9.6 CONDUCTED SUPRIOUS EMISSION

9.6.1 Applicable Standard

According to FCC Part 15.247(d) and DA 00-705

9.6.2 Conformance Limit

According to FCC Part 15.247(d):
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted, provided the transmitter demonstrates compliance with the peak conducted power limits.

9.6.3 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

9.6.4 Test Procedure

The transmitter output (antenna port) was connected to the spectrum analyzer
■ **Reference level measurement**
Establish a reference level by using the following procedure:
Set instrument center frequency to DSS channel center frequency.
Set Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel.
Set the RBW = 100 kHz. Set the VBW ≥ 3 x RBW.
Set Detector = peak. Set Sweep time = auto couple.
Set Trace mode = max hold. Allow trace to fully stabilize.
Use the peak marker function to determine the maximum Maximumconducetedlevel.
Note that the channel found to contain the maximum conduceted level can be used to establish the reference level.
■ **Band-edge Compliance of RF Conducted Emissions**
Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the emission operating on the channel closest to the band-edge, as well as any modulation products which fall outside of the authorized band of operation
Set RBW ≥ 1% of the span=100kHzSet VBW ≥ RBW
Set Sweep = autoSet Detector function = peakSet Trace = max hold
Allow the trace to stabilize.   Set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge.   Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. The marker-delta value now displayed must comply with the limit specified in this Section.
Now, using the same instrument settings, enable the hopping function of the EUT.   Allow the trace to stabilize.   Follow the same procedure listed above to determine if any spurious emissions caused by the hopping function also comply with the specified limit.
■ **ConducetedSpurious RF Conducted Emission**
Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic.(30MHz to 25GHz).Set RBW = 100 kHzSet VBW ≥ RBW
Set Sweep = autoSet Detector function = peakSet Trace = max hold
Allow the trace to stabilize.   Set the marker on the peak of any spurious emission recorded.   The level displayed must comply with the limit specified in this Section.
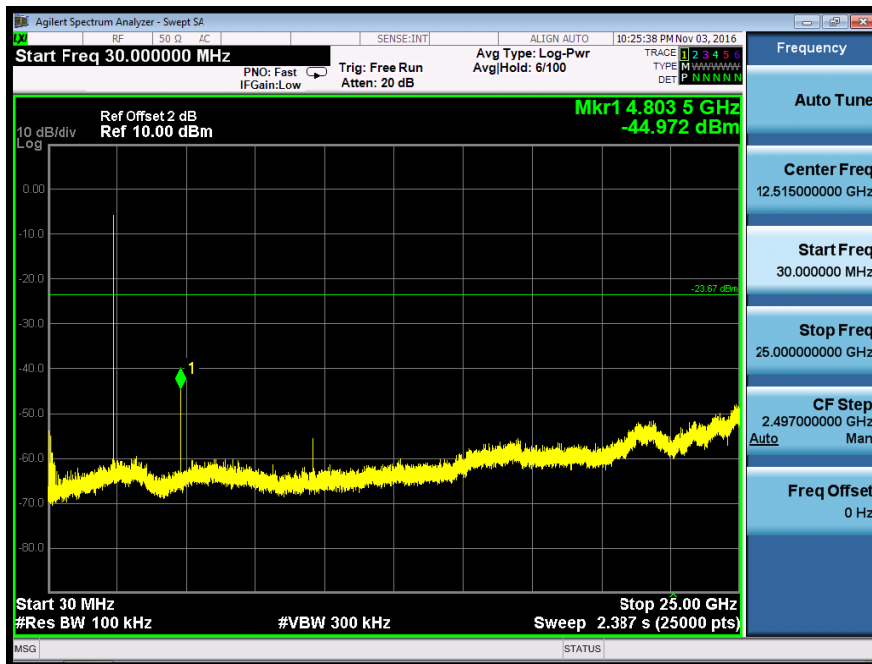
9.6.5 Test Results

Bluetooth (GFSK, pi/4-DQPSK) mode have been tested, and the worst result(GFSK)was report as below:

Test Model	Maximum Conduceted Level RBW=100kHz	
	Bluetooth	
	Channel 0: 2402MHz	GFSK

Test Model	ConducetedSpurious RF Conducted Emission	
	Bluetooth	
	Channel 0: 2402MHz	GFSK

Test Model	Band-edge Conducted Emissions	
	Bluetooth	
	Channel 0: 2402MHz	GFSK

Test Model	Maximum Conduceted Level RBW=100kHz	
	Bluetooth	
	Channel 39: 2441MHz	GFSK

Test Model	ConducetedSpurious RF Conducted Emission	
	Bluetooth	
	Channel 39: 2441MHz	GFSK

Test Model	Maximum Conduceted Level RBW=100kHz	
	Bluetooth	
	Channel 78: 2480MHz	GFSK

Test Model	ConducetedSpurious RF Conducted Emission	
	Bluetooth	
	Channel 78: 2480MHz	GFSK

Test Model	Band-edge Conducted Emissions	
	Bluetooth	
	Channel 78: 2480MHz	GFSK

Test Model	Maximum Conduceted Level RBW=100kHz	
	Bluetooth	
	Hopping Mode	GFSK

Test Model	ConducetedSpurious RF Conducted Emission	
	Bluetooth	
	Hopping Mode	GFSK
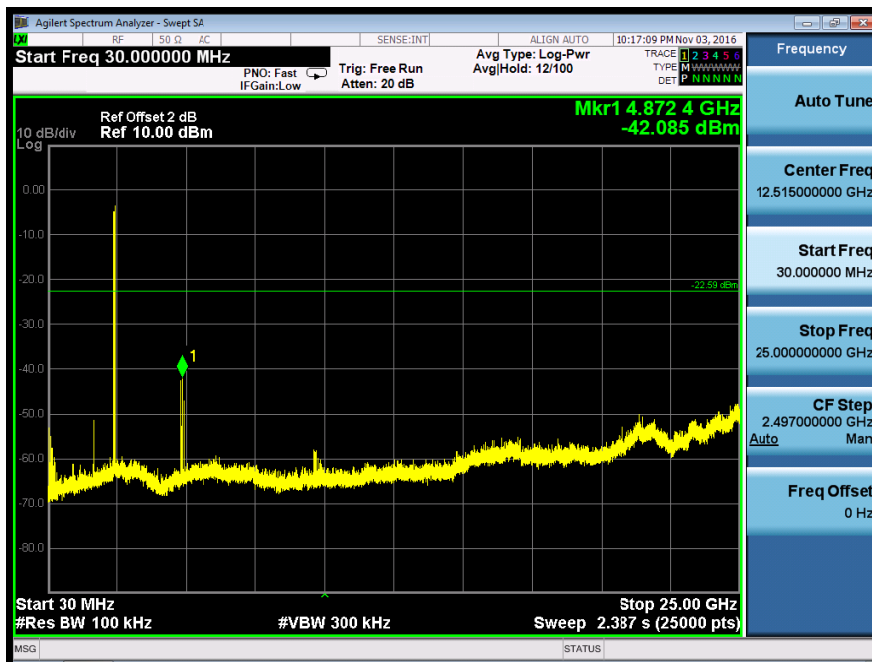
Test Model	Band-edge Conducted Emissions	
	Bluetooth	
	Hopping Mode	GFSK
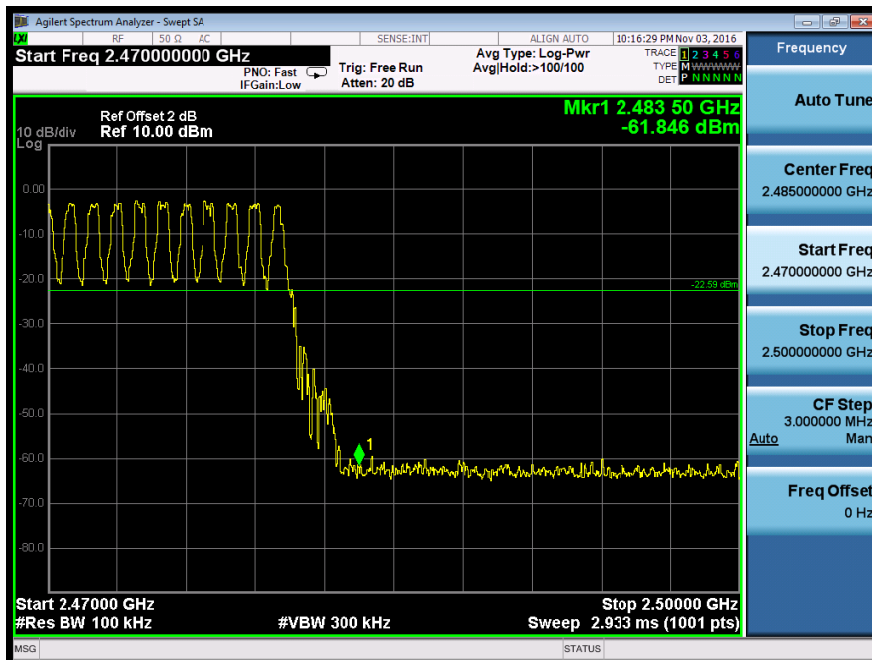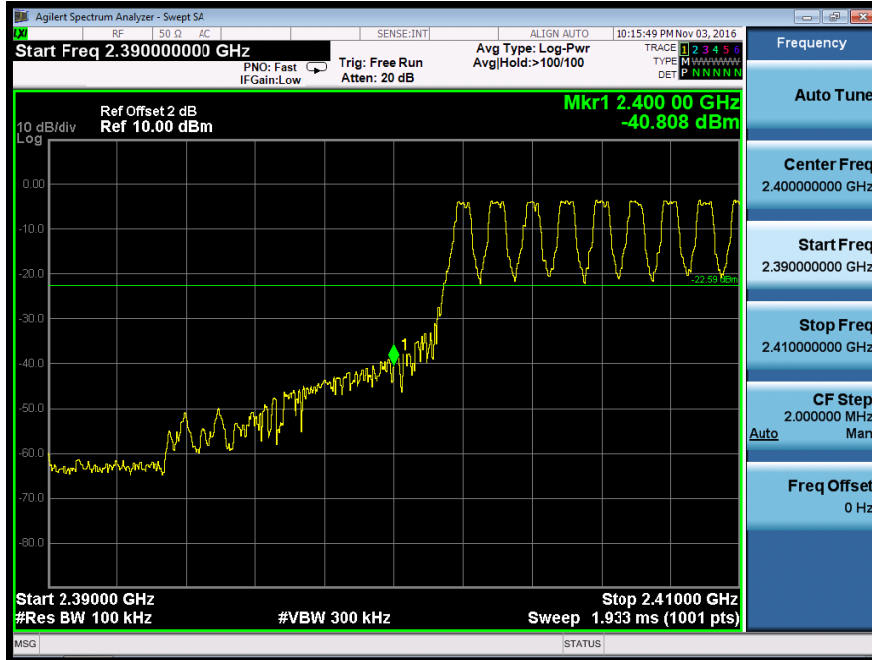
9.7 RADIATED SPURIOUS EMISSION

