

FCC BLE TEST REPORT

No. 150701-BLE

For

Bullitt Group

Product Name: Smartphone

Model Name: SP4

Trade Name: Kodak

Issued Date: 2015-08-04

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of GCCT.

To verify test report authenticity, send full test report to Email: dr_xywen@126.com

Test Laboratory:

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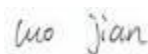
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GENERAL SUMMARY

Product Name	Smartphone
Model Name	SP4
Trade Name	Kodak
Applicant	Bullitt Group
Manufacturer	CK Telecom Limited
Test Laboratory	GCCT, Guangdong Telecommunications Terminal Products Quality Supervision and Testing Center
Reference Standards	FCC CFR 47 Part 15C: "Radio Frequency Devices Sub-Part C: intentional Radiators" ANSI C63.10-2013, "American National Standard for Testing Unlicensed Wireless Devices"
Test Conclusion	This portable wireless equipment has been measured in all cases requested by the relevant standards. Test results in annex B of this test report are below limits specified in the relevant standards. General Judgment: Pass Date of issue: 2015.08.04
Comment	The test results in this report apply only to the tested sample of the stated device/equipment.

Approved by:



Luo Jian
Manager

Reviewed by:



Wen Xiaoyong
Deputy Manager

Tested by:



Gao Xiaoqing
Test Engineer

1. Test Laboratory

1.1 Testing Location

Company Name	GCCT, Guangdong Telecommunications Terminal Products Quality Supervision and Testing Center
Address	Technology Road, High-tech Zone, Heyuan, Guangdong Province, PR.China
CNAS Registration No.	L4992
FCC Registration No.	303878
Postal Code	517001
Telephone	+86-762-3607221
Fax	+86-762-3603336

1.2 Testing Environment

Environment Data	Temperature(°C)	Humidity(%)
Maximum Ambient	25.9	54
Minimum Ambient	19.2	48

EUT is under testing environment.

1.3 Project Data

Project Leader	Wen Xiaoyong
Testing Start Date	2015-07-06
Testing End Date	2015-08-04

2. Client Information

2.1 Applicant Information

Company Name	Bullitt Group
Address	4 The Aquarium, 1-7 King Street, Reading, RG1 2AN, UK
City	/
Postal Code	/
Country	UK

2.2 Manufacturer Information

Company Name	CK Telecom Limited
Address	Technology Road.High-Tech Development Zone. Heyuan, Guangdong,P.R.China.
City	Heyuan
Postal Code	/
Country	China

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1 About EUT

Model Name	SP4
FCC ID	ZL5SP4
Tx Frequency	GSM850:824~848 MHz UMTS Band V : 826~846MHz PCS1900 : 1850~1909MHz UMTS Band II : 1852~1907MHz Bluetooth/BLE: 2402 ~ 2480 MHz WIFI(802.11b/g/n-20): 2412 ~ 2462 MHz WIFI(n-40): 2422 ~ 2452 MHz
Rx Frequency	GSM850: 869~893 MHz UMTS Band V : 871~891 MHz PCS1900 : 1930~1989 MHz UMTS Band II : 1932~1987 MHz Bluetooth/BLE: 2402 ~ 2480 MHz WIFI(802.11b/g/n-20): 2412 ~ 2462 MHz WIFI(n-40): 2422 ~ 2452 MHz
Number of Channels	GSM850&WCDMA Band V:25 PCS1900&WCDMA Band II: 60 Bluetooth:79 WIFI(802.11b/g/n-20):11 WIFI(n-40):7 BLE:40
Modulation	GSM&DCS:GMSK WCDMA:BPSK/QPSK Bluetooth: GFSK& $\pi/4$ -DQPSK&8DPSK WIFI:CCK/OFDM BLE:GFSK
Antenna Type	PIFA(GSM/DCS/WCDMA); MONOPOLE (Bluetooth/WIFI)
Antenna Gain	GSM850:-0.5dBi DCS1900: -0.5dBi WCDMA850: -1dBi WCDMA1900: -1dBi Bluetooth/BLE/WIFI: -1dBi
Normal Voltage	3.8V
Extreme Low Voltage	3.6V
Extreme High Voltage	4.2V
Extreme Low Temperature	0°C
Extreme High Temperature	40°C

3.2 Internal Identification of EUT

EUT ID *	IMEI	HW Version	SW Version
150701-M01	356092022307067 356092022307075	SLFQPLUS-V1.0	SLFQPLUS14A-S00A_CKT_L2EN_101_150130
150701-M03	356092022307083 356092022307091	SLFQPLUS-V1.0	SLFQPLUS14A-S00A_CKT_L2EN_101_150130

*EUT ID: is used to identify the test sample in the lab internally. 150701-M01 and 150701-M03 are the same mobile phone.

3.3 Internal Identification of AE

AE ID *	Description	Type	SN
150701-B01	Battery	HD395759AR	/
150701-C01	Adapter	A8-510100	/
150701-B03	Battery	HD395759AR	/
150701-C03	Adapter	A8-510100	/

*AE ID: is used to identify the test sample in the lab internally. 150701-B01 and 150701-B03 are the same accessory , 150701-C01 and 150701-C03 are the same accessory.

4. Test Results

4.1 Summary of Test Results

No	Test cases	Sample	Verdict
1	Maximum transmit power	M01	Pass
2	Maximum Power Spectral Density	M01	Pass
3	6dB Occupied Bandwidth	M01	Pass
4	Band Edge Compliance	M01	Pass
5	Conducted Transmitter emissions	M01	Pass
6	Radiated emissions	M03	Pass
7	AC Conducted Emission	M03	Pass
8	Antenna Requirements	M01	Pass

Note: please refer to Annex B in this test report for the detailed test results.

EUT was tested with Channel 0, 19,39.

4.2 Statements

GCCT has evaluated the test cases requested by the applicant/manufacturee as listed in section 4.1 of this report, for the EUT specified in section 3, according to the standards or reference documents listed in general summary.

5. Test Equipment Utilized

Table 1. Measurement Equipment

Hardware						
No.	Name	Model	SN	Manufacture	Cal. Date	Cal. Due Date
1	Spectrum Analyzer	N9020A	MY52091261	Agilent	2014.08.15	2015.08.15
2	Switch Unit	/	E0112	/	2014.08.15	2015.08.15
Software						
Tech BT			v1.0.3			

Table 2. Radiated emission test system

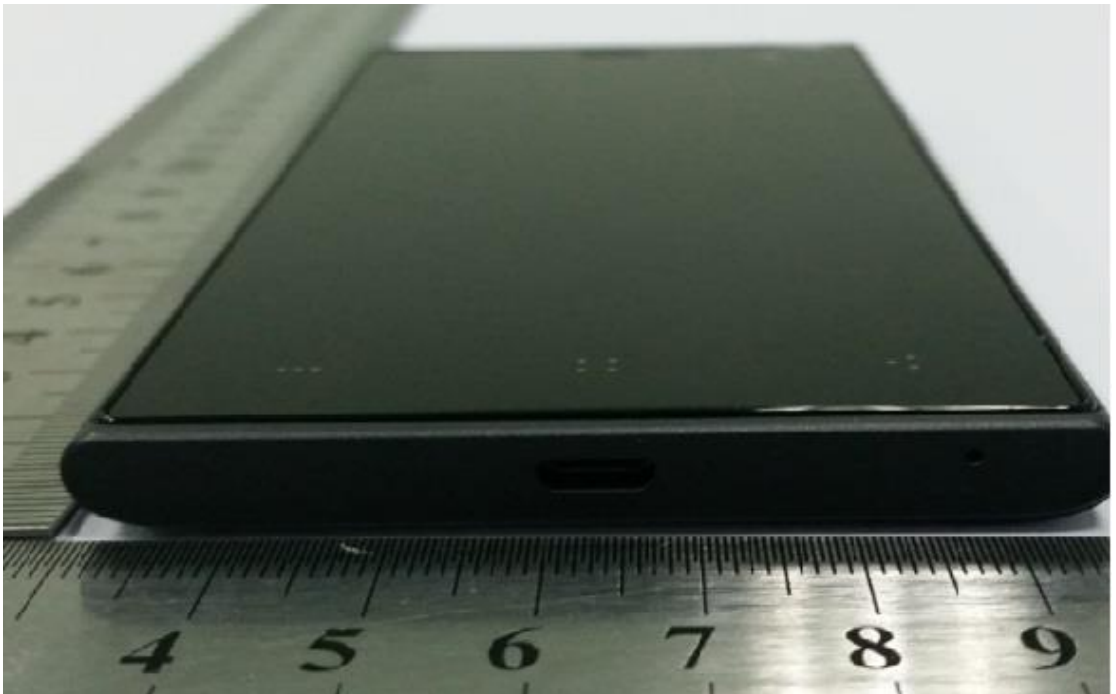
No.	Name	Model	SN	Manufacture	Cal. date	Cal. Due Date
1	Spectrum Analyzer	E4440A	MY48250641	Agilent	2014.08.15	2015.08.15
2	BiCoNilog Antenna	3142E	00142015	ETS-Lindgren	2013-10-25	2015-10-25
3	Horn Antenna	3117	129169	ETS-Lindgren	2013-10-25	2015-10-25
4	Signal Generator	N5183A-532	MY49060563	Agilent	2014.08.15	2015.08.15
5	Universal Radio Communication Tester	E5515C	MY48367105	Agilent	2014.08.15	2015.08.15
6	RF Preselector	N9039A	MY48260024	Agilent	/	/
7	Loop Antenna	HFH2	860015/00	R&S	2014.08.15	2015.08.15

