



FCC RF Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2657-3, XT2657-4, XT2657V
FCC ID : IHDT56AR7
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System
TEST DATE(S) : Nov. 25, 2025

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



Sporton International Inc. (Kunshan)

**No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China**



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR5O2401-01B	Rev. 01	Initial issue of report	Dec. 15, 2025



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(d)	Radiated Band Edges and Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 8.13 dB at 2496.22 MHz

Note:

This is a variant report. The change note could be referred to XT2657-3, XT2657-4, XT2657V_Operational Description of Product Equality Declaration which is exhibit separately. Based on the similarity between current and previous project, only the worse test cases of RSE were verified, all the other test results are leveraged from original report (Sporton Report Number FR422203B).

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.



1 General Description

1.1 Applicant

Motorola Mobility LLC

222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC

222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2657-3, XT2657-4, XT2657V
FCC ID	IHDT56AR7
IMEI Code	Radiation: 352507160014112/352507160014120
HW Version	DVT1
SW Version	WWC36.36
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. The three model names are only for market segment, no other difference.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	2402 MHz ~ 2480 MHz
Number of Channels	40
Carrier Frequency of Each Channel	40 Channel (37 hopping + 3 advertising channel)
Type of Modulation	Bluetooth LE : GFSK

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Specification of Accessory

Specification of Accessory				
Battery 1	Brand Name	Motorola	Model Name	SM12
Battery 2	Brand Name	Motorola	Model Name	SM36
USB Cable 1	Brand Name	Motorola(CABLETECH)	Model Name	SC18E05246
USB Cable 2	Brand Name	Motorola(SAIBAO)	Model Name	SC18D86732

1.7 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH06-KS	CN1257	314309

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH06-KS	AUDIX	E3	210616

1.9 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 15 Subpart C §15.247
- FCC KDB 558074 D01 15.247 Meas Guidance v05r02
- ANSI C63.10-2020

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	0	2402	21	2444
	1	2404	22	2446
	2	2406	23	2448
	3	2408	24	2450
	4	2410	25	2452
	5	2412	26	2454
	6	2414	27	2456
	7	2416	28	2458
	8	2418	29	2460
	9	2420	30	2462
	10	2422	31	2464
	11	2424	32	2466
	12	2426	33	2468
	13	2428	34	2470
	14	2430	35	2472
	15	2432	36	2474
	16	2434	37	2476
	17	2436	38	2478
	18	2438	39	2480
	19	2440	-	-
	20	2442	-	-