9.7.1 Applicable Standard

According to FCC Part 15.247(d) and 15.209 and DA 00-705

9.7.2 Conformance Limit

According to FCC Part 15.247(d): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).
According to FCC Part15.205, Restricted bands

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

According to FCC Part15.205,the level of any transmitter spurious emission in Restricted bands shall not exceed the level of the emission specified in the following table

Restricted Frequency(MHz)	Field Strength (µV/m)	Field Strength (dBµV/m)	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log (uV/m)	300
0.490-1.705	2400/F(KHz)	20 log (uV/m)	30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

9.7.3 Test Configuration

Test according to clause 7.2 radio frequency test setup 2

9.7.4 Test Procedure

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT.   Use the following spectrum analyzer settings:
The EUT was placed on a turn table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Span = wide enough to fully capture the emission being measured
RBW = 1 MHz for f $\geq$ 1 GHz(1GHz to 25GHz), 100 kHz for f < 1 GHz(30MHz to 1GHz)
VBW $\geq$ RBW
Sweep = auto
Detector function = peak

Trace = max hold

Follow the guidelines in ANSI C63.10-2013 respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc.   A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity.   Allow the trace to stabilize.   The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b).   Submit this data.

Now set the VBW to 10 Hz, while maintaining all of the other instrument settings.   This peak level, once corrected, must comply with the limit specified in Section 15.209.   If the dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a "duty cycle correction factor", derived from 20log(dwell time/100 ms), in an effort to demonstrate compliance with the 15.209 limit. Submit this data.

Repeat above procedures until all frequency measured was complete.

9.7.5   Test Results

■   Spurious Emission below 30MHz(9KHz to 30MHz)

Temperature:	24℃	Test Date:	N/A
Humidity:	53 %	Test By:	N/A
Test mode:	TX Mode		

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
--	--	--	--	--	--	--	--

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

Distance extrapolation factor =40log(Specific distance/ test distance)(dB);

Limit line=Specific limits(dBuV) + distance extrapolation factor

■   Spurious Emission Above 1GHz(1GHz to 25GHz)

Bluetooth (GFSK, pi/4-DQPSK) mode have been tested, and the worst result(GFSK)was report as below:

Temperature:	24℃	Test Date:	November 03, 2016
Humidity:	53 %	Test By:	KK
Test mode:	GFSK	Frequency:	Channel 0: 2402MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
3269	V	48.40	32.64	74.00	54.00	-25.60	-21.36
4782	V	50.50	36.04	74.00	54.00	-23.50	-17.96
5581	V	52.02	37.24	74.00	54.00	-21.98	-16.76
2844	H	48.21	32.68	74.00	54.00	-25.79	-21.32
3983	H	49.78	35.54	74.00	54.00	-24.22	-18.46
5360	H	51.59	37.04	74.00	54.00	-22.41	-16.96

Temperature:	24℃	Test Date:	November 03, 2016
Humidity:	53 %	Test By:	KK
Test mode:	GFSK	Frequency:	Channel 39: 2441MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
3980	V	49.70	34.94	74.00	54.00	-24.30	-19.06
6173	V	52.22	37.04	74.00	54.00	-21.78	-16.96
6955	V	53.27	39.24	74.00	54.00	-20.73	-14.76
2246	H	47.70	32.64	74.00	54.00	-26.30	-21.36
4354	H	51.39	36.04	74.00	54.00	-22.61	-17.96
6326	H	52.74	39.14	74.00	54.00	-21.26	-14.86

Temperature:	24℃	Test Date:	November 03, 2016
Humidity:	53 %	Test By:	KK
Test mode:	GFSK	Frequency:	Channel 78: 2480MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
1413	V	46.44	31.64	74.00	54.00	-27.56	-22.36
3657	V	50.03	35.94	74.00	54.00	-23.97	-18.06
5238	V	50.99	37.14	74.00	54.00	-23.01	-16.86
2518	H	48.92	34.54	74.00	54.00	-25.08	-19.46
4558	H	51.96	37.04	74.00	54.00	-22.04	-16.96
5527	H	52.55	36.94	74.00	54.00	-21.45	-17.06

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) Data of measurement within this frequency range shown " -- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

■ Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz
Bluetooth (GFSK, pi/4-DQPSK , Hopping) mode have been tested, and the worst result(GFSK, Hopping) was report as below:

Temperature: 24℃   Test Date: November 03, 2016
Humidity: 53 %   Test By: KK
Test mode: GFSK   Frequency: Channel 0: 2402MHz

Frequency (MHz)	Polarity H/V	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	Over(dB)	AV(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	Over(dB)
2494.225	H	38.62	74	-35.28	29.80	54	-24.20
2490.067	V	38.32	74	-35.68	27.60	54	-26.40

Temperature: 24℃   Test Date: November 03, 2016
Humidity: 53 %   Test By: KK
Test mode: GFSK   Frequency: Channel 78: 2480MHz

Frequency (MHz)	Polarity H/V	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	Over(dB)	AV(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	Over(dB)
2320.88	H	40.20	74	-33.80	30.80	54	-23.20
2324.64	V	38.77	74	-35.23	28.60	54	-25.40

Temperature: 24℃   Test Date: November 03, 2016
Humidity: 53 %   Test By: KK
Test mode: GFSK   Frequency: Hopping

Frequency (MHz)	Polarity H/V	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	Over(dB)	AV(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	Over(dB)
2362.54	H	48.26	74	-25.74	32.50	54	-21.50
2483.50	H	51.20	74	-22.80	36.10	54	-17.90
2376.62	V	48.85	74	-25.15	31.50	54	-22.50
2483.50	V	48.59	74	-25.41	32.70	54	-21.30

