

[Test mode: TX High channel]; [Polarity: Horizontal]

Radiated Emission Measurement

Project No.: REH 100mm

Data :#13

2025/8/13



Site

Polarization: **Horizontal**

Temperature: (C)

Limit: FCC Part15 (PK)

Power:

Humidity: %RH

EUT: Bluetooth Module

M/N: FSC-BT986

Mode: BLF-2480

Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over							
						MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4960.000	38.51	7.41	45.92	74.00	-28.08			peak				
2	7133.500	38.79	10.57	49.36	74.00	-24.64			peak				
3	8672.750	38.90	11.80	50.70	74.00	-23.30			peak				
4	10024.00	36.91	13.24	50.15	74.00	-23.85			peak				
5	10999.25	37.36	12.97	50.33	74.00	-23.67			peak				
6 *	12009.75	37.55	14.22	51.77	74.00	-22.23			peak				

*:Maximum data x:Over limit !:over margin

Receiver: ESR 1

Test Result: Pass

〈Reference Only

Spectrum Analyzer

FSP40

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Version:v1.3



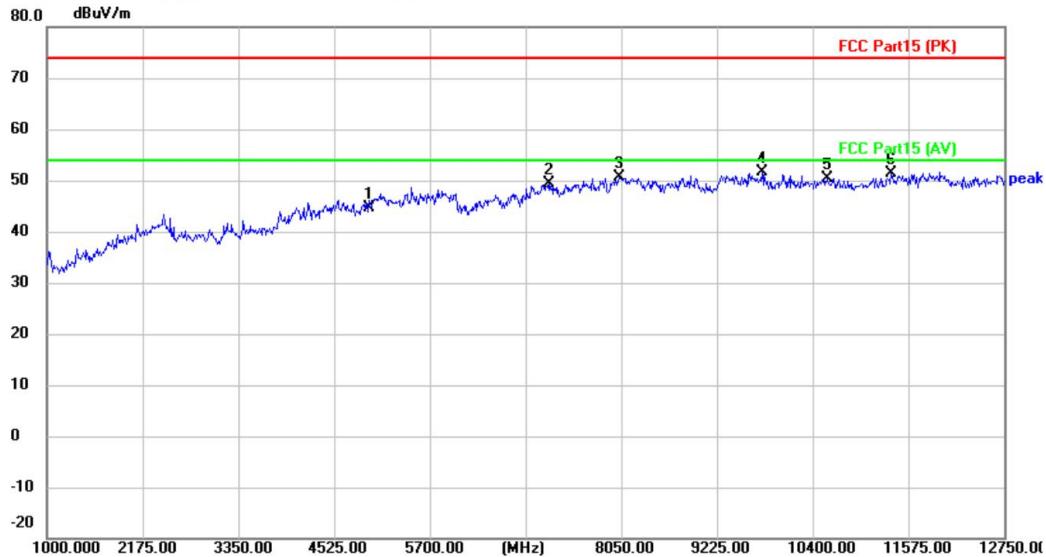
[Test mode: TX High channel]; [Polarity: Vertical]

Radiated Emission Measurement

Project No.: REH 100mm

Data :#14

2025/8/13



Site

Polarization: **Vertical**

Temperature: (C)

Limit: FCC Part15 (PK)

Power:

Humidity: %RH

EUT: Bluetooth Module

M/N: FSC-BT986

Mode: BLF-2480

Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over							
						MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4960.000	37.25	7.41	44.66	74.00	-29.34			peak				
2	7168.750	38.82	10.57	49.39	74.00	-24.61			peak				
3	8026.500	39.00	11.65	50.65	74.00	-23.35			peak				
4 *	9777.250	37.91	13.71	51.62	74.00	-22.38			peak				
5	10576.25	36.79	13.63	50.42	74.00	-23.58			peak				
6	11363.50	37.51	13.87	51.38	74.00	-22.62			peak				

*:Maximum data x:Over limit !:over margin

Receiver: ESR 1

Spectrum Analyzer:

⟨Reference Only

FSP40

Test Result: Pass

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Version:v1.3

6.9 Radiated emissions which fall in the restricted bands

Test Standard	47 CFR Part 15, Subpart C 15.247(d)
Test Method	ANSI C63.10-2013 Clause 6.12
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

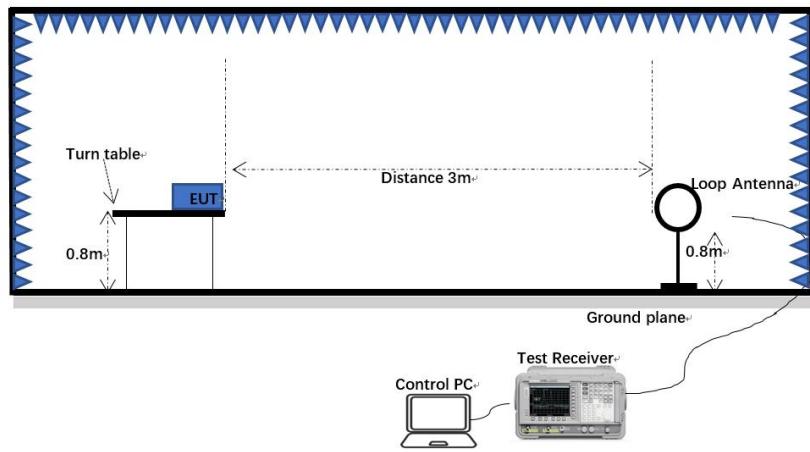
6.9.1 Limit

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
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

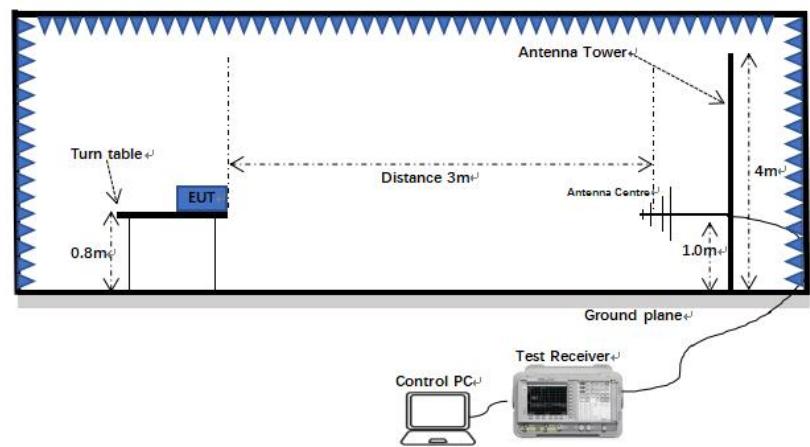
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

6.9.2 Test setup

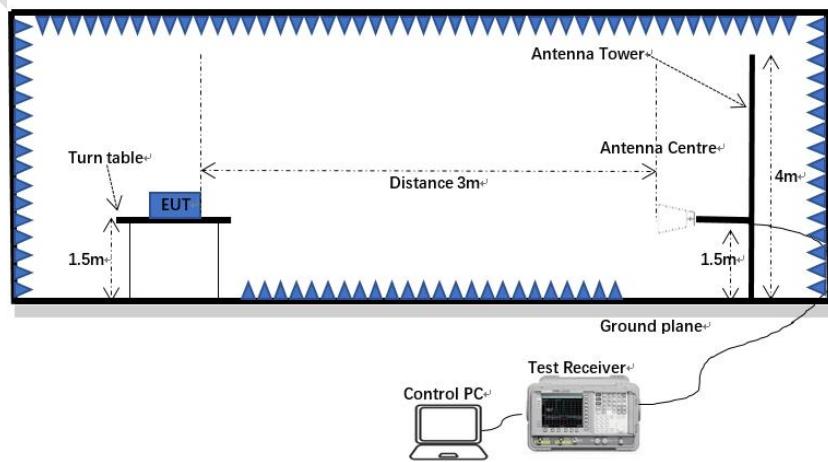
Below 1GHz:



30MHz-1GHz:



Above 1GHz:



6.9.3 Procedure

- a) For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b) For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c) The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d) The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f) The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g) If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h) Test the EUT in the lowest channel, the middle channel, the highest channel.
- i) The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j) Repeat above procedures until all frequencies measured was complete.

