



RF TEST REPORT

Applicant MOBIKE (HONG KONG) LIMITED

FCC ID 2AK4SLBC-CATM01

Product Mobike Lock

Brand mobike

Model LC_CATM01, LB_CATM01

Report No. RXA1707-0235RF03R1

Issue Date September 27, 2017

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15C (2016)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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Summary of measurement results

Number	Summary of measurements of results	Clause in FCC rules	Verdict
1	Maximum Average conducted output power	15.247(b)(3)	PASS
2	6 dB bandwidth	15.247(a)(2)	PASS
3	Power spectral density	15.247(e)	PASS
4	Band Edge	15.247(d)	PASS
5	Spurious RF Conducted Emissions	15.247(d)	PASS
6	Radiated Emissions in restricted frequency bands	15.247(d),15.205,15.209	PASS
7	Radiated Emissions	15.247(d),15.205,15.209	PASS
8	Conducted Emissions	15.207	PASS
Date of Testing: July 30, 2017~August 4, 2017			



1. Test Laboratory

1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above. This report must not be used by the client to claim product certification, approval, or endorsement by any government agencies.

1.2. Test facility

CNAS (accreditation number: L2264)

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

IC (recognition number is 8510A)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement.

VCCI (recognition number is C-4595, T-2154, R-4113, G-10766)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Japan to perform electromagnetic emission measurement.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.



1.3. Testing Location

Company: TA Technology (Shanghai) Co., Ltd.
Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong
City: Shanghai
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E-mail: xukai@ta-shanghai.com



2. General Description of Equipment under Test

Client Information

Applicant	MOBIKE (HONG KONG) LIMITED
Applicant address	10/F HONGKONG OFFSHORE CENTRE NO.28 AUSTIN AVENUE TSIM SHA TSUI KL
Manufacturer	MOBIKE (HONG KONG) LIMITED
Manufacturer address	10/F HONGKONG OFFSHORE CENTRE NO.28 AUSTIN AVENUE TSIM SHA TSUI KL

General information

EUT Description	
Model:	LC_CATM01, LB_CATM01
SN	/
Hardware Version:	LC_CATM01
Software Version:	501
Power Supply:	/
Antenna Type:	Internal Antenna
additional beamforming gain:	0 dB
Test Mode:	Bluetooth(Low Energy)
Modulation Type:	BLE :GFSK
Max. Conducted Power	BLE : -3.54dBm
Operating Frequency Range(s)	BLE: 2402 ~2480 MHz

Note: The information of the EUT is declared by the manufacturer.

Discrepancy declaration of LC_CATM01 and LB_CATM01:

HARDWARE MODIFICATION	LC_CATM01	LB_CATM01
Mechanical shell	Black, gray	Black
PCB	The same	The same
radio frequency module	The same	The same
Other	The same	The same

Note: 1. LC_CATM01/ LB_CATM01 version has the same hard ware specification, the only difference lies in the shape of the outside shell.
2. During the test, the preliminary test was performed with LC_CATM01 and LB_CATM01, LC_CATM01 was selected as the worst Model and recorded data in this report.



3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards

- **FCC CFR47 Part 15C (2016) Radio Frequency Devices**
- **ANSI C63.10 (2013)**
- **KDB 558074 D01 DTS Meas Guidance v04**



4. Test Configuration

Test Mode

The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all the configuration for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

Band	Data Rate
Bluetooth(Low Energy)	1Mbps

Band	T _{on} (ms)	T _(on+off) (ms)	Duty cycle	Duty cycle correction Factor(dB)
BLE	414	618	0.67	1.74

Note: when Duty cycle>0.98, Duty cycle correction Factor not required.

5. Test Case Results

5.1. Average Power Output –Conducted

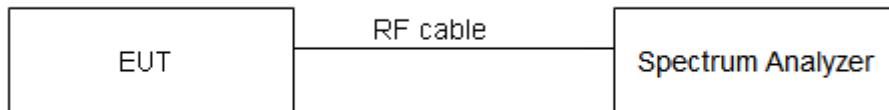
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to Spectrum Analyzer with a known loss. The EUT is max power transmission with proper modulation. The Average detector is used. We use Maximum Average Conducted Output Power Level Method in KDB 558074 D01 for this test.

Test Setup



Limits

Rule Part 15.247 (b) (3) specifies that " For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz: 1 Watt."

Average Output Power	$\leq 1W$ (30dBm)
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Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.44$ dB.

**Test Results**

Network Standards	Carrier frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)	Conclusion
Bluetooth (Low Energy)	2402	-3.54	30	PASS
	2440	-4.78	30	PASS
	2480	-6.46	30	PASS
Note: Output Power = Read Value + Duty cycle correction factor				



BLE Carrier frequency (MHz): 2402



BLE Carrier frequency (MHz): 2440



BLE Carrier frequency (MHz): 2480



5.2. 6dB Bandwidth

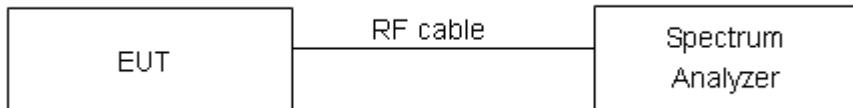
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable. RBW is set to 100 kHz; VBW is set to 300 kHz on spectrum analyzer.

Test Setup



Limits

Rule Part 15.247 (a) (2) specifies that "Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz."

minimum 6 dB bandwidth	≥ 500 kHz
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Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 936$ Hz.

**Test Results:**

Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
Bluetooth (Low Energy)	2402	1.0726	0.678	500	PASS
	2440	1.0596	0.679	500	PASS
	2480	1.0537	0.679	500	PASS

BLE Carrier frequency (MHz): 2402**BLE Carrier frequency (MHz): 2440****BLE Carrier frequency (MHz): 2480**

5.3. Band Edge

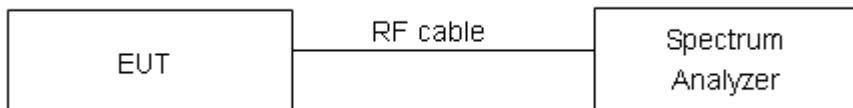
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable the band edge of the lowest and highest channels were measured. The peak detector is used and RBW is set to 100 kHz and VBW is set to 300 kHz on spectrum analyzer. Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

Rule Part 15.247(d) specifies that “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.”