ANNEX A: EUT Photograph

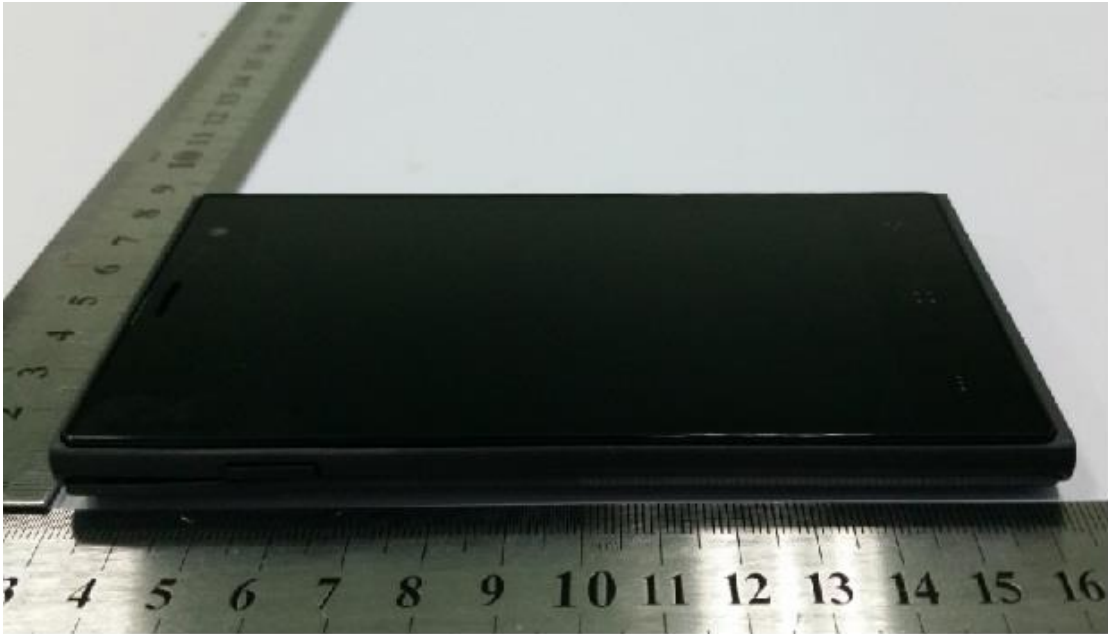
EUT -Top View



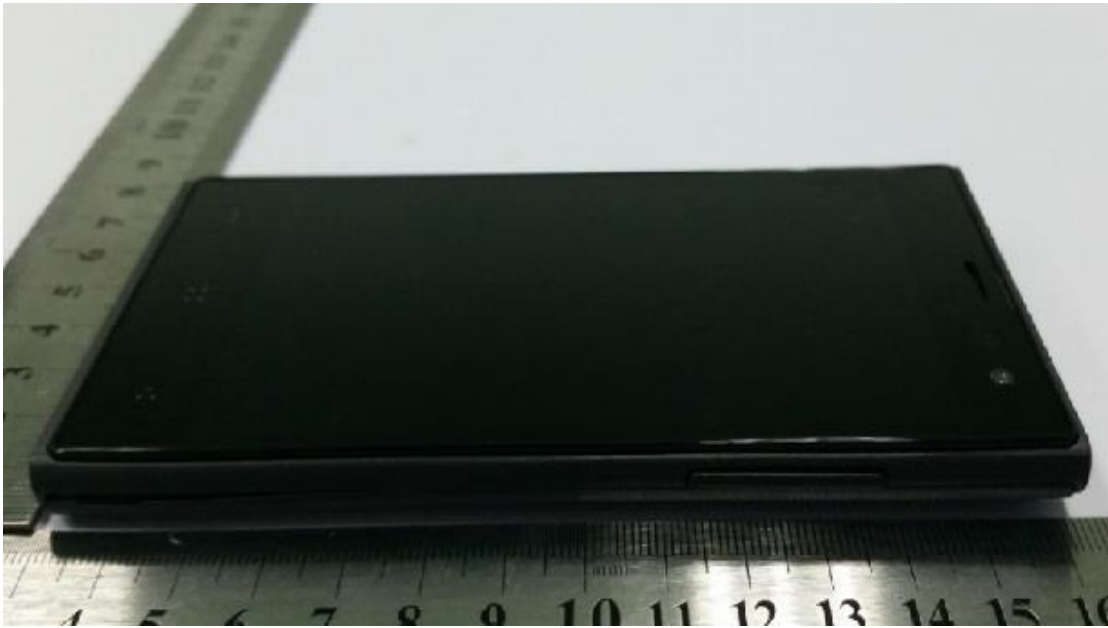
EUT- Bottom View



EUT -Left View



EUT -Right View



EUT- Front View



EUT -Rear View



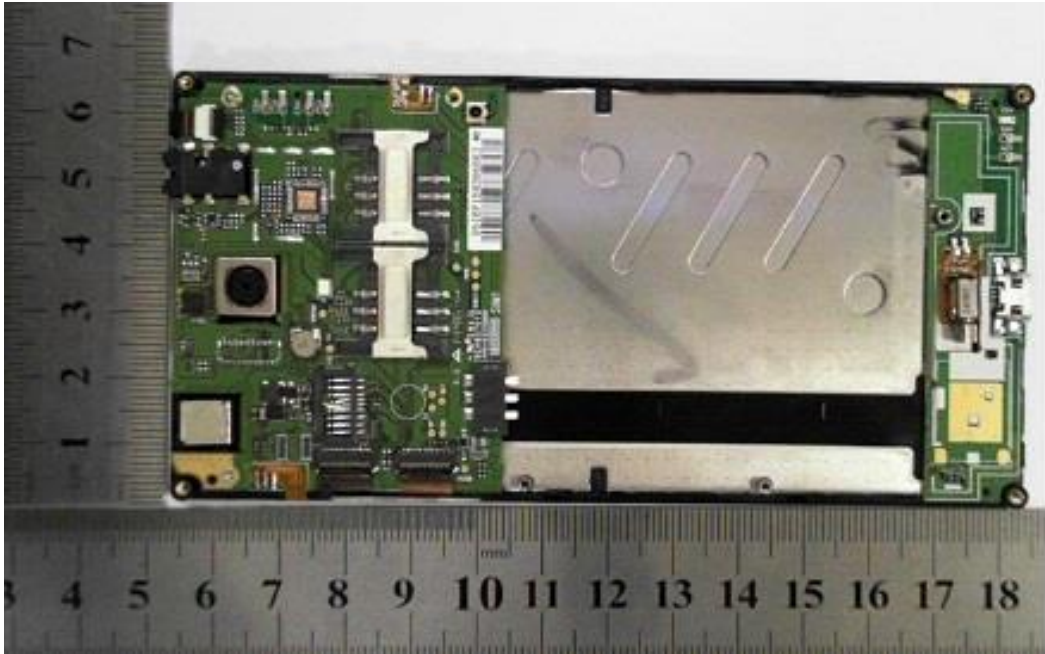
Cover off-Top view



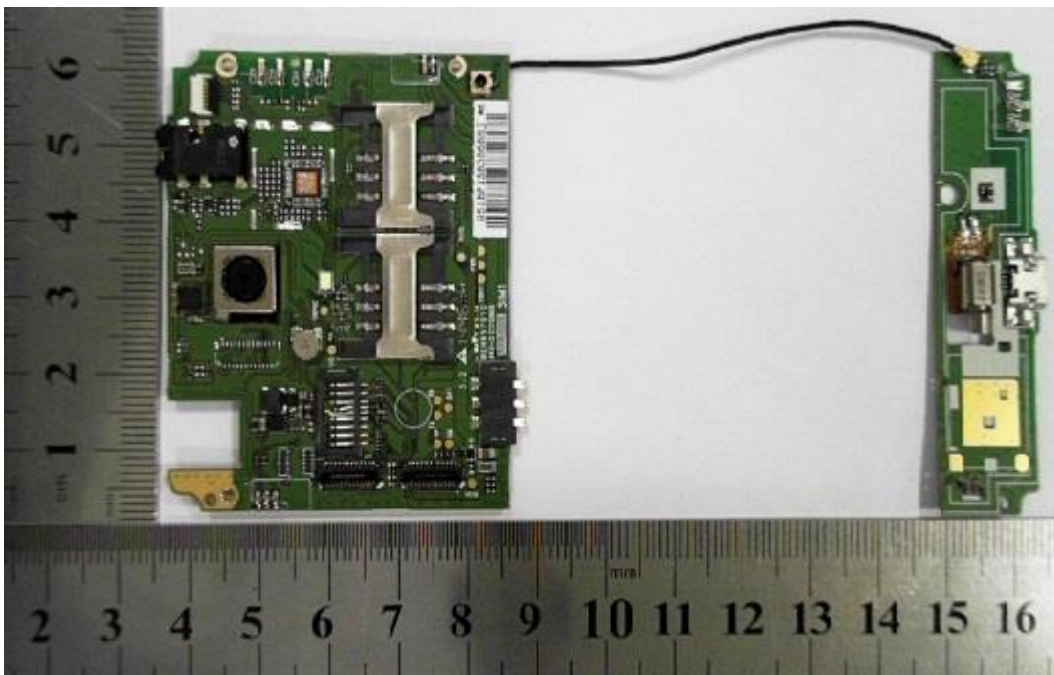
All



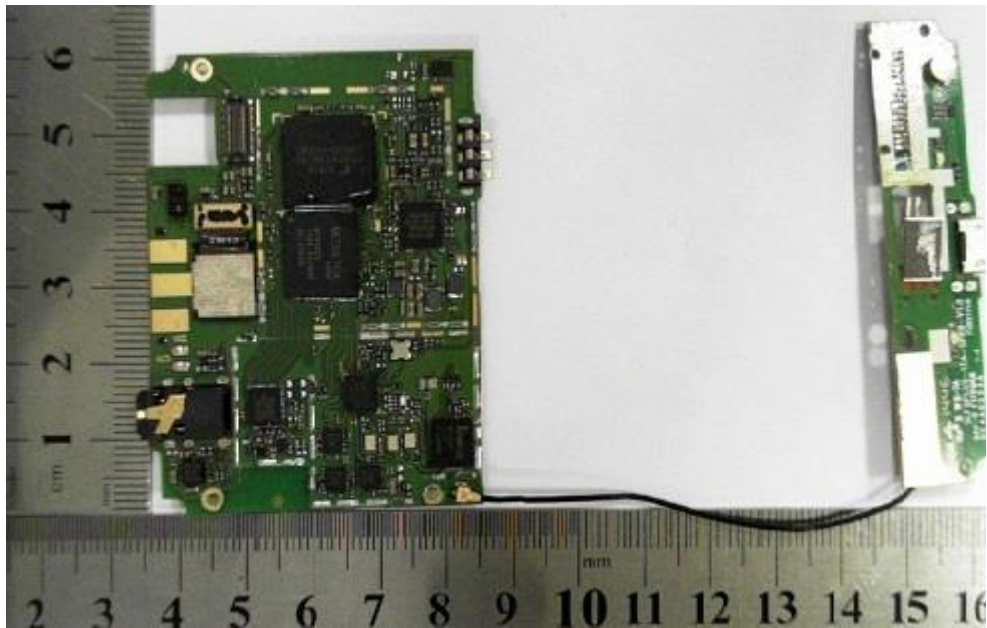
Main board With shielding -Front View



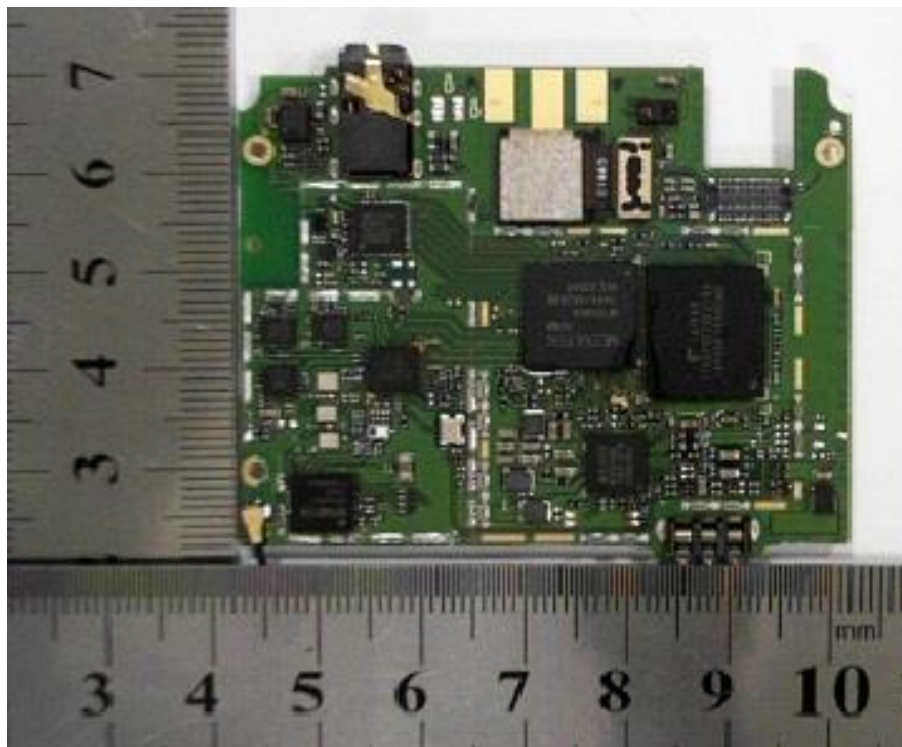
Main board Without shielding -Front View



Main board - Rear View



Main board - Rear View



Headset



USB cable



GSM/DCS Antenna View



BT Antenna View



Battery View



Adapter label view

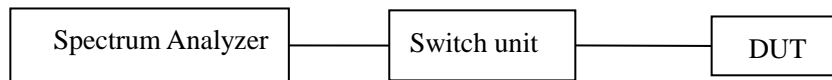


Adapter view



ANNEX B: Detailed Test Results

The radiated test setup is shown in each radiated test case section. The conducted test setup is shown as following:



All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.

B.1 Maximum Transmit Power

B.1.1 Description

The maximum Peak Output power shall be equal to or less than 30dBm.

B.1.2 Test procedures

Conducted Measurement

EUT was set for low, mid, high channel with modulated mode and highest RF output power

The spectrum analyzer was connected to the antenna terminal.

Standard Requirement

One of the following procedures may be used to determine the maximum peak conducted output power of a DTS EUT.

Procedures:

RBW \geq DTS bandwidth

This procedure shall be used when the measurement instrument has available a resolution bandwidth that is greater than the DTS bandwidth.

- a) Set the RBW \geq DTS bandwidth.
- b) Set VBW \geq 3 RBW.
- c) Set span \geq 3 x RBW
- d) Sweep time = auto couple.
- e) Detector = peak.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use peak marker function to determine the peak amplitude level.

B.1.3 Test Results

Test Mode	Maximum peak output power(dBm)			Verdict
	2402MHz	2440MHz	2480MHz	
GFSK	-2.098 dBm 2.4028100 GHz	-1.862 dBm 2.4401517 GHz	-1.645 dBm 2.4801265 GHz	Pass

B.2 Maximum Power Spectral Density

B.2.1 Description

The maximum spectral density shall be equal to or less than 8 dBm

B.2.2 Test procedures

Conducted Measurement

EUT was set for low, mid, high channel with modulated mode and highest RF output power
The spectrum analyzer was connected to the antenna terminal.

Standard Requirement

The DTS rules specify a conducted PSD limit within the DTS bandwidth during any time interval of continuous transmission.⁵ Such specifications require that the same method as used to determine the conducted output power shall also be used to determine the power spectral density. Therefore, if maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option):

Procedures:

Method PKPSD (peak PSD)

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance, and is optional if the maximum conducted (average) output power was used to demonstrate compliance.

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span to 1.5 times the DTS bandwidth
- c) Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- d) Set the VBW $\geq 3 \text{ RBW}$.
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the RBW.
- j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

B.2.3 Test Results

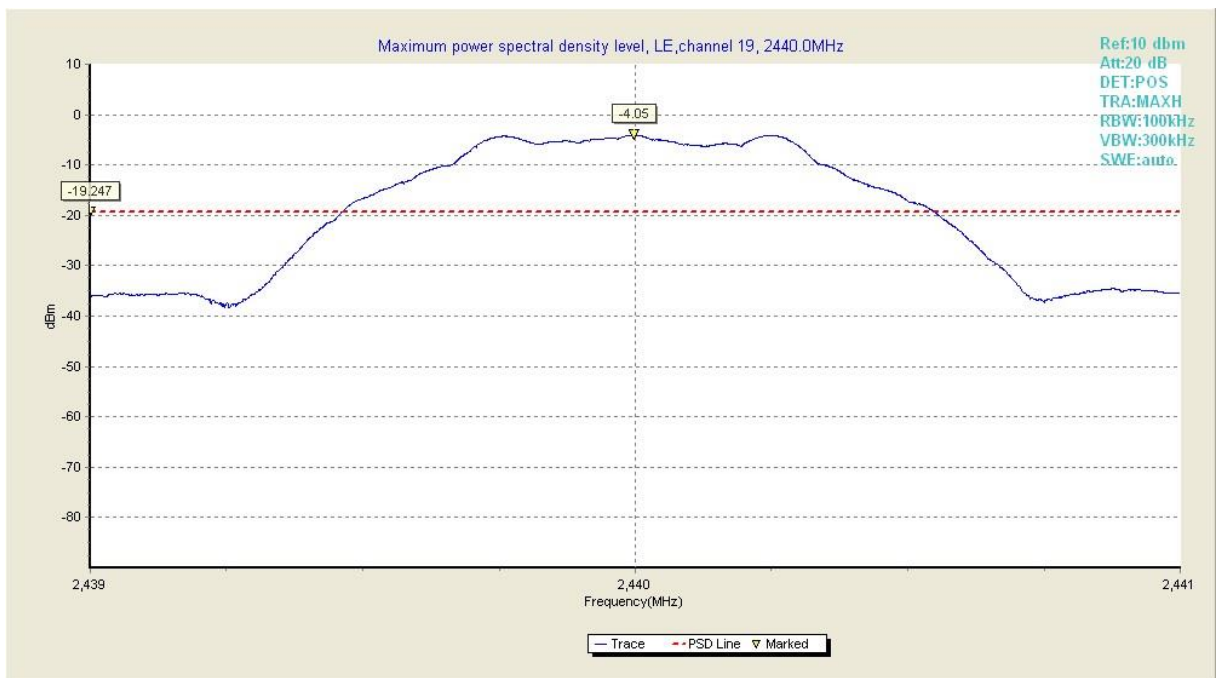
Limit (dBm)	PSD(dBm)						Verdict
	2402MHz		2440 MHz		2480 MHz		
8	-12.26	Fig.1	-12.24	Fig.2	-11.02	Fig.3	Pass

Antenna Gain: -1dBi



Test Plot 1	2401.998047	-4.060000
Test Plot 2	2401.000000	-19.260000

Fig.1 Maximum power spectral density of BLE in channel 0



Test Plot 1	2439.998047	-4.050000
Test Plot 2	2439.000000	-19.247000

Fig.2 Maximum power spectral density of BLE in channel 19



Test Plot 1	2479.998047	-3.830000
Test Plot 2	2479.000000	-19.028999

Fig.3 Maximum power spectral density of BLE in channel 39

B.3 DTS (6dB) Channel Bandwidth

B.3.1 Description

The Occupied 6dB Bandwidth shall be equal to or more than 500 kHz.