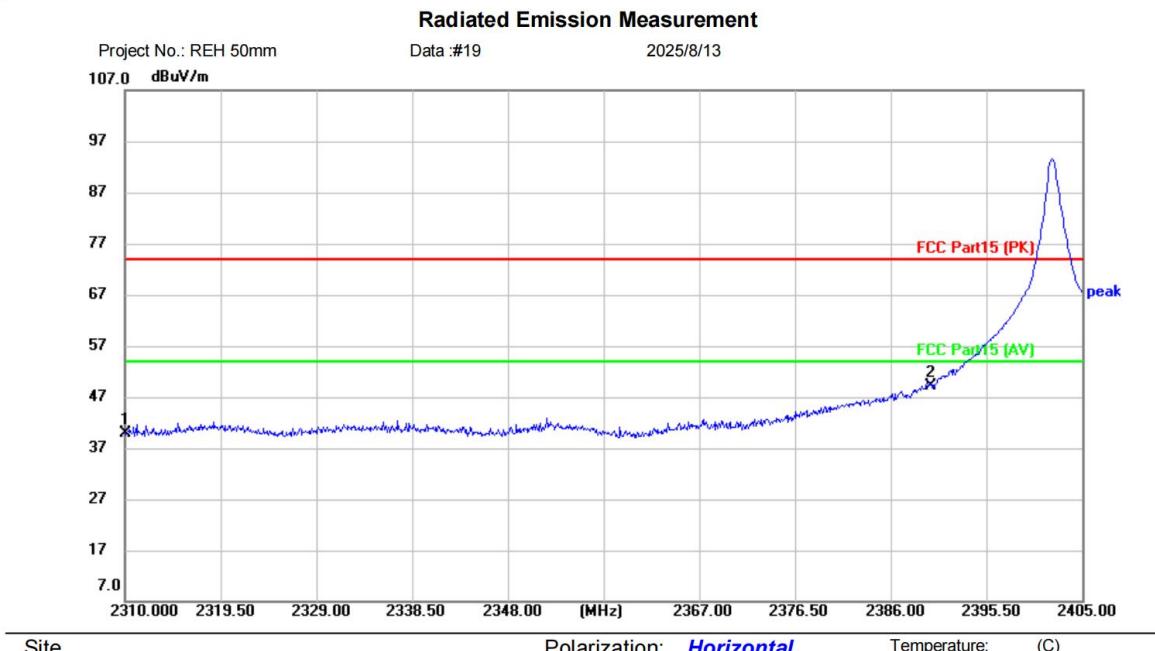
Note 1: Level (dBuV) = Reading (dBuV) + Factor (dB/m)

Note 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

6.9.4 Test data

Antenna1:

[Test mode: TX low channel]; [Polarity: Horizontal]



Site	Polarization: Horizontal	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Bluetooth Module		
M/N: FSC-BT986		
Mode: BLE1M-2402		
Note:		

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
			Level	Factor	ment			
1		2310.000	42.80	-2.87	39.93	74.00	-34.07	peak
2	*	2390.000	51.64	-2.44	49.20	74.00	-24.80	peak

Test Result: Pass

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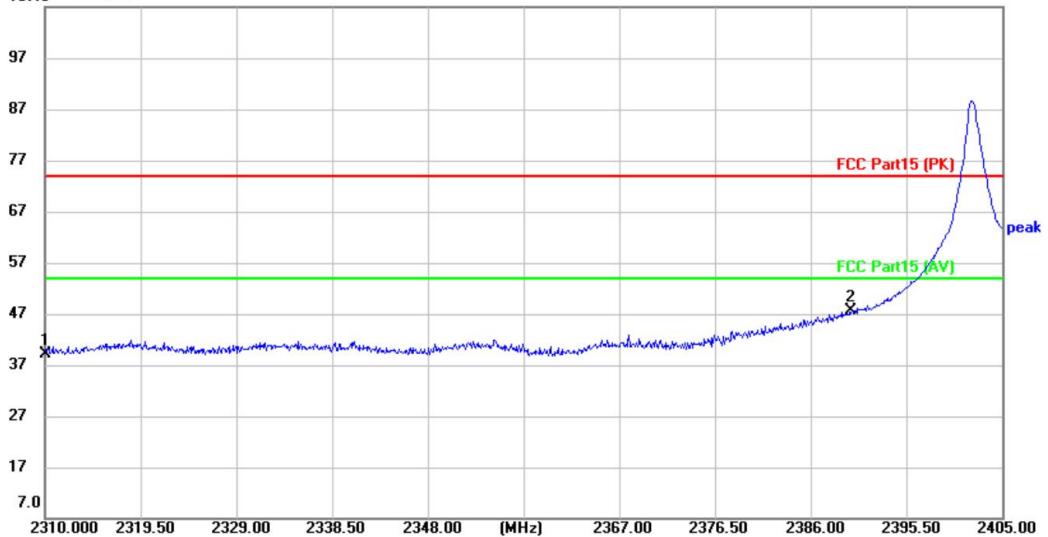
Version:v1.3

[Test mode:TX low channel]; [Polarity: Vertical]
Radiated Emission Measurement

Project No.: REH 50mm

Data #:20

2025/8/13

107.0 dB_{uV/m}


Site

Polarization: **Vertical**

Temperature: (C)

Limit: FCC Part15 (PK)

Power:

Humidity: %RH

EUT: Bluetooth Module

M/N: FSC-BT986

Mode: BLE1M-2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dB _{uV}	dB	dB _{uV/m}	dB _{uV/m}	dB	Detector	Comment
1		2310.000	42.10	-2.87	39.23	74.00	-34.77	peak	
2	*	2390.000	50.04	-2.44	47.60	74.00	-26.40	peak	

*:Maximum data x:Over limit !:over margin

⟨Reference Only

Receiver: ESR_1

Spectrum Analyzer:

FSP40

Test Result: Pass
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Version:v1.3

[Test mode: TX High channel]; [Polarity: Horizontal]
Radiated Emission Measurement

Project No.: REH 50mm

Data #:21

2025/8/13

107.0 dBuV/m



Site

Polarization: **Horizontal**

Temperature: (C)

Limit: FCC Part15 (PK)

Power:

Humidity: %RH

EUT: Bluetooth Module

M/N: FSC-BT986

Mode: BLE1M-2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB	Detector	Comment
1	*	2483.500	65.96	-2.91	63.05	74.00	-10.95	peak
2		2483.500	45.70	-2.91	42.79	54.00	-11.21	AVG
3		2500.000	46.75	-3.00	43.75	74.00	-30.25	peak

*:Maximum data x:Over limit !:over margin

⟨Reference Only

Receiver: ESR_1

Spectrum Analyzer:

