



# TEST REPORT

No. I22N01500-BLE

**BLU Products, Inc.**

**Smart Phone**

**Model Name: B1550VL**

**with**

**Hardware Version: V1.0**

**Software Version: BLU\_B1550VL\_V12.0.02.05.02.17\_FSec**

**FCC ID: YHLBLUB1550VL**

**Issued Date: 2022-09-09**

**Designation Number: CN1210**

**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 SAICT.

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## 1. Summary of Test Report

### 1.1. Test Items

Description	Smart Phone
Model Name	B1550VL
Applicant's name	BLU Products, Inc.
Manufacturer's Name	BLU Products, Inc.

### 1.2. Test Standards

FCC Part15-2019; ANSI C63.10-2013

### 1.3. Test Result

**Pass**

Please refer to 5.2 Test Results.

### 1.4. Testing Location

Address: Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen, Guangdong, P. R. China

### 1.5. Project data

Testing Start Date:	2022-07-14
Testing End Date:	2022-08-19

### 1.6. Signature

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Lin Kanfeng  
(Prepared this test report)

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An Ran  
(Reviewed this test report)

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Zhang Bojun  
(Approved this test report)



## **2. Client Information**

### **2.1. Applicant Information**

Company Name: BLU Products, Inc.  
Address: 10814 NW 33rd St # 100 Doral, FL 33172, USA  
Contact Person: Zeng wei  
E-Mail: zwei@ctasiasz.com  
Telephone: 305.715.7171  
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### **2.2. Manufacturer Information**

Company Name: BLU Products, Inc.  
Address: 10814 NW 33rd St # 100 Doral, FL 33172, USA  
Contact Person: Zeng wei  
E-Mail: zwei@ctasiasz.com  
Telephone: 305.715.7171  
FAX: 305.436.8819



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

#### **3.1. About EUT**

Description	Smart Phone
Model Name	B1550VL
Frequency Range	2400MHz~2483.5MHz
Equipment type	Bluetooth® Low Energy
Type of Modulation	GFSK
RF PHY	LE 1M & 2M
Number of Channels	40
Antenna Type	Integrated
Antenna Gain	2.4 dBi
Power Supply	3.85V DC by Battery
FCC ID	YHLBLUB1550VL
Condition of EUT as received	No abnormality in appearance

#### **3.2. Internal Identification of EUT**

<b>EUT ID*</b>	<b>IMEI</b>	<b>HW Version</b>	<b>SW Version</b>	<b>Receive Date</b>
UT01aa	350547790004382	V1.0	BLU_B1550VL_V12. 0.02.05.02.17_FSec	2022-07-12

\*EUT ID: is used to identify the test sample in the lab internally.

#### **3.3. Internal Identification of AE**

<b>AE ID*</b>	<b>Description</b>	<b>SN</b>
AE1	Battery	/
AE2	Charger	/
AE1		
Model	TN-BP4000N1	
Manufacturer	Guangdong Fenghua New Energy Co.,Ltd.	
Capacity	4000mAh	
Nominal Voltage	3.85V	
AE2		
Model	TN-050200U3	
Manufacturer	Guangdong Beicom Electronics Co.,Ltd.	

\*AE ID: is used to identify the test sample in the lab internally.

#### **3.4. General Description**

The Equipment under Test (EUT) is a model of Smart Phone with integrated antenna and battery. It consists of normal options: Lithium Battery and Charger. Manual and specifications of the EUT were provided to fulfil the test. Samples undergoing test were selected by the client.



## **4. Reference Documents**

### **4.1. Documents supplied by applicant**

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

### **4.2. Reference Documents for testing**

The following documents listed in this section are referred for testing.

<b>Reference</b>	<b>Title</b>	<b>Version</b>
FCC Part15	FCC CFR 47, Part 15, Subpart C: 15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.247 Operation within the bands 902-928MHz, 2400-2483.5 MHz, and 5725-5850 MHz	2019
ANSI C63.10	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	2013



## 5. Test Results

### 5.1. Testing Environment

Normal Temperature: 15~35°C

Relative Humidity: 20~75%

### 5.2. Test Results

No	Test cases	Sub-clause of Part 15C	Verdict
0	Antenna Requirement	15.203	P
1	Maximum Peak Output Power	15.247 (b)	P
2	Peak Power Spectral Density	15.247 (e)	P
3	6dB Bandwidth	15.247 (a)	P
4	Band Edges Compliance	15.247 (d)	P
5	Transmitter Spurious Emission - Conducted	15.247 (d)	P

See **ANNEX A** for details.

### 5.3. Statements

SAICT has evaluated the test cases requested by the applicant/manufacture as listed in section 5.2 of this report, for the EUT specified in section 3, according to the standards or reference documents listed in section 4.2.

Disclaimer:

A. After confirmation with the customer, the sample information provided by the customer may affect the validity of the measurement results in this report, and the impact and consequences arising therefrom shall be borne by the customer.

B. The samples in this report are provided by the customer, and the test results are only applicable to the samples received.



## 6. Test Equipments Utilized

### Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due Date	Calibration Period
1	Vector Signal Analyzer	FSV40	100903	Rohde & Schwarz	2022-12-29	1 year
2	Power Sensor	U2021XA	MY55430013	Keysight	2022-12-29	1 year
3	Data Acquisition	U2531A	TW55443507	Keysight	/	/

### Test software

No.	Equipment	Manufacturer	Version
1	TechMgr Software	CAICT	2.1.1

EUT is engineering software provided by the customer to control the transmitting signal. The EUT was programmed to be in continuously transmitting mode.

### Anechoic chamber

Fully anechoic chamber by ETS-Lindgren



## 7. Laboratory Environment

### Shielded room

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz> 60 dB; 1MHz-18000MHz>90 dB
Electrical insulation	> 2MΩ
Ground system resistance	< 4 Ω

## 8. Measurement Uncertainty

Test Name	Uncertainty ( $k=2$ )	
1. RF Output Power - Conducted	1.32dB	
2. Power Spectral Density - Conducted	1.32dBm/MHz	
3. Occupied channel bandwidth - Conducted	4.56kHz	
4. Transmitter Spurious Emission - Conducted	$30\text{MHz} \leq f < 1\text{GHz}$	1.41dB
	$1\text{GHz} \leq f < 7\text{GHz}$	1.92dB
	$7\text{GHz} \leq f < 13\text{GHz}$	2.31dB
	$13\text{GHz} \leq f \leq 26\text{GHz}$	2.61dB



## **ANNEX A: Detailed Test Results**

### **A.0 Antenna requirement**

#### **Measurement Limit:**

<b>Standard</b>	<b>Requirement</b>
FCC CRF Part 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 use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

Conclusion: The Directional gains of antenna used for transmitting is 2.4 dBi. The RF transmitter uses an integrate antenna without connector.

**A.1 Maximum Peak Output Power****Method of Measurement: See ANSI C63.10-clause 11.9.1.3**

The maximum peak conducted output power may be measured using a broadband peak RF power meter.

**Measurement Limit:**

Standard	Limit (dBm)	E.I.R.P Limit (dBm)
FCC CRF Part 15.247 (b)	< 30	< 36

**Measurement Results:**

Mode	Frequency (MHz)	Peak Conducted Output Power (dBm)	E.I.R.P (dBm)	Conclusion
LE-1M	2402 (CH0)	-2.48	-0.08	P
	2440 (CH19)	-1.90	0.50	P
	2480 (CH39)	-3.40	-1.00	P
LE-2M	2402 (CH0)	-2.68	-0.28	P
	2440 (CH19)	-2.08	0.32	P
	2480 (CH39)	-3.53	-1.13	P

**Conclusion: Pass**

### A.2 Peak Power Spectral Density

Method of Measurement: See ANSI C63.10-clause 11.10.2

Measurement Limit:

Standard	Limit
FCC CRF Part 15.247 (e)	< 8 dBm/3 kHz

#### Measurement Results:

Mode	Frequency (MHz)	Peak Power Spectral Density (dBm)	Conclusion
LE-1M	2402 (CH0)	Fig.1	P
	2440 (CH19)	Fig.2	P
	2480 (CH39)	Fig.3	P
LE-2M	2402 (CH0)	Fig.4	P
	2440 (CH19)	Fig.5	P
	2480 (CH39)	Fig.6	P

See below for test graphs.