B.3.2 Test procedures

Conducted Measurement

EUT was set for low, mid, high channel with modulated mode and highest RF output power
The spectrum analyzer was connected to the antenna terminal.

Standard Requirement

This bandwidth is referred to as the DTS bandwidth.

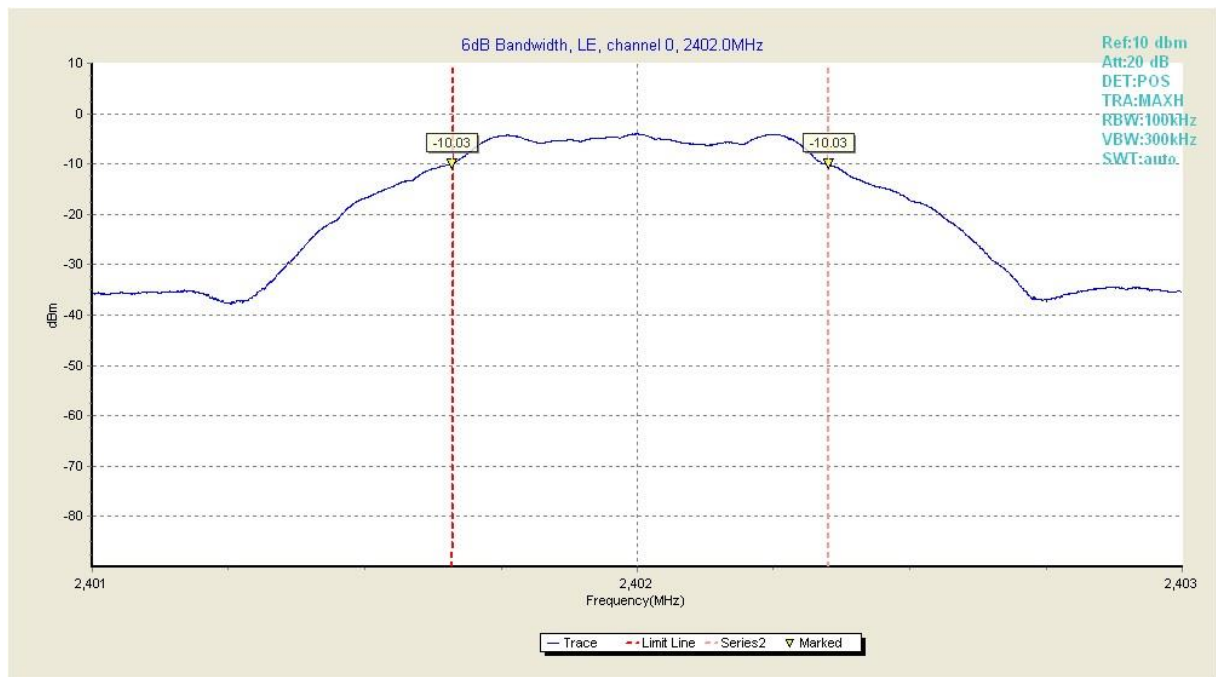
Procedures:

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW) \geq 3 RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.

- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies. associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

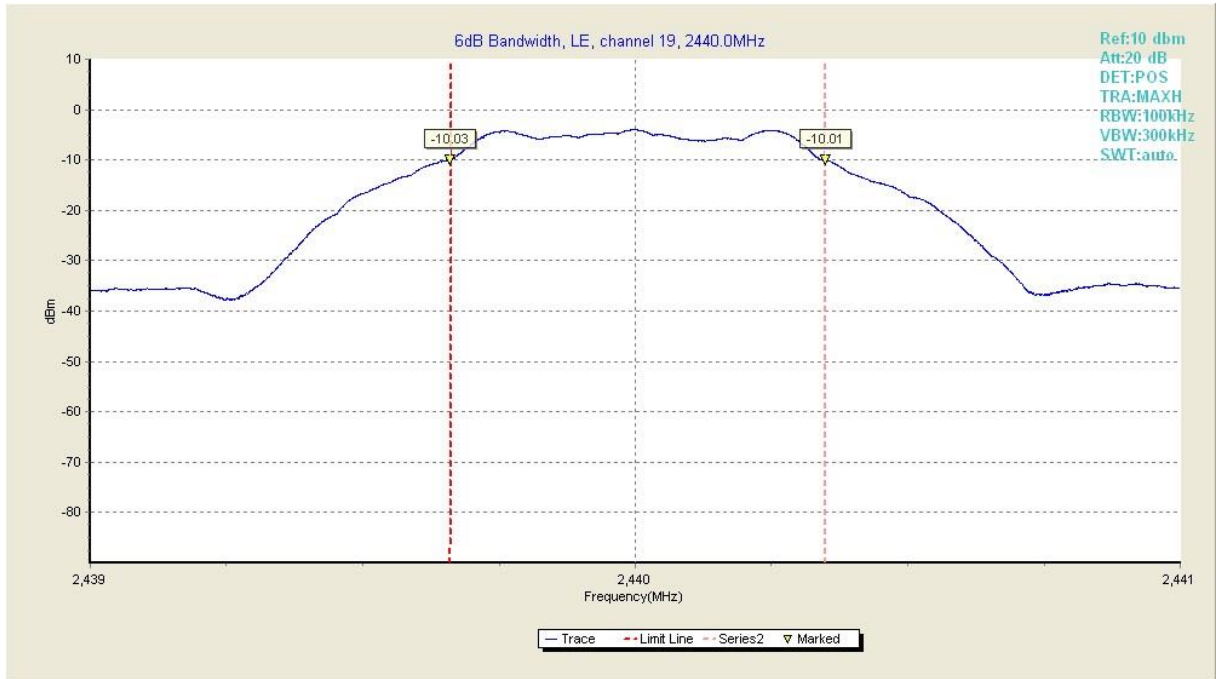
B.3.3 Test Results

Channel	Frequency (MHz)	Limit (MHz)	Occupied Bandwidth (MHz)	Test Results	Verdict
0	2402	0.5	0.690	Fig.4	Pass
19	2440		0.687	Fig.5	Pass
39	2480		0.696	Fig.6	Pass



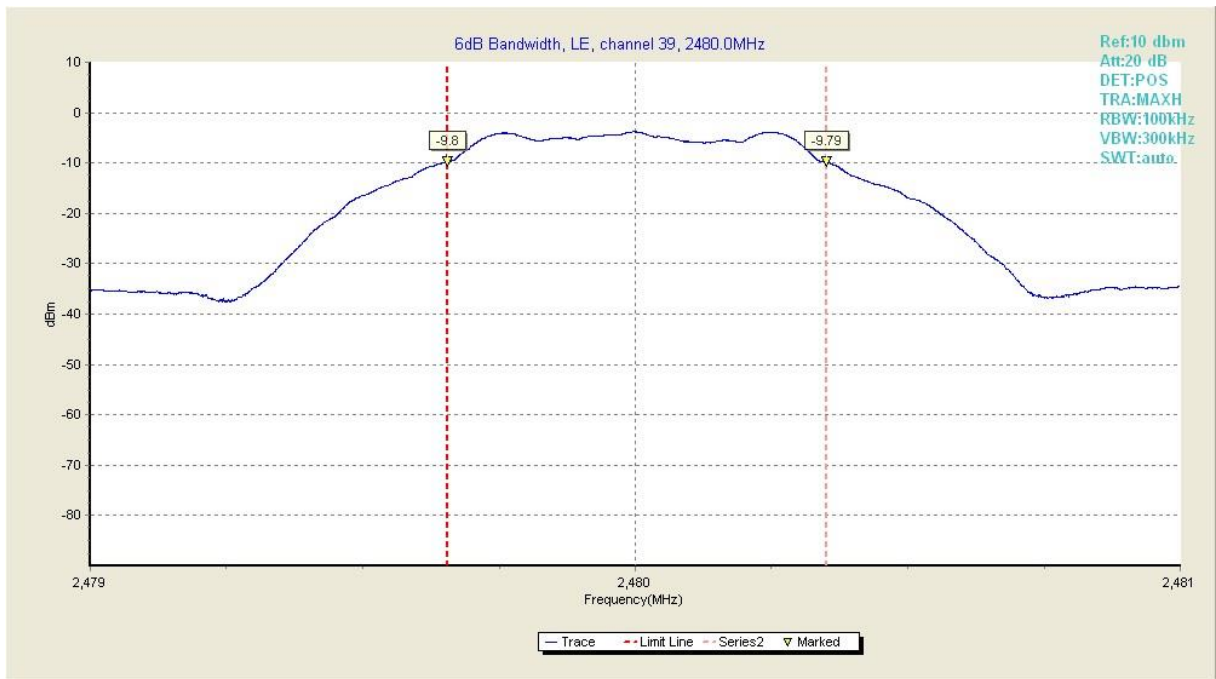
Test plot 1	2401.660645	-10.030000
Test plot 2	2402.350586	-10.030000

Fig.4 6dB Bandwidth of BLE in channel 0,2402MHz



Test plot 1	2439.660645	-10.030000
Test plot 2	2440.347900	-10.010000

Fig.5 6dB Bandwidth of BLE in channel 19,2440MHz



Test plot 1	2479.654785	-9.800000
Test plot 2	2480.350586	-9.790000

Fig.6 6dB Bandwidth of BLE in channel 39,2480MHz

B.4 Band Edge

B.4.1 Conducted Measurement

B.4.1.1 Description

The Band Edges Compliance shall be equal to or less than -20 dB.

B.4.1.2 Test procedures

Conducted Measurement

EUT was set for low, mid, high channel with modulated mode and highest RF output power

The spectrum analyzer was connected to the antenna terminal.

Standard Requirement

Emissions within 2 MHz of an authorized band edge may be measured using either the marker-delta method (for peak or average emissions) or the integration method (for average emissions only), described below, provided that the OBW edge falls within 2 MHz of the band edge. Otherwise, all unwanted emissions measurements shall be performed using the standard methods.

Procedures

Peak Detection

When using a peak detector to measure unwanted emissions at or near the band edge (within 2 MHz of the authorized band), the following integration procedure can be used.

- a) Set instrument center frequency to the frequency of the emission to be measured (must be within 2 MHz of the authorized band edge).
- b) Set span to 2 MHz
- c) RBW = 100 kHz.
- d) VBW \geq 3 x RBW.
- e) Detector = peak.
- f) Sweep time = auto.
- g) Trace mode = max hold.
- h) Allow sweep to continue until the trace stabilizes (required measurement time may increase for low duty cycle applications)
- i) Compute the power by integrating the spectrum over 1 MHz using the analyzer's band power measurement function with band limits set equal to the emission frequency ($f_{\text{emission}} \pm 0.5$ MHz). If the instrument does not have a band power function, then sum the amplitude levels (in power units) at 100 kHz intervals extending across the 1 MHz spectrum defined by $f_{\text{emission}} \pm 0.5$ MHz.

B.4.1.3 Test Results

Channel	Frequency(MHz)	Limit (dB)	Test Result(dB)		Verdict
0	2400	-20	-49.98	Fig.7	Pass
39	2483.5		-46.81	Fig.8	Pass

