FCC PART 15.247

TEST REPORT

For

Consumer 2.0

1180 South Beverly Drive Suite 300, Los Angeles, CA, 90035, United States

FCC ID: 2AH4J-RKH-TRI-01

Report Type:	**Product Type:**
Class II Permissive Change	Rently Keyless Hub

Report Number:	RSZ171205003-00BA1
Report Date:	2018-01-18
Reviewed By:	Rocky Kang 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 *Consumer 2.0's* product, model number: *RKH-TRI-01 (FCC ID: 2AH4J-RKH-TRI-01)* in this report is a *Rently Keyless Hub* which was measured approximately: 148 mm (L) * 182 mm (W) * 29 mm (H), rated with input voltage: DC 3.7 V battery or DC 5.0V from adapter.

Adapter Information:
Model: ZD120A-0502500
Input: AC 100-240V, 50/60Hz, 0.5A
Output: DC 5.0V, 2.5A

**All measurement and test data in this report was gathered from production sample serial number: 1702662 (Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2017-12-05.*

Objective

This report is prepared on behalf of *Consumer 2.0* 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.

This is a CIIPC application of the device, the differences between the original device and the current one are as follows:

1. Change the 4G module SIM7500A (FCC ID: UDV-201606) to NL-SW-LTE-GELS3-C(FCC ID:QIPELS31-V) or MC7354(FCC ID:N7NMC7355), those two 4G modules can be optional for the marketing purpose.

For the change made to the device, the test item "Maximum Permissible exposure", "Antenna Requirement", "AC Line Conducted Emissions" and "Spurious Emissions" was performed.

Related Submittal(s)/Grant(s)

FCC Part 15B JBP submissions with FCC ID: 2AH4J-RKH-TRI-01.

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 with Power meter		±0.5dB
RF conducted test with spectrum		±1.5dB
AC Power Lines Conducted Emissions		±1.95dB
Radiated emission	30MHz~1GHz	±5.91dB
	Above 1G	±4.92dB
Temperature		-30~60 ℃
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. : 382179,the FCC Designation No. : CN5001.

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

SYSTEM TEST CONFIGURATION

Description of Test Configuration

For 802.11b, 802.11g and 802.11n-HT20 mode, 11 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432	/	/
6	2437	/	/
7	2442	/	/

For 802.11b, 802.11g, 802.11n-HT20 mode, EUT was tested with Channel 1, 6 and 11

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

The software “Rftesttool.apk” was used

The device was tested with 100% duty cycle and the worst case was performed as below:

802.11b: Data rate: 1 Mbps, Power level: default
802.11g: Data rate: 6 Mbps, Power level: default
802.11n-HT20: Data rate: MCS0, Power level: default

Pre-scan with all the data rates, the above data rate is the worst case for Wi-Fi test.

Support Equipment List and Details

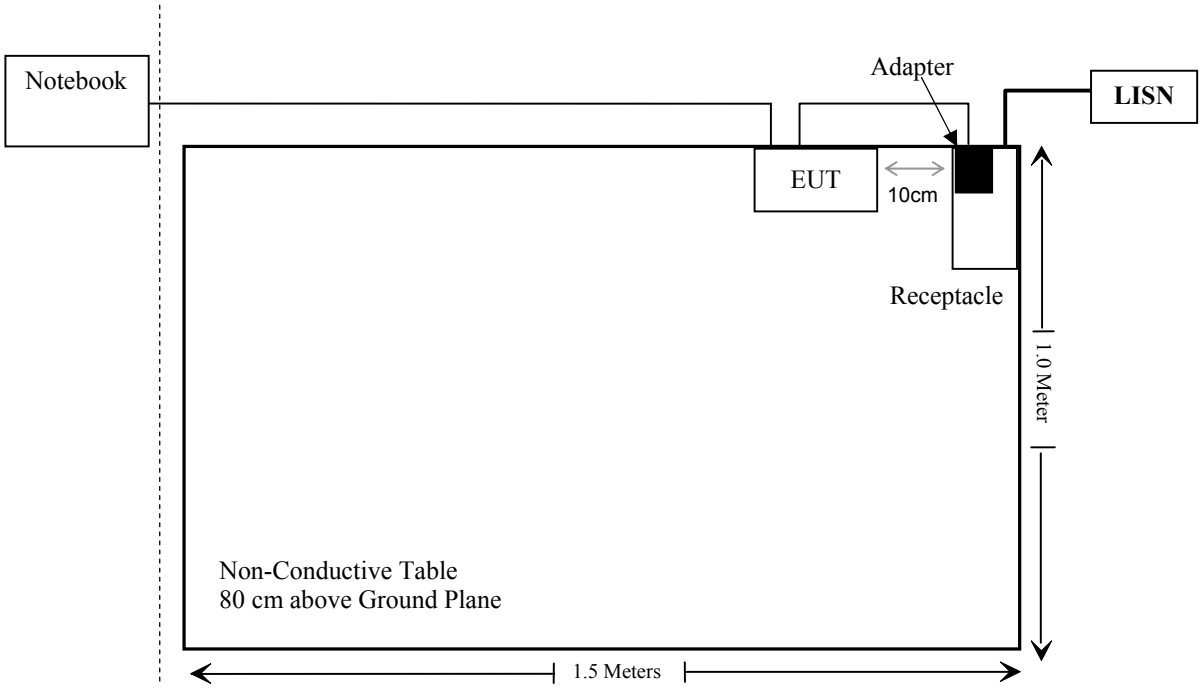
Manufacturer	Description	Model	Serial Number
DELL	Notebook	E6410	GYXJ3S30 ADE7

External I/O Cable

Cable Description	Length (m)	From Port	To
Un-shielding Detachable DC Cable	1.5	EUT	Adapter
Un-shielding Detachable RJ45 Cable	10.0	EUT	Notebook

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) & §2.1091	MaximuM Permissible exposure (MPE)	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*

Compliance*: Please referred to FCC ID: 2AH4J-RKH-TRI-01 granted on 2017-08-02, report No.: RSZ170425001-00C, which was tested by Chris Wang, Bay Area Compliance Laboratories Corp. (Kunshan).