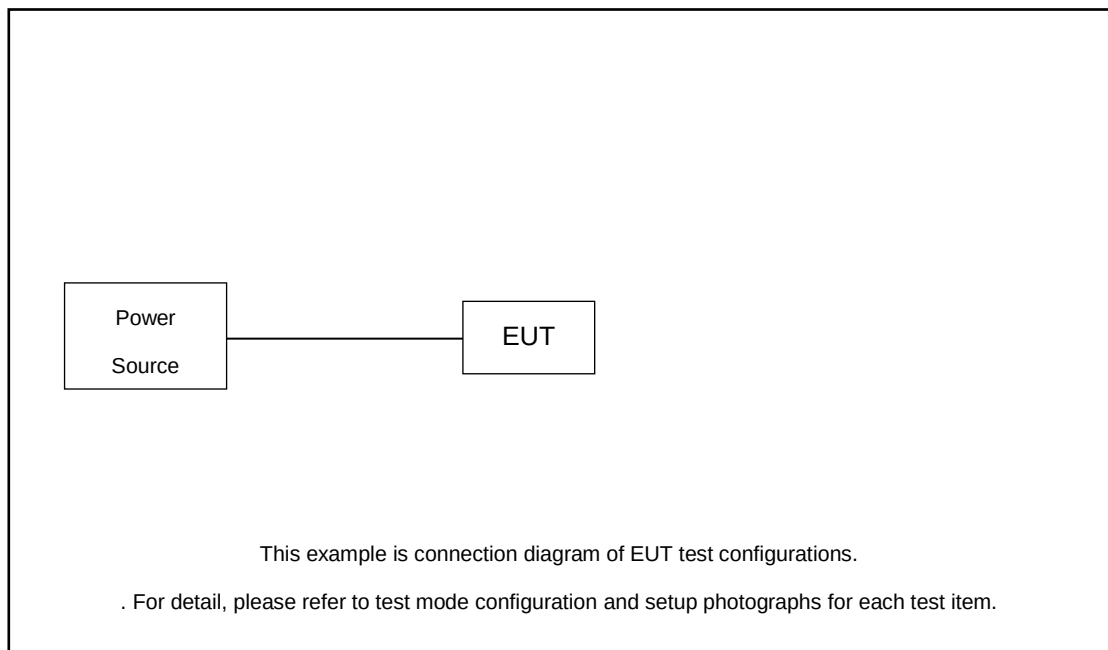
2.2 Test Mode

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

The following summary table is showing all test modes to demonstrate in compliance with the standard.

Summary table of Test Cases	
Test Item	Data Rate / Modulation
	Bluetooth – LE / GFSK
Radiated TCs	Mode 1: Bluetooth Tx CH38_2478 MHz_BLE 2Mbps

2.3 Connection Diagram of Test System



2.4 EUT Operation Test Setup

For BLE function, the engineering test program was provided and enabled to make EUT continuous transmit.

3 Test Result

3.1 Radiated Band Edges and Spurious Emission Measurement

3.1.1 Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

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

3.1.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

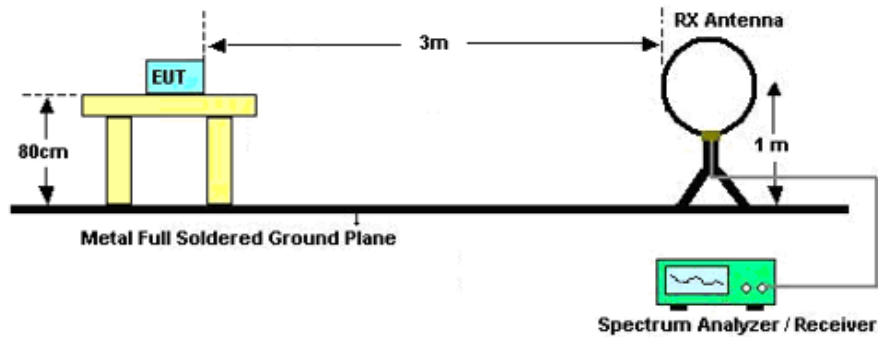


3.1.3 Test Procedures

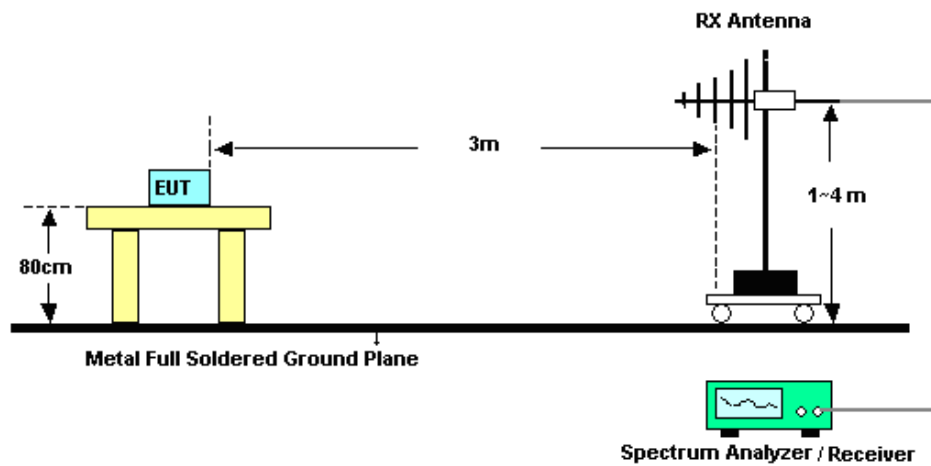
1. The testing follows ANSI C63.10-2020 clause 6.3, 6.5, 6.6, 11.11 and 11.12.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; $VBW \geq RBW$; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.
For average measurement:
 - $VBW = 10$ Hz, when duty cycle is no less than 98 percent.
 - $VBW \geq 1/T$, when duty cycle is less than 98 percent where T is 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.

