



9.6 CONDUCTED SUPRIOUS EMISSION

9.6.1 Applicable Standard

According to FCC Part 15.247(d) and KDB 558074 D01 15.247 MEAS GUIDANCE v05r02 According to IC RSS-247.5.5

9.6.2 Conformance Limit

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 \geq 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 Maximum conducetedlevel.

Note that the channel found to contain the maximum conduceted level can be used to establish the reference level.

■ Band-edge measurement

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 ≥3 x 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.

■ Emission level measurement

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 = $100 \text{ kHzSet VBW} \ge \text{RBW}$

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

Temperature:	25°C
Relative Humidity:	45%
ATM Pressure:	1011 mbar

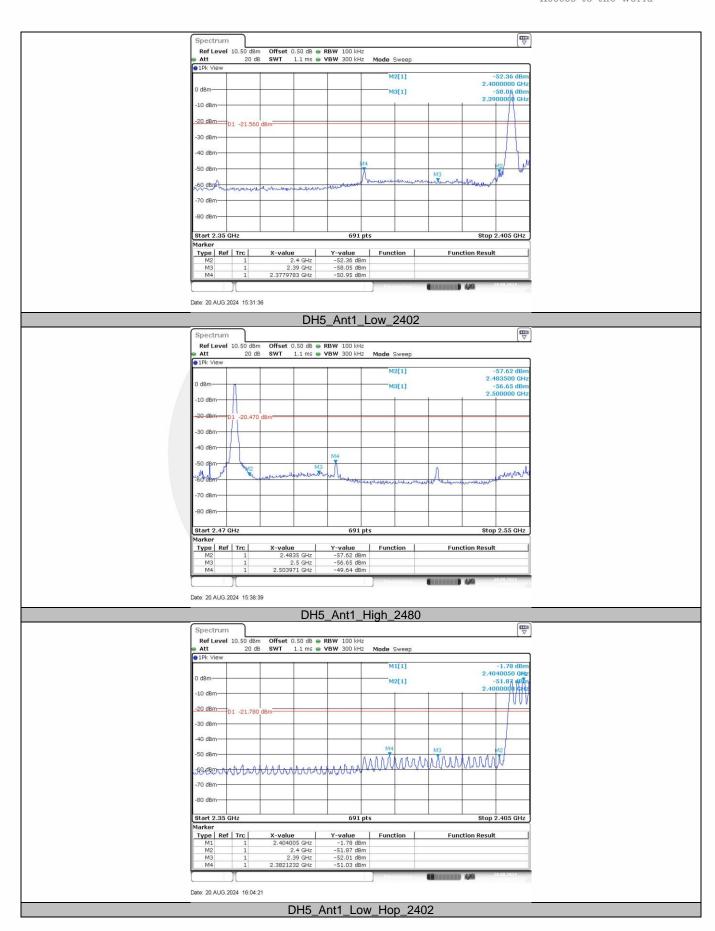
Note: N/A

All the antenna (Antenna 1) and modes (GFSK, π /4-DQPSK, 8DPSK, Hopping) mode have been tested, and the worst (Antenna 1, GFSK, Hopping) resultrecorded was report as below:

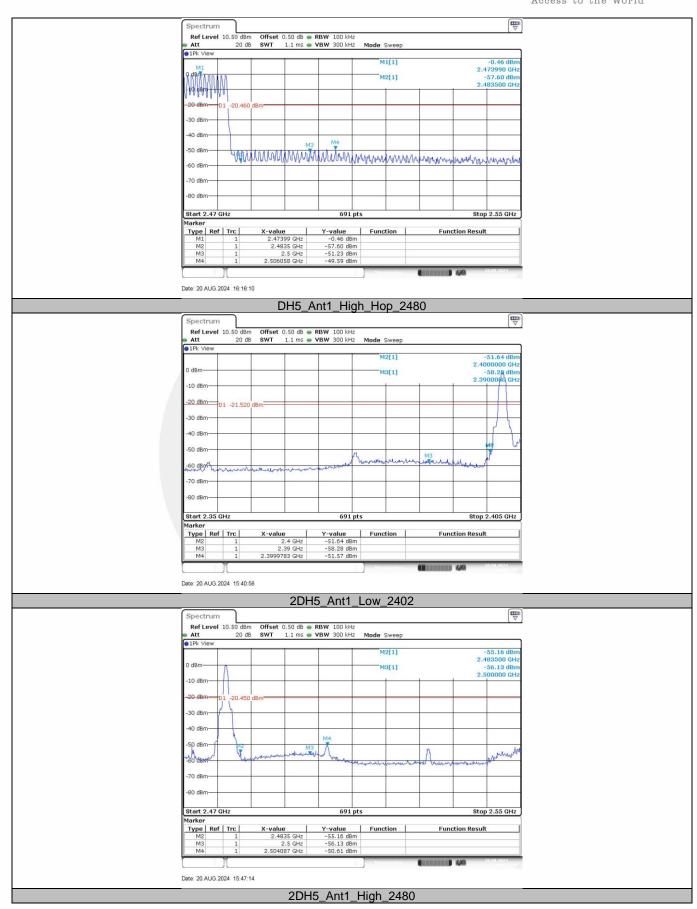
Band edge measurements

TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
		Low	2402	-1.56	-50.95	≤-21.56	PASS
DH5	Ant1	High	2480	-0.47	-49.64	≤-20.47	PASS
טחט	Anti	Low	Hop_2402	-1.78	-51.03	≤-21.78	PASS
		High	Hop_2480	-0.46	-49.59	≤-20.46	PASS
2DH5	Ant1	Low	2402	-1.52	-51.57	≤-21.52	PASS
2000	Anti	High	2480	-0.45	-50.61	≤-20.45	PASS
2015	Ant1	Low	2402	-1.55	-52.41	≤-21.55	PASS
3DH5	Anti	High	2480	-0.47	-50.31	≤-20.47	PASS

