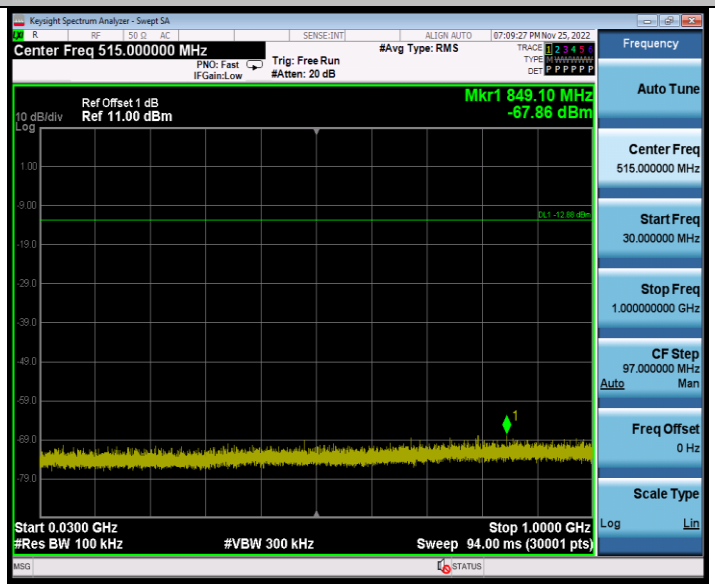
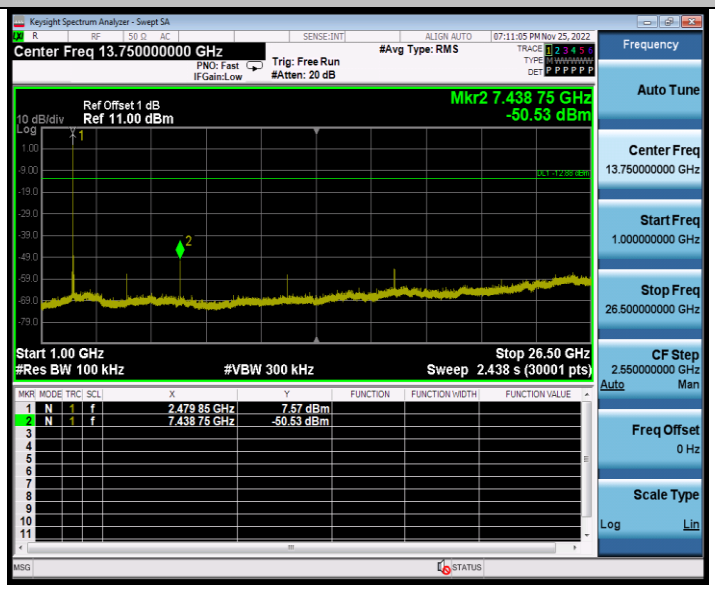
BLE_2M_Ant1_2480_0~Reference

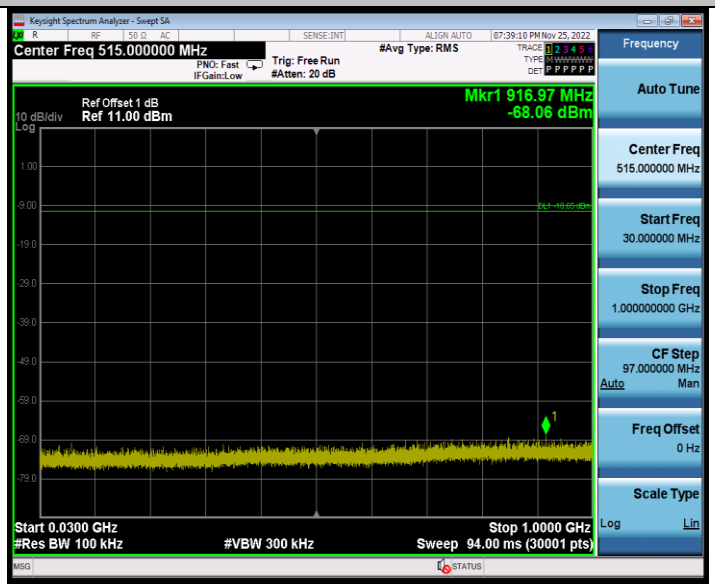


BLE_2M_Ant1_2480_30~1000

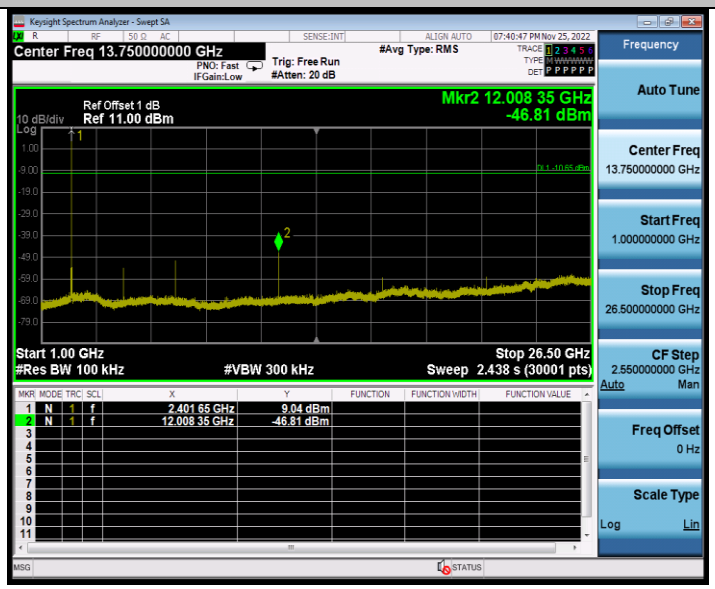


BLE_2M_Ant1_2480_1000~26500

BLE_500K_Ant1_2402_0~Reference

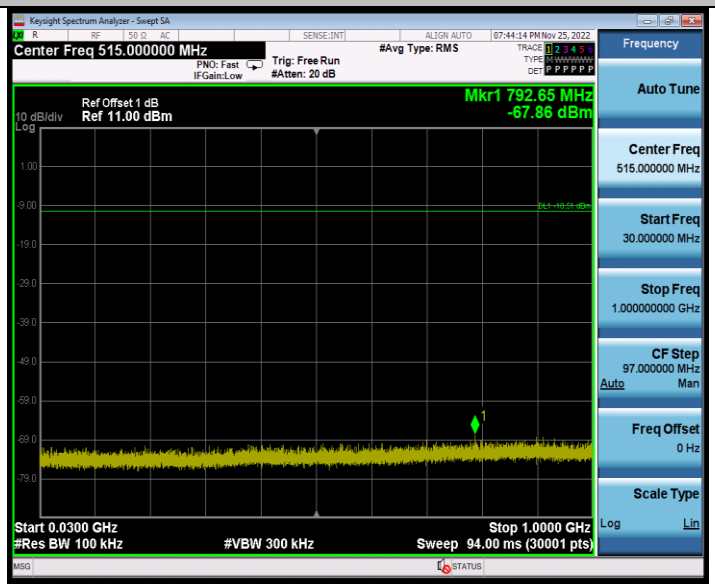


BLE_500K_Ant1_2402_30~1000

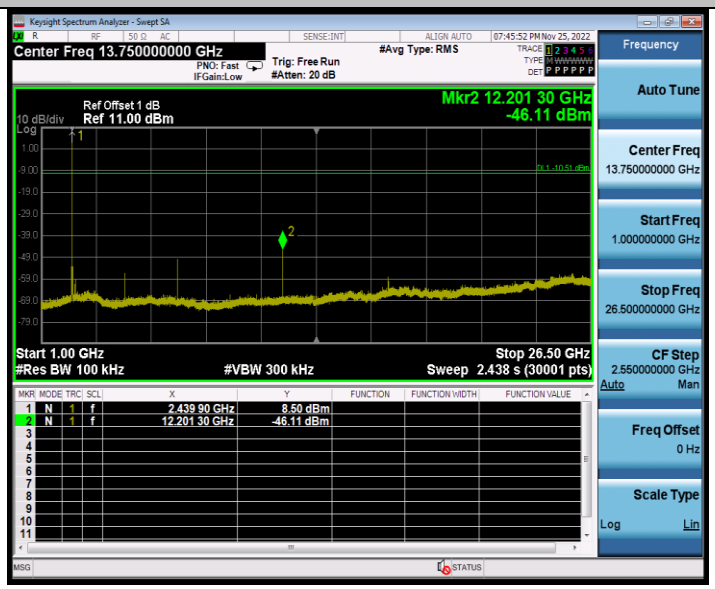


BLE_500K_Ant1_2402_1000~26500

BLE_500K_Ant1_2440_0~Reference

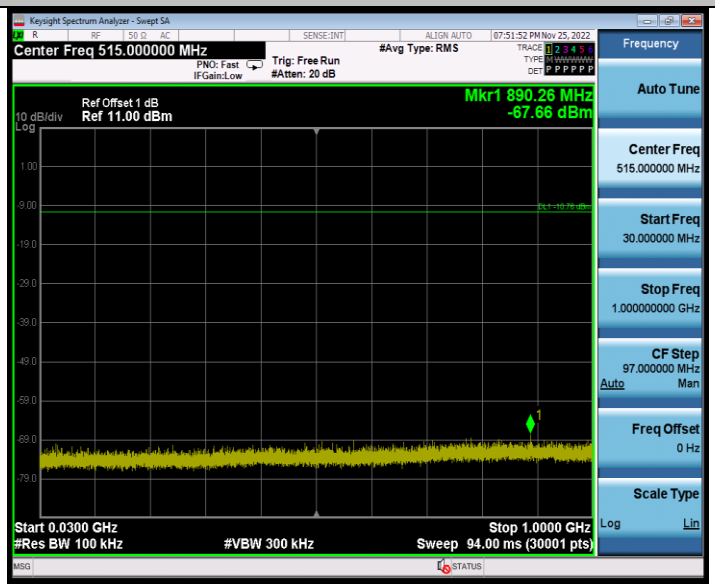


BLE_500K_Ant1_2440_30~1000

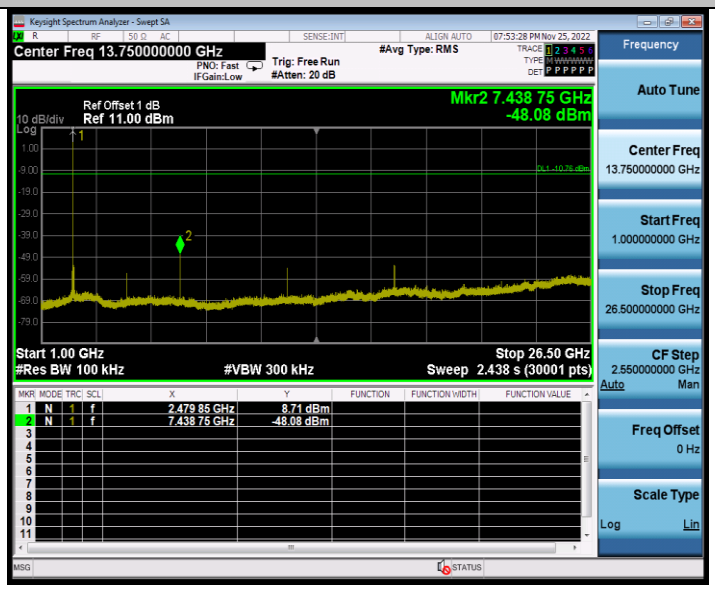


BLE_500K_Ant1_2440_1000~26500

BLE_500K_Ant1_2480_0~Reference



BLE_500K_Ant1_2480_30~1000



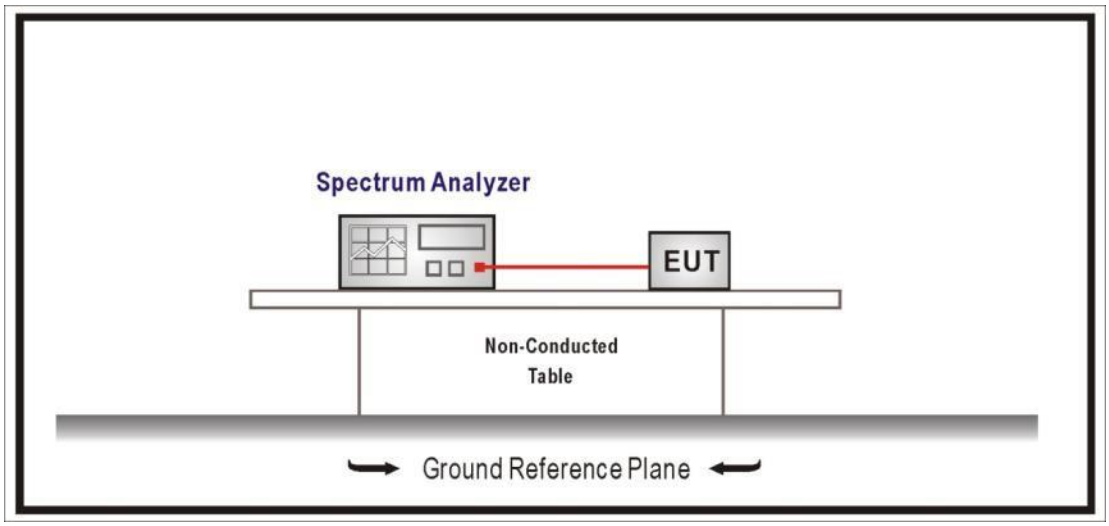
BLE_500K_Ant1_2480_1000~26500

4.4 Duty cycle	VERDICT: PASS

4.4.1 Limit

N/A

4.4.2 Test Setup



4.4.3 Test Procedure

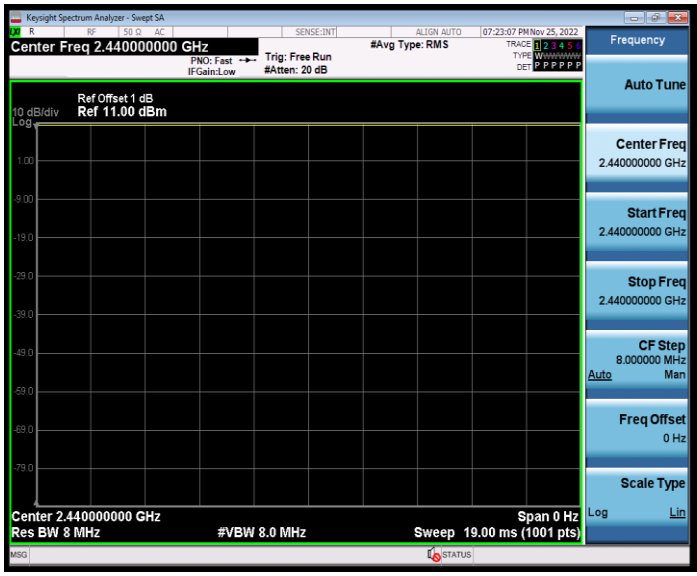
References Rule		Chapter	Description
☒	ANSI C63.10	11.6	Duty cycle (D), transmission duration (T), and maximum power control level

4.4.4 Test Data

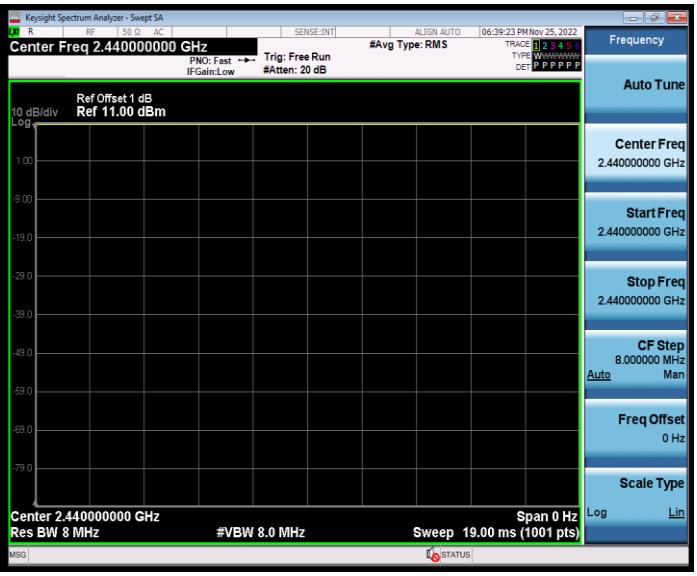
Test Mode	Tx On (us)	Tx Off (us)	VBW (Hz)	Tx On + Tx Off (us)	Duty Cycle (%)
Mode 1	N/A	N/A	10	N/A	100
Mode 2	N/A	N/A	10	N/A	100
Mode 3	N/A	N/A	10	N/A	100
Mode 4	N/A	N/A	10	N/A	100