3.1.4 Test Setup

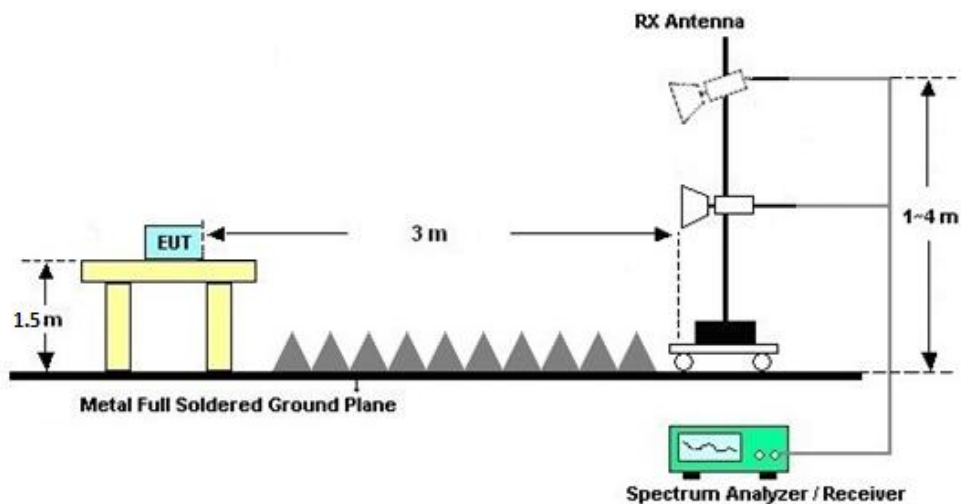
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



**3.1.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)**

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.1.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix A.

3.1.7 Duty Cycle

Please refer to Appendix B.

3.1.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix A.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	Keysight	N9038A	MY57290157	3Hz~8.5GHz;Max 30dBm	Feb. 22, 2025	Nov. 25, 2025	Feb. 21, 2026	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471084	10Hz~44GHz	Jul. 03, 2025	Nov. 25, 2025	Jul. 02, 2026	Radiation (03CH06-KS)
Active loop antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Aug. 10, 2025	Nov. 25, 2025	Aug. 09, 2026	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	49921	30MHz~1GHz	Mar. 24, 2025	Nov. 25, 2025	Mar. 23, 2026	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 14, 2025	Nov. 25, 2025	Apr. 13, 2026	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101116	18GHz~40GHz	Oct. 18, 2025	Nov. 25, 2025	Oct. 17, 2026	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	380827	9KHz ~1GHZ	Jul. 03, 2025	Nov. 25, 2025	Jul. 02, 2026	Radiation (03CH06-KS)
Amplifier	EM	EM18G40GA	060728	18~40GHz	Jan. 03, 2025	Nov. 25, 2025	Jan. 02, 2026	Radiation (03CH06-KS)
high gain Amplifier	EM	EM01G18GA	060845	1Ghz~18Ghz	Jan. 03, 2025	Nov. 25, 2025	Jan. 02, 2026	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY57280119	500MHz~26.5GHz	Oct. 10, 2025	Nov. 25, 2025	Oct. 09, 2026	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Nov. 25, 2025	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Nov. 25, 2025	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Nov. 25, 2025	NCR	Radiation (03CH06-KS)

NCR: No Calibration Required



5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10. All the measurement uncertainty value were shown with a coverage $K=2$ to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Radiated Emission Measurement (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.3 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	6.18 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.88 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.36 dB
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----- THE END -----



Appendix A. Radiated Spurious Emission Test Data

Test Engineer :	Jerry Xu	Relative Humidity :	41 ~ 42 %
		Temperature :	22 ~ 23 °C