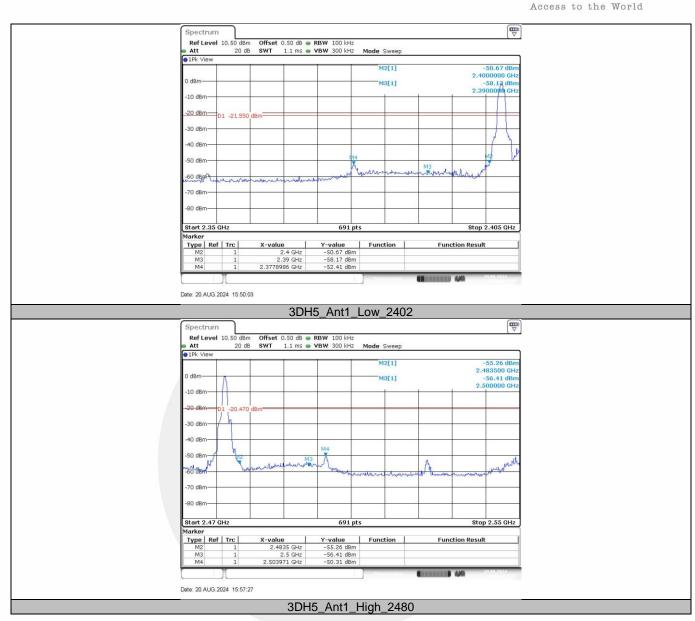










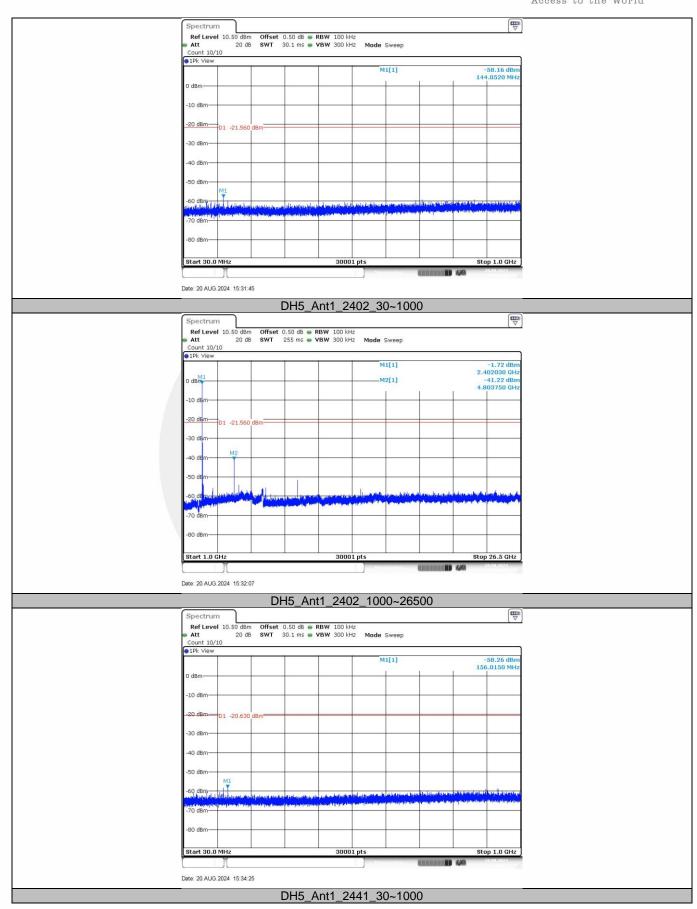




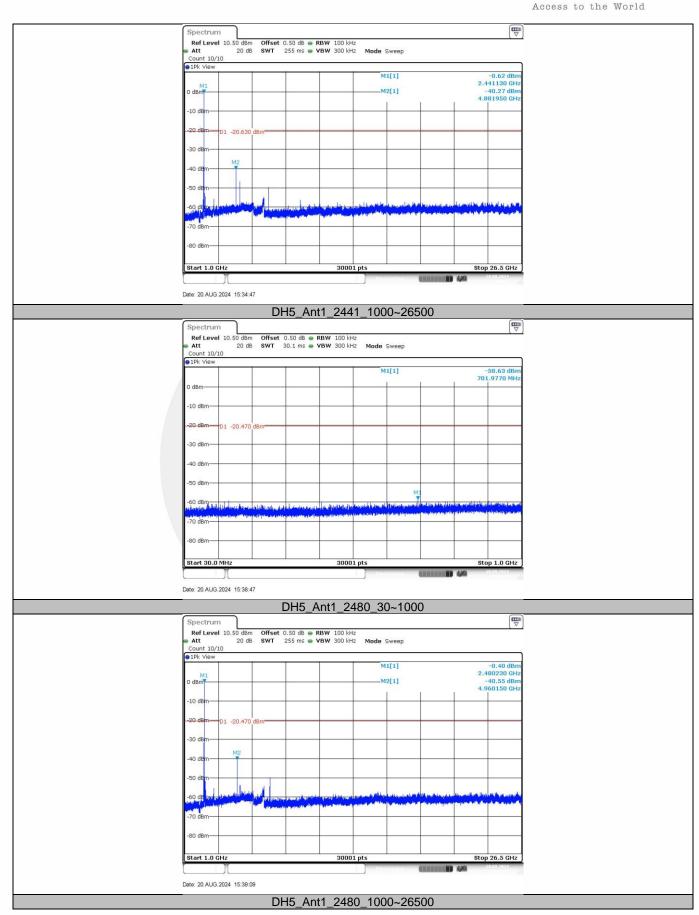
Conducted Spurious Emission

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
		2402	30~1000	-1.56	-58.16	≤-21.56	PASS
		2402	1000~26500	-1.56	-41.22	≤-21.56	PASS
DH5	Ant1	2441	30~1000	-0.63	-58.26	≤-20.63	PASS
פווט	Anti	2441	1000~26500	-0.63	-40.27	≤-20.63	PASS
		2480	30~1000	-0.47	-58.63	≤-20.47	PASS
		2400	1000~26500	-0.47	-40.55	≤-20.47	PASS
		2402 Ant1 2441	30~1000	-1.52	-58.57	≤-21.52	PASS
			1000~26500	-1.52	-43.64	≤-21.52	PASS
2DH5	Ant1		30~1000	-0.59	-58.22	≤-20.59	PASS
20113	Anti		1000~26500	-0.59	-43.63	≤-20.59	PASS
			30~1000	-0.45	-58.88	≤-20.45	PASS
		2400	1000~26500	-0.45	-43.92	≤-20.45	PASS
		2402	30~1000	-1.55	-57.55	≤-21.55	PASS
		2402	1000~26500	-1.55	-43.64	≤-21.55	PASS
3DH5	Ant1	2441	30~1000	-0.59	-58.51	≤-20.59	PASS
	AIILI	2441	1000~26500	-0.59	-44.02	≤-20.59	PASS
		2400	30~1000	-0.47	-58.1	≤-20.47	PASS
		2480	1000~26500	-0.47	-44.37	≤-20.47	PASS

