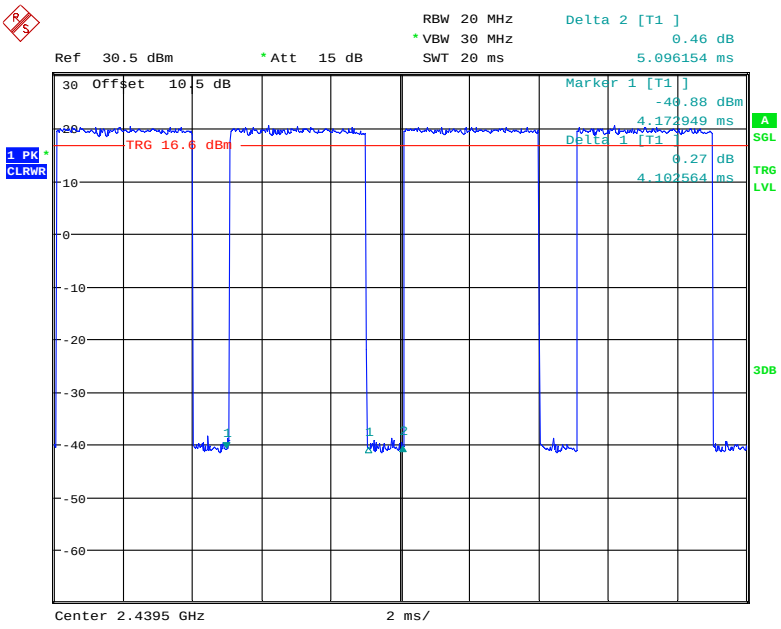
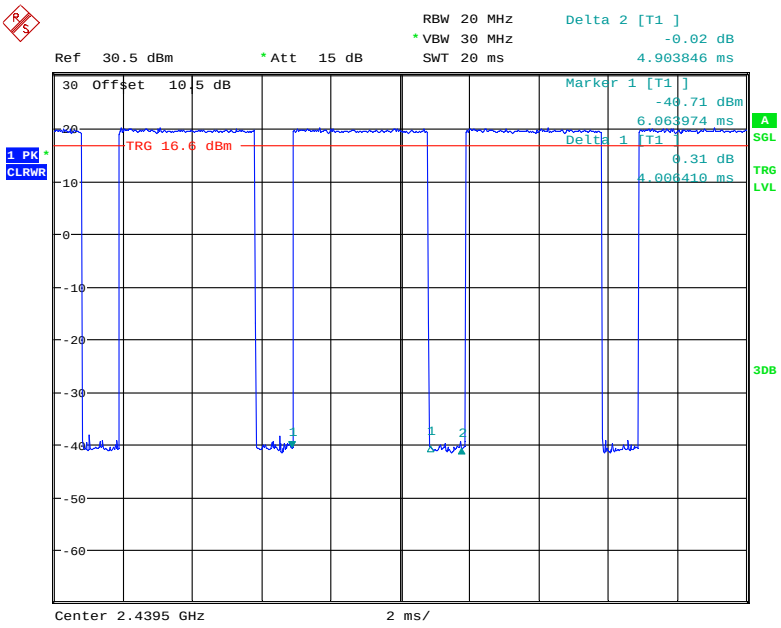
3M Mode



Date: 15.OCT.2018 14:09:25

10M Mode



Support Equipment List and Details

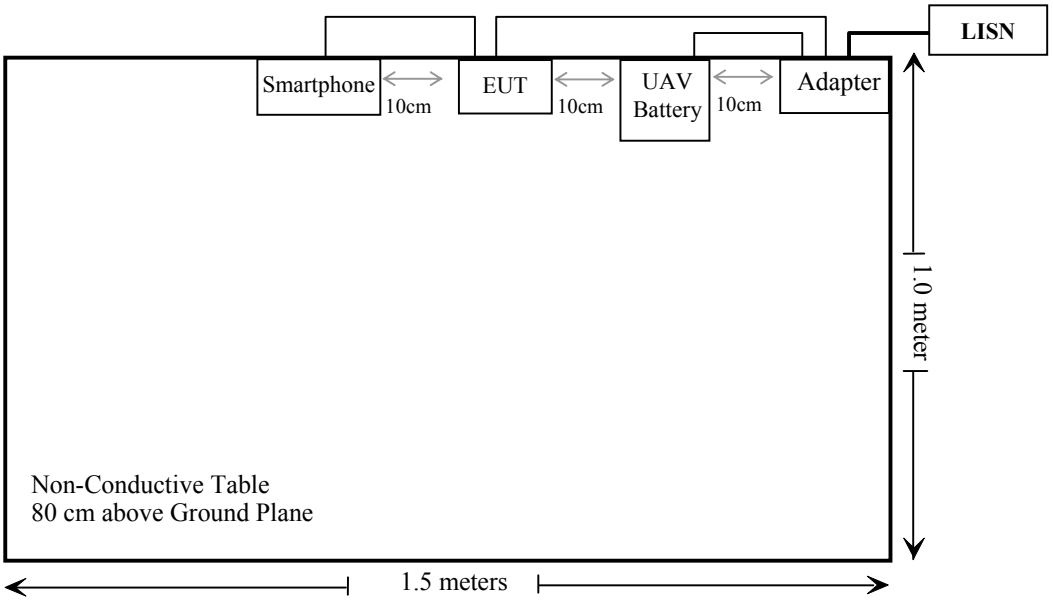
Manufacturer	Description	Model	Serial Number
Autel	UAV Battery	EVO Pro	/
Motorola	Smartphone	Moto X	/

External I/O Cable

Cable Description	Length (m)	From/Port	To
Shielded detachable USB cable With Ferrite Core	1.0	EUT	Adapter
Shielded detachable USB cable With Ferrite Core	1.0	EUT	Smartphone
Un-shielded detachable AC cable	1.1	Adapter	LISN
Unshielded un-detachable DC cable With Ferrite Core	0.55	Adapter	UAV Battery

Block Diagram of Test Setup

For conducted emission:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.247 (i) & §1.1307 (b) (1) & §2.1093	RF Exposure	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliance
§15.247(b)(3)	Maximum Conducted Output Power	Compliance
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(e)	Power Spectral Density	Compliance

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emissions Test					
Rohde & Schwarz	EMI Test Receiver	ESCS30	100176	2018-07-11	2019-07-11
Rohde & Schwarz	LISN	ENV216	3560.6650.12-101613-Yb	2017-12-21	2018-12-21
Rohde & Schwarz	Transient Limiter	ESH3Z2	DE25985	2018-05-12	2018-11-21
Rohde & Schwarz	CE Test software	EMC 32	V8.53.0	NCR	NCR
Unknown	Conducted Emission Cable	78652	UF A210B-1-0720-504504	2018-05-12	2018-11-12
Radiated Emission Test					
A.H. System	Horn Antenna	SAS-200/571	135	2018-09-01	2021-08-31
Rohde & Schwarz	Signal Analyzer	FSEM	845987/005	2018-06-23	2019-06-23
COM-POWER	Pre-amplifier	PA-122	181919	2018-08-01	2019-02-01
Sonoma instrument	Amplifier	310 N	186238	2018-05-12	2018-11-12
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2017-12-22	2020-12-21
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2018-01-11	2019-01-11
UTiFLEX MICRO-C0AX	RF Cable	UFA147A-2362-100100	MFR64639 231029-003	2018-08-01	2019-02-01
Ducommun technologies	RF Cable	104PEA	218124002	2018-05-21	2018-11-21
Ducommun technologies	RF Cable	RG-214	1	2018-05-21	2018-11-19
Ducommun technologies	RF Cable	RG-214	2	2018-05-22	2018-11-22
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-04	2017-12-29	2020-12-28
Heatsink Required	Amplifier	QLW-18405536-J0	15964001002	2018-08-01	2019-02-01
Sinoscite	Notch Filter	BSF2402-2480MN-0898-001	99632	2018-05-21	2018-11-21
Rohde & Schwarz	Auto test software	EMC 32	V9.10	NCR	NCR
RF Conducted Test					
Rohde & Schwarz	SPECTRUM ANALYZER	FSU26	200120	2017-12-24	2018-12-24
Agilent	USB windebond power meter	U2021XA	MY54250003	2018-06-23	2019-06-23
Ducommun technologies	RF Cable	RG-214	3	Each Time	
WEINSCHEL	10dB Attenuator	5324	AU 3842	Each Time	

*** 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).

FCC§15.247 (i), §1.1307 (b) (1) & §2.1093 – RF EXPOSURE

Please refer to SAR test report: RSZ180925005-SA.

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 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has two internal PCB antennas arrangement for 2.4GHz, which were permanently attached and the antenna gain is 2.0 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

For the two antennas, one antenna is used for transmitting signals and two antennas are used for receiving signals. The two antennas can not transmit simultaneously.

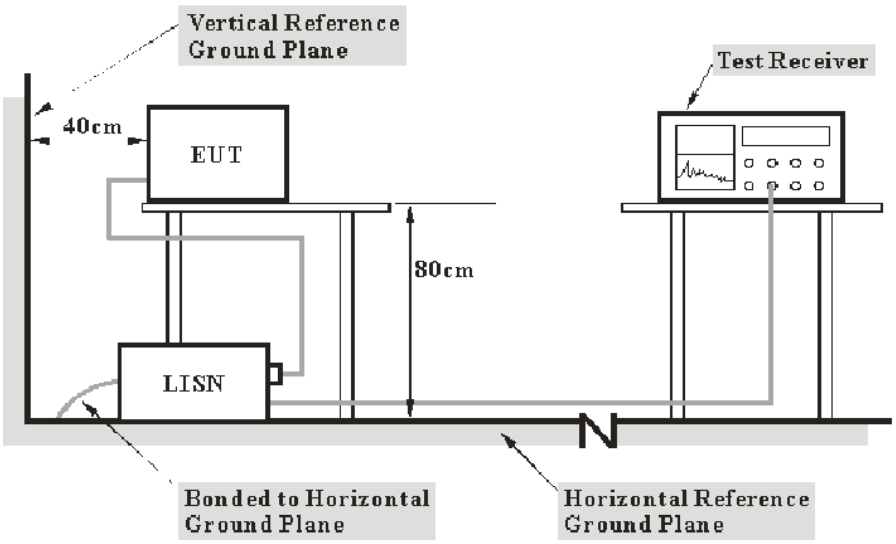
Result: Compliance.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All final data was recorded in the Quasi-peak and average detection mode.

Corrected Factor & Margin Calculation

The Corrected factor is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Correction Factor = LISN VDF + Cable Loss + Transient Limiter Attenuation

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

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207,

Refer to CISPR16-4-2:2011 and CISPR 16-4-1:2009, the measured level complies 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

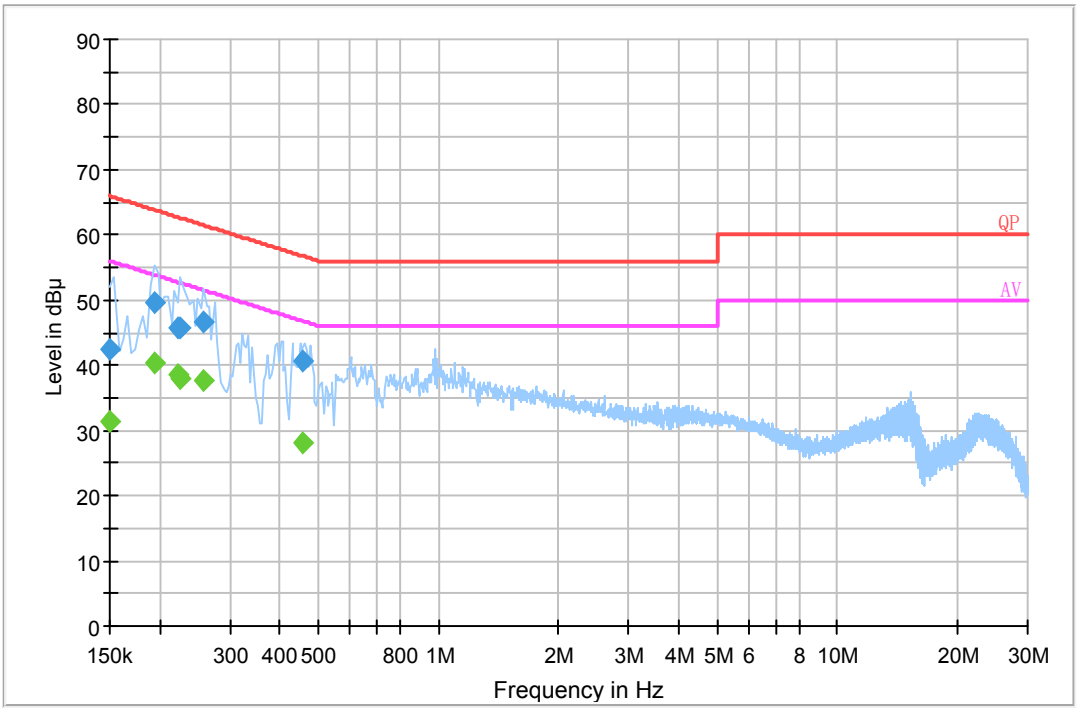
Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Kiki Kong on 2018-10-18.

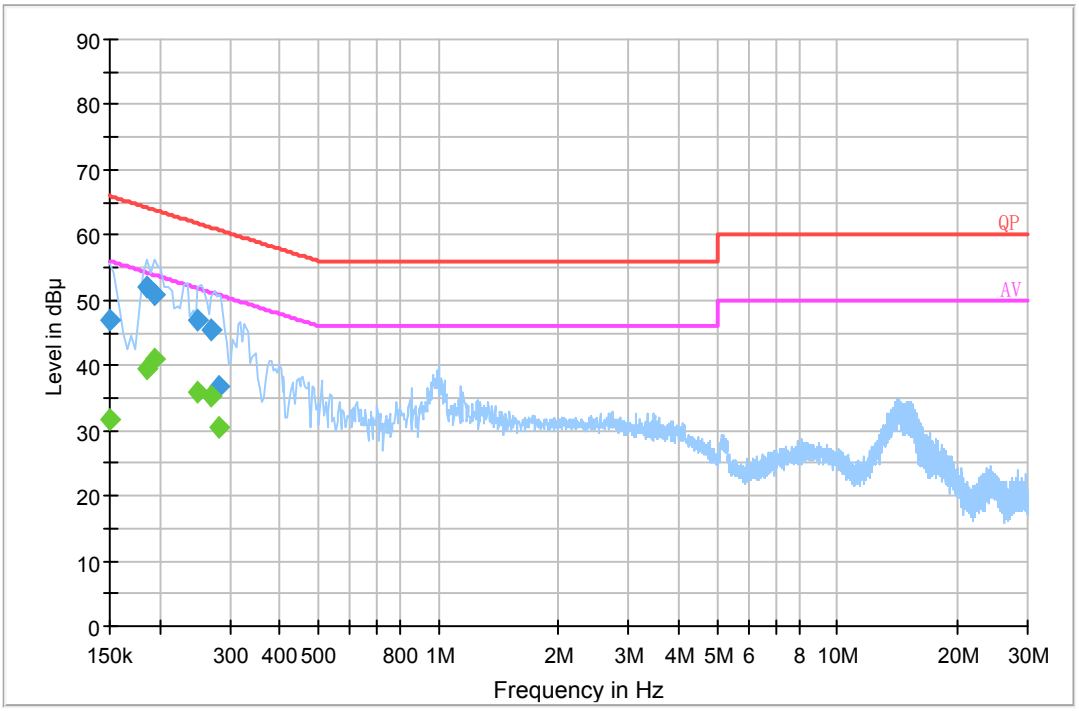
EUT operation mode: Transmitting (worst case is antenna 0, 2.4GHz, 1.4M mode, Low channel)

AC 120 V/60 Hz, Line:



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/Ave./QP)
0.150000	42.6	19.8	66.0	23.4	QP
0.193500	49.6	19.8	63.9	14.3	QP
0.221500	45.8	19.7	62.8	17.0	QP
0.225500	45.8	19.7	62.6	16.8	QP
0.257500	46.7	19.7	61.5	14.9	QP
0.459070	40.7	19.7	56.7	16.0	QP
0.150000	31.5	19.8	56.0	24.5	Ave.
0.193500	40.2	19.8	53.9	13.7	Ave.
0.221500	38.4	19.7	52.8	14.4	Ave.
0.225500	38.0	19.7	52.6	14.6	Ave.
0.257500	37.6	19.7	51.5	13.9	Ave.
0.459070	28.2	19.7	46.7	18.5	Ave.

AC 120V/ 60 Hz, Neutral:



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/Ave./QP)
0.150000	46.9	19.8	66.0	19.1	QP
0.186500	51.9	19.7	64.2	12.3	QP
0.193500	50.8	19.7	63.9	13.1	QP
0.249500	46.8	19.7	61.8	15.0	QP
0.269500	45.4	19.7	61.1	15.7	QP
0.281500	36.6	19.7	60.8	24.2	QP
0.150000	31.6	19.8	56.0	24.4	Ave.
0.186500	39.5	19.7	54.2	14.7	Ave.
0.193500	40.9	19.7	53.9	13.0	Ave.
0.249500	36.0	19.7	51.8	15.8	Ave.
0.269500	35.1	19.7	51.1	16.0	Ave.
0.281500	30.4	19.7	50.8	20.4	Ave.

Note:
1) Correction Factor =LISN VDF (Voltage Division Factor) + Cable Loss + Transient Limiter Attenuation
2) Corrected Amplitude = Reading + Correction Factor
3) Margin = Limit – Corrected Amplitude

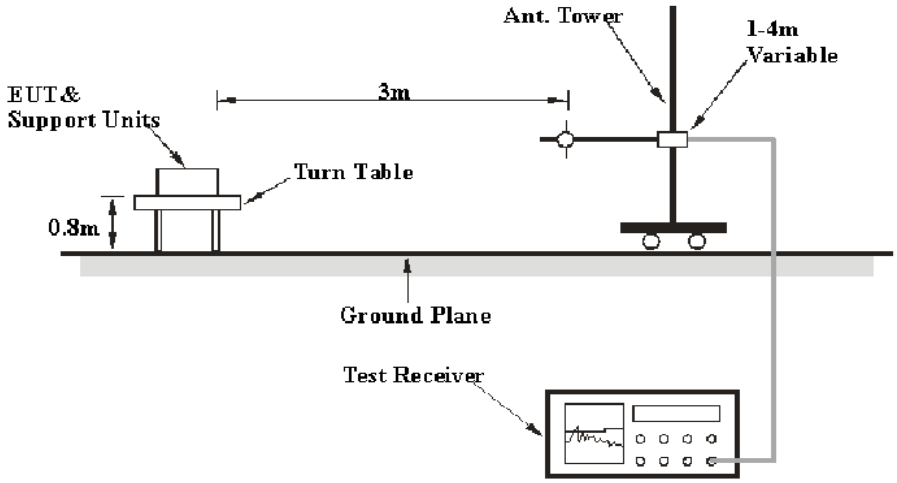
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

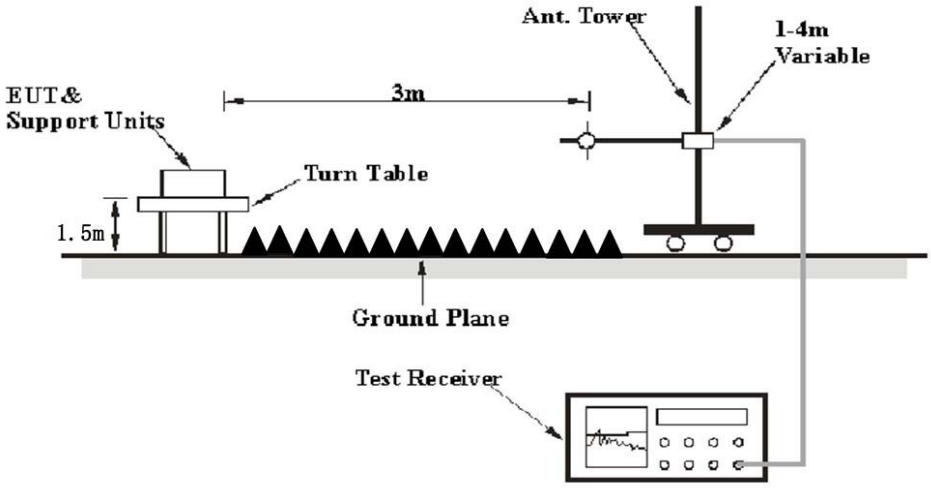
FCC §15.247 (d); §15.209; §15.205;

EUT Setup

Below 1 GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.247 limits.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 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	Measurement
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz Note 1	/	Ave.
	1MHz	＞1/T Note 2	/	Ave.