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emissions Test					
Rohde & Schwarz	EMI Test Receiver	ESCS30	100176	2017-08-04	2018-08-04
Rohde & Schwarz	LISN	ENV216	3560.6650.12-101613-Yb	2017-12-07	2018-12-07
Rohde & Schwarz	Transient Limiter	ESH3Z2	DE25985	2017-11-19	2018-05-21
Rohde & Schwarz	CE Test software	EMC 32	V8.53.0	NCR	NCR
N/A	Conducted Emission Cable	N/A	UF A210B-1-0720-504504	2017-11-12	2018-05-12
Radiated Emission Test					
Sunol Sciences	Horn Antenna	DRH-118	A052604	2017-12-29	2020-12-28
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2017-04-24	2018-04-24
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2017-05-21	2018-05-21
HP	Amplifier	HP8447E	1937A01046	2017-11-19	2018-05-21
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2017-12-17	2020-12-16
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2017-12-07	2018-12-07
Ducommun technologies	RF Cable	UFA210A-1-4724-30050U	MFR64369 223410-001	2017-11-19	2018-05-21
Ducommun technologies	RF Cable	104PEA	218124002	2017-11-19	2018-05-21
Ducommun technologies	RF Cable	RG-214	1	2017-11-19	2018-05-21
Ducommun technologies	RF Cable	RG-214	2	2017-11-19	2018-05-21
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-04	2017-12-29	2020-12-28
Ducommun Technologies	Pre-amplifier	ALN-22093530-01	991373-01	2017-08-03	2018-08-03
Sinoscite	Band Reject Filter	BSF2402-2480MN-0898-001	N/A	2017-05-21	2018-05-21

*** 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 §1.1307 (b) (1) & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 15.247 (i) and subpart 1.1307 (b)(1), 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure

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

Result

Calculated Formulary:

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = 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)

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

The sample contain a Z-WAVE module (FCC ID: D87-ZM5304-U) which has been certified on 2013-08-23 by Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch. According the report RF130710C16, the max ERP was 92.9 dBuV/m on 908.42MHz, antenna gain was 1 dBi,
so the max output power= ERP-95.3-1+2.15= -1.25 dBm

Frequency (MHz)	Antenna Gain		max output power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
	(dBi)	(numeric)	(dBm)	(mW)			
908.4-916	1	1.26	-1.25	0.75	20	0.0002	0.61

For the sample which contain the LTE module 1(FCC ID: QIPELS31-V):

Frequency (MHz)	Antenna Gain		Conducted Power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
	(dBi)	(numeric)	(dBm)	(mW)			
2412-2462	2	1.58	21.5	141.25	20	0.04	1.0
1710-1755	2	1.58	24	251.19	20	0.08	1.0
777-787	2	1.58	24	251.19	20	0.08	0.52

Note：LTE Data please refer to LTE module 1's FCC ID: QIPELS31-V which has been certified on 2015-12-16 by Shenzhen CETECOM Inc.

Simultaneous transmitting consideration for LTE & WIFI & Z-Wave:

$$\sum_i \frac{S_i}{S_{Limit,i}} = 0.04/1+0.08/0.52+0.0002/0.61=0.19 < 1.0$$

Note: To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliance

For the sample which contain the LTE module 2(FCC ID: N7NMC7355):

Mode	Frequency (MHz)	Antenna Gain		Conducted Power		Duty cycle	Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)				
WIFI	2412-2462	2	1.58	21.5	141.25	1.0	20	0.04	1.0
GPRS	824-849	2	1.58	33	1995.26	0.25	20	0.16	0.55
	1850-1910	2	1.58	30	1000.00	0.25	20	0.08	1.0
EDGE	824-849	2	1.58	28	630.96	0.25	20	0.05	0.55
	1850-1910	2	1.58	27	501.19	0.25	20	0.04	1.0
CDMA	824-849	2	1.58	25	316.23	1.0	20	0.10	0.55
	1850-1910	2	1.58	25	316.23	1.0	20	0.10	1.0
	817-824	2	1.58	25	316.23	1.0	20	0.10	0.54
UMTS	824-849	2	1.58	24	251.19	1.0	20	0.08	0.55
	1710-1755	2	1.58	24	251.19	1.0	20	0.08	1.0
	1850-1910	2	1.58	24	251.19	1.0	20	0.08	1.0
LTE	704-716	2	1.58	24	251.19	1.0	20	0.08	0.47
	777-787	2	1.58	24	251.19	1.0	20	0.08	0.52
	824-849	2	1.58	24	251.19	1.0	20	0.08	0.55
	1710-1755	2	1.58	24	251.19	1.0	20	0.08	1.0
	1850-1910	2	1.58	24	251.19	1.0	20	0.08	1.0
	1850-1915	2	1.58	24	251.19	1.0	20	0.08	1.0

Note：LTE Data please refer to LTE module 2's FCC ID: N7NMC7355 which has been certified on 2012-11-28 by UL VERIFICATION SERVICES, INC.

Simultaneous transmitting consideration for above table, the worst case is WIFI and GPRS 850 band and Z-Wave:

$$\sum_i \frac{S_i}{S_{Limit,i}} = 0.04/1+0.16/0.55+0.0002/0.61=0.33 < 1.0$$

Note: To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

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 15.247 (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 an external antenna , which was permanently attached and the antenna gain is 2 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

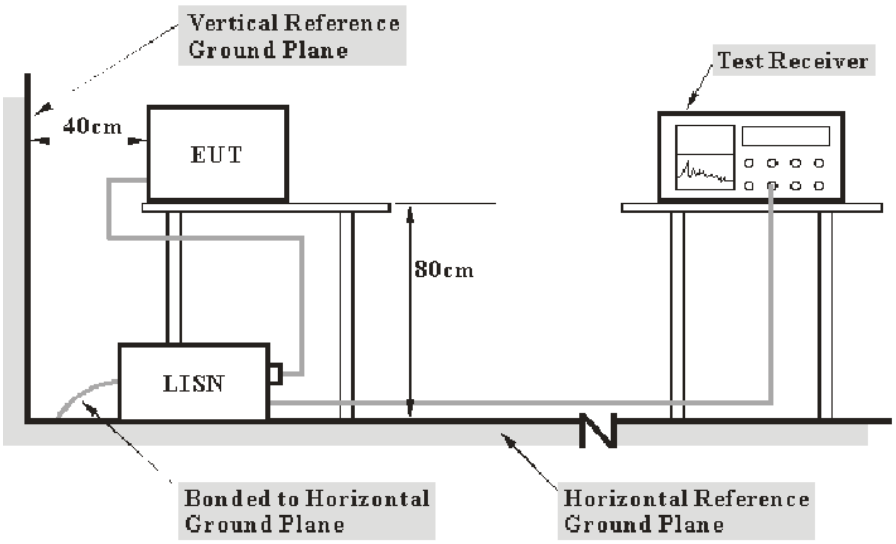
Result: Compliance.