Note 1: T means the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

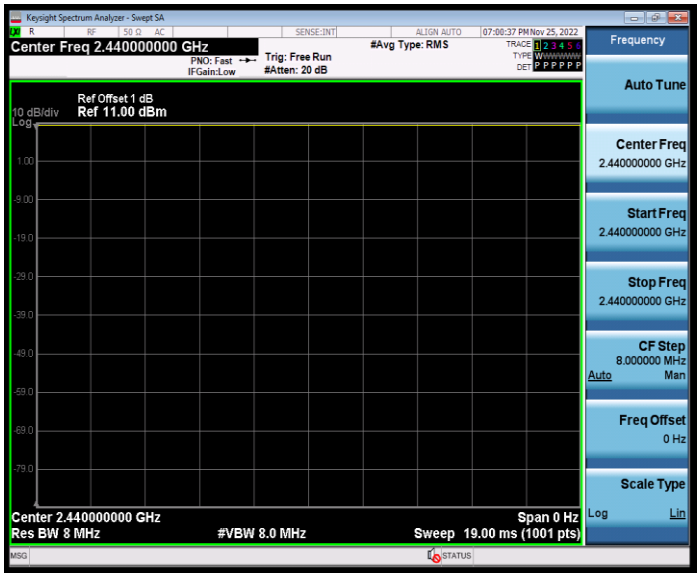
Mode 1 CH19 2440MHz



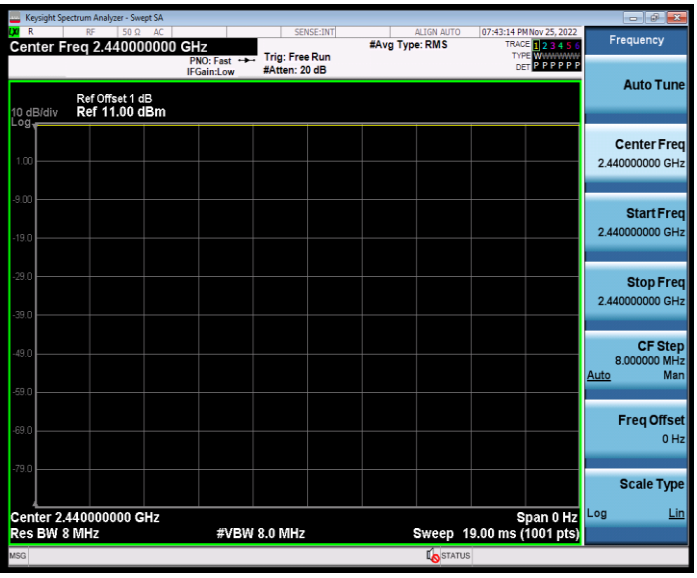
Mode 2 CH19 2440MHz



Mode 3 CH19 2440MHz



Mode 4 CH19 2440MHz

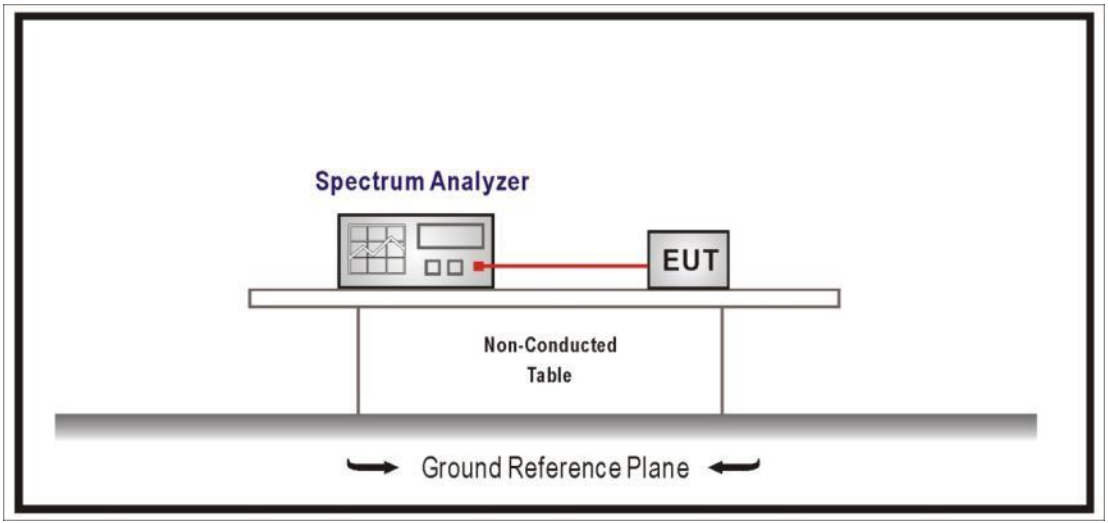


4.5 Band Edge — VERDICT: PASS

4.5.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d) ,15.209			
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390 2483.5-2500	PK	74	1	3
	AV	54	1	3
Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.				

4.5.2 Test Setup

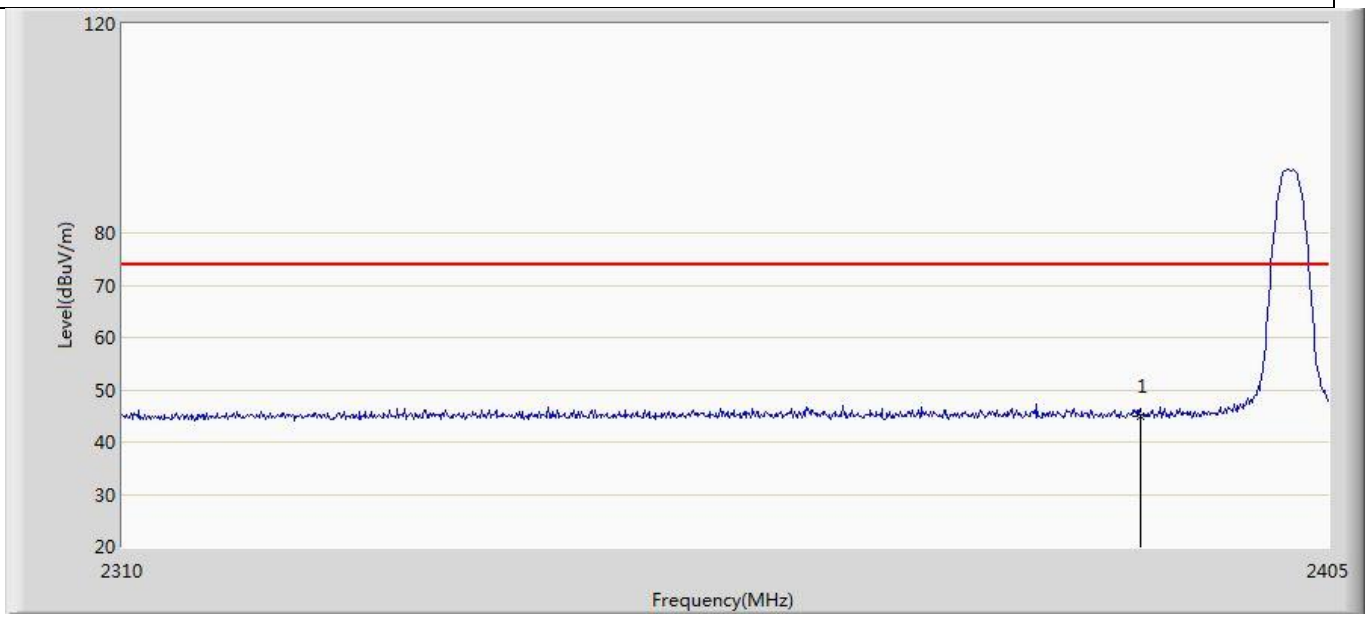


4.5.3 Test Procedure

	References Rule			Chapter	Description
☒	ANSI C63.10			6.10	Band-edge testing
	☒	ANSI C63.10		6.10.5	Restricted-band band-edge measurements
	☐	ANSI C63.10		6.10.6	Marker-delta method
☒	ANSI C63.10			11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10		11.12.2	Antenna-port conducted measurements
		☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
		☒	ANSI C63.10	11.12.2.4	Peak power measurement procedure
		☒	ANSI C63.10	11.12.2.5	Average power measurement procedures

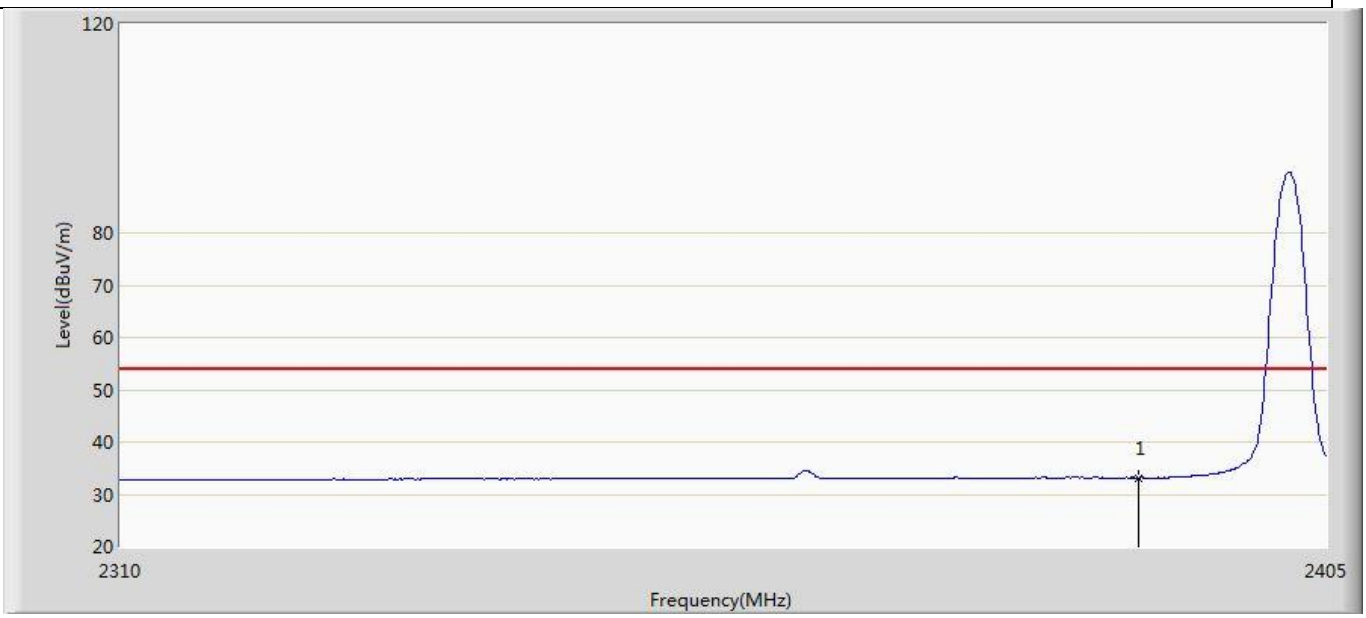
4.5.4 Test Data

Profile: 22B0838R	Page No.: 69
Engineer: YuLiu	
Site: AC5	Time: 2022/12/04 - 23:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode1:Transmit at 2402MHz by BLE 1M	



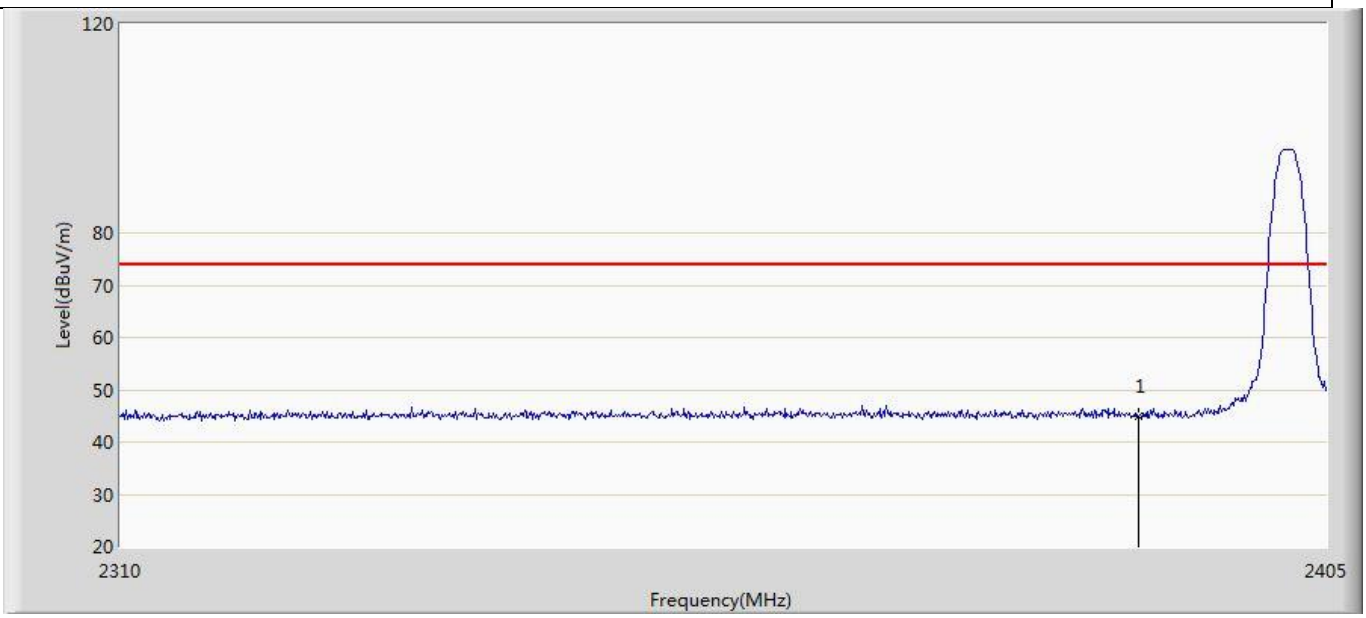
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	45.005	10.921	-28.995	74.000	34.084	PK

Profile: 22B0838R	Page No.: 70
Engineer: YuLiu	
Site: AC5	Time: 2022/12/04 - 23:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode1:Transmit at 2402MHz by BLE 1M	



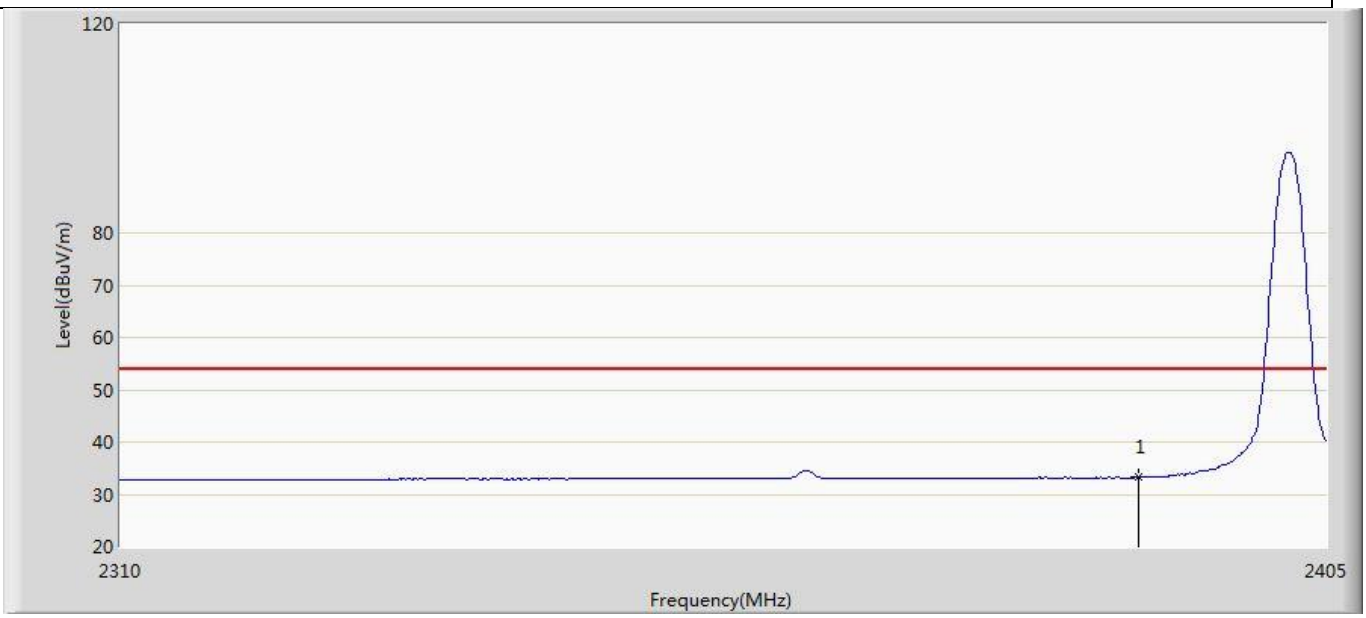
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.168	-0.916	-20.832	54.000	34.084	AV

Profile: 22B0838R	Page No.: 71
Engineer: YuLiu	
Site: AC5	Time: 2022/12/04 - 23:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode1:Transmit at 2402MHz by BLE 1M	



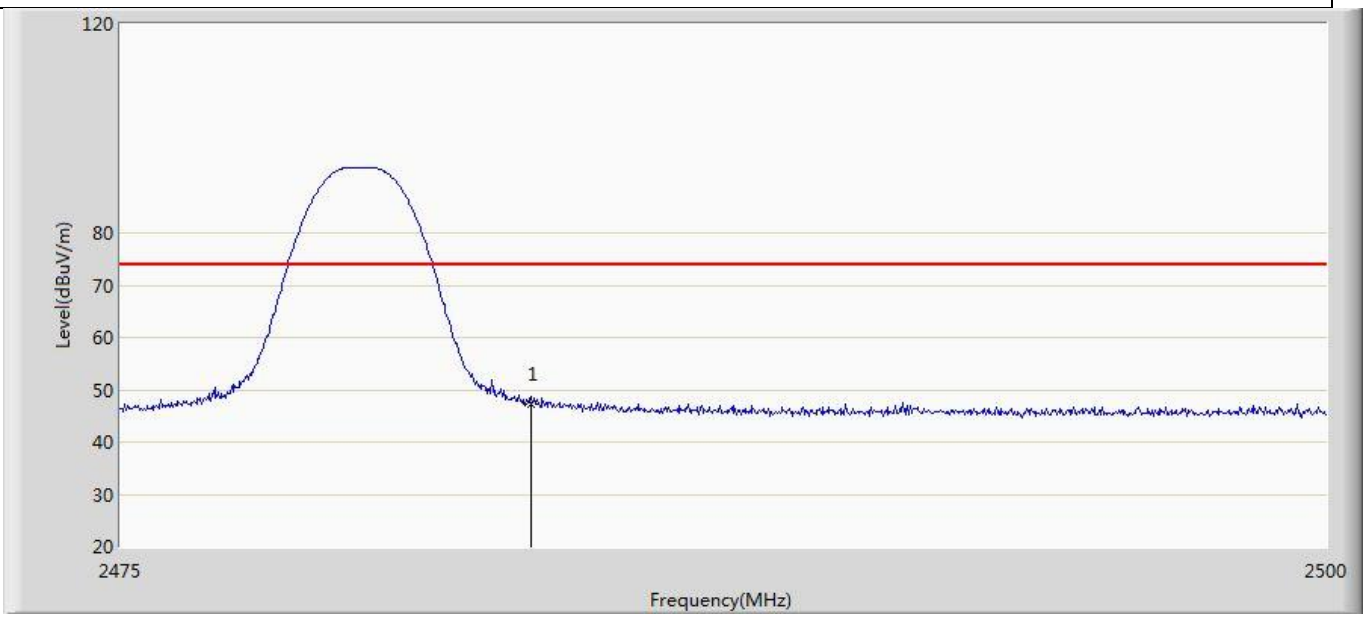
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	44.923	10.839	-29.077	74.000	34.084	PK