Note 1: when duty cycle is no less than 98%
Note 2: when duty cycle is less than 98%

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-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

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 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 15.247.

Refer to CISPR16-4-2:2011 and CISPR 16-4-1:2009, the measured level complies 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

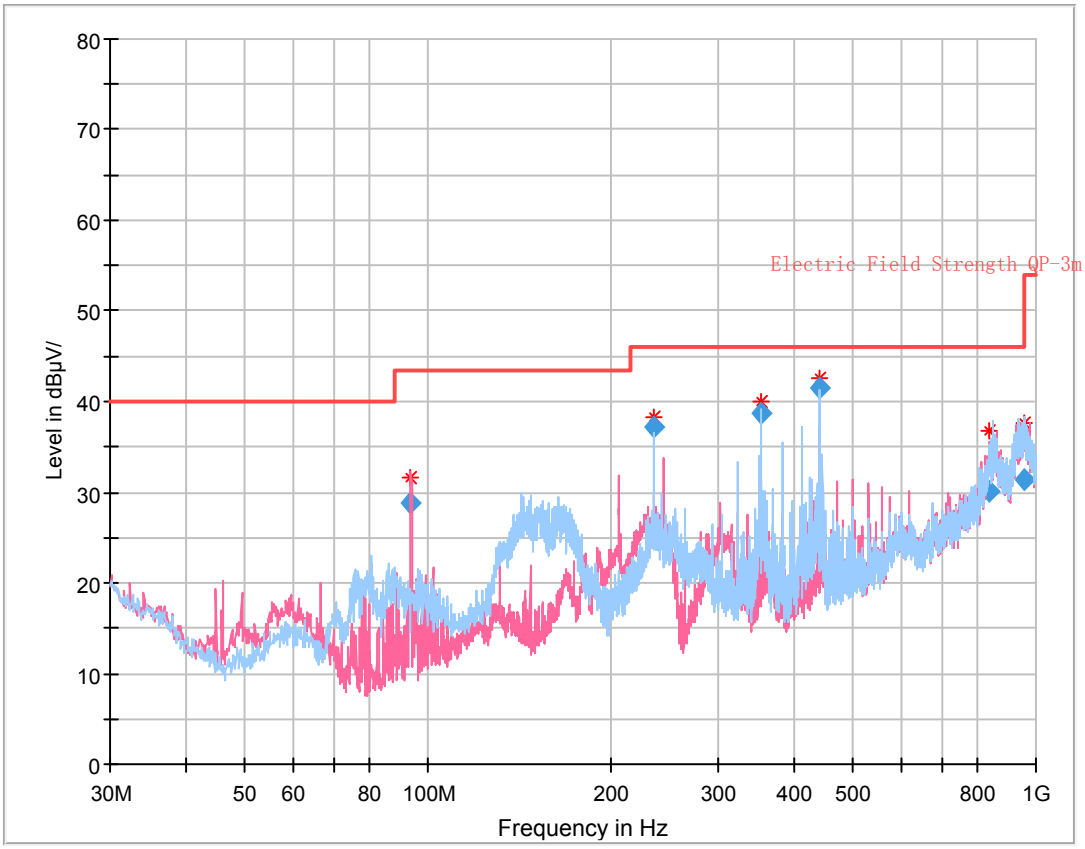
Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	101.0 kPa

The testing was performed by Kiki Kong on 2018-10-17 and 2018-11-01.

EUT operation mode: Transmitting

30 MHz~1 GHz: (worst case is 2.4GHz antenna 0, 1.4 M mode, Low channel)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna height (cm)	Antenna Polarity	Turntable position (degree)	Correction Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
93.844125	28.85	162.0	V	0.0	-18.3	43.50	14.65
235.643500	37.22	131.0	H	254.0	-14.0	46.00	8.78
353.451125	38.74	108.0	H	258.0	-10.8	46.00	7.26
441.789125	41.45	102.0	H	331.0	-8.6	46.00	4.55
839.254125	30.17	120.0	V	62.0	5.9	46.00	15.83
956.582375	31.48	181.0	H	0.0	9.5	46.00	14.52

1 GHz-25 GHz:

Antenna 0:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	PK/QP/Ave.		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
1.4M Mode									
Low Channel (2403.5 MHz)									
2403.50	81.12	PK	316	1.6	H	33.00	114.12	/	/
2403.50	71.75	Ave.	316	1.6	H	33.00	104.75	/	/
2403.50	75.01	PK	188	2.2	V	33.00	108.01	/	/
2403.50	64.52	Ave.	188	2.2	V	33.00	97.52	/	/
2362.33	27.78	PK	95	1.9	H	33.00	60.78	74	13.22
2362.33	13.35	Ave.	95	1.9	H	33.00	46.35	54	7.65
2486.42	27.33	PK	281	2.0	H	33.20	60.53	74	13.47
2486.42	13.27	Ave.	281	2.0	H	33.20	46.47	54	7.53
4807.00	43.36	PK	149	1.9	H	7.88	51.24	74	22.76
4807.00	29.80	Ave.	149	1.9	H	7.88	37.68	54	16.32
Middle Channel (2439.5MHz)									
2439.50	81.05	PK	306	1.1	H	33.10	114.15	/	/
2439.50	70.32	AV	306	1.1	H	33.10	103.42	/	/
2439.50	75.64	PK	99	1.2	V	33.10	108.74	/	/
2439.50	64.35	AV	99	1.2	V	33.10	97.45	/	/
4879.00	41.64	PK	205	1.5	H	9.21	50.85	74	23.15
4879.00	28.21	AV	205	1.5	H	9.21	37.42	54	16.58
High Channel (2473.50 MHz)									
2473.50	75.82	PK	355	1.4	H	33.20	109.02	/	/
2473.50	66.56	Ave.	355	1.4	H	33.20	99.76	/	/
2473.50	70.15	PK	330	2.4	V	33.20	103.35	/	/
2473.50	60.89	Ave.	330	2.4	V	33.20	94.09	/	/
2389.00	27.49	PK	288	1.3	H	33.00	60.49	74	13.51
2389.00	13.25	Ave.	288	1.3	H	33.00	46.25	54	7.75
2483.50	27.46	PK	255	1.6	H	33.20	60.66	74	13.34
2483.50	13.52	Ave.	255	1.6	H	33.20	46.72	54	7.28
4947.00	42.59	PK	195	1.6	H	9.21	51.80	74	22.20
4947.00	28.43	Ave.	195	1.6	H	9.21	37.64	54	16.36

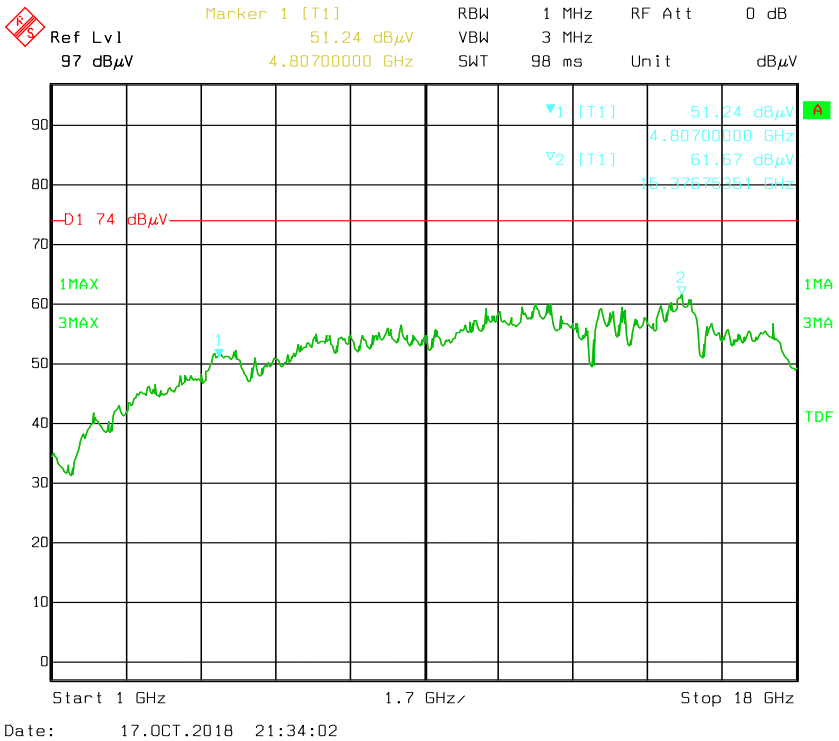
Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	PK/QP/Ave.		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
3M Mode									
Low Channel (2407.5 MHz)									
2407.50	81.30	PK	269	1.5	H	33.00	114.30	/	/
2407.50	69.92	Ave.	269	1.5	H	33.00	102.92	/	/
2407.50	78.14	PK	47	1.6	V	33.00	111.14	/	/
2407.50	67.52	Ave.	47	1.6	V	33.00	100.52	/	/
2390.00	27.44	PK	109	1.1	H	33.00	60.44	74	13.56
2390.00	13.52	Ave.	109	1.1	H	33.00	46.52	54	7.48
2483.50	27.61	PK	343	1.5	H	33.20	60.81	74	13.19
2483.50	13.30	Ave.	343	1.5	H	33.20	46.50	54	7.50
4815.00	43.50	PK	338	1.8	H	7.88	51.38	74	22.62
4815.00	29.76	Ave.	338	1.8	H	7.88	37.64	54	16.36
Middle Channel (2439.5MHz)									
2439.50	80.56	PK	239	2.0	H	33.10	113.66	/	/
2439.50	69.44	Ave.	239	2.0	H	33.10	102.54	/	/
2439.50	75.24	PK	348	1.8	V	33.10	108.34	/	/
2439.50	64.39	Ave.	348	1.8	V	33.10	97.49	/	/
4879.00	42.76	PK	328	1.2	H	9.21	51.97	74	22.03
4879.00	28.49	Ave.	328	1.2	H	9.21	37.70	54	16.30
High Channel (2471.5 MHz)									
2471.50	75.03	PK	211	1.7	H	33.10	108.13	/	/
2471.50	64.20	Ave.	211	1.7	H	33.10	97.30	/	/
2471.50	74.29	PK	171	2.4	V	33.10	107.39	/	/
2471.50	63.10	Ave.	171	2.4	V	33.10	96.20	/	/
2390.00	27.69	PK	19	1.8	H	33.00	60.69	74	13.31
2390.00	13.40	Ave.	19	1.8	H	33.00	46.40	54	7.60
2483.50	27.82	PK	8	2.2	H	33.20	61.02	74	12.98
2483.50	13.54	Ave.	8	2.2	H	33.20	46.74	54	7.26
4943.00	42.87	PK	306	1.3	H	9.21	52.08	74	21.92
4943.00	28.50	Ave.	306	1.3	H	9.21	37.71	54	16.29

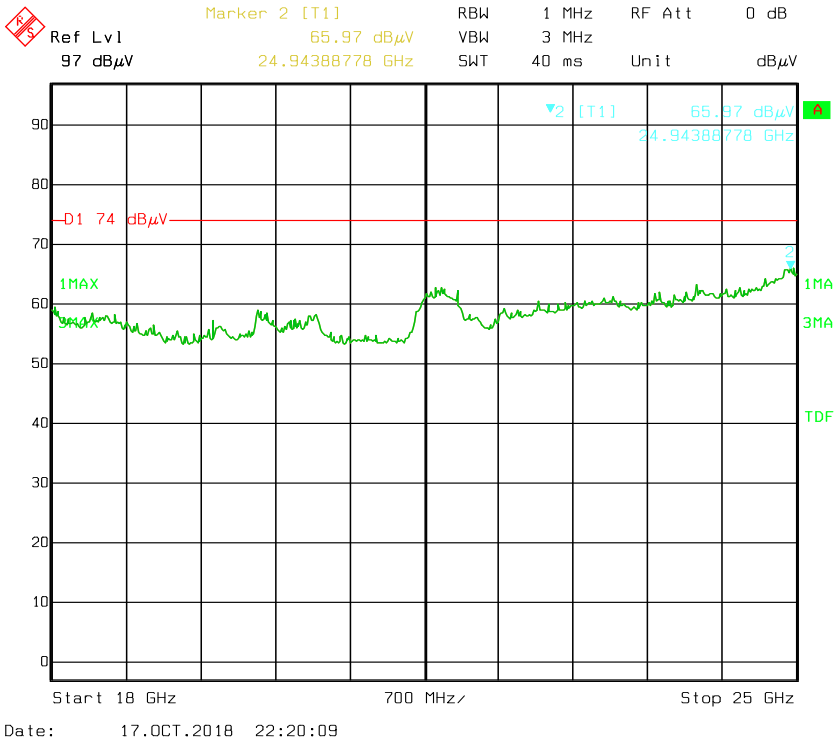
Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	PK/QP/Ave.		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
10M Mode									
Low Channel (2407.5 MHz)									
2407.50	77.94	PK	1	1.8	H	33.00	110.94	/	/
2407.50	66.53	Ave.	1	1.8	H	33.00	99.53	/	/
2407.50	75.68	PK	39	2.2	V	33.00	108.68	/	/
2407.50	64.70	Ave.	39	2.2	V	33.00	97.70	/	/
2376.00	27.91	PK	312	1.8	H	33.00	60.91	74	13.09
2376.00	13.56	Ave.	312	1.8	H	33.00	46.56	54	7.44
2483.50	27.44	PK	214	1.0	H	33.20	60.64	74	13.36
2483.50	13.32	Ave.	214	1.0	H	33.20	46.52	54	7.48
4815.00	42.83	PK	331	1.8	H	7.88	50.71	74	23.29
4815.00	28.95	Ave.	331	1.8	H	7.88	36.83	54	17.17
Middle Channel (2439.5MHz)									
2439.50	81.47	PK	82	1.6	H	33.10	114.57	/	/
2439.50	69.90	Ave.	82	1.6	H	33.10	103.00	/	/
2439.50	75.42	PK	265	1.8	V	33.10	108.52	/	/
2439.50	63.57	Ave.	265	1.8	V	33.10	96.67	/	/
4879.00	43.89	PK	353	2.2	H	9.21	53.10	74	20.90
4879.00	28.74	Ave.	353	2.2	H	9.21	37.95	54	16.05
High Channel (2471.5 MHz)									
2471.50	72.55	PK	275	1.4	H	33.10	105.65	/	/
2471.50	61.70	Ave.	275	1.4	H	33.10	94.80	/	/
2471.50	71.98	PK	11	2.4	V	33.10	105.08	/	/
2471.50	61.10	Ave.	11	2.4	V	33.10	94.20	/	/
2388.00	27.15	PK	350	2.3	H	33.00	60.15	74	13.85
2388.00	13.54	Ave.	350	2.3	H	33.00	46.54	54	7.46
2483.60	29.11	PK	168	2.1	H	33.20	62.31	74	11.69
2483.60	14.16	Ave.	168	2.1	H	33.20	47.36	54	6.64
4943.00	42.95	PK	336	1.1	H	9.21	52.16	74	21.84
4943.00	29.06	Ave.	336	1.1	H	9.21	38.27	54	15.73

Note:
Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
Corrected Amplitude = Corrected Factor + Reading
Margin = Limit - Corrected. Amplitude
The other spurious emission which is 20dB to the limit was not recorded.
And for the pre-scan is performed with the 2400-2483.5MHz band filter.

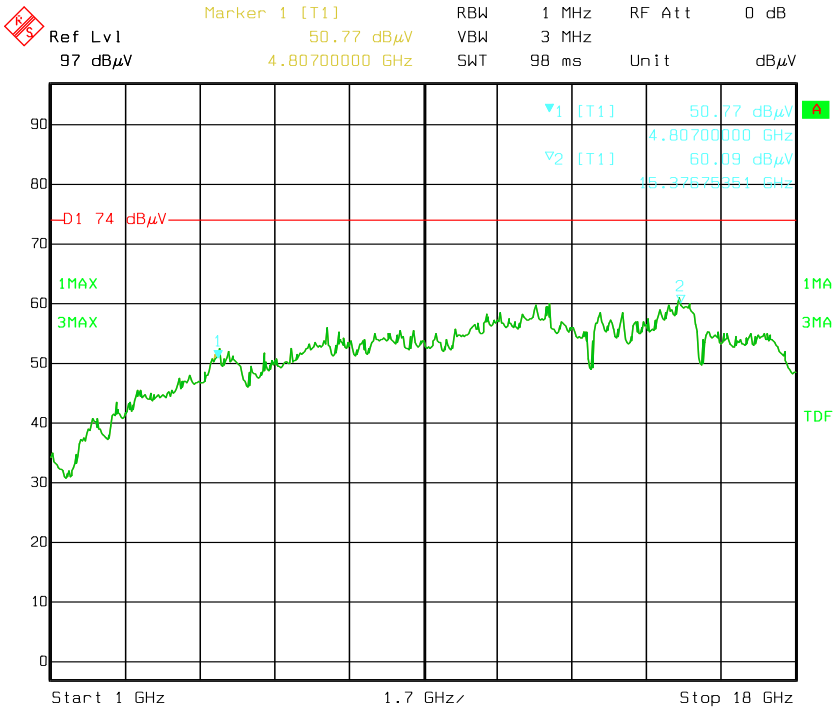
Pre-scan with 1.4M Mode, Low channel, for Peak