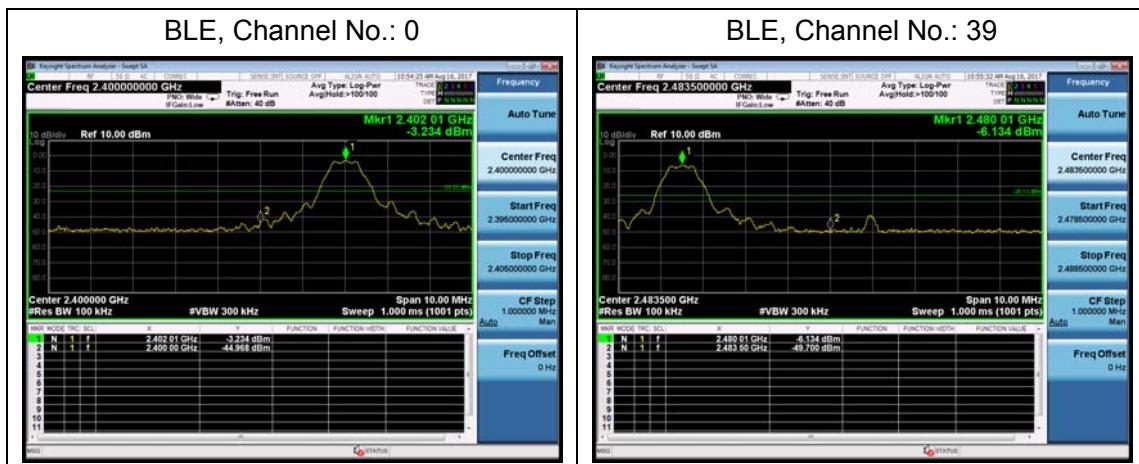
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
2GHz-3GHz	1.407 dB



Test Results: PASS



5.4. Power Spectral Density

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

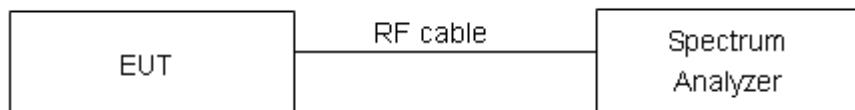
Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

RBW is set to 3 kHz and VBW is set to 10 kHz for BLE on spectrum analyzer.

Set the span to 1.5 times the DTS channel bandwidth. Sweep time = auto couple. Trace mode = max hold. The Average power spectral density is recorded.

Test setup



Limits

Rule Part 15.247(e) specifies that "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."

Limits	≤ 8 dBm / 3kHz
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Measurement Uncertainty

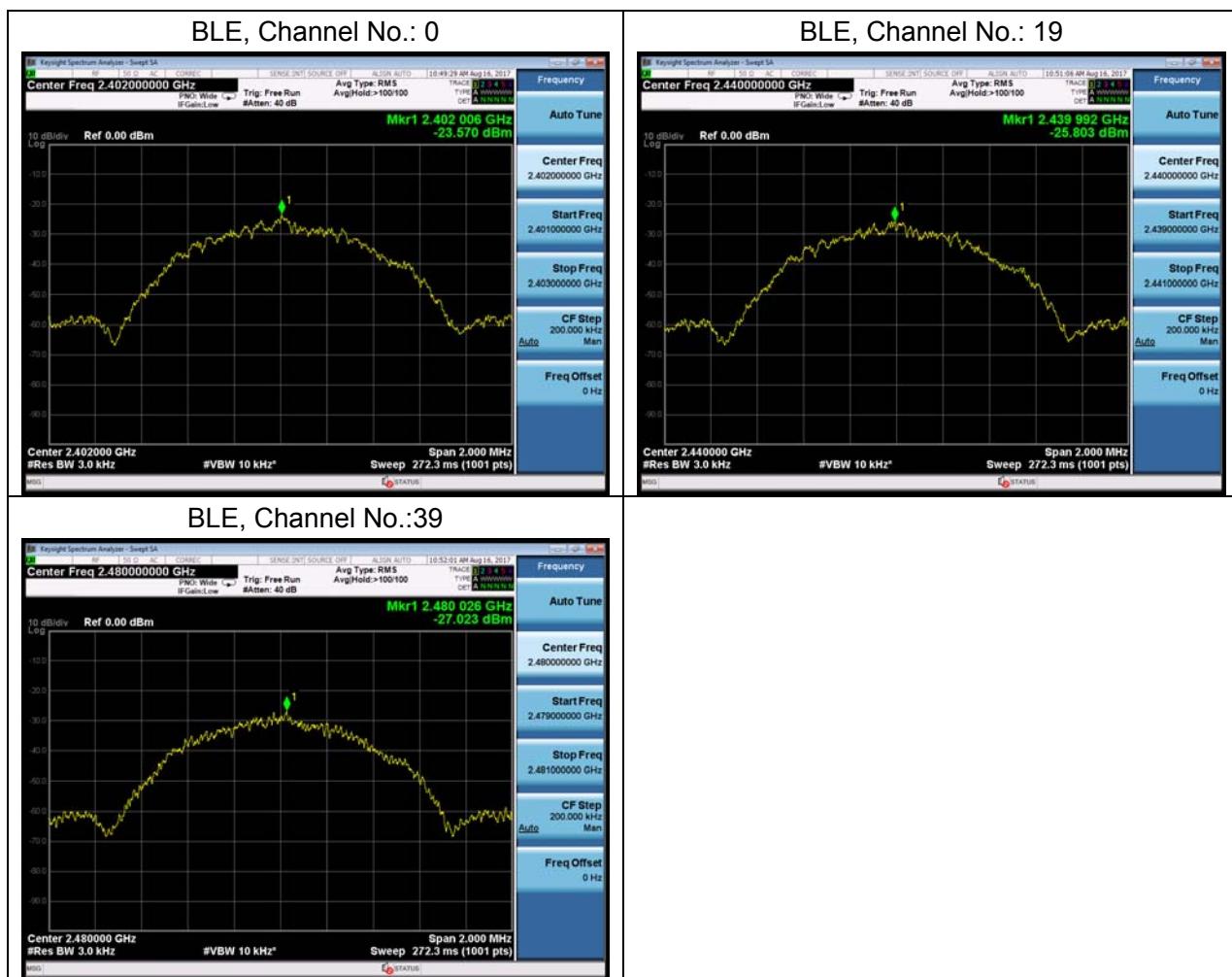
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.75$ dB.



Test Results:

Network Standards	Channel Number	Power Spectral Density (dBm / 3kHz)	Limit (dBm / 3kHz)	Conclusion
Bluetooth (Low Energy)	0	-21.830	8	PASS
	19	-24.063	8	PASS
	39	-25.283	8	PASS

Note: Output Power = Read Value + Duty cycle correction factor





5.5. Spurious RF Conducted Emissions

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer with a known loss. The spectrum analyzer scans from 30MHz to the 10th harmonic of the carrier. The peak detector is used. Set RBW to 100kHz and VBW to 300 kHz, Sweep is set to ATUO.