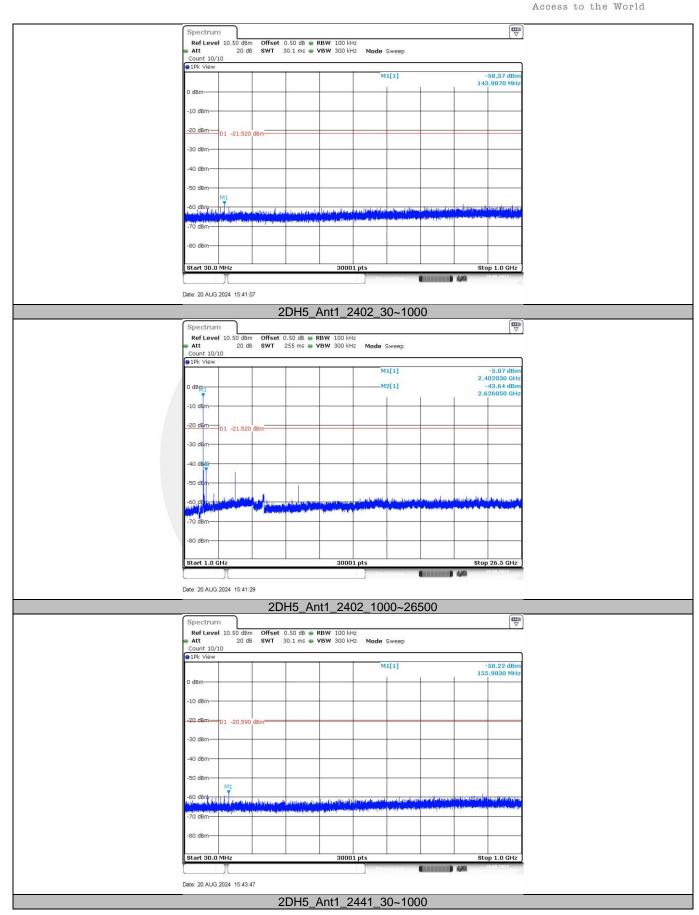




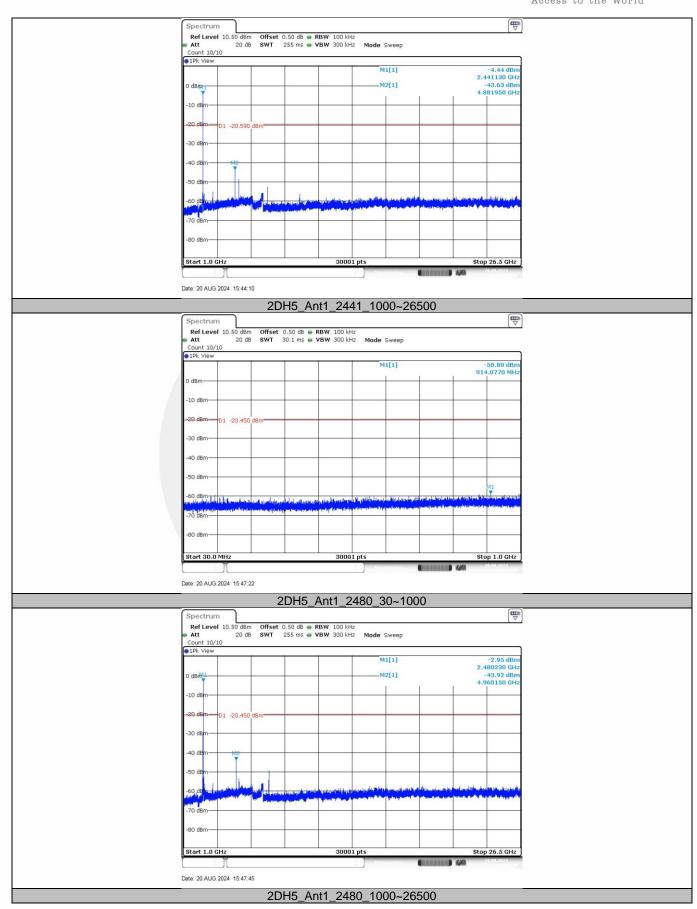




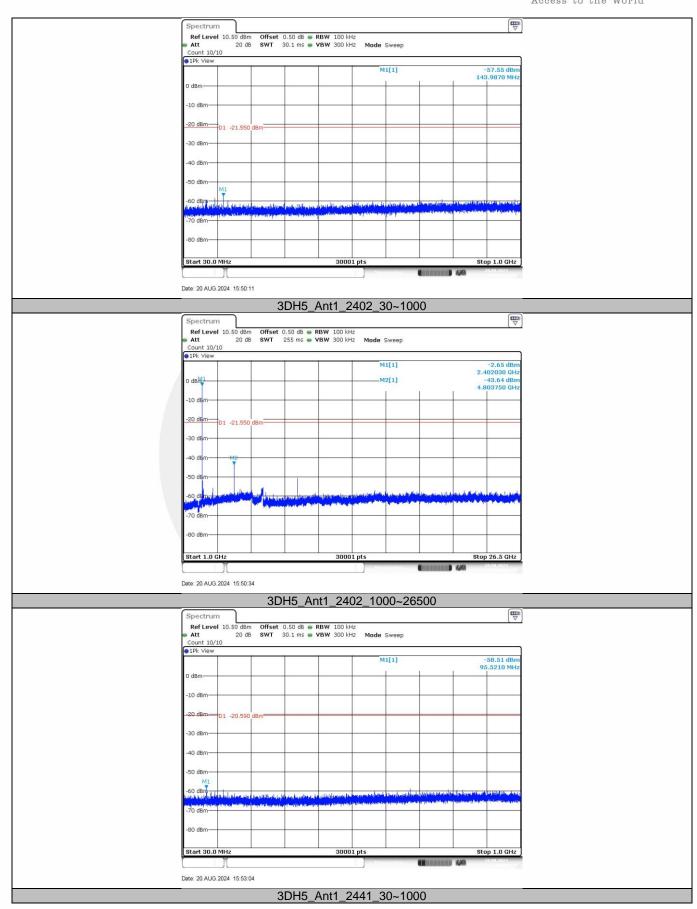




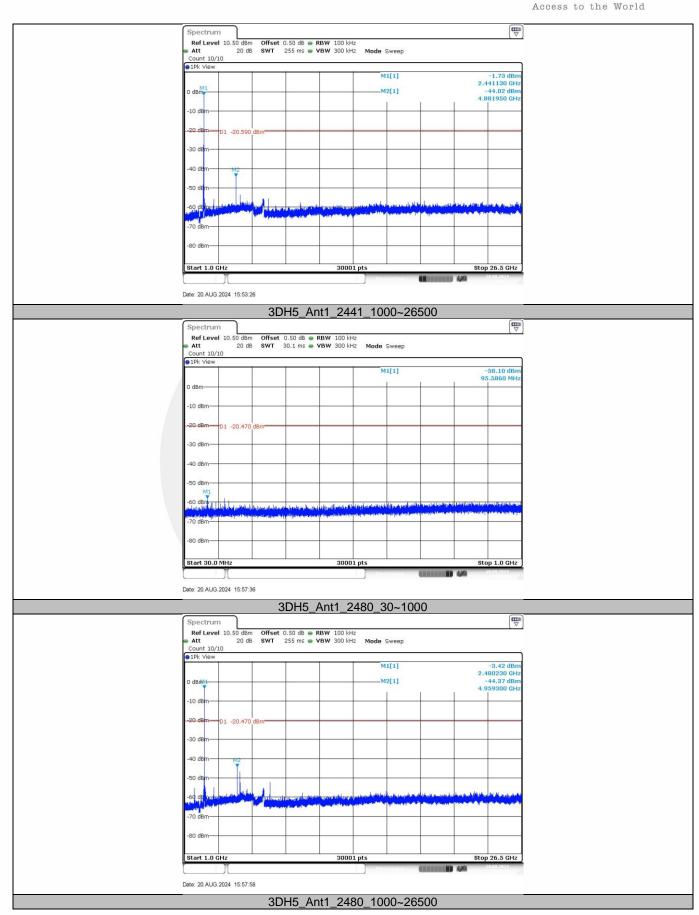














9.7 RADIATED SPURIOUS EMISSION

9.7.1 Applicable Standard

According to FCC Part 15.247(d), 15.205, 15.209 and KDB 558074 D01 15.247 MEAS GUIDANCE v05r02 According to IC RSS-Gen and RSS-247

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

Necesting to 1 00 1 art 10:200, receitloide 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)	stricted Frequency(MHz) Field Strength (µV/m) I		Measurement Distance
0.009-0.490	2400/F(KHz)	20 log (uV/m)	300
0.490-1.705	24000/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:

For Above 1GHz:

The EUT was placed on a turn table which is 1.5m 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

VBW ≥ RBW

Sweep = auto

Detector function = peak



Trace = max hold

For Below 1GHz:

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 = 100 kHz for

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

For Below 30MHz:

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 = 9kHz

VBW > RBW

Sweep = auto

Detector function = peak

Trace = max hold

For Below 150KHz:

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 = 200Hz

 $VBW \geq RBW$

Sweep = auto

Detector function = peak

Trace = max hold

Follow the guidelines in ANSI C63.10-2013 with 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:	22° C
Relative Humidity:	45%
ATM Pressure:	1011 mbar

Freq.	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(Limit 3m(dBuV/m)		er(dB)
(MHz)	H/V	PK	ÁV	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)



All the antenna(Antenna 1) and modes(GFSK, π /4-DQPSK, 8DPSK) mode have been tested, and the worst(Antenna 1,GFSK) resultrecorded was report as below:

Test mode:	GFS	K	Freque	ency:	: Channel 0: 2402MHz			
Freq. (MHz)	Ant.Pol.		ssion BuV/m)	Limit 3m	(dBuV/m)	Ove	r(dB)	
(IVIIIZ)	H/V	PK	AV	PK	AV	PK	AV	
4803.75	V	54.72	47.46	74.00	54.00	19.28	6.54	
8491.87	V	64.00	40.97	74.00	54.00	10.00	13.03	
12963.7	V	65.54	45.90	74.00	54.00	8.46	8.10	
4803.75	Н	53.95	35.63	74.00	54.00	20.05	18.37	
8994.37	Н	64.21	43.82	74.00	54.00	9.79	10.18	
15913.1	Н	67.26	46.86	74.00	54.00	6.74	7.14	

Test mode:	GFS	SK	K Frequenc		cy: Channel 39: 2441MHz		
Freq.	Ant.Pol.	Emission Lev	vel(dBuV/m)	Limit 3m(dBuV/m)		Over(dB)	
(MHz)	H/V	PK	AV	PK	AV	PK	AV
4880.62	V	57.49	47.81	74.00	54.00	16.51	6.19
9341.25	V	65.06	42.26	74.00	54.00	8.94	11.74
16968.7	V	67.70	46.85	74.00	54.00	6.30	7.15
4880.62	Н	55.87	47.87	74.00	54.00	18.13	6.13
8454.37	Н	64.48	41.31	74.00	54.00	9.52	12.69
17655	Н	67.27	47.14	74.00	54.00	6.73	6.86

Test mode:	GFS	K	K Frequenc		cy: Channel 78: 2480MHz		
Freq.	Ant.Pol.	Emission Lev	rel(dBuV/m) Limit 3m		(dBuV/m)	Over(dB)	
(MHz)	H/V	PK	AV	PK	AV	PK	AV
4959.37	V	58.87	36.70	74.00	54.00	15.13	17.30
8550	V	63.73	40.76	74.00	54.00	10.27	13.24
14891.2	V	66.67	47.42	74.00	54.00	7.33	6.58
4959.37	Н	57.63	36.14	74.00	54.00	16.37	17.86
8992.5	Н	63.96	43.77	74.00	54.00	10.04	10.23
16275	Н	67.50	46.51	74.00	54.00	6.50	7.49

Note:

- (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
- (2) Emission Level= Reading Level+Correct Factor.
- (3) Correct Factor= Ant_F + Cab_L Preamp
- (4) 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
All the antenna(Antenna 1) and modes(GFSK, π/4-DQPSK, 8DPSK, Hopping) mode have been tested, and the worst(Antenna 1,GFSK, Hopping) resultrecorded was report as below:

Test mode:	GFSK	Frequen	cy: Ch	annel 0: 2402MH	Z
Frequency (MHz)	Polarity H/V	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
2383.94	Н	50.85	74.00	46.10	54.00
2377.91	V	51.37	74.00	46.20	54.00

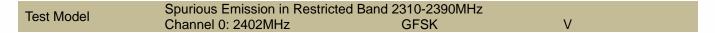
Test mode: GFSK		Frequency: Cha		annel 78: 2480MHz	
Frequency (MHz)	Polarity H/V	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
2484.20	Н	49.28	74.00	31.53	54.00
2483.57	V	49.92	74.00	32.95	54.00

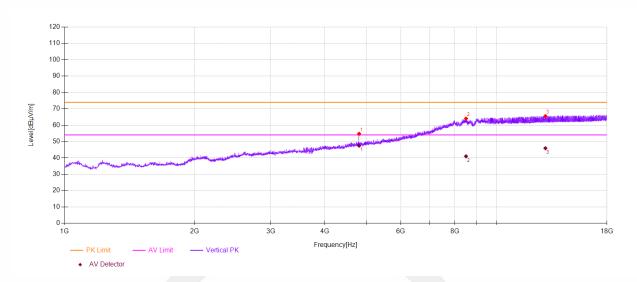
Test mode:	GFSK	Frequen			
Frequency (MHz)	Polarity H/V	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
2382.73	Н	48.35	74.00	39.44	54.00
2489.60	Н	48.37	74.00	39.41	54.00
2389.19	V	46.88	74.00	39.59	54.00
2487.01	V	47.98	74.00	39.63	54.00

Note:

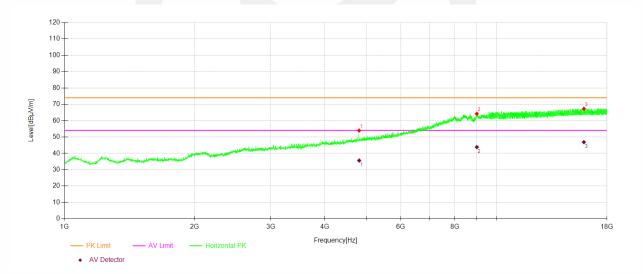
- (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
- (2) Emission Level= Reading Level+Correct Factor.
- (3) Correct Factor= Ant_F + Cab_L Preamp
- (4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.