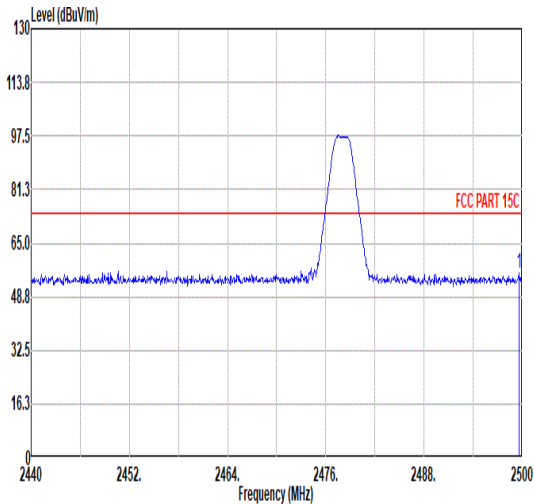
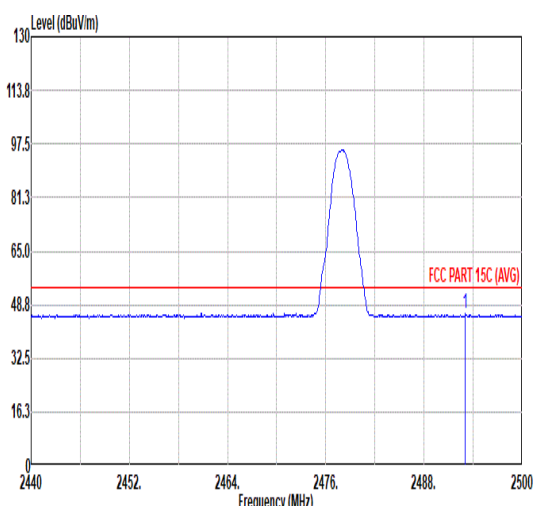
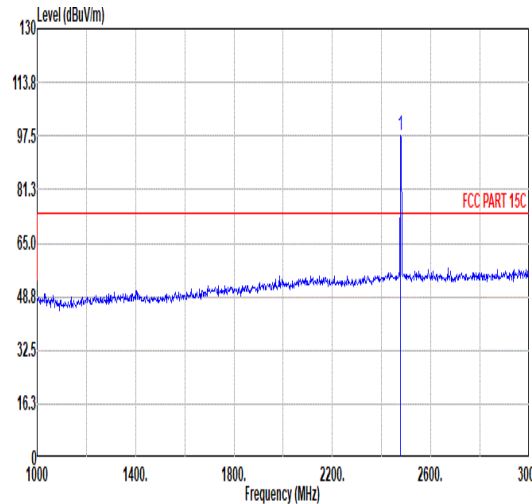
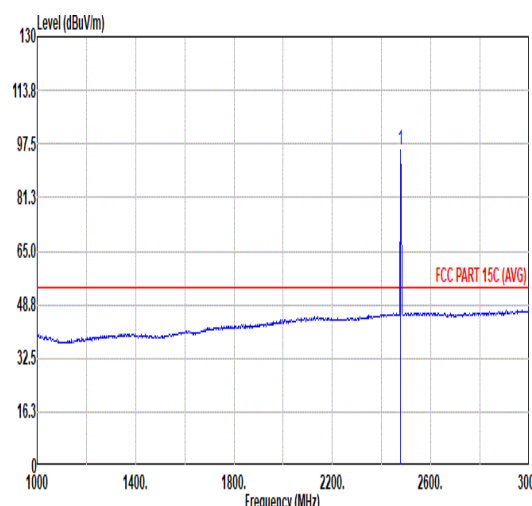
Radiated Spurious Emission Test Modes

Mode	Band (MHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 1	2400-2483.5	7	Bluetooth-LE_GSKF	38	2478	2Mbps	-	-