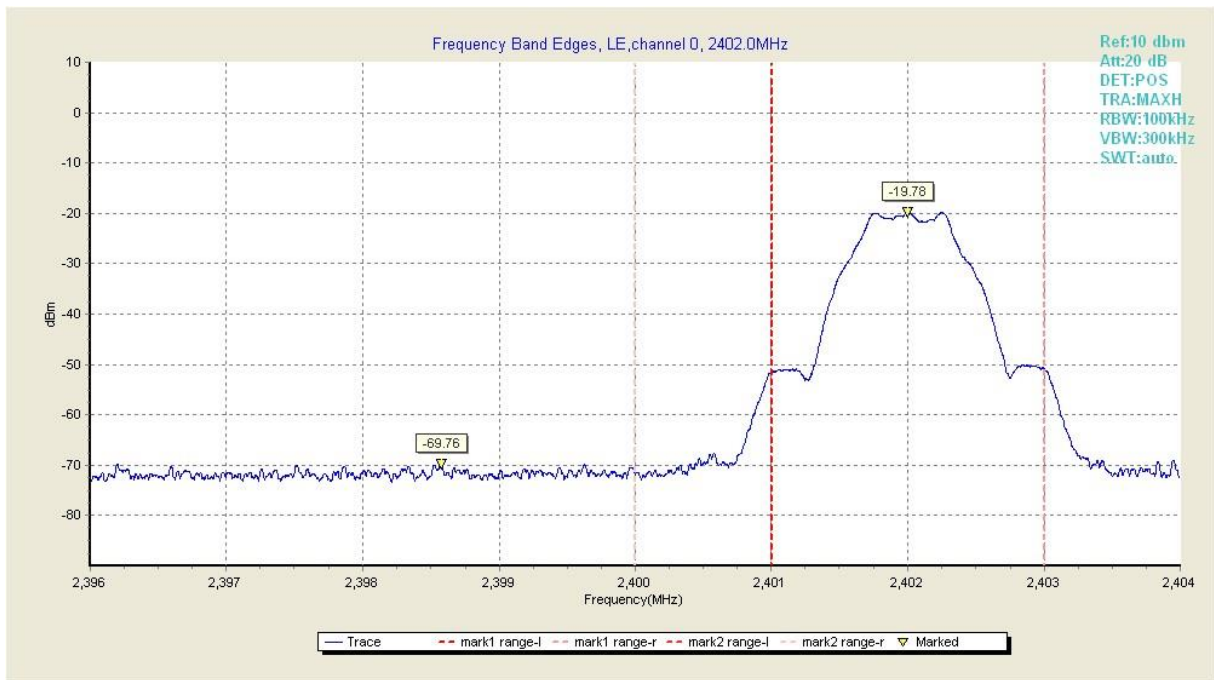


Fig7. Frequency Band Edges in channel 0,2402MHz

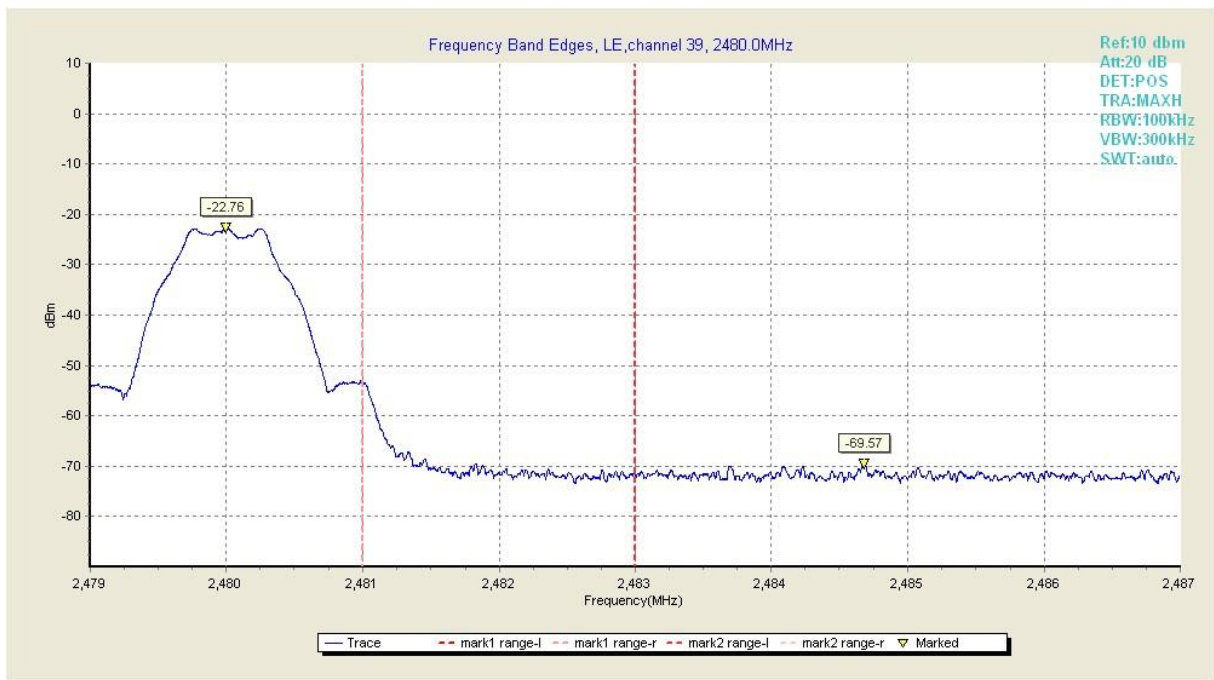


Fig8. Frequency Band Edges in channel 39,2480MHz

B.4.2 Radiated measurement

B.4.2.1 Procedures:

- Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- Position the EUT on the rotated table inside the anechoic chamber without connection to measurement instrument. Turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear

range. Repeat above procedures until all measured frequencies were complete.

- c) Set band RBW=1MHz, VBW=3MHz with a convenient frequency span from band edge.
- d) Find the highest point in edge frequency, and then calculated results.
- e) Repeat above procedures until all measured frequencies were complete.

B.4.2.2 Test Results

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
				Height	Polar				
(MHz)	(dB μ V)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)
2400MHz									
485.79	13.22	QP	139	1.1	H	21.09	34.31	46.50	-12.19
485.79	12.94	QP	257	1.3	V	21.09	34.03	46.50	-12.47
2400	44.32	PK	315	1.2	V	-1.08	43.24	74.00	-30.76
2400	42.58	Ave	315	1.2	V	-1.08	41.50	54.00	-12.50
4804	45.26	PK	242	1.4	V	-1.06	44.2	74.00	-29.80
4804	43.15	Ave	242	1.4	V	-1.06	42.09	54.00	-11.91
7206	44.68	PK	346	1.1	V	1.31	45.99	74.00	-28.01
7206	43.86	Ave	346	1.1	V	1.31	45.17	54.00	-8.83
2483.5MHz									
485.79	14.71	QP	81	1.9	H	21.09	35.80	46.50	-10.70
485.79	13.80	QP	242	1.8	V	21.09	34.89	46.50	-11.61
2483.5	42.33	PK	309	1.4	V	-0.31	42.02	74.00	31.98
2483.5	41.62	Ave	309	1.4	V	-0.31	41.31	54.00	12.69
4960	44.78	PK	324	1.6	V	-0.25	44.53	74.00	-29.47
4960	42.79	Ave	324	1.6	V	-0.25	42.54	54.00	-11.46
7440	43.05	PK	256	1.6	V	2.86	45.91	74.00	-28.09
7440	42.36	Ave	256	1.6	V	2.86	45.22	54.00	-8.78

B.5 Conducted Spurious Emissions

B.5.1 Description

All harmonics/spurious must be at least 20 dB down from the highest emission level within the authorized band.

B.5.2 Test Procedures

Conducted Measurement

EUT was set for low, mid, high channel with modulated mode and highest RF output power

The spectrum analyzer was connected to the antenna terminal.

Procedures

- a) The EUT was connected to SA by a low loss cable.
- b) Set RBW=100 kHz, VBW \geq RBW, scan up to 10th harmonics. All harmonics/Spurs emissions must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.

B.5.3 Test Results

Channel	Frequency Range	Test Results	Verdict
0	30MHz ~ 1GHz	Fig.9	Pass
	1GHz ~ 3GHz	Fig.10	Pass
	3GHz ~ 10GHz	Fig.11	Pass
	10GHz ~ 26GHz	Fig.12	Pass
19	30MHz ~ 1GHz	Fig.13	Pass
	1GHz ~ 3GHz	Fig.14	Pass
	3GHz ~ 10GHz	Fig.15	Pass
	10GHz ~ 26GHz	Fig.16	Pass
39	30MHz ~ 1GHz	Fig.17	Pass
	1GHz ~ 3GHz	Fig.18	Pass
	3GHz ~ 10GHz	Fig.19	Pass
	10GHz ~ 26GHz	Fig.20	Pass

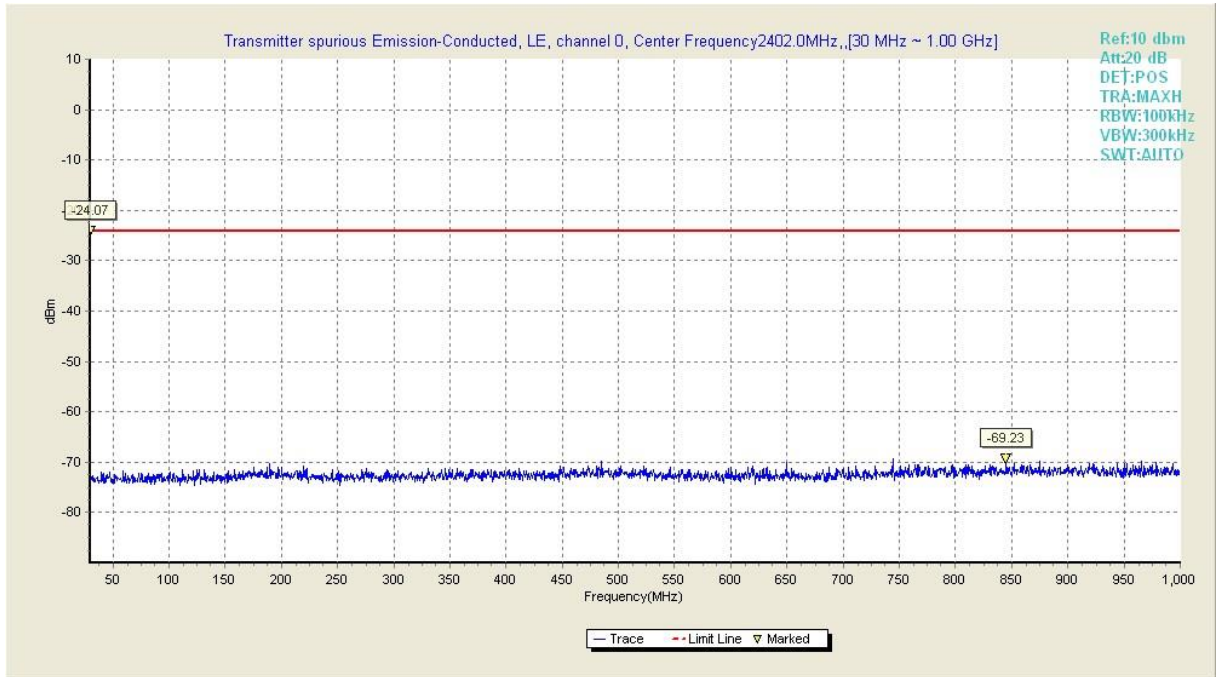


Fig.9 Transmitter spurious emission-Conducted of BLE in channel 0,(30MHz~1GHz)

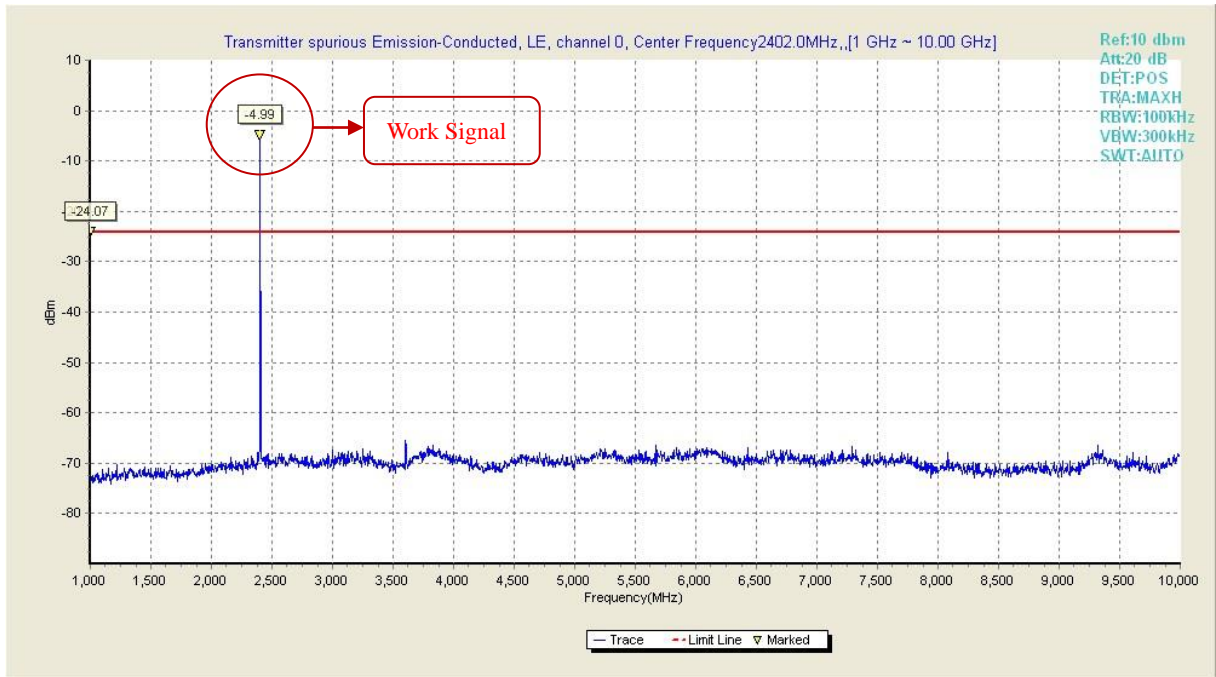


Fig.10 Transmitter spurious emission-Conducted of BLE in channel 0,(1GHz ~10GHz)

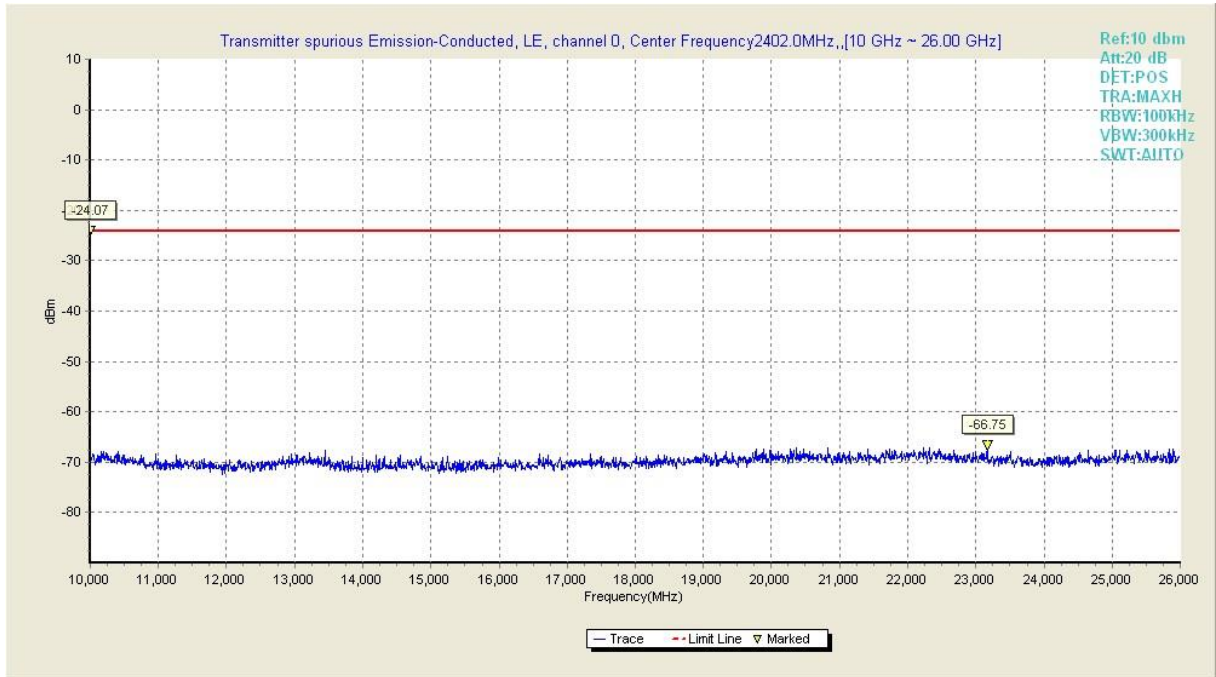


Fig.11 Transmitter spurious emission-Conducted of BLE in channel 0,(10GHz ~26GHz)