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) Data of measurement within this frequency range shown " -- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Test Model	Spurious Emission in Restricted Band 2310-2390MHz		
	Bluetooth		
	Channel 0: 2402MHz	GFSK	H
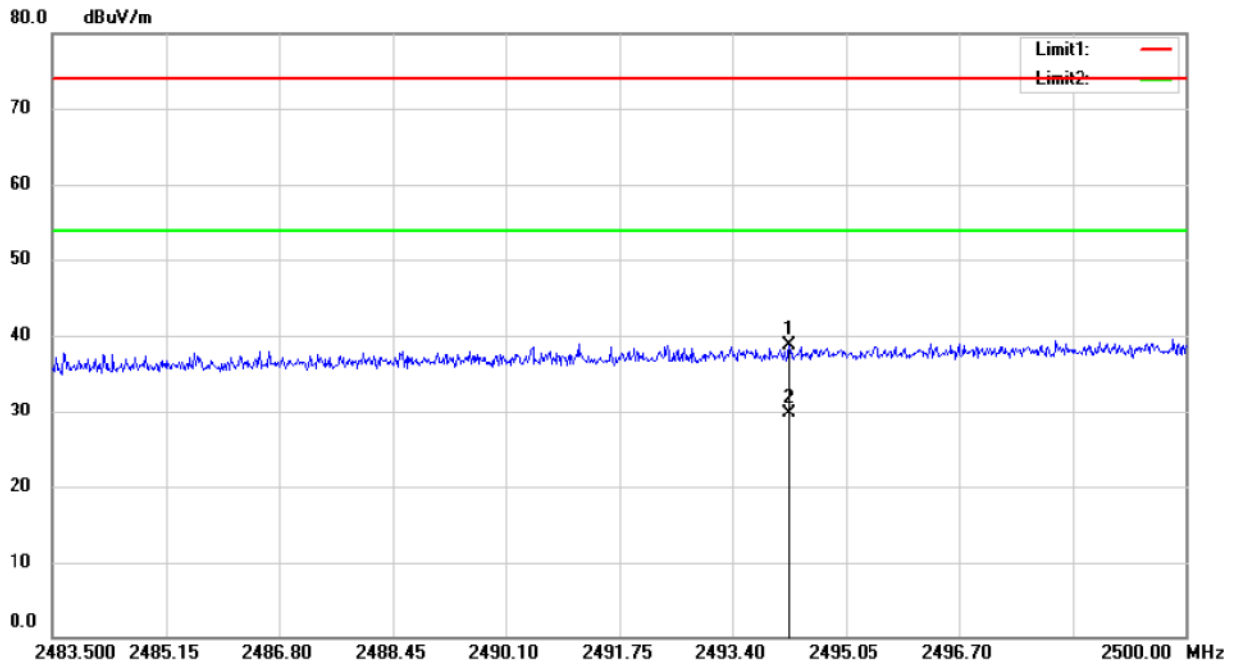
Test Model	Spurious Emission in Restricted Band 2310-2390MHz		
	Bluetooth		
	Channel 0: 2402MHz	GFSK	V
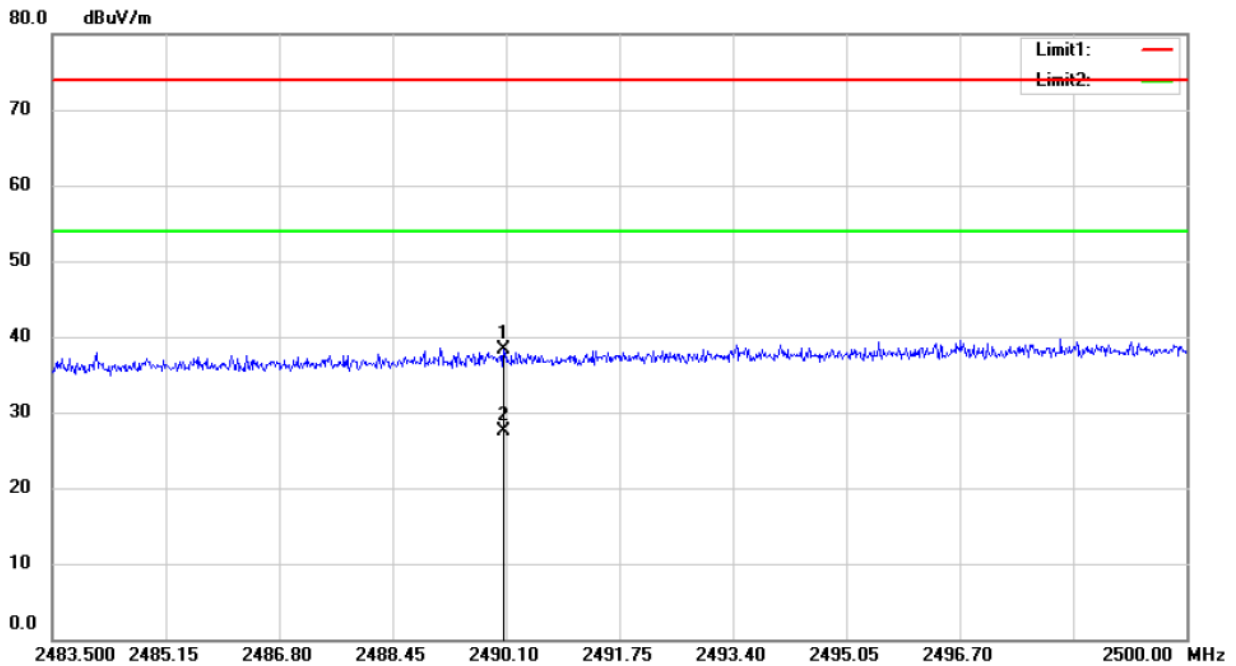
Test Model	Spurious Emission in Restricted Band 2483.5-2500MHz		
	Bluetooth		
	Channel 78: 2480MHz	GFSK	H
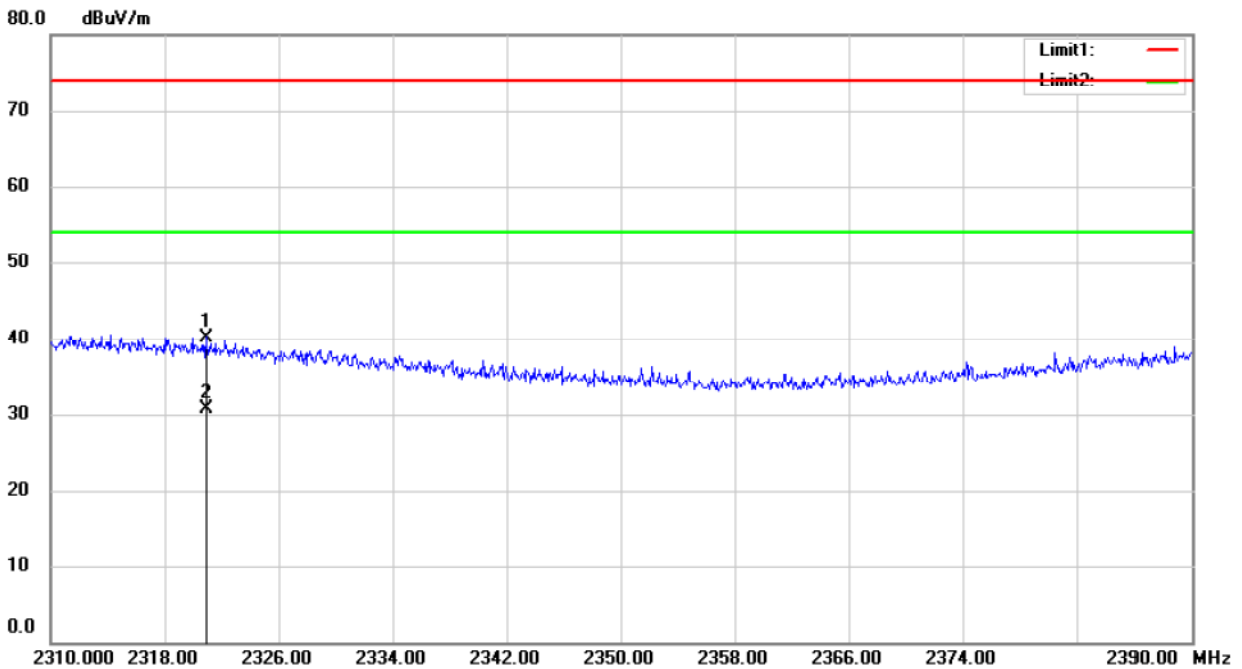
Test Model	Spurious Emission in Restricted Band 2483.5-2500MHz		
	Bluetooth		
	Channel 78: 2480MHz	GFSK	V
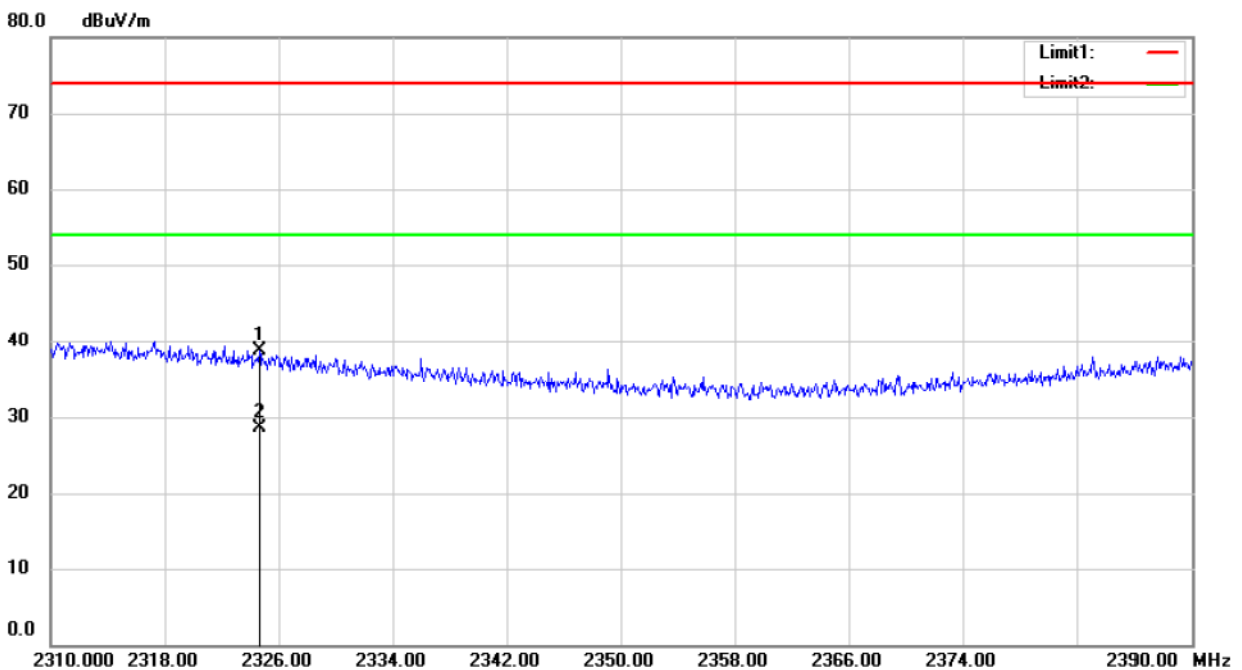
Test Model	Spurious Emission in Restricted Band 2310-2500MHz		
	Bluetooth		
	Hopping	GFSK	H
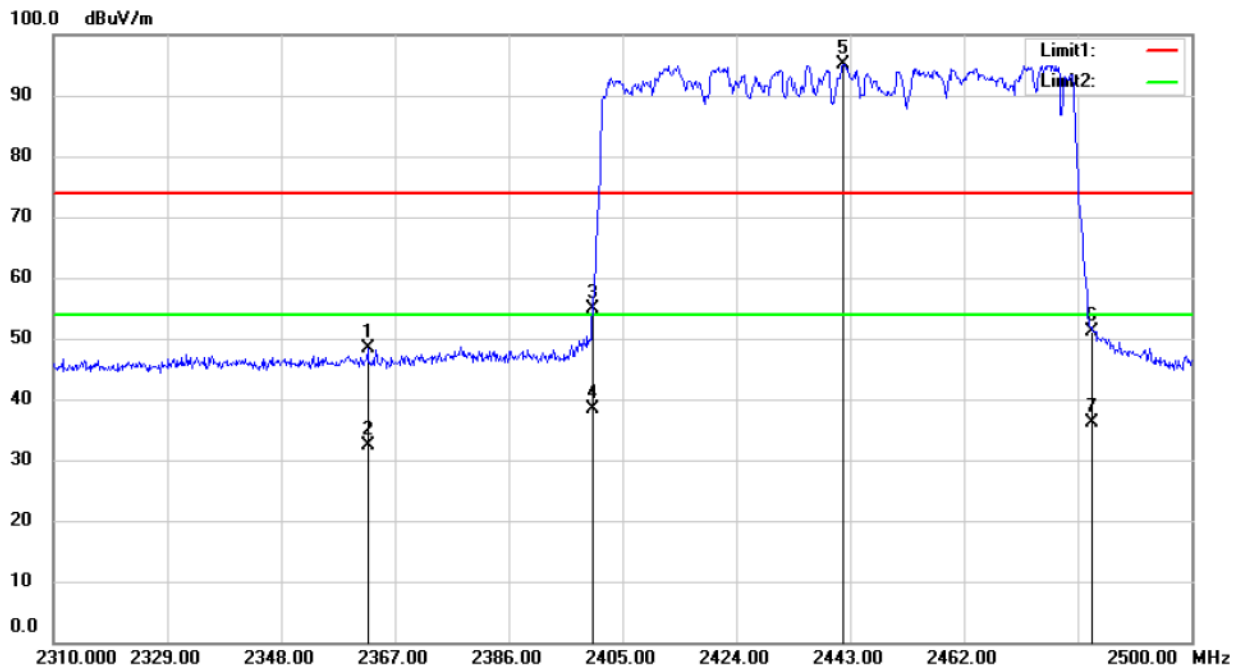
Test Model	Spurious Emission in Restricted Band 2310-2500MHz		
	Bluetooth		
	Hopping	GFSK	V
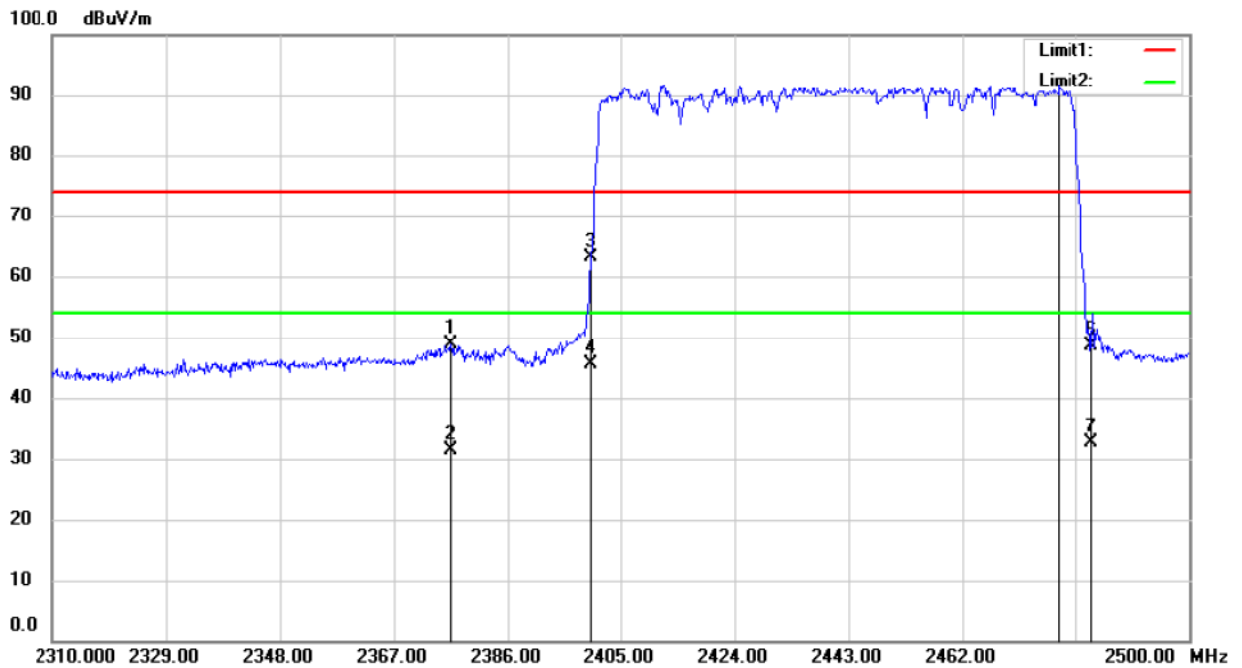
■ Spurious Emission below 1GHz(30MHz to 1GHz)