Profile: 22B0838R	Page No.: 72
Engineer: YuLiu	
Site: AC5	Time: 2022/12/04 - 23:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode1:Transmit at 2402MHz by BLE 1M	



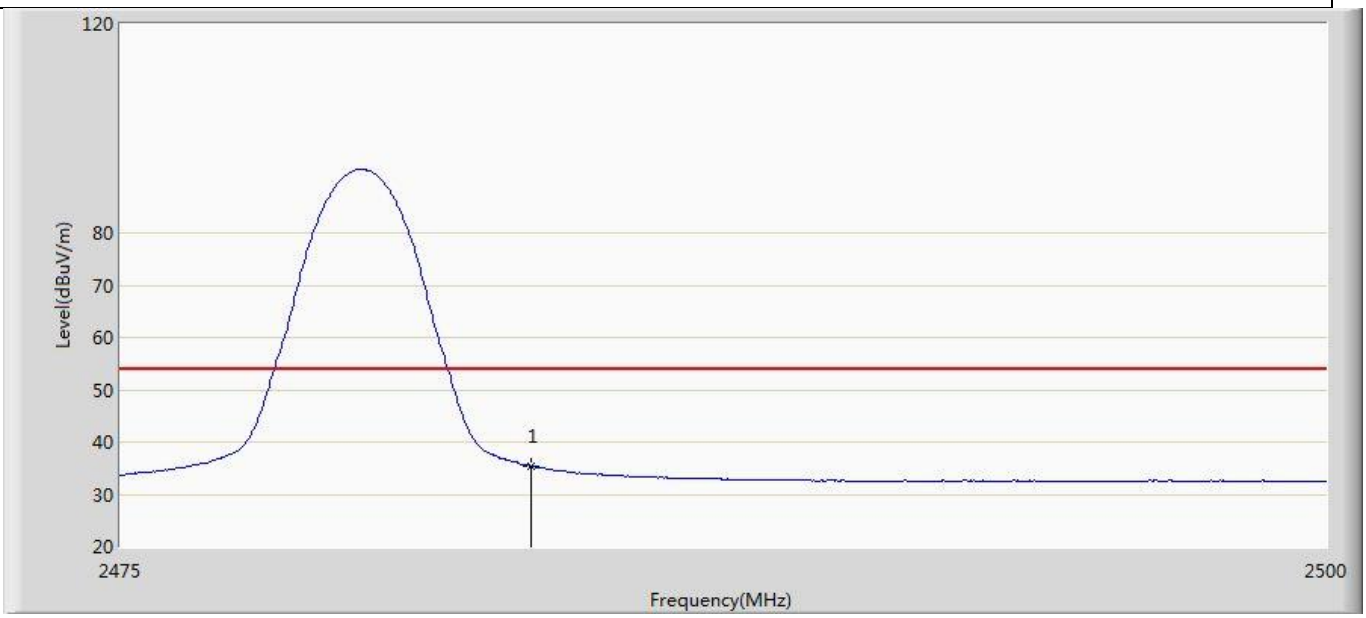
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.256	-0.828	-20.744	54.000	34.084	AV

Profile: 22B0838R	Page No.: 73
Engineer: YuLiu	
Site: AC5	Time: 2022/12/04 - 23:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode1:Transmit at 2480MHz by BLE 1M	



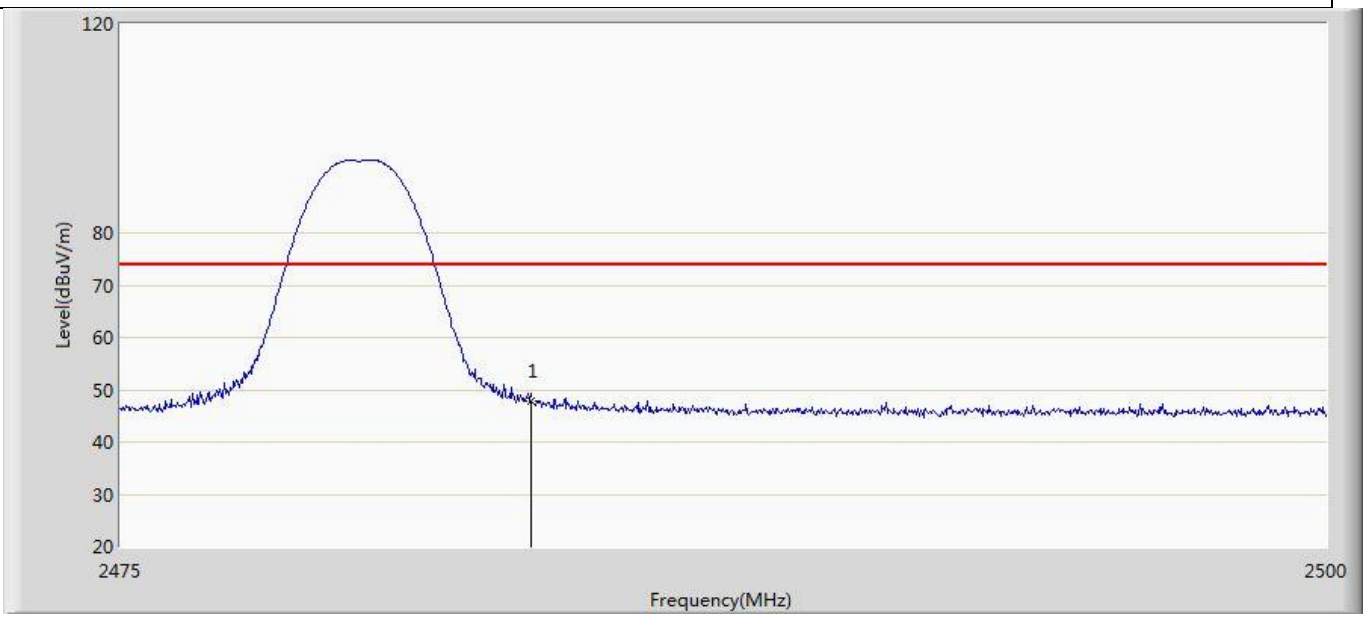
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	47.226	12.735	-26.774	74.000	34.491	PK

Profile: 22B0838R	Page No.: 74
Engineer: YuLiu	
Site: AC5	Time: 2022/12/04 - 23:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode1:Transmit at 2480MHz by BLE 1M	



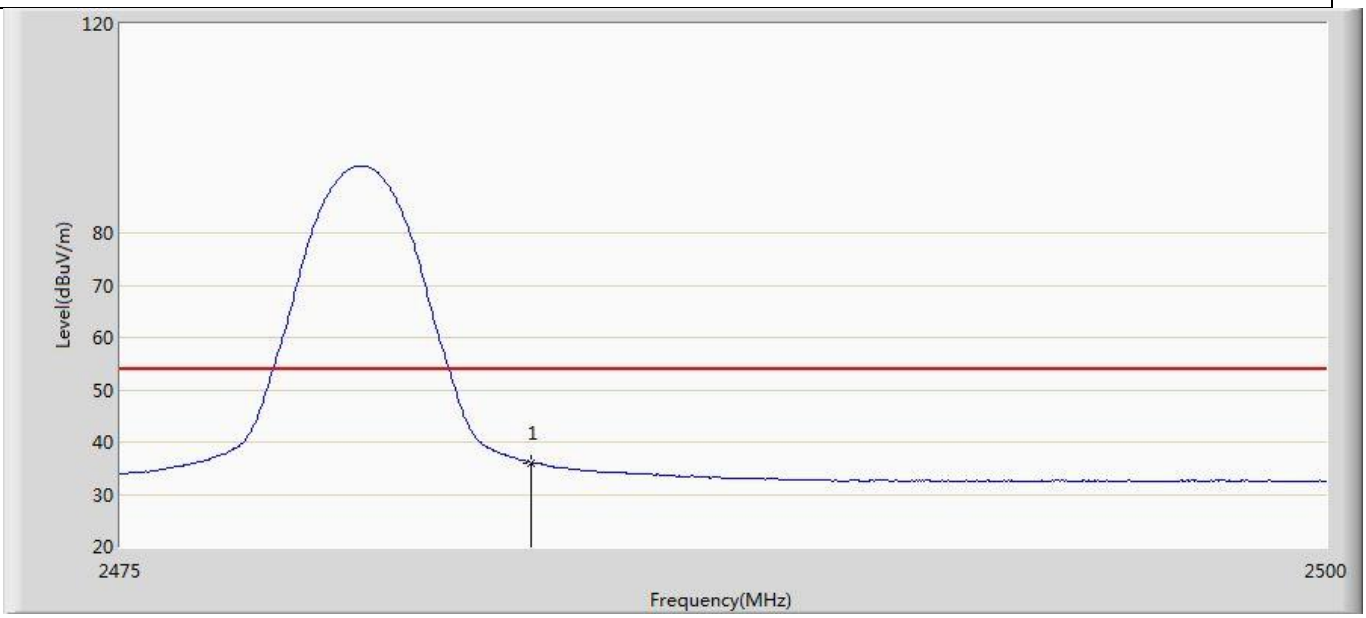
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	35.376	0.885	-18.624	54.000	34.491	AV

Profile: 22B0838R	Page No.: 75
Engineer: YuLiu	
Site: AC5	Time: 2022/12/04 - 23:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode1:Transmit at 2480MHz by BLE 1M	



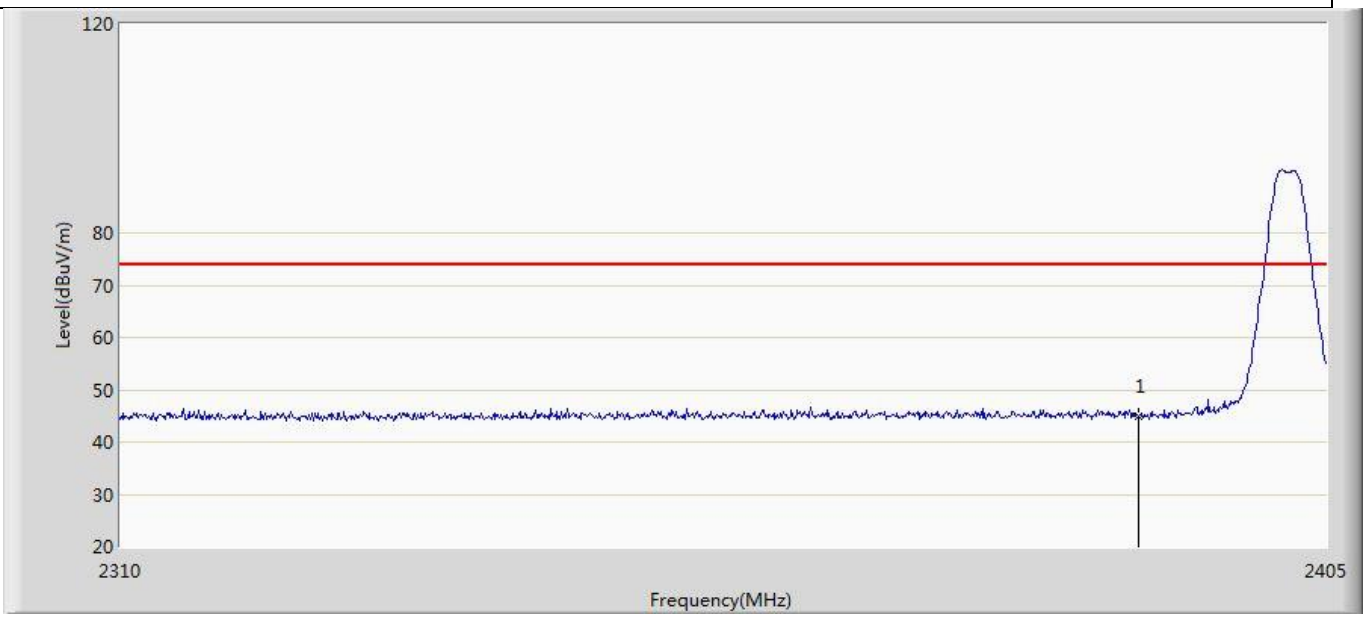
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	47.929	13.438	-26.071	74.000	34.491	PK

Profile: 22B0838R	Page No.: 76
Engineer: YuLiu	
Site: AC5	Time: 2022/12/04 - 23:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode1:Transmit at 2480MHz by BLE 1M	



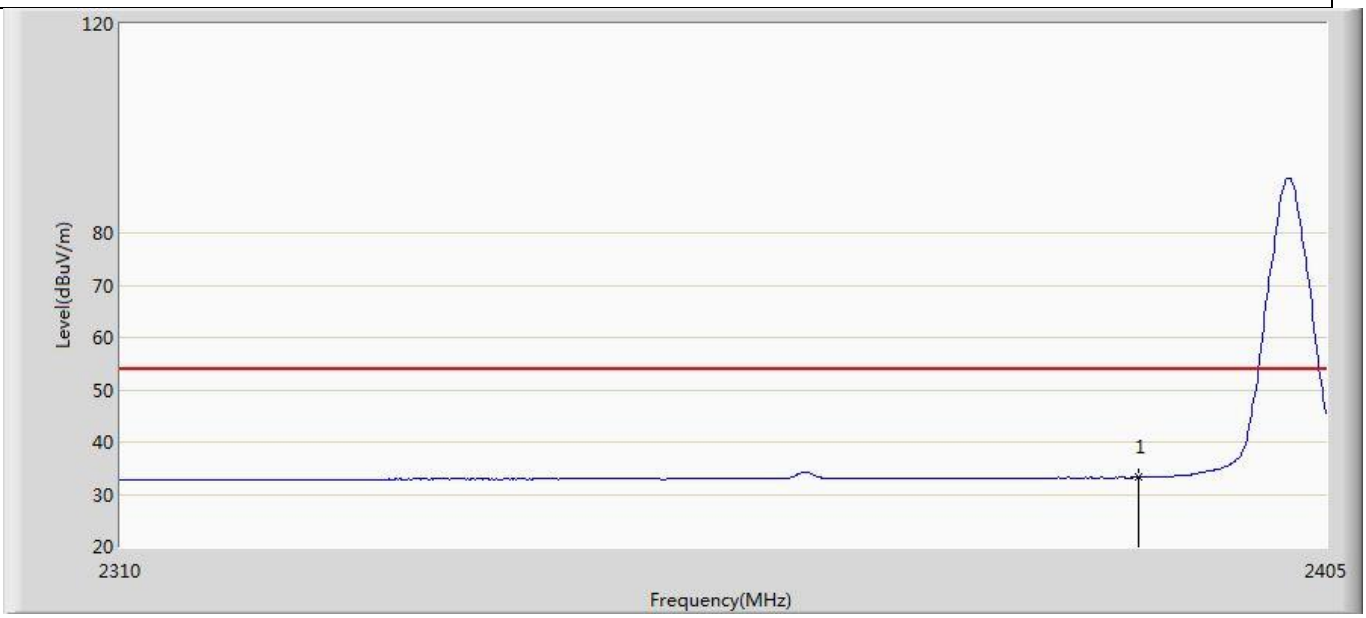
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	36.080	1.589	-17.920	54.000	34.491	AV

Profile: 22B0838R	Page No.: 77
Engineer: YuLiu	
Site: AC5	Time: 2022/12/04 - 23:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode2:Transmit at 2402MHz by BLE 2M	



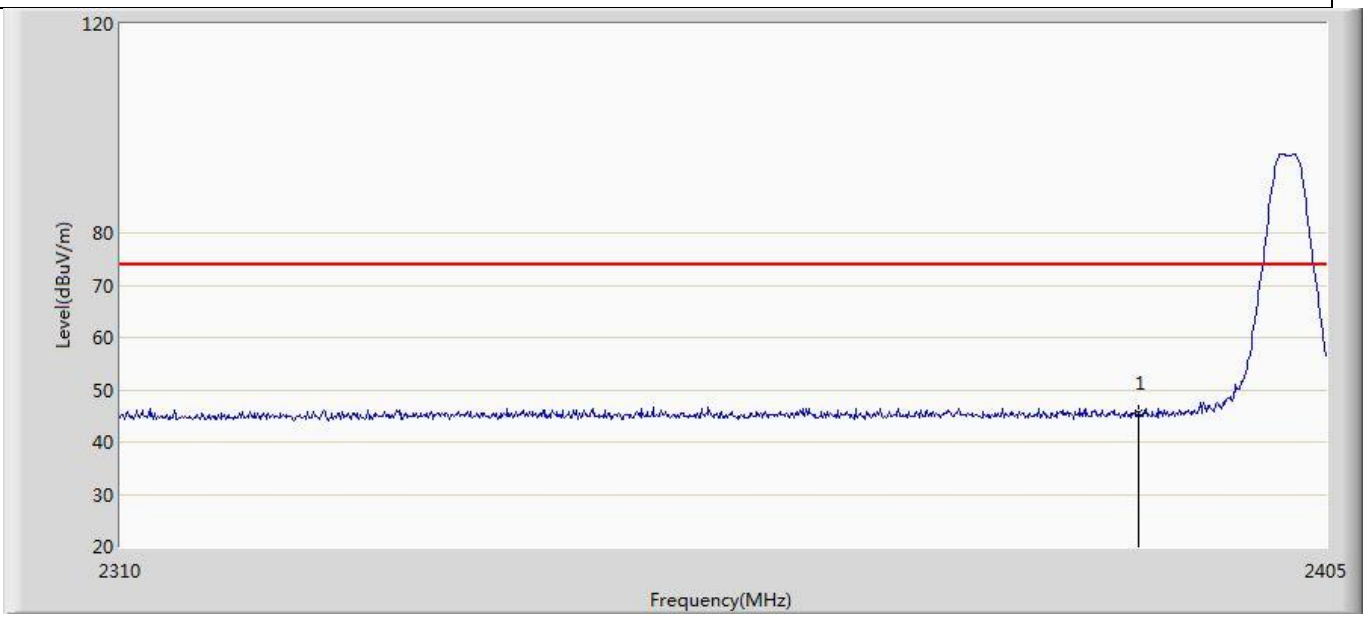
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	45.069	10.985	-28.931	74.000	34.084	PK