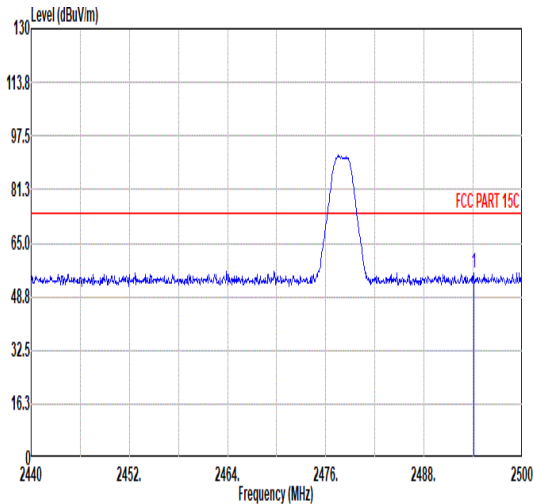
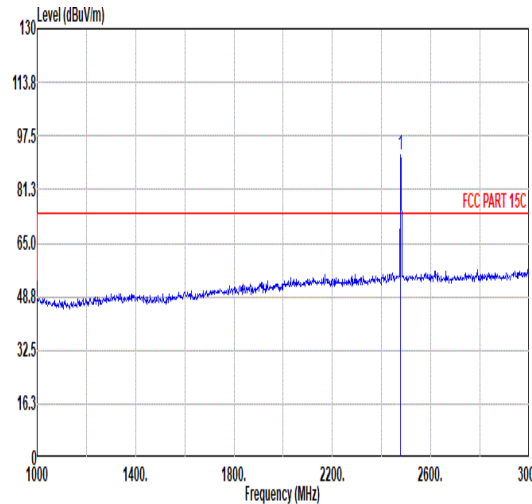
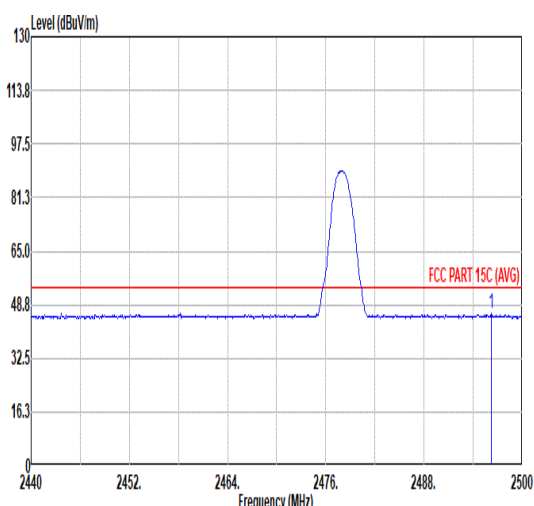
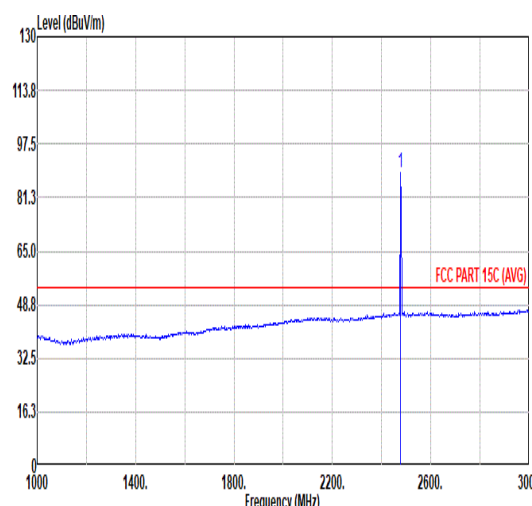
Summary of each worse mode

Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	Remark
1	Bluetooth-LE_GSKF	38	2496.22	45.87	54.00	-8.13	V	AVERAGE	Pass	Band Edge
1	Bluetooth-LE_GSKF	38	6199.50	51.07	64.68	-13.61	V	PEAK	Pass	Harmonic