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

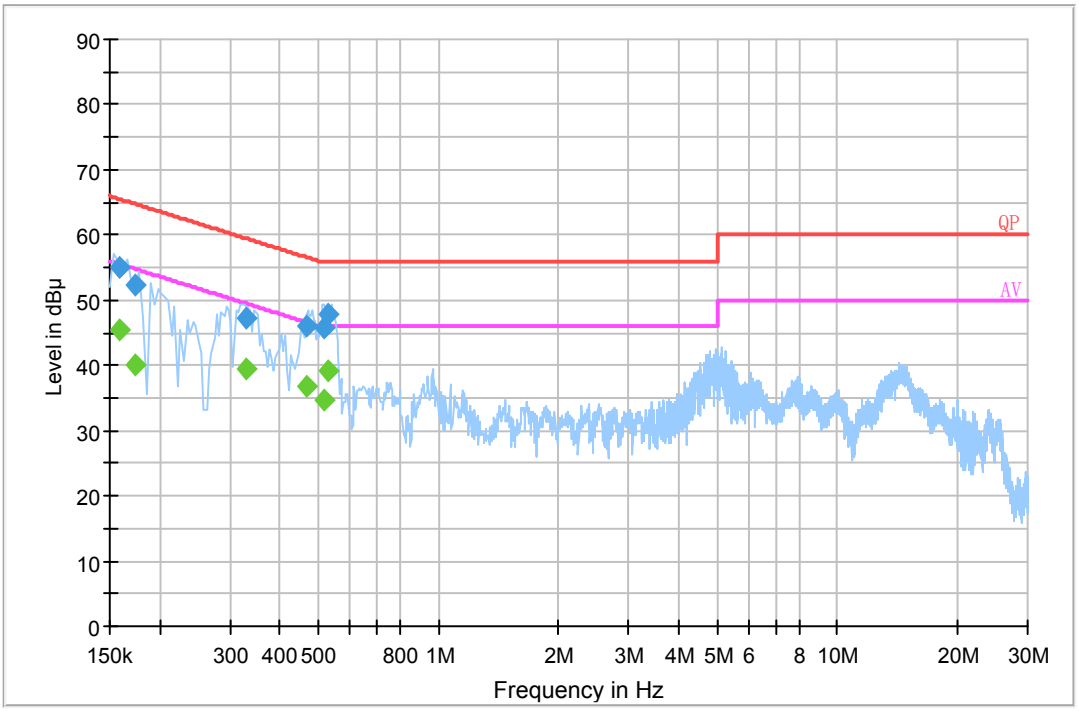
Environmental Conditions

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

The testing was performed by Joson Xiao on 2018-01-04.

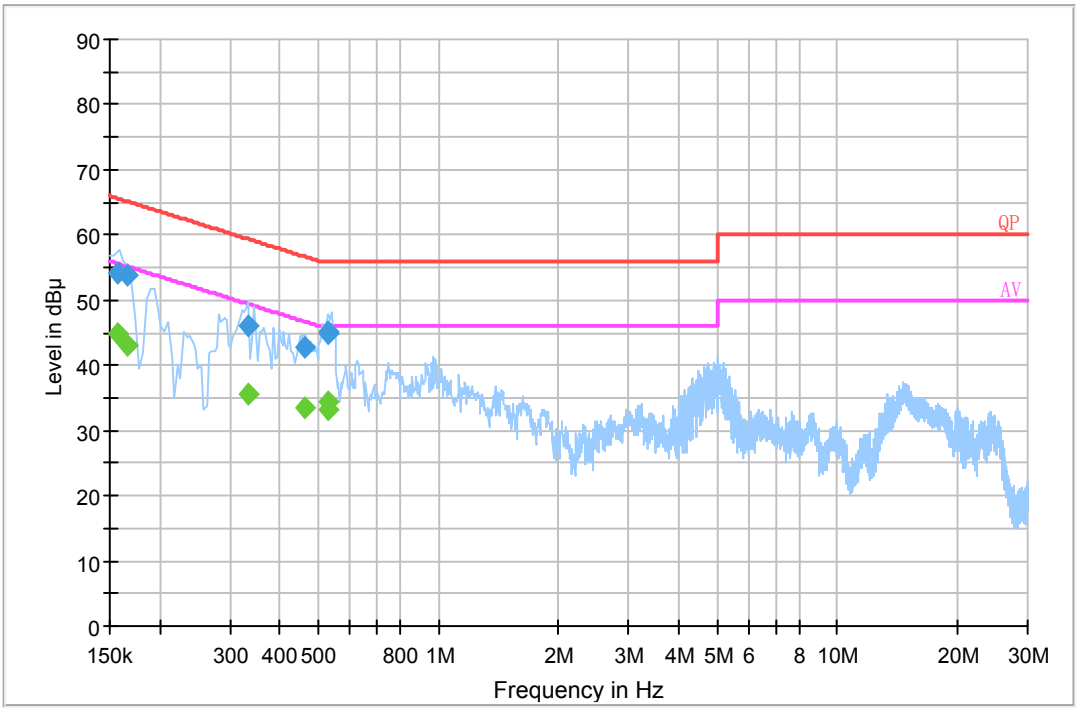
EUT operation mode: Transmitting(pre-scan the two sample, the worst case is scanning the sample which with LTE module 2 (FCC ID: N7NMC7355) one)

AC 120 V/60 Hz, Line:



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/Ave./QP)
0.158000	55.1	20.2	65.6	10.5	QP
0.173500	52.3	20.2	64.8	12.5	QP
0.329110	47.3	20.2	59.5	12.2	QP
0.466950	45.9	20.2	56.6	10.7	QP
0.518290	45.7	20.2	56.0	10.3	QP
0.529930	47.9	20.2	56.0	8.1	QP
0.158000	45.4	20.2	55.6	10.2	Ave.
0.173500	40.0	20.2	54.8	14.8	Ave.
0.329110	39.5	20.2	49.5	10	Ave.
0.466950	36.7	20.2	46.6	9.9	Ave.
0.518290	34.5	20.2	46.0	11.5	Ave.
0.529930	39.2	20.2	46.0	6.8	Ave.