The test is in transmitting mode.

Test setup



Limits

Rule Part 15.247(d) specifies that "In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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."

Network Standards	Carrier frequency (MHz)	Reference value (dBm)	Limit
Bluetooth (Low Energy)	2402	4.13	-15.87
	2440	3.59	-16.41
	2480	3.13	-16.87

Measurement Uncertainty

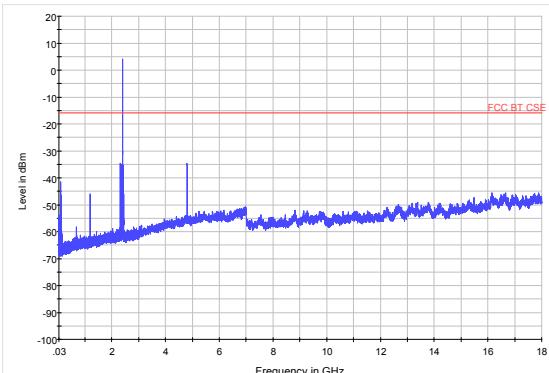
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-26GHz	1.407 dB

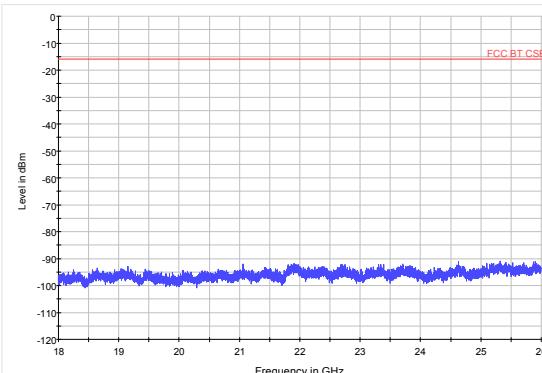
**Test Results:**

If disturbances were found more than 20dB below limit line, the mark is not required for the EUT. The signal beyond the limit is carrier.

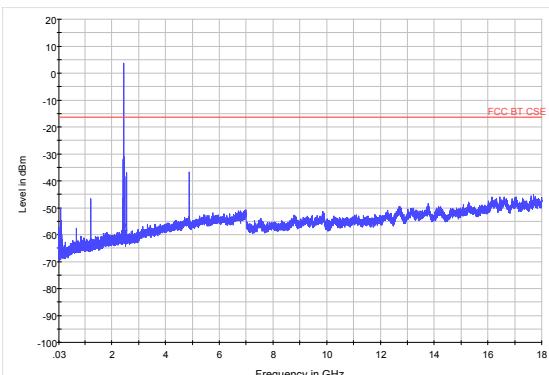
Test Data File Name	Frequency (MHz)	Peak (dBm)	Limit (dBm)	Margin (dB)
CSE_LC_CATM01_BT LE_CH0_0.03-18GH	4801.9	-34.66	-15.87	18.79



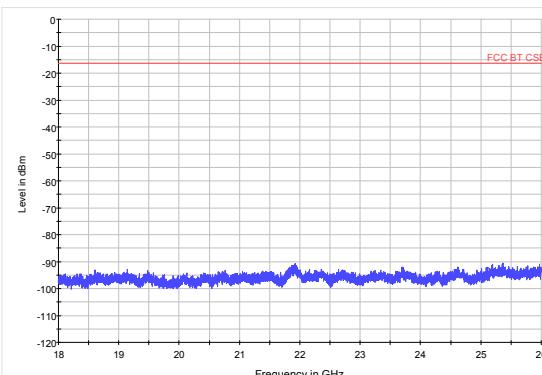
BLE CH0 30MHz to 18GHz



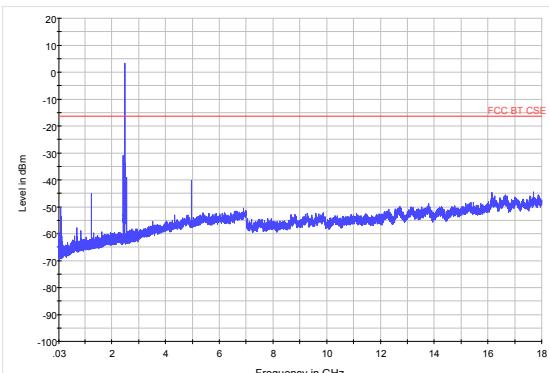
BLE CH0 18GHz to 26.5GHz



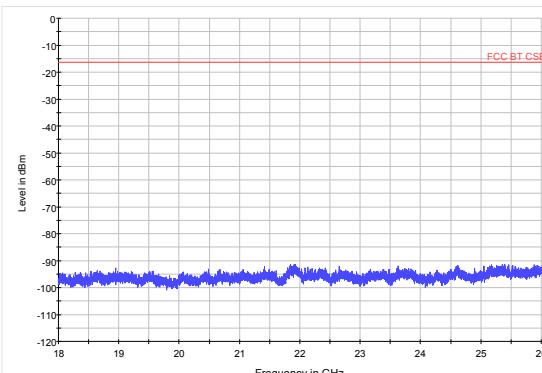
BLE CH19 30MHz to 18GHz



BLE CH19 18GHz to 26.5GHz



BLE CH39 30MHz to 18GHz



BLE CH39 18GHz to 26.5GHz

5.6. Radiated Emissions in the Restricted Band

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. RBW is set to 100kHz. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

Set the spectrum analyzer in the following:

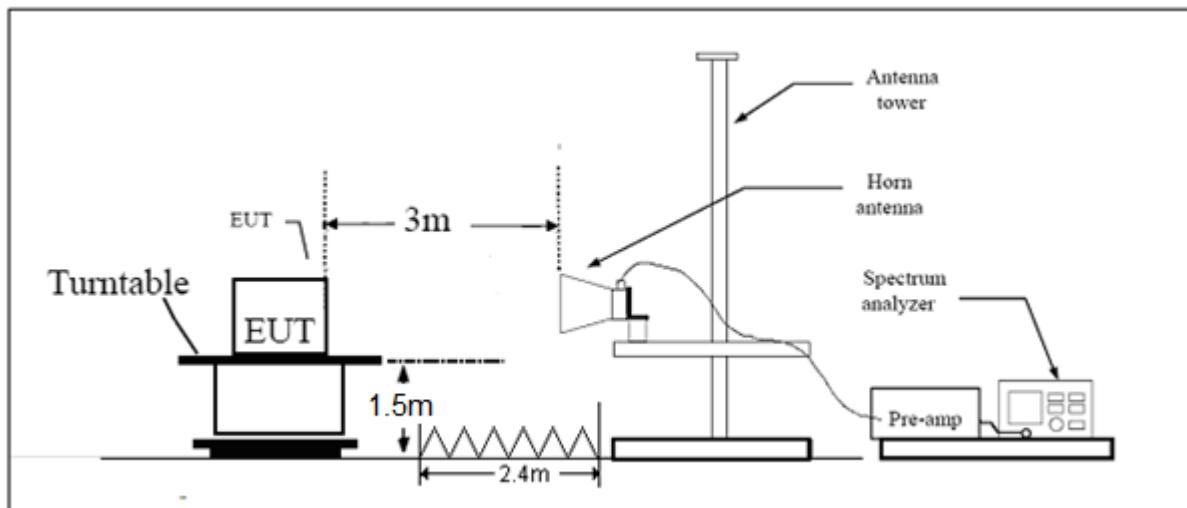
- (a) PEAK: RBW=1MHz /VBW=3MHz / Sweep=AUTO
- (b) AVERAGE: RBW=1MHz /VBW=3MHz / Sweep=AUTO