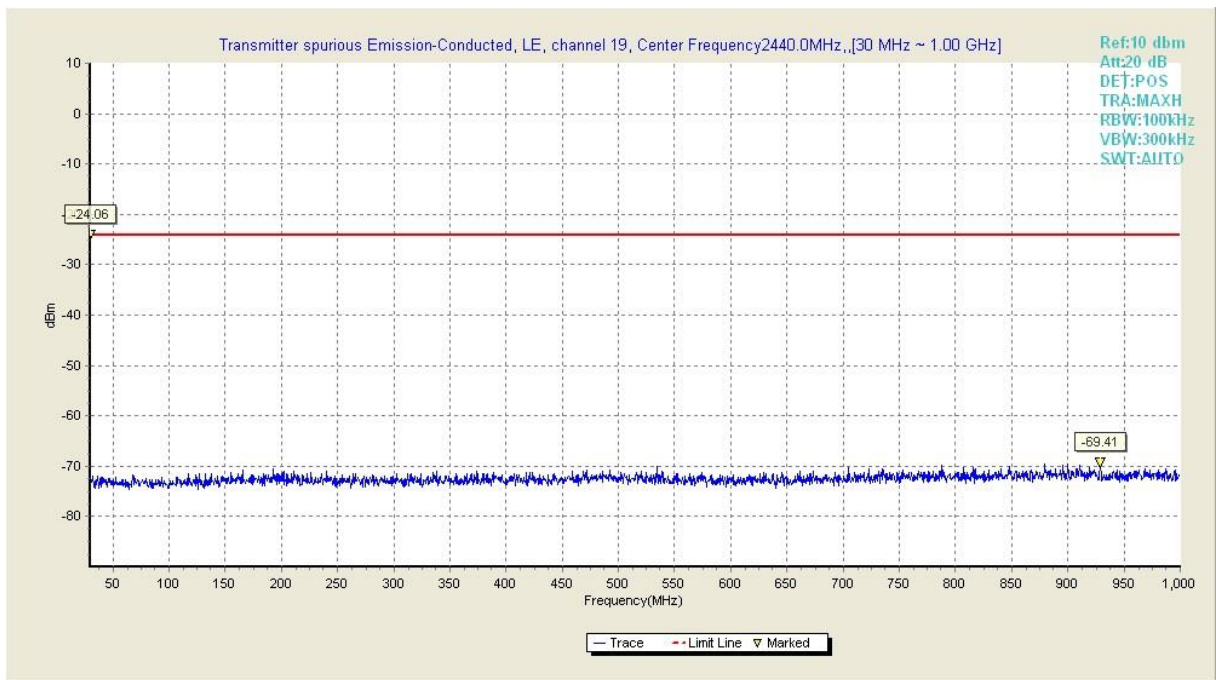


Fig.12 Transmitter spurious emission-Conducted of BLE in channel 19,(30MHz ~1GHz)

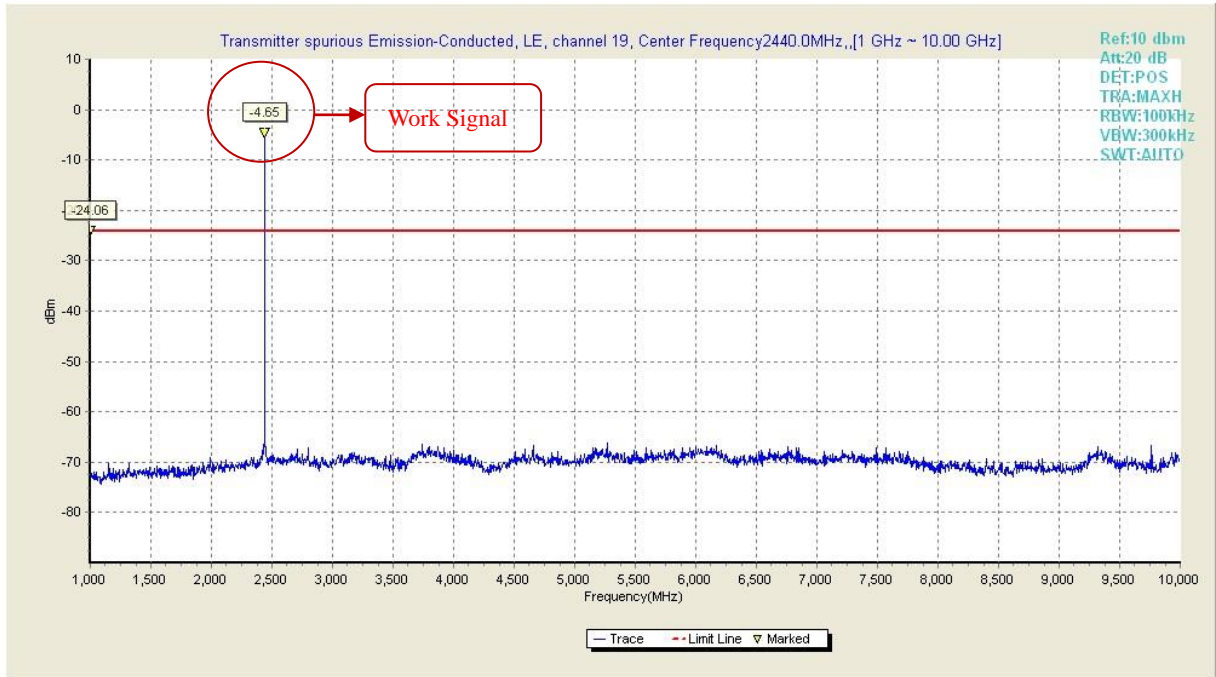


Fig.13 Transmitter spurious emission-Conducted of BLE in channel 19,(1GHz ~10GHz)

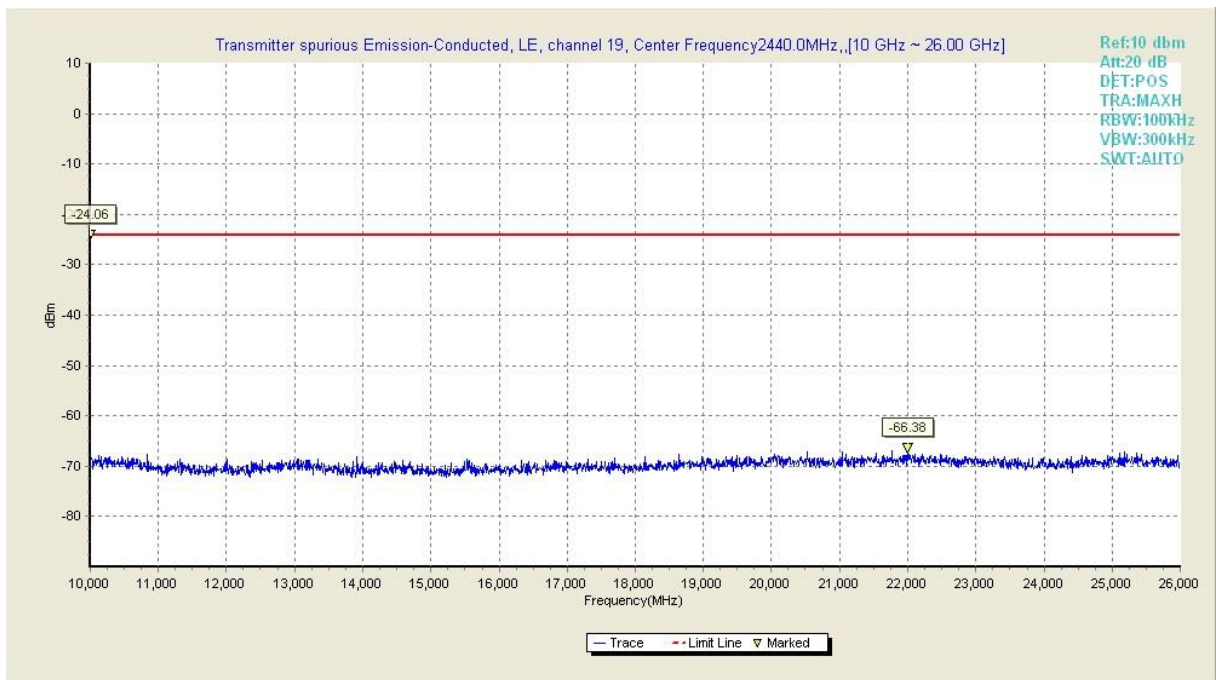


Fig.14 Transmitter spurious emission-Conducted of BLE in channel 19,(10GHz ~26GHz)

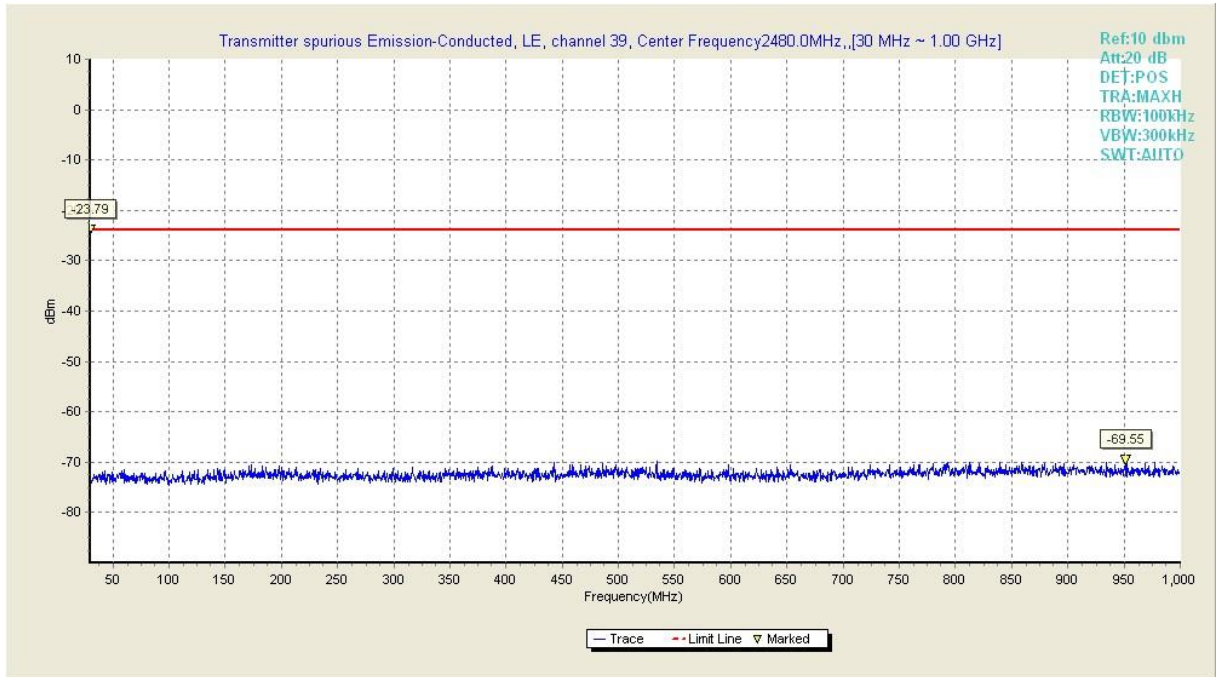


Fig.15 Transmitter spurious emission-Conducted of BLE in channel 39,(30MHz ~1GHz)

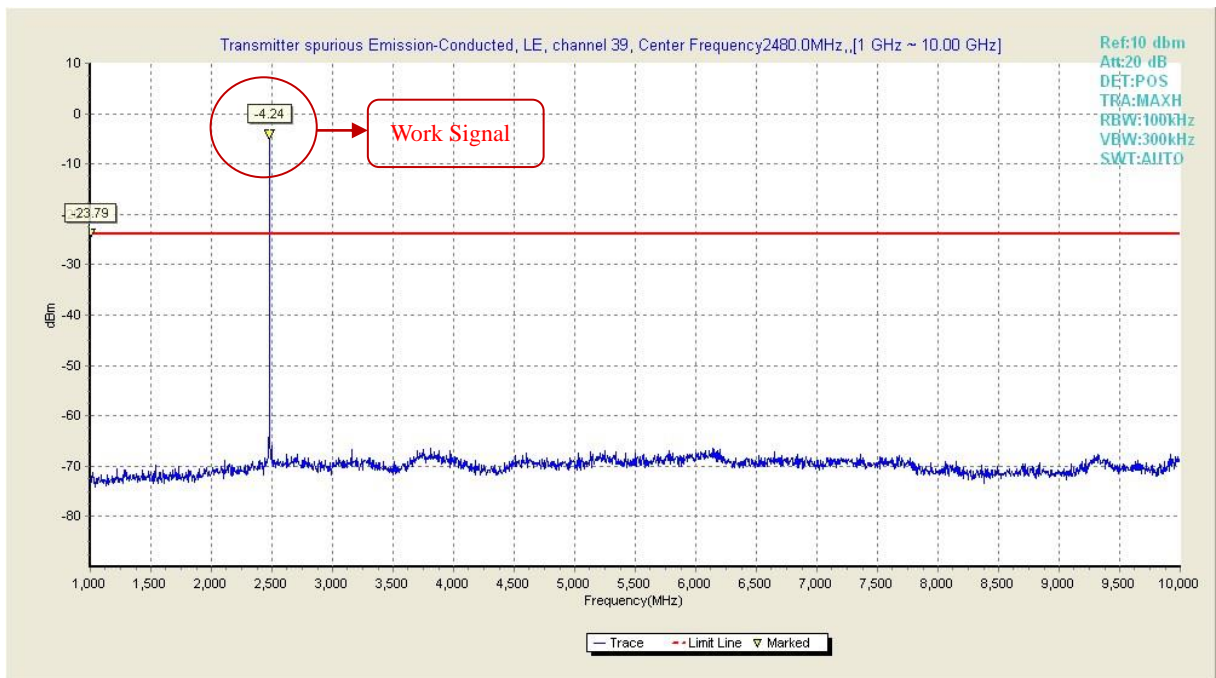


Fig.16 Transmitter spurious emission-Conducted of BLE in channel 39,(1GHz ~10GHz)