Bluetooth (GFSK, pi/4-DQPSK) mode have been tested, and the worst results has been recorded on the follow page.
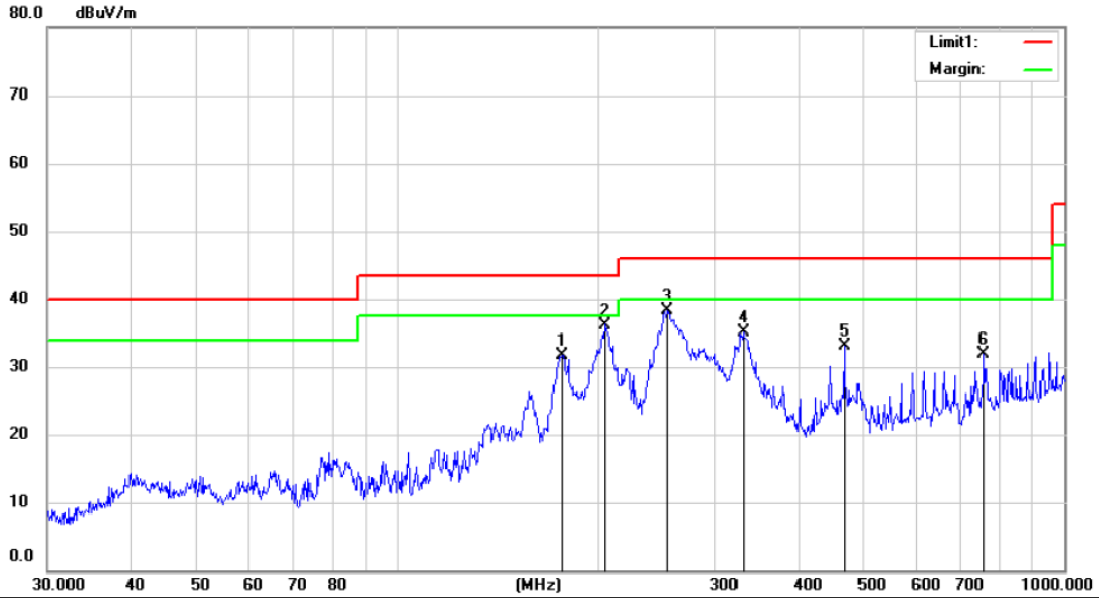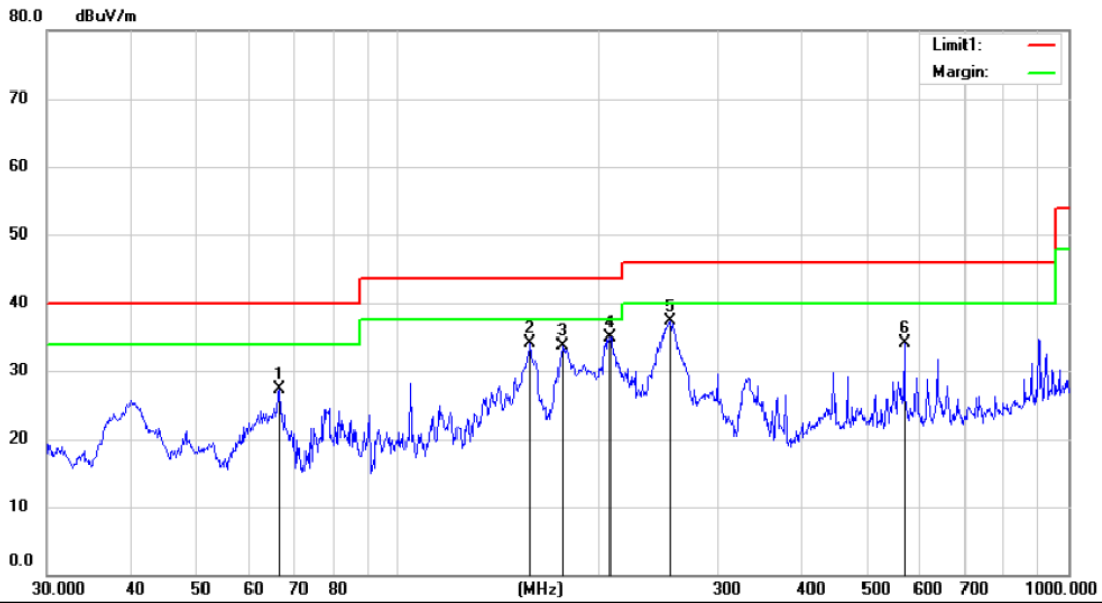