Conclusion: PASS

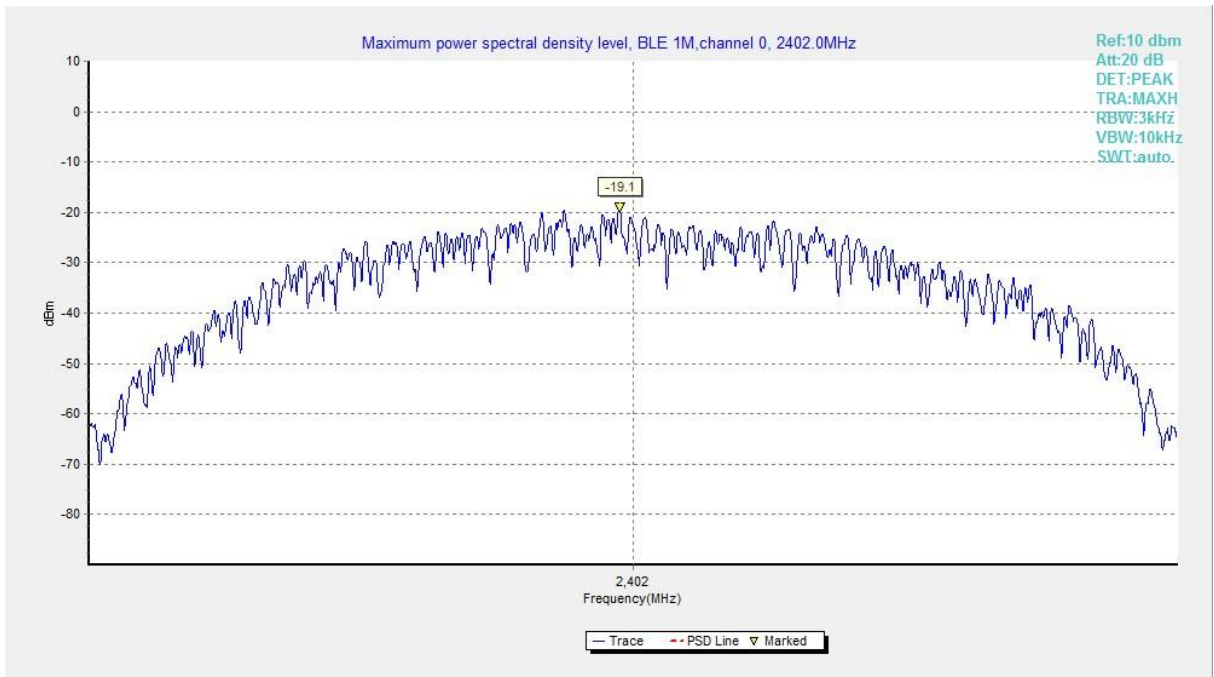
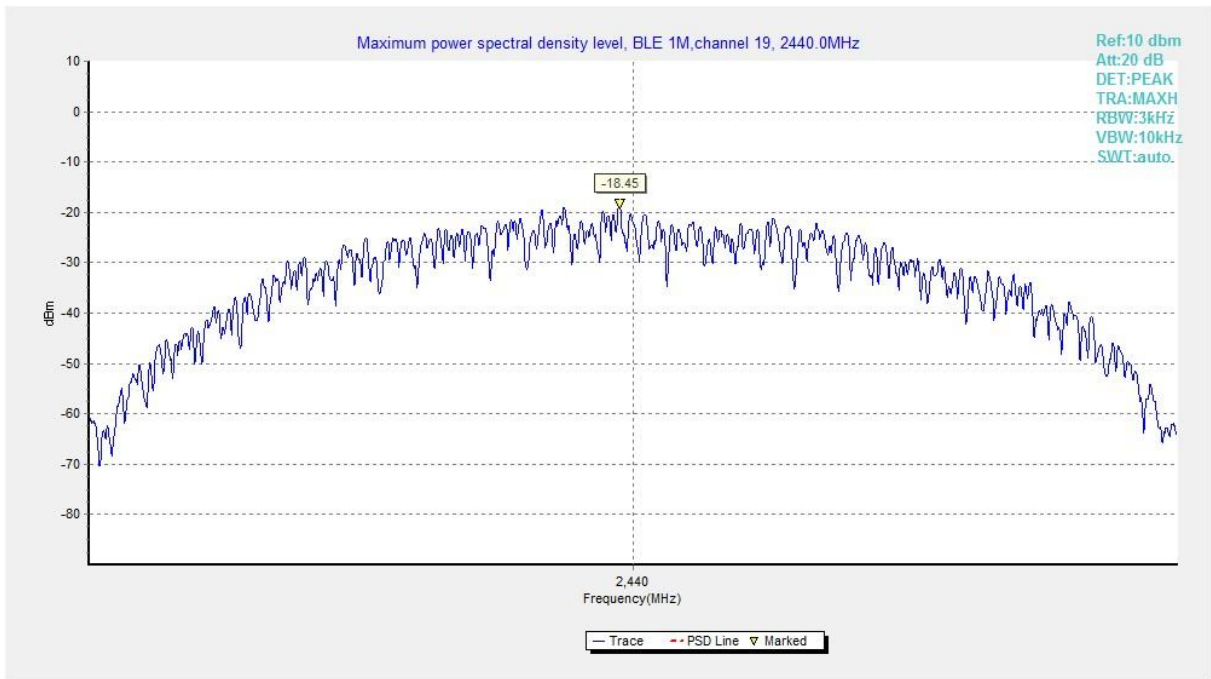
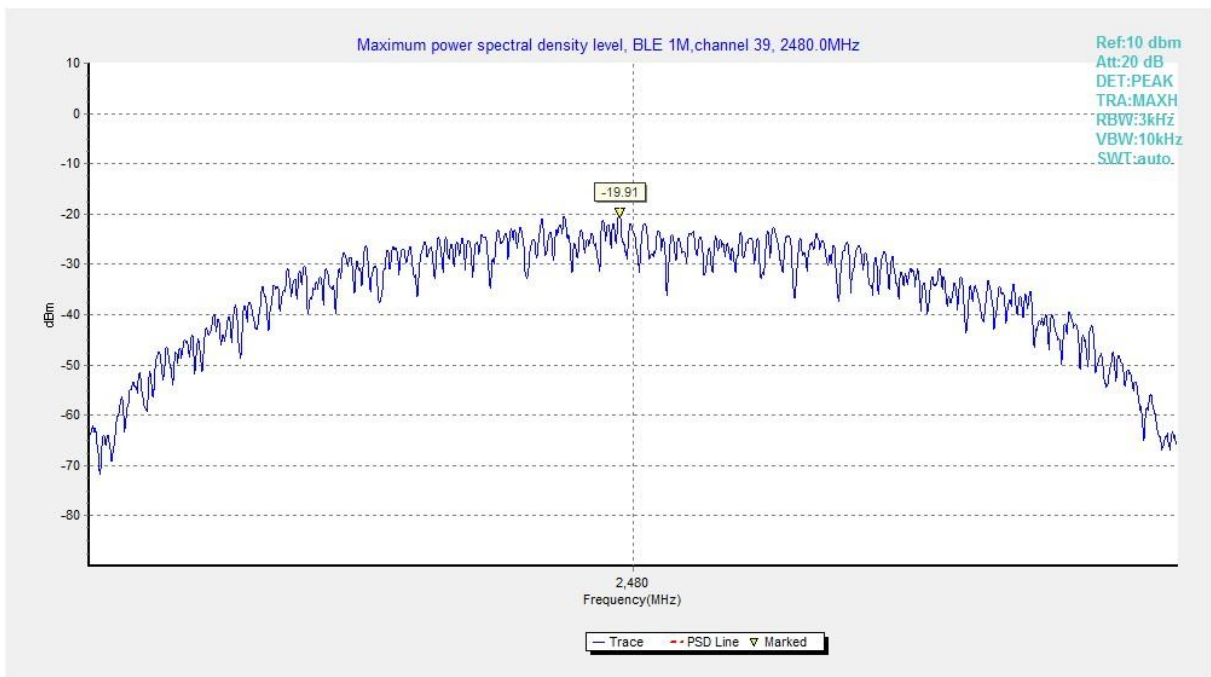


Fig.1 Power Spectral Density (Ch 0), LE 1M



**Fig.2 Power Spectral Density (Ch 19), LE 1M**



**Fig.3 Power Spectral Density (Ch 39), LE 1M**

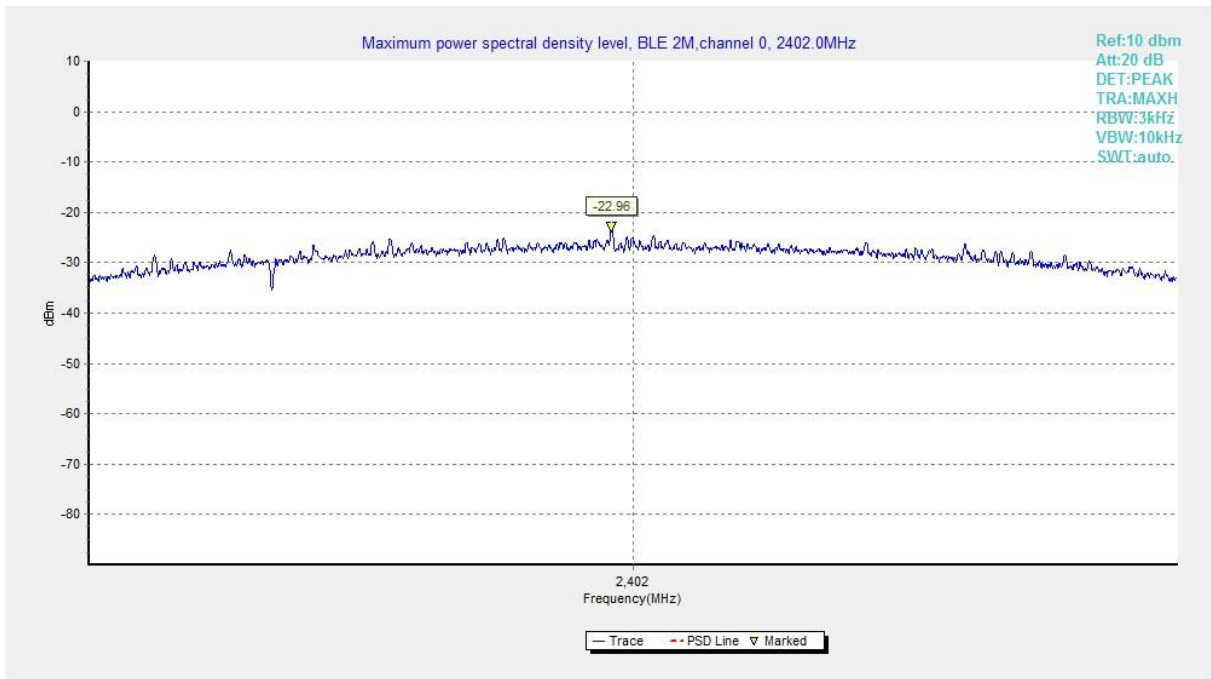


Fig.4 Power Spectral Density (Ch 0), LE 2M

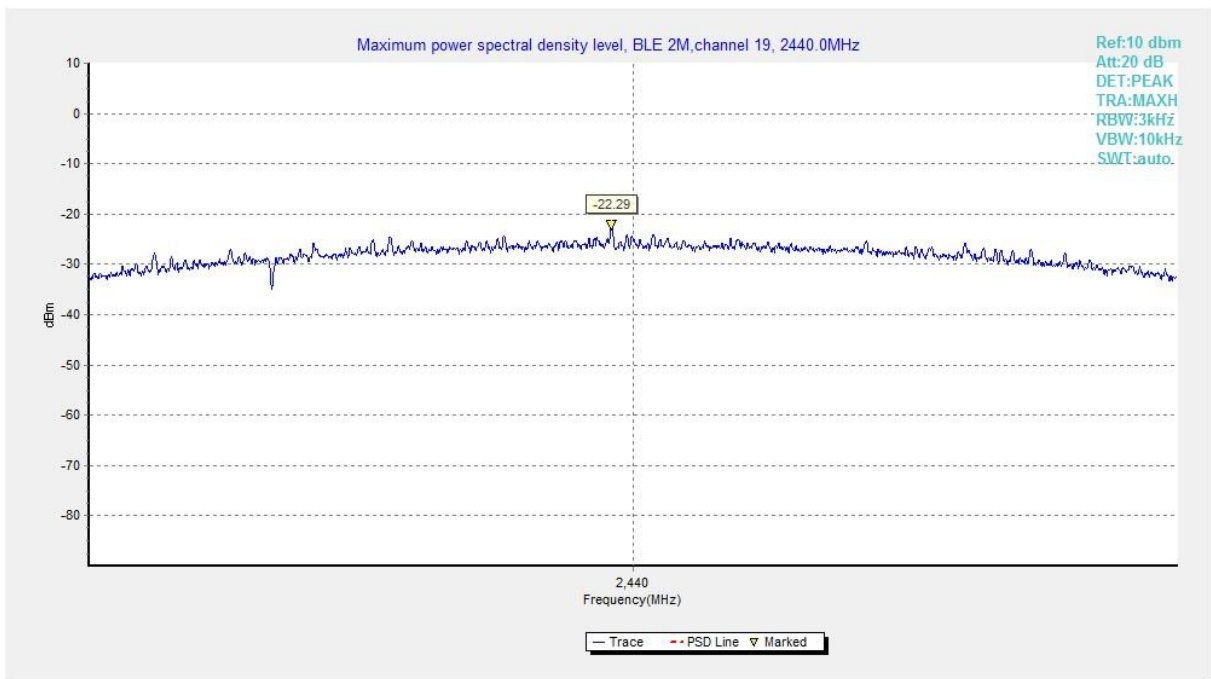


Fig.5 Power Spectral Density (Ch 19), LE 2M