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Test Result: Pass
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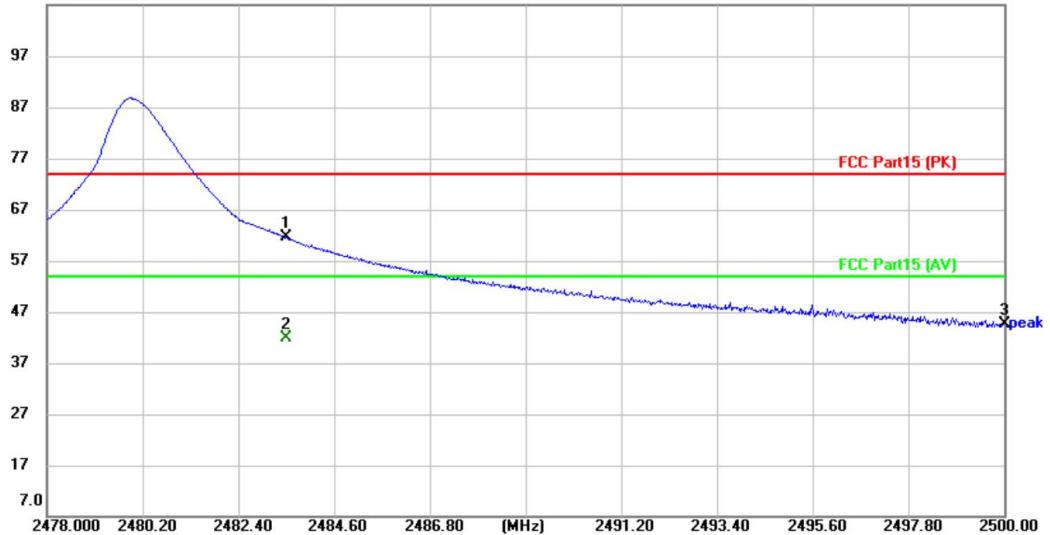
Version:v1.3

[Test mode:TX High channel]; [Polarity: Vertical]
Radiated Emission Measurement

Project No.: REH 50mm

Data #:22

2025/8/13

107.0 dB_{uV/m}


Site

Polarization: **Vertical**

Temperature: (C)

Limit: FCC Part15 (PK)

Power:

Humidity: %RH

EUT: Bluetooth Module

M/N: FSC-BT986

Mode: BLE1M-2402

Note:

No.	Mk.	Freq. MHz	Reading Level dB _{uV}	Correct Factor dB	Measure- ment dB _{uV/m}	Limit dB _{uV/m}	Over dB	Detector	Comment
1		2483.500	64.44	-2.91	61.53	74.00	-12.47	peak	
2	*	2483.500	44.80	-2.91	41.89	54.00	-12.11	AVG	
3		2500.000	47.61	-3.00	44.61	74.00	-29.39	peak	

*:Maximum data x:Over limit !:over margin

⟨Reference Only

Receiver: ESR_1

Spectrum Analyzer:

FSP40

Test Result: Pass
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Version:v1.3

Antenna2:

[Test mode: TX low channel]; [Polarity: Horizontal]

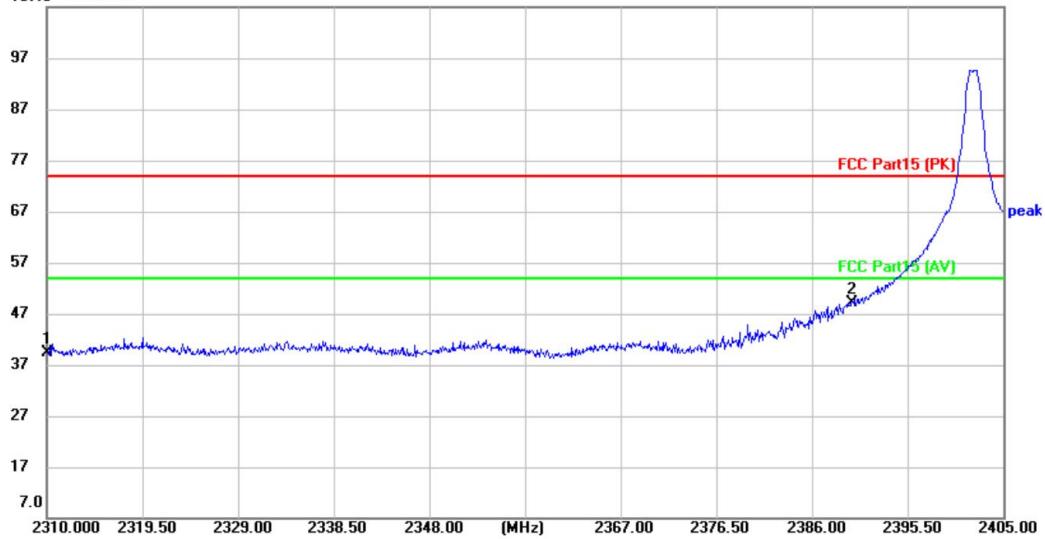
Radiated Emission Measurement

Project No.: REH 100mm

Data #:19

2025/8/13

107.0 dB_{uV/m}



Site

Polarization: **Horizontal**

Temperature: (C)

Limit: FCC Part15 (PK)

Power:

Humidity: %RH

EUT: Bluetooth Module

M/N: FSC-BT986

Mode: BLE1M-2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dB _{uV}	dB	dB _{uV/m}	dB _{uV/m}	dB	Detector	Comment
1		2310.000	42.28	-2.87	39.41	74.00	-34.59	peak	
2	*	2390.000	51.57	-2.44	49.13	74.00	-24.87	peak	

Test Result: Pass

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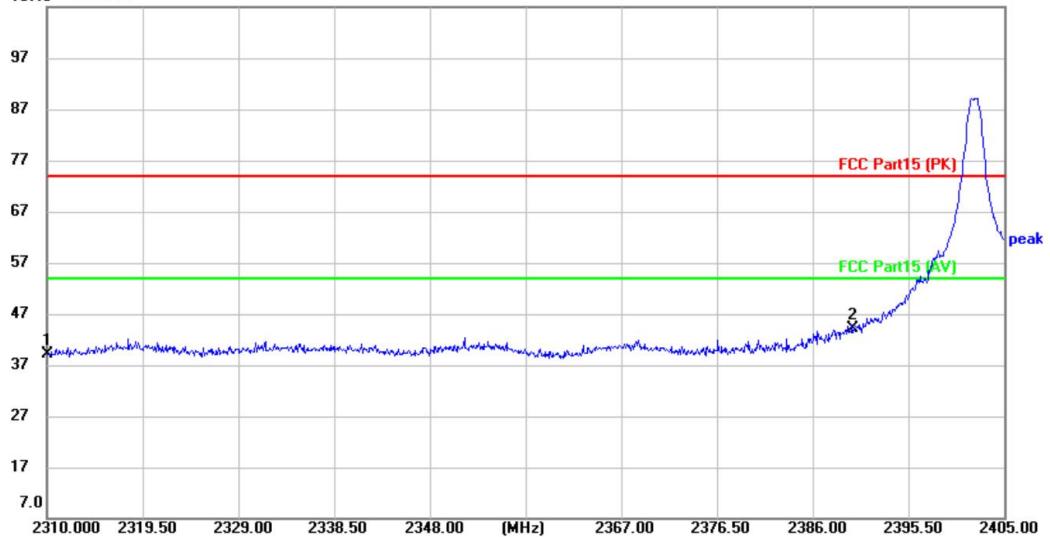
Version:v1.3

[Test mode:TX low channel]; [Polarity: Vertical]
Radiated Emission Measurement

Project No.: REH 100mm

Data #:20

2025/8/13

107.0 dB_{uV/m}


Site

Polarization: **Vertical**

Temperature: (C)

Limit: FCC Part15 (PK)

Power:

Humidity: %RH

EUT: Bluetooth Module

M/N: FSC-BT986

Mode: BLE1M-2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dB _{uV}	dB	dB _{uV/m}	dB	Detector	Comment
1		2310.000	41.96	-2.87	39.09	74.00	-34.91	peak
2	*	2390.000	46.49	-2.44	44.05	74.00	-29.95	peak

*:Maximum data x:Over limit !:over margin

⟨Reference Only

Receiver: ESR_1

Spectrum Analyzer:

FSP40

Test Result: Pass
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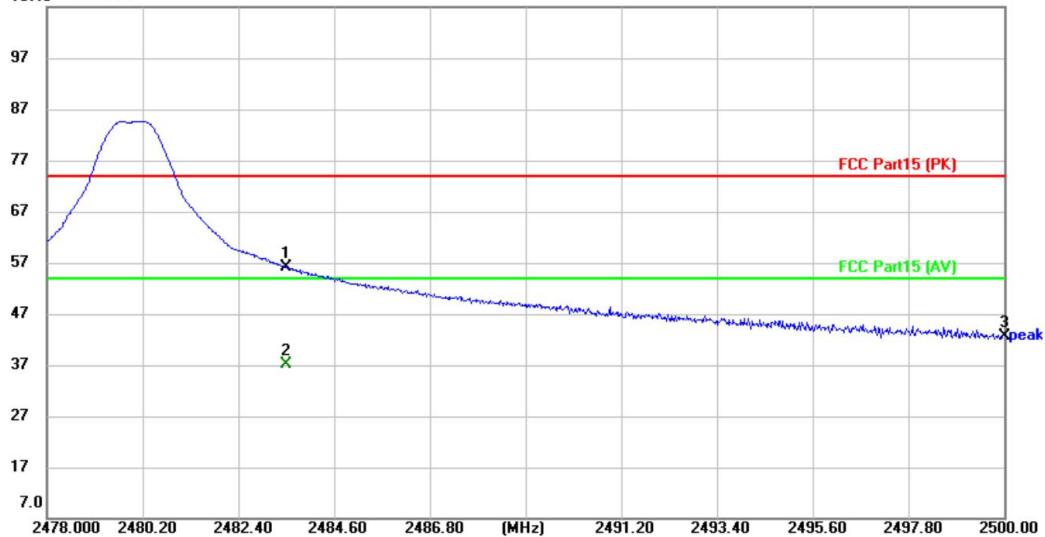
Version:v1.3

[Test mode: TX High channel]; [Polarity: Horizontal]
Radiated Emission Measurement

Project No.: REH 100mm

Data #:21

2025/8/13

107.0 dB_{uV/m}


Site

Polarization: **Horizontal**

Temperature: (C)

Limit: FCC Part15 (PK)

Power:

Humidity: %RH

EUT: Bluetooth Module

M/N: FSC-BT986

Mode: BLE1M-2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dB _{uV}	dB	dB _{uV/m}	dB	Detector	Comment
1		2483.500	59.12	-2.91	56.21	74.00	-17.79	peak
2	*	2483.500	40.10	-2.91	37.19	54.00	-16.81	AVG
3		2500.000	45.54	-3.00	42.54	74.00	-31.46	peak

*:Maximum data x:Over limit !:over margin

⟨Reference Only

Receiver: ESR_1

Spectrum Analyzer:

FSP40

Test Result: Pass
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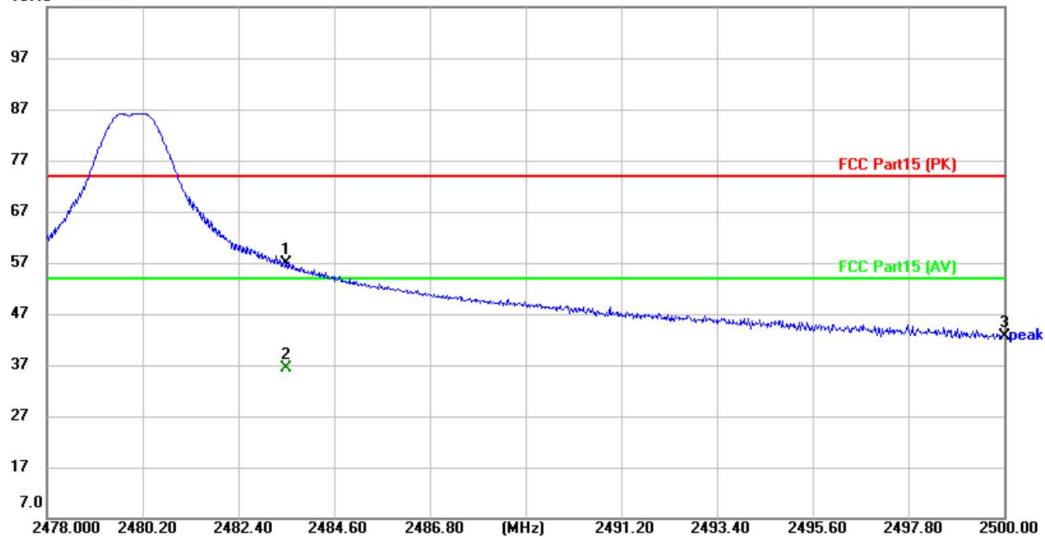
[Test mode:TX High channel]; [Polarity: Vertical]
Radiated Emission Measurement

Project No.: REH 100mm

Data #:22

2025/8/13

107.0 dBuV/m



Site

Polarization: **Vertical**

Temperature: (C)

Limit: FCC Part15 (PK)

Power:

Humidity: %RH

EUT: Bluetooth Module

M/N: FSC-BT986

Mode: BLE1M-2480

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB	Over Detector	Comment
1	*	2483.500	59.87	-2.91	56.96	74.00	-17.04	peak
2		2483.500	39.40	-2.91	36.49	54.00	-17.51	AVG
3		2500.000	45.54	-3.00	42.54	74.00	-31.46	peak

*:Maximum data x:Over limit !:over margin

⟨Reference Only

Receiver: ESR_1

Spectrum Analyzer:

FSP40

Test Result: Pass
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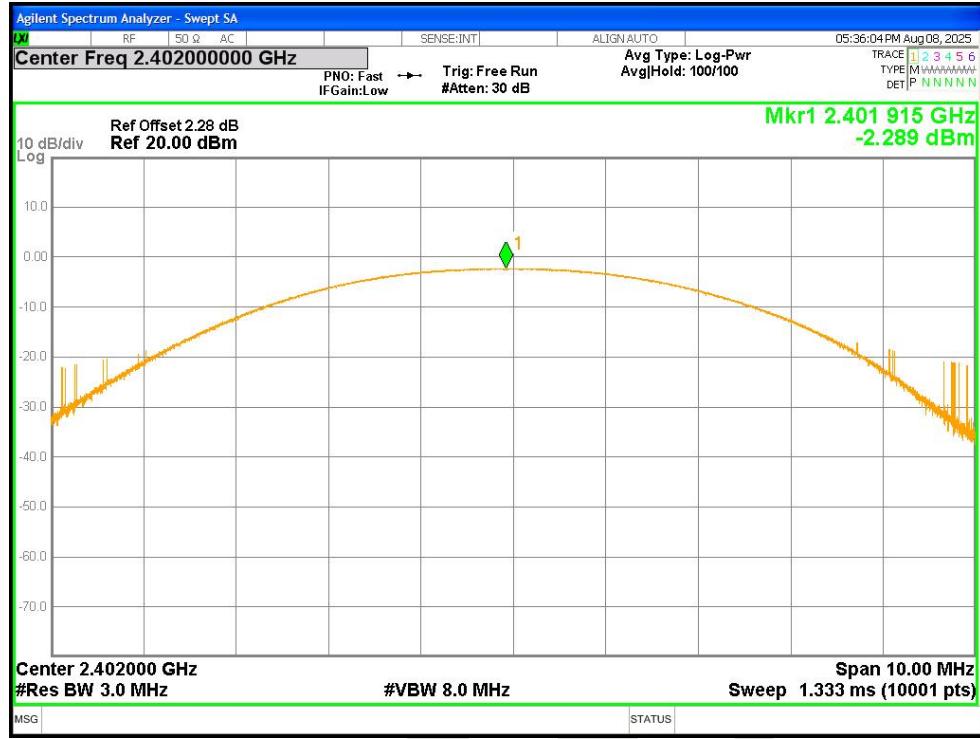
Version:v1.3