AC 120V/ 60 Hz, Neutral:



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/Ave./QP)
0.157500	54.1	20.2	65.6	11.5	QP
0.165500	53.9	20.2	65.2	11.3	QP
0.332990	46.1	20.2	59.4	13.3	QP
0.463070	42.9	20.2	56.6	13.7	QP
0.526050	44.7	20.2	56.0	11.3	QP
0.529930	45.1	20.2	56.0	10.9	QP
0.157500	44.7	20.2	55.6	10.9	Ave.
0.165500	42.9	20.2	55.2	12.3	Ave.
0.332990	35.5	20.2	49.4	13.9	Ave.
0.463070	33.6	20.2	46.6	13	Ave.
0.526050	33.2	20.2	46.0	12.8	Ave.
0.529930	34.3	20.2	46.0	11.7	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

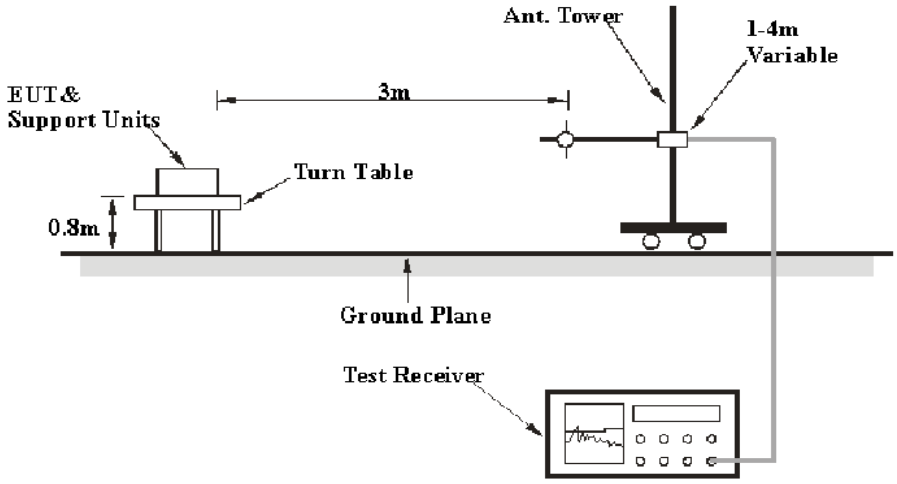
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

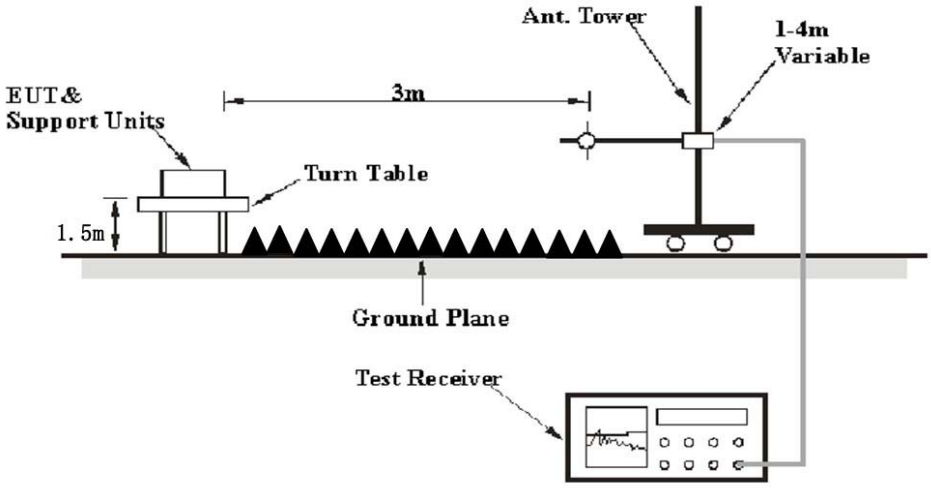
FCC §15.247 (d); §15.209; §15.205;

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	/	Average
	1MHz	＞1/T Note 2	/	Average