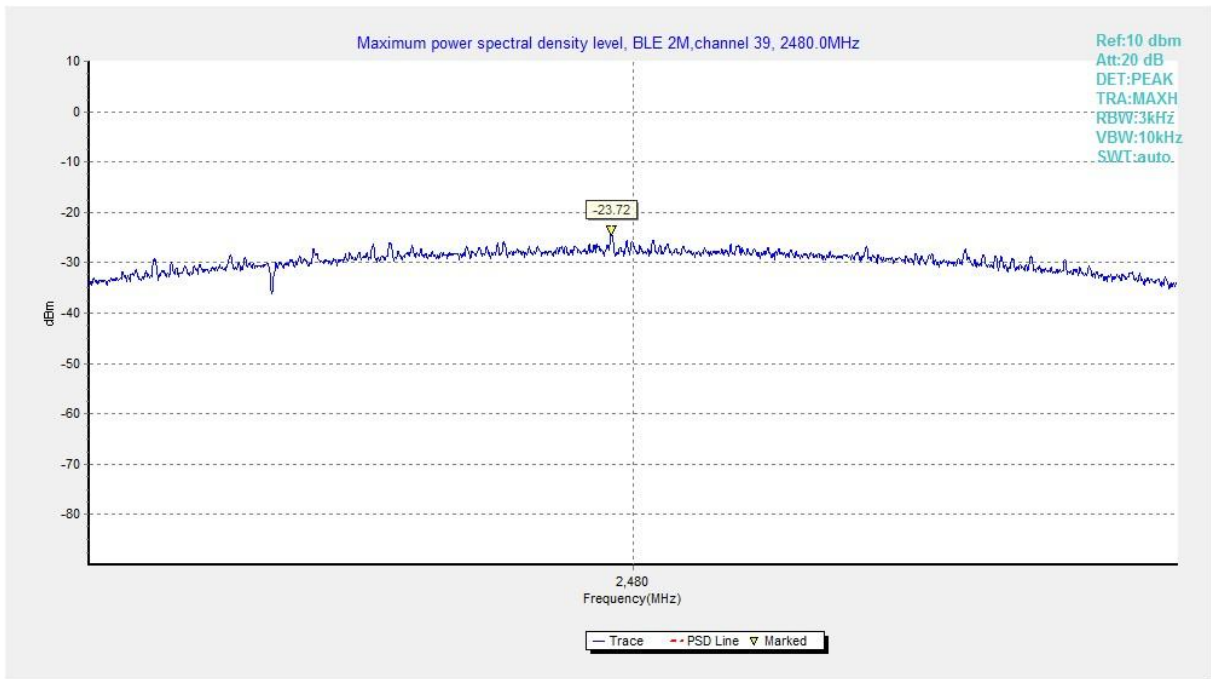


Fig.6 Power Spectral Density (Ch 39), LE 2M



### A.3 6dB Bandwidth

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.247 (a)	≥ 500

Measurement Result:

Mode	Frequency (MHz)	Test Results (kHz)		Conclusion
LE-1M	2402 (CH0)	Fig.7	667.00	P
	2440 (CH19)	Fig.8	667.00	P
	2480 (CH39)	Fig.9	665.50	P
LE-2M	2402 (CH0)	Fig.10	1169.00	P
	2440 (CH19)	Fig.11	1170.50	P
	2480 (CH39)	Fig.12	1172.50	P

See below for test graphs.