Site	3m Chamber #3				Polarization:	*Horizontal*			Temperature:	24 C	
Limit: (RE)FCC PART 15 C					Power:	AC 120V/60Hz			Humidity:	53 %	
Mode:TX 2402											
Note:											

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		176.8878	48.91	-17.18	31.73	43.50	-11.77	QP			
2	*	205.6751	51.43	-15.23	36.20	43.50	-7.30	QP			
3		254.7284	51.57	-13.25	38.32	46.00	-7.68	QP			
4		330.1950	45.84	-10.80	35.04	46.00	-10.96	QP			
5		468.8762	41.52	-8.42	33.10	46.00	-12.90	QP			
6		758.0408	35.36	-3.41	31.95	46.00	-14.05	QP			

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

Site 3m Chamber #3

Limit: (RE)FCC PART 15 C

Mode:TX 2402

Note:

Polarization: **Vertical**

Power: AC 120V/60Hz

Temperature: 24 C

Humidity: 53 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		cm	degree	
1		66.4990	44.14	-16.90	27.24	40.00	-12.76	QP			
2		157.5588	52.53	-18.50	34.03	43.50	-9.47	QP			
3		176.2686	50.92	-17.18	33.74	43.50	-9.76	QP			
4		207.1225	50.04	-15.16	34.88	43.50	-8.62	QP			
5	*	254.7283	50.64	-13.25	37.39	46.00	-8.61	QP			
6		570.6100	40.37	-6.32	34.05	46.00	-11.95	QP			

*:Maximum data   x:Over limit   !:over margin   Operator: CSL
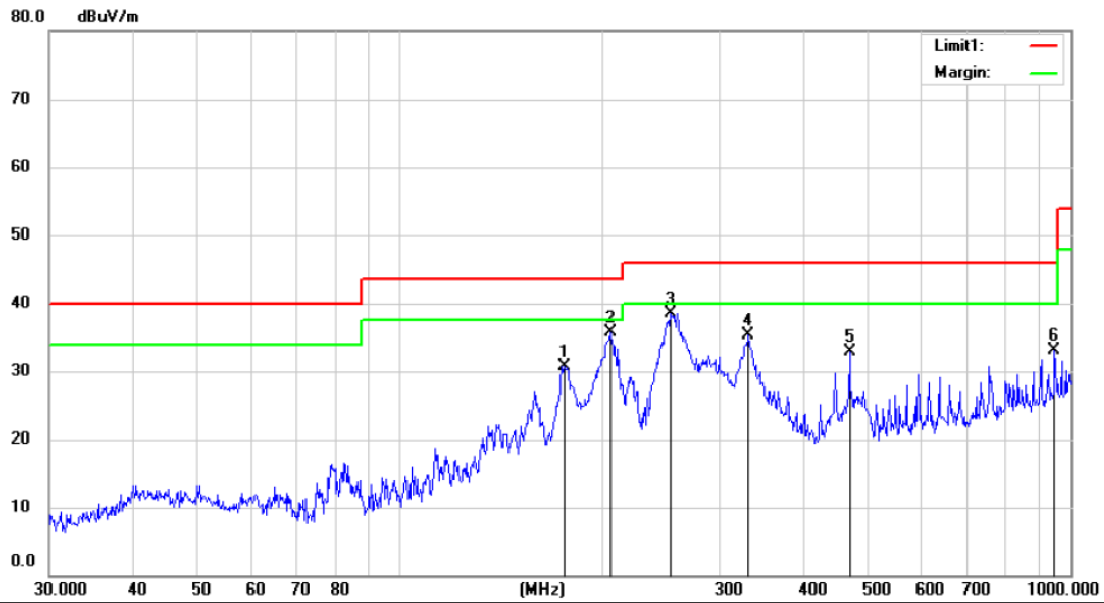
Site	3m Chamber #3	Polarization:	**Horizontal**	Temperature:	24 C