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

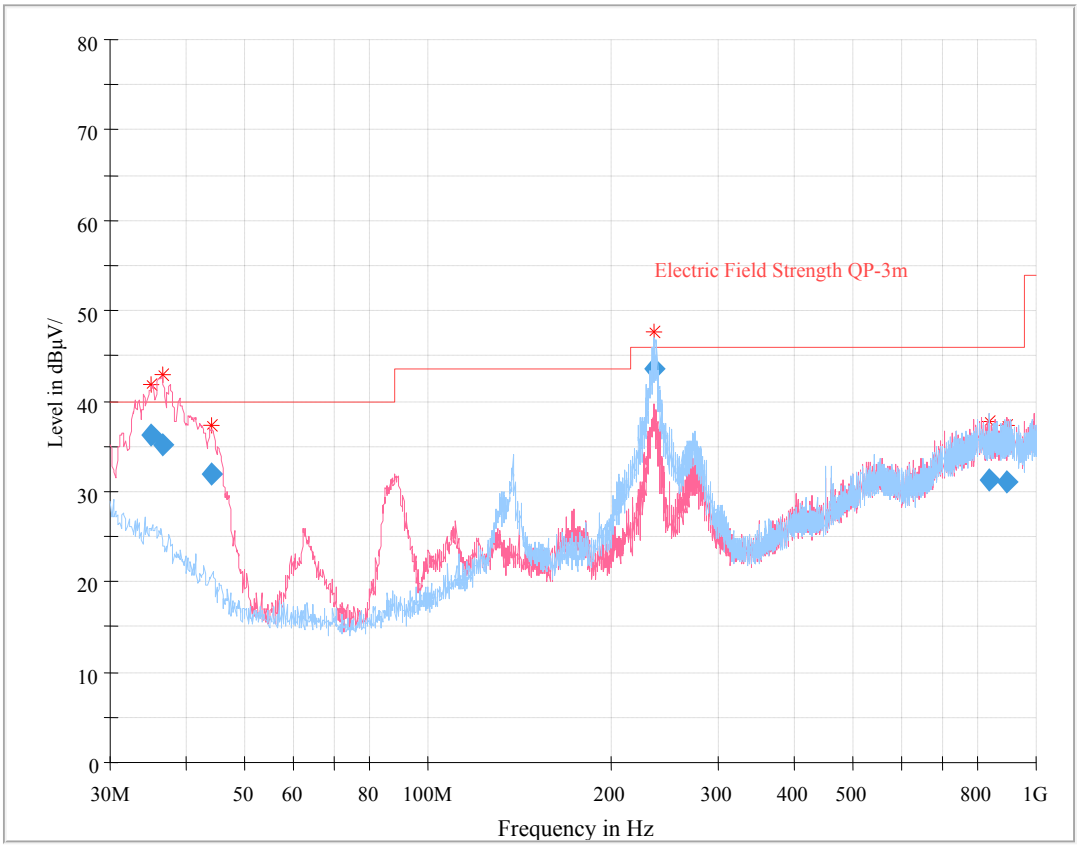
Temperature:	24~25 ℃
Relative Humidity:	49~52 %
ATM Pressure:	100.9~101.0 kPa

The testing was performed by Joson Xiao from 2018-01-04 to 2018-01-18.

EUT operation mode: Transmitting (Z-Wave set frequency to 908.42MHz, WIFI 802.11g mode high channel and LTE all three mode simultaneously transmitting,)

LTE module 1 (FCC ID: QIPELS31-V)

30 MHz~1 GHz:



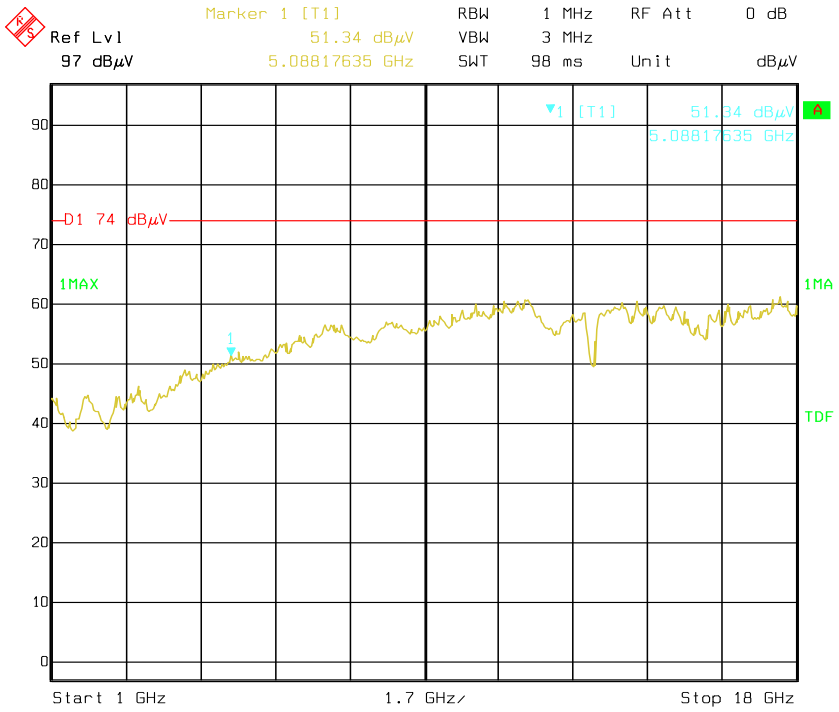
Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna height (cm)	Antenna Polarity	Turntable position (degree)	Correction Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
35.076250	36.31	102.0	V	323.0	-3.0	40.00	3.69
36.525000	35.07	102.0	V	0.0	-3.9	40.00	4.93
43.993250	31.98	102.0	V	29.0	-9.1	40.00	8.02
234.831500	43.62	152.0	H	202.0	-5.2	46.00	2.38
838.242500	31.19	287.0	H	338.0	9.0	46.00	14.81
894.605625	30.96	171.0	V	350.0	9.6	46.00	15.04

Above 1 GHz:

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)
5088.17	43.86	PK	208	1.1	H	7.79	51.65	74	22.35
5088.17	30.37	Ave.	208	1.1	H	7.79	38.16	54	15.84
5088.17	43.32	PK	306	1.2	V	7.79	51.11	74	22.89
5088.17	30.18	Ave.	306	1.2	V	7.79	37.97	54	16.03
2931.45	44.34	PK	222	1.6	H	0.51	44.85	74	29.15
2931.45	29.47	Ave.	222	1.6	H	0.51	29.98	54	24.02
2931.45	43.26	PK	106	1.3	V	0.51	43.77	74	30.23
2931.45	29.63	Ave.	106	1.3	V	0.51	30.14	54	23.86