Conclusion: PASS

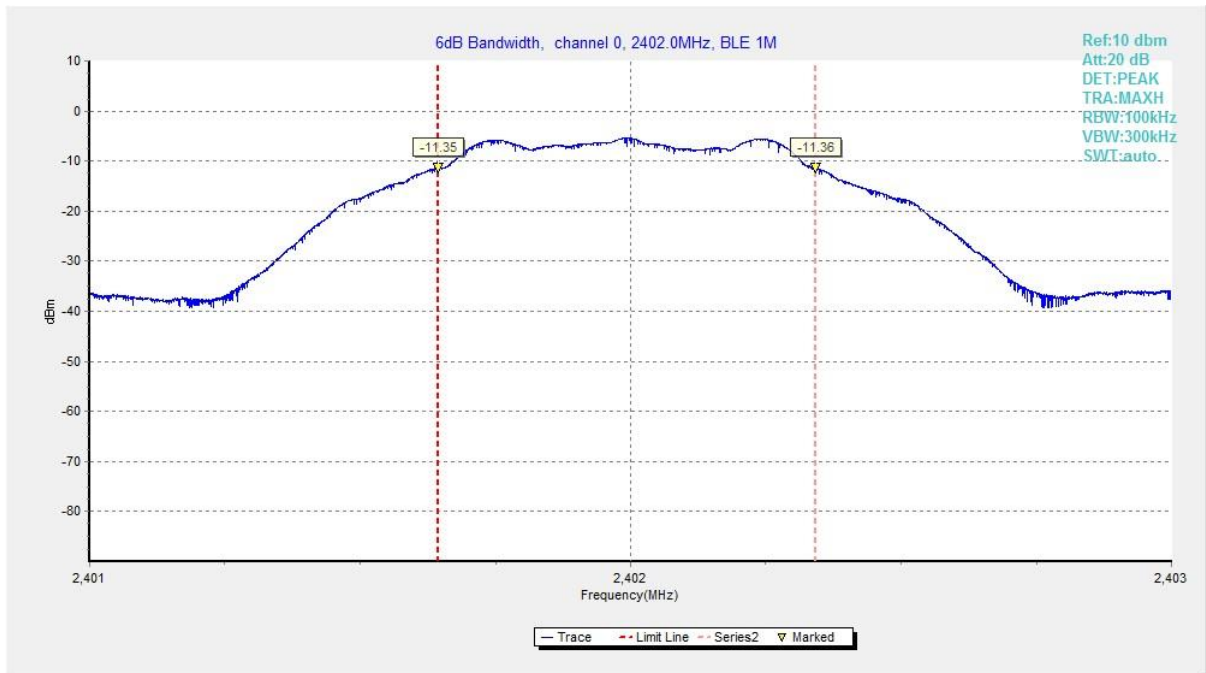


Fig.7 6dB Bandwidth (Ch 0), LE 1M

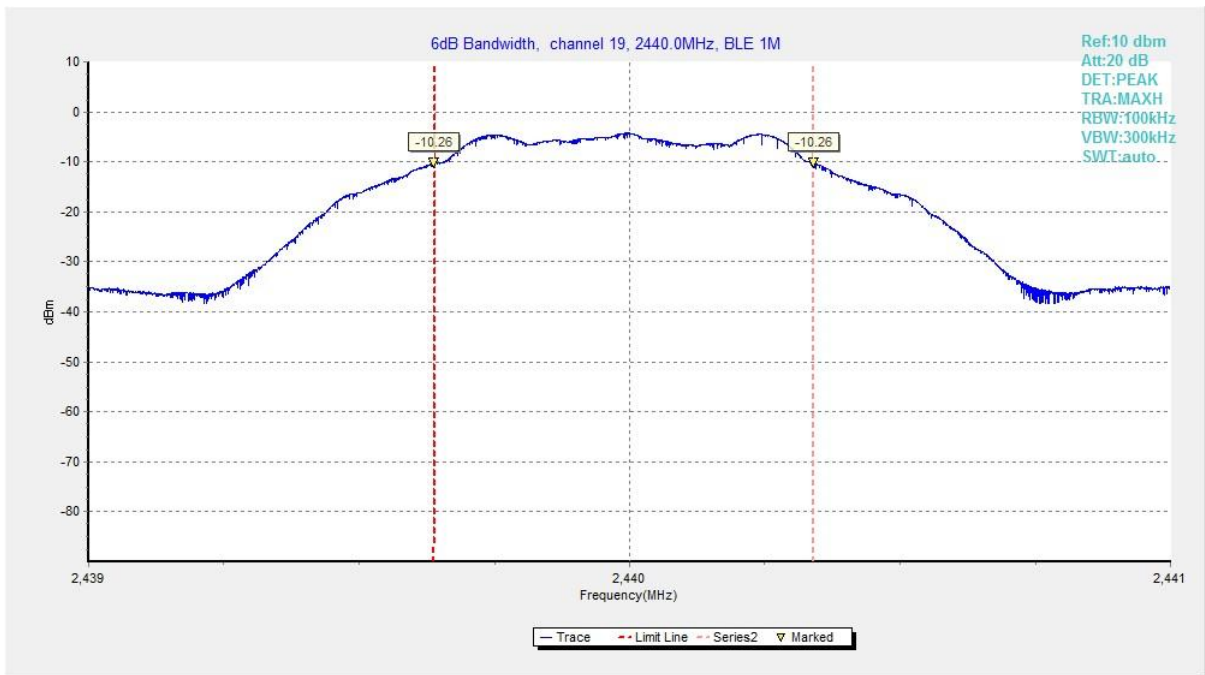


Fig.8 6dB Bandwidth (Ch 19), LE 1M



Fig.9 6dB Bandwidth (Ch 39), LE 1M

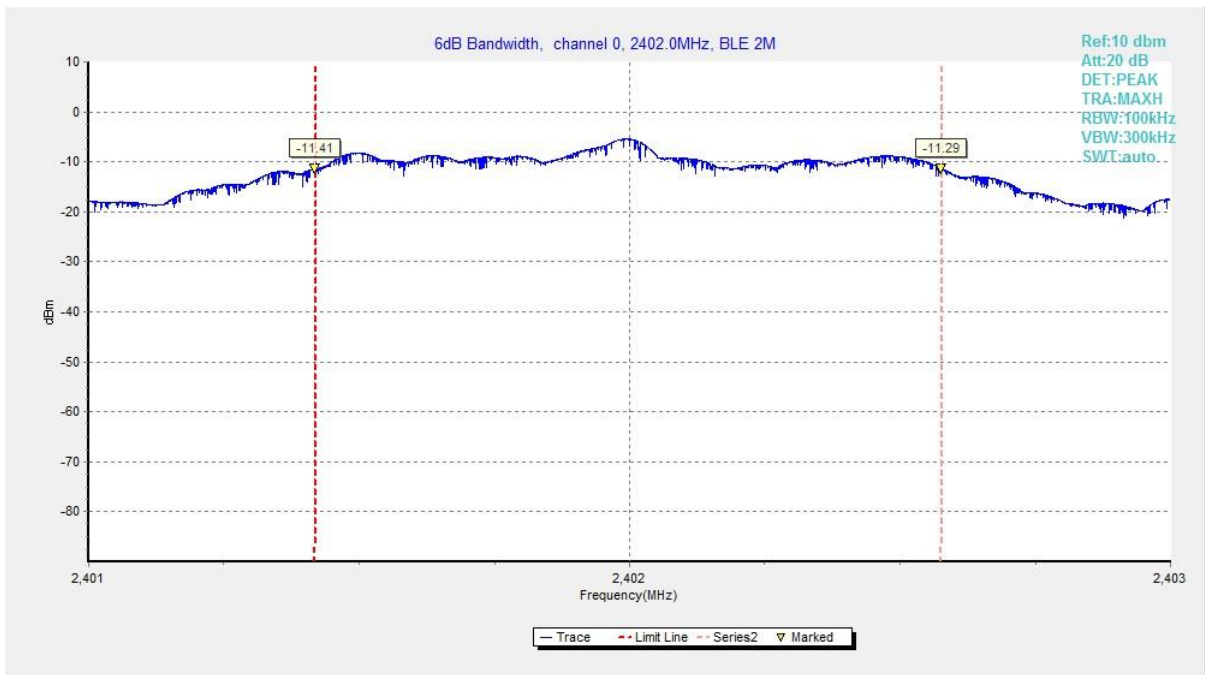


Fig.10 6dB Bandwidth (Ch 0), LE 2M

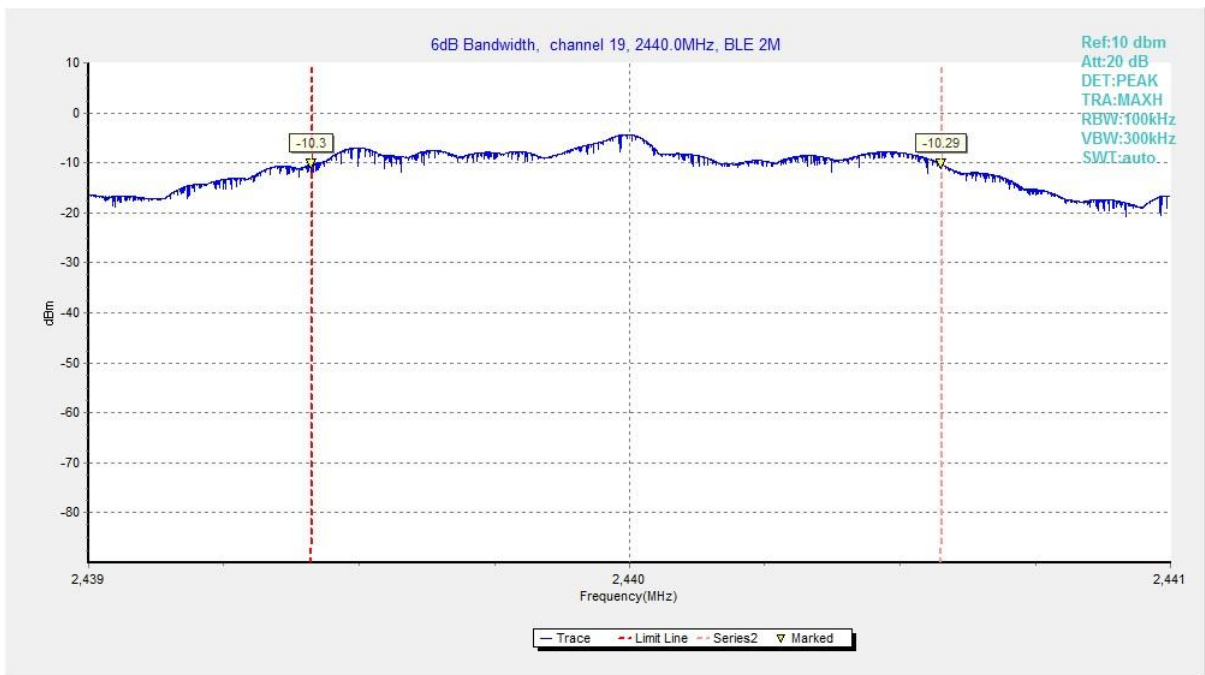


Fig.11 6dB Bandwidth (Ch 19), LE 2M

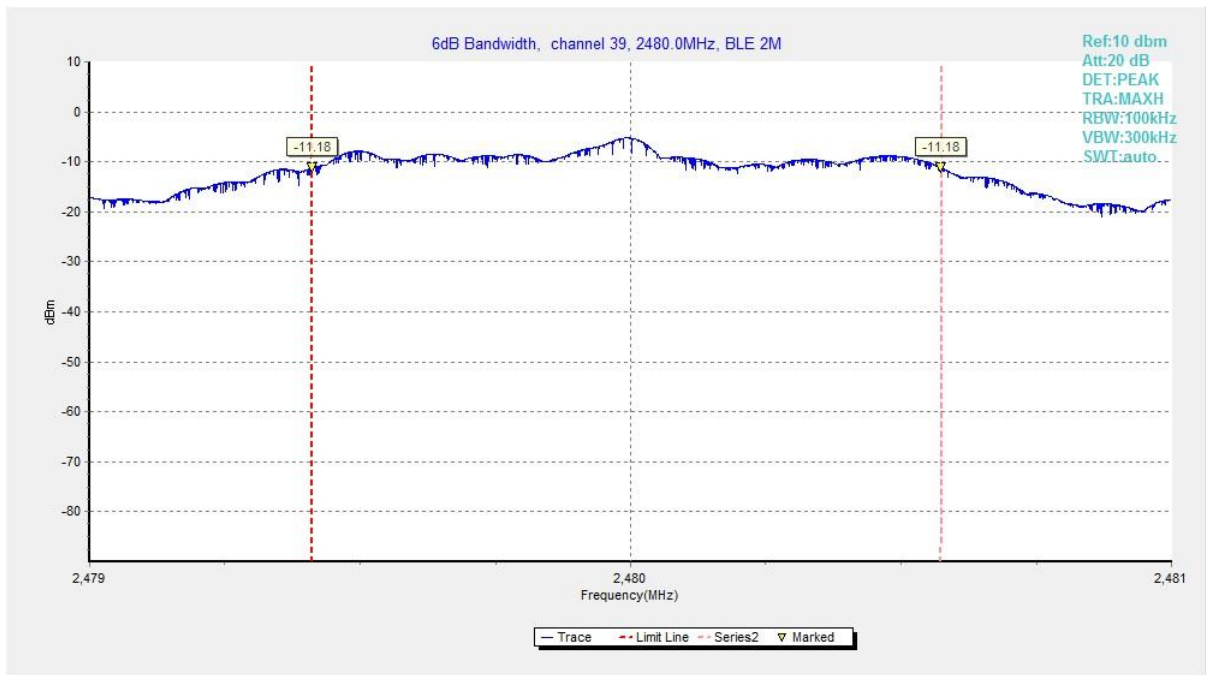


Fig.12 6dB Bandwidth (Ch 39), LE 2M

### A.4 Band Edges Compliance

Measurement Limit:

Standard	Limit (dB)
FCC 47 CFR Part 15.247 (d)	> 20

Measurement Result:

Mode	Frequency (MHz)	Test Results (dB)		Conclusion
LE-1M	2402 (CH0)	Fig.13	56.80	P
	2480 (CH39)	Fig.14	56.95	P
LE-2M	2402 (CH0)	Fig.15	31.59	P
	2480 (CH39)	Fig.16	56.17	P

See below for test graphs.