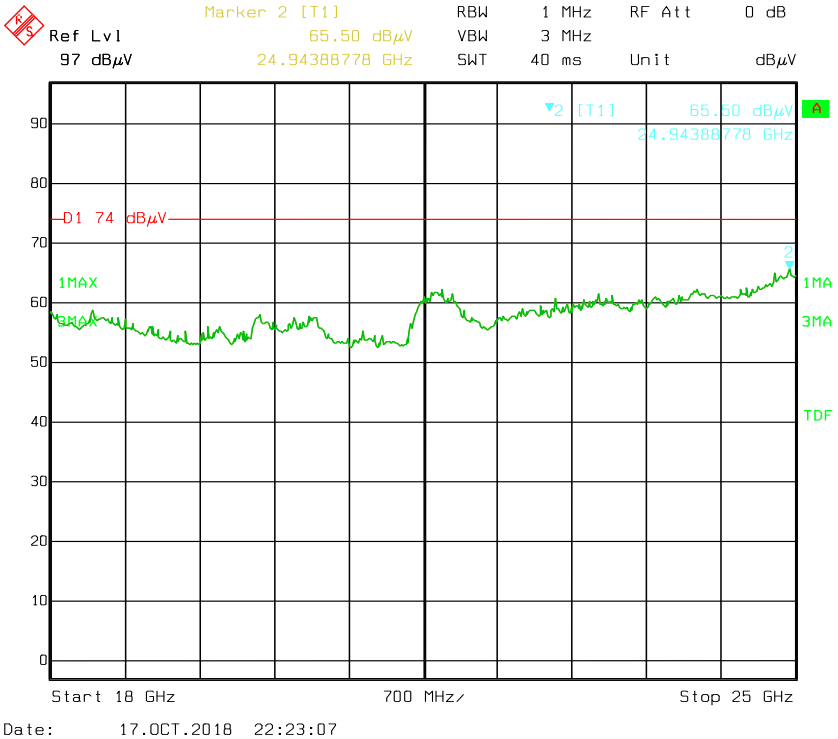
Horizontal





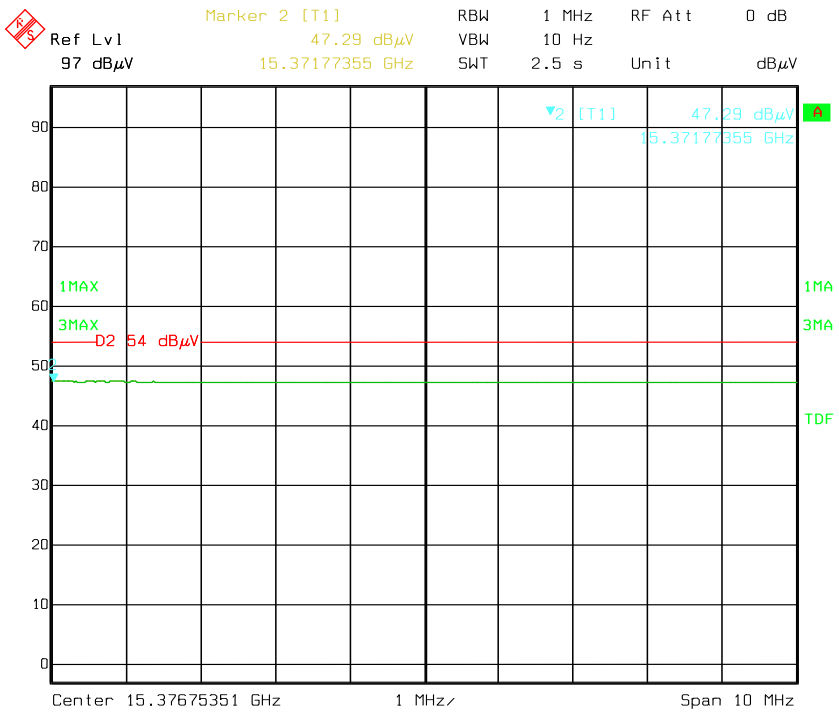
Vertical

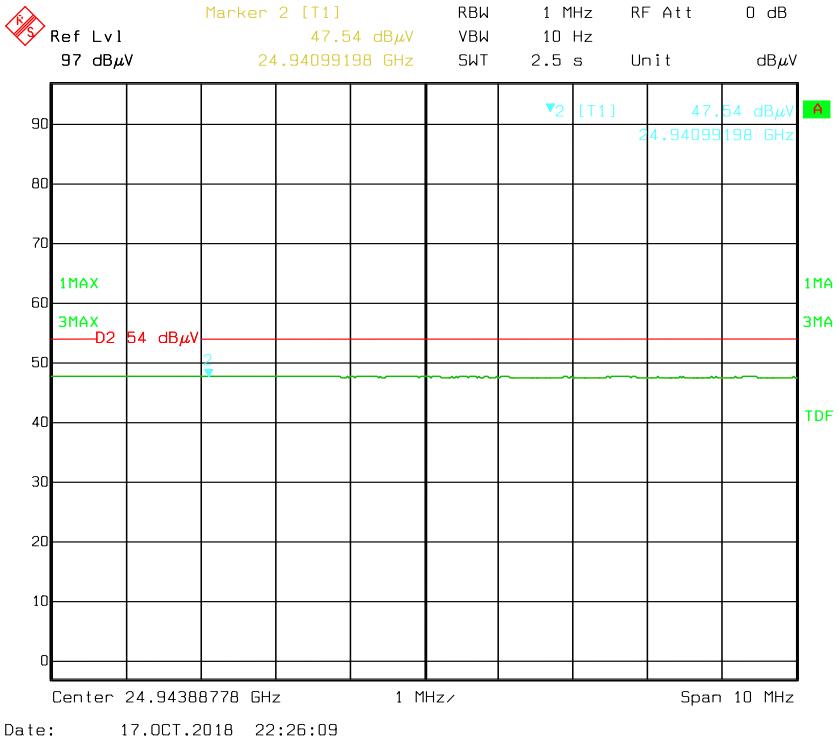

Marker 1 [T1]
Ref Lvl
97 dBµV
50.77 dBµV
4.80700000 GHz
RBW 1 MHz
VBW 3 MHz
SWT 98 ms
RF Att 0 dB
Unit dBµV
1 [T1] 50.77 dBµV
4.80700000 GHz
2 [T1] 60.09 dBµV
D1 74 dBµV
1MAX
3MAX
1MA
3MA
TDF
Start 1 GHz
1.7 GHz/
Stop 18 GHz
Date: 17.OCT.2018 21:37:11


Marker 2 [T1]
Ref Lvl
97 dBµV
65.50 dBµV
24.94388778 GHz
RBW 1 MHz
VBW 3 MHz
SWT 40 ms
RF Att 0 dB
Unit dBµV
2 [T1] 65.50 dBµV
24.94388778 GHz
D1 74 dBµV
1MAX
1MA
3MA
TDF
Start 18 GHz
700 MHz/
Stop 25 GHz
Date: 17.OCT.2018 22:23:07

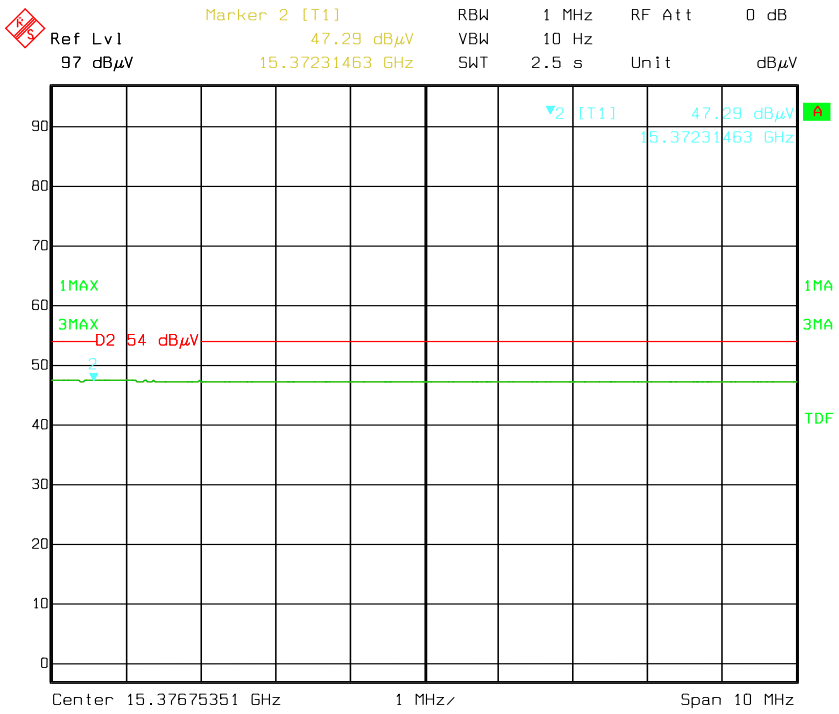
For Average

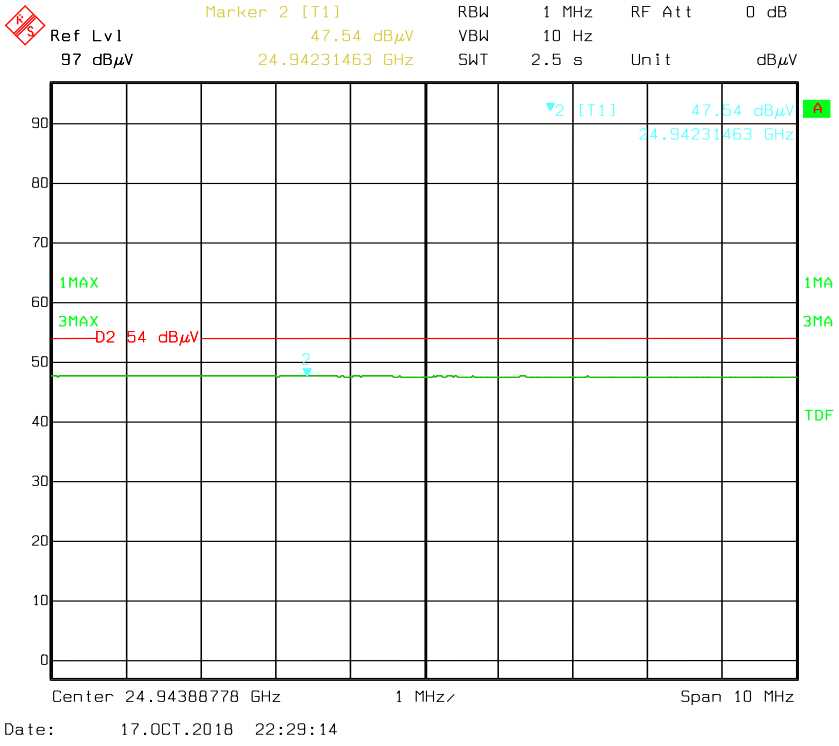
Horizontal





Vertical


Marker 2 [T1]
47.29 dBµV
15.37231463 GHz
RBW 1 MHz
VBW 10 Hz
SWT 2.5 s
RF Att 0 dB
Unit dBµV
Ref Lvl
97 dBµV
▼2 [T1]
47.29 dBµV
15.37231463 GHz
A
1MAX
3MAX
D2 54 dBµV
1MA
3MA
TDF
90
80
70
60
50
40
30
20
10
0
Center 15.37675351 GHz
1 MHz/
Span 10 MHz
Date: 17.OCT.2018 21:41:46


Marker 2 [T1]
47.54 dBµV
24.94231463 GHz
RBW 1 MHz
VBW 10 Hz
SWT 2.5 s
RF Att 0 dB
Unit dBµV
Ref Lvl
97 dBµV
▼2 [T1]
47.54 dBµV
24.94231463 GHz
A
1MAX
3MAX
D2 54 dBµV
1MA
3MA
TDF
90
80
70
60
50
40
30
20
10
0
Center 24.94388778 GHz
1 MHz/
Span 10 MHz
Date: 17.OCT.2018 22:29:14

1 GHz-25 GHz:

Antenna 1:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	PK/QP/Ave.		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
1.4M Mode									
Low Channel (2403.5 MHz)									
2403.50	81.91	PK	60	1.8	H	33.00	114.91	/	/
2403.50	69.85	Ave.	60	1.8	H	33.00	102.85	/	/
2403.50	75.30	PK	358	1.3	V	33.00	108.30	/	/
2403.50	64.23	Ave.	358	1.3	V	33.00	97.23	/	/
2389.00	27.60	PK	106	2.2	H	33.00	60.60	74	13.40
2389.00	13.44	Ave.	106	2.2	H	33.00	46.44	54	7.56
2483.60	27.43	PK	179	1.3	H	33.20	60.63	74	13.37
2483.60	13.32	Ave.	179	1.3	H	33.20	46.52	54	7.48
4807.00	42.91	PK	173	1.2	H	7.88	50.79	74	23.21
4807.00	28.86	Ave.	173	1.2	H	7.88	36.74	54	17.26
Middle Channel (2439.5MHz)									
2439.50	81.22	PK	259	2.5	H	33.10	114.32	/	/
2439.50	70.56	Ave.	259	2.5	H	33.10	103.66	/	/
2439.50	76.23	PK	133	2.4	V	33.10	109.33	/	/
2439.50	65.20	Ave.	133	2.4	V	33.10	98.30	/	/
4879.00	43.58	PK	125	2.5	H	9.21	52.79	74	21.21
4879.00	29.77	Ave.	125	2.5	H	9.21	38.98	54	15.02
High Channel (2473.5 MHz)									
2473.50	80.44	PK	340	1.8	H	33.20	113.64	/	/
2473.50	69.20	Ave.	340	1.8	H	33.20	102.40	/	/
2473.50	74.24	PK	151	1.0	V	33.20	107.44	/	/
2473.50	63.10	Ave.	151	1.0	V	33.20	96.30	/	/
2388.00	27.40	PK	105	1.2	H	33.00	60.40	74	13.60
2388.00	13.35	Ave.	105	1.2	H	33.00	46.35	54	7.65
2483.60	27.86	PK	216	1.3	H	33.20	61.06	74	12.94
2483.60	13.52	Ave.	216	1.3	H	33.20	46.72	54	7.28
4947.00	42.58	PK	237	1.9	H	9.21	51.79	74	22.21
4947.00	28.70	Ave.	237	1.9	H	9.21	37.91	54	16.09

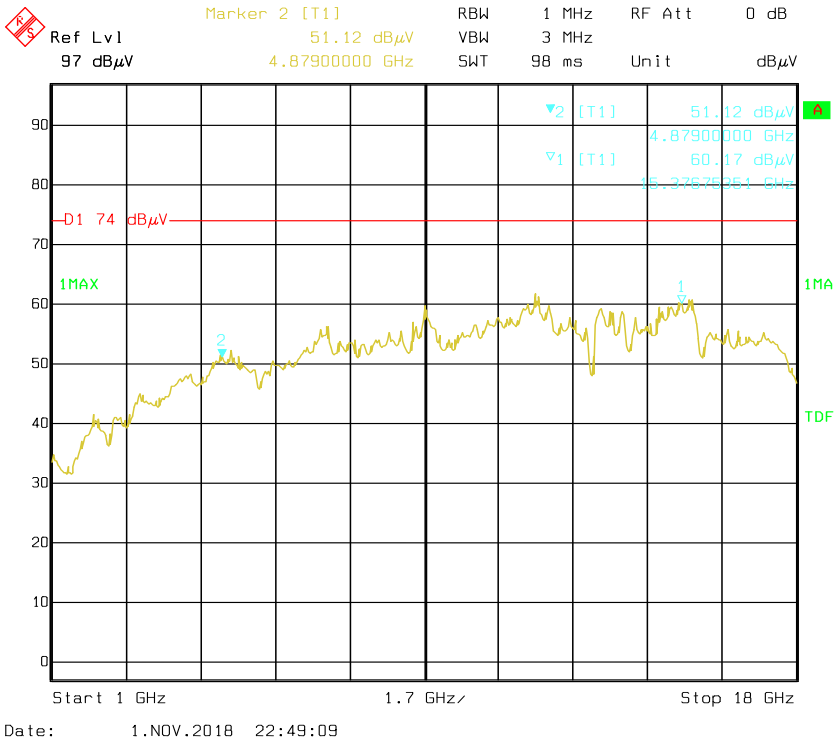
Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	PK/QP/Ave.		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
3M Mode									
Low Channel (2407.5 MHz)									
2407.50	81.50	PK	13	1.6	H	33.00	114.50	/	/
2407.50	70.04	Ave.	13	1.6	H	33.00	103.04	/	/
2407.50	75.50	PK	48	1.1	V	33.00	108.50	/	/
2407.50	64.53	Ave.	48	1.1	V	33.00	97.53	/	/
2390.00	28.40	PK	237	1.4	H	33.00	61.40	74	12.60
2390.00	13.36	Ave.	237	1.4	H	33.00	46.36	54	7.64
2486.00	27.46	PK	92	1.8	H	33.20	60.66	74	13.34
2486.00	13.32	Ave.	92	1.8	H	33.20	46.52	54	7.48
4815.00	43.05	PK	306	2.3	H	7.88	50.93	74	23.07
4815.00	29.21	Ave.	306	2.3	H	7.88	37.09	54	16.91
Middle Channel (2439.5MHz)									
2439.50	80.92	PK	275	1.5	H	33.10	114.02	/	/
2439.50	69.77	Ave.	275	1.5	H	33.10	102.87	/	/
2439.50	75.23	PK	115	2.0	V	33.10	108.33	/	/
2439.50	64.20	Ave.	115	2.0	V	33.10	97.30	/	/
4879.00	42.95	PK	10	1.3	H	9.21	52.16	74	21.84
4879.00	28.77	Ave.	10	1.3	H	9.21	37.98	54	16.02
High Channel (2471.5 MHz)									
2471.50	79.32	PK	69	1.3	H	33.10	112.42	/	/
2471.50	68.52	Ave.	69	1.3	H	33.10	101.62	/	/
2471.50	74.10	PK	245	1.1	V	33.10	107.20	/	/
2471.50	63.52	Ave.	245	1.1	V	33.10	96.62	/	/
2390.00	27.43	PK	69	1.8	H	33.00	60.43	74	13.57
2390.00	13.26	Ave.	69	1.8	H	33.00	46.26	54	7.74
2483.60	27.34	PK	351	1.6	H	33.20	60.54	74	13.46
2483.60	13.25	Ave.	351	1.6	H	33.20	46.45	54	7.55
4943.00	42.63	PK	180	1.1	H	9.21	51.84	74	22.16
4943.00	28.70	Ave.	180	1.1	H	9.21	37.91	54	16.09

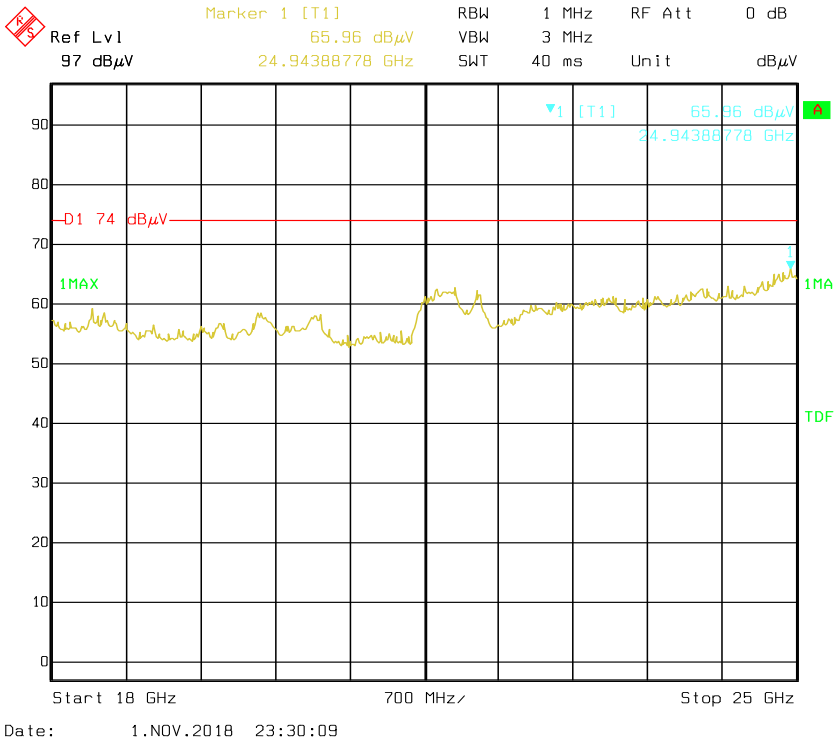
Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	PK/QP/Ave.		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
10M Mode									
Low Channel (2407.5 MHz)									
2407.50	78.25	PK	14	2.5	H	33.00	111.25	/	/
2407.50	67.40	Ave.	14	2.5	H	33.00	100.40	/	/
2407.50	72.53	PK	101	1.7	V	33.00	105.53	/	/
2407.50	62.11	Ave.	101	1.7	V	33.00	95.11	/	/
2387.00	27.46	PK	345	2.4	H	33.00	60.46	74	13.54
2387.00	13.86	Ave.	345	2.4	H	33.00	46.86	54	7.14
2486.00	27.15	PK	65	1.1	H	33.20	60.35	74	13.65
2486.00	13.34	Ave.	65	1.1	H	33.20	46.54	54	7.46
4815.00	42.95	PK	220	1.0	H	7.88	50.83	74	23.17
4815.00	28.76	Ave.	220	1.0	H	7.88	36.64	54	17.36
Middle Channel (2439.5MHz)									
2439.50	80.46	PK	81	1.4	H	33.10	113.56	/	/
2439.50	69.28	Ave.	81	1.4	H	33.10	102.38	/	/
2439.50	74.36	PK	252	1.1	V	33.10	107.46	/	/
2439.50	63.20	Ave.	252	1.1	V	33.10	96.30	/	/
4879.00	42.56	PK	191	1.3	H	9.21	51.77	74	22.23
4879.00	29.01	Ave.	191	1.3	H	9.21	38.22	54	15.78
High Channel (2471.5 MHz)									
2471.50	76.25	PK	230	1.5	H	33.10	109.35	/	/
2471.50	65.44	Ave.	230	1.5	H	33.10	98.54	/	/
2471.50	73.10	PK	340	1.3	V	33.10	106.20	/	/
2471.50	62.35	Ave.	340	1.3	V	33.10	95.45	/	/
2387.00	27.62	PK	7	1.5	H	33.00	60.62	74	13.38
2387.00	13.33	Ave.	7	1.5	H	33.00	46.33	54	7.67
2486.00	27.89	PK	338	1.4	H	33.20	61.09	74	12.91
2486.00	13.35	Ave.	338	1.4	H	33.20	46.55	54	7.45
4943.00	42.95	PK	336	1.1	H	9.21	52.16	74	21.84
4943.00	29.06	Ave.	336	1.1	H	9.21	38.27	54	15.73

Note:
Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
Corrected Amplitude = Corrected Factor + Reading
Margin = Limit - Corrected. Amplitude
The other spurious emission which is 20dB to the limit was not recorded.
And for the pre-scan is performed with the 2400-2483.5MHz band filter.