This setting method can refer to **KDB 558074**.

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Y axis) and the antenna is vertical.

The test is in transmitting mode.

Test setup



Note: Area side: 2.4mX3.6m



Limits

Spurious Radiated Emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

Limit in restricted band

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

§15.35(b)

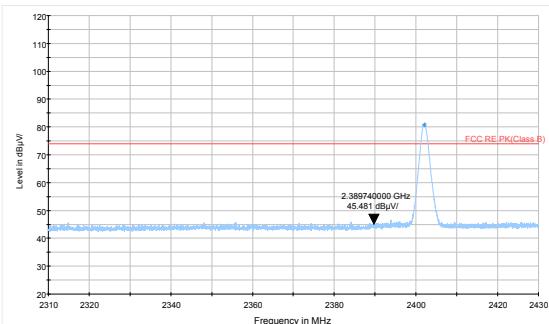
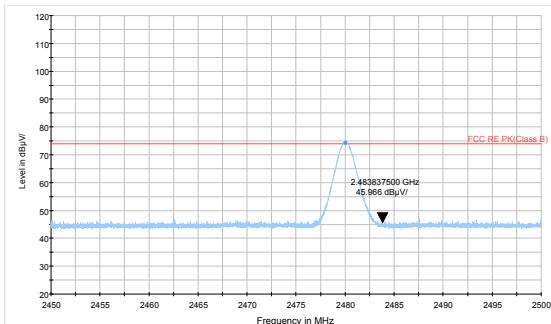
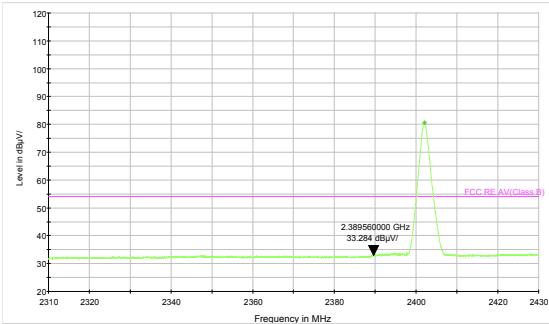
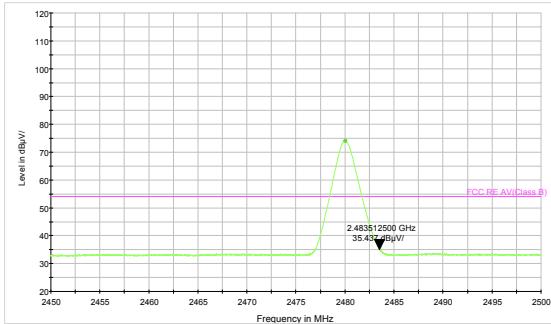
There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

Peak Limit=74 dBuV/m

Average Limit=54 dBuV/m

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U = 3.55$ dB.

**Test Results:****PASS****The signal beyond the limit is carrier.****BLE -Channel 0: Peak****BLE -Channel 39: Peak****BLE -Channel 0: Average****BLE -Channel 39: Average**



5.7. Radiates Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	102.5kPa

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.10-2013. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration.

Sweep the whole frequency band through the range from 9 kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

During the test, below 30MHz, the center of the loop shall be 1 meters; above 30MHz, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.

Set the spectrum analyzer in the following:

Below 1GHz (detector: Peak and Quasi-Peak)