Conclusion: Pass

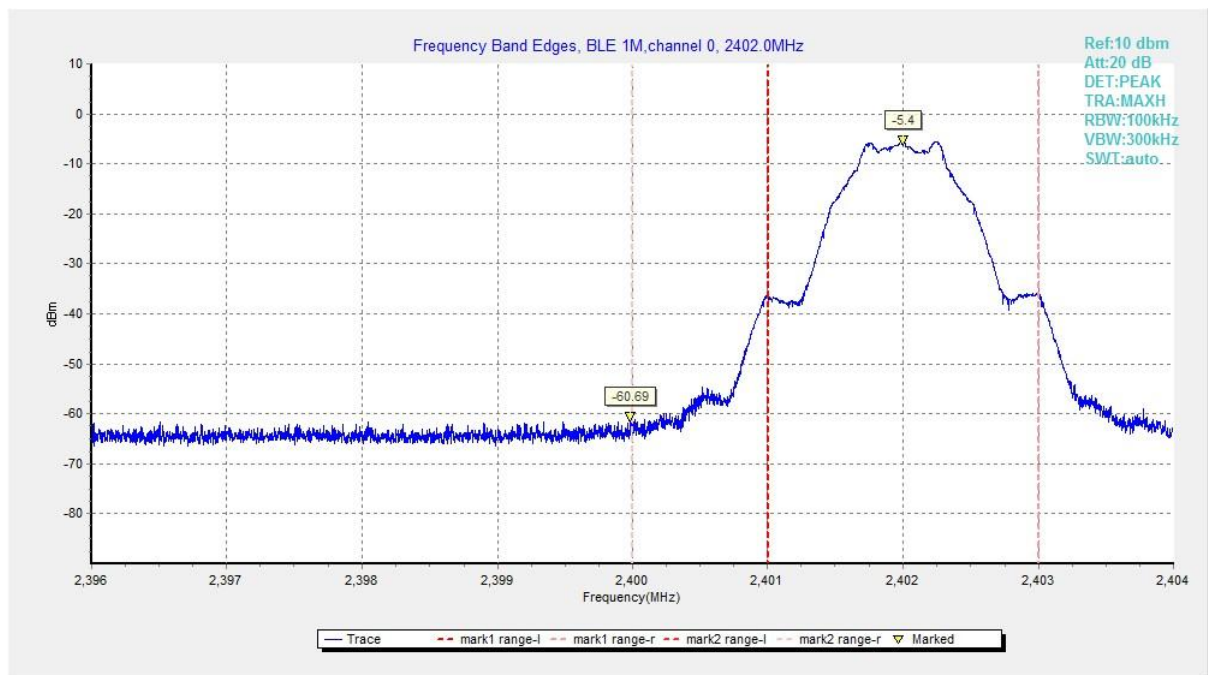


Fig.13 Band Edges (Ch 0), LE 1M

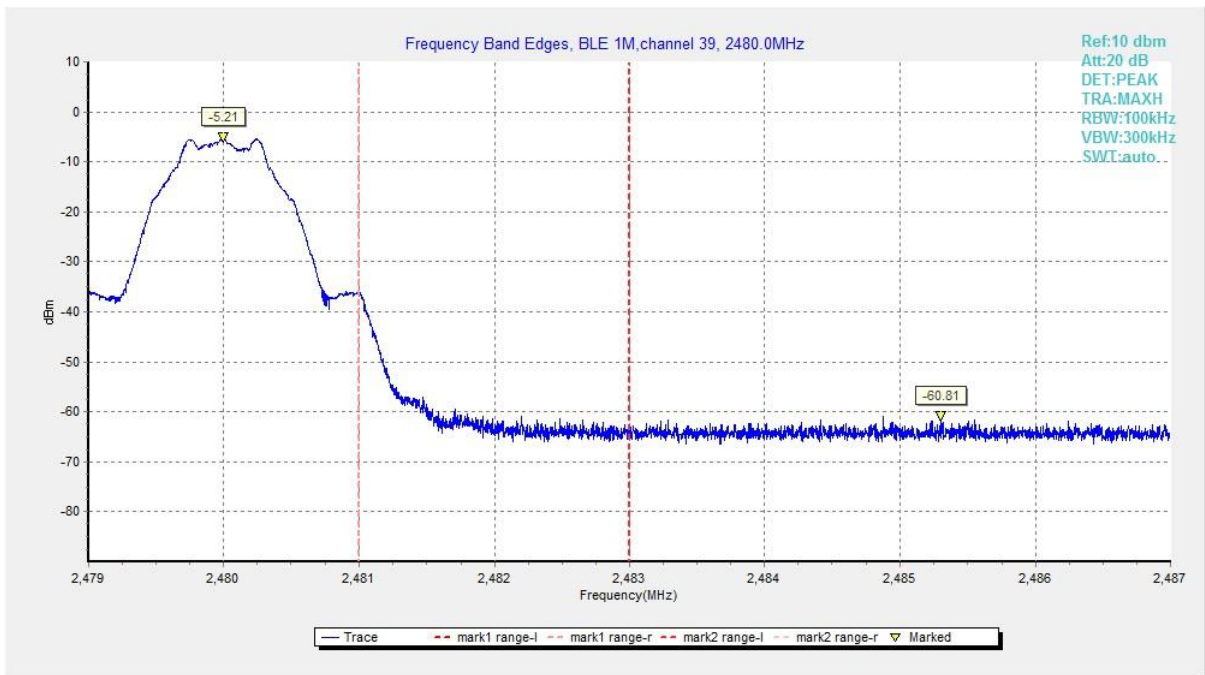


Fig.14 Band Edges (Ch 39), LE 1M

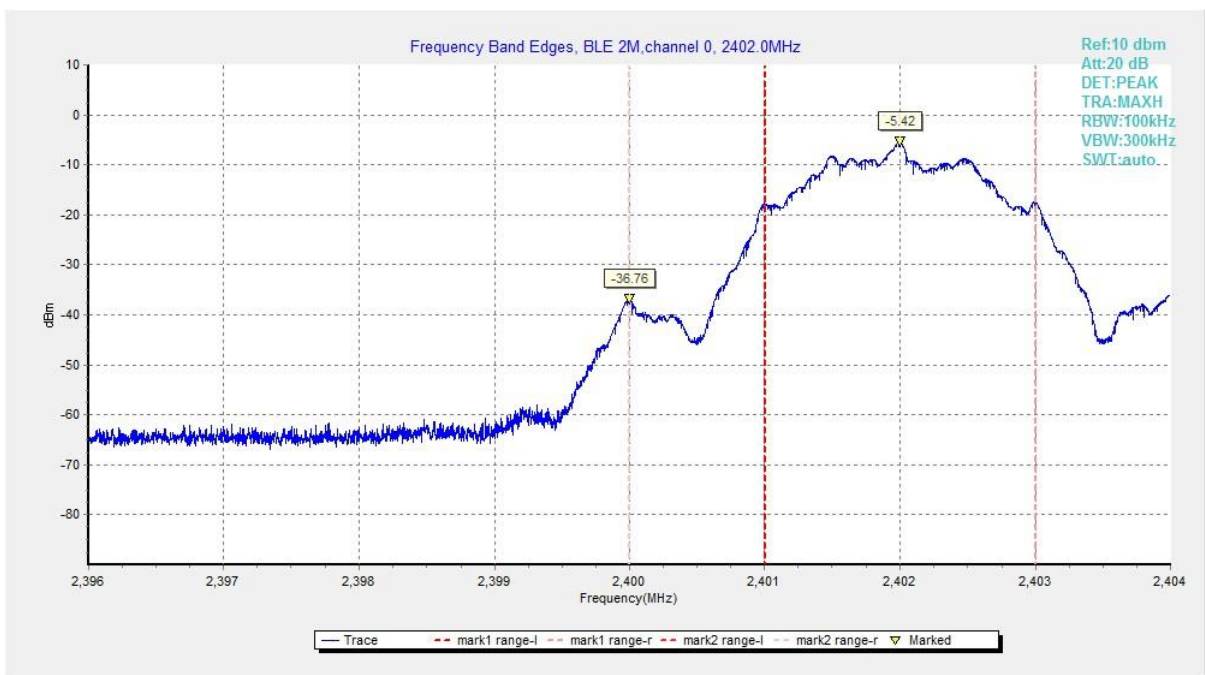


Fig.15 Band Edges (Ch 0), LE 2M

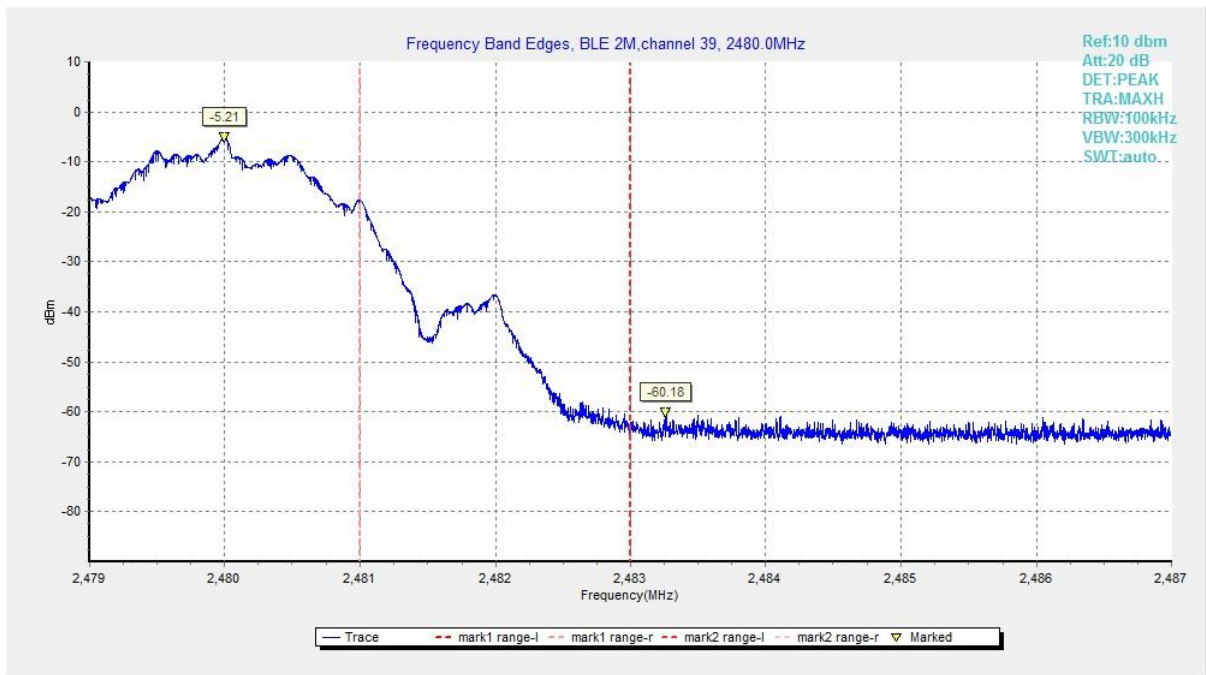


Fig.16 Band Edges (Ch 39), LE 2M



**A.5 Transmitter Spurious Emission - Conducted**

**Measurement Limit:**

Standard	Limit
FCC 47 CFR Part 15.247 (d)	20dB below peak output power in 100kHz bandwidth

**Measurement Results:**

MODE	Channel	Frequency Range	Test Results	Conclusion
LE-1M	0	1 GHz ~ 3 GHz	Fig.17	P
		3 GHz ~ 10 GHz	Fig.18	P
	19	1 GHz ~ 3 GHz	Fig.19	P
		3 GHz ~ 10 GHz	Fig.20	P
	39	1 GHz ~ 3 GHz	Fig.21	P
		3 GHz ~ 10 GHz	Fig.22	P
	All channels	30 MHz ~ 1 GHz	Fig.23	P
		10 GHz ~ 26 GHz	Fig.24	P
LE-2M	0	1 GHz ~ 3 GHz	Fig.25	P
		3 GHz ~ 10 GHz	Fig.26	P
	19	1 GHz ~ 3 GHz	Fig.27	P
		3 GHz ~ 10 GHz	Fig.28	P
	39	1 GHz ~ 3 GHz	Fig.29	P
		3 GHz ~ 10 GHz	Fig.30	P
	All channels	30 MHz ~ 1 GHz	Fig.31	P
		10 GHz ~ 26 GHz	Fig.32	P

See below for test graphs.