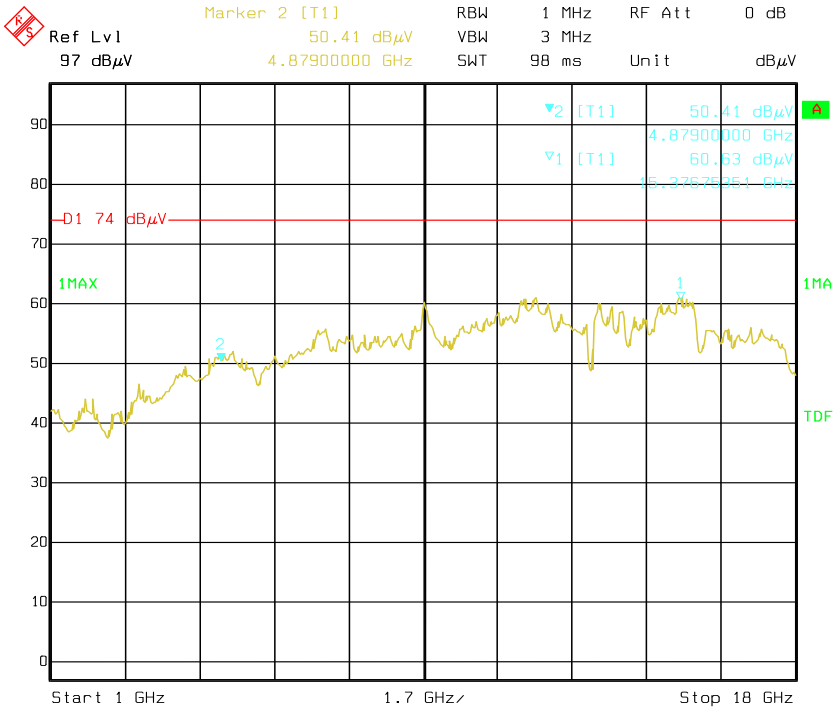
Pre-scan with 1.4M Mode, Middle channel, for Peak

Horizontal





Vertical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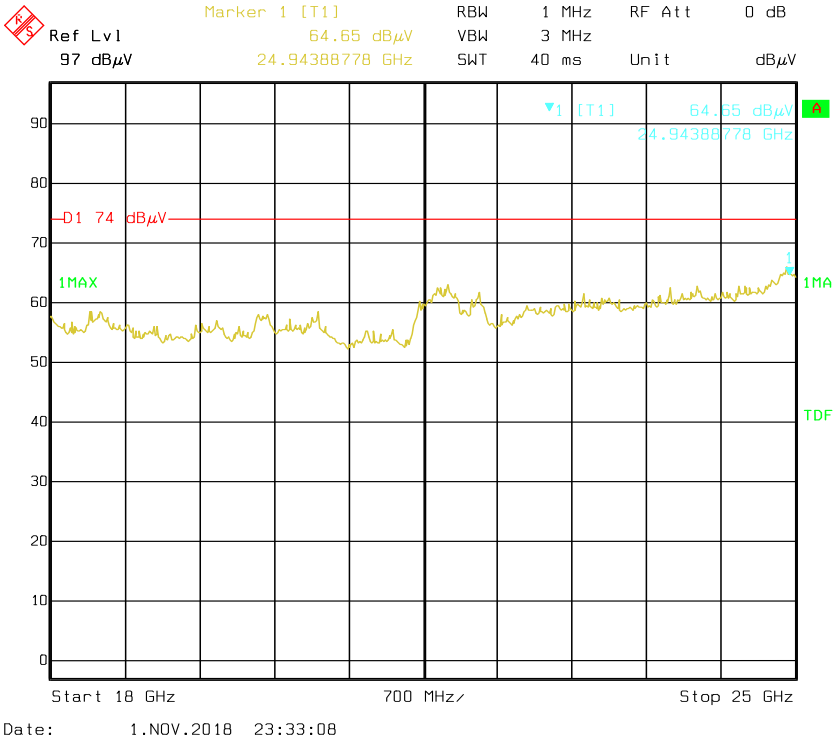
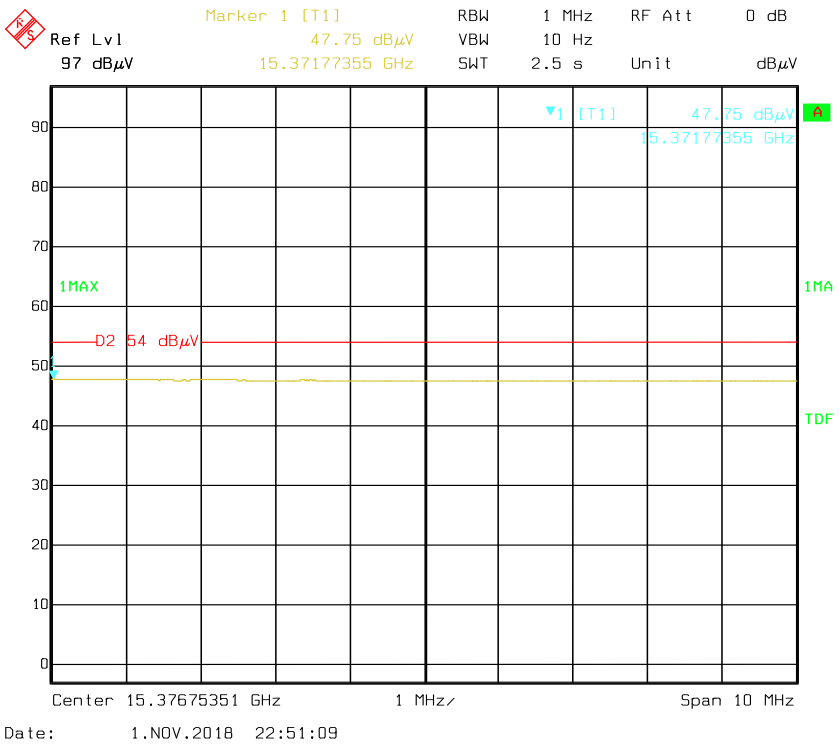
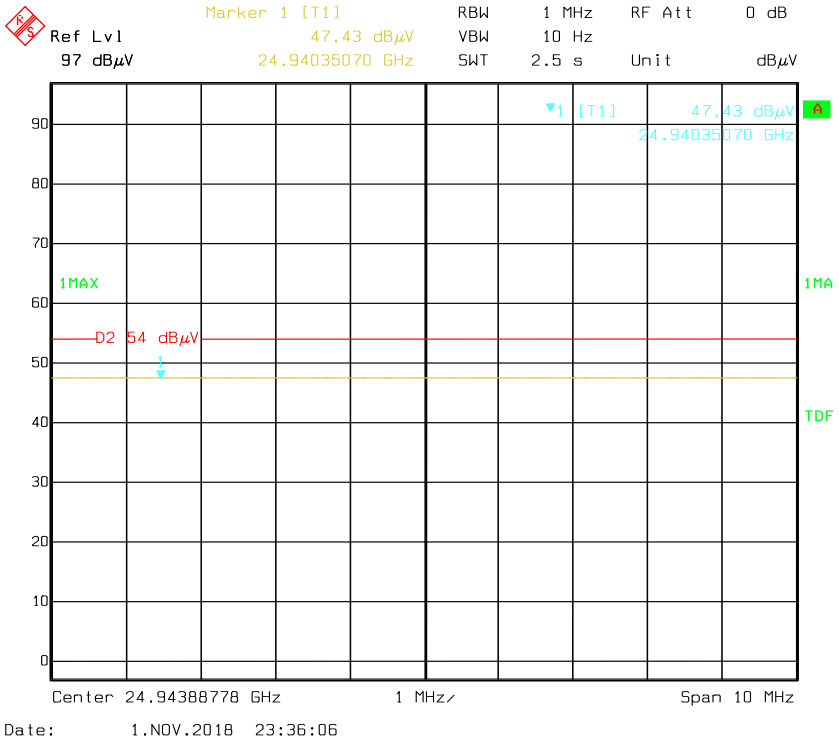
50.41 dBµV
4.87900000 GHz
RBW 1 MHz
VBW 3 MHz
SWT 98 ms
RF Att 0 dB
Unit dBµV
Ref Lvl
97 dBµV
▽2 [T1] 50.41 dBµV
4.87900000 GHz
▽1 [T1] 60.53 dBµV
D1 74 dBµV
1MAX
1MA
TDF
Start 1 GHz
1.7 GHz/
Stop 18 GHz
Date: 1.NOV.2018 22:46:14


Marker 1 [T1]
64.65 dBµV
24.94388778 GHz
RBW 1 MHz
VBW 3 MHz
SWT 40 ms
RF Att 0 dB
Unit dBµV
Ref Lvl
97 dBµV
▽1 [T1] 64.65 dBµV
24.94388778 GHz
D1 74 dBµV
1MAX
1MA
TDF
Start 18 GHz
700 MHz/
Stop 25 GHz
Date: 1.NOV.2018 23:33:08

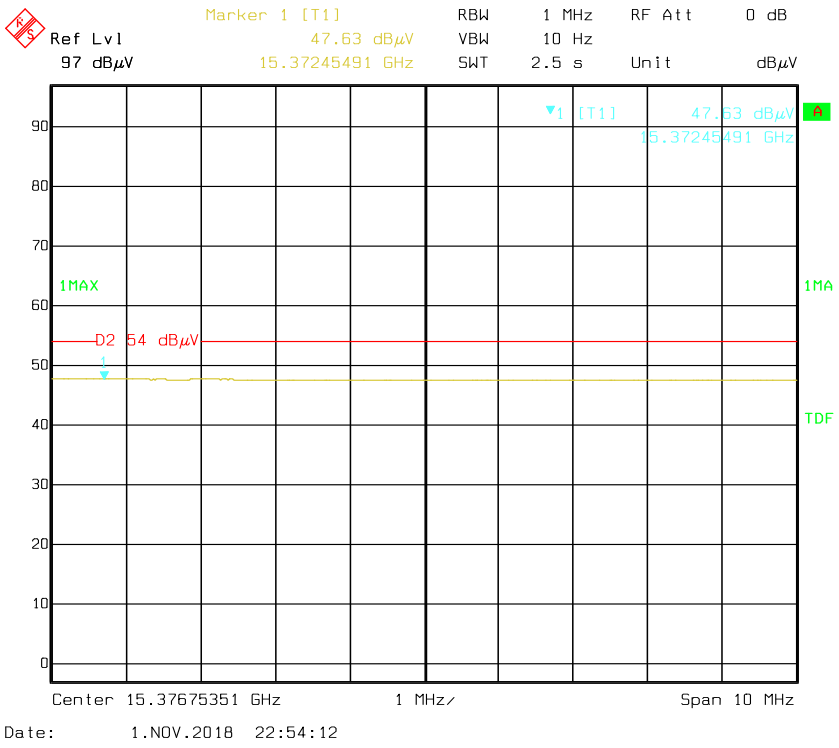
For Average

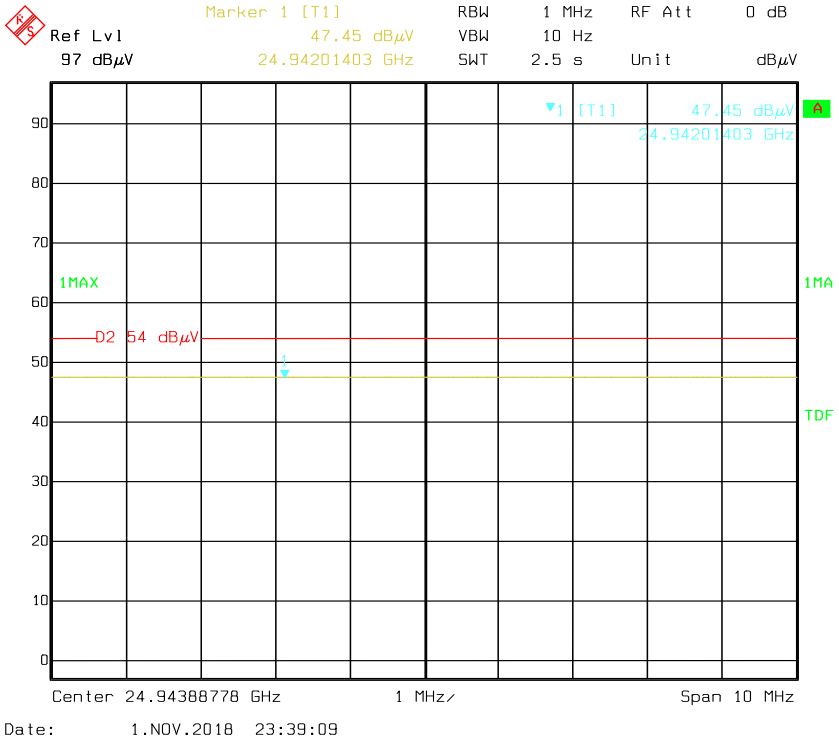
Horizontal





Vertical


Marker 1 [T1]
RBW 1 MHz
RF Att 0 dB
Ref Lvl
47.63 dBµV
VBW 10 Hz
97 dBµV
15.37245491 GHz
SWT 2.5 s
Unit dBµV
1 [T1] 47.63 dBµV
15.37245491 GHz
A
1MAX
1MA
D2 54 dBµV
TDF
Center 15.37675351 GHz
1 MHz/
Span 10 MHz
Date: 1.NOV.2018 22:54:12


Marker 1 [T1]
RBW 1 MHz
RF Att 0 dB
Ref Lvl
47.45 dBµV
VBW 10 Hz
97 dBµV
24.94201403 GHz
SWT 2.5 s
Unit dBµV
1 [T1] 47.45 dBµV
24.94201403 GHz
A
1MAX
1MA
D2 54 dBµV
TDF
Center 24.94388778 GHz
1 MHz/
Span 10 MHz
Date: 1.NOV.2018 23:39:09

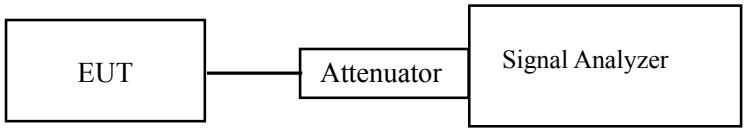
FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.



Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	101.0 kPa

The testing was performed by Kiki Kong on 2018-10-15.

Test Result: Pass.

Please refer to the following table and plots.

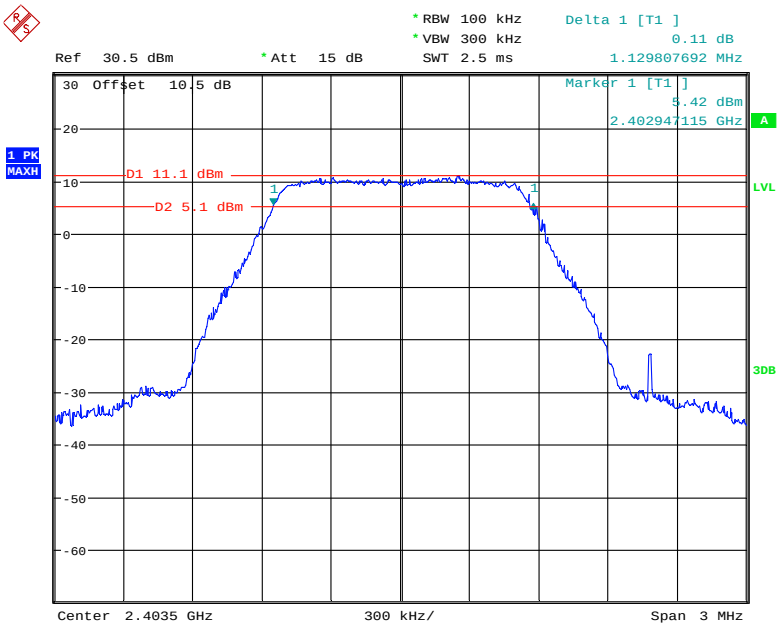
EUT operation mode: Transmitting

For 2.4GHz Antenna 0:

Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (kHz)
1.4M Mode			
Low	2403.5	1.130	≥500
Middle	2439.5	1.091	≥500
High	2473.5	1.106	≥500
3M Mode			
Low	2407.5	2.712	≥500
Middle	2439.5	2.721	≥500
High	2471.5	2.721	≥500
10M Mode			
Low	2407.5	9.038	≥500
Middle	2439.5	9.071	≥500
High	2471.5	9.038	≥500

