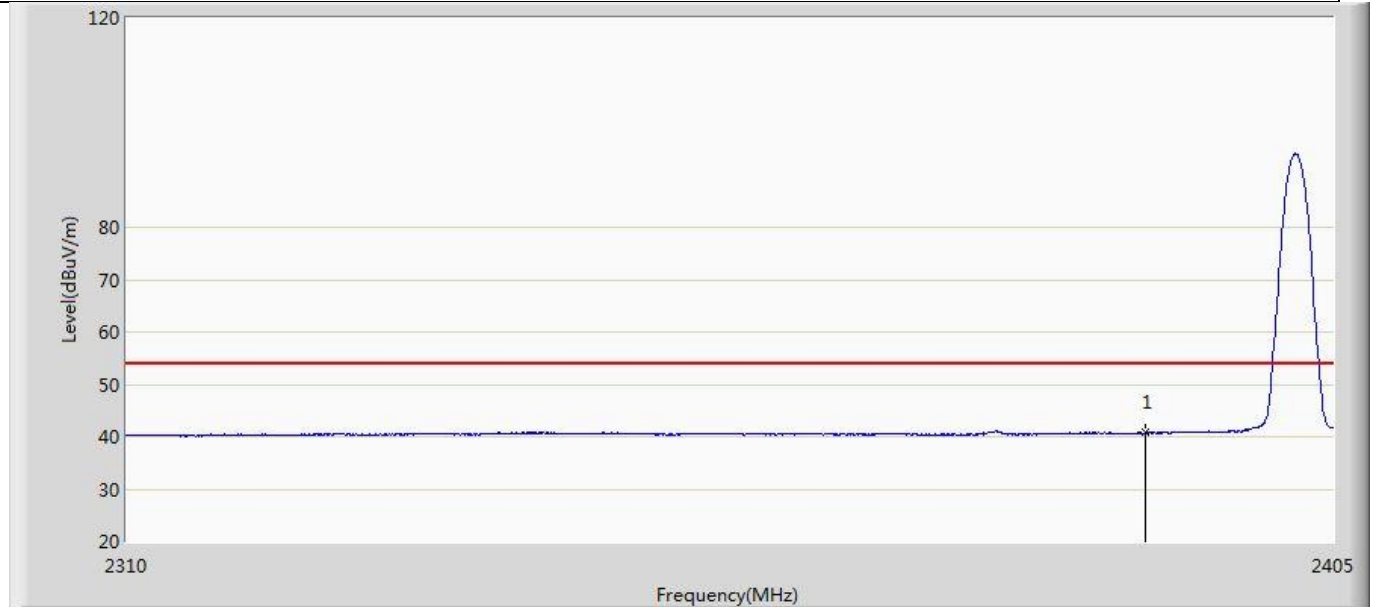
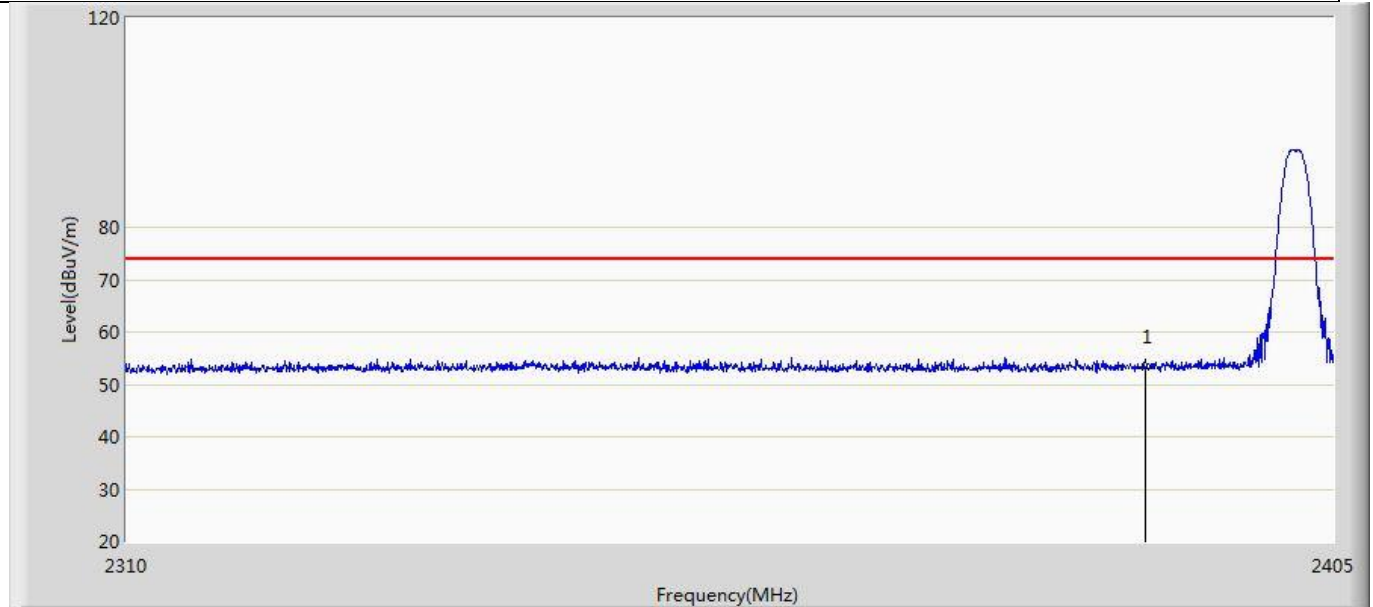