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

Pre-scan with all three mode simultaneously transmitting
Horizontal



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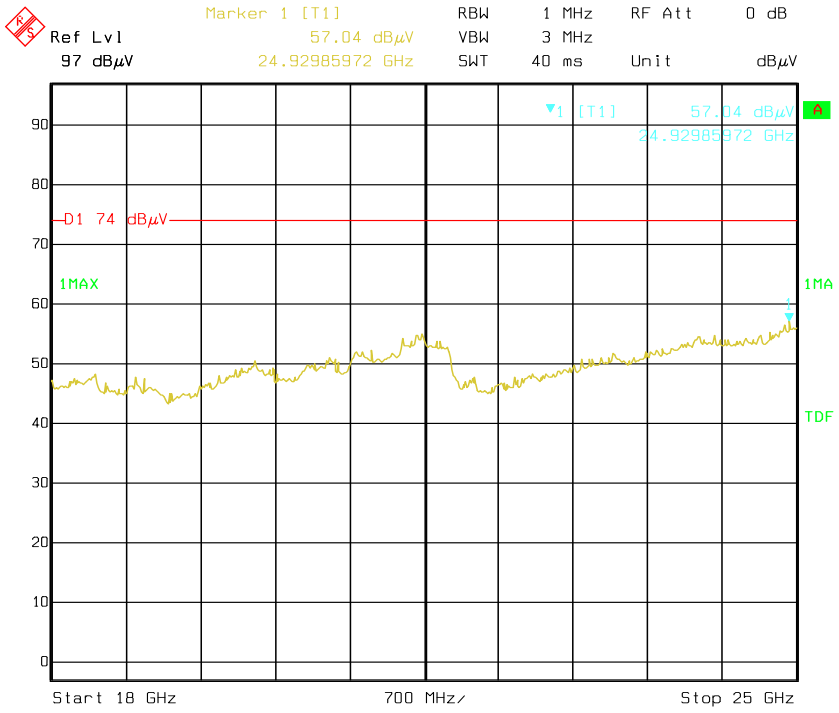

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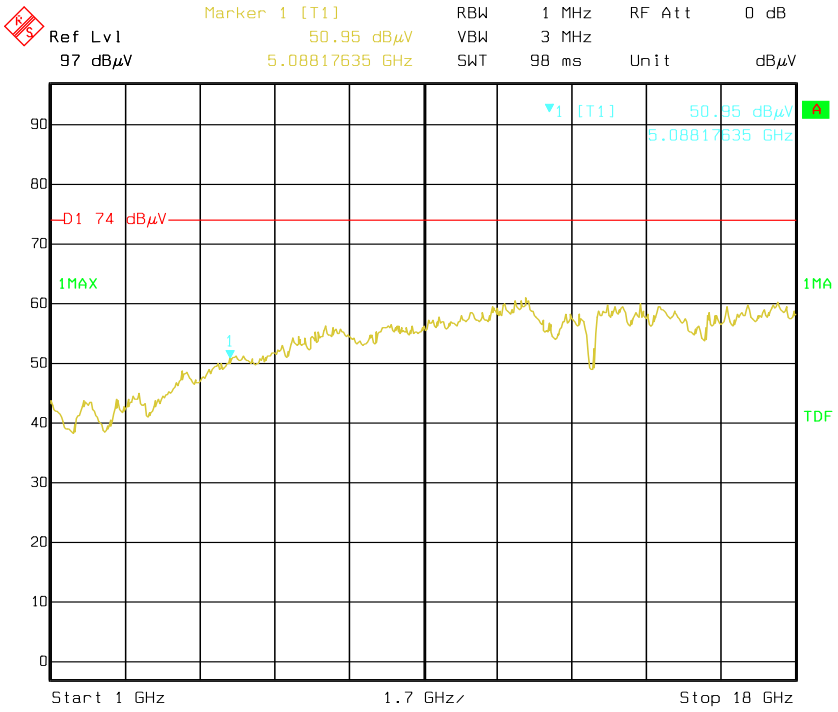
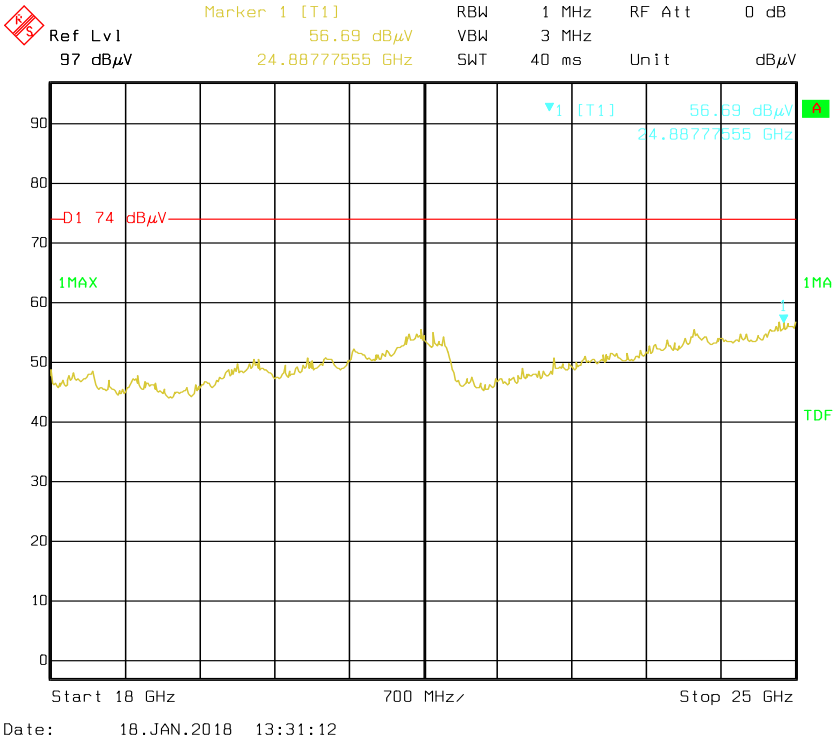
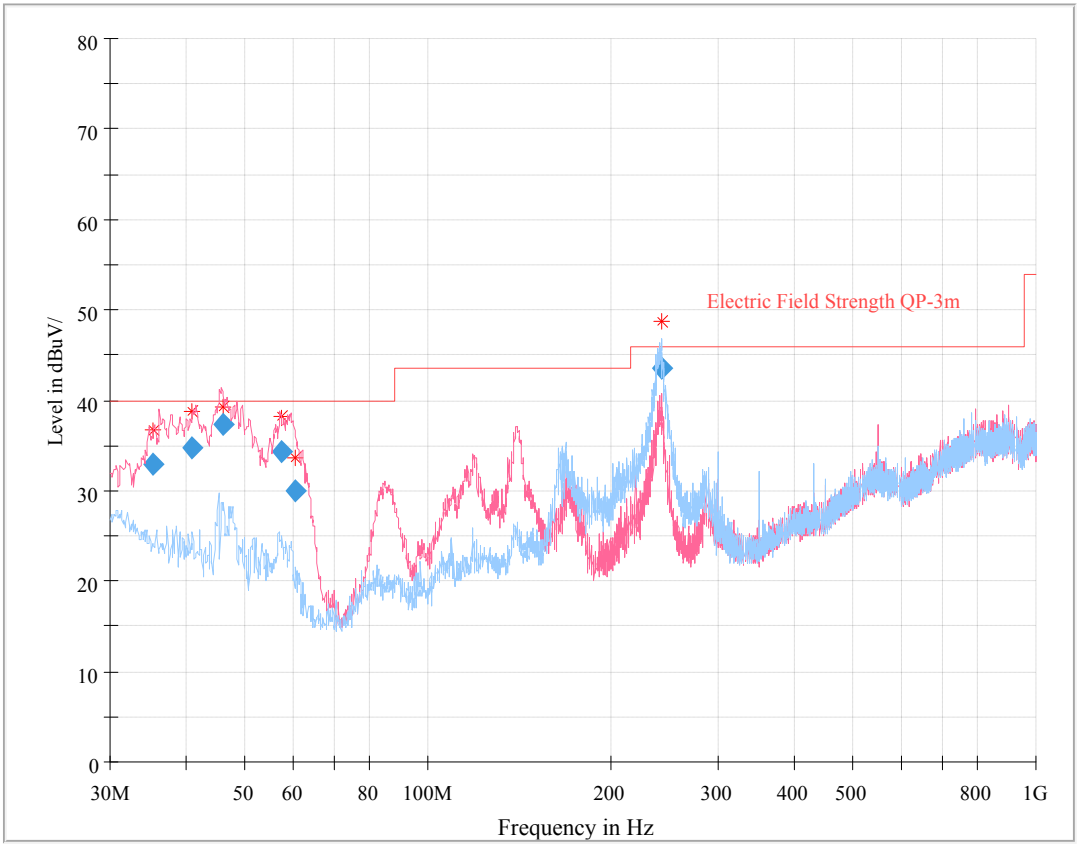
Vertical