RBW=100 kHz / VBW=300 kHz / Sweep=AUTO

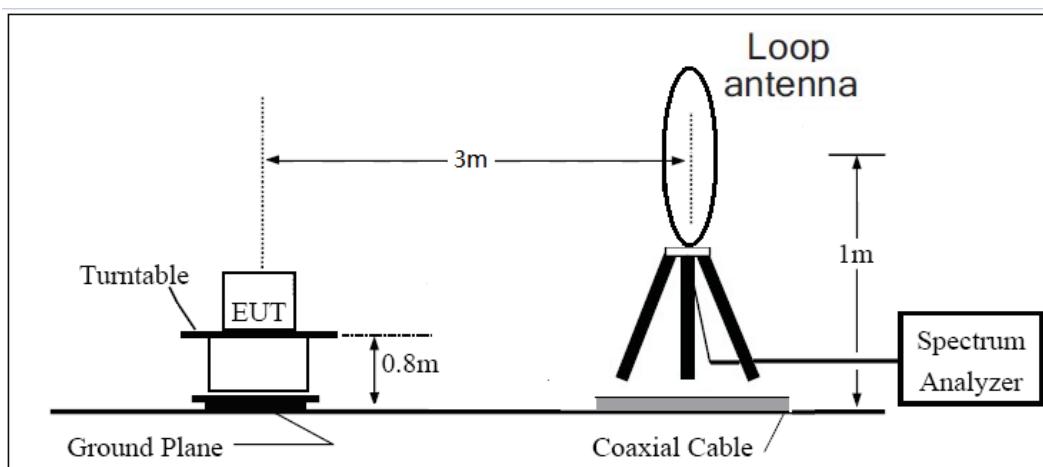
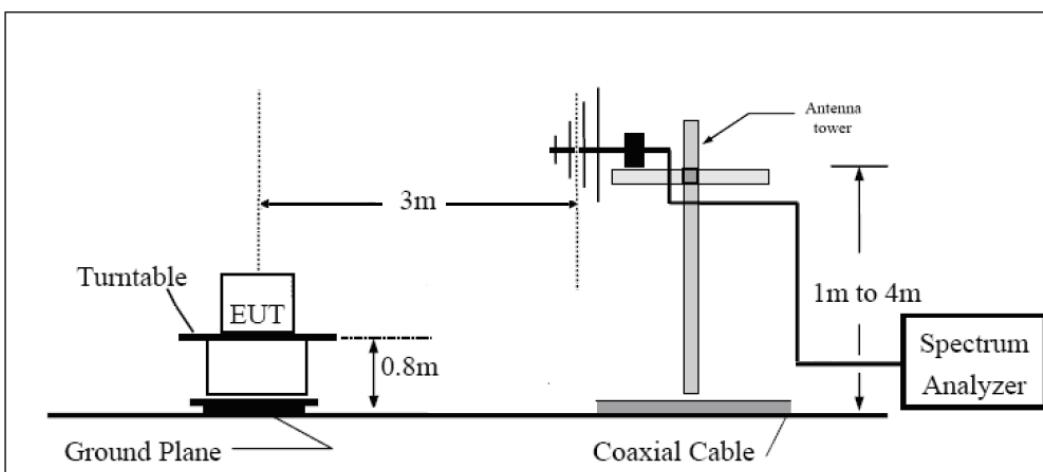
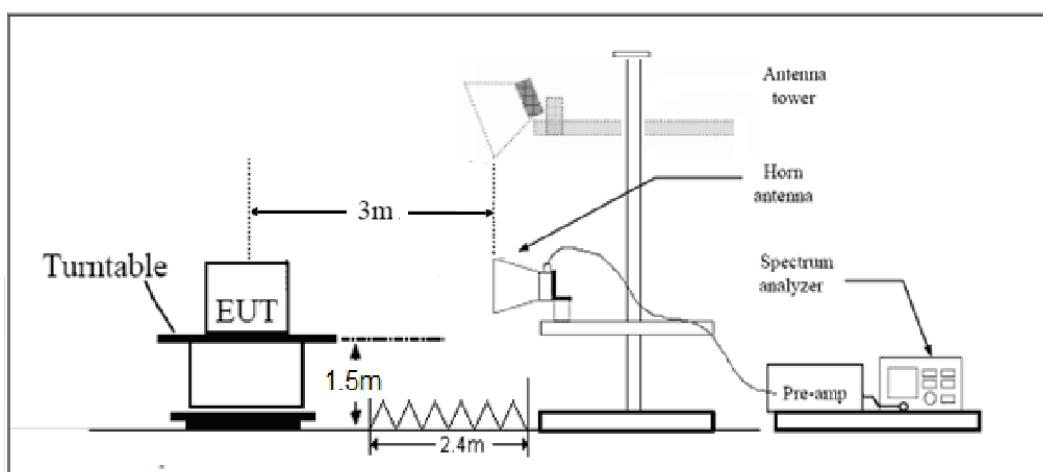
Above 1GHz (detector: Peak):

(a) PEAK: RBW=1MHz / VBW=3MHz/ Sweep=AUTO

(b) AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

The test is in transmitting mode.

Test setup**9KHz ~ 30MHz****30MHz ~ 1GHz****Above 1GHz**

Note: Area side:2.4mX3.6m



Limits

Rule Part 15.247(d) specifies that “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)).”

Limit in restricted band

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
0.009–0.490	2400/F(kHz)	/
0.490–1.705	24000/F(kHz)	/
1.705–30.0	30	/
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

§15.35(b)

There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.19 dB
200MHz-1GHz	3.63 dB
Above 1GHz	3.68 dB

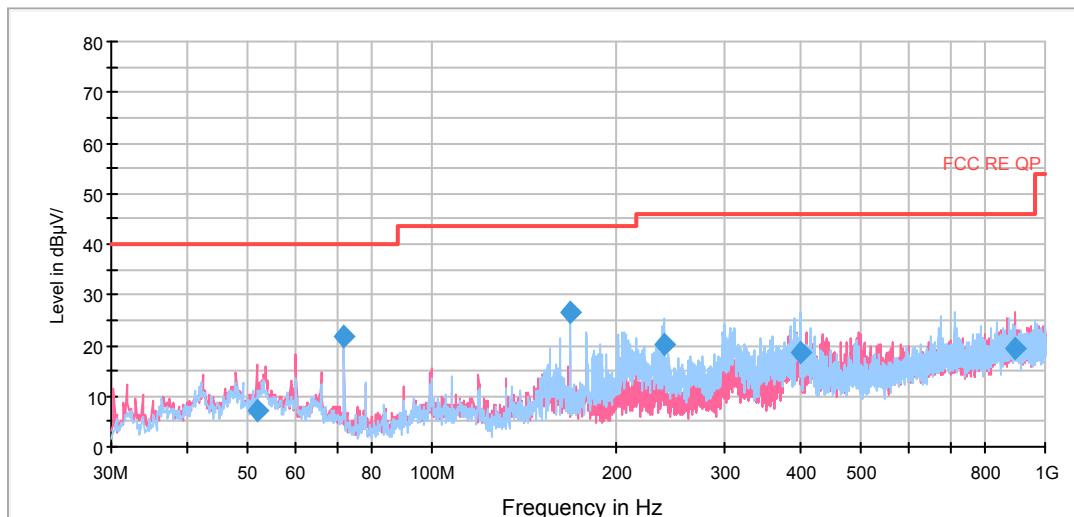
Test result

Sweep from 9 kHz to 30MHz, and the emissions more than 20 dB below the permissible value are not reported.

The following graphs display the maximum values of horizontal and vertical by software.
For above 1GHz, Blue trace uses the peak detection, Green trace uses the average detection.

Continuous TX mode:

RE 0.03-1GHz QP Class B



Radiates Emission from 30MHz to 1GHz



BLE-Channel 0

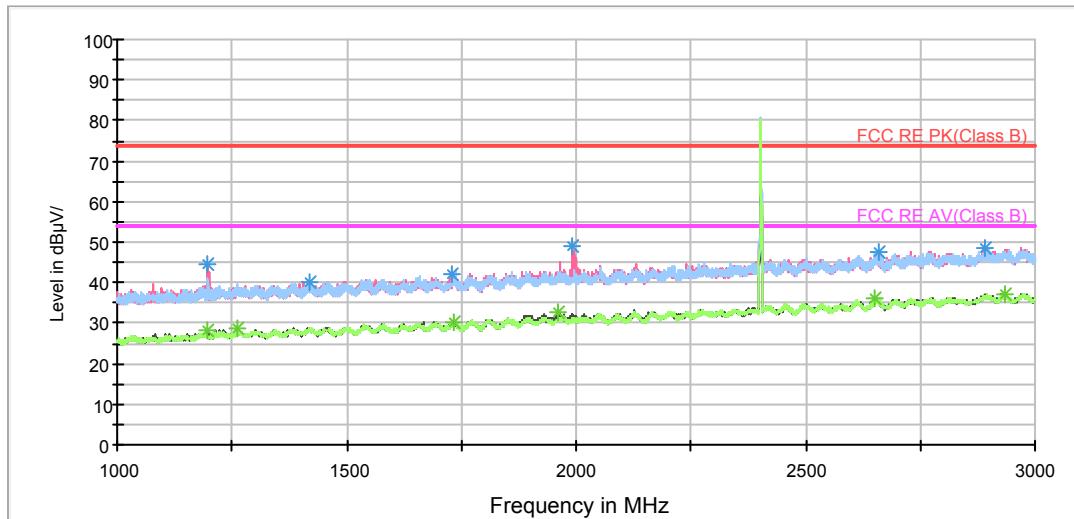
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1198.250000	44.8	102.0	V	339.0	53.0	-8.2	29.2	74
1419.500000	40.3	102.0	V	0.0	47.2	-6.9	33.7	74
1731.250000	41.9	202.0	H	0.0	46.8	-4.9	32.1	74
1991.000000	48.9	102.0	V	348.0	52.2	-3.3	25.1	74
2660.750000	47.6	102.0	V	0.0	47.3	-0.3	26.4	74
2890.500000	48.7	102.0	V	157.0	46.5	-2.2	25.3	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1198.250000	28.2	102.0	V	339.0	36.4	-8.2	25.8	54
1260.000000	28.8	102.0	V	50.0	36.6	-7.8	25.2	54
1732.000000	30.4	202.0	V	242.0	35.2	-4.8	23.6	54
1959.500000	32.6	102.0	V	70.0	35.8	-3.2	21.4	54
2652.500000	36.0	102.0	V	0.0	35.6	-0.4	18.0	54
2935.500000	37.3	102.0	V	148.0	35.5	-1.8	16.7	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 1G-3GHz PK+AV