Profile: 2220606R	Page No.: 27
Engineer: Carlosshen	
Site: AC5	Time: 2022/03/28 - 22:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: UWB SIP MODULE	Power: DC5V
Note: Mode 4:Transmit at 2402MHz by coded 8	



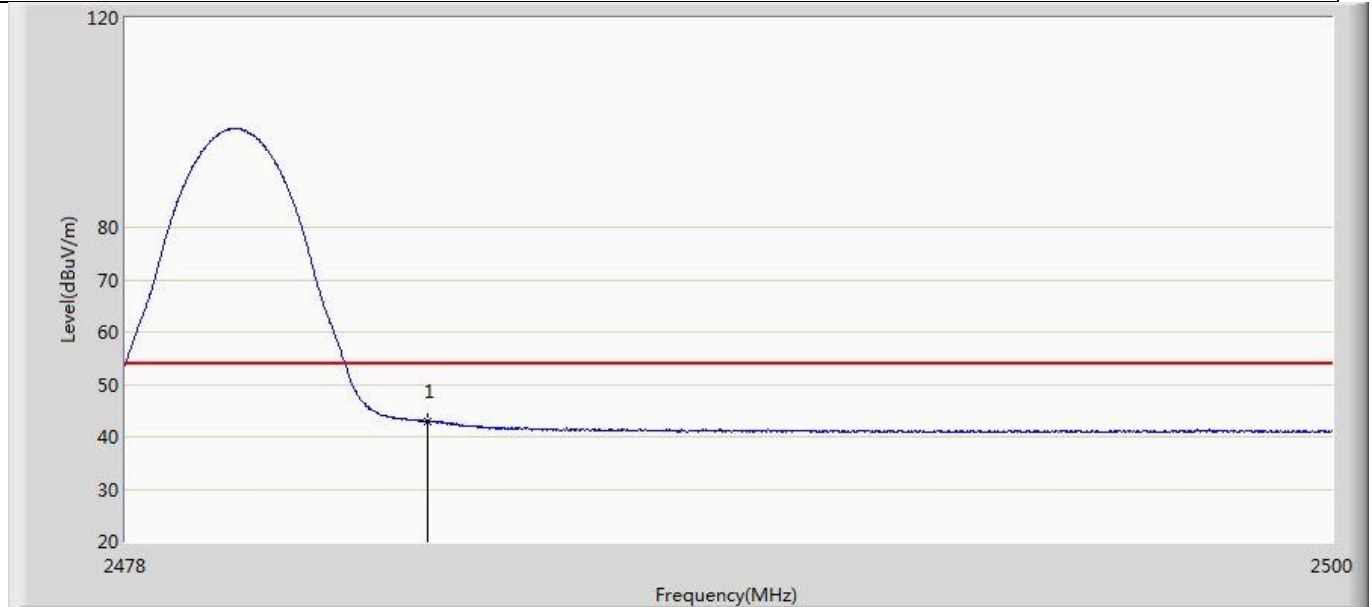
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	40.746	2.441	-13.254	54.000	38.305	AV

Profile: 2220606R	Page No.: 28
Engineer: Carlosshen	
Site: AC5	Time: 2022/03/28 - 22:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: UWB SIP MODULE	Power: DC5V
Note: Mode 4:Transmit at 2402MHz by coded 8	