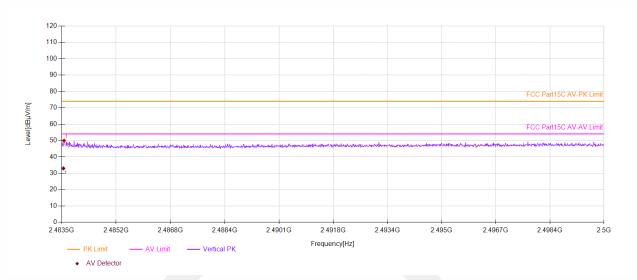




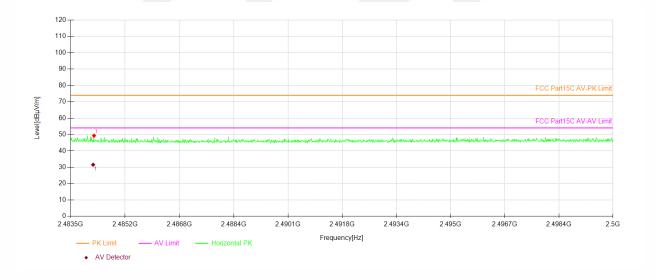






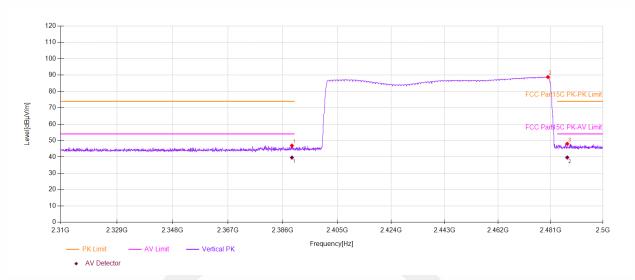


Test Model Spurious Emission in Restricted Band 2483.5-2500MHz
Channel 78: 2480MHz GFSK H

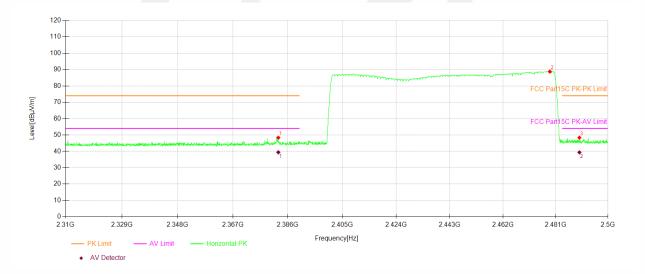








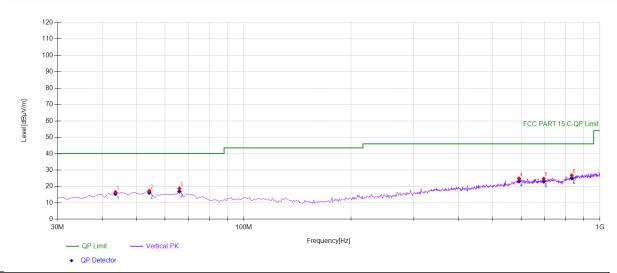






■ Spurious Emission below 1GHz(30MHz to 1GHz)
All the antenna(Antenna 1) and modes(GFSK, π/4-DQPSK, 8DPSK) mode have been tested, and the worst(Antenna 1,GFSK) resultrecorded was report as below:

Mode:	BT 2402			
Environment:	Temp: 25°C; Humi:60%			

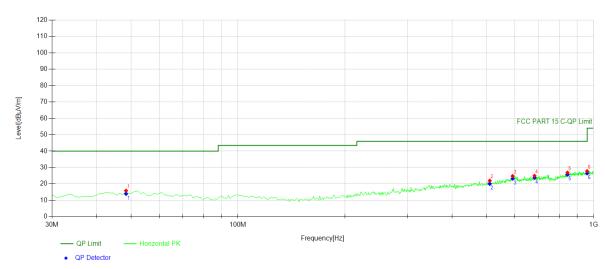


Suspe	Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity	
1	43.5936	33.43	-16.91	16.52	PK	40.00	23.48	Vertical	
2	54.2743	33.83	-16.56	17.27	PK	40.00	22.73	Vertical	
3	65.9259	36.85	-18.14	18.71	PK	40.00	21.29	Vertical	
4	592.192	31.68	-6.83	24.85	PK	46.00	21.15	Vertical	
5	695.115	31.05	-6.33	24.72	PK	46.00	21.28	Vertical	
6	832.993	31.58	-4.84	26.74	PK	46.00	19.26	Vertical	

Final Data List									
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]				
1	43.5936	-16.91	15.43	40.00	24.57				
2	54.2743	-16.56	16.18	40.00	23.82				
3	65.9259	-18.14	16.98	40.00	23.02				
4	592.1922	-6.83	23.12	46.00	22.88				
5	695.1151	-6.33	22.99	46.00	23.01				
6	832.993	-4.84	25.01	46.00	20.99				



Mode:	BT 2402			
Environment:	Temp: 25℃; Humi:60%			

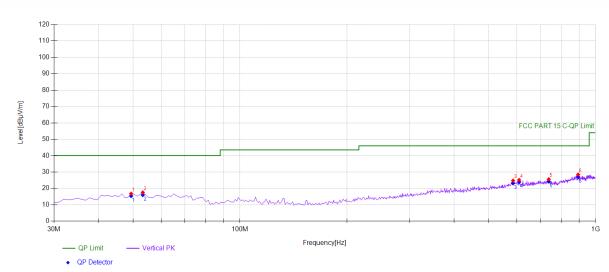


Suspe	Suspected Data List									
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity		
1	48.4484	32.09	-16.22	15.87	PK	40.00	24.13	Horizontal		
2	510.630	31.85	-9.87	21.98	PK	46.00	24.02	Horizontal		
3	592.192	31.63	-6.83	24.80	PK	46.00	21.20	Horizontal		
4	682.492	31.77	-6.81	24.96	PK	46.00	21.04	Horizontal		
5	844.644	31.33	-4.42	26.91	PK	46.00	19.09	Horizontal		
6	959.219	30.23	-2.42	27.81	PK	46.00	18.19	Horizontal		

Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]
1	48.4484	-16.22	13.96	40.00	26.04
2	510.6306	-9.87	20.07	46.00	25.93
3	592.1922	-6.83	23.25	46.00	22.75
4	682.4925	-6.81	23.77	46.00	22.23
5	844.6446	-4.42	25.72	46.00	20.28
6	959.2192	-2.42	26.46	46.00	19.54