7 Appendix A

7.1 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant1	-2.289	30	Pass
NVNT	BLE	2442	Ant1	-2.308	30	Pass
NVNT	BLE	2480	Ant1	-2.101	30	Pass

Power NVNT BLE 2402MHz Ant1



Power NVNT BLE 2442MHz Ant1



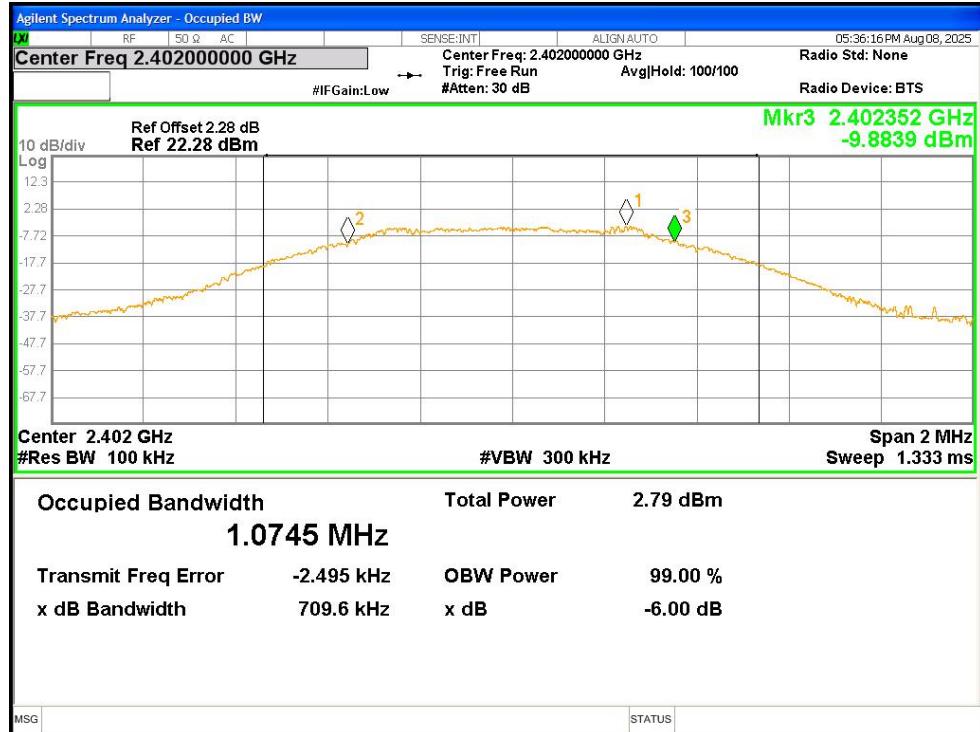
Power NVNT BLE 2480MHz Ant1



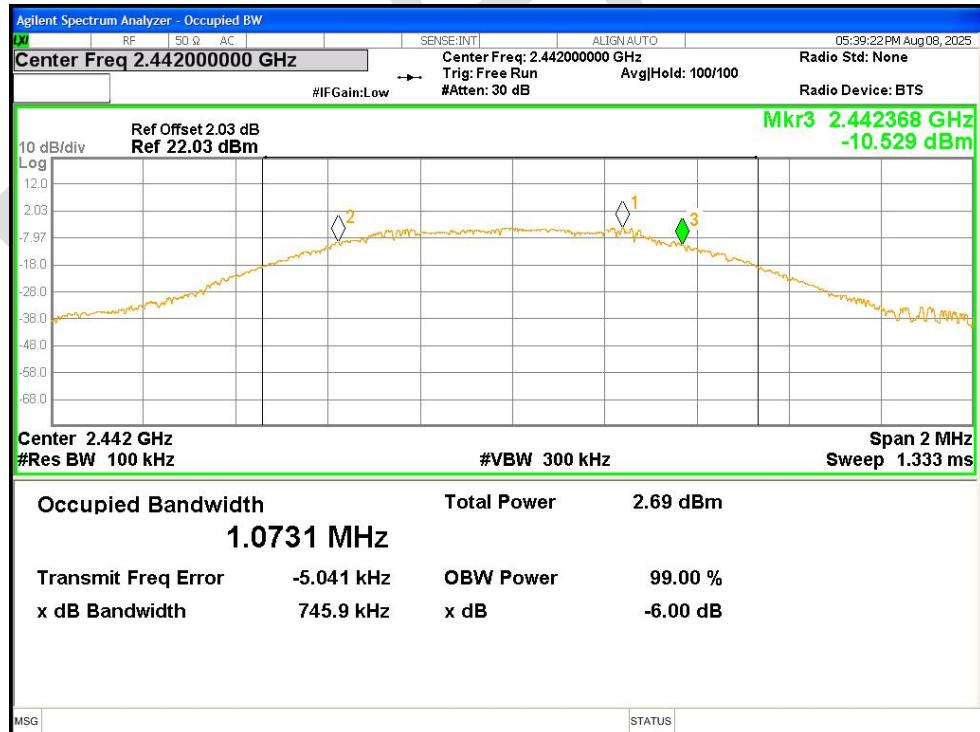
7.2 -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE	2402	Ant1	0.71	0.5	Pass
NVNT	BLE	2442	Ant1	0.746	0.5	Pass
NVNT	BLE	2480	Ant1	0.728	0.5	Pass