Limit: (RE)FCC PART 15 C
Power: AC 120V/60Hz
Humidity: 53 %

Mode:TX 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		176.2686	47.93	-17.18	30.75	43.50	-12.75	QP			
2		206.3975	50.92	-15.20	35.72	43.50	-7.78	QP			
3	*	253.8366	51.77	-13.30	38.47	46.00	-7.53	QP			
4		331.3546	45.98	-10.74	35.24	46.00	-10.76	QP			
5		468.8762	41.33	-8.42	32.91	46.00	-13.09	QP			
6		948.7610	33.98	-0.82	33.16	46.00	-12.84	QP			

*:Maximum data   x:Over limit   !:over margin   Operator: CSL
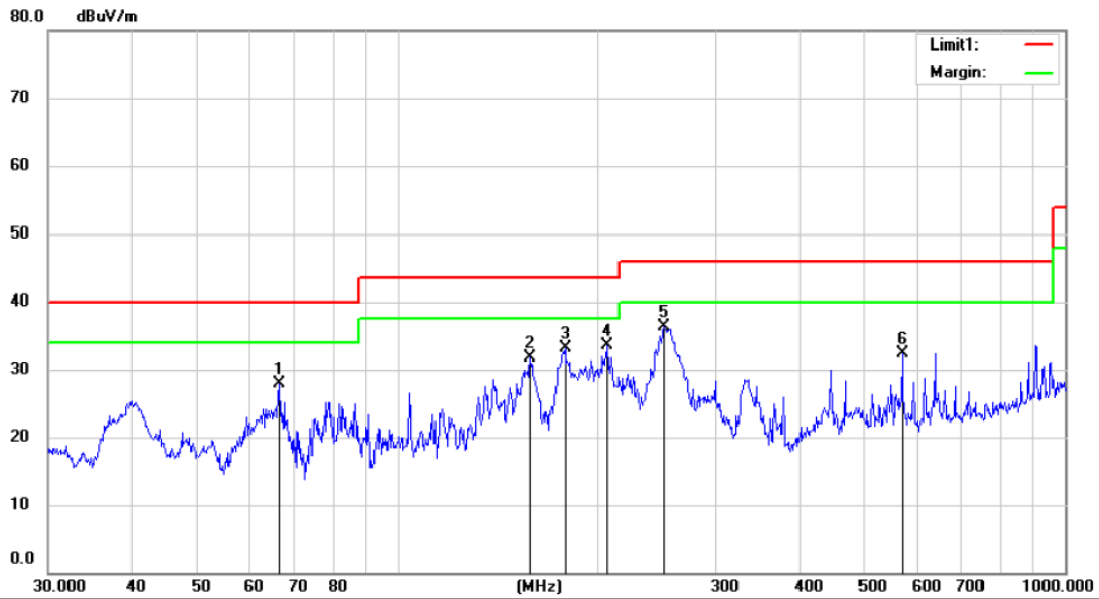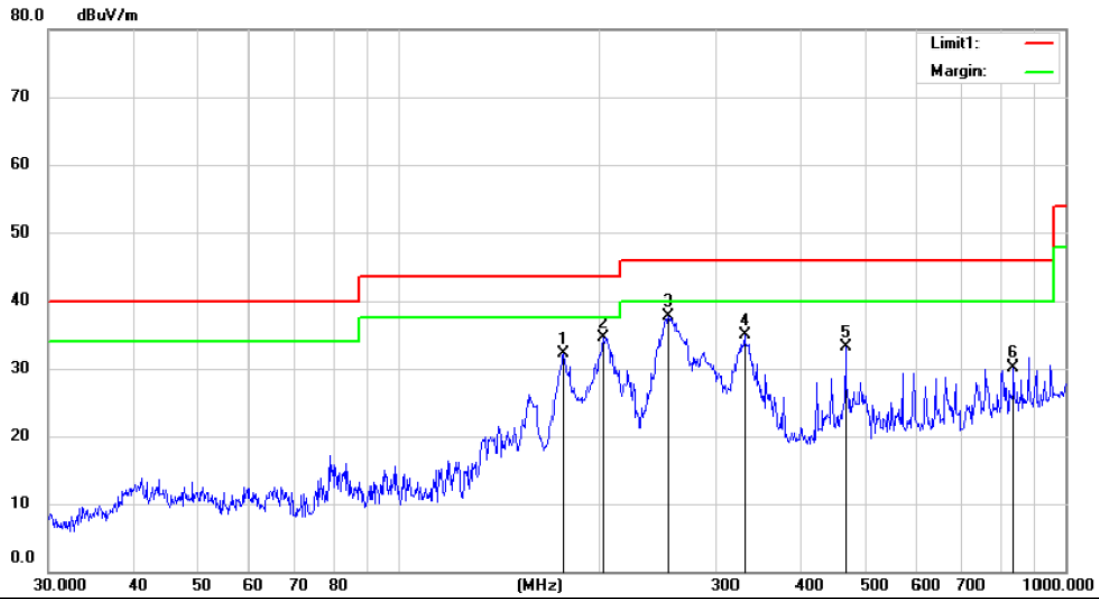
Site 3m Chamber #3   Polarization: **Vertical**   Temperature: 24 C

Limit: (RE)FCC PART 15 C   Power: AC 120V/60Hz   Humidity: 53 %

Mode:TX 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		cm	degree	
1		66.4990	44.85	-16.90	27.95	40.00	-12.05	QP			
2		158.1123	50.17	-18.47	31.70	43.50	-11.80	QP			
3		178.1327	50.34	-17.17	33.17	43.50	-10.33	QP			
4		206.3976	48.66	-15.20	33.46	43.50	-10.04	QP			
5	*	251.1804	49.71	-13.41	36.30	46.00	-9.70	QP			
6		570.6100	38.66	-6.32	32.34	46.00	-13.66	QP			

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

Site 3m Chamber #3

Limit: (RE)FCC PART 15 C

Mode:TX 2480

Note:

Polarization: *Horizontal*

Power: AC 120V/60Hz

Temperature: 24 C

Humidity: 53 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		cm	degree	
1		176.8878	49.22	-17.18	32.04	43.50	-11.46	QP			
2		203.5227	49.91	-15.36	34.55	43.50	-8.95	QP			
3	*	254.7283	50.93	-13.25	37.68	46.00	-8.32	QP			
4		330.1948	45.66	-10.80	34.86	46.00	-11.14	QP			
5		468.8762	41.50	-8.42	33.08	46.00	-12.92	QP			
6		836.2443	32.53	-2.37	30.16	46.00	-15.84	QP			

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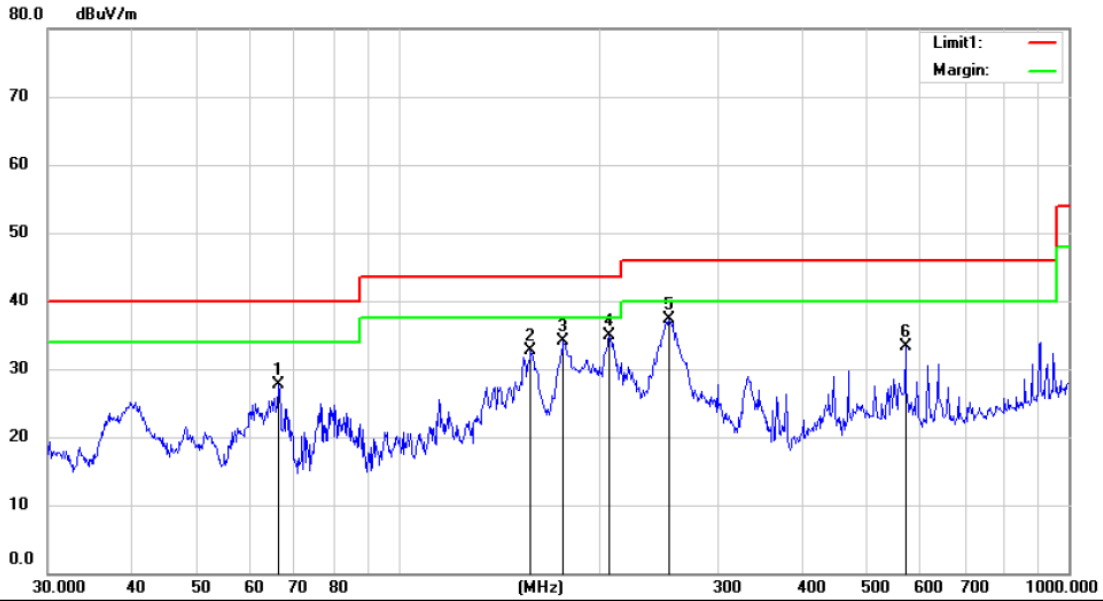
Operator: CSL

| Site | 3m Chamber #3 | Polarization: | *Vertical* | Temperature: | 24 C |
| Limit: | (RE)FCC PART 15 C | Power: | AC 120V/60Hz | Humidity: | 53 % |