Mode:	BT 2441
Environment:	Temp: 25℃; Humi:60%

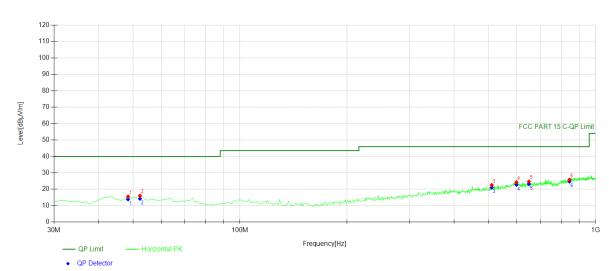


Suspe	Suspected Data List									
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity		
1	49.4194	32.89	-16.09	16.80	PK	40.00	23.20	Vertical		
2	53.3033	34.00	-16.44	17.56	PK	40.00	22.44	Vertical		
3	586.366	31.90	-7.12	24.78	PK	46.00	21.22	Vertical		
4	609.669	32.12	-6.96	25.16	PK	46.00	20.84	Vertical		
5	738.808	31.25	-5.68	25.57	PK	46.00	20.43	Vertical		
6	893.193	31.77	-3.36	28.41	PK	46.00	17.59	Vertical		

Final Data List								
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]			
1	49.4194	-16.09	15.39	40.00	24.61			
2	53.3033	-16.44	15.99	40.00	24.01			
3	586.3664	-7.12	23.21	46.00	22.79			
4	609.6697	-6.96	23.95	46.00	22.05			
5	738.8088	-5.68	24.20	46.00	21.80			
6	893.1932	-3.36	27.04	46.00	18.96			



Mode:	BT 2441			
Environment:	Temp: 25℃; Humi:60%			

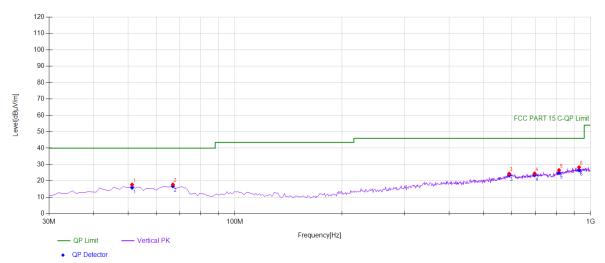


Suspe	Suspected Data List									
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity		
1	48.4484	31.75	-16.22	15.53	PK	40.00	24.47	Horizontal		
2	52.3323	32.37	-16.31	16.06	PK	40.00	23.94	Horizontal		
3	510.630	32.44	-9.87	22.57	PK	46.00	23.43	Horizontal		
4	598.989	30.73	-6.49	24.24	PK	46.00	21.76	Horizontal		
5	649.479	32.00	-7.28	24.72	PK	46.00	21.28	Horizontal		
6	844.644	30.26	-4.42	25.84	PK	46.00	20.16	Horizontal		

Final Data List									
NO.	Freq. Factor [dB/m]		QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]				
1	48.4484	-16.22	13.89	40.00	26.11				
2	52.3323	-16.31	14.26	40.00	25.74				
3	510.6306	-9.87	21.12	46.00	24.88				
4	598.989	-6.49	22.79	46.00	23.21				
5	649.4795	-7.28	23.27	46.00	22.73				
6	844.6446	-4.42	24.75	46.00	21.25				



Mode:	BT 2480				
Environment:	Temp: 25℃; Humi:60%				

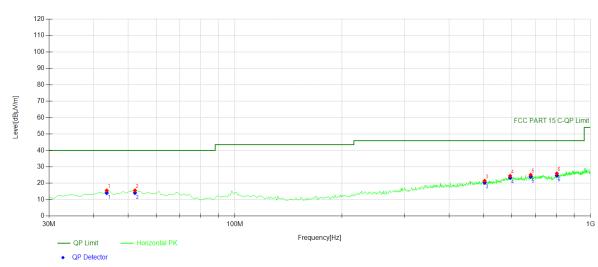


Suspe	Suspected Data List										
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity			
1	51.3614	33.94	-16.19	17.75	PK	40.00	22.25	Vertical			
2	66.8969	36.10	-18.27	17.83	PK	40.00	22.17	Vertical			
3	590.250	31.35	-6.93	24.42	PK	46.00	21.58	Vertical			
4	696.086	30.88	-6.30	24.58	PK	46.00	21.42	Vertical			
5	815.515	31.74	-5.15	26.59	PK	46.00	19.41	Vertical			
6	928.148	31.56	-3.18	28.38	PK	46.00	17.62	Vertical			

Final Data List									
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]				
1	51.3614	-16.19	15.89	40.00	24.11				
2	66.8969	-18.27	16.81	40.00	23.19				
3	590.2503	-6.93	23.40	46.00	22.60				
4	696.0861	-6.30	23.56	46.00	22.44				
5	815.5155	-5.15	24.93	46.00	21.07				
6	928.1481	-3.18	26.72	46.00	19.28				



Mode:	BT 2480				
Environment:	Temp: 25℃; Humi:60%				



Suspe	Suspected Data List										
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity			
1	43.5936	32.48	-16.91	15.57	PK	40.00	24.43	Horizontal			
2	52.3323	31.95	-16.31	15.64	PK	40.00	24.36	Horizontal			
3	503.833	31.45	-9.99	21.46	PK	46.00	24.54	Horizontal			
4	594.134	31.20	-6.73	24.47	PK	46.00	21.53	Horizontal			
5	678.608	32.02	-6.91	25.11	PK	46.00	20.89	Horizontal			
6	803.863	31.32	-5.35	25.97	PK	46.00	20.03	Horizontal			