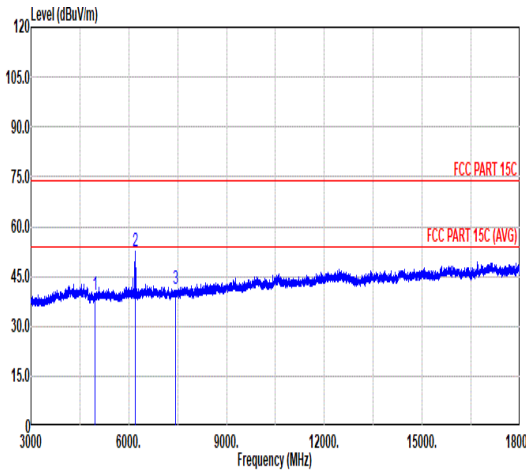
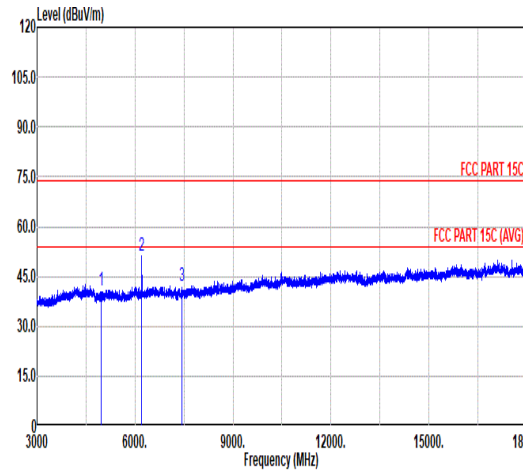


Mode	1																																																							
	Band Edge																																																							
	2400-2483.5_Bluetooth-LE_GSKF_CH38_2478MHz																																																							
ANT	7																																																							
Pol.	Horizontal																																																							
Peak	Fundamental																																																							
																																																								
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	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	cm	deg																																														
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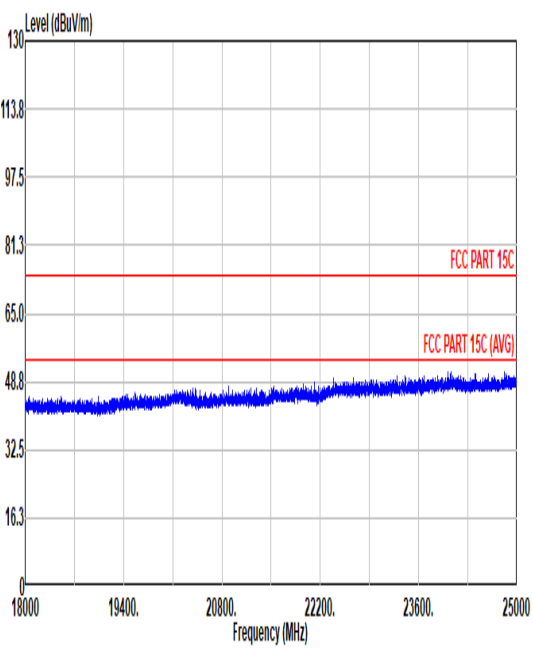
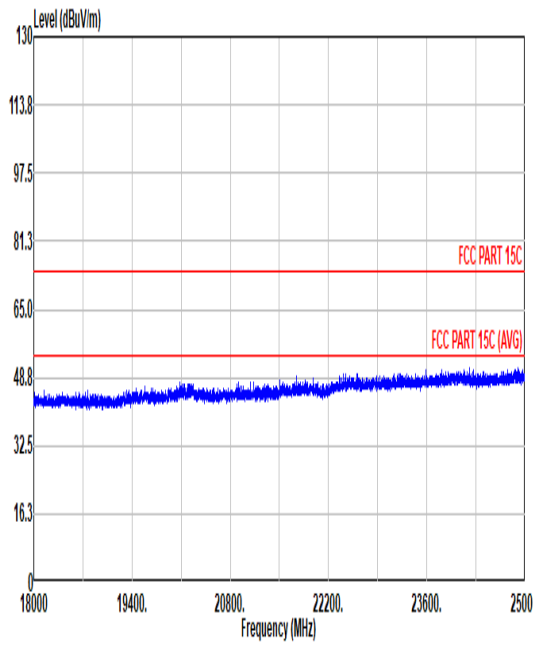