Mode: TX 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		66.2661	44.49	-16.84	27.65	40.00	-12.35	QP			
2		157.5588	51.15	-18.50	32.65	43.50	-10.85	QP			
3		176.2686	51.19	-17.18	34.01	43.50	-9.49	QP			
4	*	206.3975	50.14	-15.20	34.94	43.50	-8.56	QP			
5		252.9481	50.61	-13.33	37.28	46.00	-8.72	QP			
6		570.6100	39.57	-6.32	33.25	46.00	-12.75	QP			

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

9.8   CONDUCTED EMISSION TEST

9.8.1   Applicable Standard

According to FCC Part 15.207(a)

9.8.2   Conformance Limit

Conducted Emission Limit		
Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies
   2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

9.8.3   Test Configuration

Test according to clause 7.3 conducted emission test setup

9.8.4   Test Procedure

The EUT was placed on a table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Repeat above procedures until all frequency measured were complete.

9.8.5   Test Results
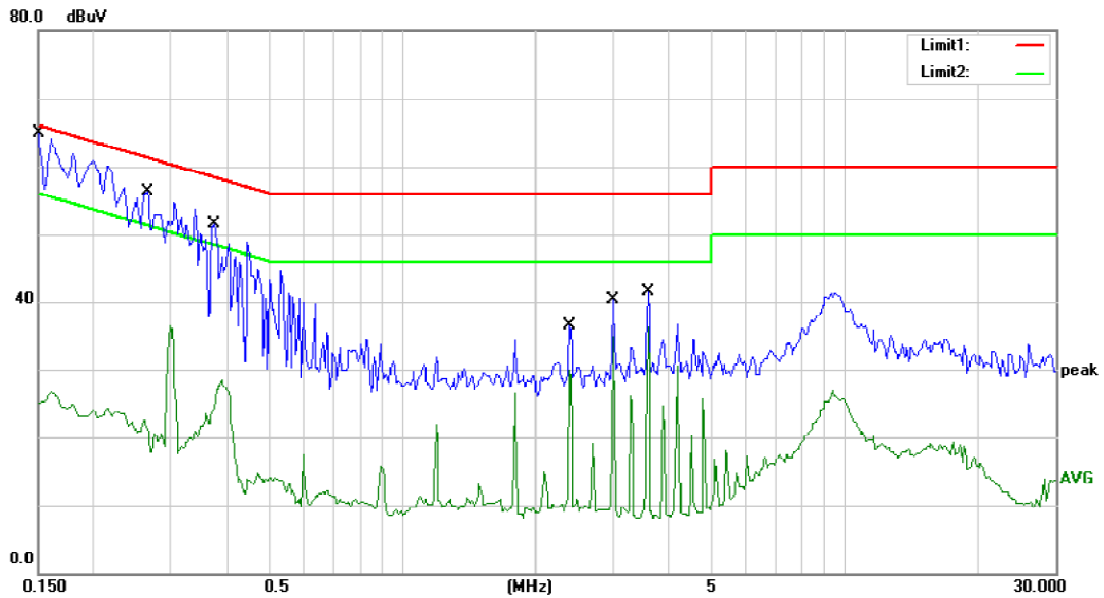
Site Conduction #1

Limit: (CE)FCC PART 15 C

Mode: BT ON

Note:

Phase: **L1**

Power: AC 120V/60Hz

Temperature: 22

Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1	*	0.1500	64.88	0.00	64.88	66.00	-1.12	QP	
2		0.1500	26.74	0.00	26.74	56.00	-29.26	AVG	
3		0.2650	56.25	0.00	56.25	61.27	-5.02	QP	
4		0.2650	36.52	0.00	36.52	51.27	-14.75	AVG	
5		0.3750	51.58	0.00	51.58	58.39	-6.81	QP	
6		0.3750	28.58	0.00	28.58	48.39	-19.81	AVG	
7		2.3950	36.43	0.00	36.43	56.00	-19.57	QP	
8		2.3950	29.92	0.00	29.92	46.00	-16.08	AVG	
9		2.9900	40.22	0.00	40.22	56.00	-15.78	QP	
10		2.9900	34.82	0.00	34.82	46.00	-11.18	AVG	
11		3.5900	41.55	0.00	41.55	56.00	-14.45	QP	
12		3.5900	36.30	0.00	36.30	46.00	-9.70	AVG	

*:Maximum data   x:Over limit   !:over margin   Comment: Factor build in receiver.   Operator: WQG

| | | 80.0 dBuV | | | | | | Limit1: ——
Limit2: —— |
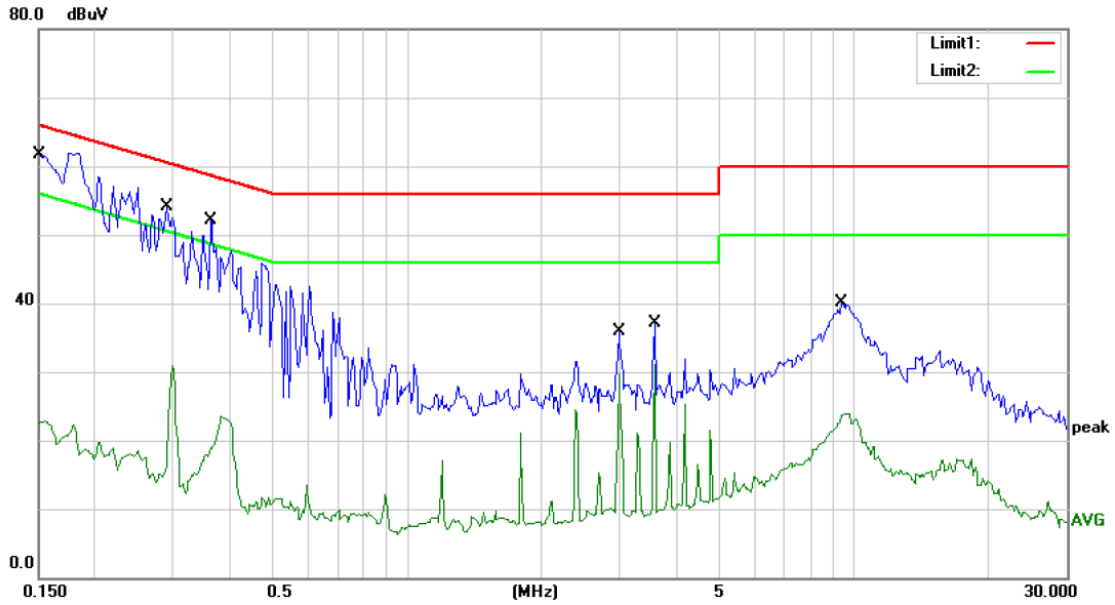
Site Conduction #1   **Phase:** *N*   Temperature: 22

Limit: (CE)FCC PART 15 C   **Power:** AC 120V/60Hz   Humidity: 55 %

Mode: BT ON

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1	*	0.1500	61.65	0.00	61.65	66.00	-4.35	QP	
2		0.1500	22.85	0.00	22.85	56.00	-33.15	AVG	
3		0.2900	54.15	0.00	54.15	60.52	-6.37	QP	
4		0.2900	30.83	0.00	30.83	50.52	-19.69	AVG	
5		0.3673	50.04	0.00	50.04	58.56	-8.52	QP	
6		0.3673	23.47	0.00	23.47	48.56	-25.09	AVG	
7		2.9900	35.98	0.00	35.98	56.00	-20.02	QP	
8		2.9900	29.67	0.00	29.67	46.00	-16.33	AVG	
9		3.5900	37.04	0.00	37.04	56.00	-18.96	QP	
10		3.5900	31.11	0.00	31.11	46.00	-14.89	AVG	
11		9.3900	40.14	0.00	40.14	60.00	-19.86	QP	
12		9.3900	23.94	0.00	23.94	50.00	-26.06	AVG	