**Conclusion: Pass**



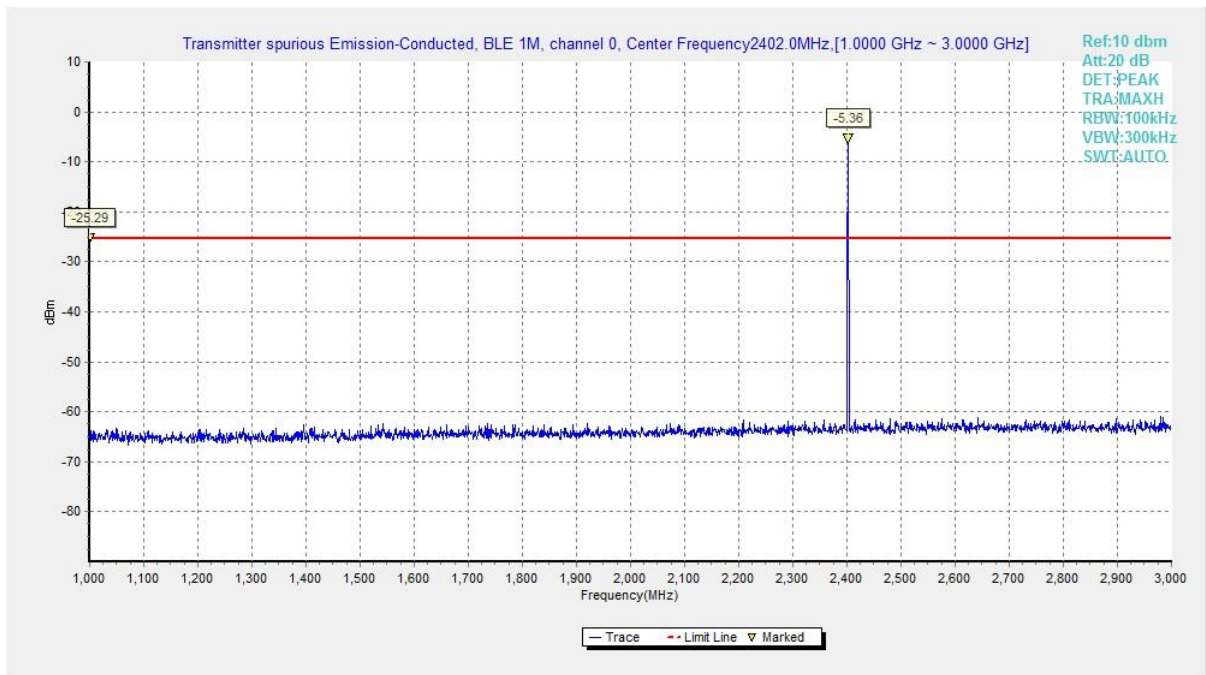


Fig.17 Conducted Spurious Emission (Ch0, 1 GHz-3 GHz), LE 1M

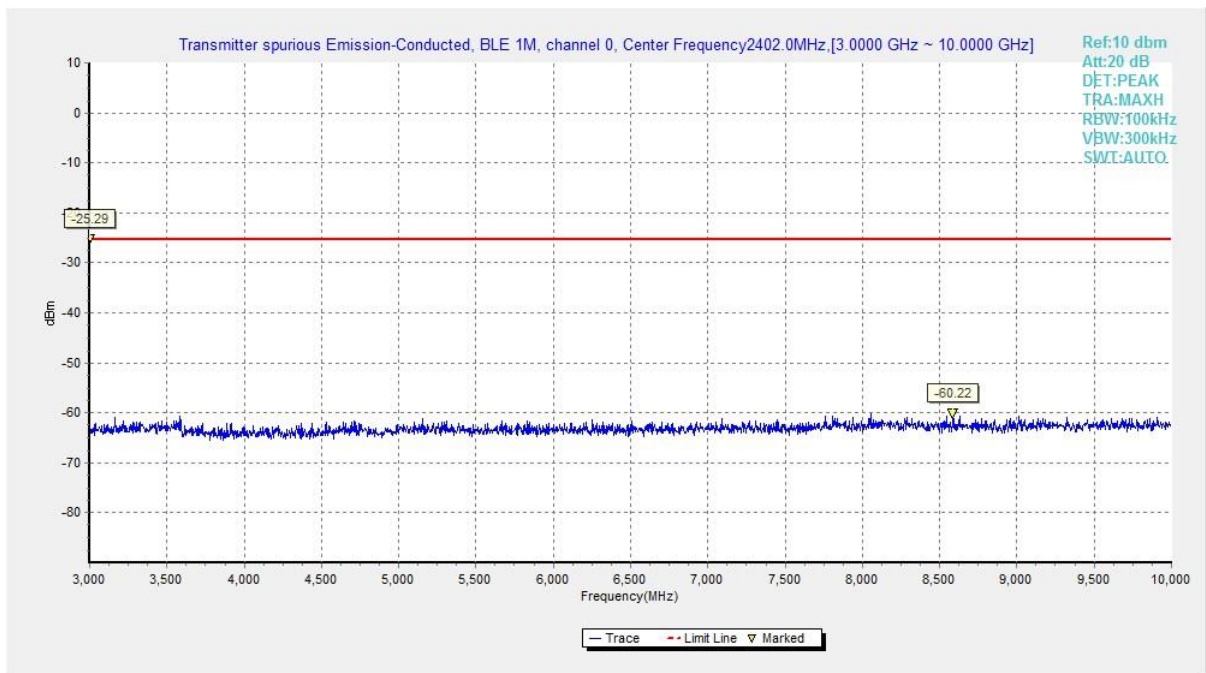


Fig.18 Conducted Spurious Emission (Ch0, 3 GHz-10 GHz), LE 1M

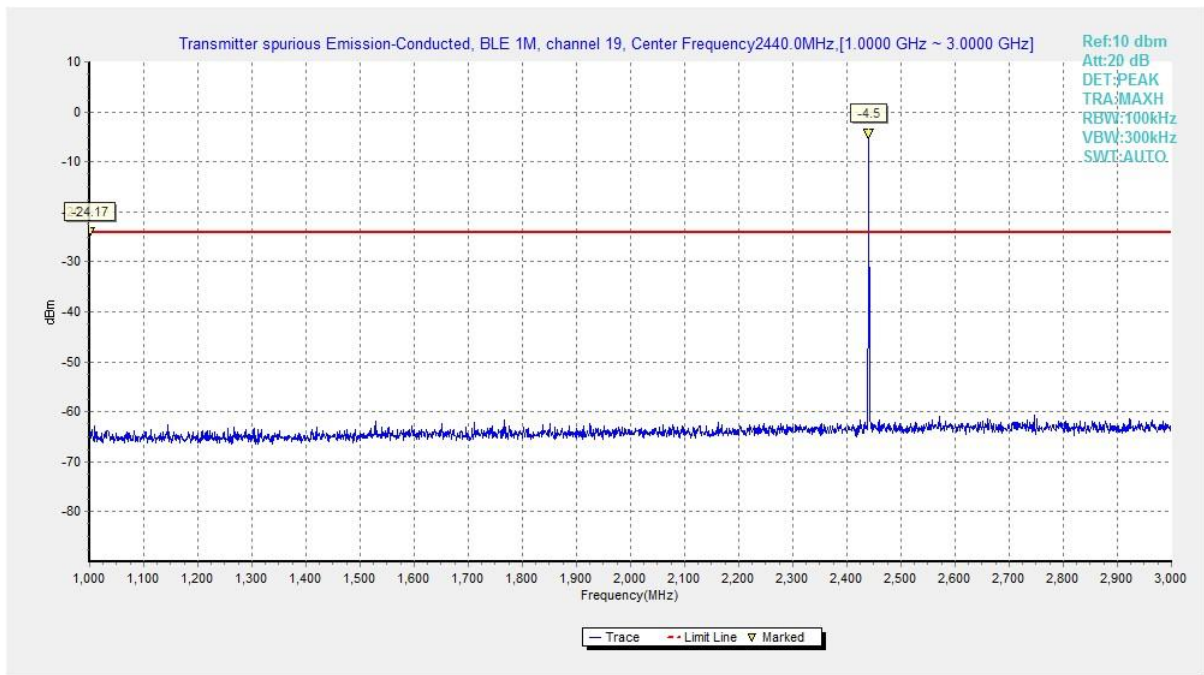


Fig.19 Conducted Spurious Emission (Ch19, 1 GHz-3 GHz), LE 1M

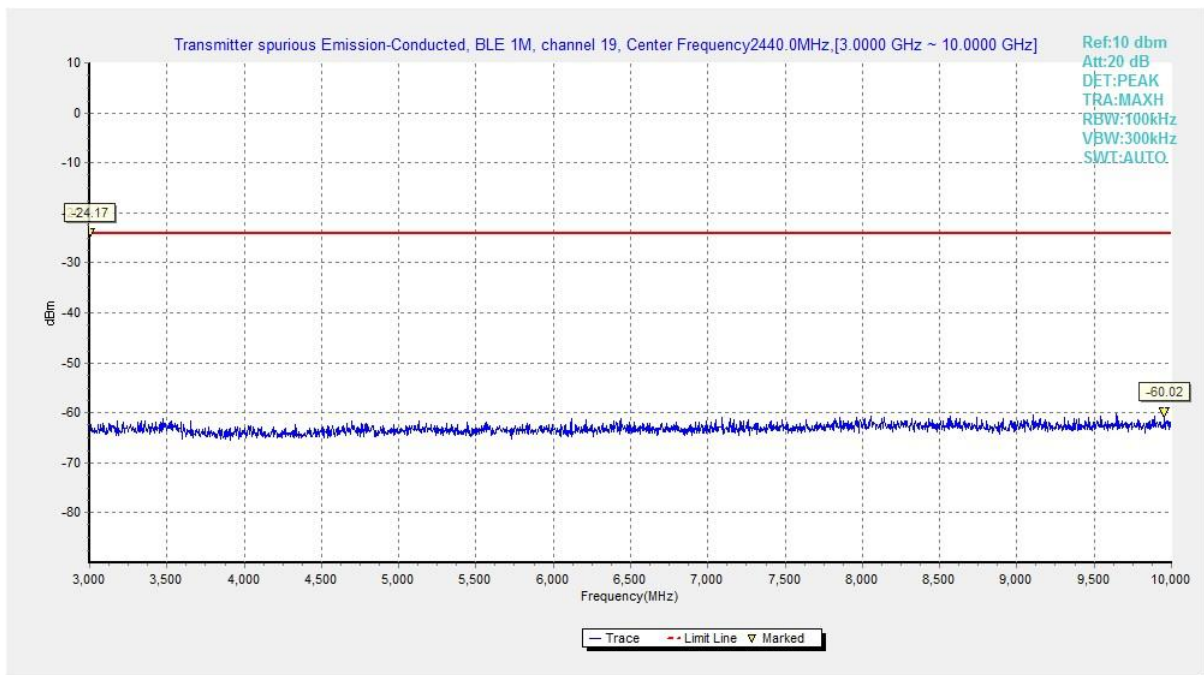


Fig.20 Conducted Spurious Emission (Ch19, 3 GHz-10 GHz), LE 1M