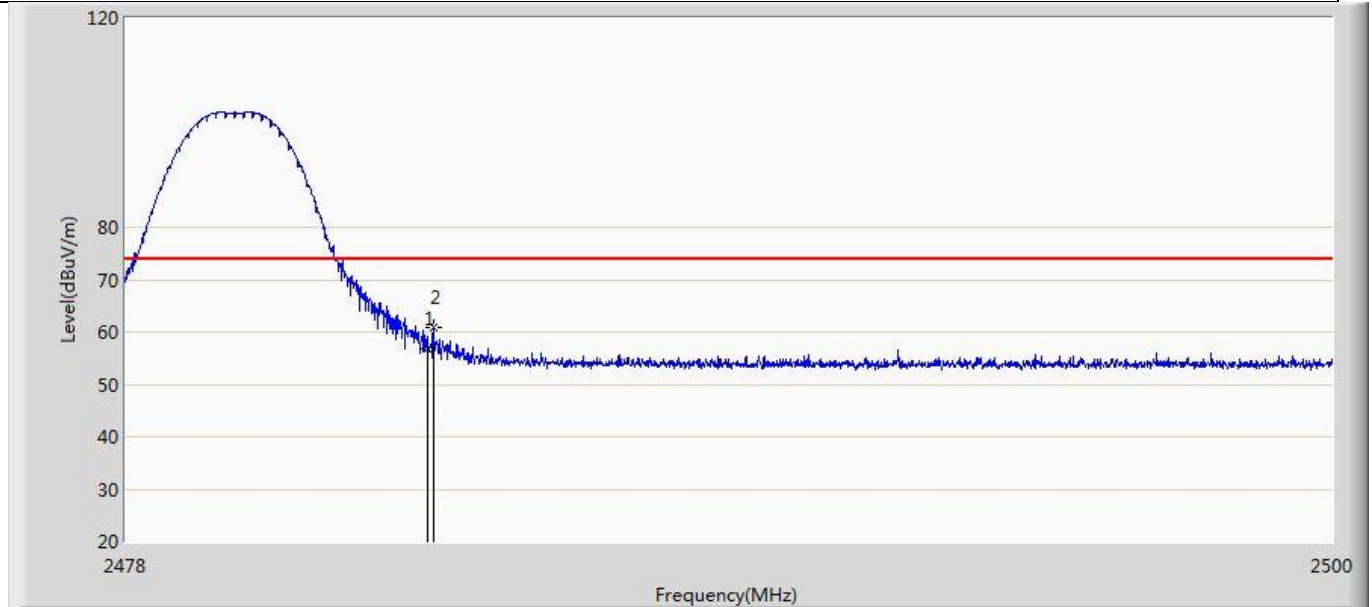
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	53.208	14.903	-20.792	74.000	38.305	PK

Profile: 2220606R	Page No.: 29
Engineer: Carlosshen	
Site: AC5	Time: 2022/03/28 - 22:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: UWB SIP MODULE	Power: DC5V
Note: Mode 4:Transmit at 2480MHz by coded 8	