Profile: 22B0838R	Page No.: 78
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode2:Transmit at 2402MHz by BLE 2M	



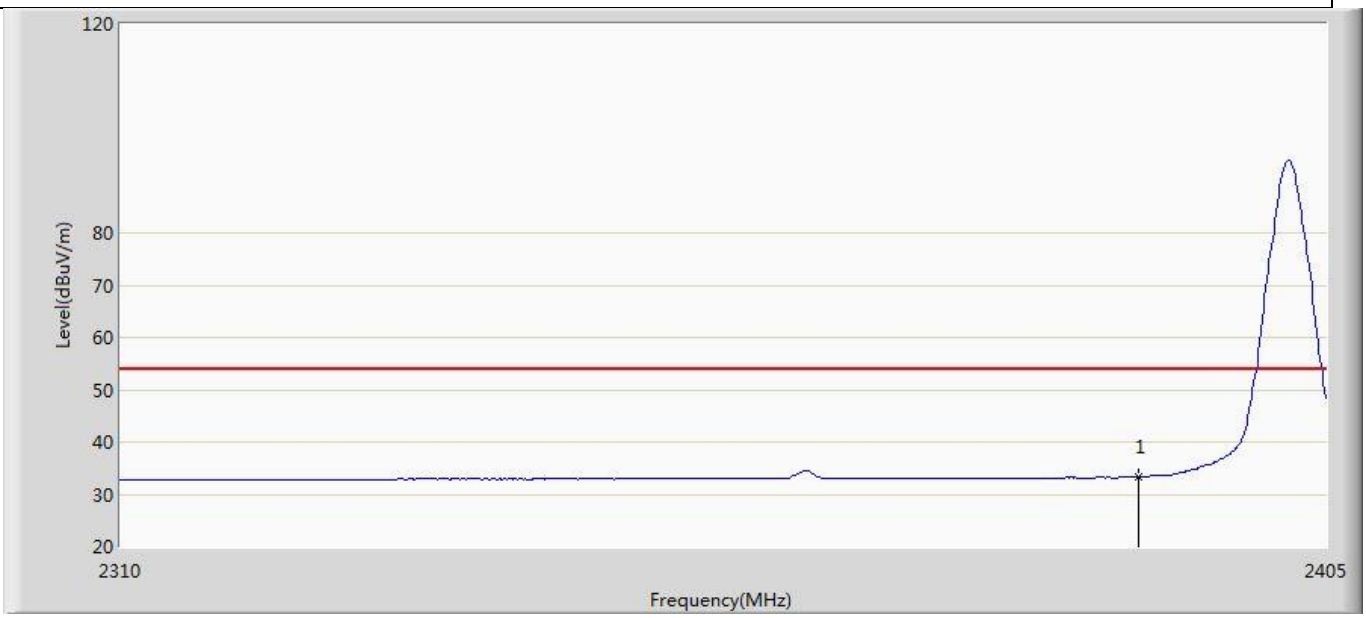
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.246	-0.838	-20.754	54.000	34.084	AV

Profile: 22B0838R	Page No.: 79
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode2:Transmit at 2402MHz by BLE 2M	



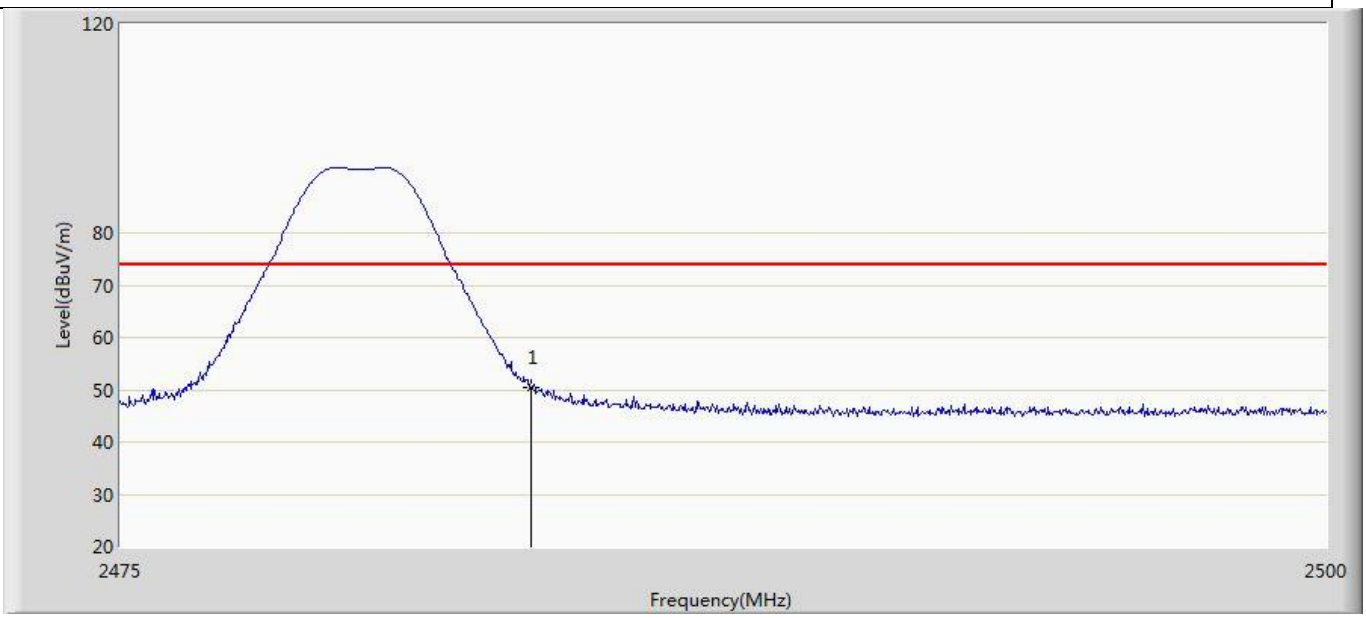
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	45.571	11.487	-28.429	74.000	34.084	PK

Profile: 22B0838R	Page No.: 80
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode2:Transmit at 2402MHz by BLE 2M	



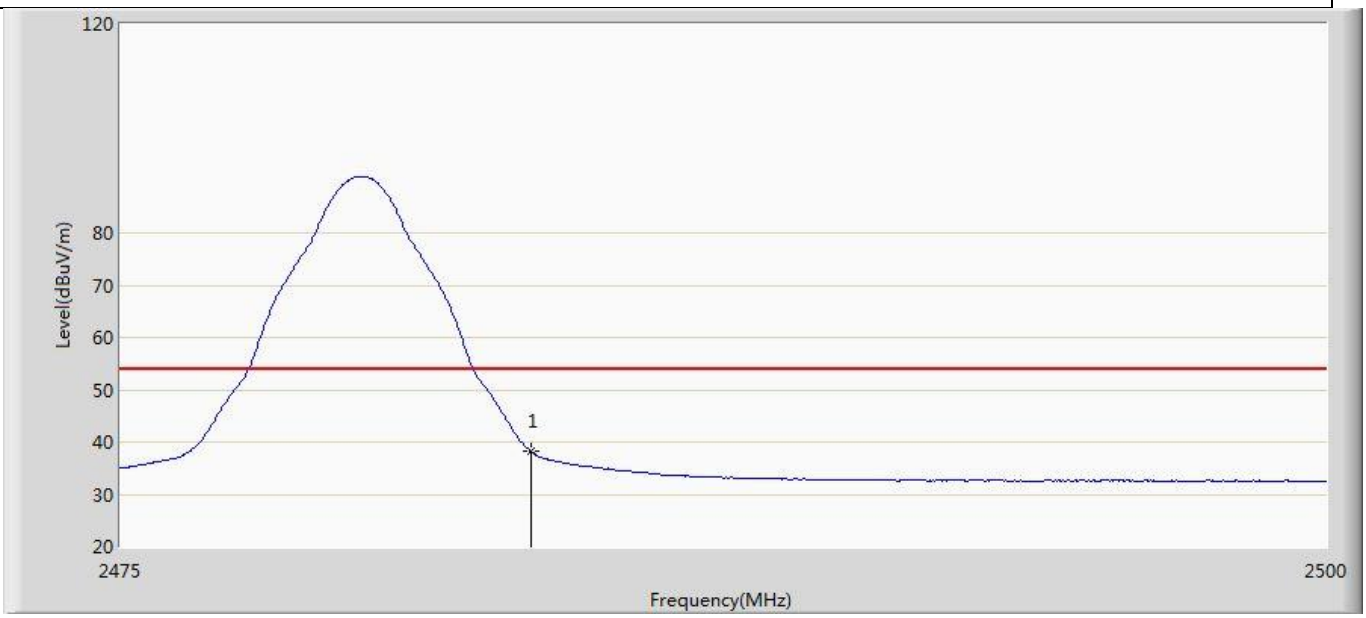
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.392	-0.692	-20.608	54.000	34.084	AV

Profile: 22B0838R	Page No.: 81
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode2:Transmit at 2480MHz by BLE 2M	



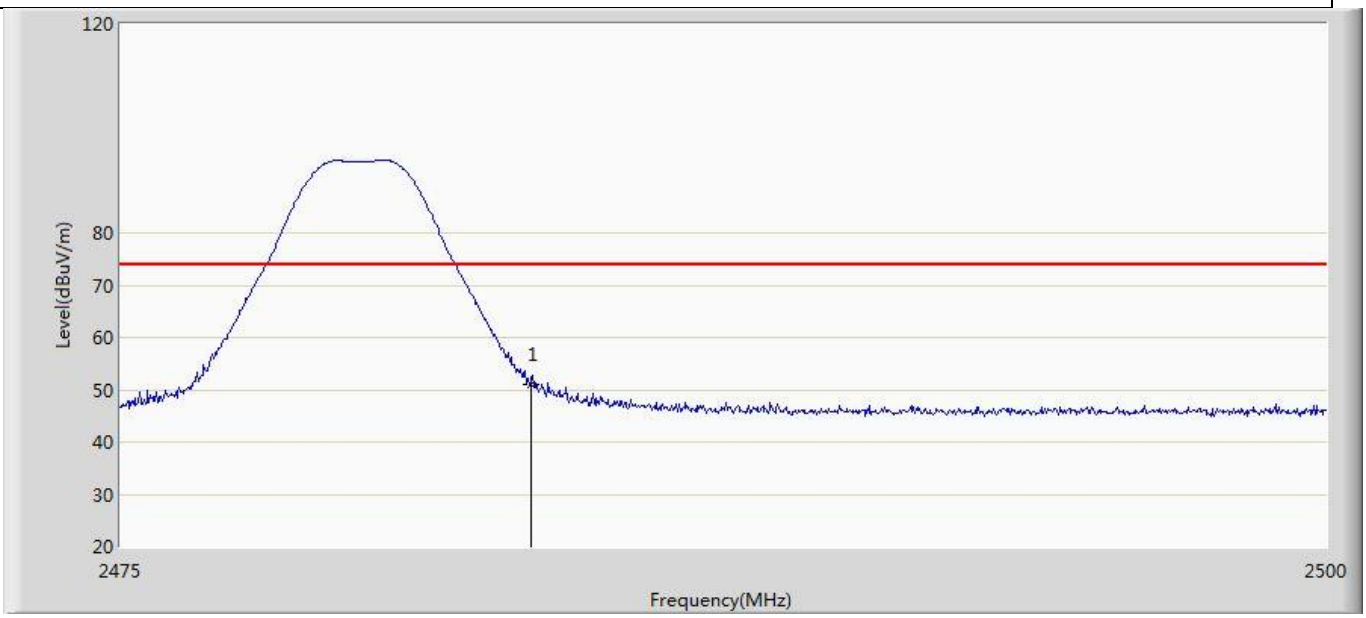
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	50.453	15.962	-23.547	74.000	34.491	PK

Profile: 22B0838R	Page No.: 82
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode2:Transmit at 2480MHz by BLE 2M	



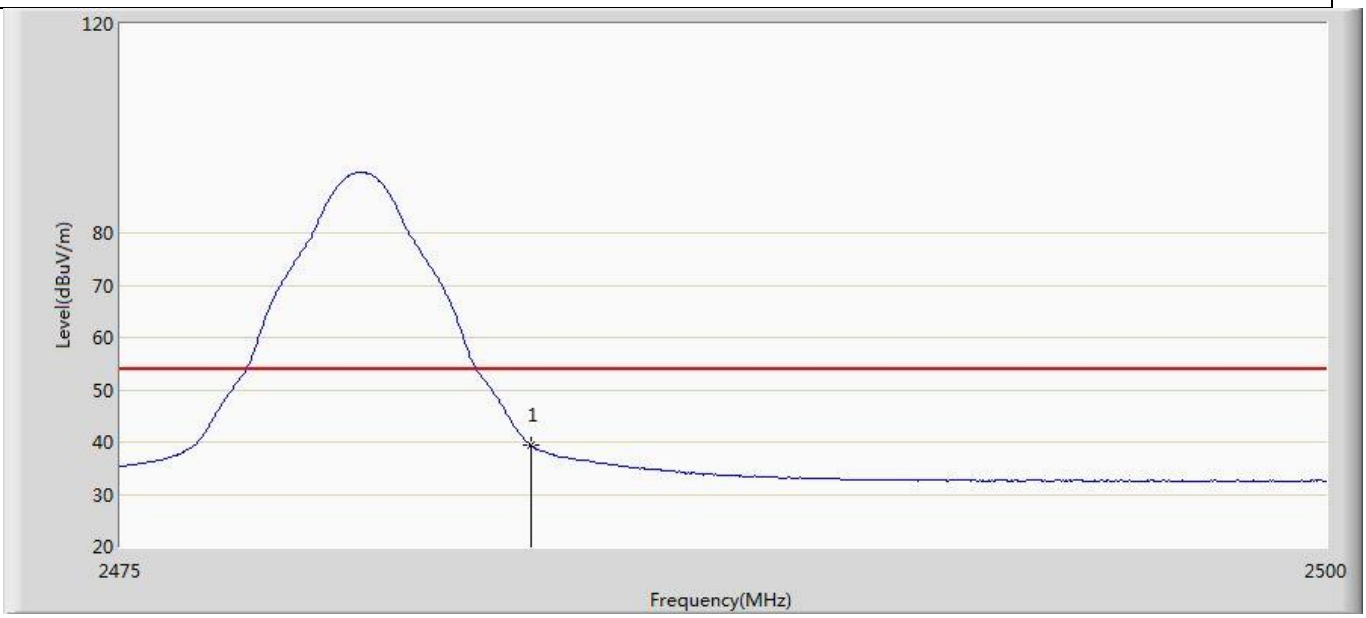
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	38.183	3.692	-15.817	54.000	34.491	AV

Profile: 22B0838R	Page No.: 83
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode2:Transmit at 2480MHz by BLE 2M	



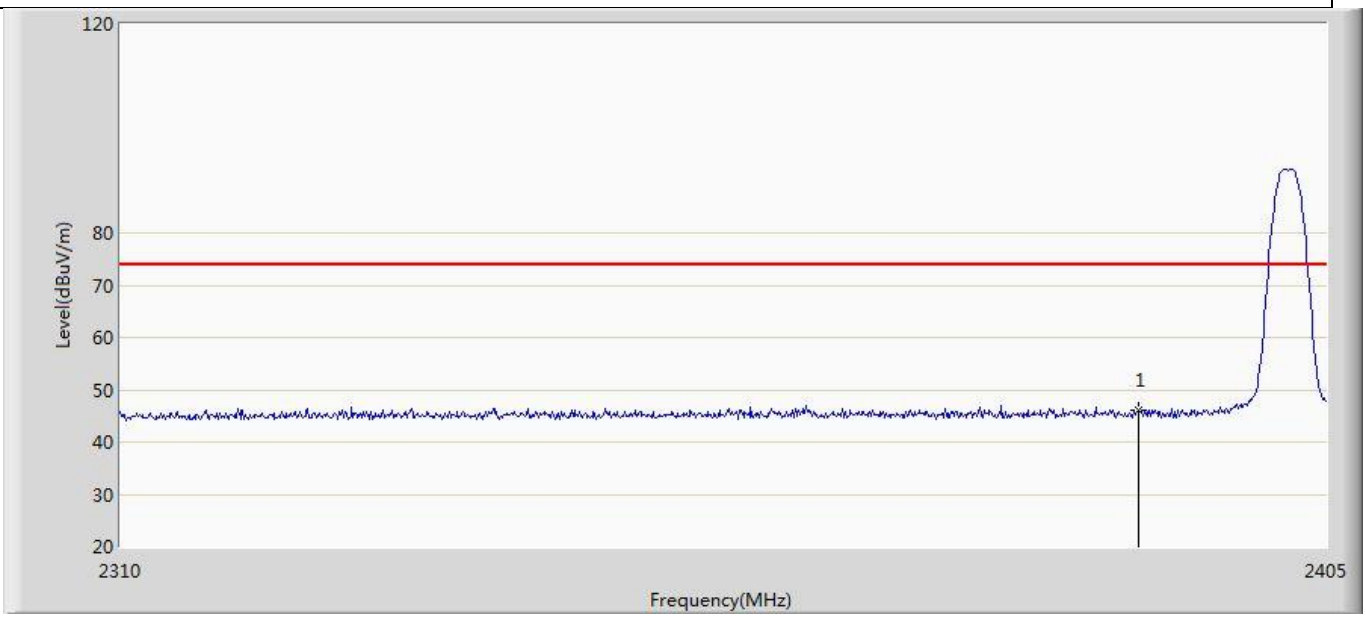
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	51.004	16.513	-22.996	74.000	34.491	PK