Final Data List									
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]				
1	43.5936	-16.91	14.08	40.00	25.92				
2	52.3323	-16.31	14.15	40.00	25.85				
3	503.8338	-9.99	20.33	46.00	25.67				
4	594.1341	-6.73	23.34	46.00	22.66				
5	678.6086	-6.91	23.98	46.00	22.02				
6	803.8639	-5.35	24.68	46.00	21.32				



9.8 CONDUCTED EMISSION TEST

9.8.1 Applicable Standard

According to FCC Part 15.207 According to IC RSS-Gen 8.8

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

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

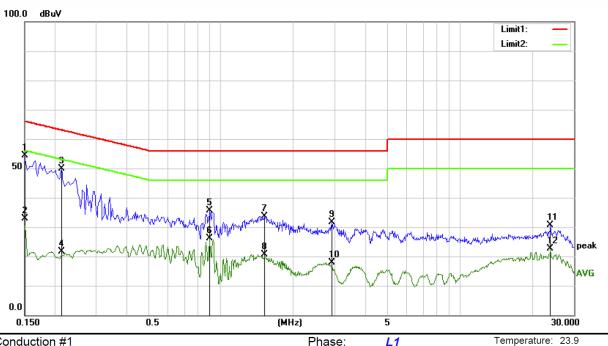
Pass

The AC120V &240V voltage have been tested, and the worst result recorded was report as below:

^{2.} The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.



Humidity:



Power: DC 5V FROM ADAPTER

Site Conduction #1

Limit: (CE)FCC PART 15 class B_QP

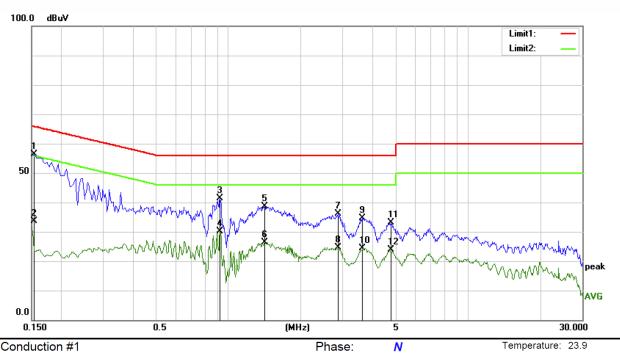
Mode: BT Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1500	44.48	9.93	54.41	66.00	-11.59	QP	
2		0.1500	22.84	9.93	32.77	56.00	-23.23	AVG	
3		0.2140	39.98	9.91	49.89	63.05	-13.16	QP	
4		0.2140	11.63	9.91	21.54	53.05	-31.51	AVG	
5		0.8980	25.55	10.00	35.55	56.00	-20.45	QP	
6		0.8980	16.17	10.00	26.17	46.00	-19.83	AVG	
7		1.5180	23.69	10.03	33.72	56.00	-22.28	QP	
8		1.5180	10.69	10.03	20.72	46.00	-25.28	AVG	
9		2.9060	21.66	10.05	31.71	56.00	-24.29	QP	
10		2.9060	7.77	10.05	17.82	46.00	-28.18	AVG	
11		23.9460	19.88	10.78	30.66	60.00	-29.34	QP	
12		23.9460	11.88	10.78	22.66	50.00	-27.34	AVG	



Humidity:

53 %



Power: DC 5V FROM ADAPTER

Site Conduction #1

Limit: (CE)FCC PART 15 class B_QP

Mode: BT Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1540	46.37	9.93	56.30	65.78	-9.48	QP	
2		0.1540	23.66	9.93	33.59	55.78	-22.19	AVG	
3		0.9220	31.30	10.00	41.30	56.00	-14.70	QP	
4		0.9220	20.05	10.00	30.05	46.00	-15.95	AVG	
5		1.4140	28.51	10.03	38.54	56.00	-17.46	QP	
6		1.4140	16.47	10.03	26.50	46.00	-19.50	AVG	
7		2.8580	25.97	10.05	36.02	56.00	-19.98	QP	
8		2.8580	14.66	10.05	24.71	46.00	-21.29	AVG	
9		3.6220	24.71	10.04	34.75	56.00	-21.25	QP	
10		3.6220	14.36	10.04	24.40	46.00	-21.60	AVG	
11		4.7500	23.03	10.05	33.08	56.00	-22.92	QP	
12		4.7500	13.76	10.05	23.81	46.00	-22.19	AVG	



9.9 ANTENNA APPLICATION

9.9.1 Antenna Requirement

Standard Requirement 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 FCC CRF Part15.203 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. If transmitting antennas of directional gain greater than 6dBi are used, FCC 47 CFR Part 15.247 the power shall be reduced by the amount in dB that the directional gain (b) of the antenna exceeds 6dBi. The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each RSS-Gen Section 6.8 antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list. If the transmitter employs an antenna system that emits multiple directional beams, but does not emit multiple directional beams simultaneously, the total output power conducted to the array or arrays that comprise the device (i.e. the sum of the power supplied to all antennas, antenna elements, staves, etc., and summed across all carriers or frequency channels) shall not exceed the applicable output RSS-247 Section 5.4 power limit. However, the total conducted output power shall be reduced by 1 dB below the specified limits for each 3 dB that the directional gain of the antenna/antenna array exceeds 6 dBi. The directional antenna gain shall be computed as the sum of 10 log (number of array elements or staves) plus the directional gain of the element or stave having the highest gain. 9.9.2 Result PASS. Note: $\overline{\mathbf{A}}$ Antenna use a permanently attached antenna which is not replaceable. Not using a standard antenna jack or electrical connector for antenna replacement The antenna has to be professionally installed (please provide method of installation)

*** End of Report ***

Please refer to the attached documentInternal Photos to show the antenna connector.