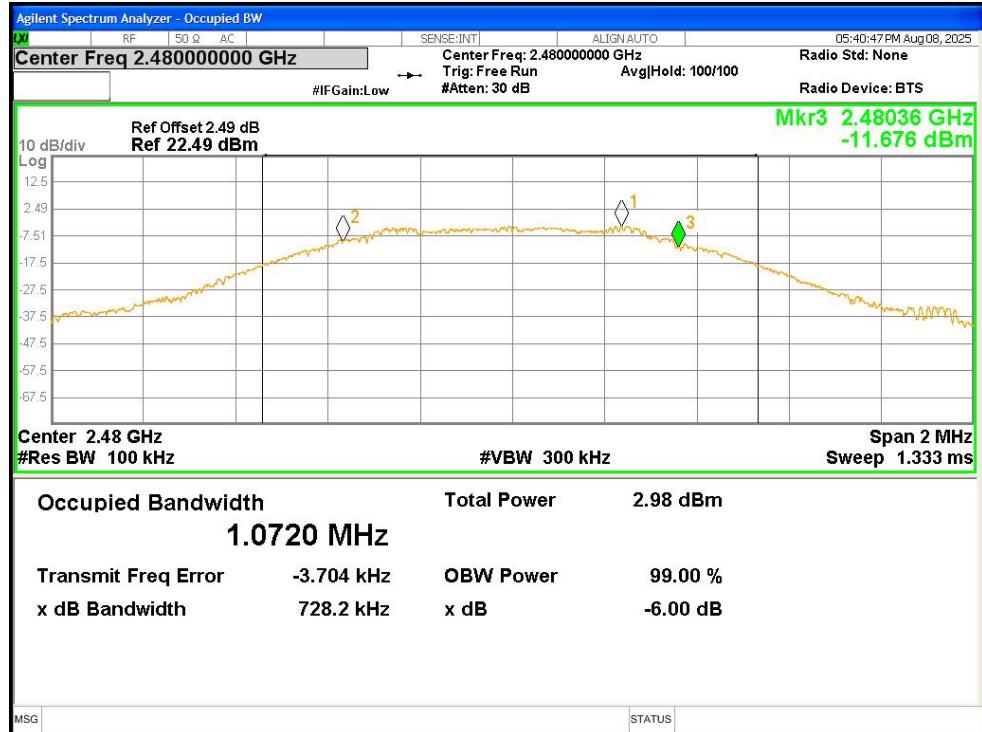
-6dB Bandwidth NVNT BLE 2402MHz Ant1



-6dB Bandwidth NVNT BLE 2442MHz Ant1



-6dB Bandwidth NVNT BLE 2480MHz Ant1

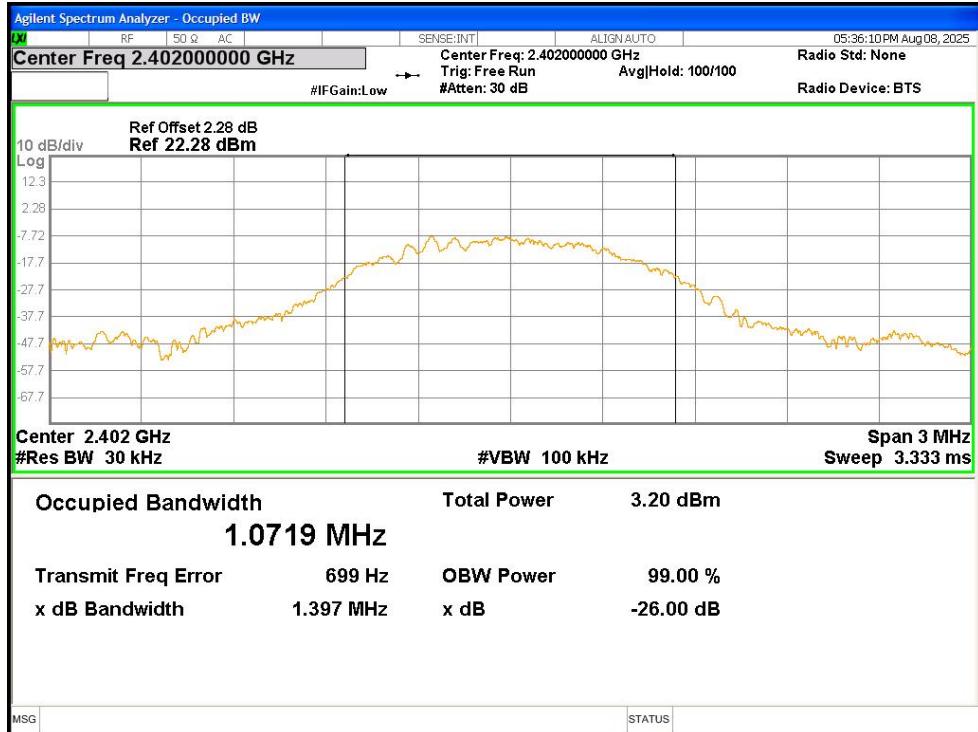


7.3 Occupied Channel Bandwidth

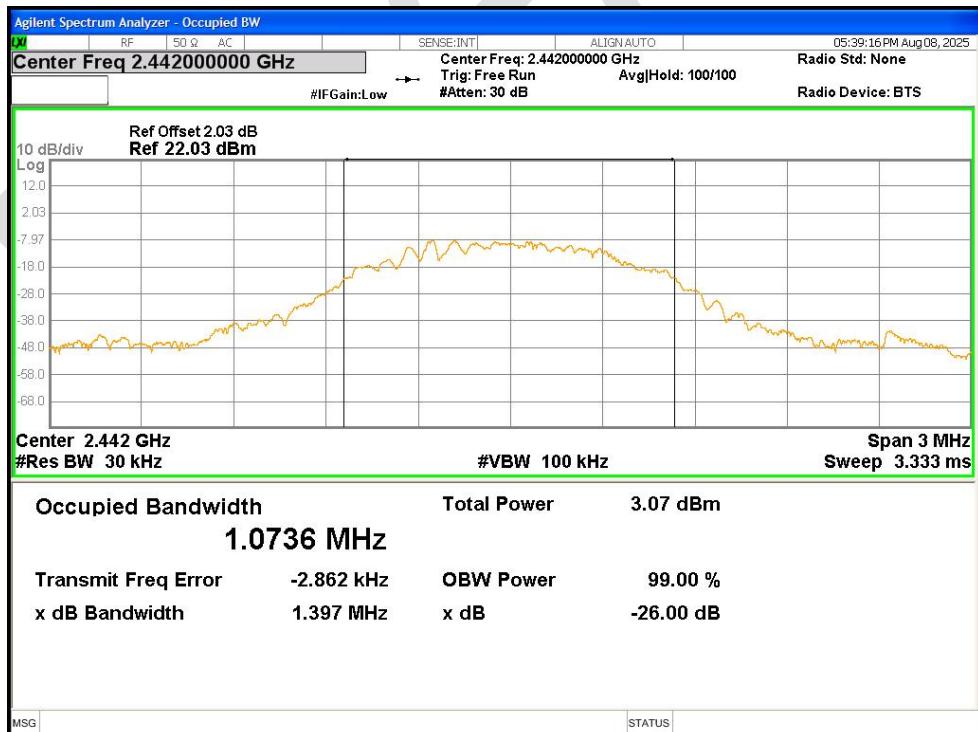
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE	2402	Ant1	1.0719
NVNT	BLE	2442	Ant1	1.0736
NVNT	BLE	2480	Ant1	1.0781

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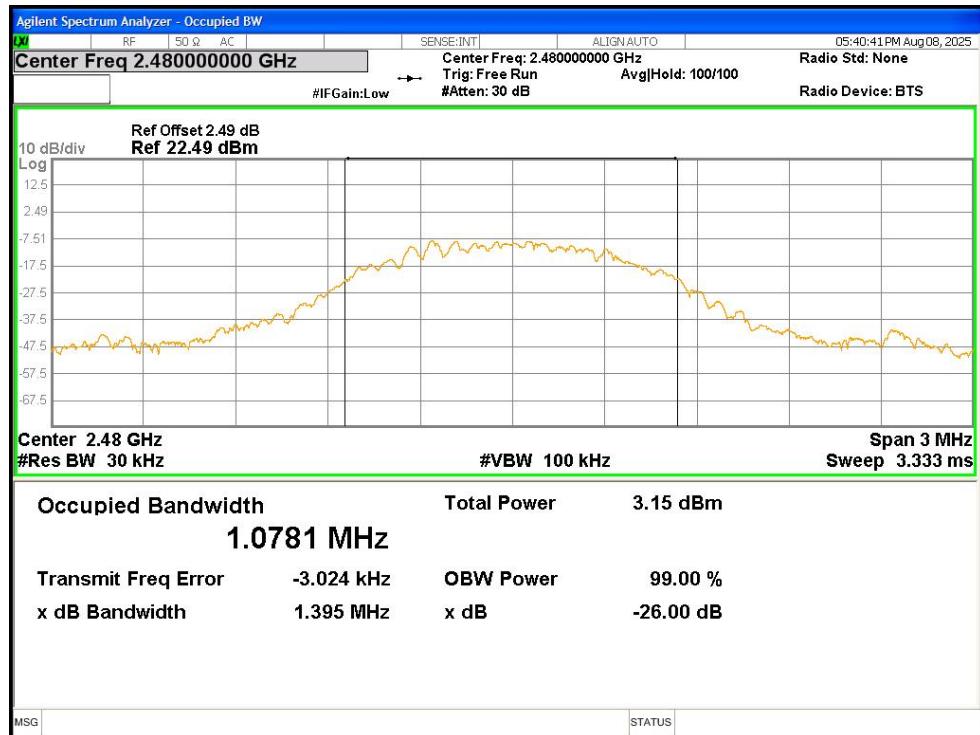
OBW NVNT BLE 2402MHz Ant1