Profile: 22B0838R	Page No.: 84
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode2:Transmit at 2480MHz by BLE 2M	



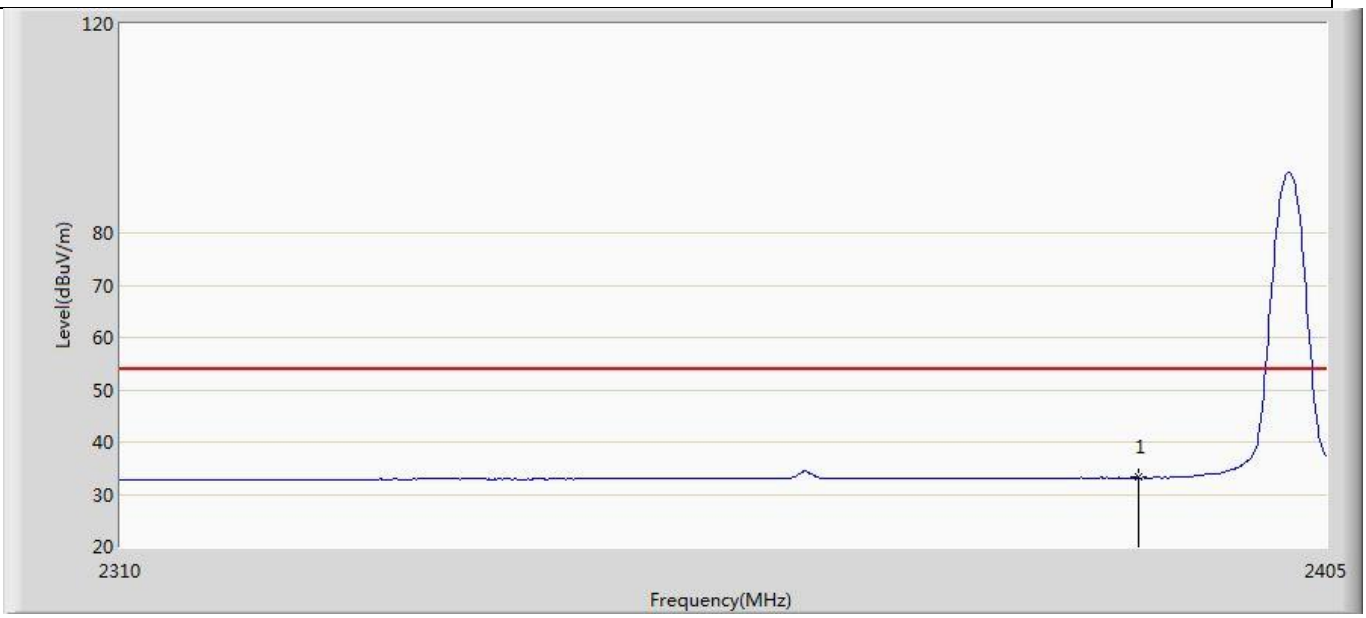
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	39.318	4.827	-14.682	54.000	34.491	AV

Profile: 22B0838R	Page No.: 85
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode3:Transmit at 2402MHz by BLE Coded2	



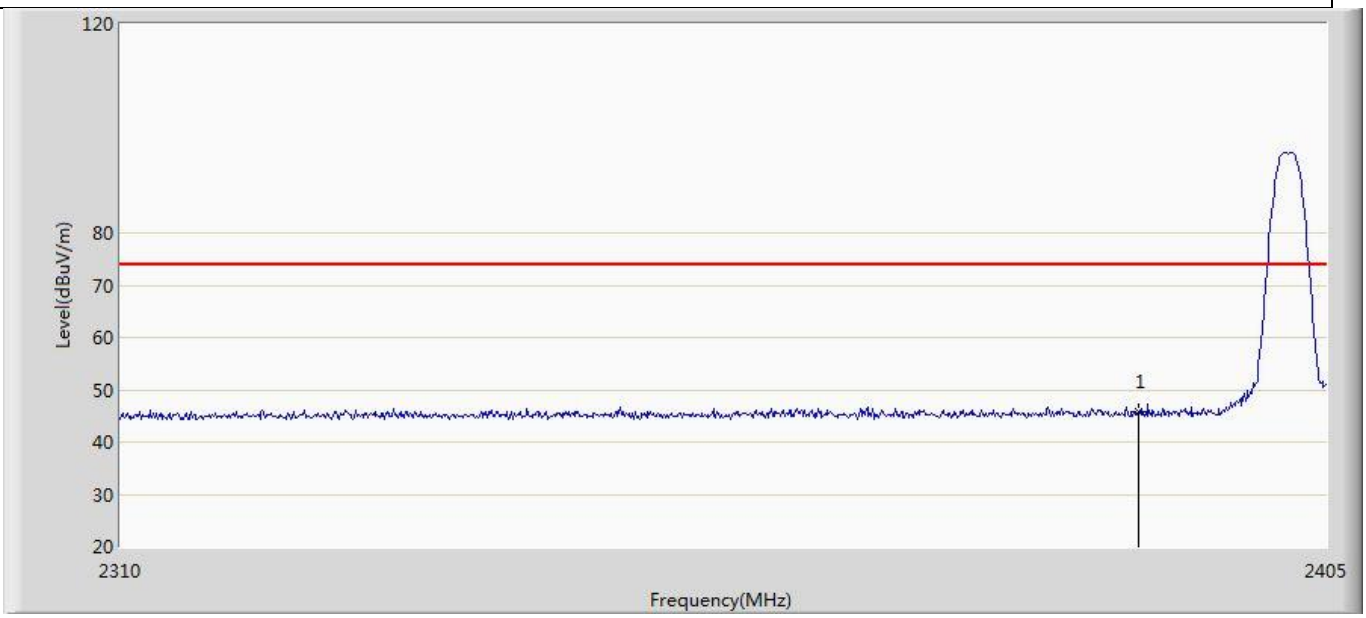
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	46.040	11.956	-27.960	74.000	34.084	PK

Profile: 22B0838R	Page No.: 86
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode3:Transmit at 2402MHz by BLE Coded2	



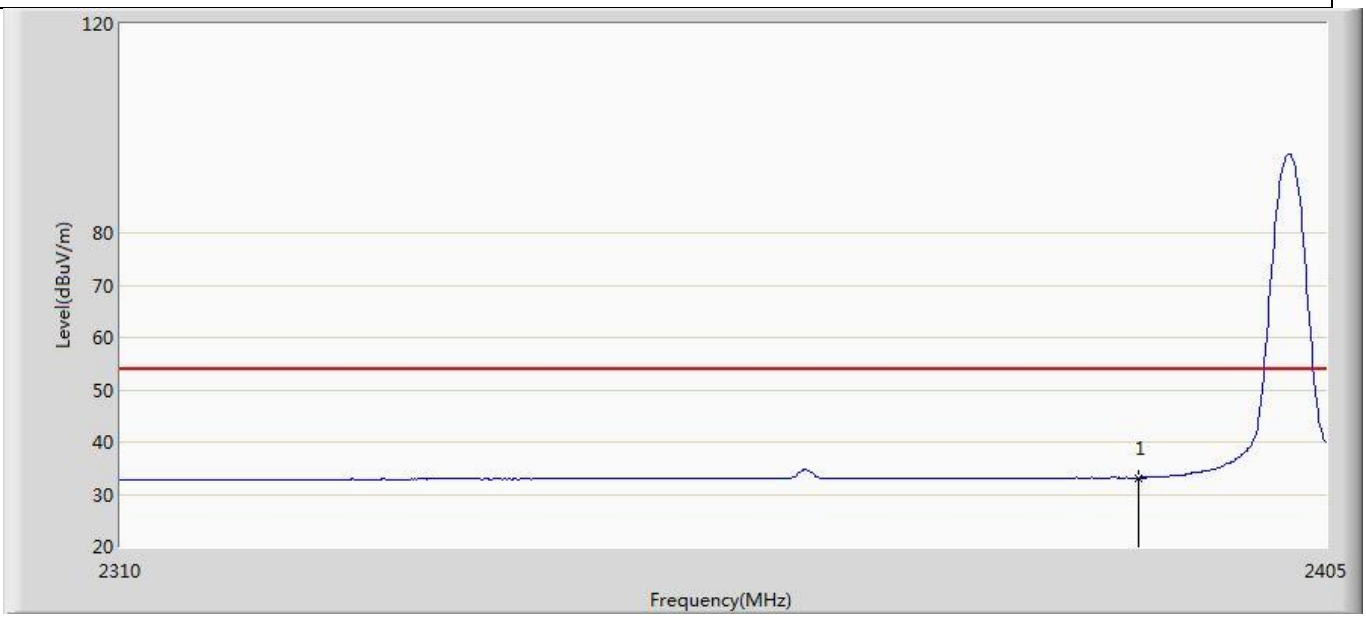
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.214	-0.870	-20.786	54.000	34.084	AV

Profile: 22B0838R	Page No.: 87
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode3:Transmit at 2402MHz by BLE Coded2	



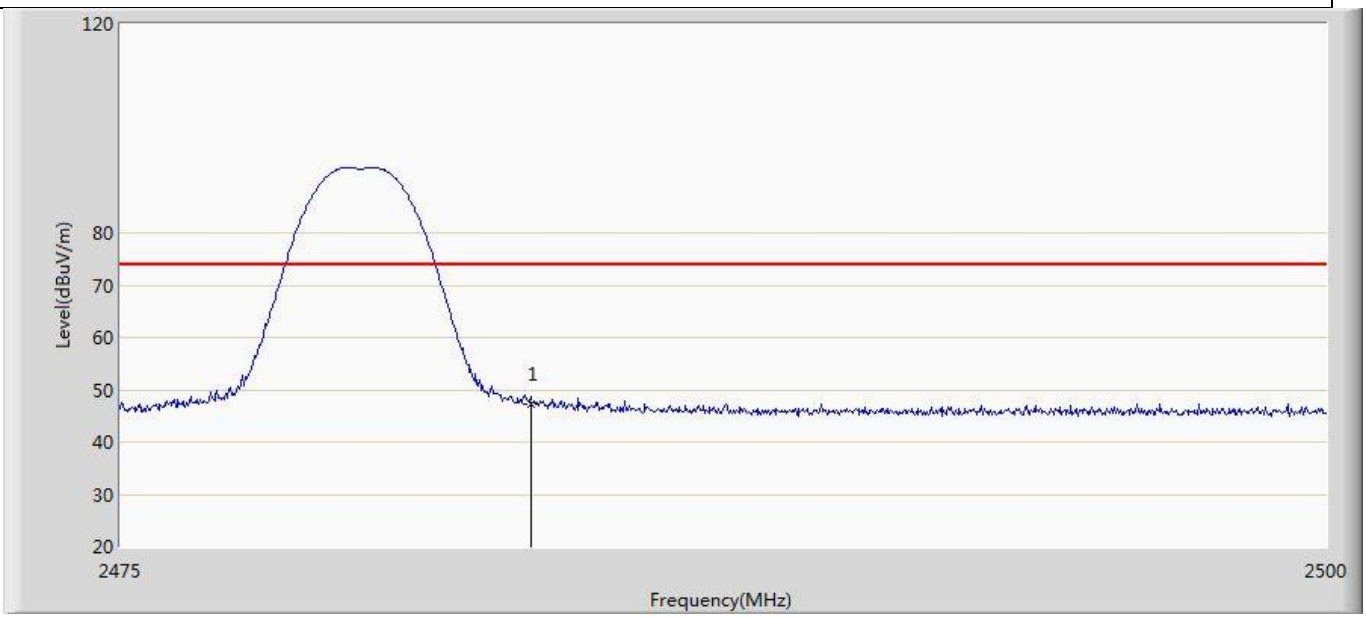
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	45.859	11.775	-28.141	74.000	34.084	PK

Profile: 22B0838R	Page No.: 88
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode3:Transmit at 2402MHz by BLE Coded2	



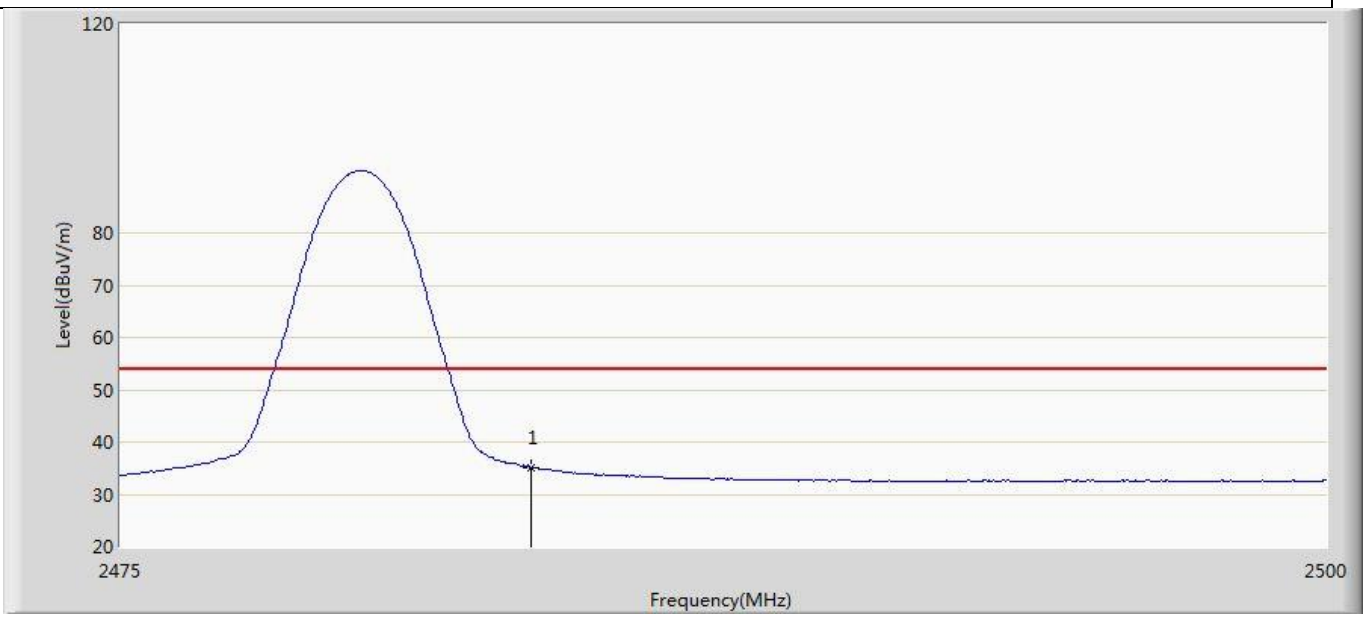
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.132	-0.952	-20.868	54.000	34.084	AV

Profile: 22B0838R	Page No.: 89
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode3:Transmit at 2480MHz by BLE Coded2	



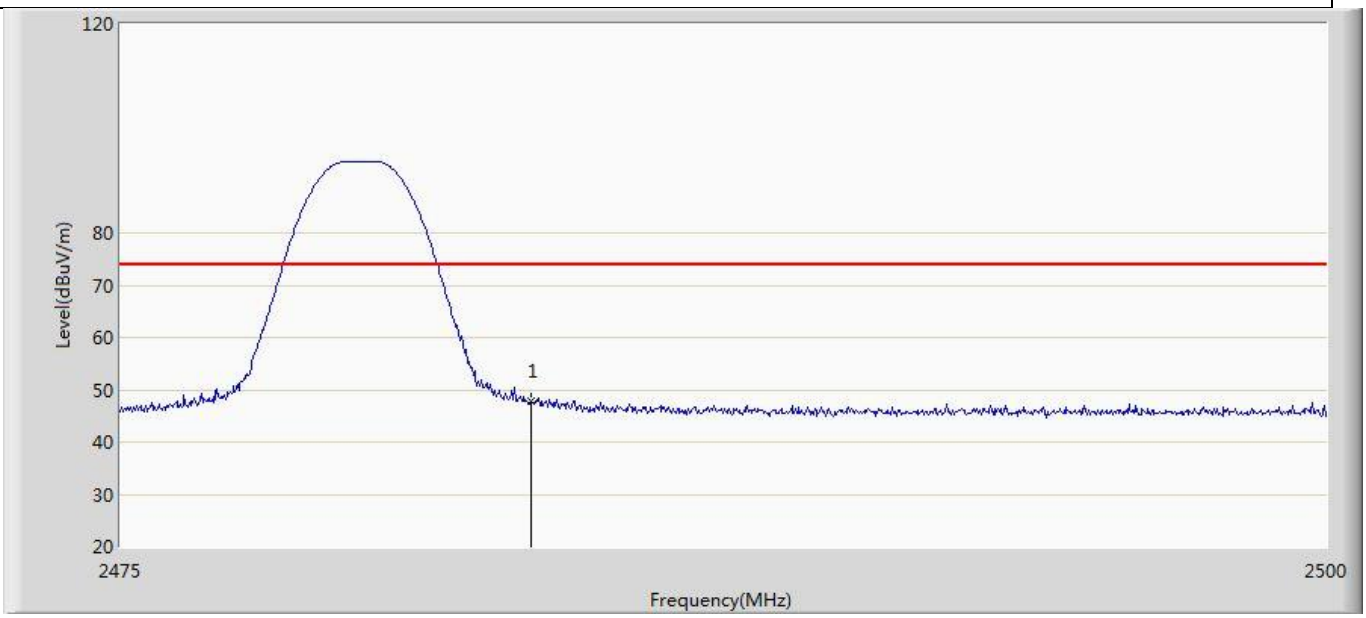
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	47.278	12.787	-26.722	74.000	34.491	PK