Marker 1 [T1]
RBW 1 MHz
RF Att 0 dB
Ref Lvl
50.95 dBµV
VBW 3 MHz
97 dBµV
5.08817635 GHz
SWT 98 ms
Unit dBµV
1 [T1]
50.95 dBµV
5.08817635 GHz
D1 74 dBµV
1MAX
1MA
TDF
Start 1 GHz
1.7 GHz/
Stop 18 GHz
Date: 18.JAN.2018 12:56:32


Marker 1 [T1]
RBW 1 MHz
RF Att 0 dB
Ref Lvl
56.69 dBµV
VBW 3 MHz
97 dBµV
24.88777555 GHz
SWT 40 ms
Unit dBµV
1 [T1]
56.69 dBµV
24.88777555 GHz
D1 74 dBµV
1MAX
1MA
TDF
Start 18 GHz
700 MHz/
Stop 25 GHz
Date: 18.JAN.2018 13:31:12

***LTE module 2* (FCC ID: N7NMC7355)**
30 MHz~1 GHz:



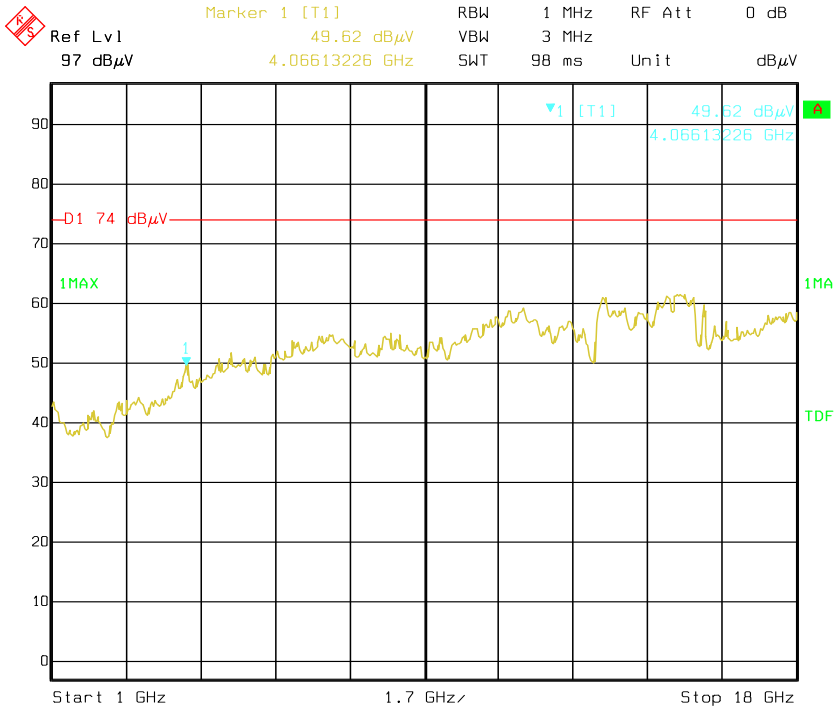
Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna height (cm)	Antenna Polarity	Turntable position (degree)	Correction Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
35.209875	33.00	108.0	V	107.0	-3.1	40.00	7.0
41.054625	34.67	100.0	V	61.0	-6.9	40.00	5.33
45.893625	37.33	100.0	V	158.0	-10.1	40.00	2.67
57.460500	34.17	127.0	V	71.0	-11.7	40.00	5.83
60.380375	30.00	123.0	V	45.0	-11.9	40.00	10.0
241.526000	43.57	123.0	H	225.0	-4.6	46.00	2.43