OBW NVNT BLE 2442MHz Ant1



OBW NVNT BLE 2480MHz Ant1



7.4 Maximum Power Spectral Density Level

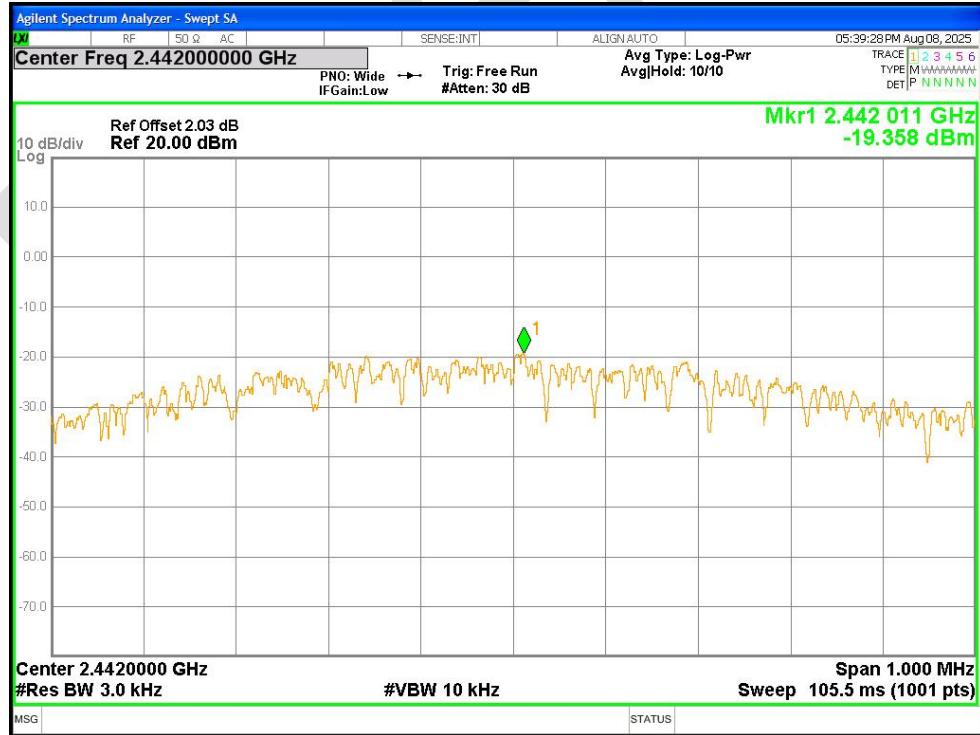
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant1	-17.44	8	Pass
NVNT	BLE	2442	Ant1	-19.358	8	Pass
NVNT	BLE	2480	Ant1	-18.967	8	Pass

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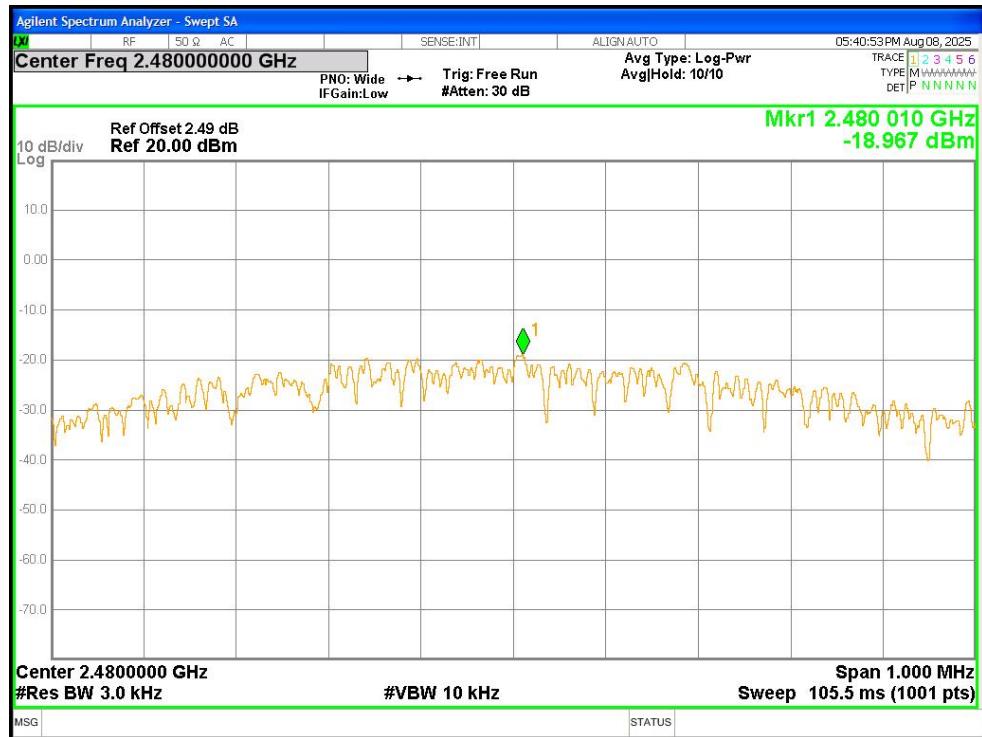
PSD NVNT BLE 2402MHz Ant1



PSD NVNT BLE 2442MHz Ant1



PSD NVNT BLE 2480MHz Ant1



7.5 Band Edge

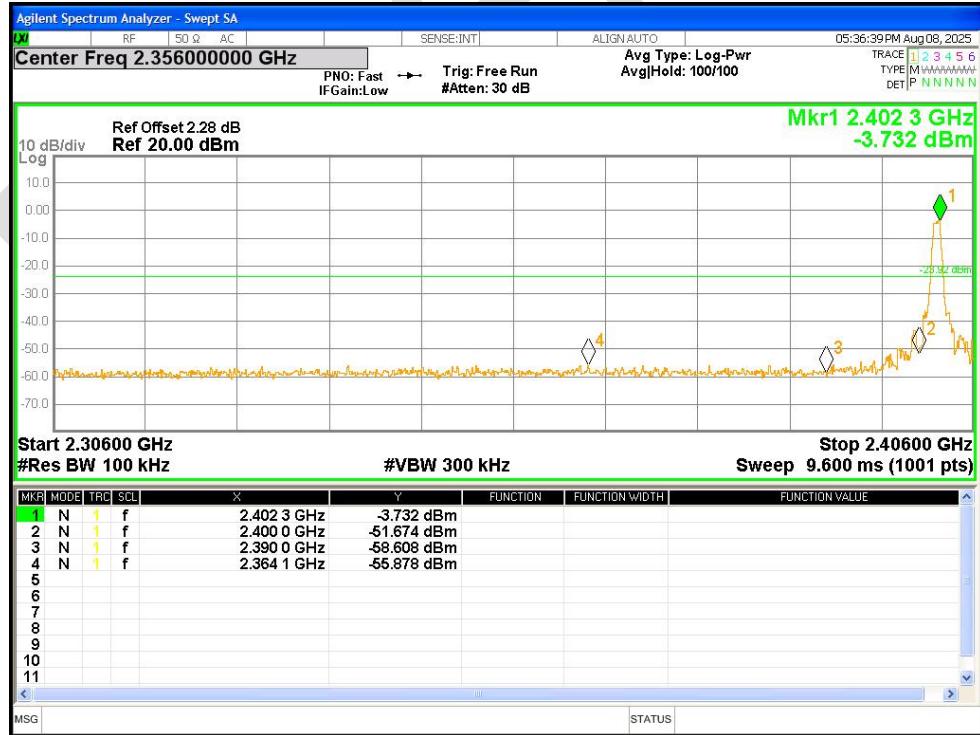
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant1	-51.95	-20	Pass
NVNT	BLE	2480	Ant1	-43.67	-20	Pass

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Band Edge NVNT BLE 2402MHz Ant1 Ref