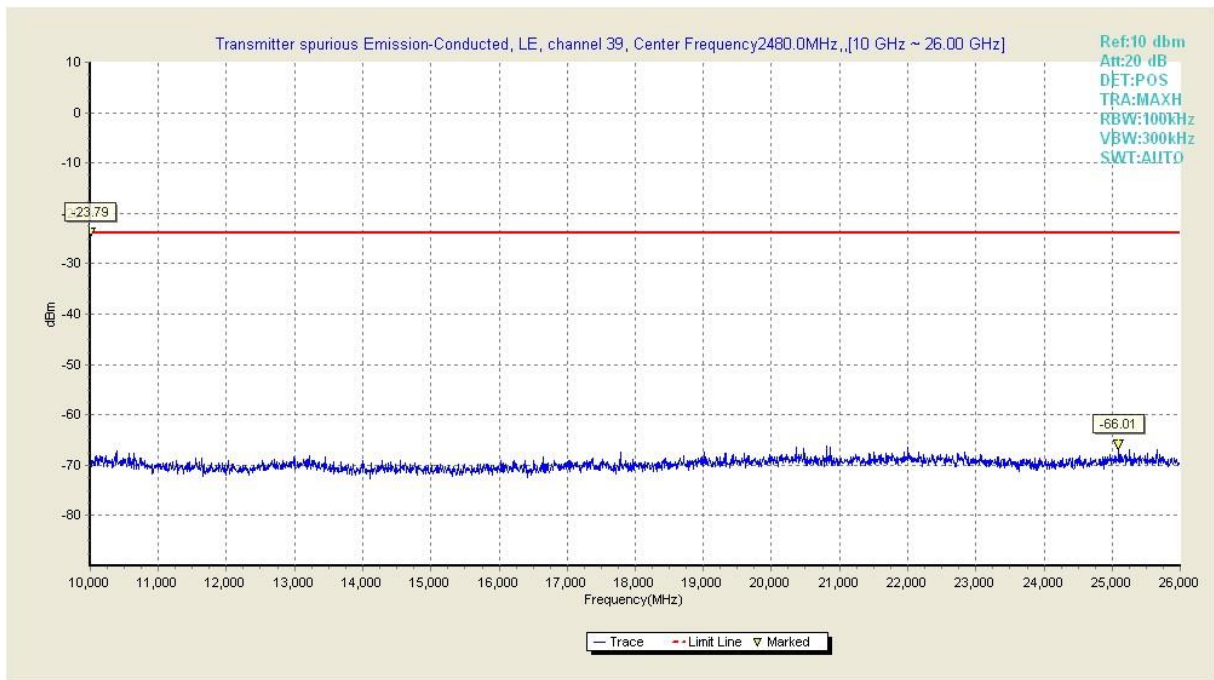


Fig.17 Transmitter spurious emission-Conducted of BLE in channel 39,(10GHz ~26GHz)

B.6 Radiated Emissions

B.6.1 Limit of Radiated Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20dB below the highest emission level within the authorized band. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below

Frequency(MHz)	Field Strength(microvolts/meters)	Measurement Distance(Meters)
0.009-0.490	2400/F(kHz)	3000
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
above 960	500	3

B.6.2 Test Procedure

- The EUT was placed on a turntable with 1.5 meter above ground.
- The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the antenna is varied between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
- For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower(from 1 m to 4 m)and turntable(from 0 degree to 360 degrees)to find the maximum reading.

f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode. SA setting: Span= wide enough to fully capture the emission being measured; RBW=1MHz ($f > 1\text{GHz}$), RBW=100kHz ($f < 1\text{GHz}$), VBW \geq RBW, Sweep time=auto, Trace= Max hold. Above 18GHz shall be extrapolated to specified distance using an extrapolation factor 20dB/decade from 3m to 1m.

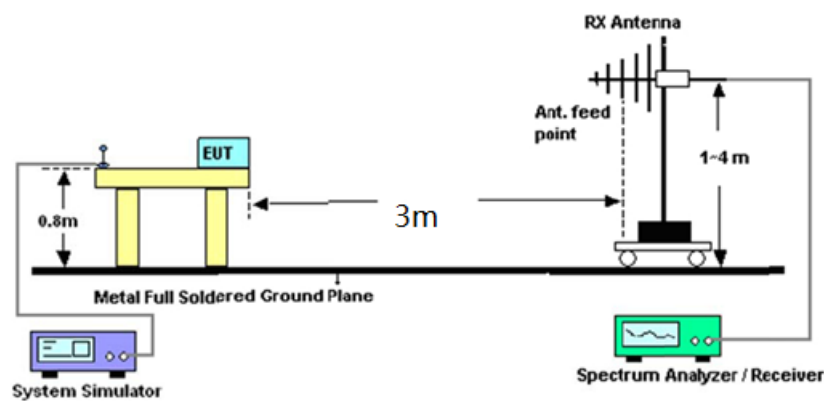
g. If the emission level of the EUT in peak mode was 20dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported.

h. Emission level (dB μ V/m) = 20 log Emission level (μ V/m).

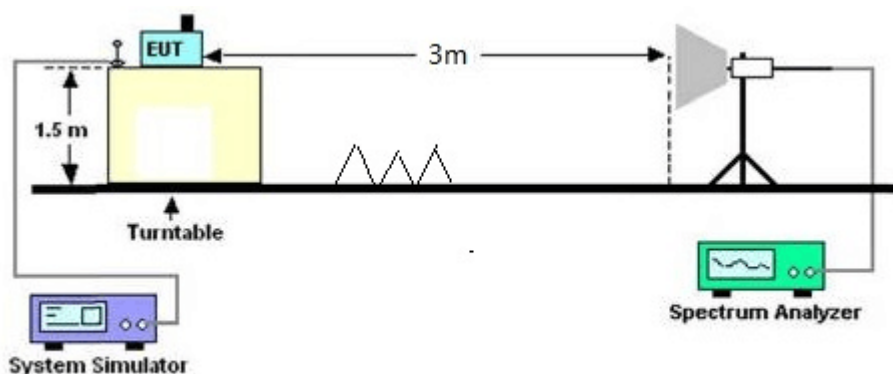
B.6.3 Test Setup

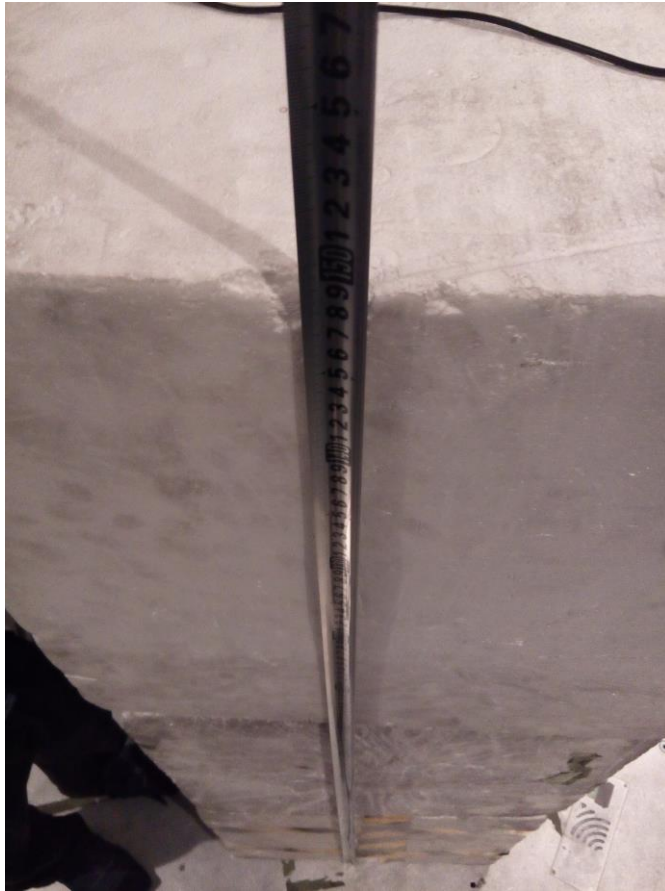
Frequency Band(MHz)	Function	Resolution Bandwidth	Video Bandwidth
30 to 1000	QP	100kHz	100kHz
Above 1000	Peak	1MHz	1MHz
	Average	1MHz	10Hz

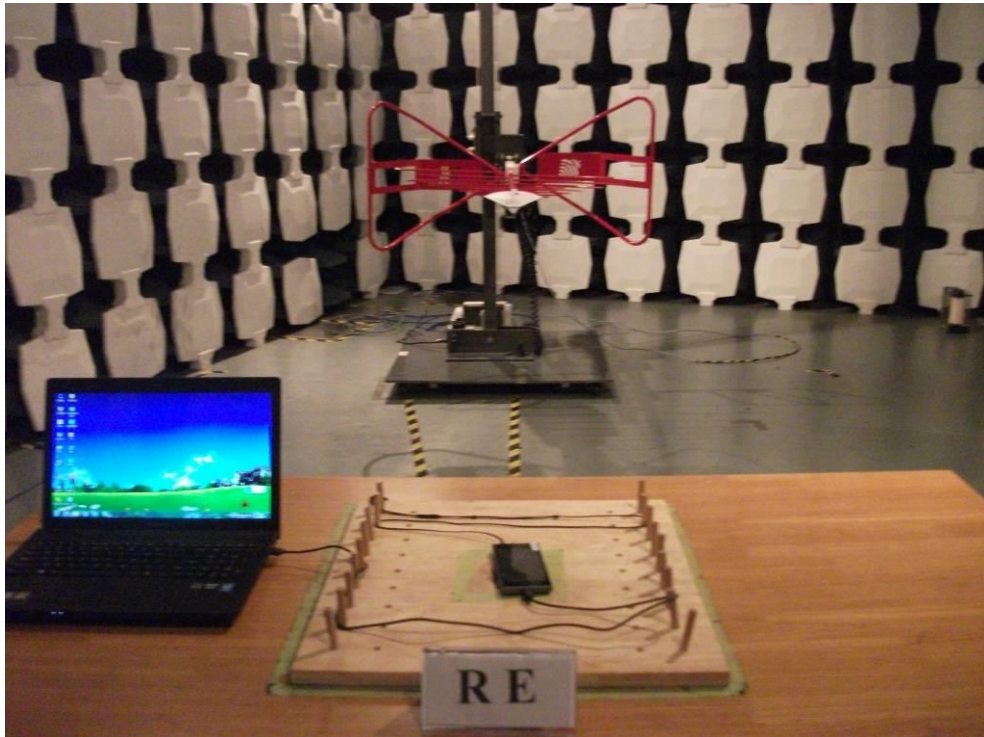
Radiated Emissions Frequency: Below 1GHz



Radiated Emissions Frequency: above 1GHz







B.6.4 Test Results

From 6GHz to 18GHz, EUT was pre-scanned and which was 20dB lower than limit line per 15.31(0) and not reported.