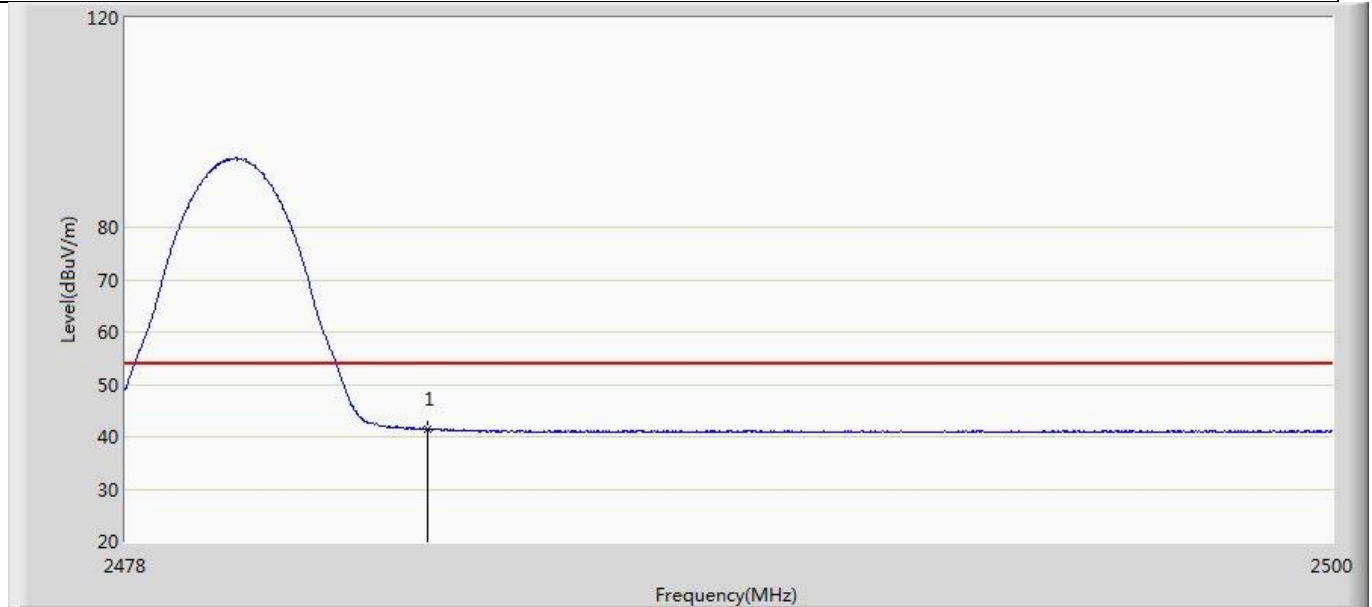
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	42.971	4.517	-11.029	54.000	38.453	AV

Profile: 2220606R	Page No.: 30
Engineer: Carlosshen	
Site: AC5	Time: 2022/03/28 - 22:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: UWB SIP MODULE	Power: DC5V
Note: Mode 4:Transmit at 2480MHz by coded 8	



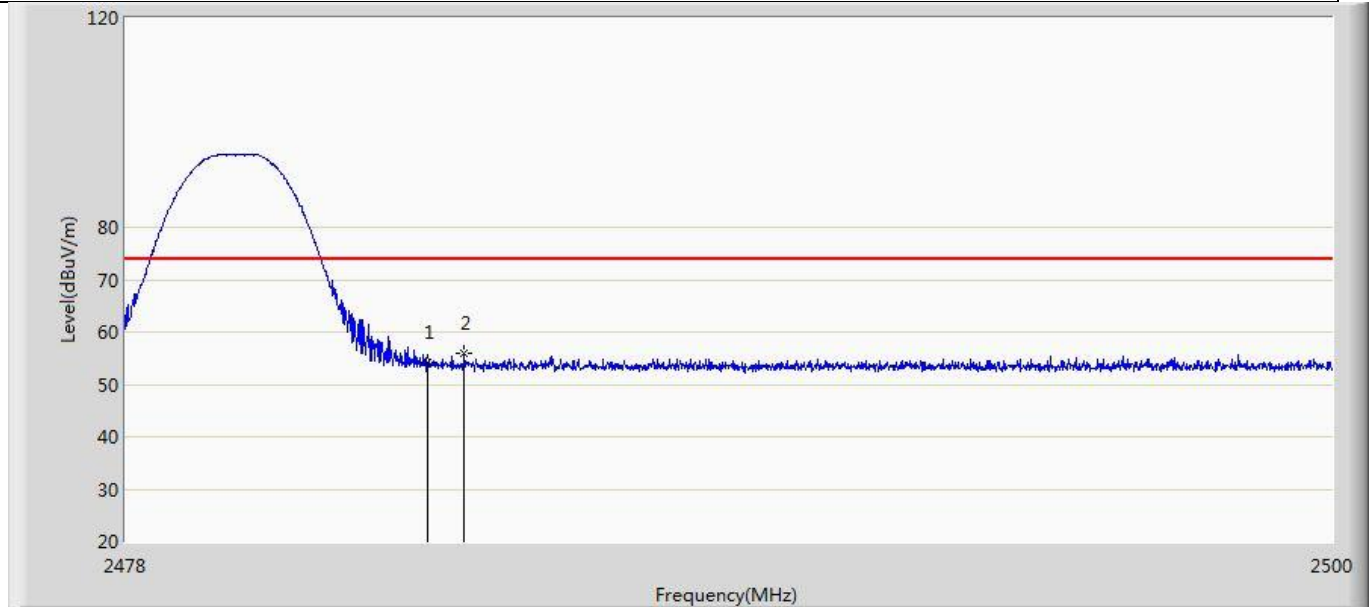
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2483.500	56.912	18.458	-17.088	74.000	38.453	PK
2	*	2483.599	60.752	22.298	-13.248	74.000	38.455	PK