Mode	1																																																						
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Peak																																																							
	<table><tr><th></th><th>Limit</th><th>Over</th><th>Read</th><th>Ant</th><th>Cable</th><th>Preamp</th><th>Aux</th><th>APos</th><th>TPos</th><th></th></tr><tr><th>Freq</th><th>Level</th><th>Line</th><th>Limit</th><th>Level</th><th>Factor</th><th>Loss</th><th>Factor</th><th>Factor</th><th></th><th>Remark</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>dB/m</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th></tr><tr><td>1</td><td>2494.06</td><td>56.05</td><td>74.00</td><td>-17.95</td><td>43.04</td><td>32.50</td><td>6.84</td><td>32.33</td><td>6.00</td><td>287 74 PEAK</td></tr></table>												Limit	Over	Read	Ant	Cable	Preamp	Aux	APos	TPos		Freq	Level	Line	Limit	Level	Factor	Loss	Factor	Factor		Remark		MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	cm	deg	1	2494.06	56.05	74.00	-17.95	43.04	32.50	6.84	32.33	6.00	287 74 PEAK
		Limit	Over	Read	Ant	Cable	Preamp	Aux	APos	TPos																																													
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	<table><tr><th></th><th>Limit</th><th>Over</th><th>Read</th><th>Ant</th><th>Cable</th><th>Preamp</th><th>Aux</th><th>APos</th><th>TPos</th><th></th></tr><tr><th>Freq</th><th>Level</th><th>Line</th><th>Limit</th><th>Level</th><th>Factor</th><th>Loss</th><th>Factor</th><th>Factor</th><th></th><th>Remark</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>dB/m</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th></tr><tr><td>1</td><td>2478.00</td><td>91.57</td><td>-----</td><td>-----</td><td>78.59</td><td>32.50</td><td>6.81</td><td>32.33</td><td>6.00</td><td>287 74 PEAK</td></tr></table>												Limit	Over	Read	Ant	Cable	Preamp	Aux	APos	TPos		Freq	Level	Line	Limit	Level	Factor	Loss	Factor	Factor		Remark		MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	cm	deg	1	2478.00	91.57	-----	-----	78.59	32.50	6.81	32.33	6.00	287 74 PEAK
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1	2478.00	91.57	-----	-----	78.59	32.50	6.81	32.33	6.00	287 74 PEAK																																													
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		Limit	Over	Read	Ant	Cable	Preamp	Aux	APos	TPos																																													
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	<table><tr><th></th><th>Limit</th><th>Over</th><th>Read</th><th>Ant</th><th>Cable</th><th>Preamp</th><th>Aux</th><th>APos</th><th>TPos</th><th></th></tr><tr><th>Freq</th><th>Level</th><th>Line</th><th>Limit</th><th>Level</th><th>Factor</th><th>Loss</th><th>Factor</th><th>Factor</th><th></th><th>Remark</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>dB/m</th><th>dB</th><th>dB</th><th>cm</th><th>deg</th></tr><tr><td>1</td><td>2478.00</td><td>88.98</td><td>-----</td><td>-----</td><td>76.00</td><td>32.50</td><td>6.81</td><td>32.33</td><td>6.00</td><td>287 74 AVERAGE</td></tr></table>												Limit	Over	Read	Ant	Cable	Preamp	Aux	APos	TPos		Freq	Level	Line	Limit	Level	Factor	Loss	Factor	Factor		Remark		MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	cm	deg	1	2478.00	88.98	-----	-----	76.00	32.50	6.81	32.33	6.00	287 74 AVERAGE
		Limit	Over	Read	Ant	Cable	Preamp	Aux	APos	TPos																																													
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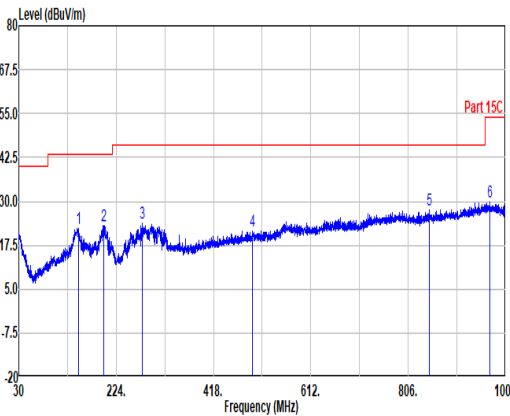
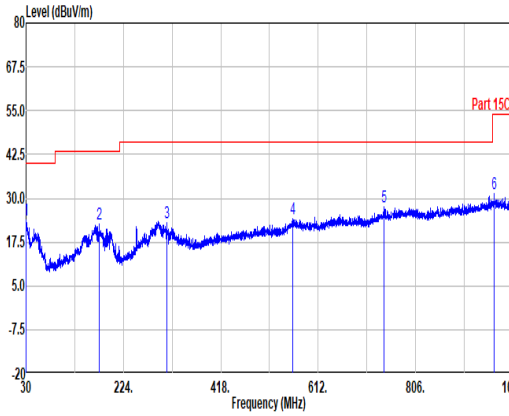