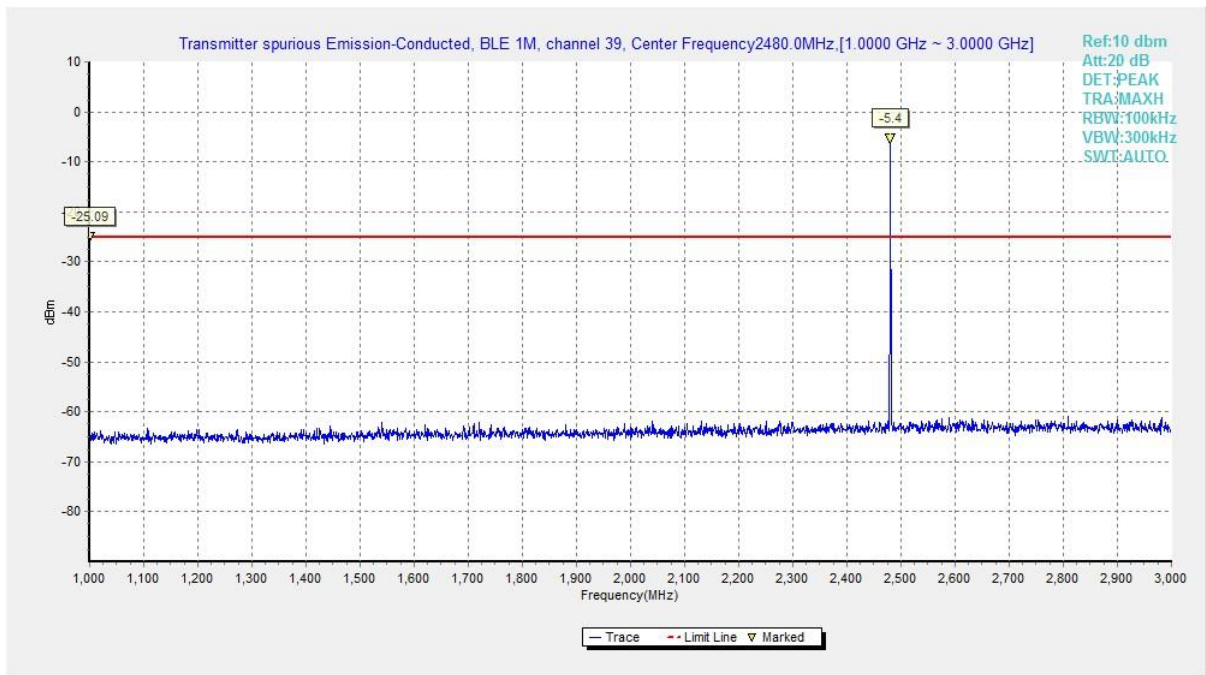


Fig.21 Conducted Spurious Emission (Ch39, 1 GHz-3 GHz), LE 1M

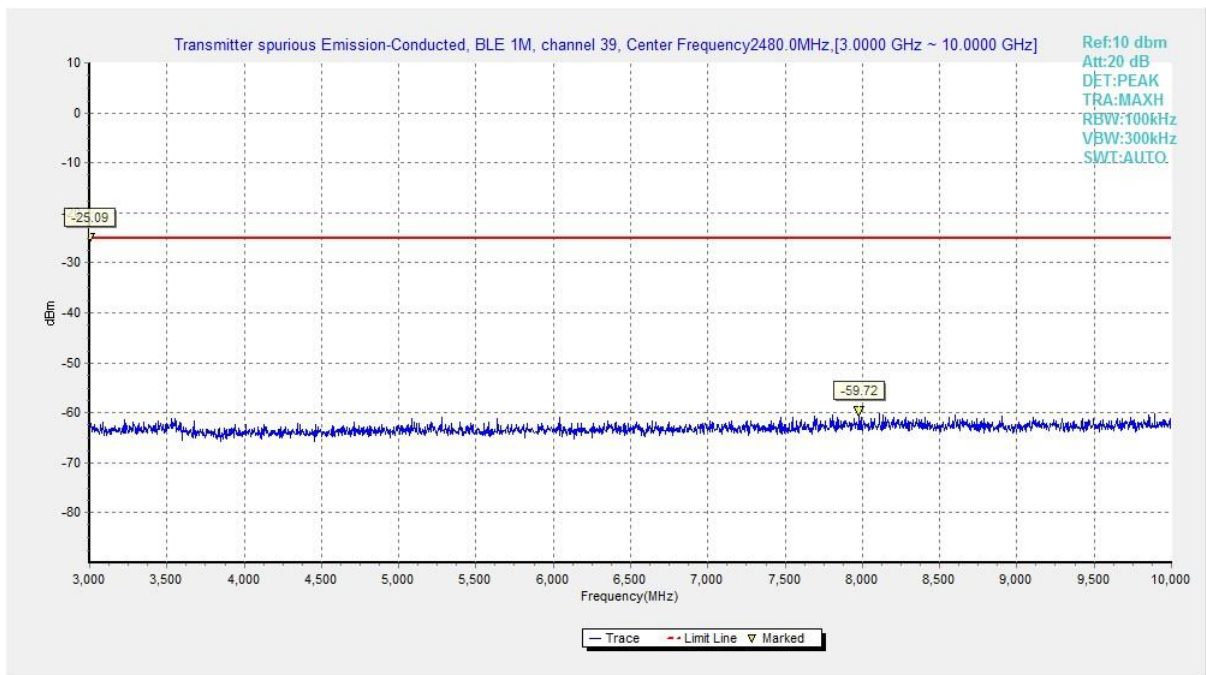


Fig.22 Conducted Spurious Emission (Ch39, 3 GHz-10 GHz), LE 1M

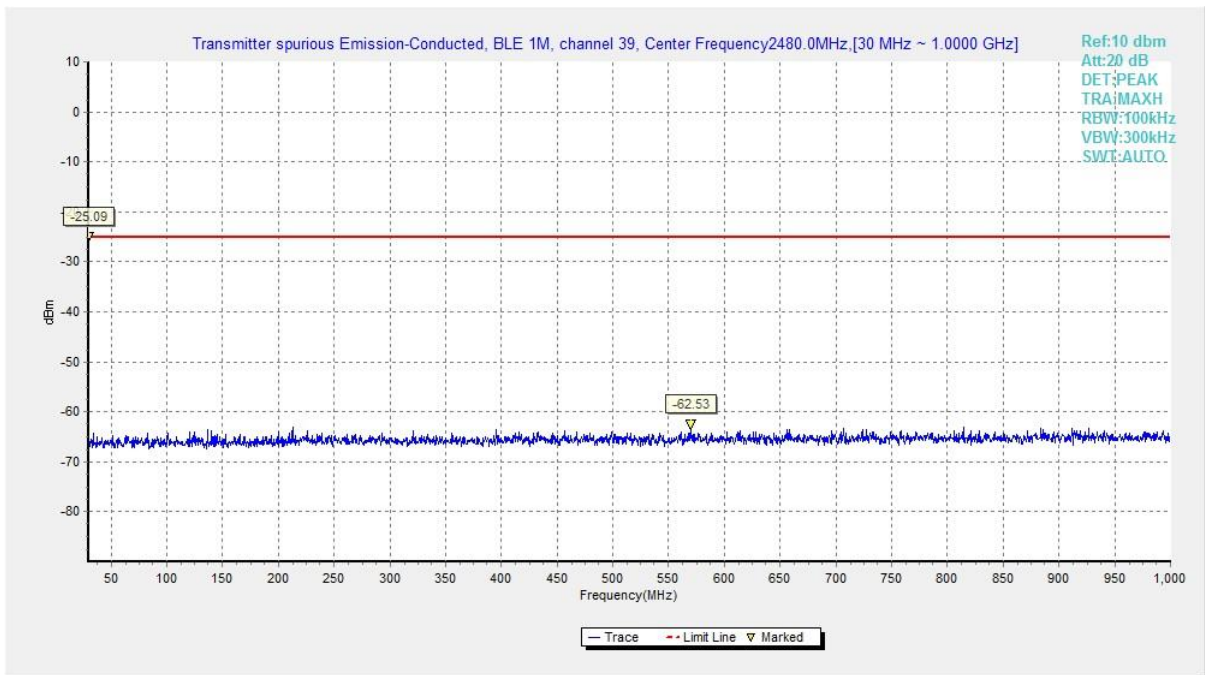


Fig.23 Conducted Spurious Emission (All channels, 30 MHz-1 GHz), LE 1M

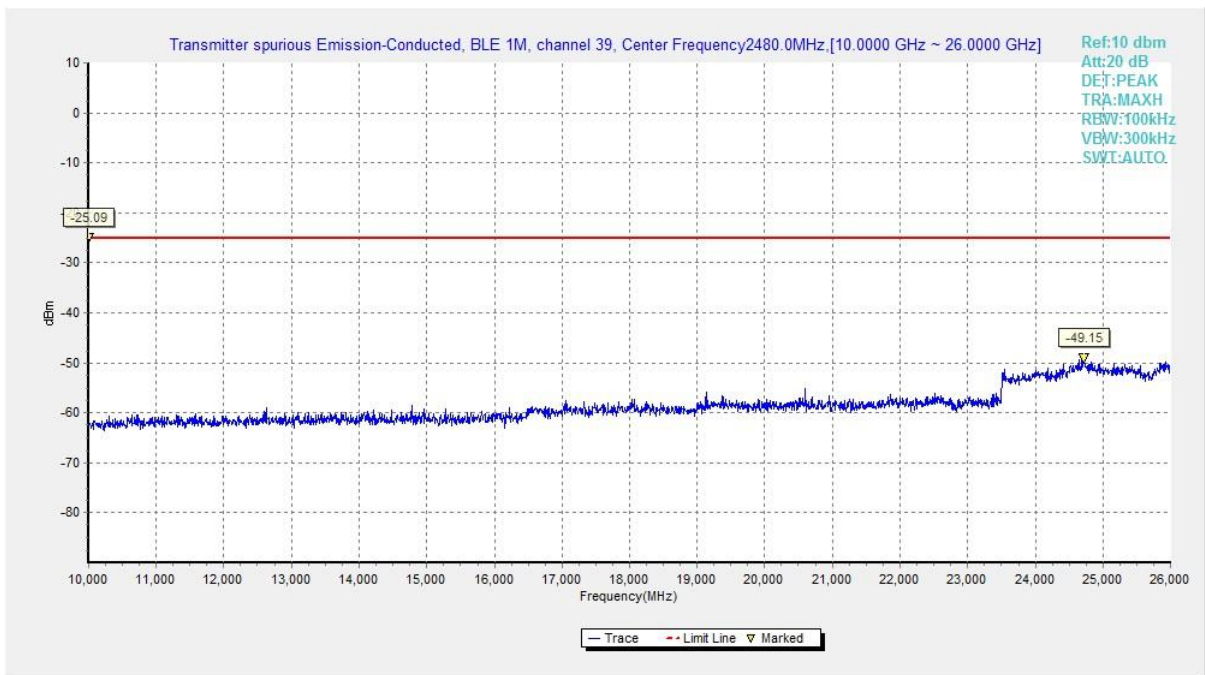
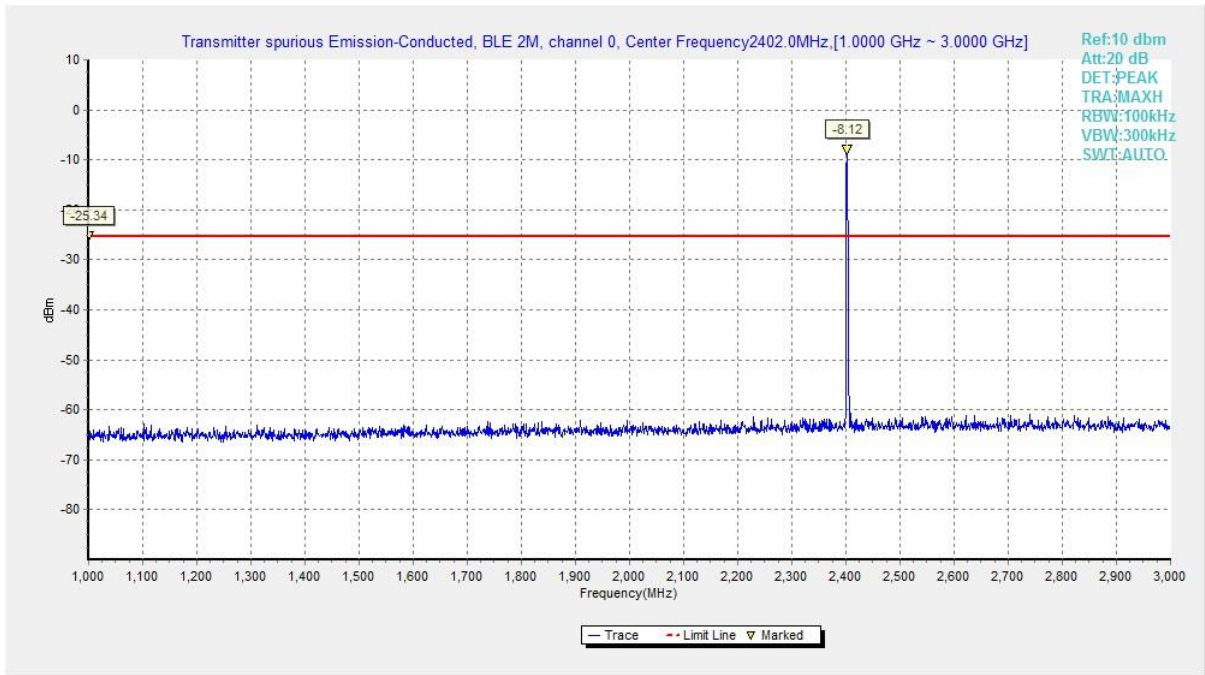
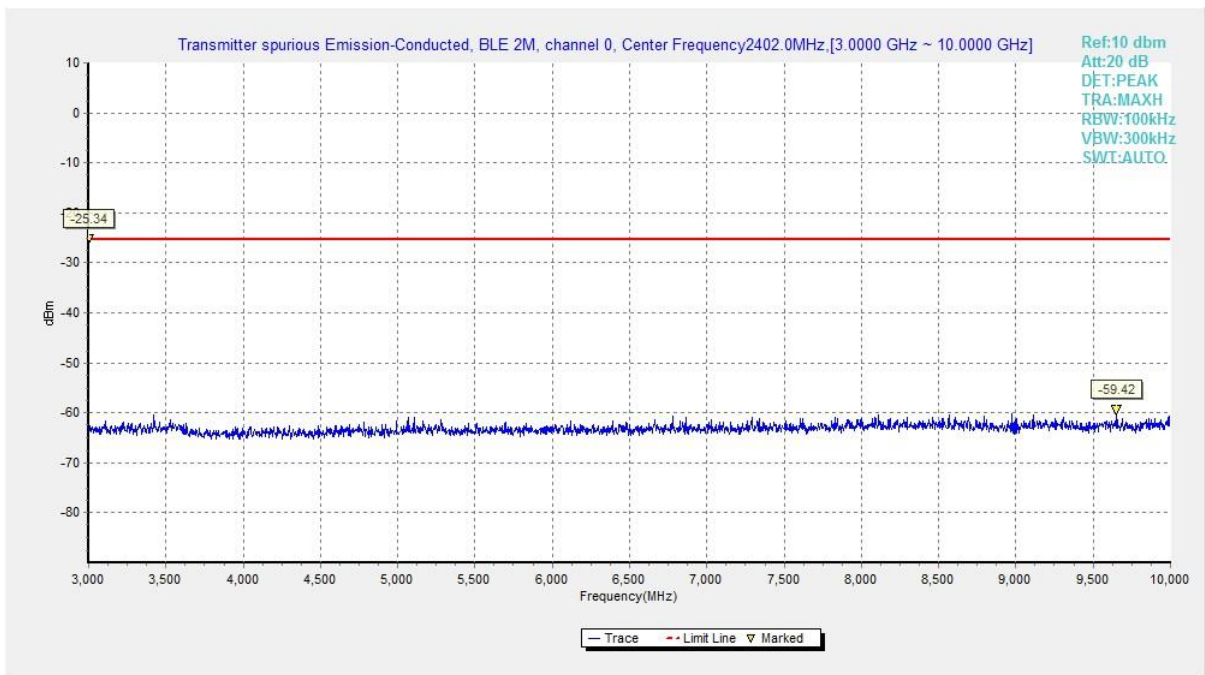