Test Mode: Traffic

Verdict: Pass

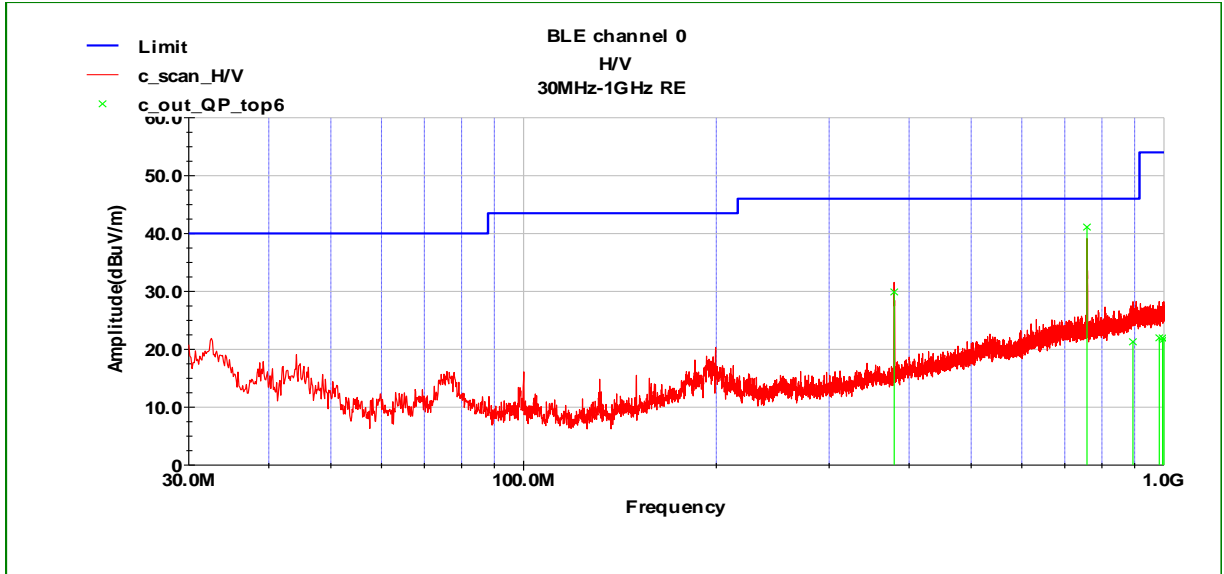


Fig.18 Radiated Emission of channel 0 in 30MHz-1GHz

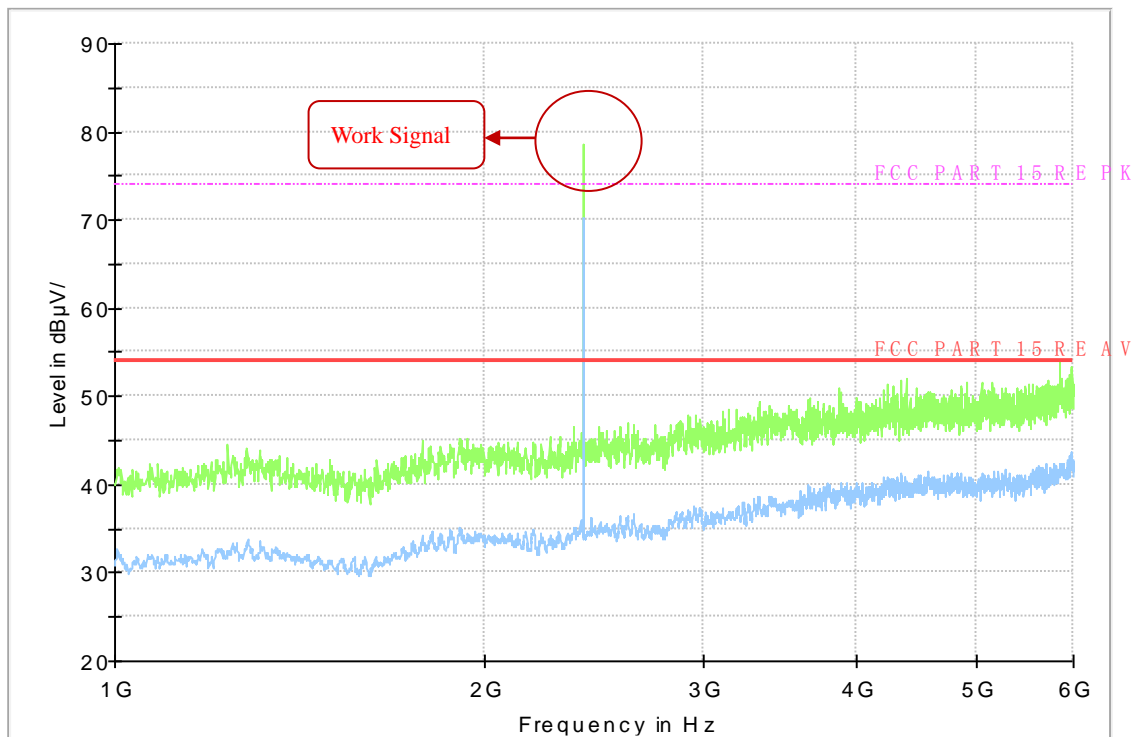


Fig.19 Radiated Emission of channel 0 in 1GHz-6GHz

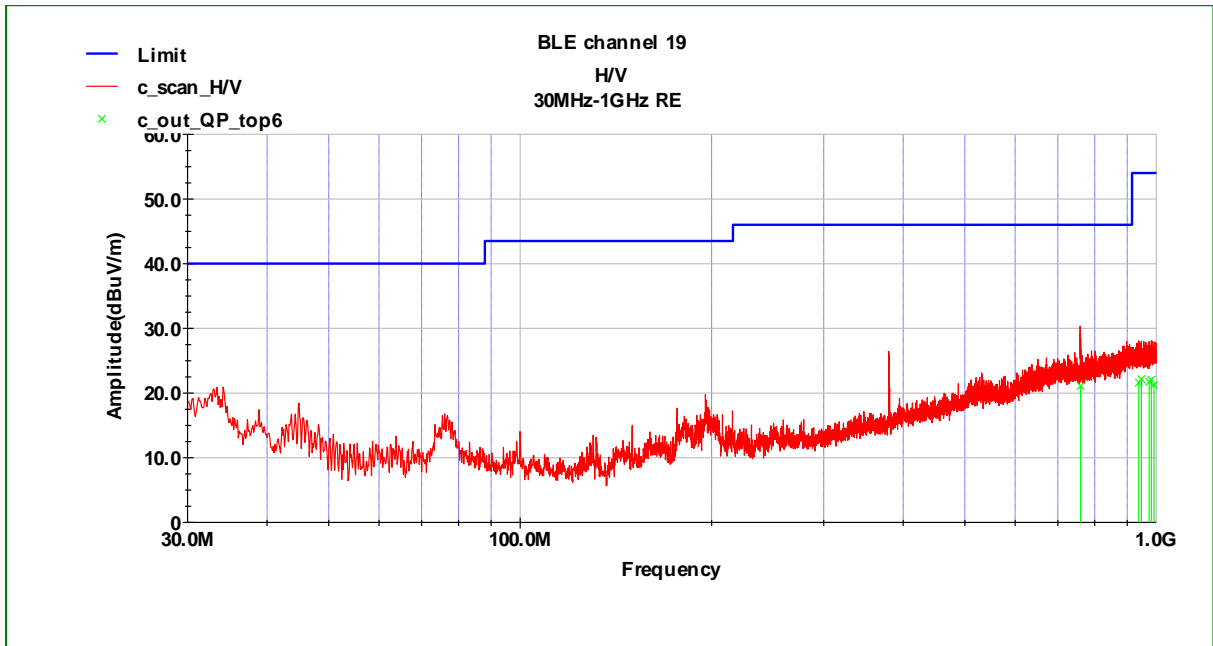


Fig.20 Radiated Emission of channel 19 in 30MHz-1GHz

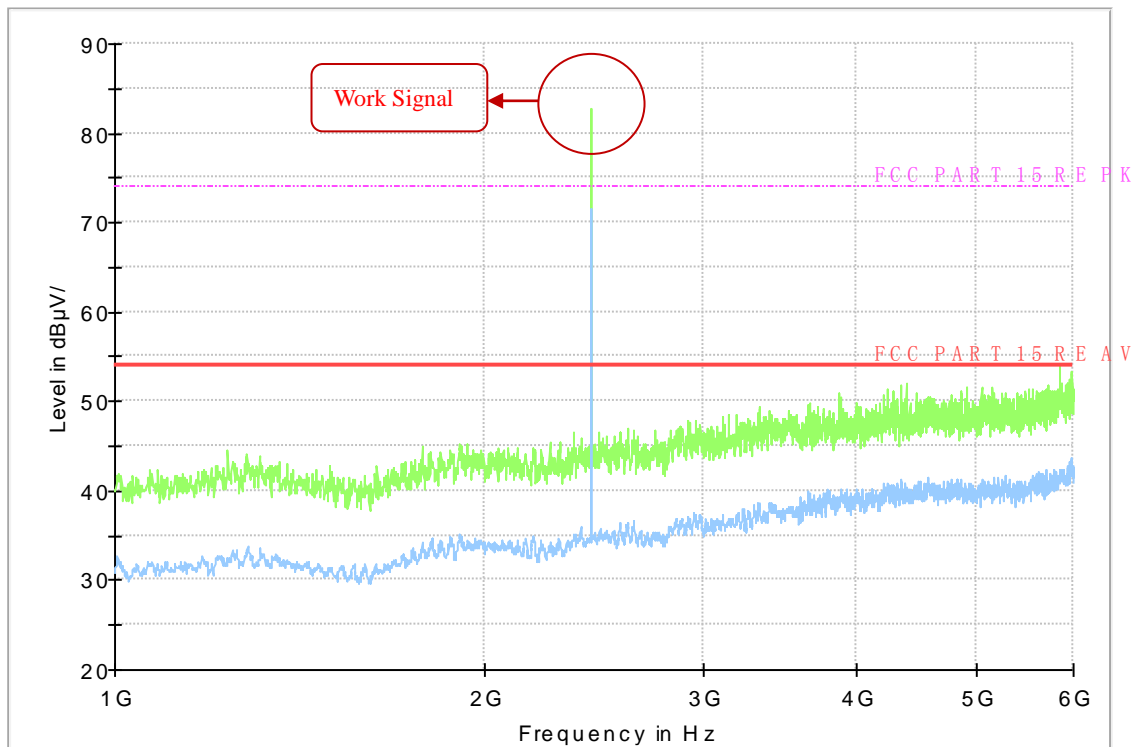


Fig.21 Radiated Emission of channel 19 in 1GHz-6GHz

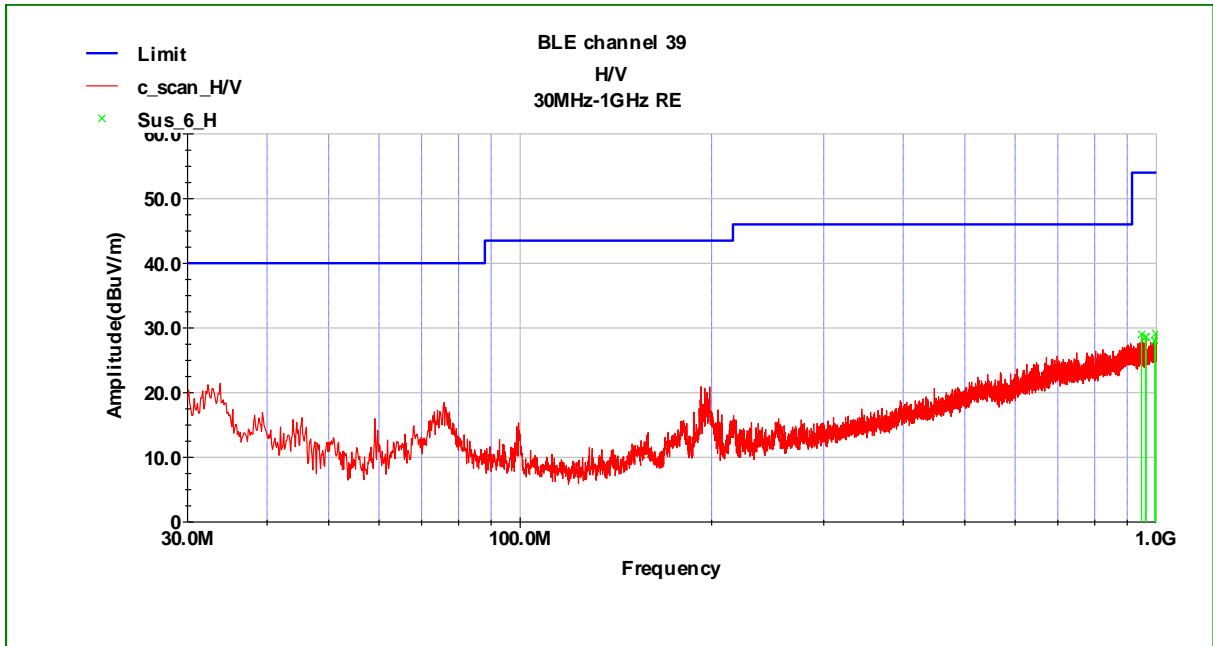


Fig.22 Radiated Emission of channel 39 in 30MHz-1GHz

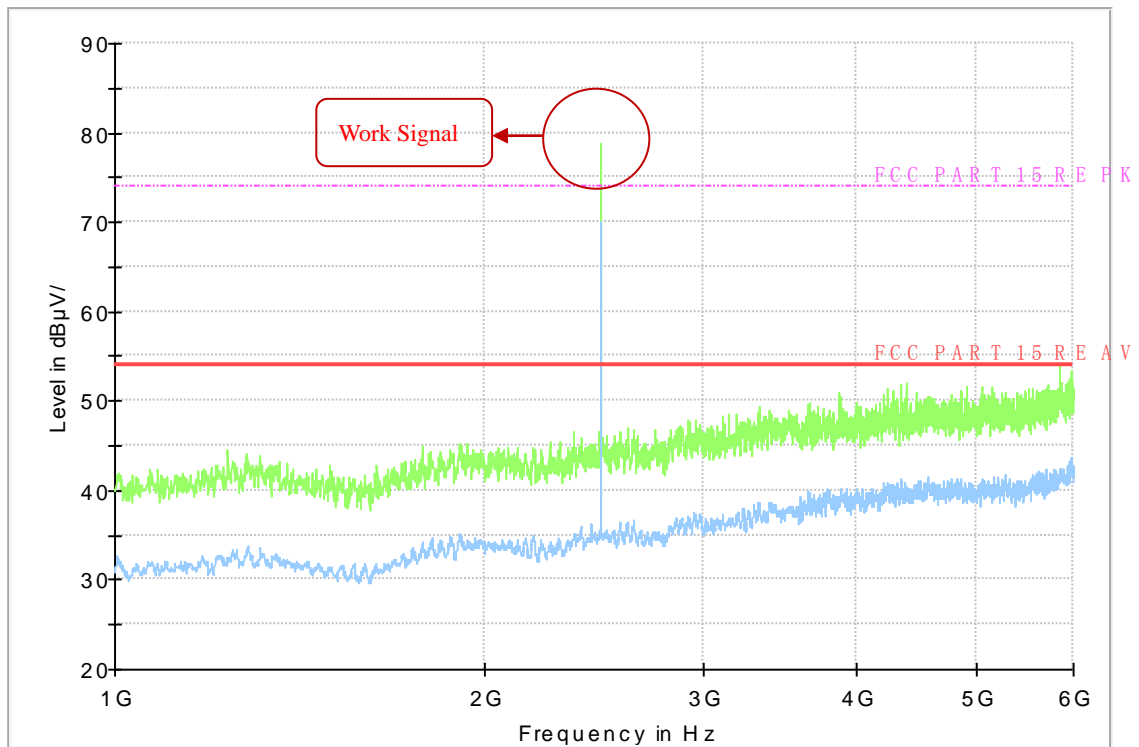


Fig.23 Radiated Emission of channel 39 in 1GHz-6GHz

B.7 AC Conducted Emission

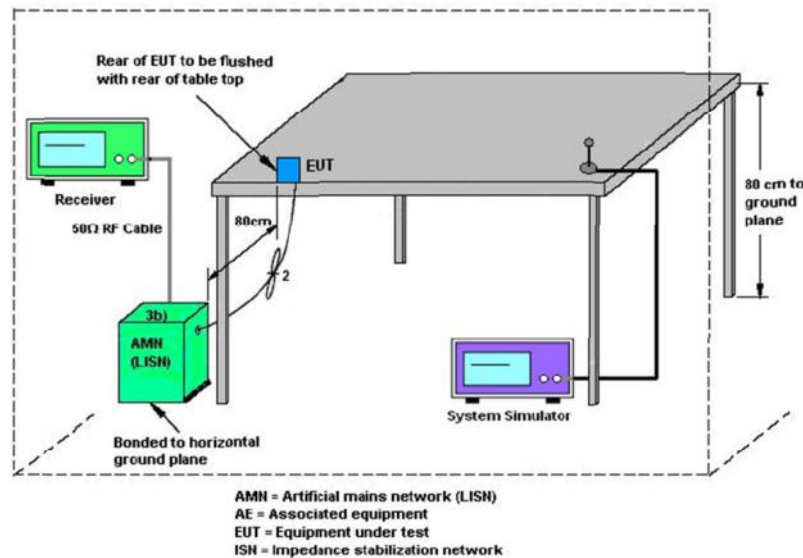
B.7.1 Description

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits

B.7.2 Test Procedure

- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connecting to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

B.7.3 Test Setup





B.7.4 Test Results

Limit

Frequency of Emission(MHz)	Conducted Limit(dB μ V)	
	Quasi -Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with logarithm of the frequency

LINE L

Scan Settings (1 Range)