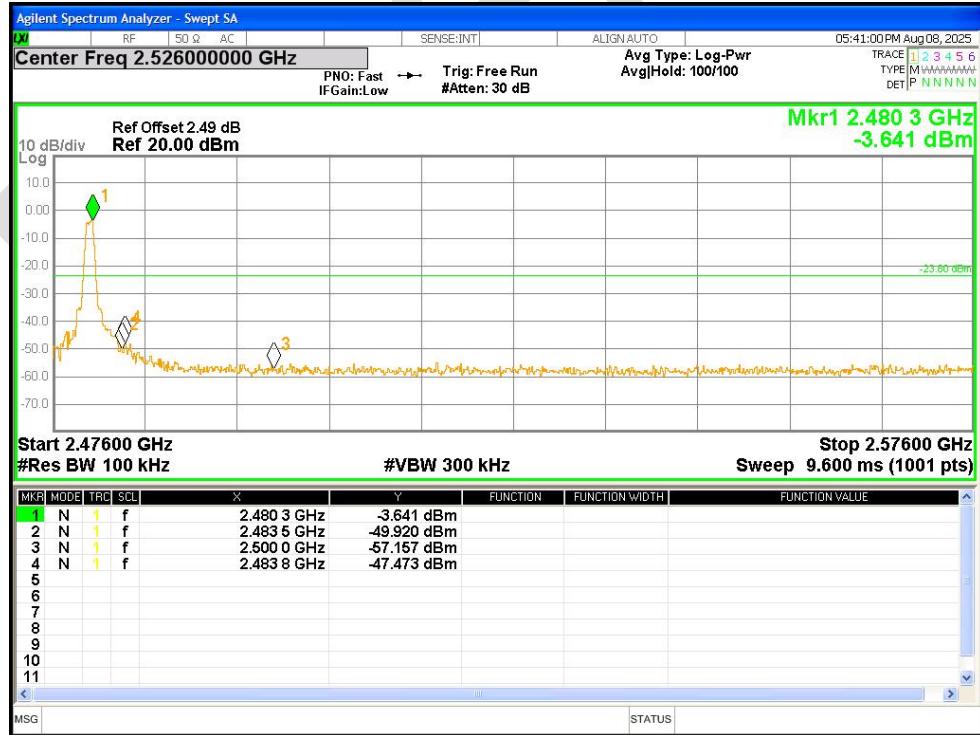
Band Edge NVNT BLE 2402MHz Ant1 Emission



Band Edge NVNT BLE 2480MHz Ant1 Ref



Band Edge NVNT BLE 2480MHz Ant1 Emission



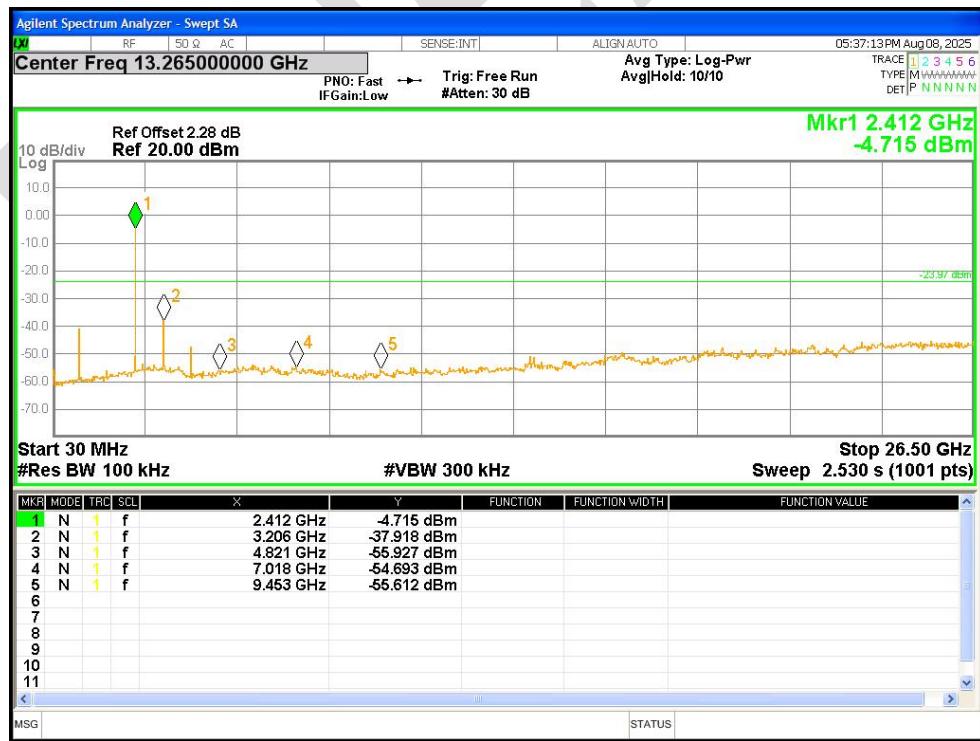
7.6 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant1	-33.94	-20	Pass
NVNT	BLE	2442	Ant1	-35.04	-20	Pass
NVNT	BLE	2480	Ant1	-35.24	-20	Pass

Tx. Spurious NVNT BLE 2402MHz Ant1 Ref



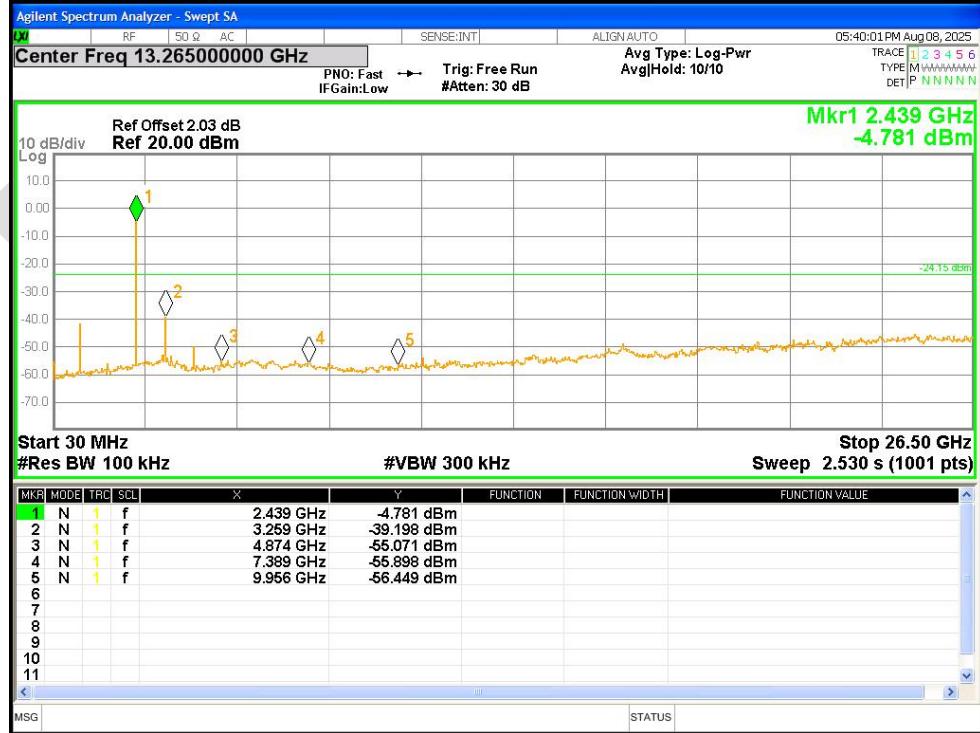
Tx. Spurious NVNT BLE 2402MHz Ant1 Emission



Tx. Spurious NVNT BLE 2442MHz Ant1 Ref



Tx. Spurious NVNT BLE 2442MHz Ant1 Emission



Tx. Spurious NVNT BLE 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2480MHz Ant1 Emission