Profile: 2220606R	Page No.: 31
Engineer: Carlosshen	
Site: AC5	Time: 2022/03/28 - 22:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: UWB SIP MODULE	Power: DC5V
Note: Mode 4:Transmit at 2480MHz by coded 8	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	41.506	3.052	-12.494	54.000	38.453	AV

Profile: 2220606R	Page No.: 32
Engineer: Carlosshen	
Site: AC5	Time: 2022/03/28 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: UWB SIP MODULE	Power: DC5V
Note: Mode 4:Transmit at 2480MHz by coded 8	

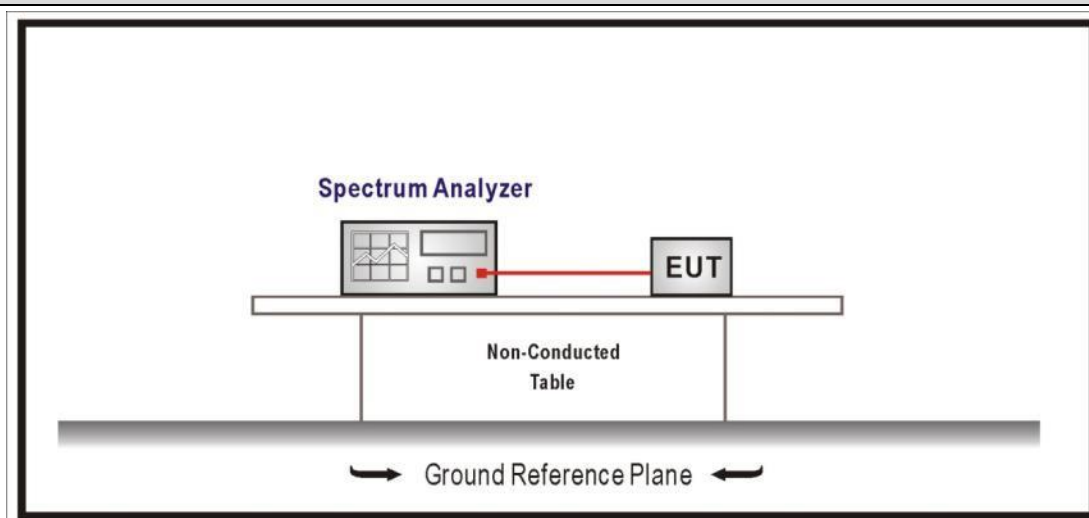


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2483.500	54.346	15.892	-19.654	74.000	38.453	PK
2	*	2484.160	55.998	17.542	-18.002	74.000	38.455	PK

4.6 DTS Bandwidth**VERDICT: PASS****4.6.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15.247 (a)(2)
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Systems using digital modulation techniques operate in the 2400-2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz

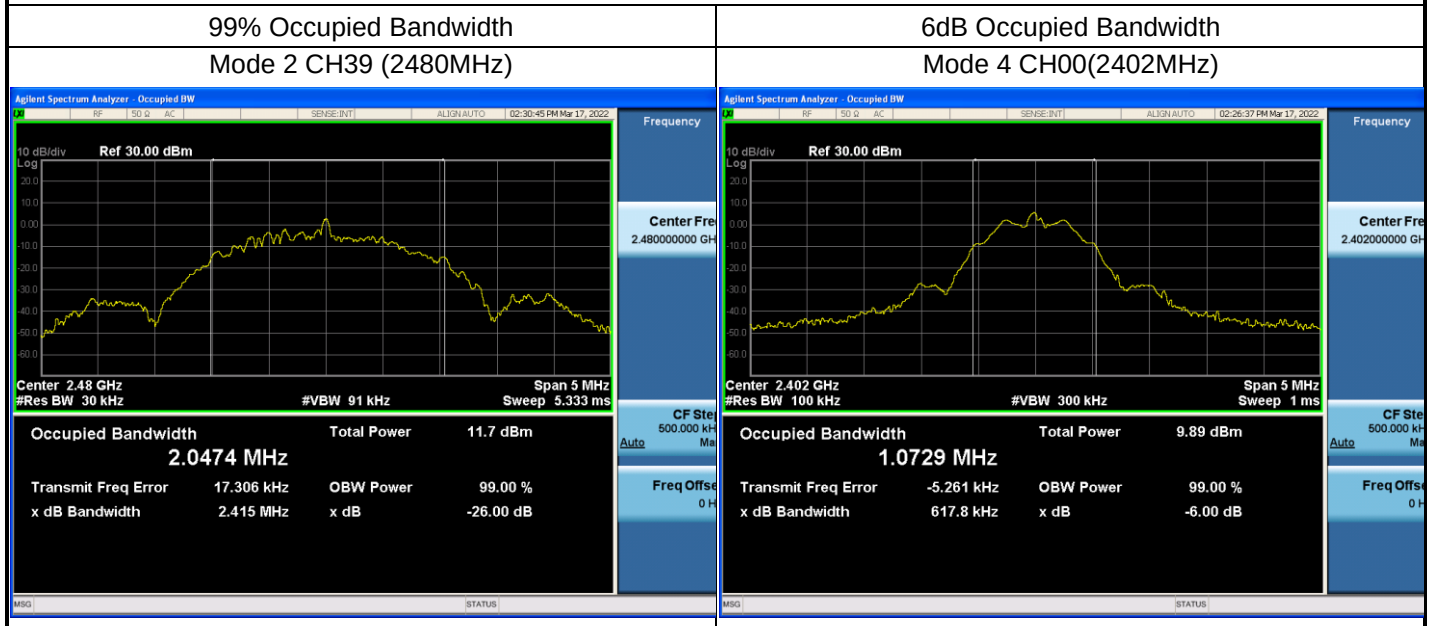
4.6.2 Test Setup**4.6.3 Test Procedure**

	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 (kHz)	Limit (kHz)	Result
1	00	2402	1.0518	692.3	>500	Pass
	19	2440	1.0466	697.5	>500	Pass
	39	2480	1.0553	695.1	>500	Pass
2	00	2402	2.0372	1139	>500	Pass
	19	2440	2.0467	1100	>500	Pass
	39	2480	2.0474	1158	>500	Pass
3	00	2402	1.0362	702.5	>500	Pass
	19	2440	1.0321	700.0	>500	Pass
	39	2480	1.0383	692.1	>500	Pass
4	00	2402	1.0807	617.8	>500	Pass
	19	2440	1.0764	724.0	>500	Pass
	39	2480	1.0785	726.6	>500	Pass

Note : The worst case of Occupied Bandwidth as below:



4.7 Fundamental emission output power

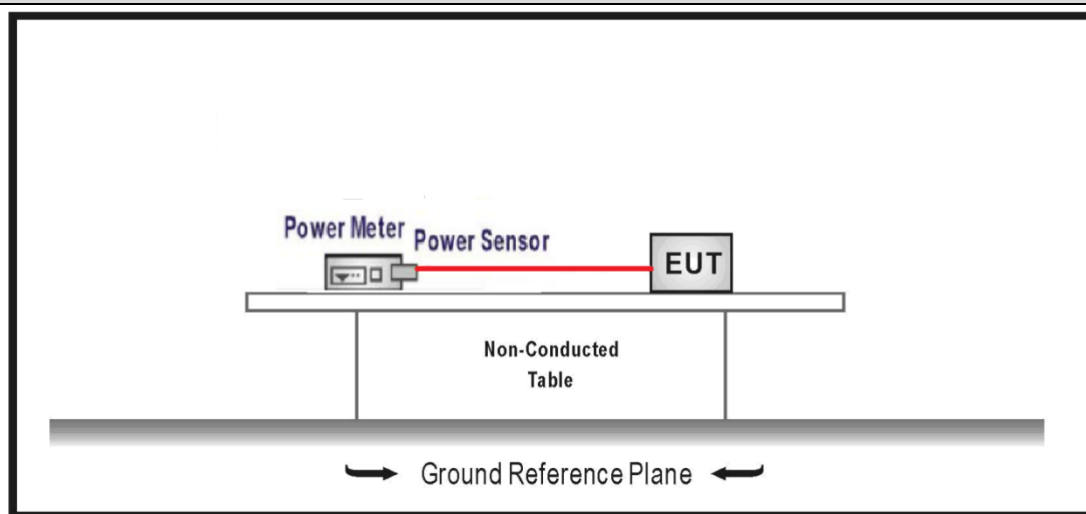
VERDICT: PASS

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

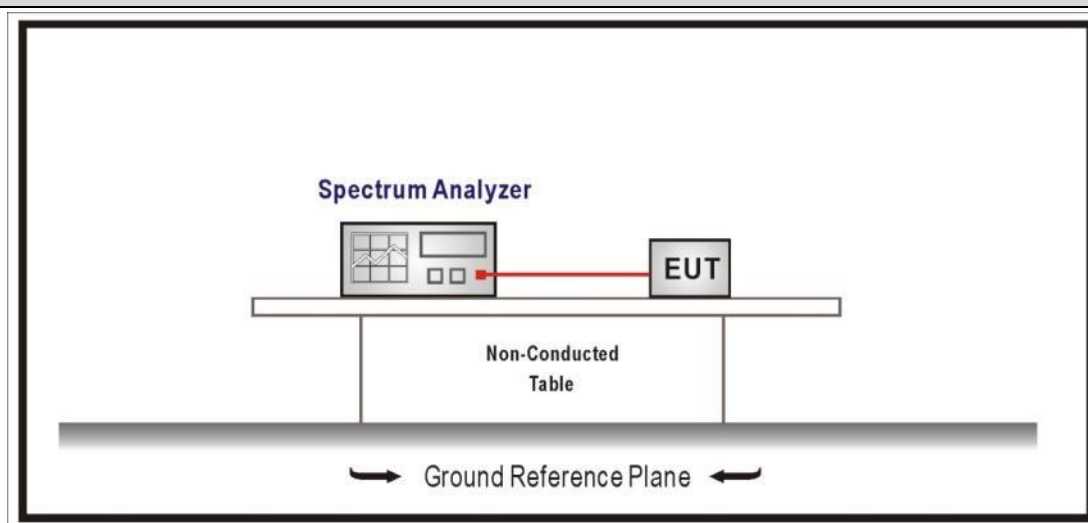
	References Rule		Chapter	Description
☒	ANSI C63.10		11.9	Fundamental emission output power
	☐	ANSI C63.10		11.9.1 Maximum peak conducted output power
	☐	☐	ANSI C63.10	11.9.1.1 RBW $\geq$ DTS bandwidth
		☐	ANSI C63.10	11.9.1.2 Integrated band power method
		☒	ANSI C63.10	11.9.1.3 PKPM1 Peak power meter 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 $\geq 98\%$)
		☐	ANSI C63.10	11.9.2.2.3 Method AVGSA-1A(Duty cycle $\geq 98\%$)
		☐	ANSI C63.10	11.9.2.2.4 Method AVGSA-2(Duty cycle $\leq 98\%$)
		☐	ANSI C63.10	11.9.2.2.5 Method AVGSA-2A(Duty cycle $\leq 98\%$)
		☐	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)	Conducted Power Limit (dBm)	Result
Mode 1	00	2402	6.49	≤ 30	Pass
	19	2440	6.43	≤ 30	Pass
	39	2480	6.51	≤ 30	Pass
Mode 2	00	2402	6.58	≤ 30	Pass
	19	2440	6.53	≤ 30	Pass
	39	2480	6.52	≤ 30	Pass
Mode 3	00	2402	6.58	≤ 30	Pass
	19	2440	6.59	≤ 30	Pass
	39	2480	6.49	≤ 30	Pass
Mode 4	00	2402	6.55	≤ 30	Pass
	19	2440	6.59	≤ 30	Pass
	39	2480	6.52	≤ 30	Pass

4.8 Power Density**VERDICT: PASS****4.8.1 Limit:**

Standard	FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
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Power Spectral Density $\leq 8\text{dBm}/3\text{kHz}$ **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 $\geq 98\%$)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle $\geq 98\%$)
	☒	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	-8.666	≤8	Pass
	19	2440	-9.023	≤8	Pass
	39	2480	-9.033	≤8	Pass
Mode 2	00	2402	-11.287	≤8	Pass
	19	2440	-11.645	≤8	Pass
	39	2480	-11.548	≤8	Pass
Mode 3	00	2402	0.589	≤8	Pass
	19	2440	0.189	≤8	Pass
	39	2480	0.165	≤8	Pass
Mode 4	00	2402	0.669	≤8	Pass
	19	2440	0.403	≤8	Pass
	39	2480	0.348	≤8	Pass

Note : The worst case of PSD as below:

Mode 4 CH00(2402MHz)



4.9 Antenna Requirement**VERDICT: PASS****4.9.1 Limit:**

Standard	FCC Part 15 Subpart C Paragraph 15.203
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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 _____