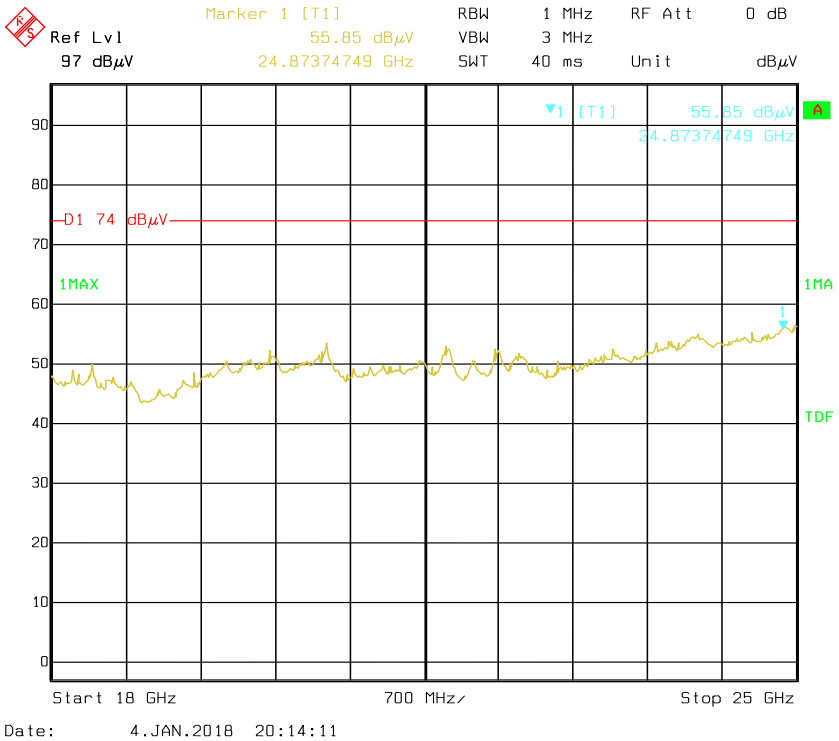
Above 1 GHz:

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)
1246.57	49.32	PK	190	1.1	H	-8.48	40.84	74	33.16
1246.57	33.11	Ave.	190	1.1	H	-8.48	24.63	54	29.37
4066.13	45.31	PK	256	2.2	H	4.04	49.35	74	24.65
4066.13	31.58	Ave.	256	2.2	H	4.04	35.62	54	18.38
1165.39	50.13	PK	249	2.2	V	-8.48	41.65	74	32.35
1165.39	33.32	Ave.	249	2.2	V	-8.48	24.84	54	29.16
5054.12	45.36	PK	205	1.4	V	6.90	52.26	74	21.74
5054.12	31.52	Ave.	205	1.4	V	6.90	38.42	54	15.58

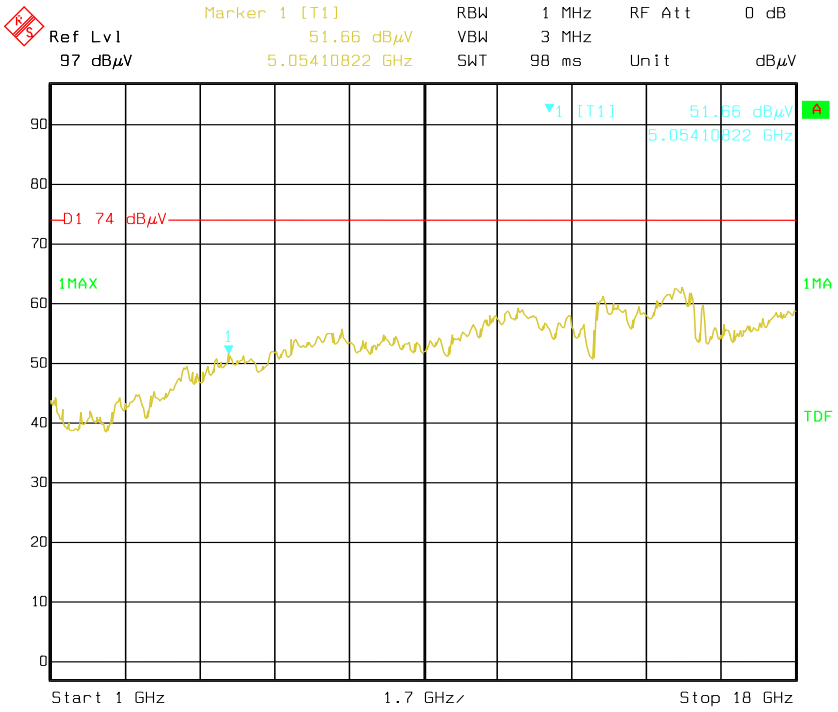
Note:
Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
Corrected Amplitude = Corrected Factor + Reading
Margin = Limit - Corrected. Amplitude

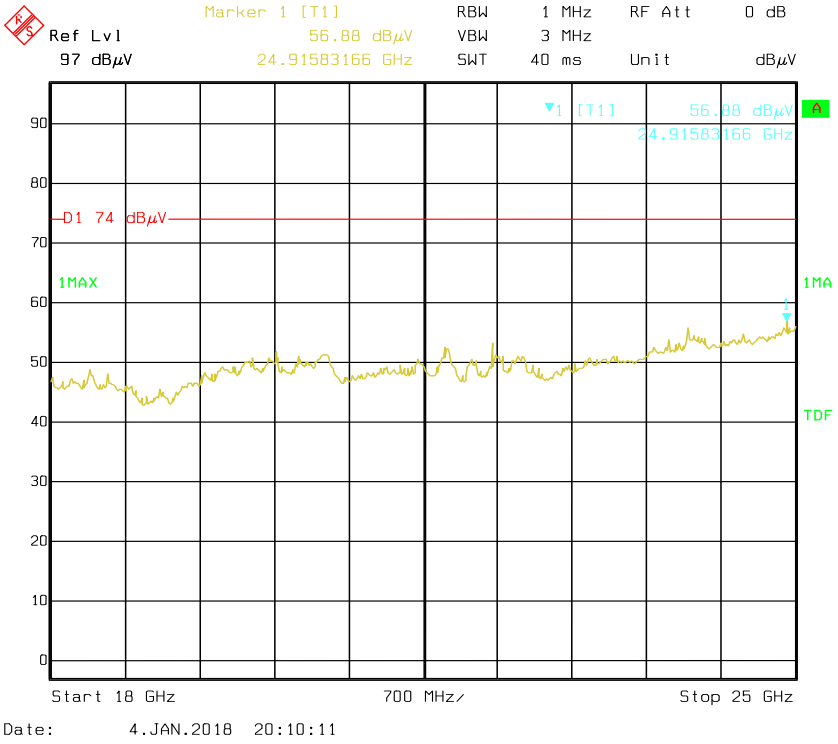
Pre-scan with all three mode simultaneously transmitting
Horizontal





Vertical





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