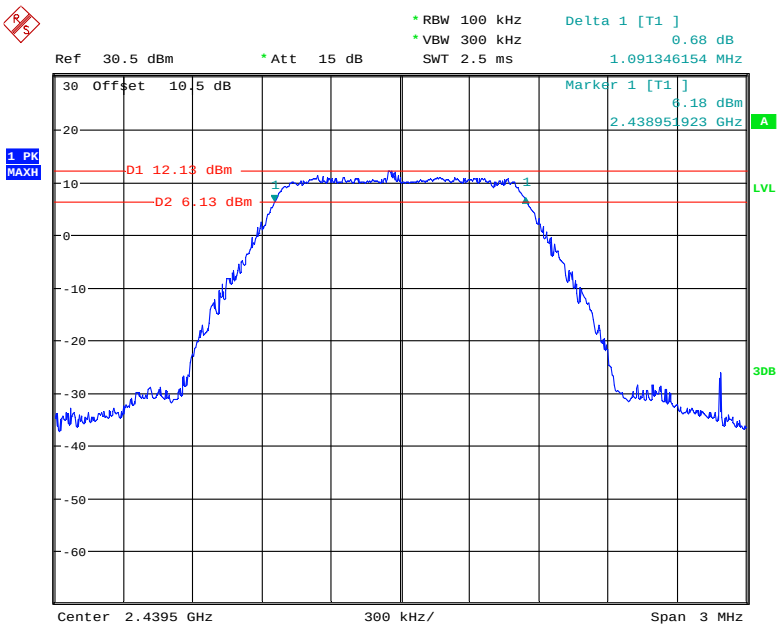
1.4M Mode

Low Channel



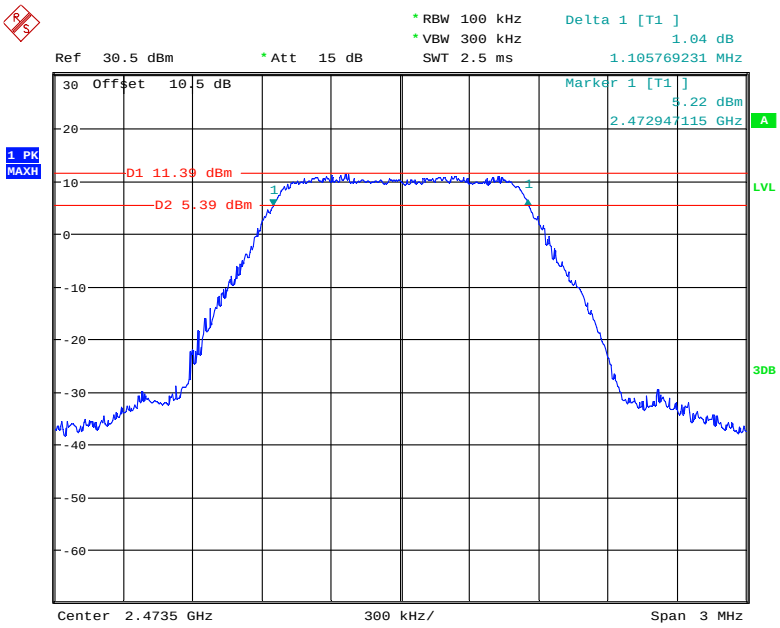
Date: 15.OCT.2018 14:59:43

Middle Channel



Date: 15.OCT.2018 15:01:15

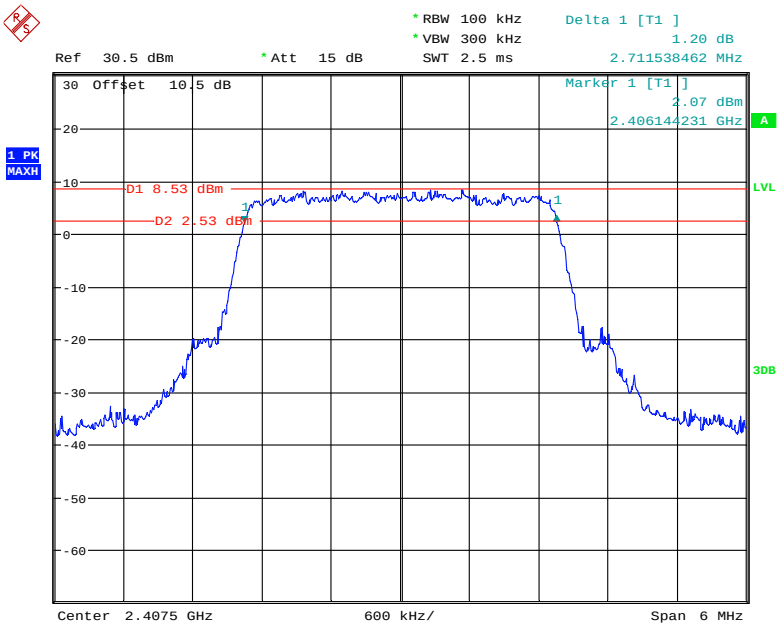
High Channel



Date: 15.OCT.2018 15:02:08

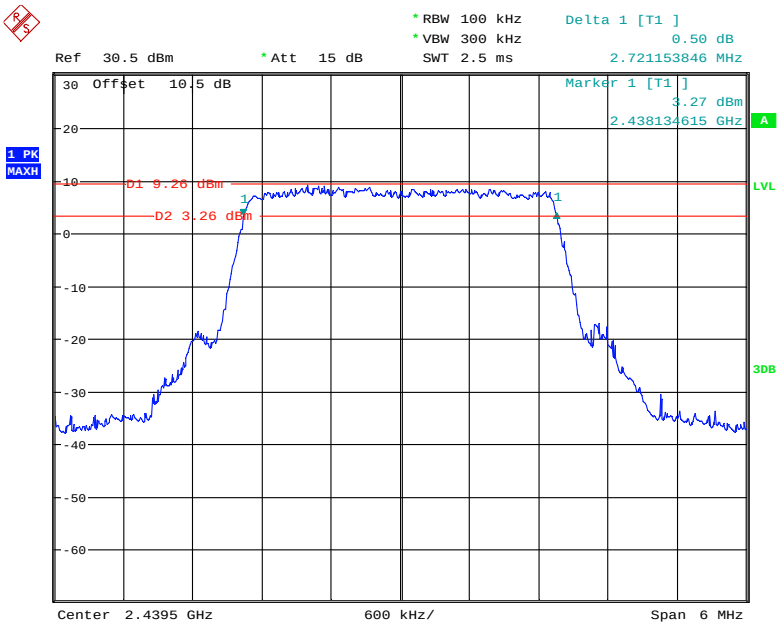
3M Mode

Low Channel



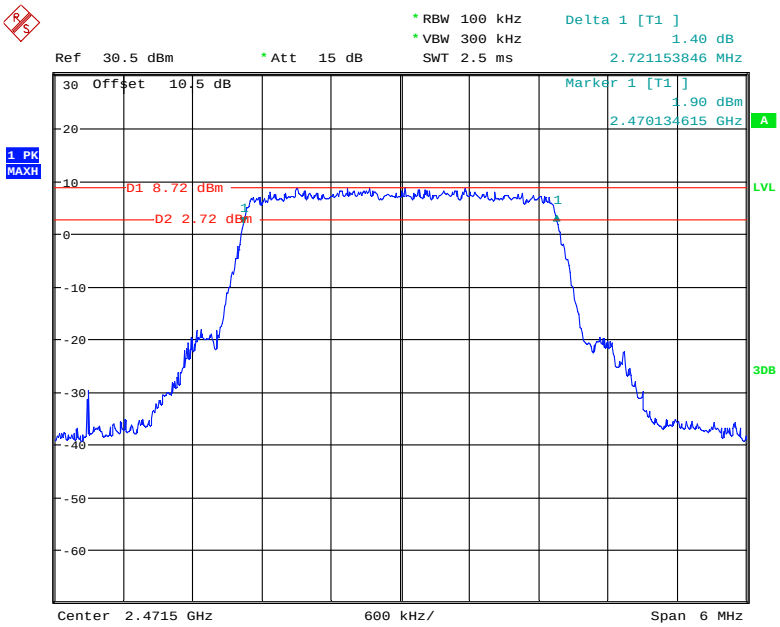
Date: 15.OCT.2018 15:04:19

Middle Channel



Date: 15.OCT.2018 15:05:56

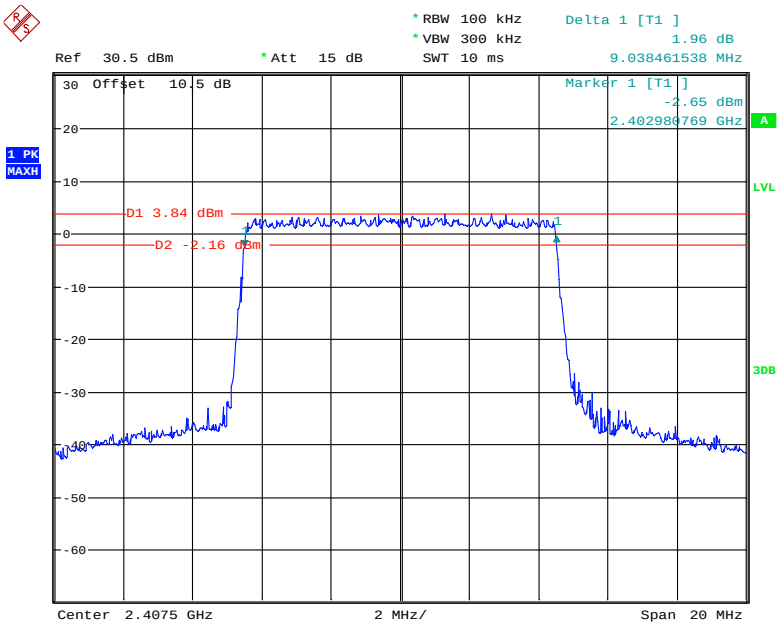
High Channel



Date: 15.OCT.2018 15:06:51

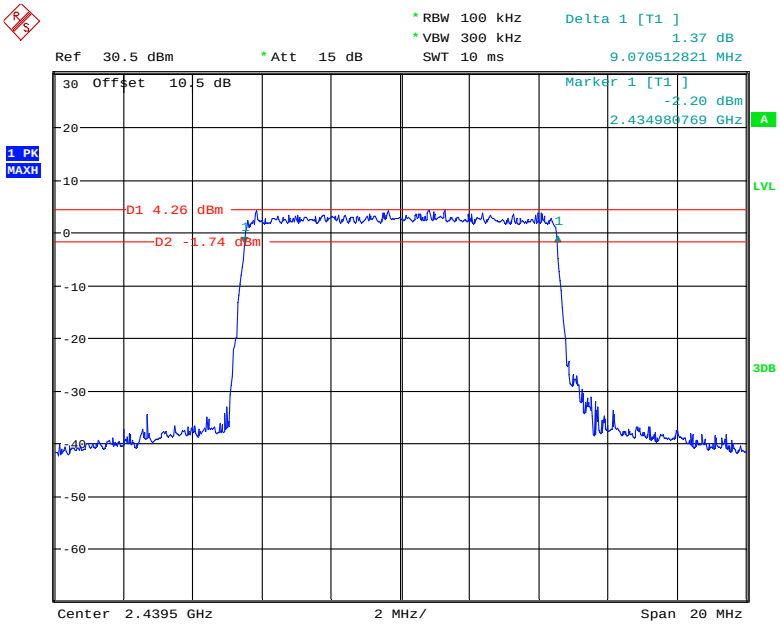
10M Mode

Low Channel



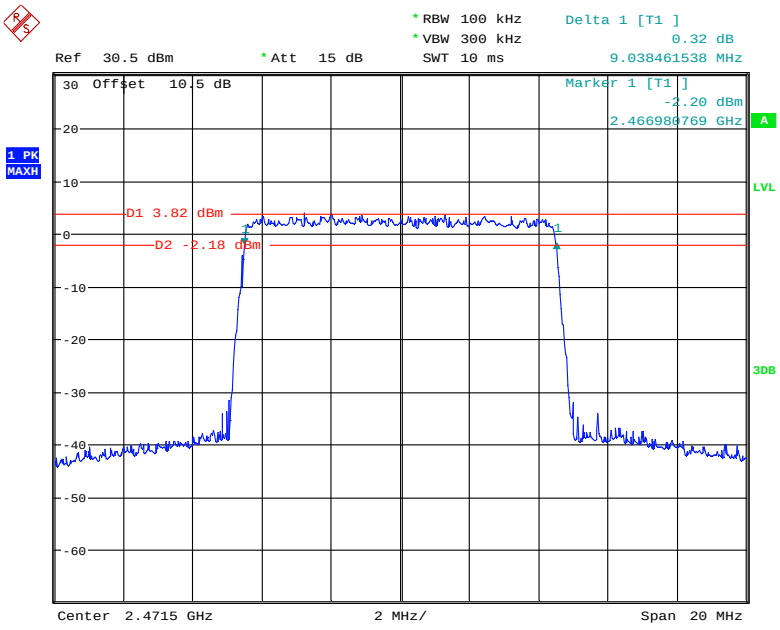
Date: 15.OCT.2018 15:38:01

Middle Channel



Date: 15.OCT.2018 15:39:00

High Channel



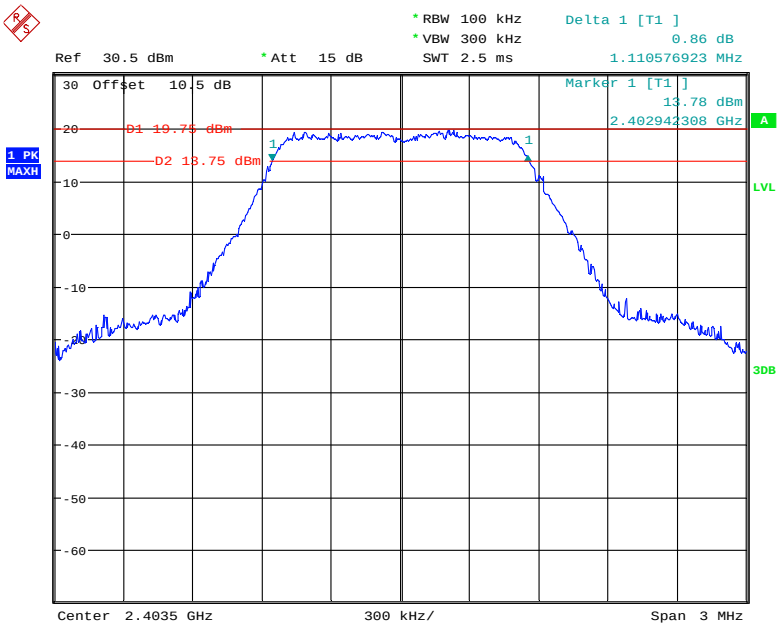
Date: 15.OCT.2018 15:40:29

For 2.4GHz Antenna 1:

Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (kHz)
1.4M Mode			
Low	2403.5	1.111	≥500
Middle	2439.5	1.101	≥500
High	2473.5	1.130	≥500
3M Mode			
Low	2407.5	2.721	≥500
Middle	2439.5	2.731	≥500
High	2471.5	2.721	≥500
10M Mode			
Low	2407.5	9.103	≥500
Middle	2439.5	9.071	≥500
High	2471.5	9.038	≥500