Profile: 22B0838R	Page No.: 90
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode3:Transmit at 2480MHz by BLE Coded2	



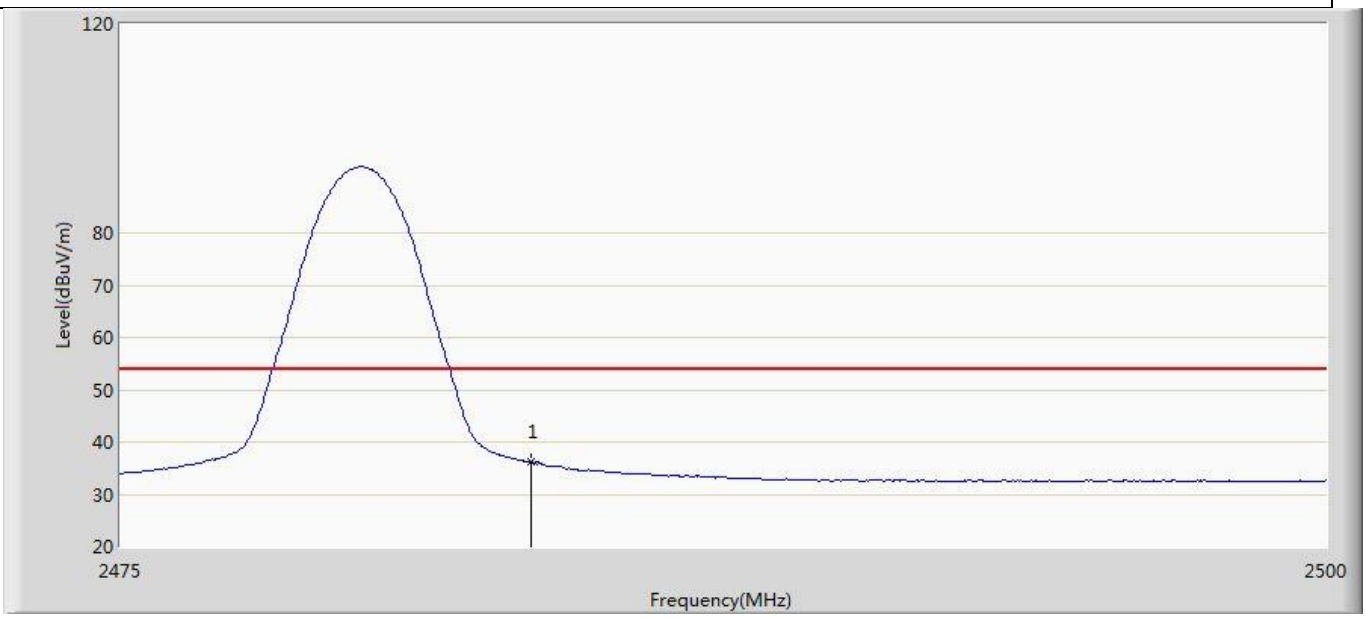
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	35.163	0.672	-18.837	54.000	34.491	AV

Profile: 22B0838R	Page No.: 91
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode3:Transmit at 2480MHz by BLE Coded2	



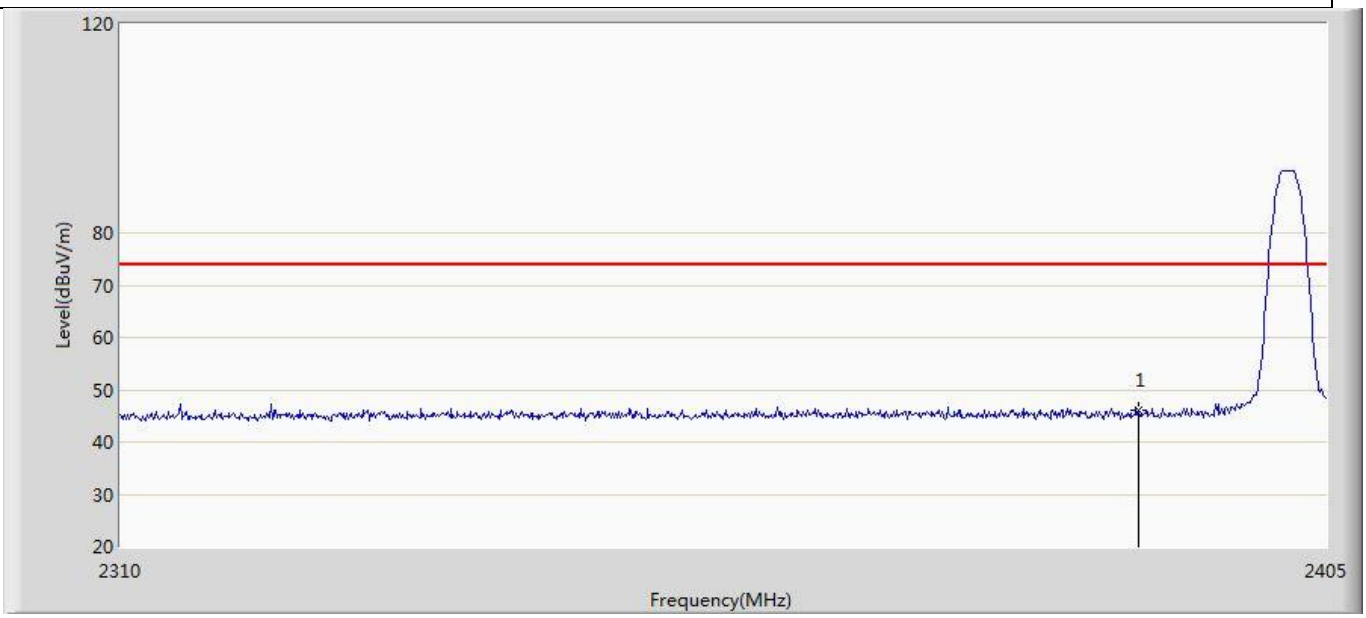
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	47.825	13.334	-26.175	74.000	34.491	PK

Profile: 22B0838R	Page No.: 92
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode3:Transmit at 2480MHz by BLE Coded2	



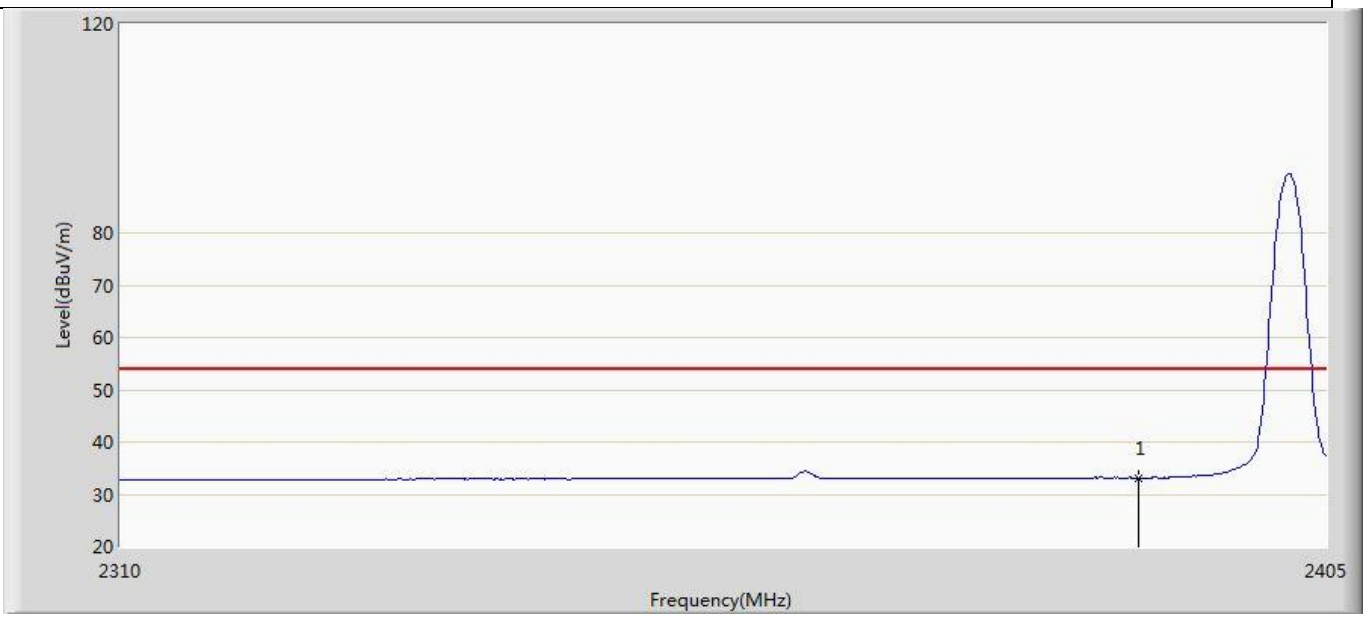
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	36.190	1.699	-17.810	54.000	34.491	AV

Profile: 22B0838R	Page No.: 93
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode4:Transmit at 2402MHz by BLE Coded8	



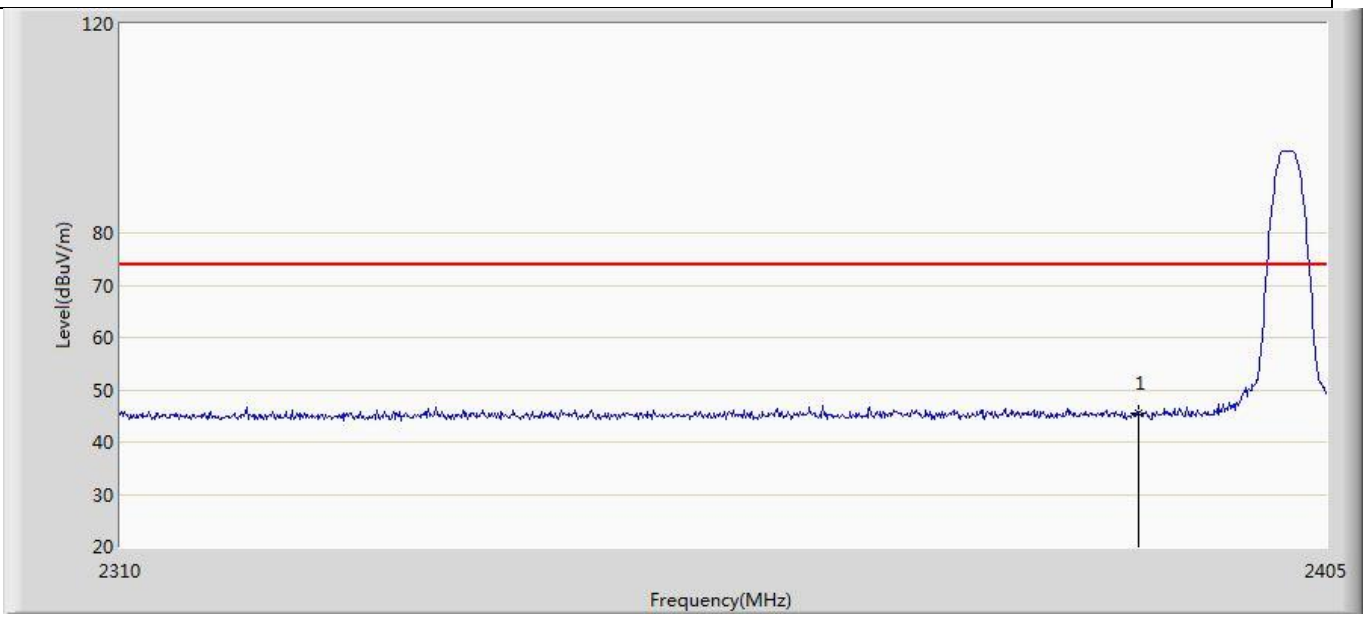
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	46.075	11.991	-27.925	74.000	34.084	PK

Profile: 22B0838R	Page No.: 94
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode4:Transmit at 2402MHz by BLE Coded8	



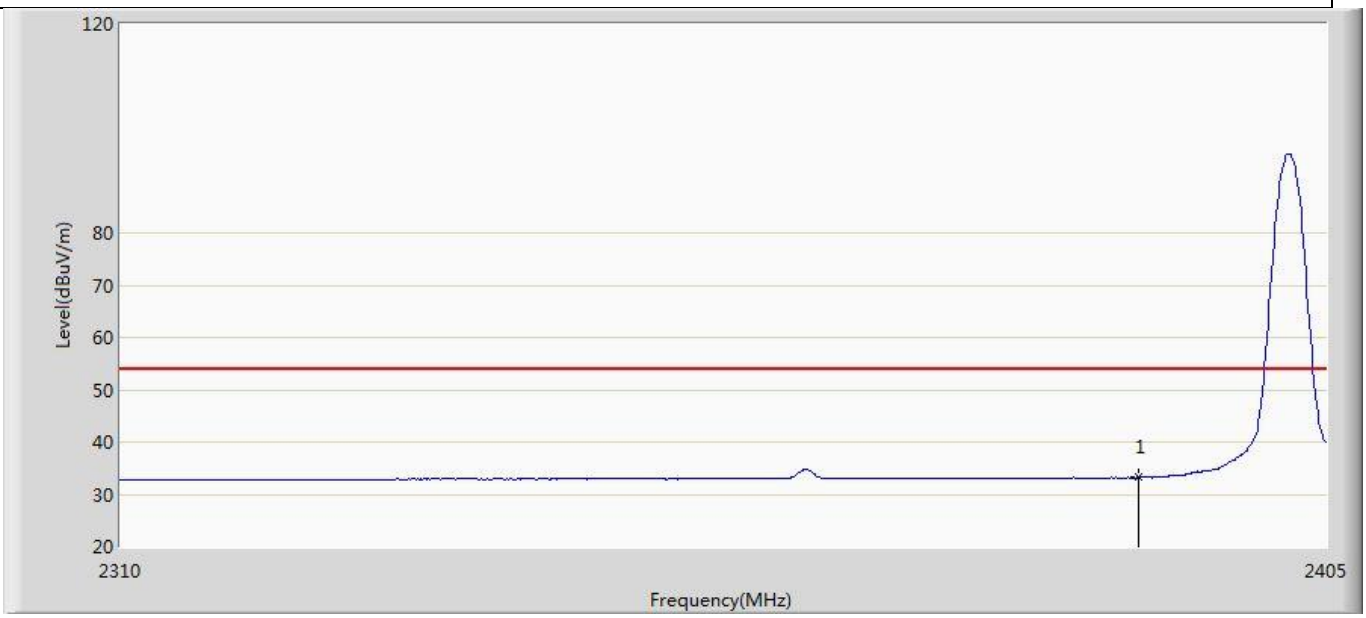
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.181	-0.903	-20.819	54.000	34.084	AV

Profile: 22B0838R	Page No.: 95
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode4:Transmit at 2402MHz by BLE Coded8	



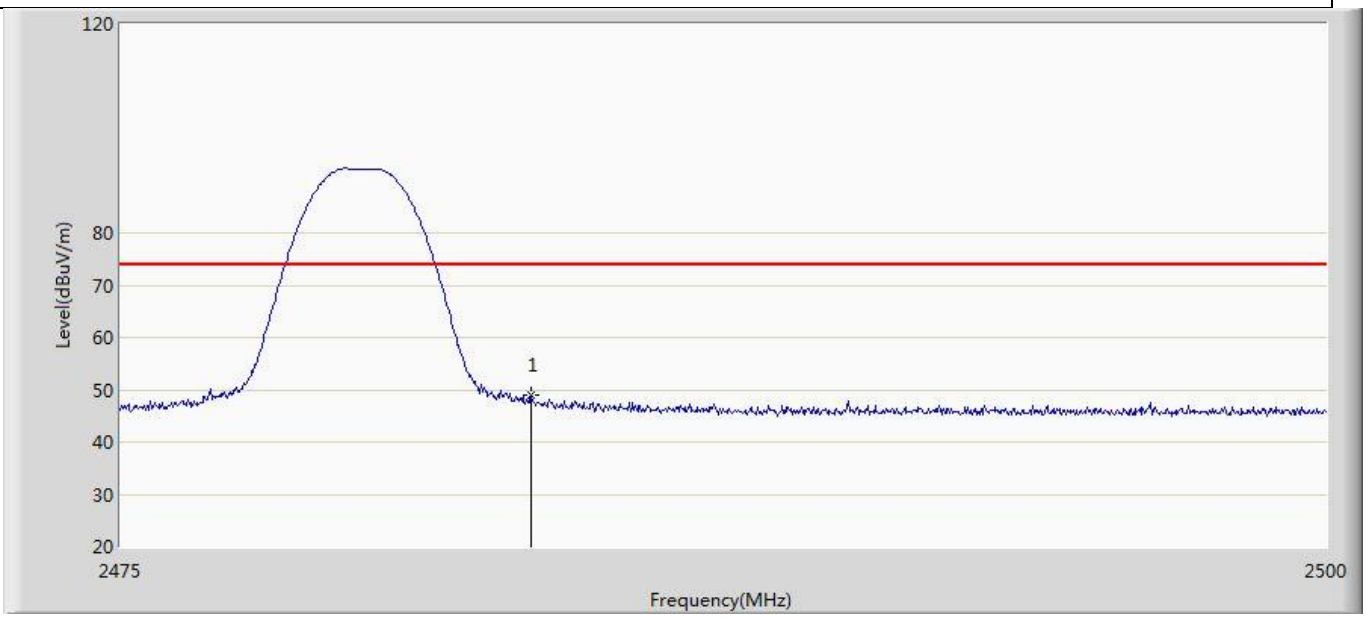
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	45.621	11.537	-28.379	74.000	34.084	PK

Profile: 22B0838R	Page No.: 96
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode4:Transmit at 2402MHz by BLE Coded8	