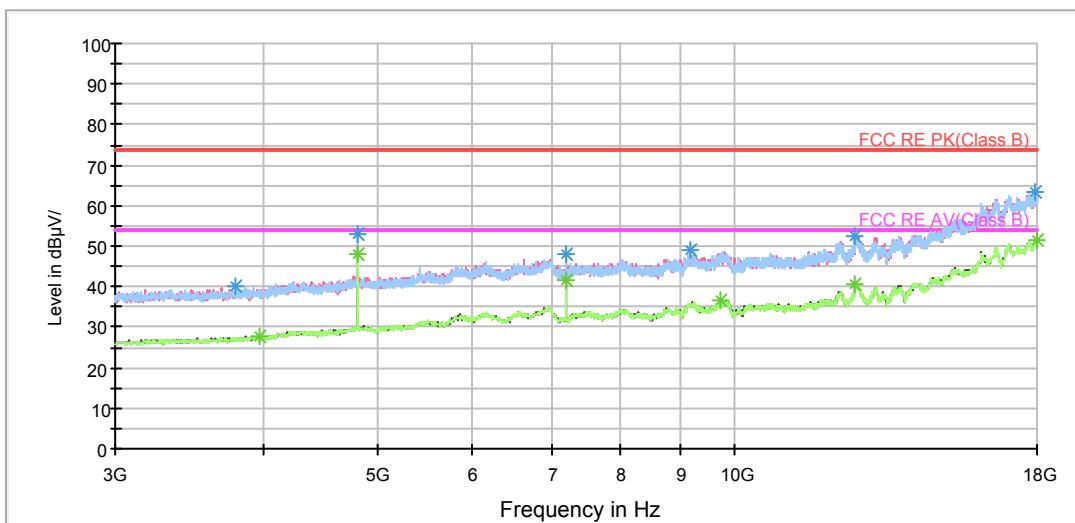


Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

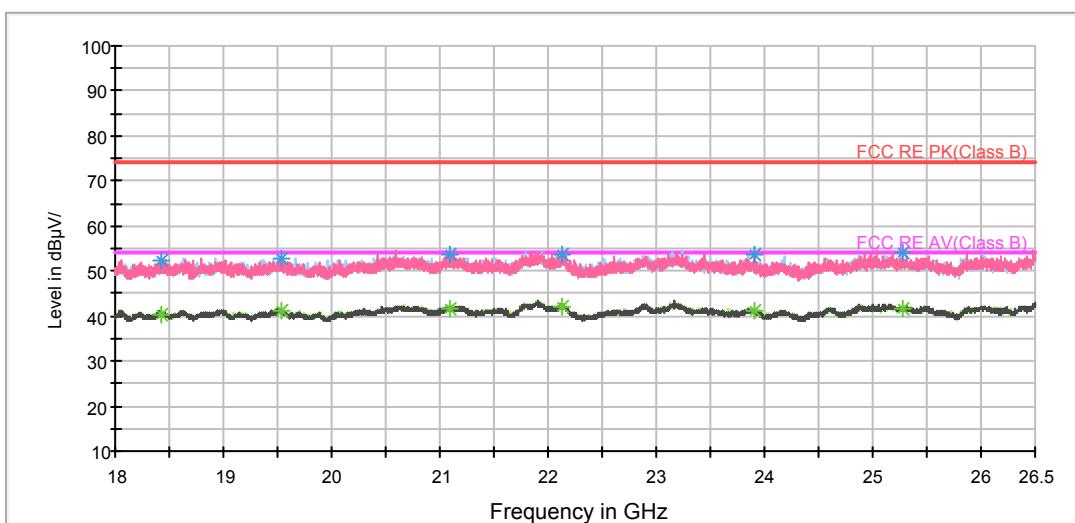


RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz



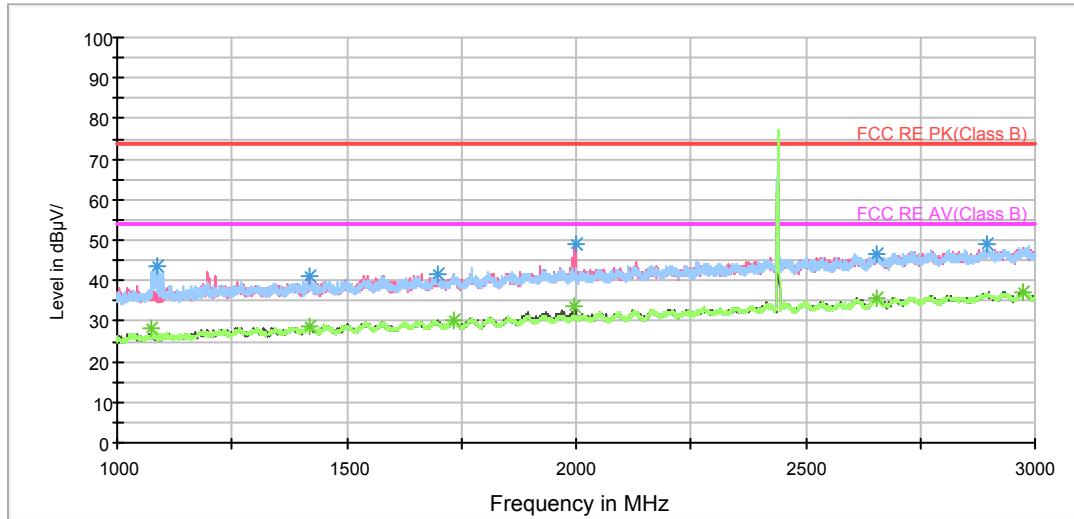
BLE-Channel 19

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1086.750000	43.6	102.0	H	213.0	52.5	-8.9	30.4	74
1420.750000	40.9	202.0	V	0.0	47.8	-6.9	33.1	74
1698.250000	41.5	102.0	V	115.0	46.5	-5.0	32.5	74
1999.000000	49.2	102.0	V	321.0	52.6	-3.4	24.8	74
2654.000000	46.8	102.0	H	167.0	46.4	-0.4	27.2	74
2897.000000	48.9	202.0	V	198.0	46.8	-2.1	25.1	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1075.250000	28.4	102.0	H	213.0	37.2	-8.8	25.6	54
1421.000000	28.7	202.0	V	0.0	35.6	-6.9	25.3	54
1731.750000	30.3	102.0	V	356.0	35.1	-4.8	23.7	54
1994.250000	33.5	102.0	V	321.0	36.7	-3.2	20.5	54
2656.750000	35.6	202.0	V	5.0	35.2	-0.4	18.4	54
2972.500000	37.3	102.0	V	124.0	35.1	-2.2	16.7	54

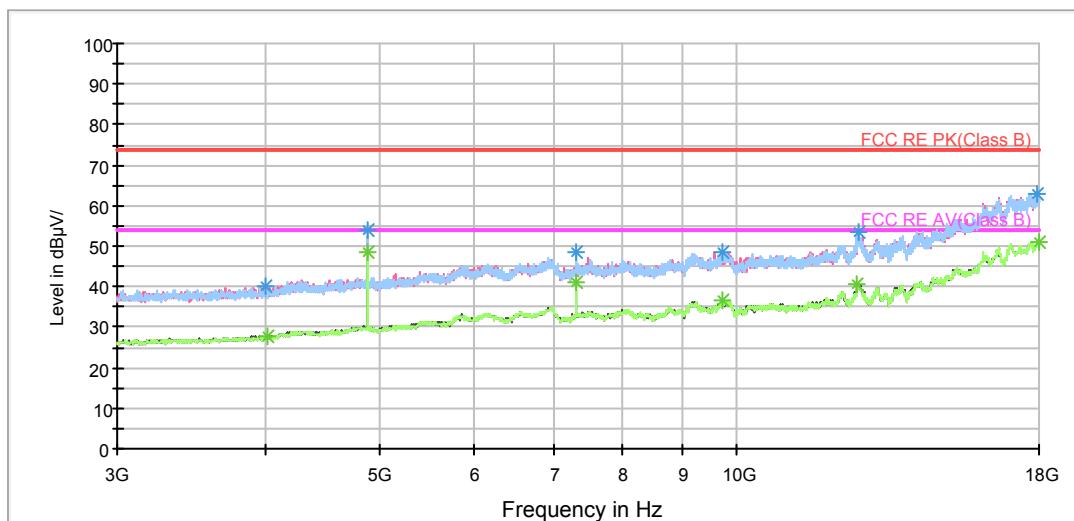
RE 1G-3GHz PK+AV



Note: The signal beyond the limit is carrier.

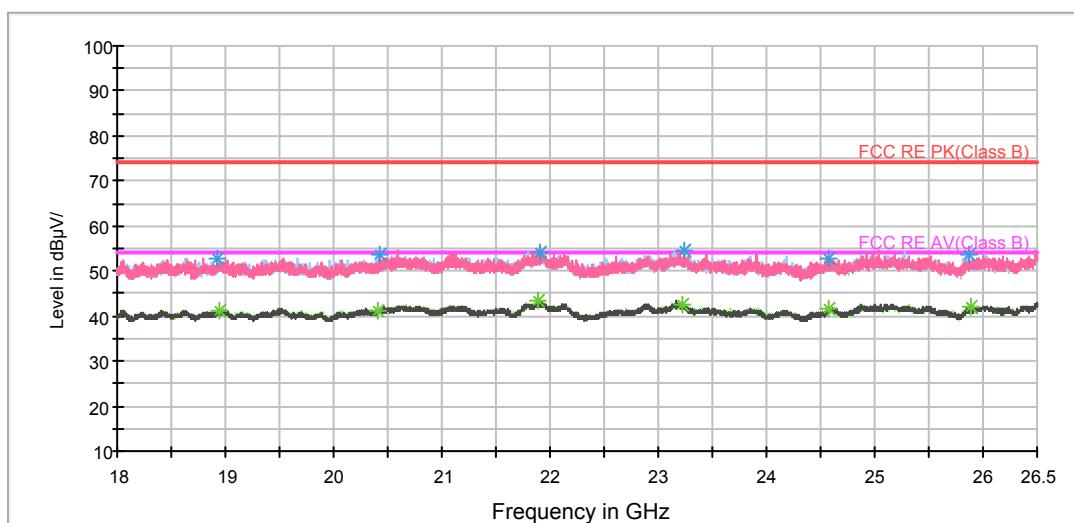
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz