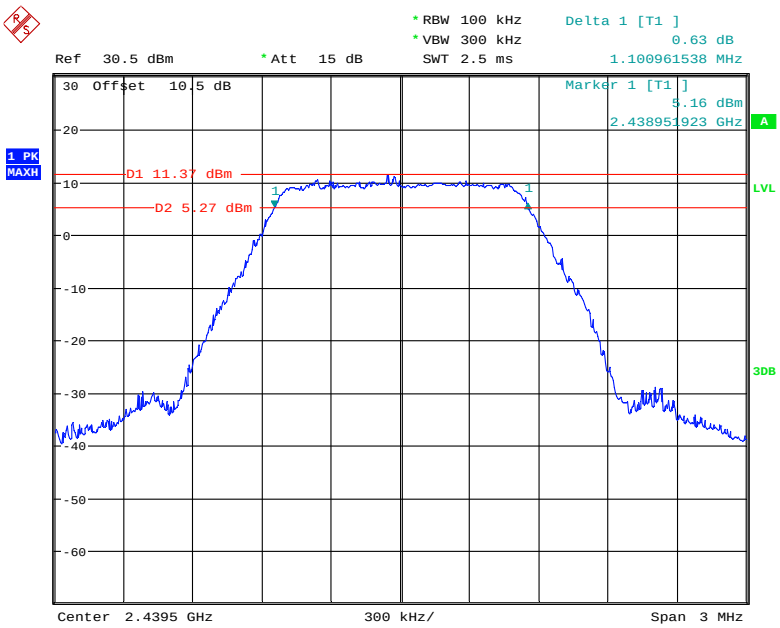
1.4M Mode

Low Channel



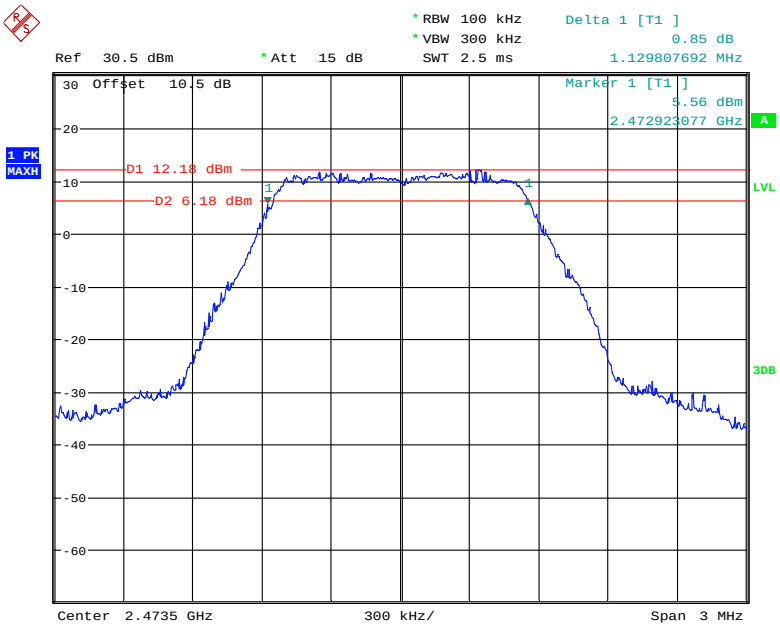
Date: 15.OCT.2018 10:29:59

Middle Channel



Date: 15.OCT.2018 10:31:18

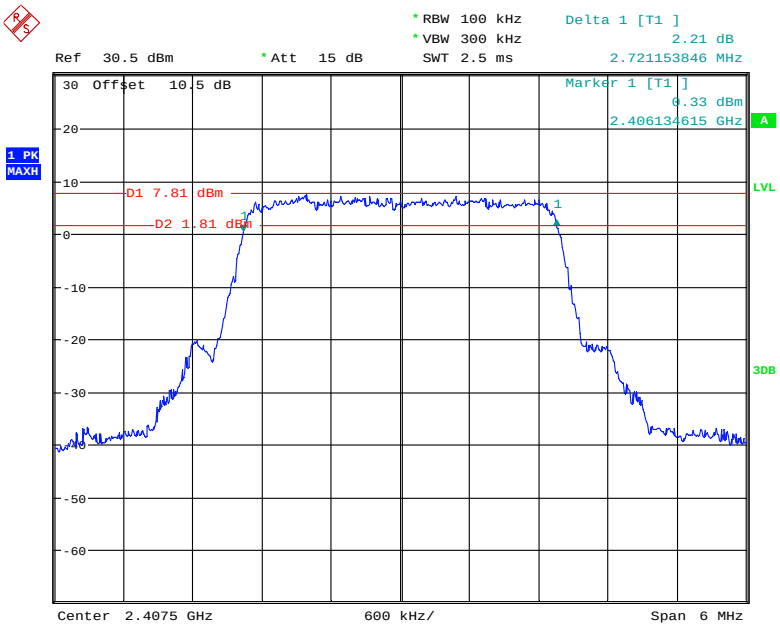
High Channel



Date: 15.OCT.2018 10:45:32

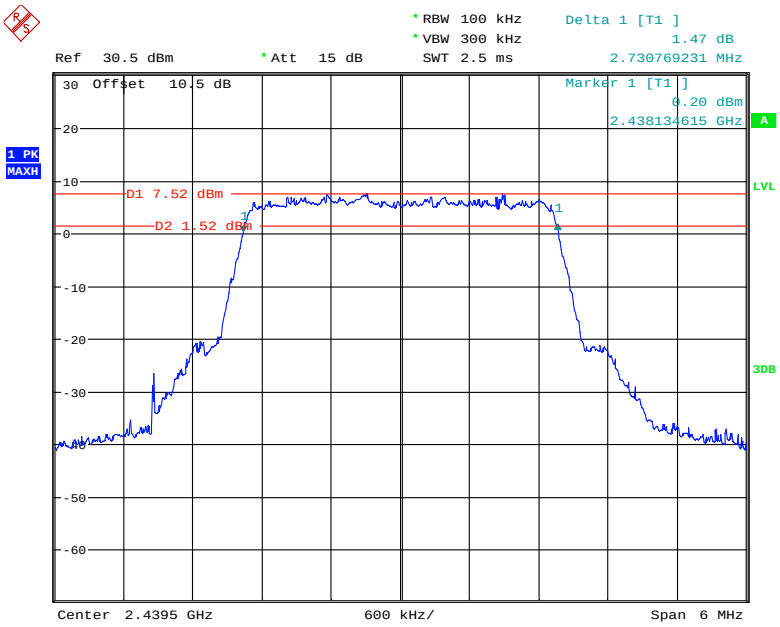
3M Mode

Low Channel



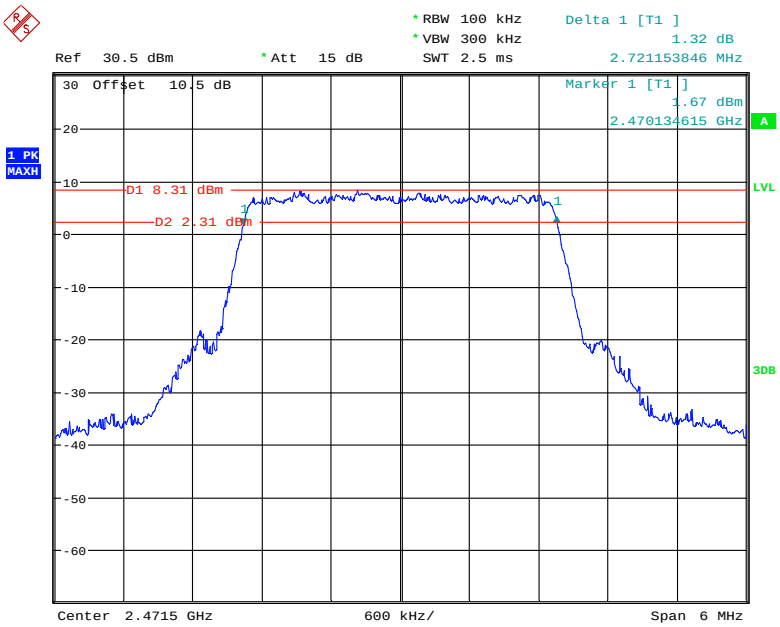
Date: 15.OCT.2018 11:19:15

Middle Channel



Date: 15.OCT.2018 11:17:56

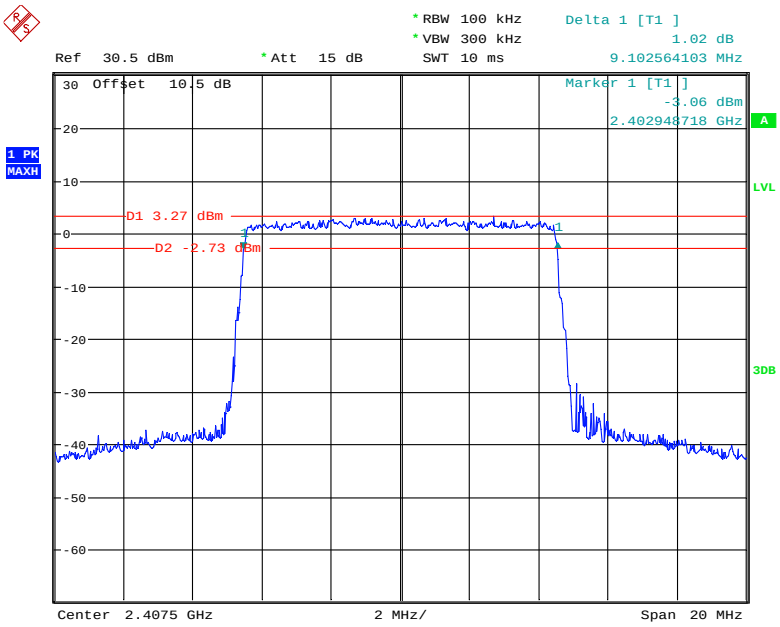
High Channel



Date: 15.OCT.2018 11:16:43

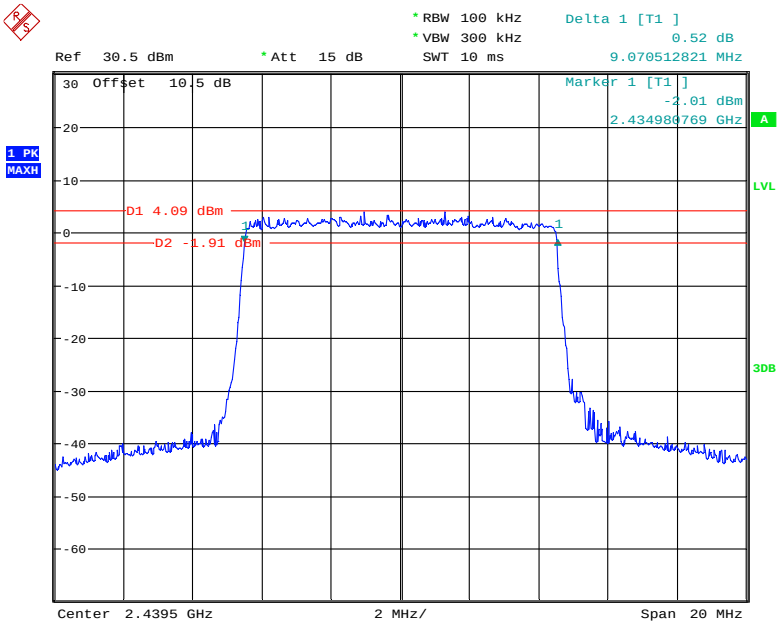
10M Mode

Low Channel



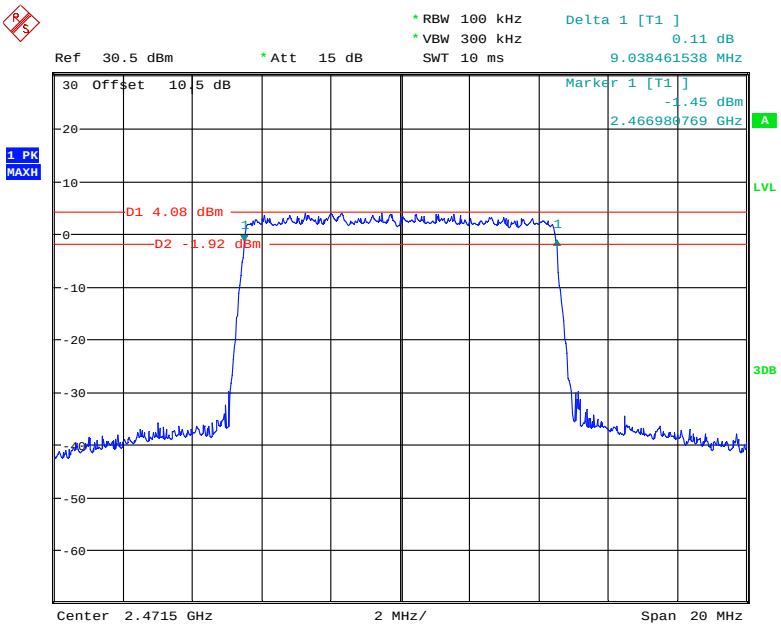
Date: 15.OCT.2018 11:11:13

Middle Channel



Date: 15.OCT.2018 11:12:39

High Channel



Date: 15.OCT.2018 11:14:09

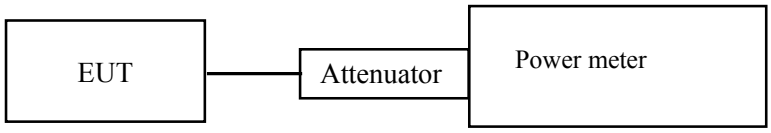
FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER

Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

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 Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	54 %
ATM Pressure:	101.0 kPa

The testing was performed by Kiki Kong on 2018-10-15.

EUT operation mode: Transmitting

For 2.4GHz:

Channel	Frequency (MHz)	Max Conducted Peak Output Power	Max Conducted Peak Output Power	Limit (dBm)
		Antenna 0 (dBm)	Antenna 1 (dBm)	
1.4M Mode				
Low	2403.5	18.15	18.04	30
Middle	2439.5	18.57	17.81	30
High	2473.5	18.31	18.40	30
3M Mode				
Low	2407.5	18.42	18.28	30
Middle	2439.5	18.96	18.05	30
High	2471.5	18.74	18.81	30
10M Mode				
Low	2407.5	18.73	18.41	30
Middle	2439.5	18.85	18.25	30
High	2471.5	18.73	18.86	30

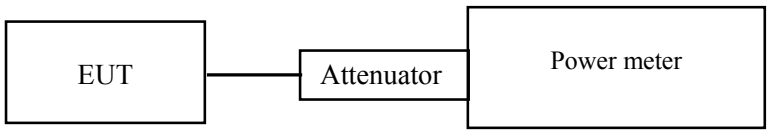
FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.



Test Data

Environmental Conditions

Temperature:	24~25 ℃
Relative Humidity:	50~56 %
ATM Pressure:	100.9~101.0 kPa

The testing was performed by Kiki Kong on 2018-10-15 and 2018-10-17.

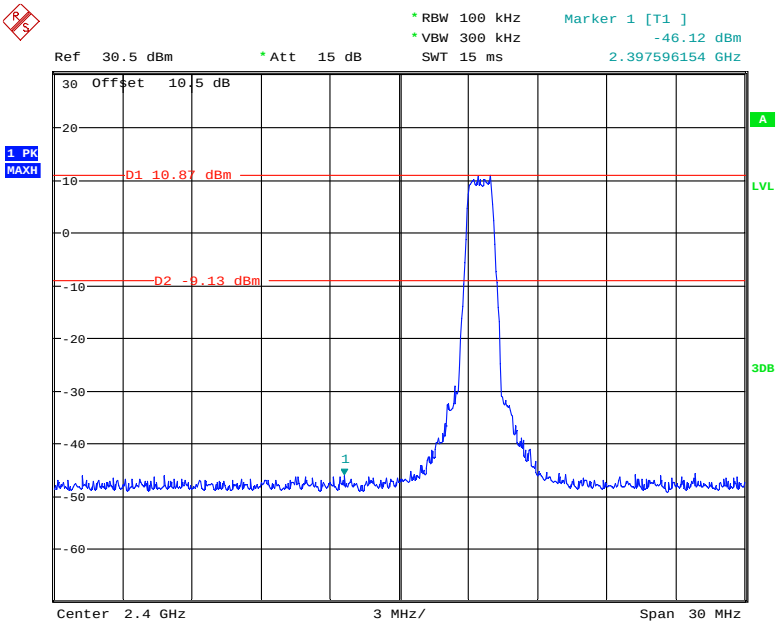
EUT operation mode: Transmitting

Test Result: Compliance

Please refer to the following plots.