Mode	1																																																																																			
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	2400-2483.5_Bluetooth-LE_GSKF_CH38_2478MHz																																																																																			
ANT	7																																																																																			
Pol.	Horizontal																																																																																			
Peak Avg																																																																																				
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		Limit	Over	Read	Ant	Cable	Preamp	Aux	APos	TPos																																																																										
	Freq	Level	Line	Limit	Level	Factor	Loss	Factor	Factor		Remark																																																																									
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg																																																																									
1	4956.00	39.52	74.00	-34.48	61.94	34.02	9.75	66.19	0.00	---	---	PEAK																																																																								
2	6195.00	52.58	76.06	-23.48	72.67	35.41	10.94	66.44	0.00	---	---	PEAK																																																																								
3	7434.00	41.42	74.00	-32.58	60.32	35.77	12.03	66.70	0.00	---	---	PEAK																																																																								
Vertical																																																																																				
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		Limit	Over	Read	Ant	Cable	Preamp	Aux	APos	TPos																																																																										
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	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg																																																																									
1	4956.00	40.77	74.00	-33.23	63.19	34.02	9.75	66.19	0.00	---	---	PEAK																																																																								
2	6199.50	51.07	64.68	-13.61	71.16	35.40	10.94	66.43	0.00	---	---	PEAK																																																																								
3	7434.00	41.96	74.00	-32.04	60.86	35.77	12.03	66.70	0.00	---	---	PEAK																																																																								



Mode	1	
	18G-25G	
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ANT	7	
Pol.	Horizontal	Vertical
Peak Avg		



Mode	1																																																																																																												
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	Limit	Over	Read	Ant	Cable	Preamp	Aux	APos	TPos																																																																																																				
Freq	Level	Line	Limit	Level	Factor	Loss	Factor	Factor		Remark																																																																																																			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg																																																																																																			
1	148.58	22.36	43.50	-21.14	36.74	17.08	1.66	33.12	0.00	--- Peak																																																																																																			
2	199.02	23.06	43.50	-20.44	39.01	14.98	1.94	32.87	0.00	--- Peak																																																																																																			
3	275.41	23.89	46.00	-22.11	35.62	18.87	2.28	32.88	0.00	--- Peak																																																																																																			
4	495.12	21.70	46.00	-24.30	27.44	24.05	3.06	32.85	0.00	--- Peak																																																																																																			
5	847.47	27.37	46.00	-18.63	26.87	28.66	3.98	32.14	0.00	--- Peak																																																																																																			
6	969.20	29.71	54.00	-24.29	25.34	31.25	4.26	31.14	0.00	--- Peak																																																																																																			
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	Limit	Over	Read	Ant	Cable	Preamp	Aux	APos	TPos																																																																																																				
Freq	Level	Line	Limit	Level	Factor	Loss	Factor	Factor		Remark																																																																																																			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg																																																																																																			
1	30.49	23.67	40.00	-16.33	31.01	25.11	0.49	32.94	0.00	--- Peak																																																																																																			
2	175.99	22.47	43.50	-21.03	38.43	15.21	1.82	32.99	0.00	--- Peak																																																																																																			
3	310.57	22.89	46.00	-23.11	33.99	19.40	2.43	32.93	0.00	--- Peak																																																																																																			
4	560.59	24.16	46.00	-21.84	27.04	26.58	3.25	32.71	0.00	--- Peak																																																																																																			
5	742.95	27.48	46.00	-18.52	28.50	28.00	3.73	32.75	0.00	--- Peak																																																																																																			
6	962.66	31.33	54.00	-22.67	26.97	31.27	4.25	31.16	0.00	--- Peak																																																																																																			



Appendix B. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
Bluetooth LE 2Mbps	31.88	0.199	5.023	5.1KHz

Bluetooth LE 2Mbps