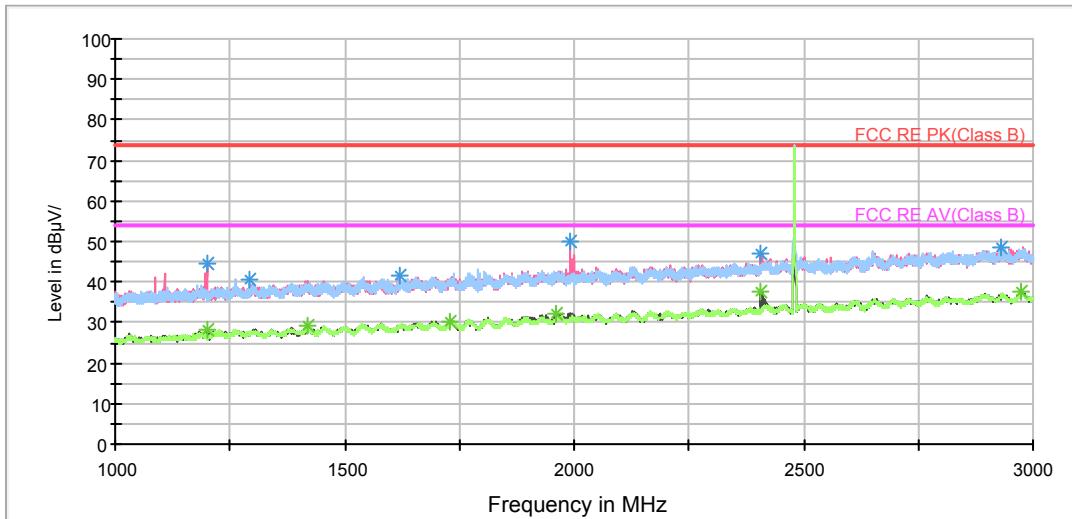
BLE-Channel 39

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.000000	44.4	202.0	V	353.0	52.6	-8.2	29.6	74
1292.500000	40.4	202.0	H	297.0	48.1	-7.7	33.6	74
1619.250000	41.6	102.0	V	82.0	46.5	-4.9	32.4	74
1992.500000	49.9	202.0	V	253.0	53.2	-3.3	24.1	74
2407.750000	46.9	202.0	V	22.0	47.5	-0.6	27.1	74
2932.000000	48.6	202.0	H	270.0	46.8	-1.8	25.4	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.000000	28.3	202.0	V	353.0	36.5	-8.2	25.7	54
1418.750000	29.1	202.0	V	243.0	36.0	-6.9	24.9	54
1731.000000	30.2	102.0	V	173.0	35.1	-4.9	23.8	54
1960.500000	32.4	102.0	V	350.0	35.6	-3.2	21.6	54
2408.000000	37.8	202.0	V	22.0	38.3	-0.5	16.2	54
2975.500000	37.4	202.0	H	136.0	35.2	-2.2	16.6	54

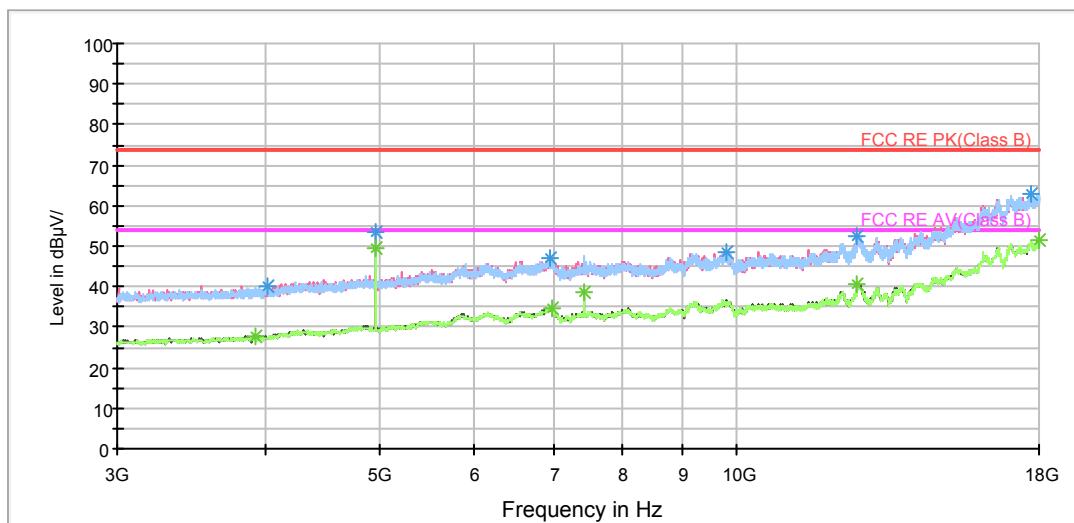
RE 1G-3GHz PK+AV



Note: The signal beyond the limit is carrier.

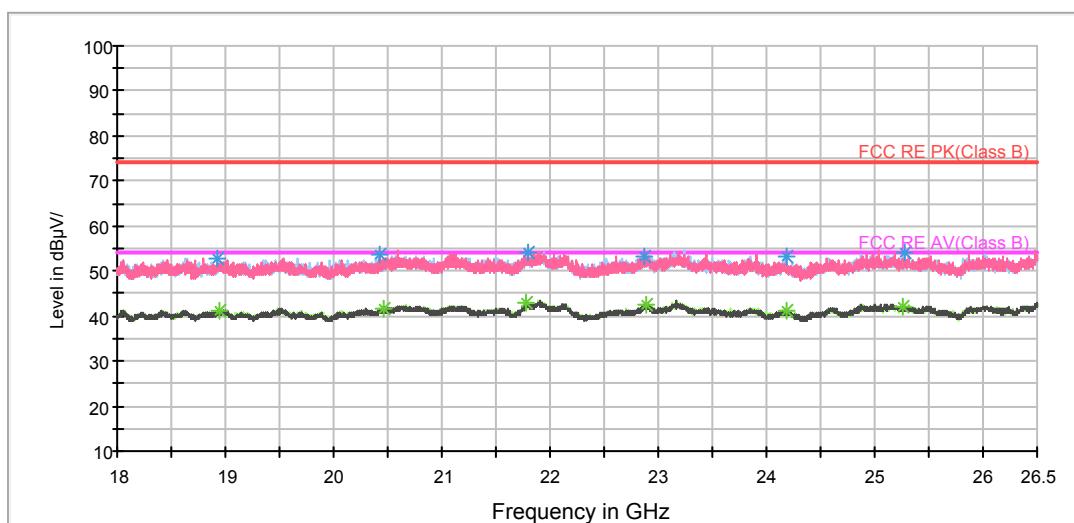
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz



6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Time
Spectrum Analyzer	R&S	FSV30	100815	2016-12-16	2017-12-15
EMI Test Receiver	R&S	ESCI	100948	2017-05-20	2018-05-19
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-201	2014-12-06	2017-12-05
Double Ridged Waveguide Horn Antenna	R&S	HF907	100126	2014-12-06	2017-12-05
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2017-02-18	2020-02-17
Standard Gain Horn	ETS-Lindgren	3160-09	00102644	2015-01-30	2018-01-29
EMI Test Receiver	R&S	ESCS30	100138	2016-12-16	2017-12-15
LISN	R&S	ENV216	101171	2016-12-16	2019-12-15
Spectrum Analyzer	Agilent	N9010A	MY47191109	2017-05-20	2018-05-19
RF Cable	Agilent	SMA 15cm	0001	2017-08-04	2018-02-03

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