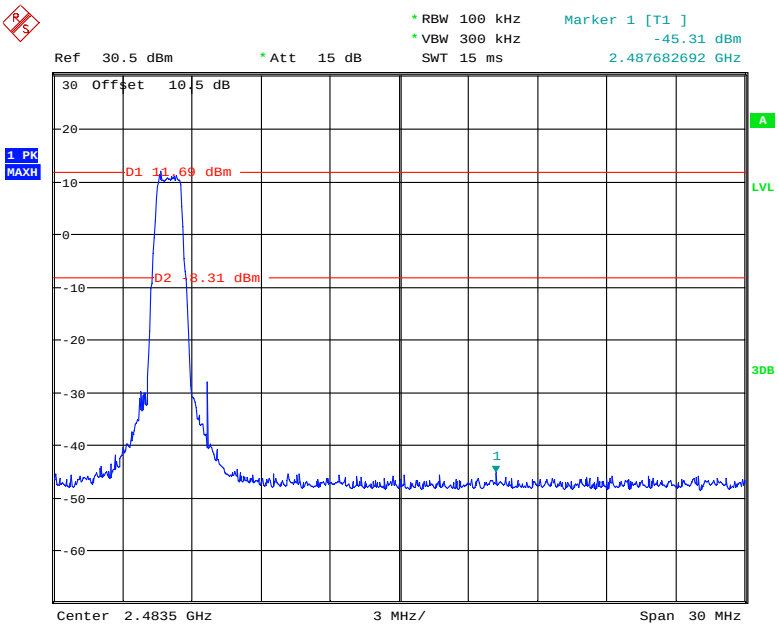
For 2.4GHz Antenna 0

1.4M Mode: Band Edge, Left Side



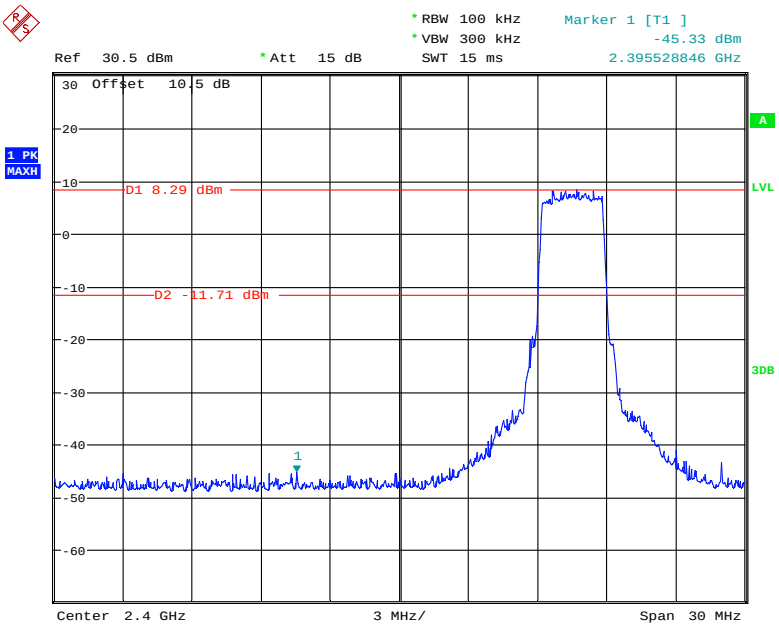
Date: 15.OCT.2018 15:53:26

1.4M Mode: Band Edge, Right Side



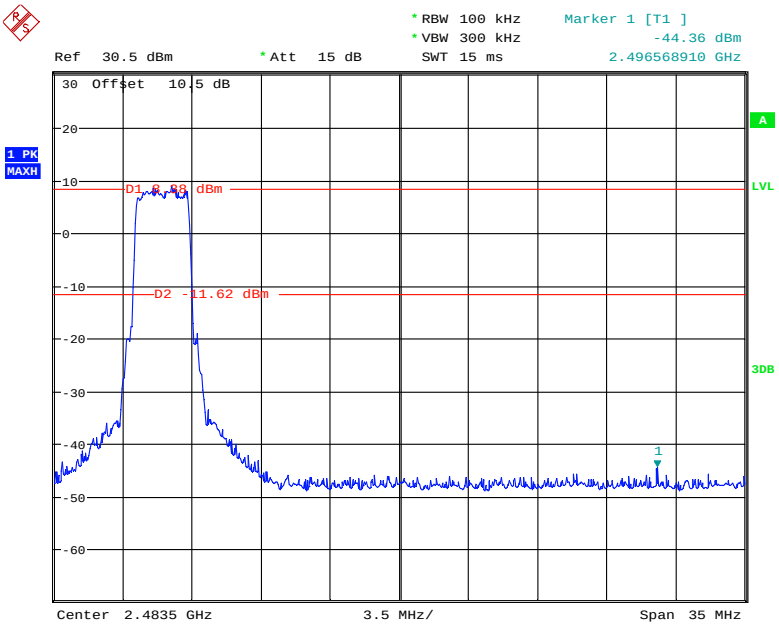
Date: 15.OCT.2018 15:54:41

3M Mode: Band Edge, Left Side



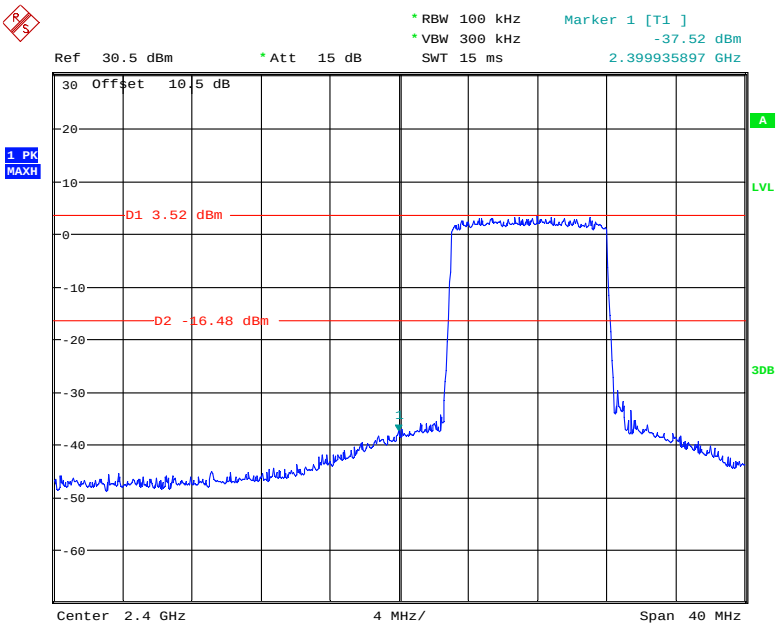
Date: 15.OCT.2018 16:16:06

3M Mode: Band Edge, Right Side



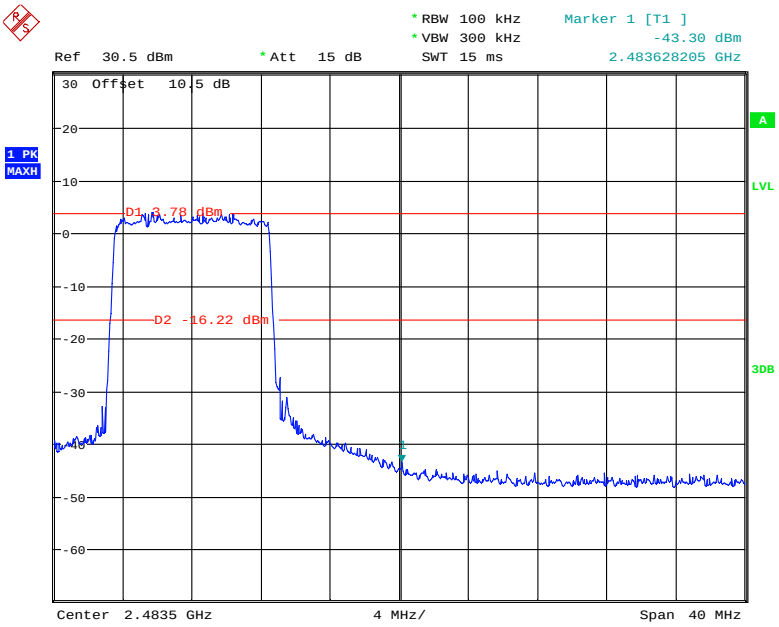
Date: 15.OCT.2018 15:56:11

10M Mode: Band Edge, Left Side



Date: 15.OCT.2018 16:20:59

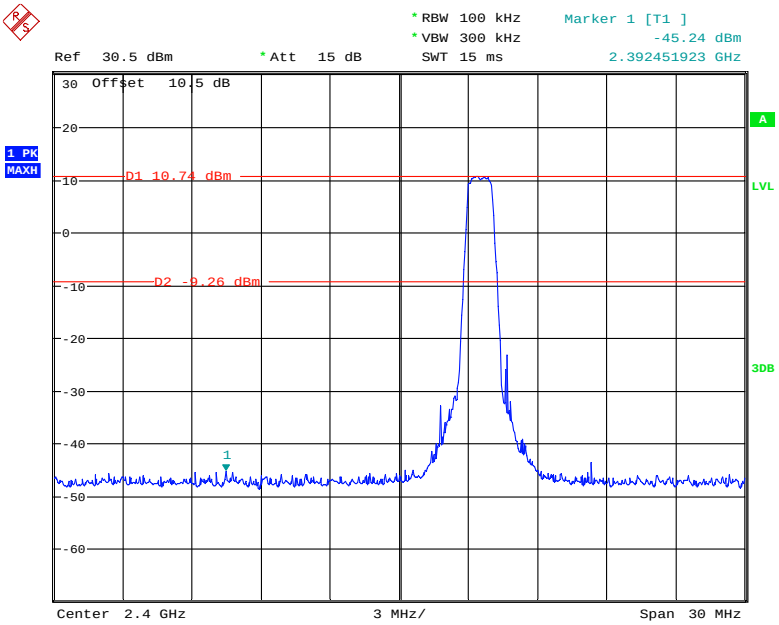
10M Mode: Band Edge, Right Side



Date: 15.OCT.2018 16:22:25

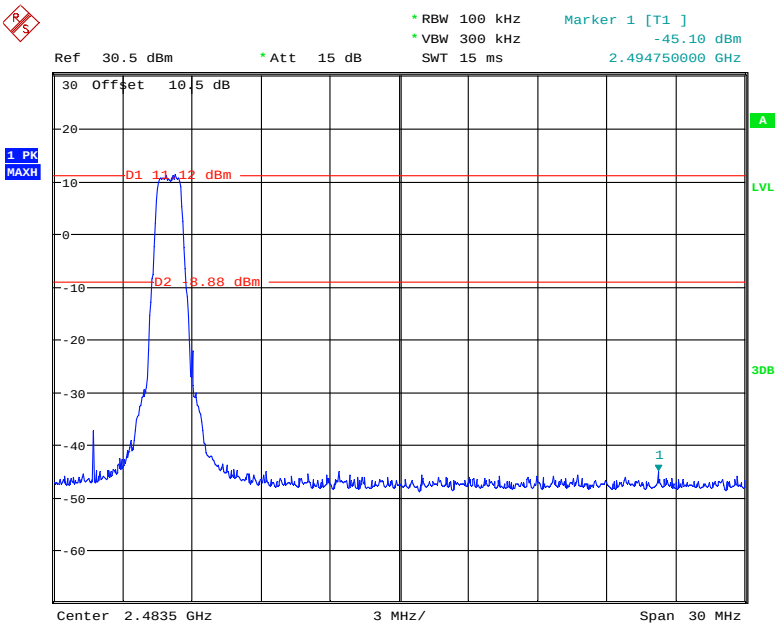
For 2.4GHz Antenna 1

1.4M Mode: Band Edge, Left Side



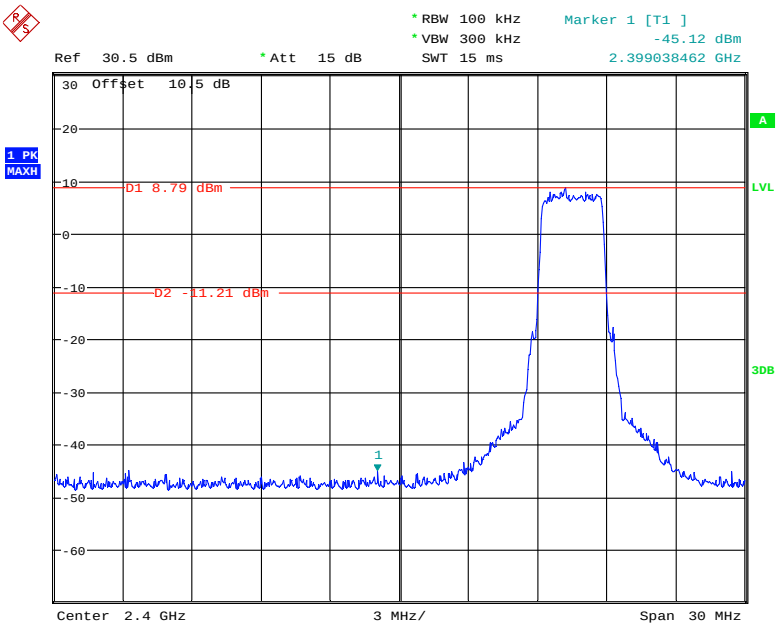
Date: 15.OCT.2018 13:52:11

1.4M Mode: Band Edge, Right Side



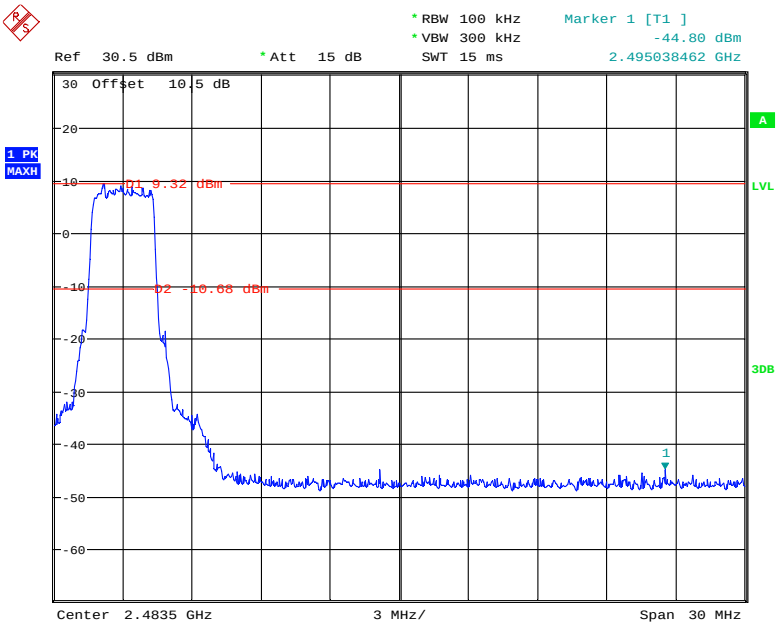
Date: 15.OCT.2018 13:54:38

3M Mode: Band Edge, Left Side



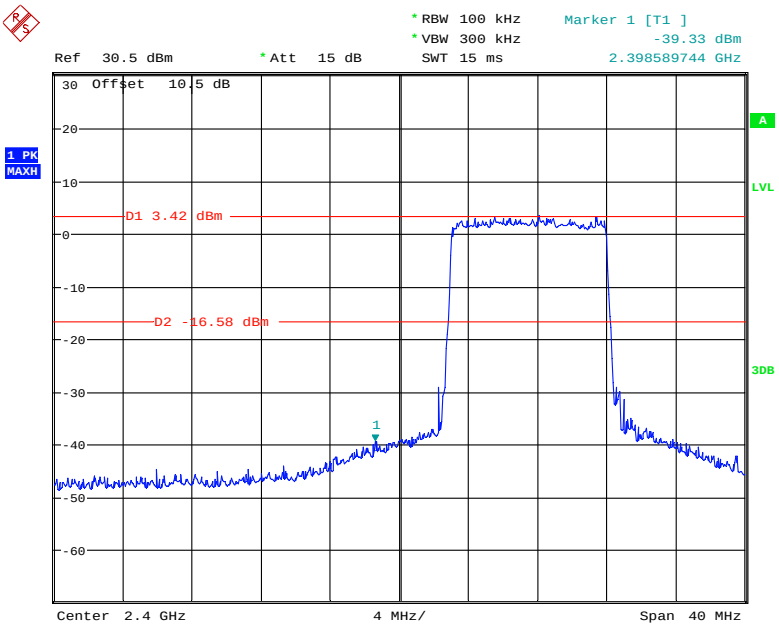
Date: 15.OCT.2018 14:00:21

3M Mode: Band Edge, Right Side



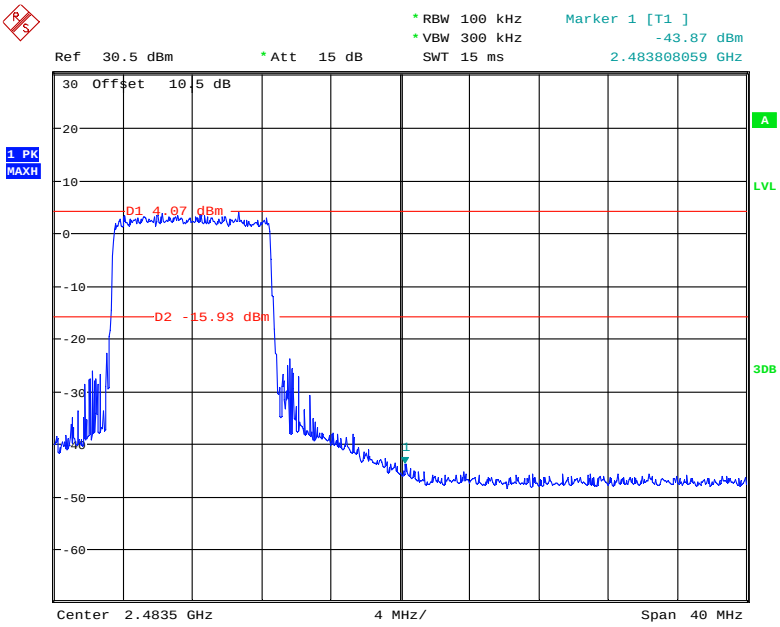
Date: 15.OCT.2018 13:55:43

10M Mode: Band Edge, Left Side



Date: 15.OCT.2018 14:03:07

10M Mode: Band Edge, Right Side



Date: 17.OCT.2018 09:31:58

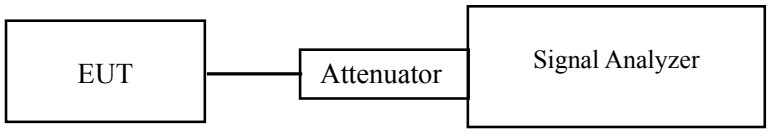
FCC §15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Procedure

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2. Set the RBW to: 3kHz≤ RBW≤100 kHz.
3. Set the VBW ≥ 3×RBW.
4. Set the span to 1.5 times the DTS bandwidth.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.



Test Data

Environmental Conditions

Temperature:	24~25 ℃
Relative Humidity:	50~56 %
ATM Pressure:	100.9~101.0 kPa

The testing was performed by Kiki Kong on 2018-10-15 and 2018-10-17.

EUT operation mode: Transmitting

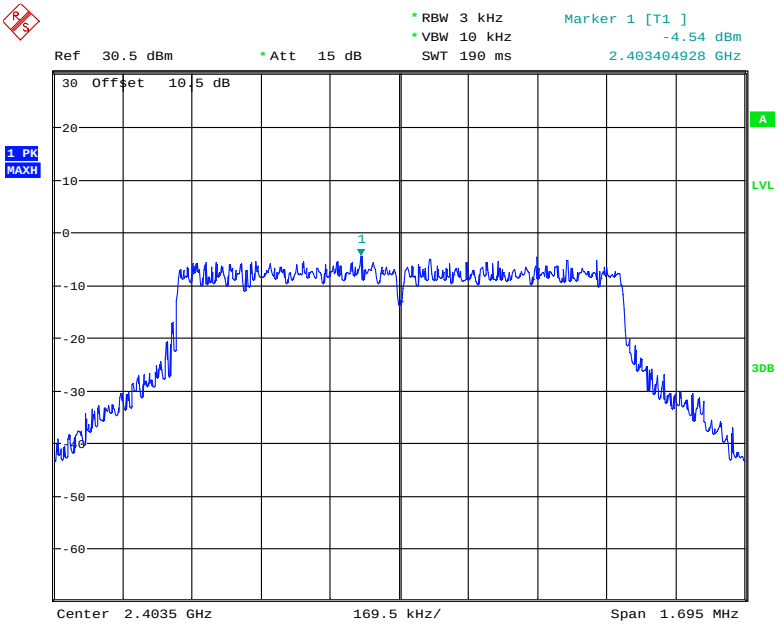
Test Result: Pass

For 2.4GHz:

Channel	Frequency (MHz)	Antenna 0 (dBm/3kHz)	Antenna 1 (dBm/3kHz)	Limit (dBm/3kHz)
1.4M Mode				
Low	2403.5	-4.54	-4.04	≤8
Middle	2439.5	-3.70	-4.32	≤8
High	2473.5	-4.53	-3.15	≤8
3M Mode				
Low	2407.5	-6.14	-6.77	≤8
Middle	2439.5	-6.57	-6.32	≤8
High	2471.5	-5.92	-6.22	≤8
10M Mode				
Low	2407.5	-11.24	-11.27	≤8
Middle	2439.5	-10.57	-11.65	≤8
High	2471.5	-11.99	-12.12	≤8

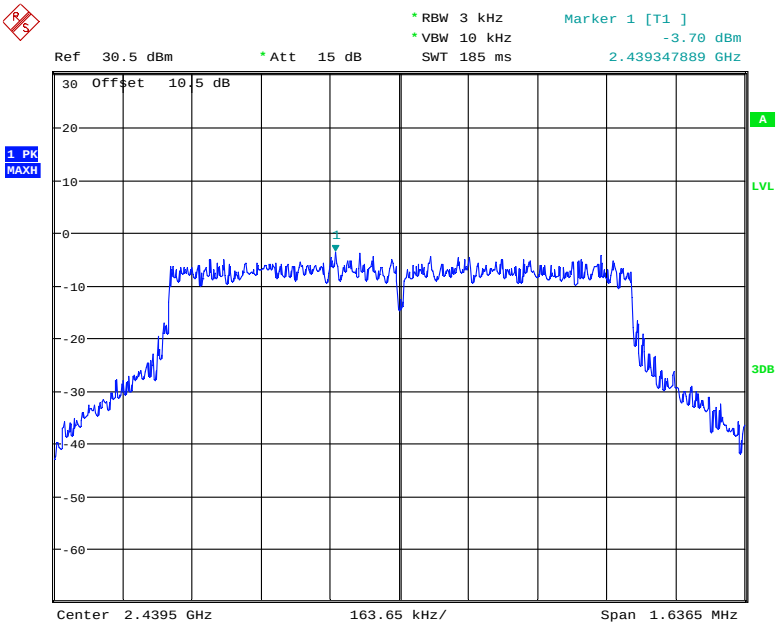
Antenna 0

Power Spectral Density, 1.4M Mode Low Channel



Date: 15.OCT.2018 16:39:15

Power Spectral Density, 1.4M Mode Middle Channel



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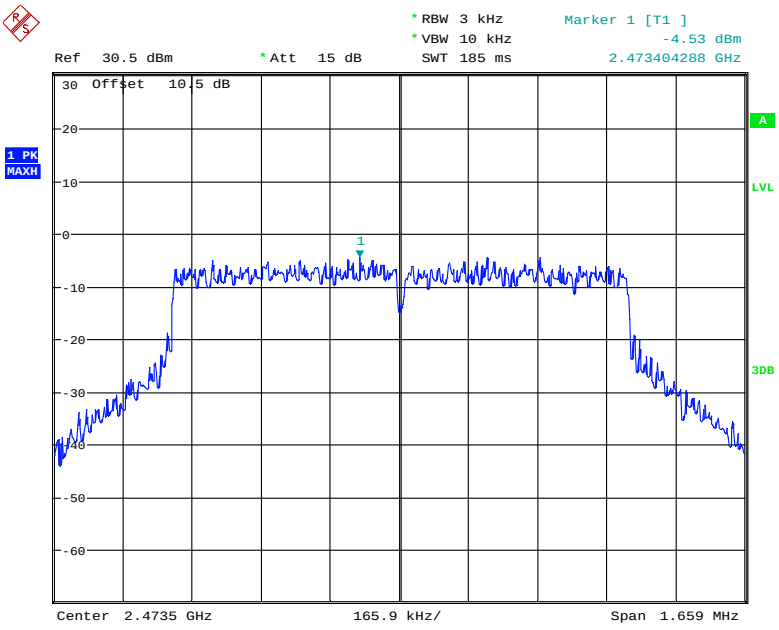
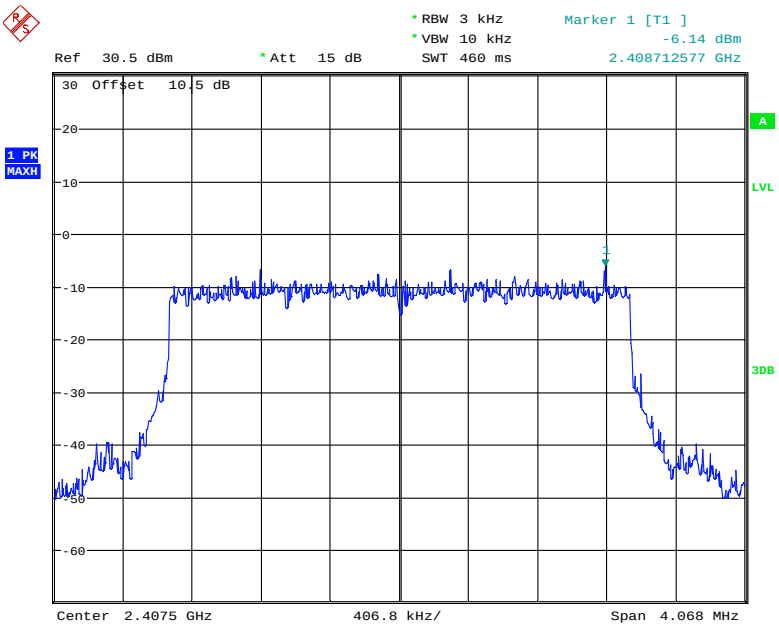
Power Spectral Density, 1.4M Mode High Channel