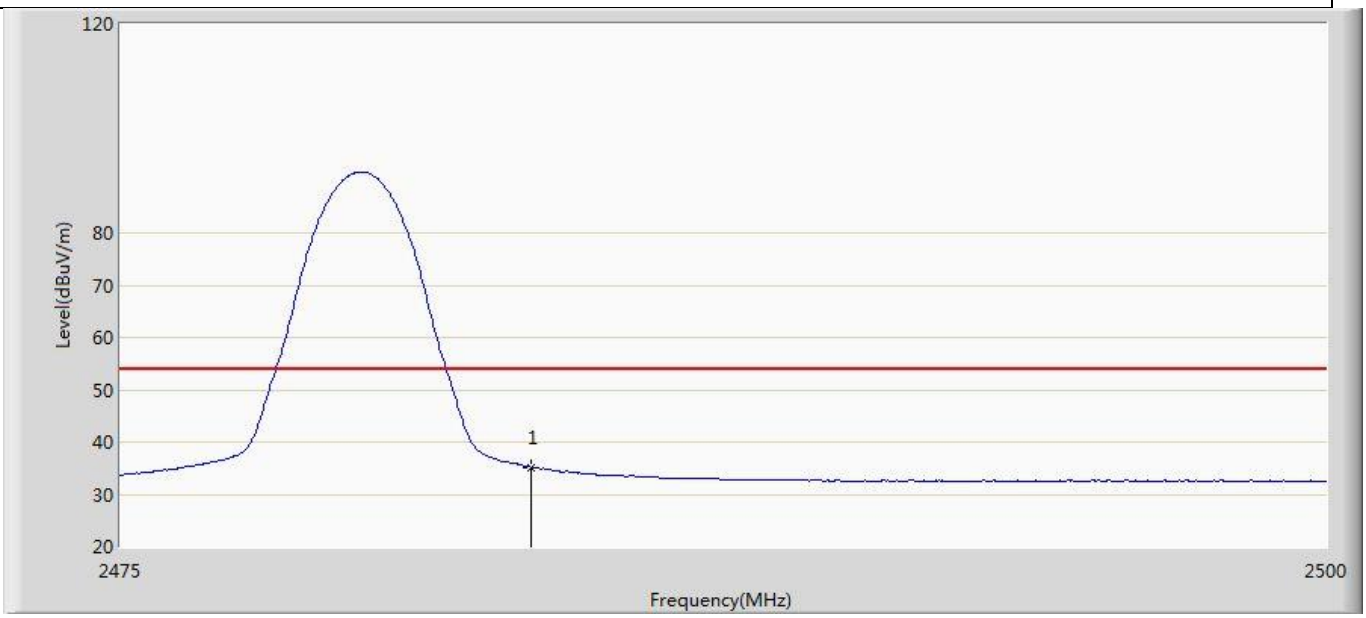
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.300	-0.784	-20.700	54.000	34.084	AV

Profile: 22B0838R	Page No.: 97
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode4:Transmit at 2480MHz by BLE Coded8	



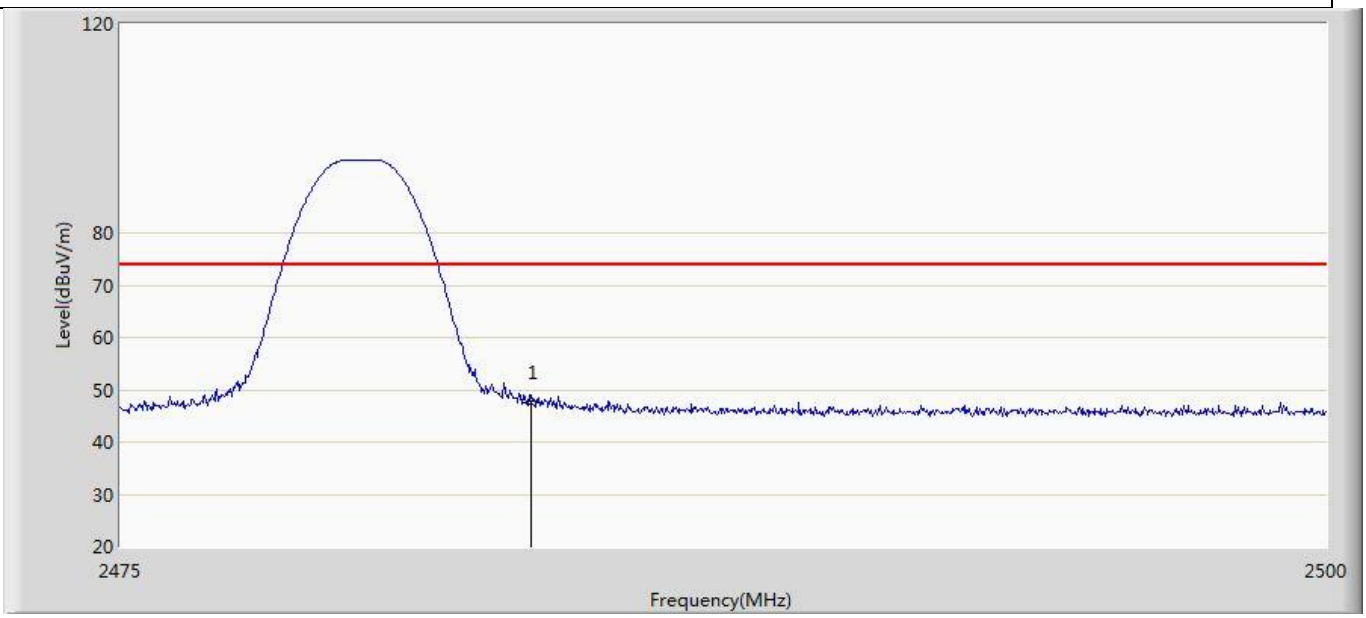
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	48.866	14.375	-25.134	74.000	34.491	PK

Profile: 22B0838R	Page No.: 98
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode4:Transmit at 2480MHz by BLE Coded8	



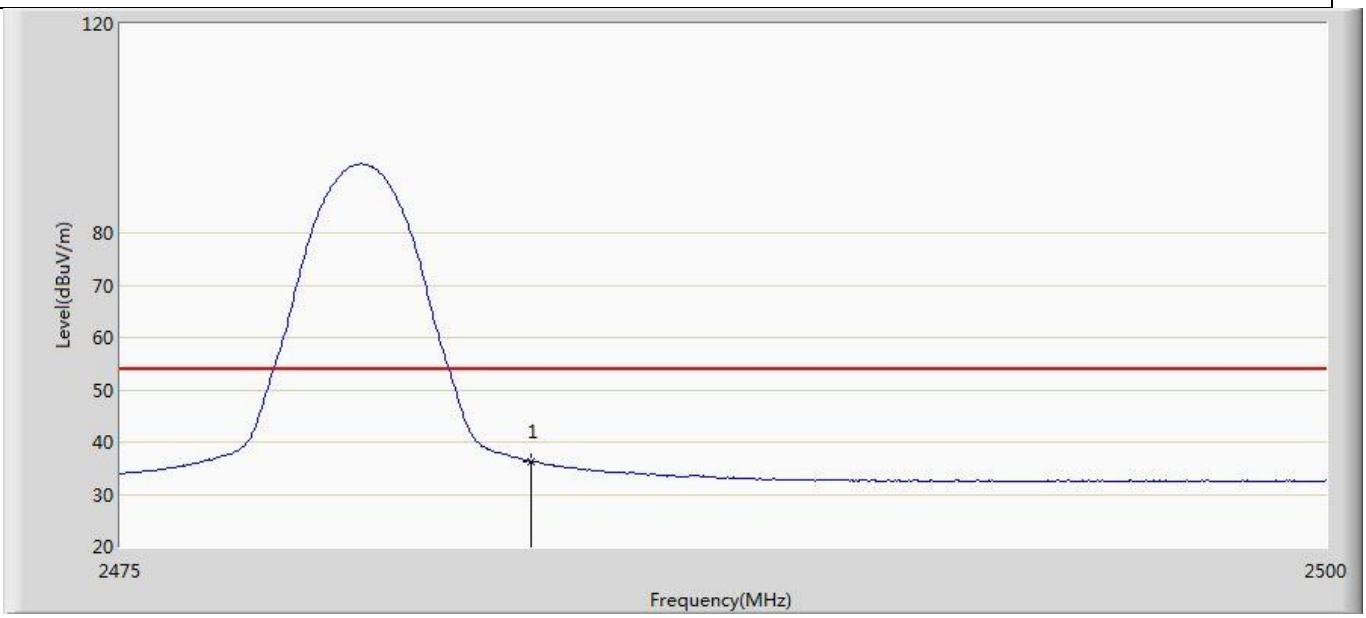
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	35.197	0.706	-18.803	54.000	34.491	AV

Profile: 22B0838R	Page No.: 99
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode4:Transmit at 2480MHz by BLE Coded8	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	47.405	12.914	-26.595	74.000	34.491	PK

Profile: 22B0838R	Page No.: 100
Engineer: YuLiu	
Site: AC5	Time: 2022/12/05 - 00:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: LED LAMP	Power: 120V/60Hz
Note: Mode4:Transmit at 2480MHz by BLE Coded8	

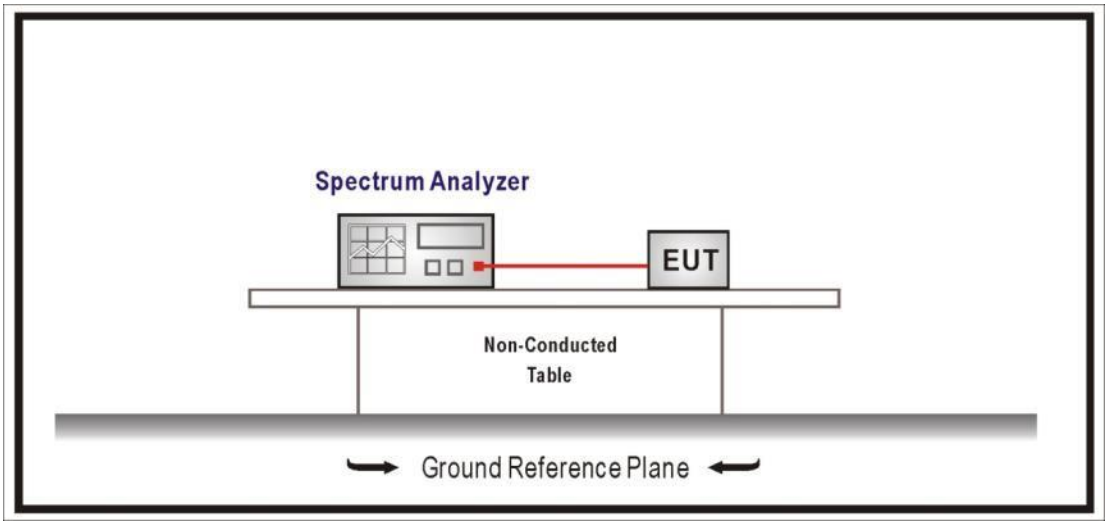


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	36.360	1.869	-17.640	54.000	34.491	AV

4.6 DTS Bandwidth	VERDICT: PASS

4.6.1 Limit	
Standard	FCC Part 15 Subpart C Paragraph 15.247 (a)(2)
Systems using digital modulation techniques operate in the2400-2483.5 MHz .The minimum 6 dB bandwidth shall be at least 500 kHz	

4.6.2 Test Setup



4.6.3 Test Procedure

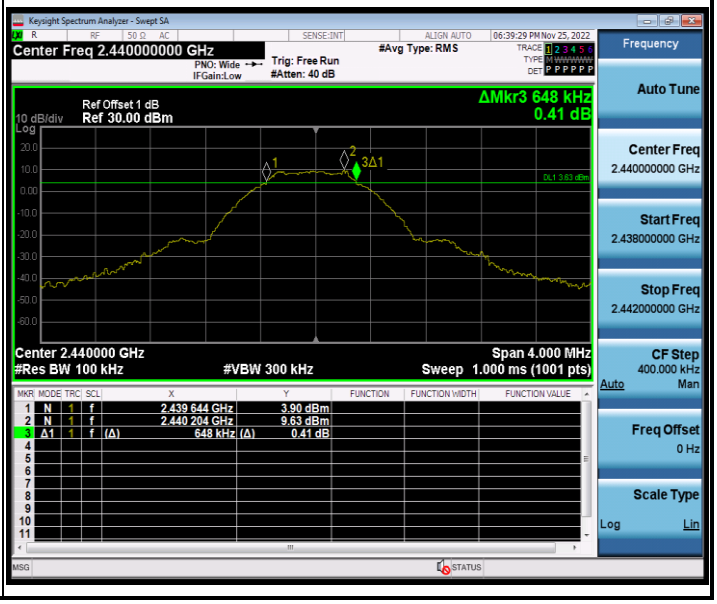
	Reference Rule		Chapter	Description
☒	ANSI C63.10		11.8	DTS bandwidth
	☐	ANSI C63.10	11.8.1	Option 1
	☒	ANSI C63.10	11.8.2	Option 2

4.6.4 Test Data

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)	6dB Occupied Bandwidth (MHz)	Limit (kHz)	Result
1	00	2402	1.0355	0.688	>500	Pass
	19	2440	1.0339	0.648	>500	Pass
	39	2480	1.0275	0.672	>500	Pass
2	00	2402	2.1135	1.332	>500	Pass
	19	2440	2.1097	1.304	>500	Pass
	39	2480	2.1240	1.344	>500	Pass
3	00	2402	1.0920	0.808	>500	Pass
	19	2440	1.0936	0.748	>500	Pass
	39	2480	1.0882	0.772	>500	Pass
4	00	2402	1.1227	0.740	>500	Pass
	19	2440	1.1252	0.744	>500	Pass
	39	2480	1.1205	0.740	>500	Pass

Note : The worst case of Occupied Bandwidth as below:

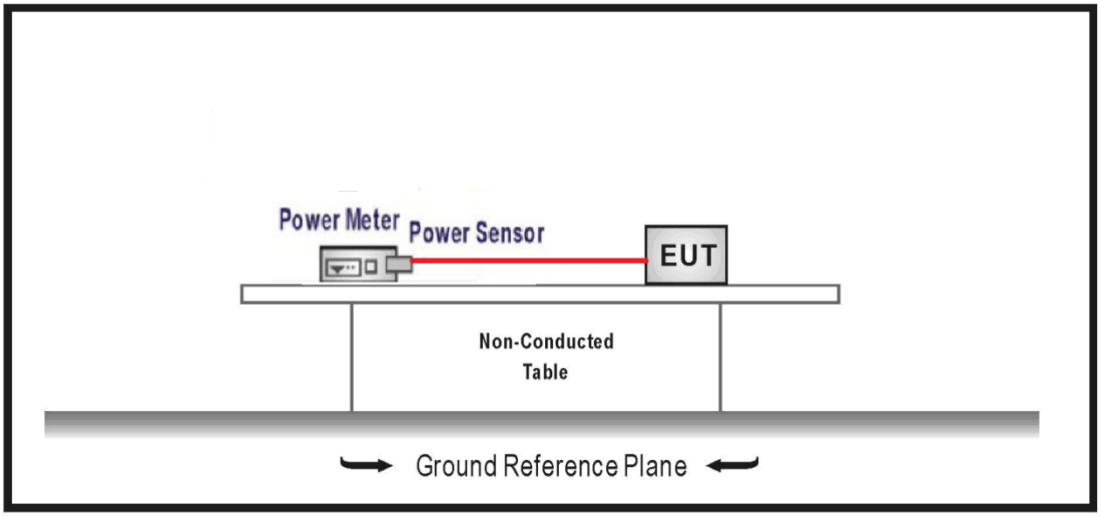
99% Occupied Bandwidth	6dB Occupied Bandwidth
Mode 2 CH39 (2480MHz)	Mode 1 CH19(2440MHz)



4.7 Fundamental emission output power	VERDICT: PASS

4.7.1 Limit			
Standard		FCC Part 15 Subpart C Paragraph 15.247 (b)(3)	
☒	GTX＜6dBi		Pout≤30dBm
☐	GTX ＞6dBi		
	☐	Non-Fix point-point	Pout≤30-(GTX -6)
	☐	Fix point-point	Pout≤30-[(GTX-6)]/3
	☐	Point-to-multipoint	Pout≤30-(GTX-6)
	☐	Overlap Beams	Pout≤30-[(GTX-6)]/3
	☐	Aggregate power transmitted simultaneously on all beams	Pout≤30-[(GTX-6)]/3
	☐	single directional beam	Pout≤30-[(GTX-6)]/3+8dB
Note 1 : GTX directional gain of transmitting antennas. Note 2 : Pout is maximum peak conducted output power .			