Fig.24 Conducted Spurious Emission (All channels, 10 GHz-26 GHz), LE 1M



**Fig.25 Conducted Spurious Emission (Ch0, 1 GHz-3 GHz), LE 2M**



**Fig.26 Conducted Spurious Emission (Ch0, 3 GHz-10 GHz), LE 2M**

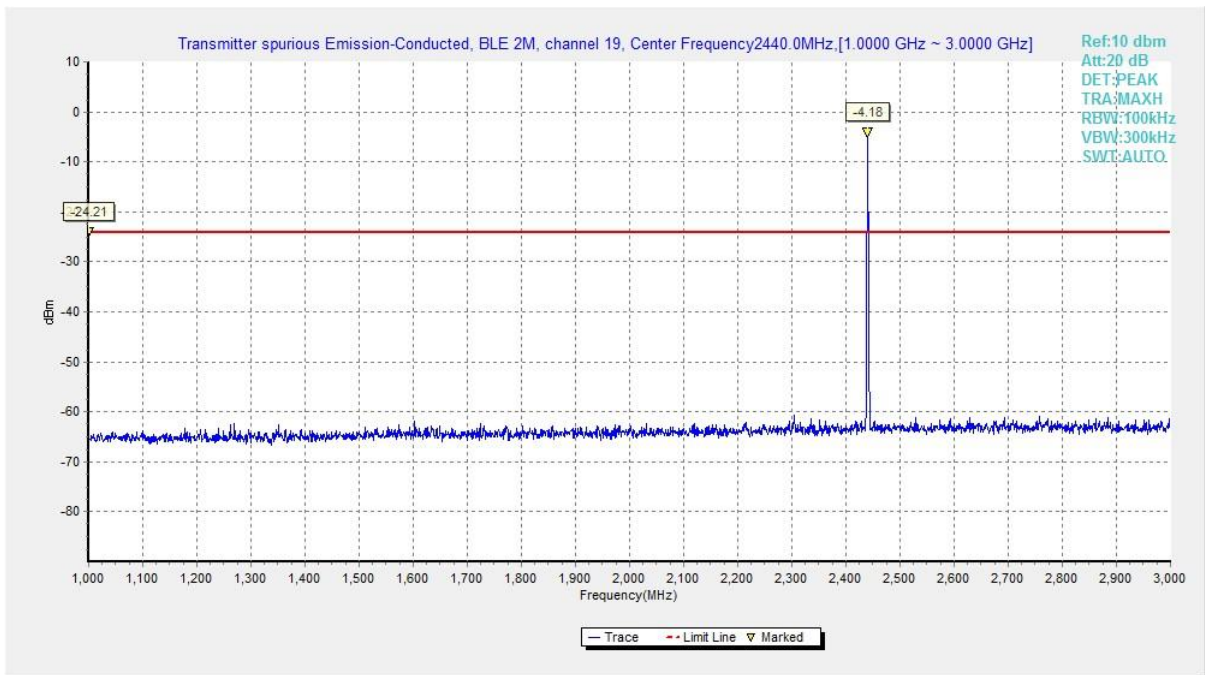


Fig.27 Conducted Spurious Emission (Ch19, 1 GHz-3 GHz), LE 2M

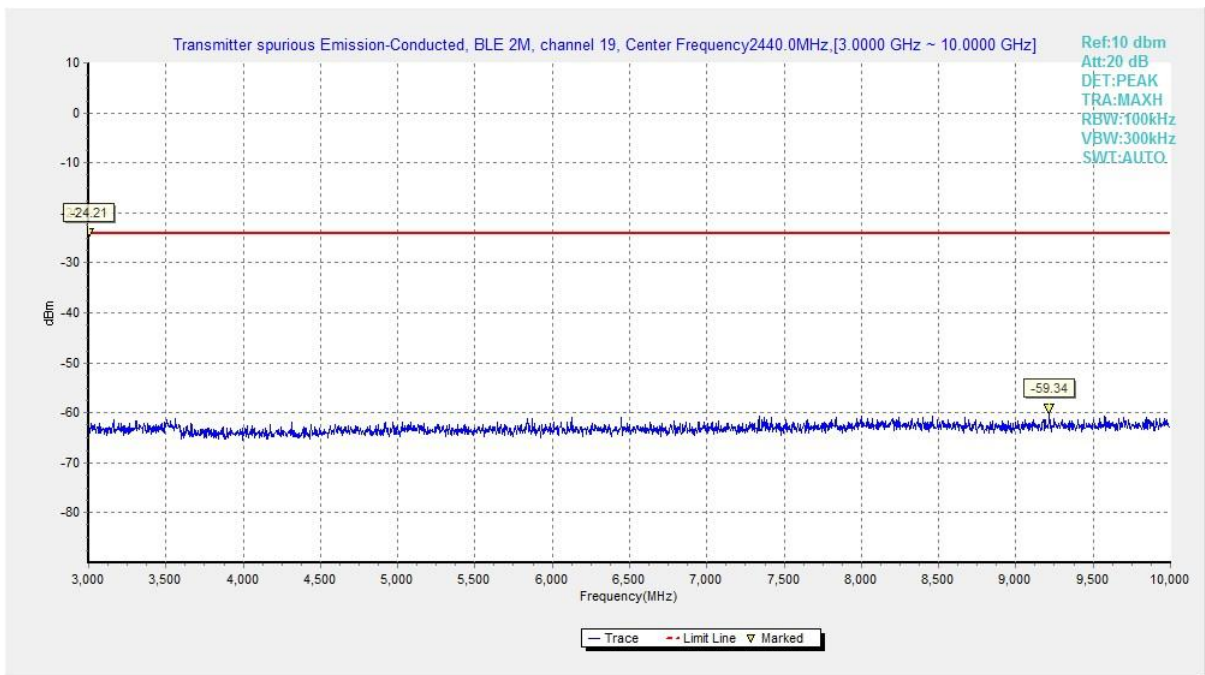


Fig.28 Conducted Spurious Emission (Ch19, 3 GHz-10 GHz), LE 2M

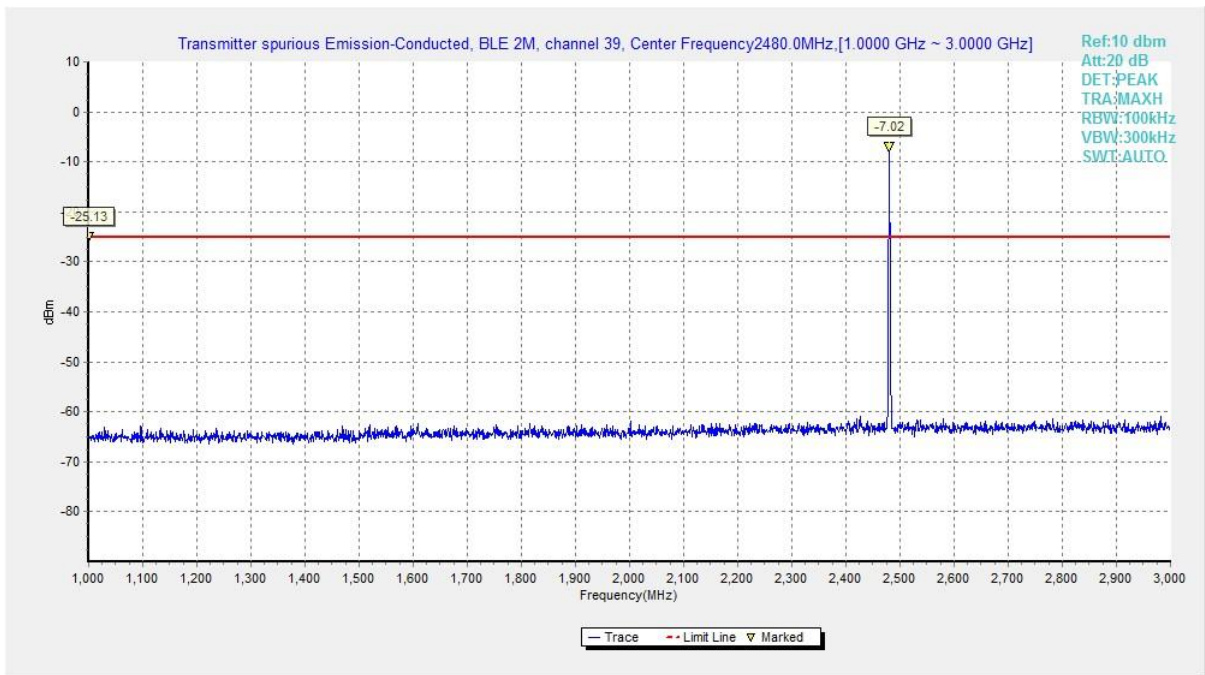


Fig.29 Conducted Spurious Emission (Ch39, 1 GHz-3 GHz), LE 2M

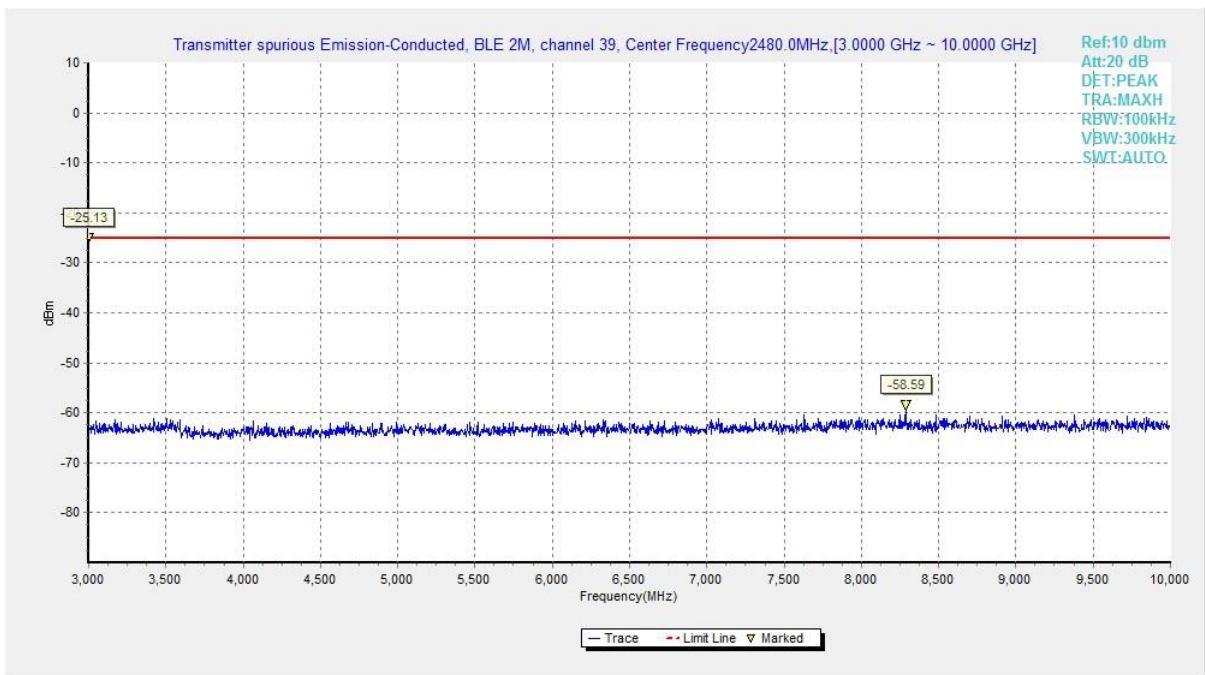
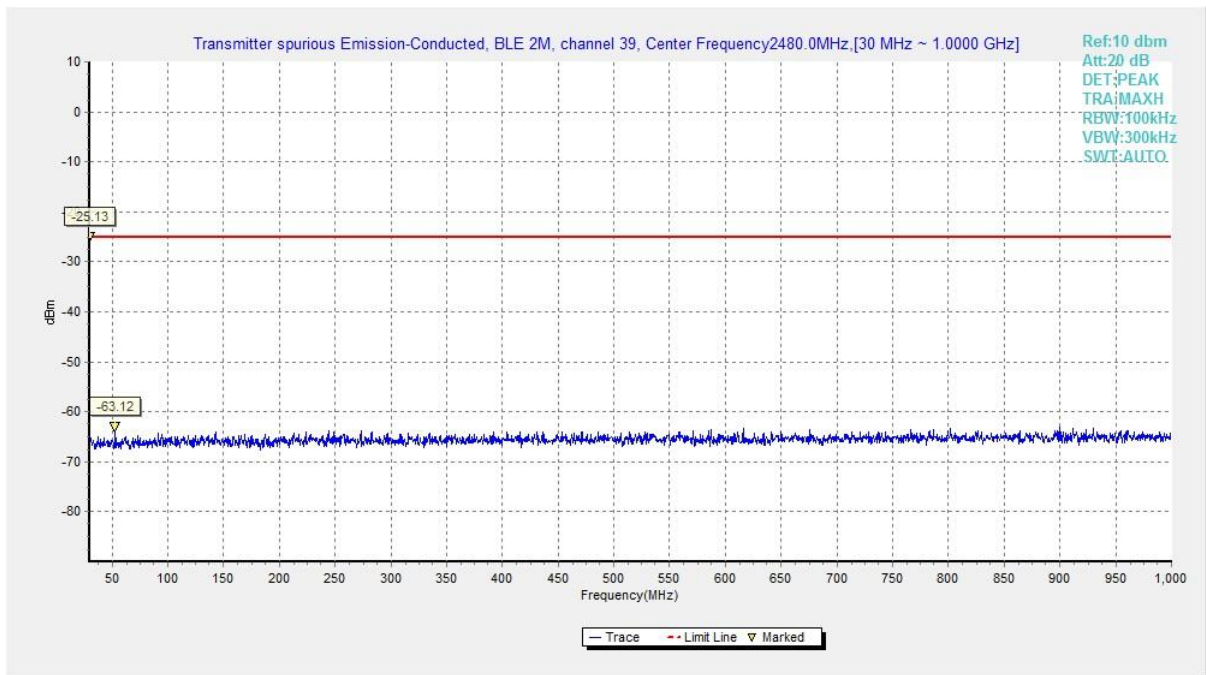
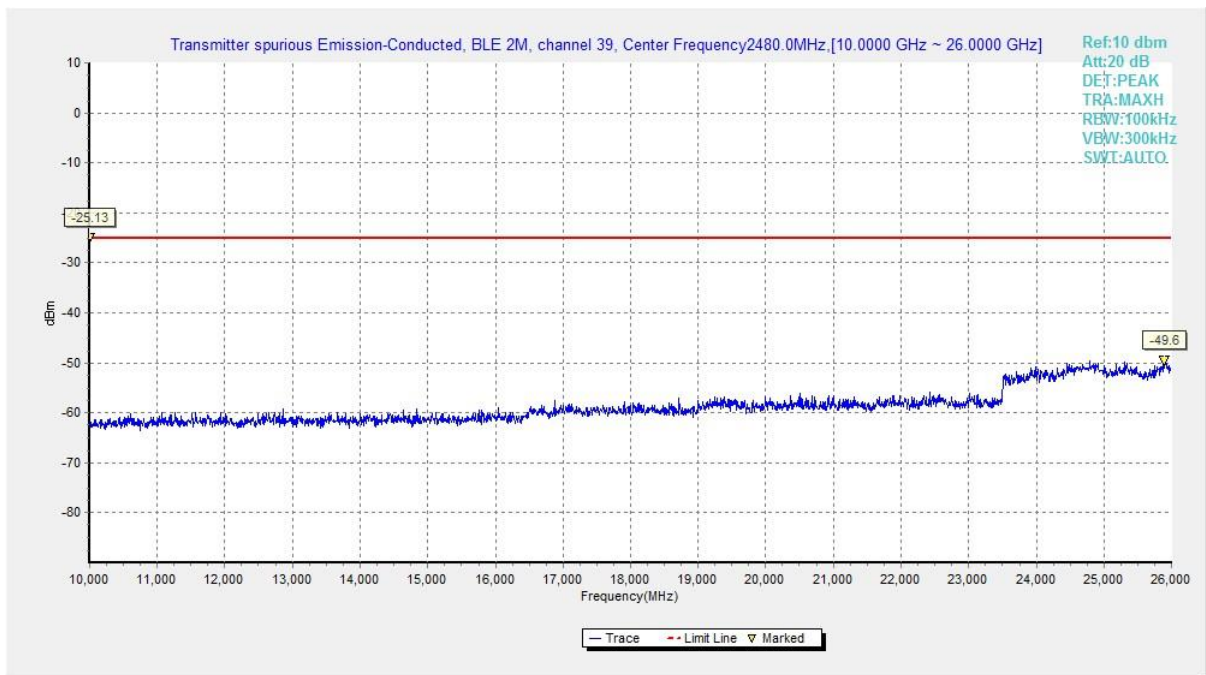


Fig.30 Conducted Spurious Emission (Ch39, 3 GHz-10 GHz), LE 2M



**Fig.31 Conducted Spurious Emission (All channels, 30 MHz-1 GHz), LE 2M**



**Fig.32 Conducted Spurious Emission (All channels, 10 GHz-26 GHz), LE 2M**

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