*:Maximum data   x:Over limit   !:over margin   Comment: Factor build in receiver.   Operator: WQG

9.9 ANTENNA APPLICATION

9.9.1 Antenna Requirement

Standard	Requirement
FCC CRF Part 15.203	An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.
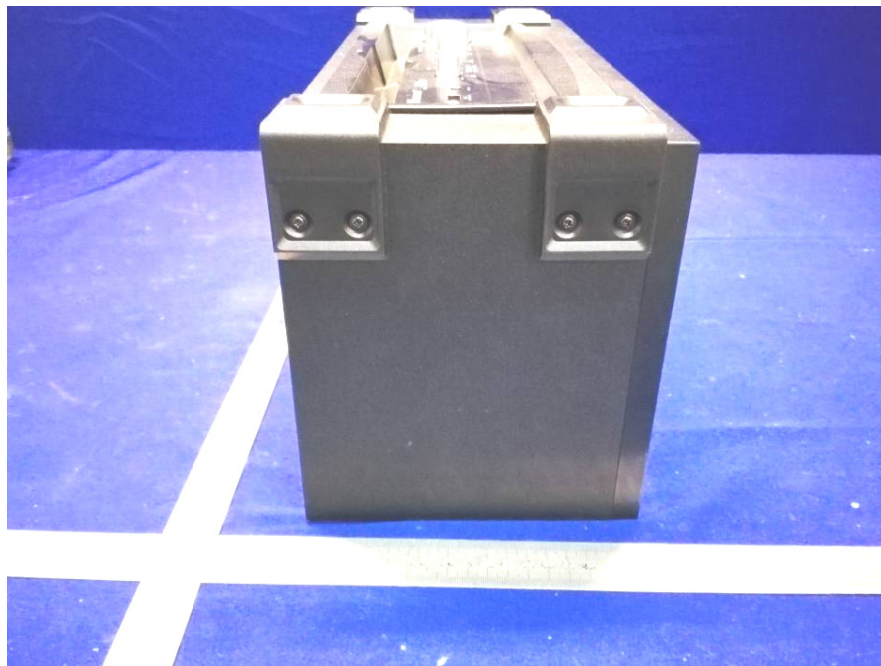
9.9.2 Result

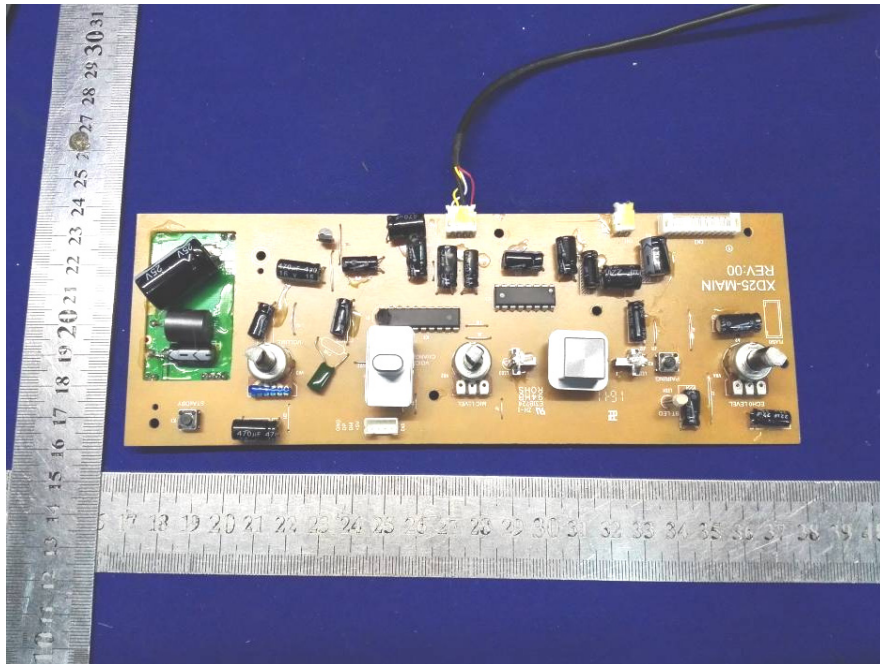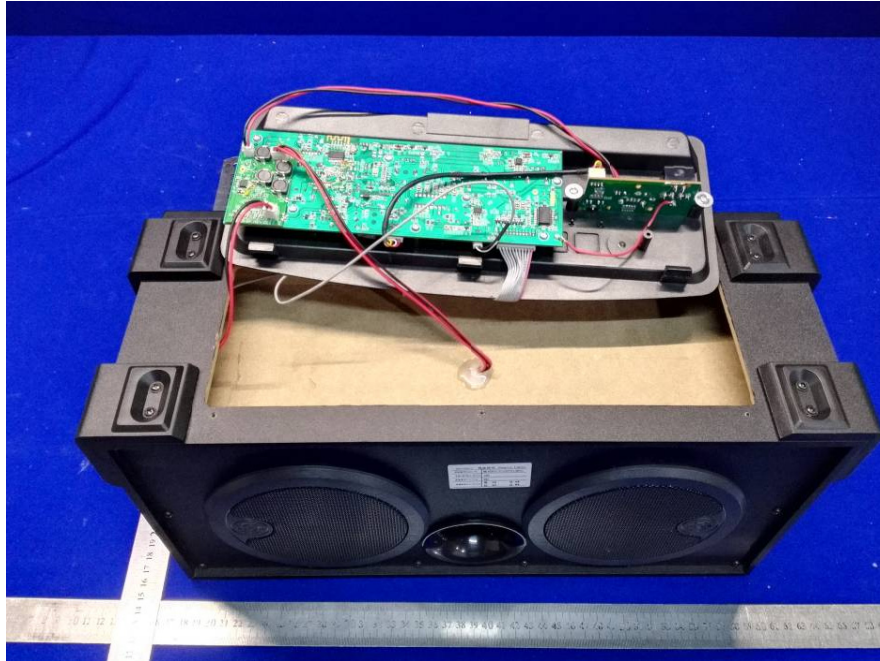The EUT'S antenna is integral antenna. The antenna's gain is 1.3dBi, which in accordance to section 15.203, please refer to the internal photos.
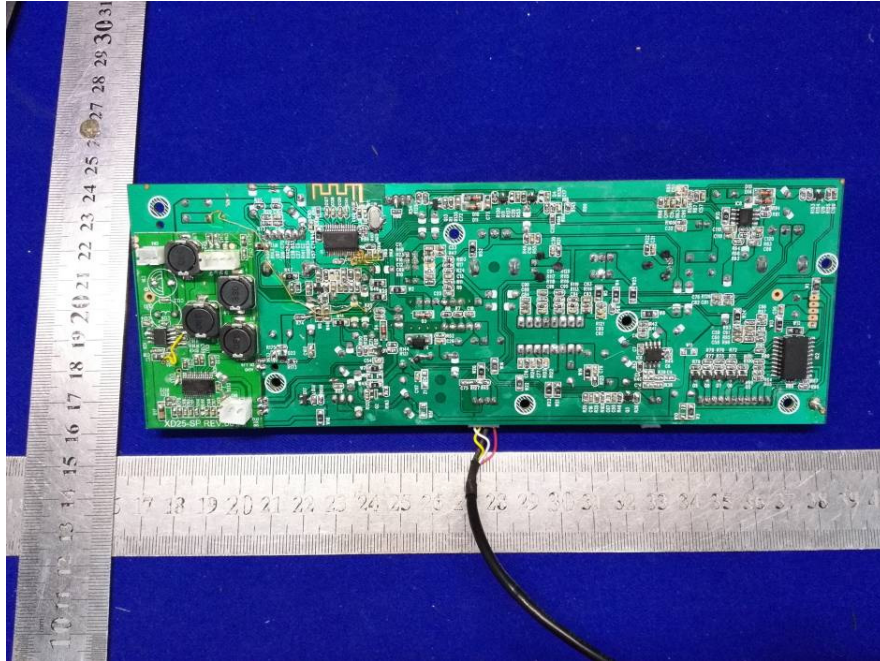
PHOTOGRAPHS OF EUT

BT ANTENNA