4.7.2 Test Setup



4.7.3 Test Procedure

	References Rule			Chapter	Description
☒	ANSI C63.10			11.9	Fundamental emission output power
	☐	ANSI C63.10		11.9.1	Maximum peak conducted output power
		☐	ANSI C63.10	11.9.1.1	RBW ≥ DTS bandwidth
		☐	ANSI C63.10	11.9.1.2	Integrated band power method
		☒	ANSI C63.10	11.9.1.3	PKPM1 Peak power meter method
	☒	ANSI C63.10		11.9.2	Maximum conducted (average) output power
		☐	ANSI C63.10	11.9.2.2	Measurement using a spectrum analyzer (SA)
			☐ ANSI C63.10	11.9.2.2.2	Method AVGSA-1(Duty cycle⩾98%)
			☐ ANSI C63.10	11.9.2.2.3	Method AVGSA-1A(Duty cycle⩾98%)
			☐ ANSI C63.10	11.9.2.2.4	Method AVGSA-2(Duty cycle⩽98%)
			☐ ANSI C63.10	11.9.2.2.5	Method AVGSA-2A(Duty cycle⩽98%)
			☐ ANSI C63.10	11.9.2.2.4	Method AVGSA-3
			☐ ANSI C63.10	11.9.2.2.5	Method AVGSA-3A
		☒	ANSI C63.10	11.9.2.3	Measurement using a power meter (PM)
			☐ ANSI C63.10	11.9.2.3.1	Method AVGPM
			☐ ANSI C63.10	11.9.2.3.2	Method AVGPM-G

4.7.4 Test Data

Mode	Channel	Test Frequency (MHz)	Conducted Power (dBm)	EIRP (dBm)	Conducted Power Limit (dBm)	EIRP Limit (dBm)	Result
Mode 1	00	2402	10.13	7.63	≤30	≤36	Pass
	19	2440	10.25	7.75	≤30	≤36	Pass
	39	2480	9.97	7.47	≤30	≤36	Pass
Mode 2	00	2402	10.11	7.61	≤30	≤36	Pass
	19	2440	10.23	7.73	≤30	≤36	Pass
	39	2480	9.95	7.45	≤30	≤36	Pass
Mode 3	00	2402	10.13	7.63	≤30	≤36	Pass
	19	2440	10.27	7.77	≤30	≤36	Pass
	39	2480	9.98	7.48	≤30	≤36	Pass
Mode 4	00	2402	10.11	7.61	≤30	≤36	Pass
	19	2440	10.24	7.74	≤30	≤36	Pass
	39	2480	9.96	7.46	≤30	≤36	Pass

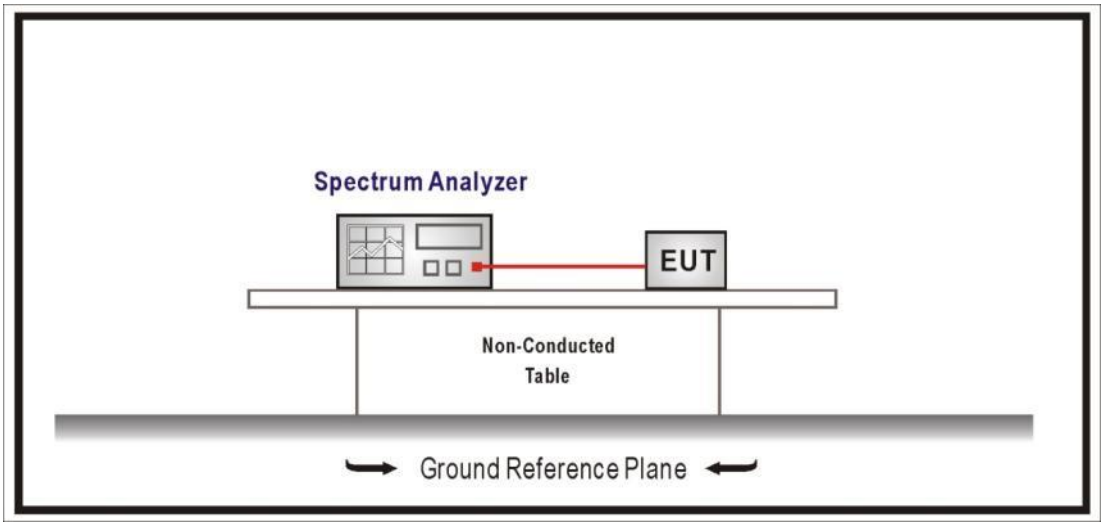
Power Setting：

Mode	Channel	Test Frequency (MHz)	Power Setting
Mode 1	00	2402	10
	19	2440	10
	39	2480	10
Mode 2	00	2402	10
	19	2440	10
	39	2480	10
Mode 3	00	2402	10
	19	2440	10
	39	2480	10
Mode 4	00	2402	10
	19	2440	10
	39	2480	10

4.8 Power Density	VERDICT: PASS

4.8.1 Limit:	
Standard	FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
Power Spectral Density≤8dBm/3kHz	

4.8.2 Test Setup

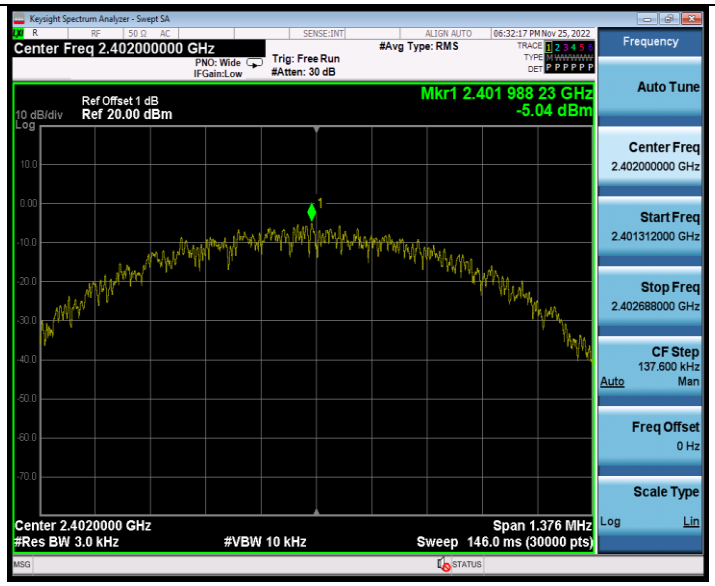


4.8.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		11.10	Maximum power spectral density level in the fundamental emission
	☒	ANSI C63.10	11.10.2	Method PKPSD (peak PSD)
	☐	ANSI C63.10	11.10.3	Method AVGPSD-1(Duty cycle≥98%)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle≥98%)
	☐	ANSI C63.10	11.10.5	Method AVGPSD-2(Duty cycle<98%)
	☐	ANSI C63.10	11.10.6	Method AVGPSD-2A(Duty cycle<98%)
	☐	ANSI C63.10	11.10.7	Method AVGPSD-3
	☐	ANSI C63.10	11.10.8	Method AVGPSD-3A

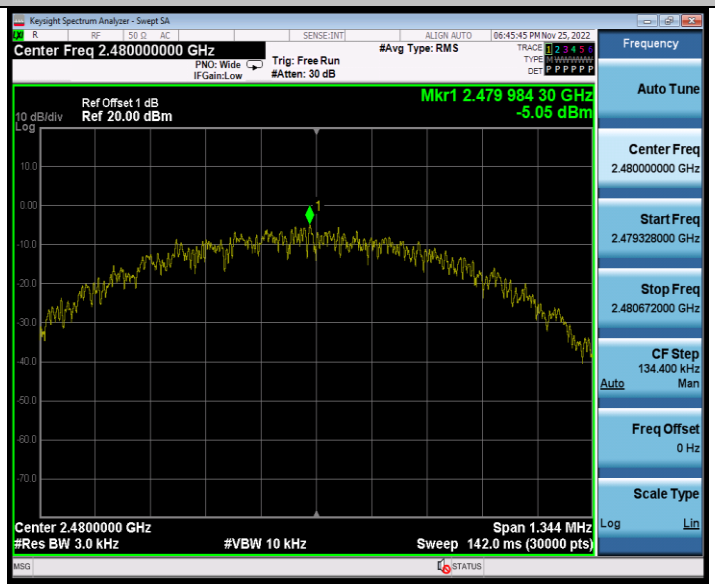
4.8.4 Test Data

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
Mode 1	00	2402	-5.04	≤8	Pass
	19	2440	-4.73	≤8	Pass
	39	2480	-5.06	≤8	Pass
Mode 2	00	2402	-7.45	≤8	Pass
	19	2440	-7.31	≤8	Pass
	39	2480	-7.56	≤8	Pass
Mode 3	00	2402	-7.31	≤8	Pass
	19	2440	-7.12	≤8	Pass
	39	2480	-7.32	≤8	Pass
Mode 4	00	2402	4.68	≤8	Pass
	19	2440	4.79	≤8	Pass
	39	2480	4.54	≤8	Pass

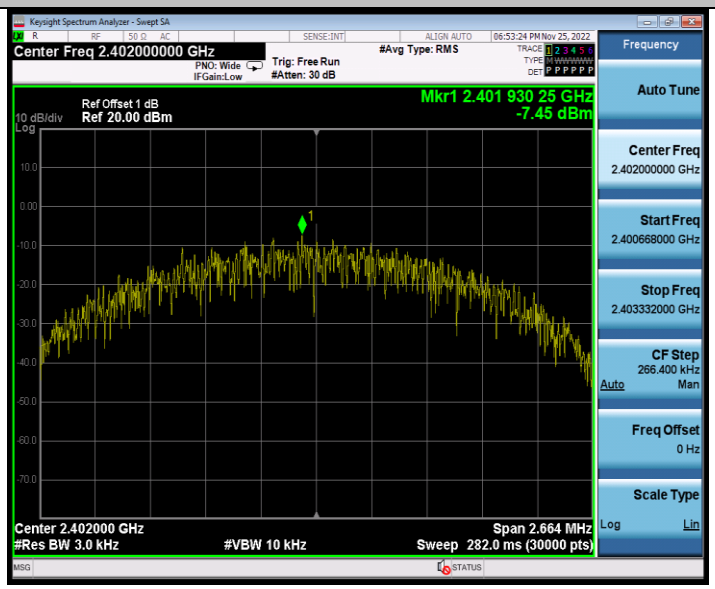


BLE_1M_Ant1_2402

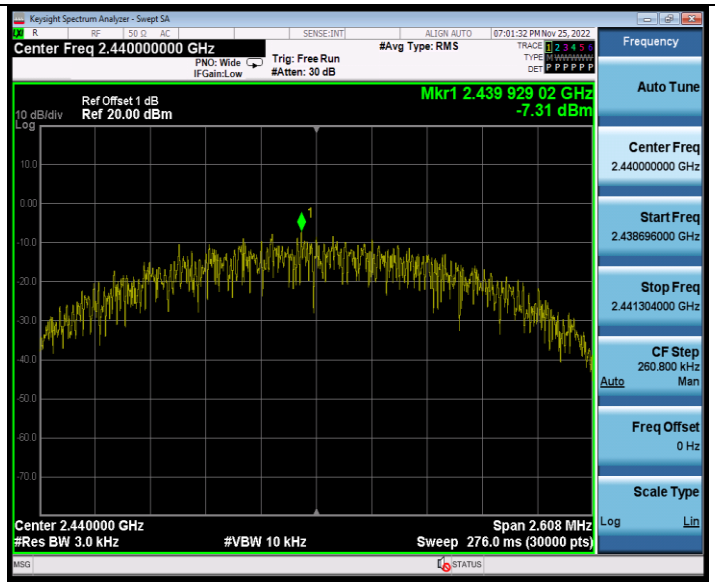
BLE_1M_Ant1_2440



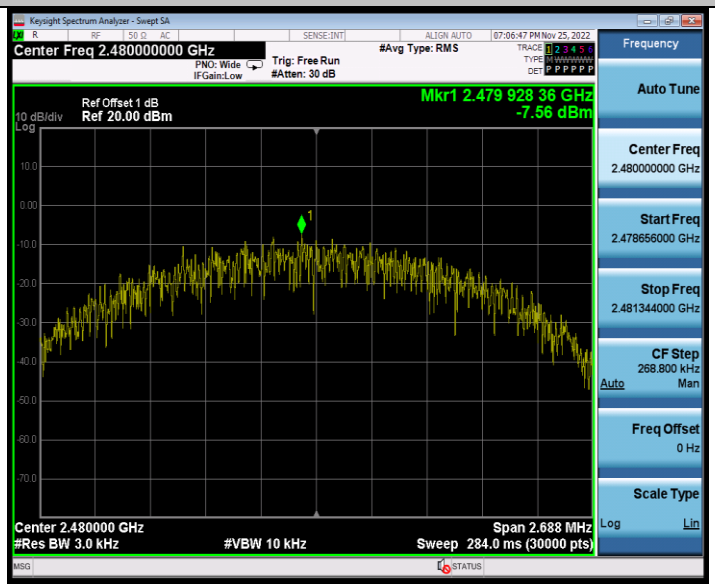
BLE_1M_Ant1_2480



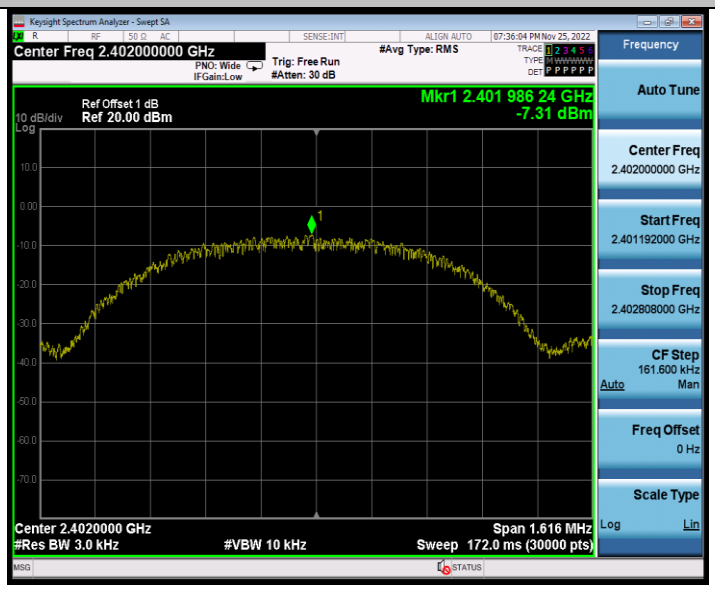
BLE_2M_Ant1_2402



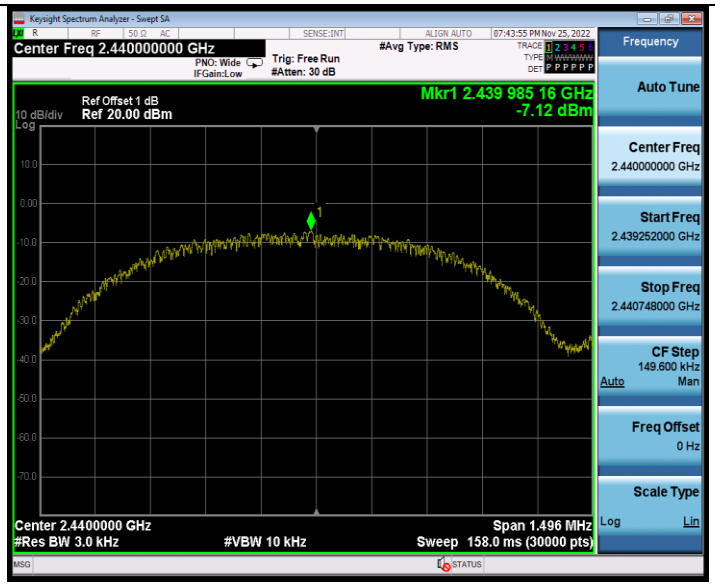
BLE_2M_Ant1_2440



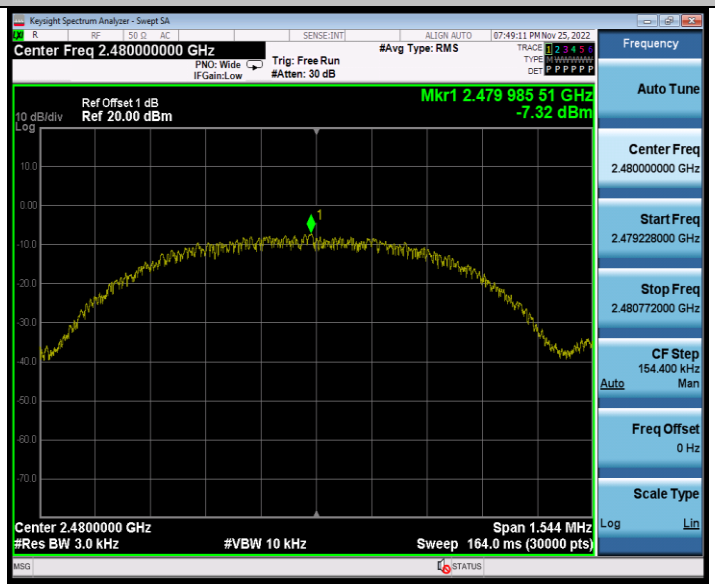
BLE_2M_Ant1_2480



BLE_500K_Ant1_2402



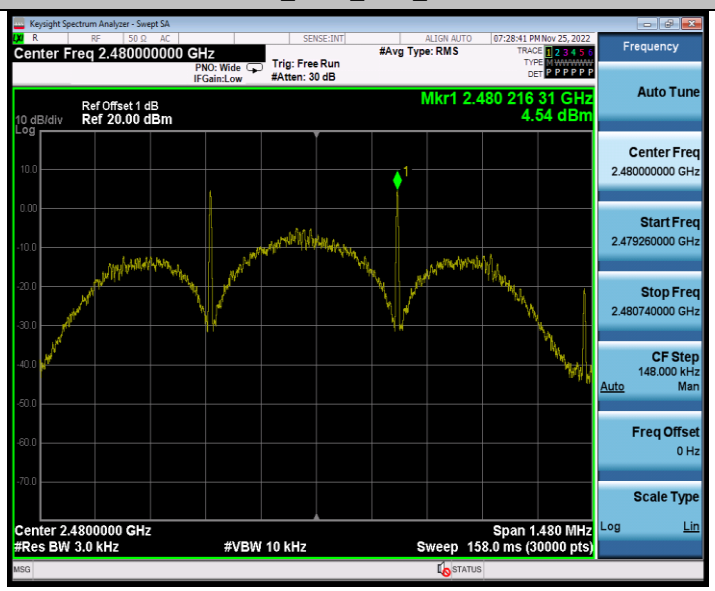
BLE_500K_Ant1_2440



BLE_500K_Ant1_2480

BLE_125K_Ant1_2402

BLE_125K_Ant1_2440



BLE_125K_Ant1_2480

4.9 Antenna Requirement	VERDICT: PASS

4.9.1 Limit:	
Standard	FCC Part 15 Subpart C Paragraph 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.	

4.9.2 Antenna Connector Construction:	
☒	The use of a permanently attached antenna
☐	The antenna use of a unique coupling to the intentional radiator
☐	The use of a nonstandard antenna jack or electrical connector
Please refer to the attached document “Internal Photograph” to show the antenna connector.	

5 TEST SETUP PHOTO AND EUT PHOTO

Remark: The test setup photo and EUT Photo please see appendix.

The End