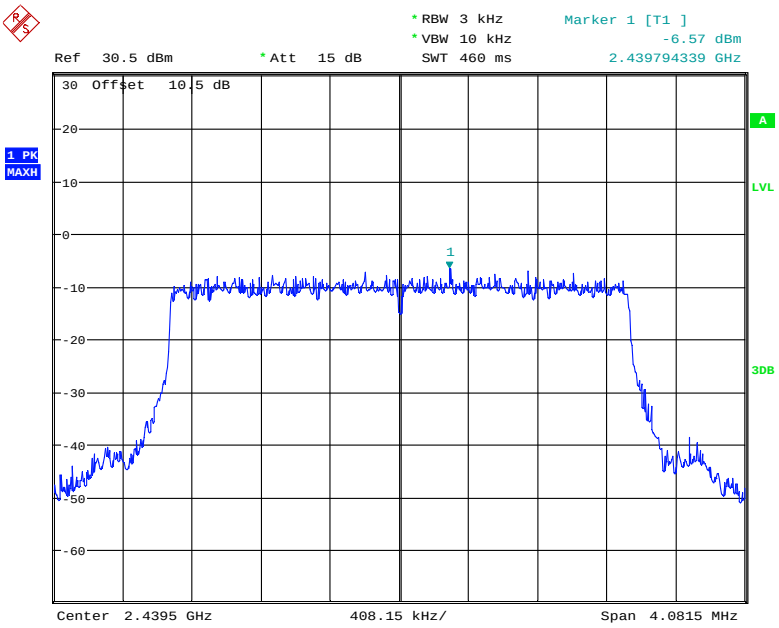
Date: 15.OCT.2018 16:41:29

Power Spectral Density, 3M Mode Low Channel



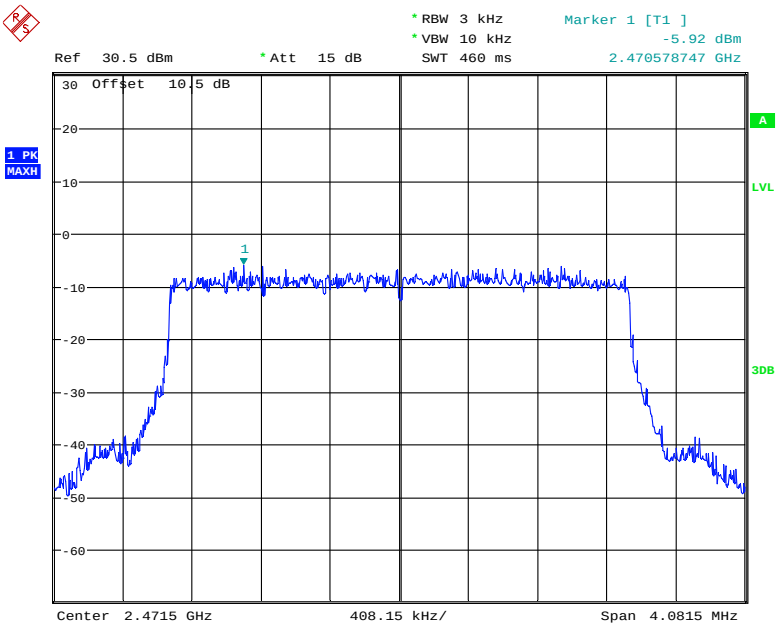
Date: 15.OCT.2018 16:43:15

Power Spectral Density, 3M Mode Middle Channel



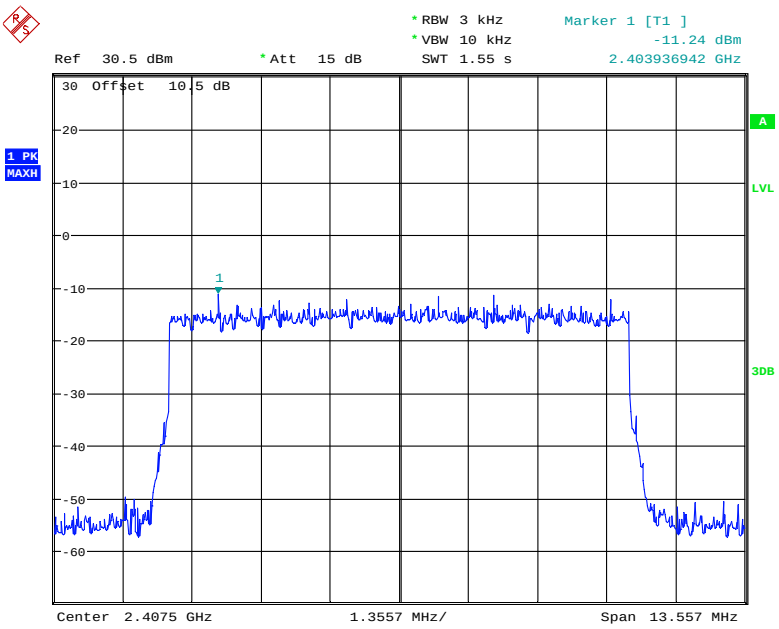
Date: 15.OCT.2018 16:45:35

Power Spectral Density, 3M Mode High Channel



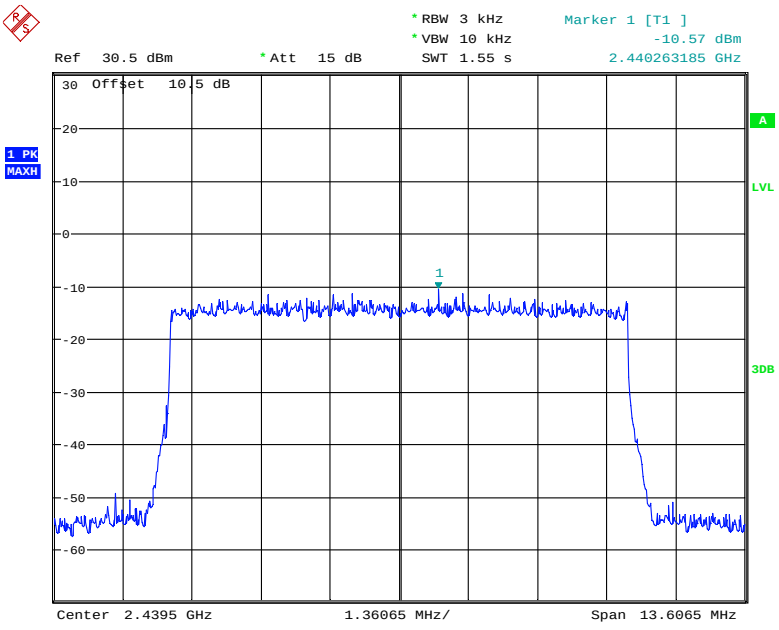
Date: 17.OCT.2018 09:21:57

Power Spectral Density, 10M Mode Low Channel



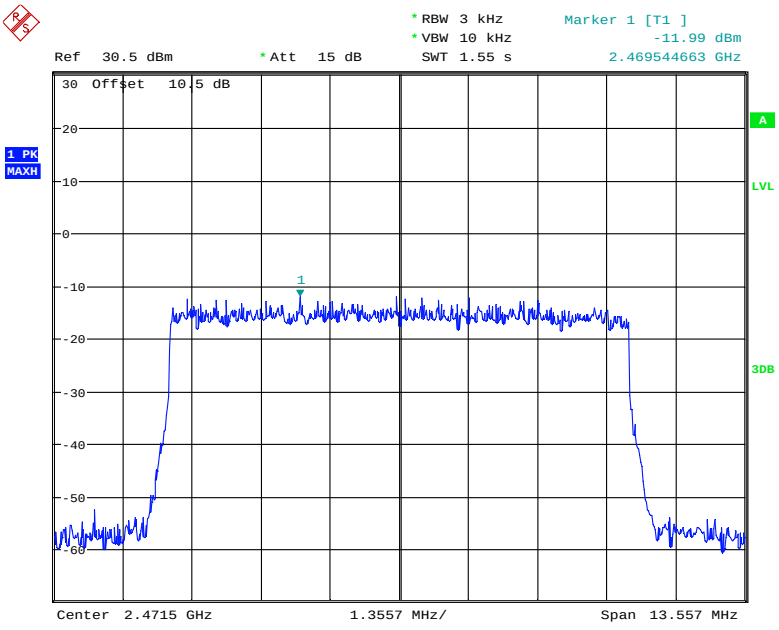
Date: 15.OCT.2018 16:46:46

Power Spectral Density, 10M Mode Middle Channel



Date: 15.OCT.2018 16:47:43

Power Spectral Density, 10M Mode High Channel



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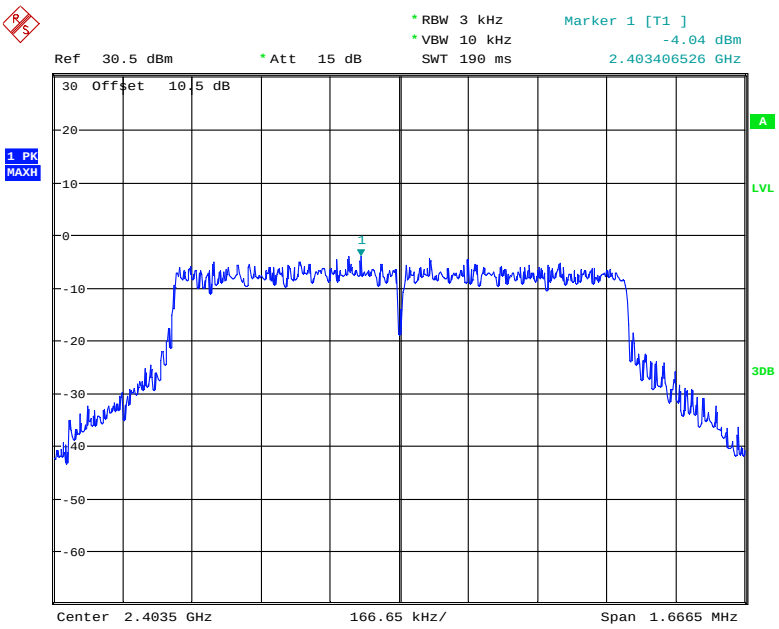
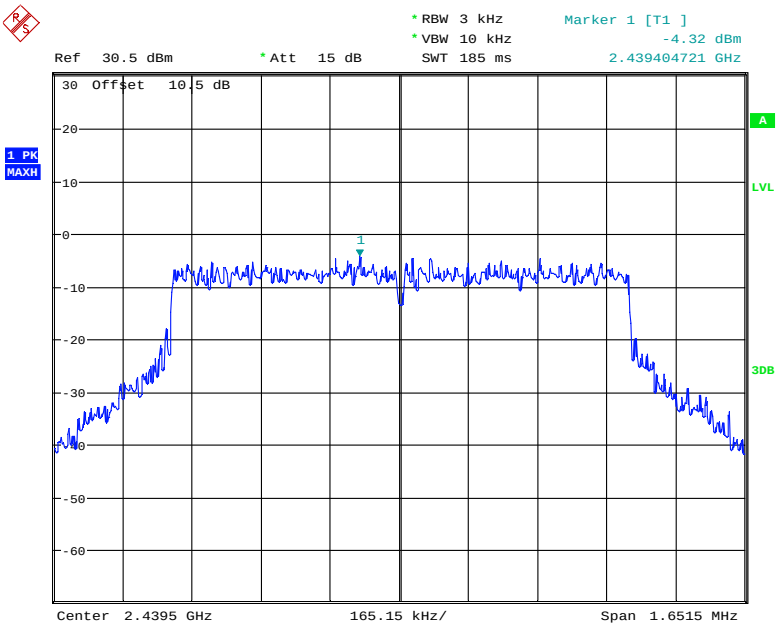
Antenna 1

Power Spectral Density, 1.4M Mode Low Channel



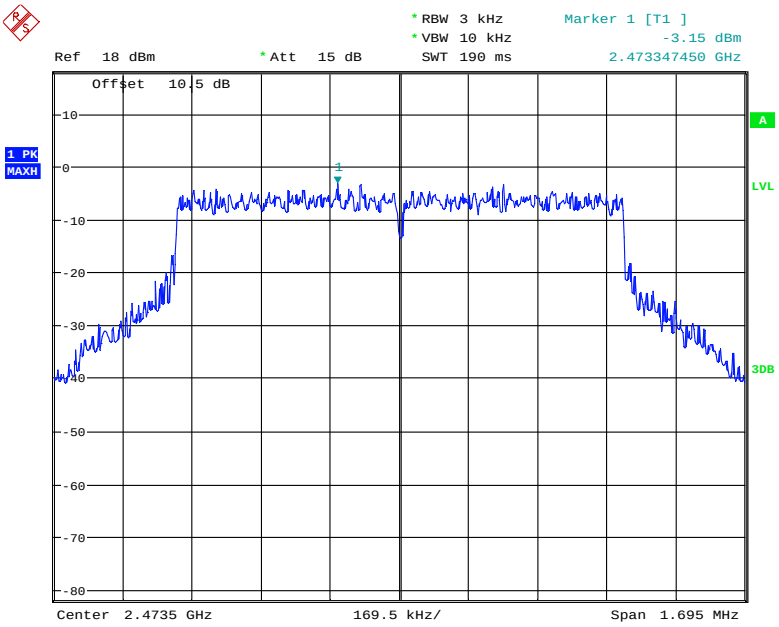
Date: 15.OCT.2018 14:14:10

Power Spectral Density, 1.4M Mode Middle Channel



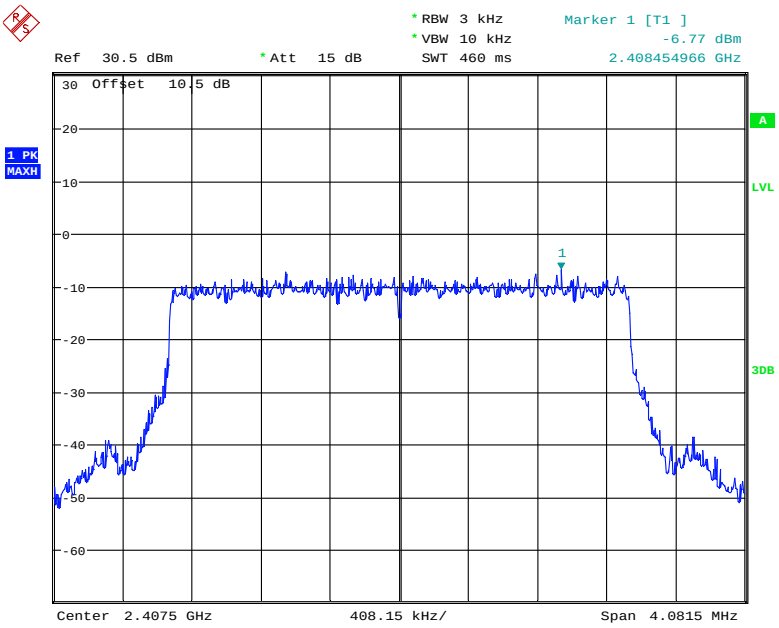
Date: 15.OCT.2018 14:25:42

Power Spectral Density, 1.4M Mode High Channel



Date: 17.OCT.2018 09:34:17

Power Spectral Density, 3M Mode Low Channel



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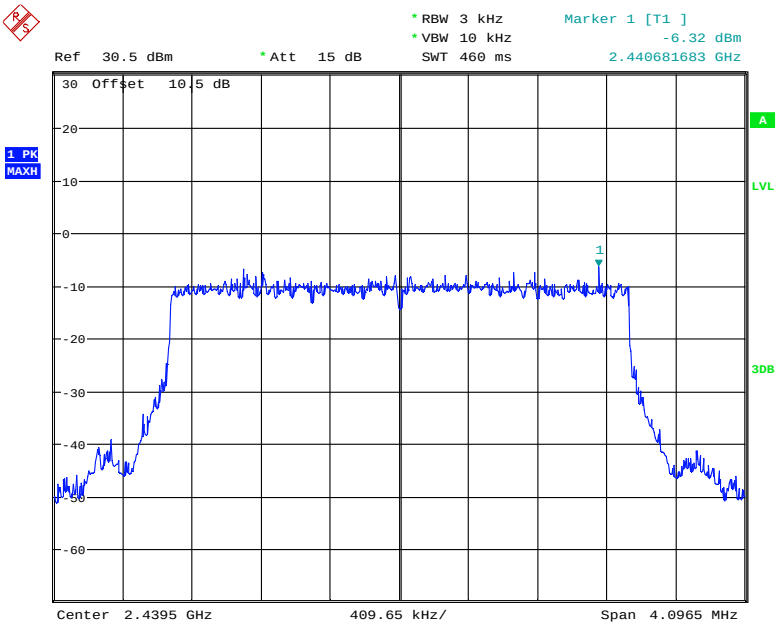
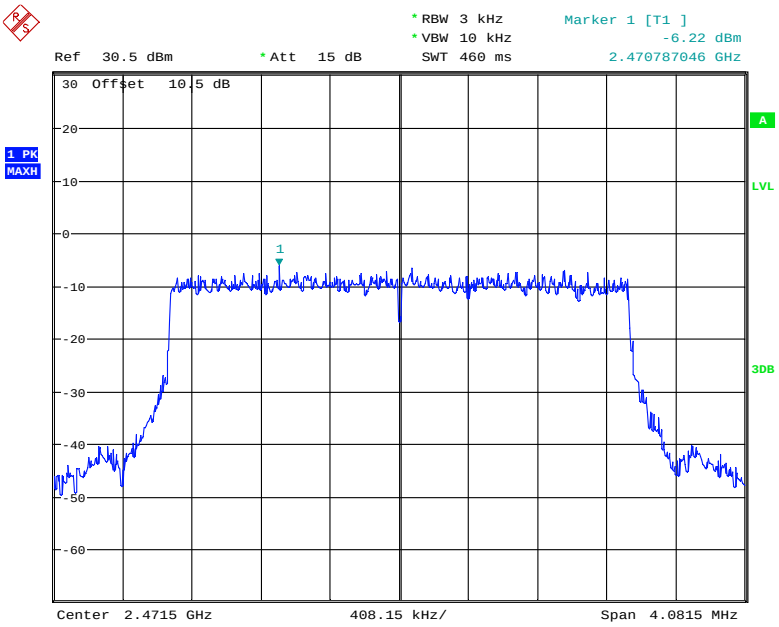
Power Spectral Density, 3M Mode Middle Channel



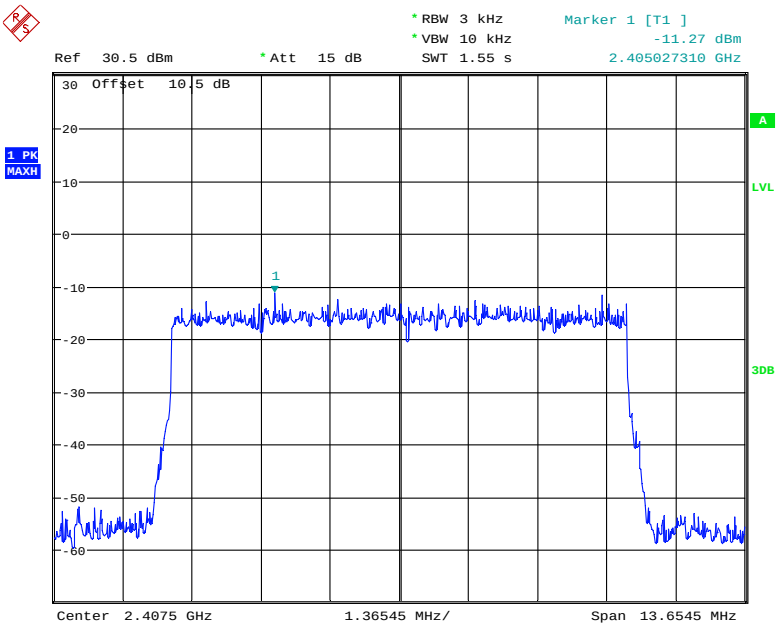
Date: 15.OCT.2018 14:29:32

Power Spectral Density, 3M Mode High Channel



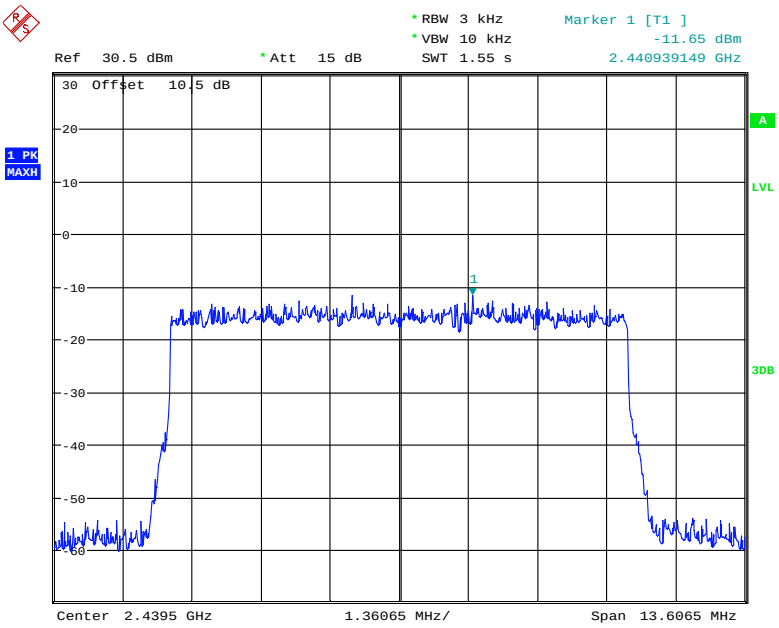
Date: 15.OCT.2018 14:30:19

Power Spectral Density, 10M Mode Low Channel



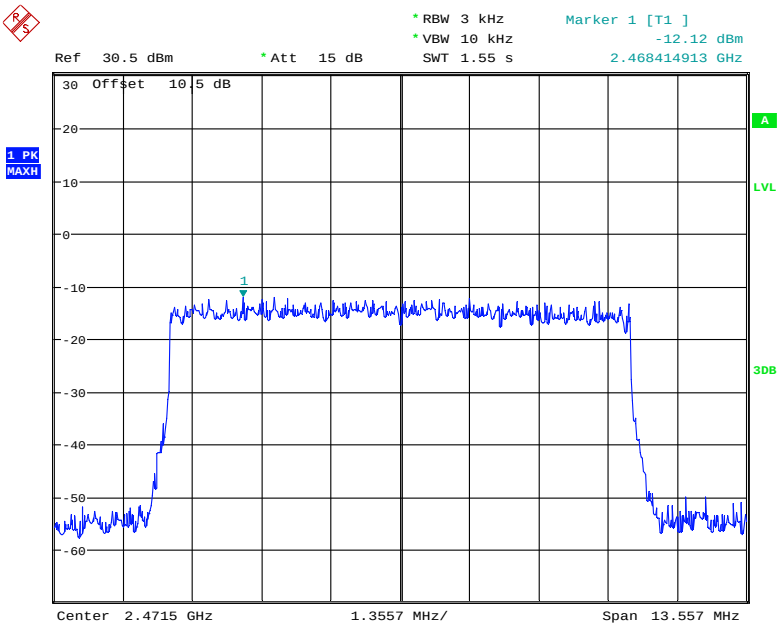
Date: 15.OCT.2018 14:40:29

Power Spectral Density, 10M Mode Middle Channel



Date: 15.OCT.2018 14:41:21

Power Spectral Density, 10M Mode High Channel



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