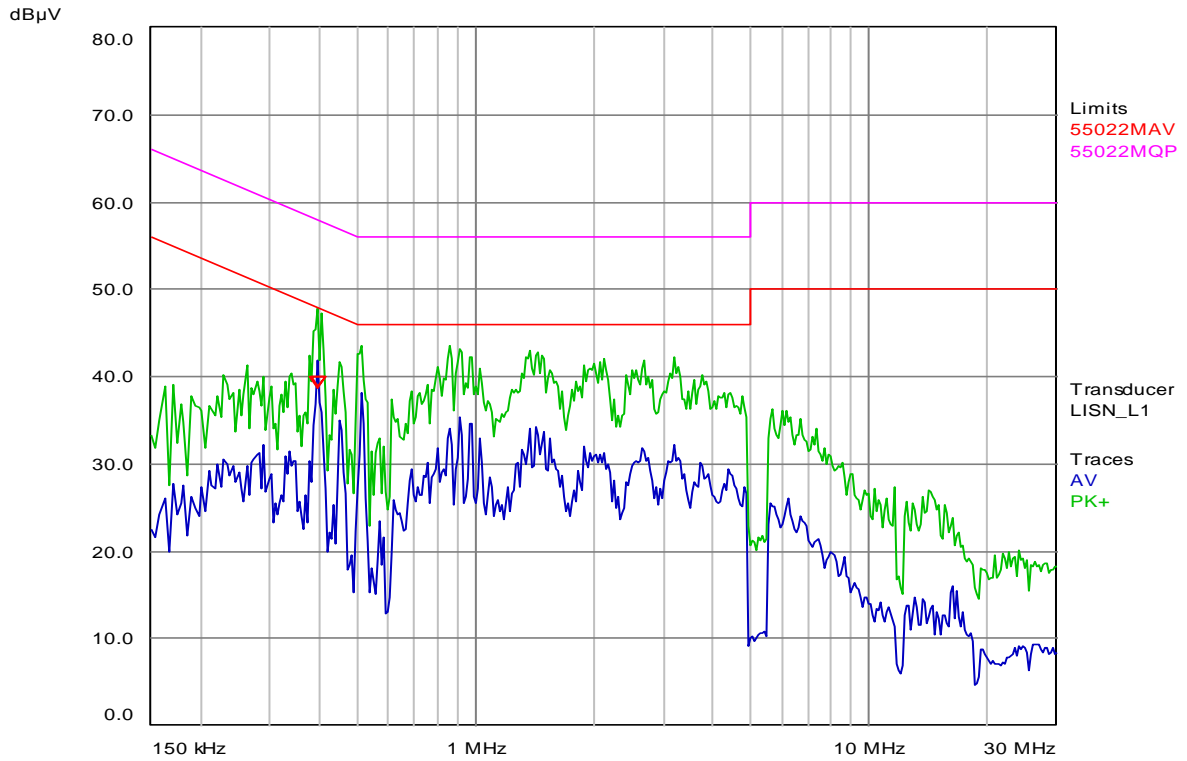
Frequencies			Receiver Settings			
Start	Stop	Step	Res BW	M-Time	Atten	Preamp
150 kHz	30 MHz	4 kHz	9 kHz (6dB)	5 ms	Auto	Off

Final Measurement

Detectors: AV, QP
Peaks: 6

Meas Time: 5 s
Acc. Margin: 10 dB

Pre-measurement Graph



Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Delta Ref (dB)	Comment
1 AV	0.398	38.67	47.90	-9.23	/	L1 / on
1 AV	0.514	/	/	/	/	/

* = limit exceeded

LINE N

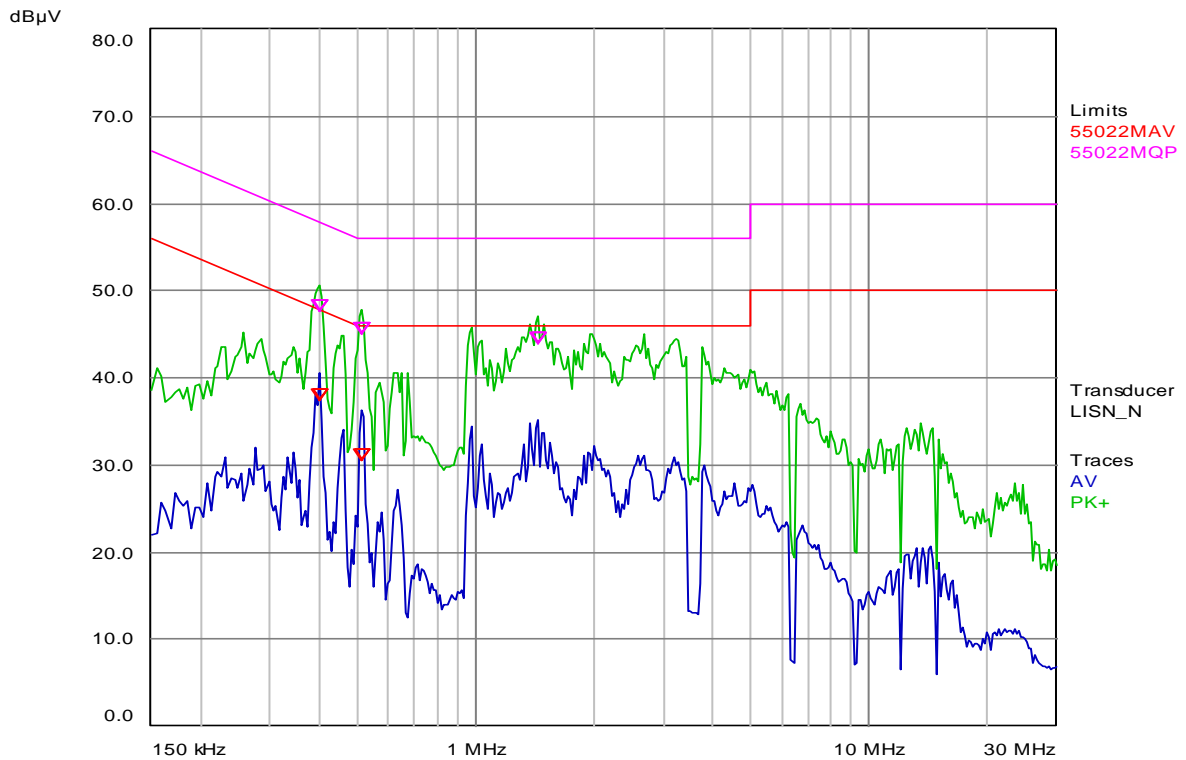
Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	Res BW	M-Time	Atten	Preamp
150 kHz	30 MHz	4.5 kHz	9kHz (6dB)	15 ms	Auto	Off

Final Measurement

Detectors: AV, QP Meas Time: 2 s
Peaks: 6 Acc. Margin: 10 dB

Pre-measurement Graph



Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Delta Ref (dB)	Comment
1 AV	0.402	37.44	47.81	-10.37	/	N / on
2 QP	0.402	47.57	57.81	-10.24	/	N / on
1 AV	0.5145	30.48	46.00	-15.52	/	N / on
2 QP	0.5145	45.04	56.00	-10.96	/	N / on
2 QP	1.4325	43.99	56.00	-12.01	/	N / on

* = limit exceeded

240V/60Hz

LINE L

Scan Settings (1 Range)

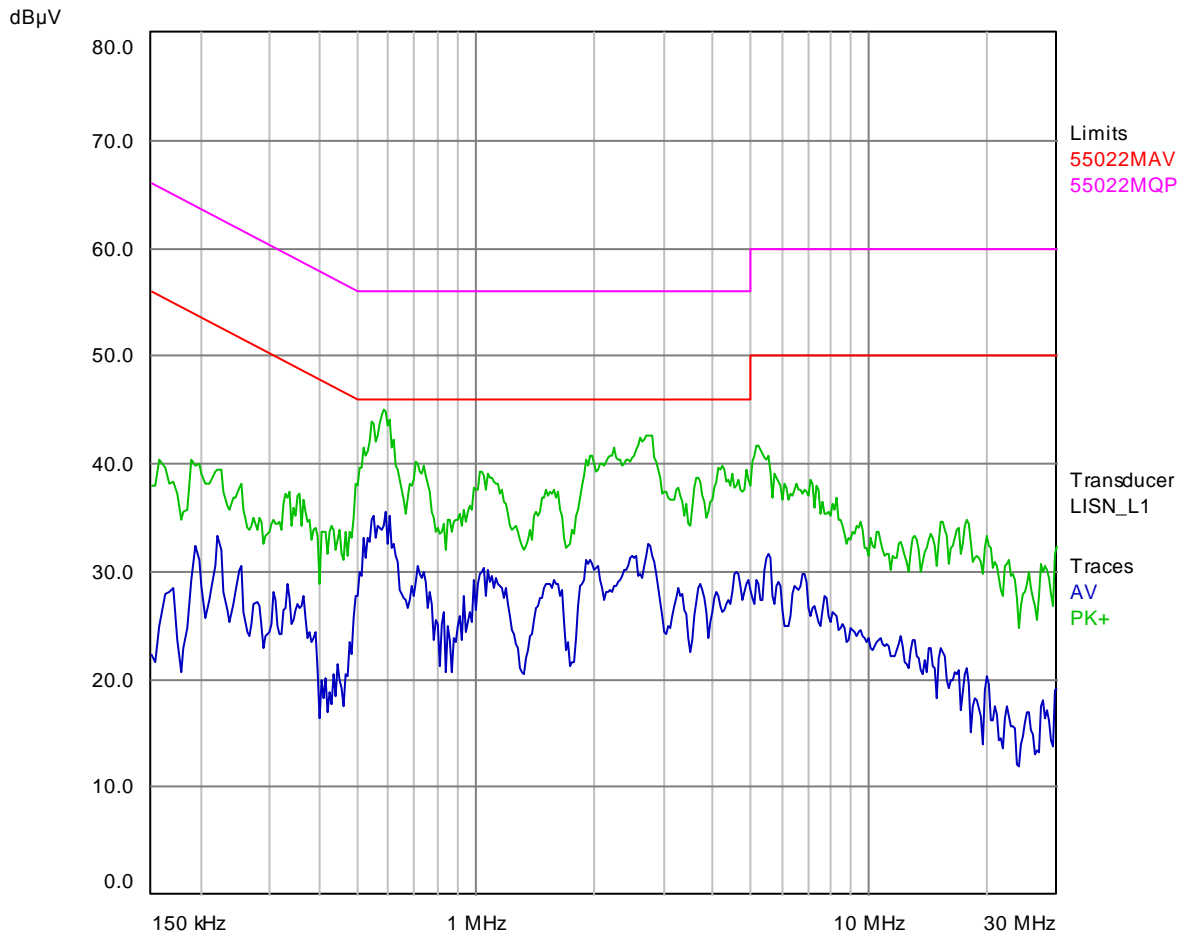
Frequencies			Receiver Settings			
Start	Stop	Step	Res BW	M-Time	Atten	Preamp
150 kHz	30 MHz	4 kHz	9 kHz (6dB)	15 ms	Auto	Off

Previous Measurement

Detectors: AV, PK+
Peaks: 6

Meas Time: see scan settings
Acc. Margin: 10 dB

Pre-measurement Graph



Peak Search Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Delta Ref (dB)	Comment

* = limit exceeded

LINE N

Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	Res BW	M-Time	Atten	Preamp
150 kHz	30 MHz	4.5 kHz	9 kHz (6dB)	15 ms	Auto	Off

Final Measurement

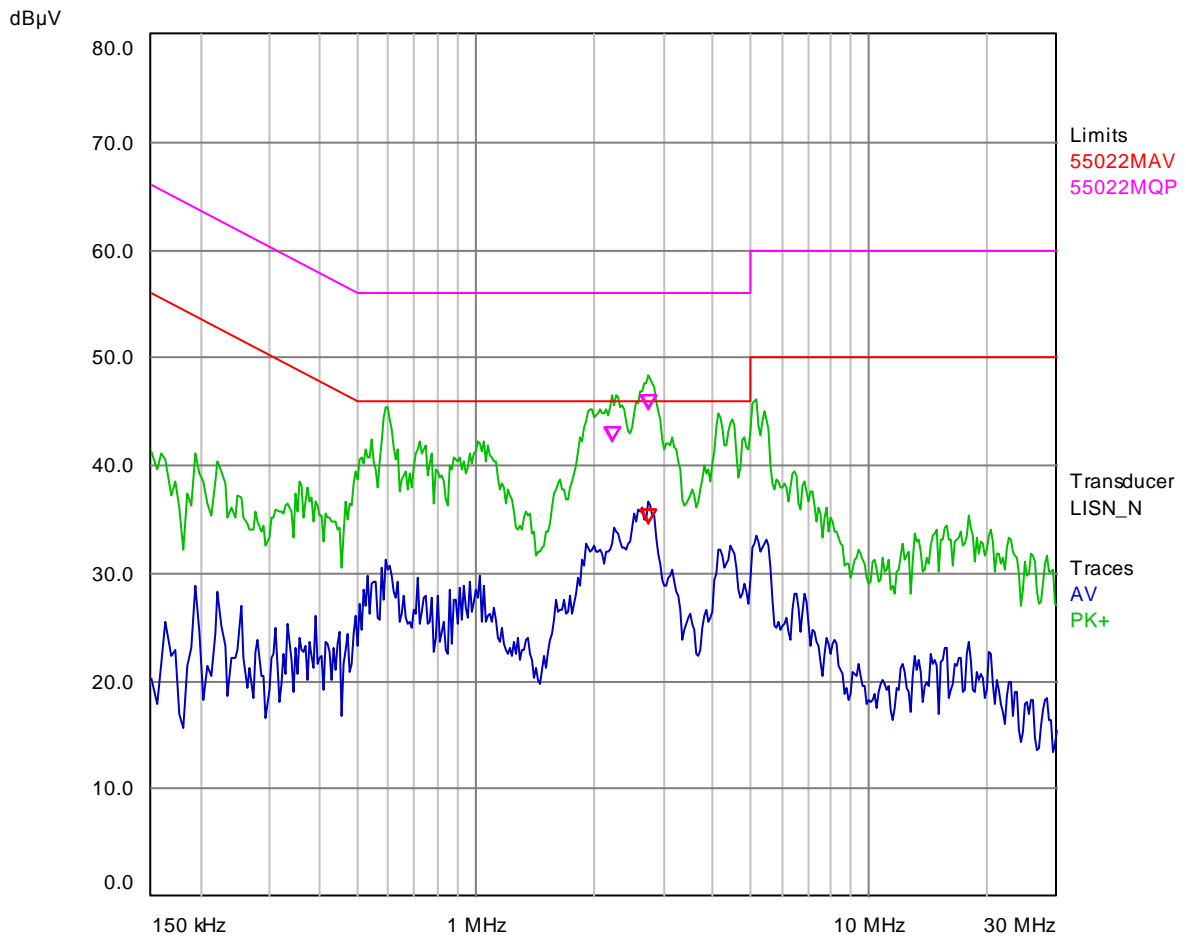
Detectors: AV, QP

Meas Time: 2 s

Peaks: 6

Acc. Margin: 10 dB

Pre-measurement Graph



Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Delta Ref (dB)	Comment
2 QP	2.2335	42.19	56.00	-13.81		N / on
2 QP	2.7375	45.15	56.00	-10.85		N / on
1 AV	2.742	34.66	46.00	-11.34		N / on

* = limit exceeded

B.8 Antenna Requirements

B.8.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. 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 FCC rule.

B.8.2 Antenna Connected construction

The Antenna type used in this product is PIFA Antenna without connector and it is considered to meet antenna requirement.

B.8.3 Antenna Gain

The antenna peak gain of EUT is less than 6dBi, Therefore, it is not necessary to reduced maximum peak output power limit.

ANNEX C: Report Revision History

Report NO.	Report version	Description	Issue Date
150701-BLE	NONE	Original	2015.07.10

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