TEST REPORT

Reference No.	:	WTX22X07144750W003
FCC ID	:	2ANYC-NT-1288BC
Applicant	:	Guangzhou Netum Electronic Technology Co., Ltd.
Address	:	Building 1, No. 51 Xiangshan Avenue, Ningxi Street, Zengcheng District, Guangzhou 511300, China
Manufacturer	:	The same as Applicant
Address	:	The same as Applicant
Product Name	:	Barcode Scanner
Model No.	:	NT-1288BC
Standards	:	FCC Part 15.249
Date of Receipt sample	:	2022-07-15
Date of Test	:	2022-07-15 to 2022-08-13
Date of Issue	:	2022-08-13
Test Report Form No.	:	WTX_Part 15_249W
Test Result	:	**Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

Prepared By:

Waltek Testing Group (Shenzhen) Co., Ltd.

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Tested by:

Mike Shi

Approved by:

Silin Chen

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Report version

Version No.	Date of issue	Description
Rev.00	2022-08-13	Original
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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Barcode Scanner
Trade Name:	NETUM, NetumScan, Zacoora, RADALL, NTEUMM
Model No.:	NT-1288BC
Adding Model(s):	NT-1228BL, NSL6BL, NSL8BL, M6, M8, W6-X, W7-X, W8-X, NT-1202W, NT-1203, S6, S8, F20, K6, K8, NT-8099
Rated Voltage:	USB Port:DC5V Battery:DC3.7V
Battery Capacity	2000mAh
Power Adapter Model:	/
Software Version:	$SW#VER
Hardware Version:	NT-2.4GFBTCCDM-A1
Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model NT-1288BC, but the circuit and the electronic construction do not change, declared by the manufacturer.	

Technical Characteristics of EUT	
Frequency Range:	2407MHz-2478MHz
Max. Field Strength:	77.17dBuV/m
Modulation:	ACK
Antenna Type:	Integral Antenna
Antenna Gain:	4dBi
Note: The Antenna Gain is provided by the customer and can affect the validity of results.	

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.249: Operation within the bands 902-928MHz, 2400-2483.5MHz, 5725-5875MHz, and 24.0-24.25GHz.
ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which results in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013,
The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions.

1.4 Test Facility

Address of the test laboratory
Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.
Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990
Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintain ed in our files. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A
The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	Low Channel	2407MHz
TM2	Middle Channel	2440MHz
TM3	High Channel	2478MHz

Test Conditions	
Temperature:	22~25 °C
Relative Humidity:	50~55 %.
ATM Pressure:	1019 mbar

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
USB Cable	1.20	Shielded	With Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	Lenovo Pro 14IHU	/

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	±0.42dB
Occupied Bandwidth	Conducted	±1.5%
Conducted Spurious Emission	Conducted	±2.17dB
Conducted Emissions	Conducted	9-150kHz ±3.74dB
		0.15-30MHz ±3.34dB
Transmitter Spurious Emissions	Radiated	30-200MHz ±4.52dB
		0.2-1GHz ±5.56dB
		1-6GHz ±3.84dB
		6-26GHz ±3.92dB

1.7 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
SEMT-1075	Communication Tester	Rohde & Schwarz	CMW500	148650	2022-03-22	2023-03-21
SEMT-1063	GSM Tester	Rohde & Schwarz	CMU200	114403	2022-03-22	2023-03-21
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2022-03-25	2023-03-24
SEMT-1079	Spectrum Analyzer	Agilent	N9020A	US47140102	2022-03-22	2023-03-21
SEMT-1080	Signal Generator	Agilent	83752A	3610A01453	2022-03-22	2023-03-21
SEMT-1081	Vector Signal Generator	Agilent	N5182A	MY47070202	2022-03-22	2023-03-21
SEMT-1028	Power Divider	Weinschel	1506A	PM204	2022-03-22	2023-03-21
SEMT-C001	Cable	Zheng DI	LL142-07-07-10M(A)	/	/	/
SEMT-C002	Cable	Zheng DI	ZT40-2.92J-2.92J-6M	/	/	/
SEMT-C003	Cable	Zheng DI	ZT40-2.92J-2.92J-2.5M	/	/	/
SEMT-C004	Cable	Zheng DI	2M0RFC	/	/	/
SEMT-C005	Cable	Zheng DI	1M0RFC	/	/	/
SEMT-C006	Cable	Zheng DI	1M0RFC	/	/	/
☒Chamber A: Below 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2022-03-22	2023-03-21
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2022-03-22	2023-03-21
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2022-01-07	2023-01-06
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2023-03-19
SEMT-1068	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2021-03-20	2023-03-19
☒Chamber A: Above 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2022-03-22	2023-03-21
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2022-03-22	2023-03-21
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2022-03-22	2023-03-21
SEMT-1042	Horn Antenna	ETS	3117	00086197	2021-03-19	2023-03-18
SEMT-1121	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170582	2021-04-27	2023-04-26
SEMT-1216	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2022-03-25	2023-03-24

SEMT-1163	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2022-03-22	2023-03-21
☐Chamber B:Below 1GHz						
SEMT-1068	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2023-04-08
SEMT-1067	Amplifier	Agilent	8447D	2944A10179	2022-03-22	2023-03-21
SEMT-1066	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2022-03-22	2023-03-21
☐Chamber C:Below 1GHz						
SEMT-1319	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2022-01-07	2023-01-06
SEMT-1343	Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2021-05-28	2023-05-27
SEMT-1333	Amplifier	HP	8447F	2944A03869	2022-03-22	2023-03-21
☒Conducted Room 1#						
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2022-03-21	2023-03-20
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2022-03-25	2023-03-24
SEMT-1003	AC LISN	Schwarz beck	NSLK8126	8126-224	2022-03-22	2023-03-21
☐Conducted Room 2#						
SEMT-1334	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2022-03-22	2023-03-21
SEMT-1336	LISN	Rohde & Schwarz	ENV 216	100097	2022-03-22	2023-03-21

Software List			
Description	**Manufacturer**	**Model**	**Version**
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission)*	Farad	EZ-EMC	RA-03A1

*Remark: indicates software version used in the compliance certification testing.

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§15.203	Antenna Requirement	Compliant
§15.205	Restricted Band of Operation	Compliant
§15.207(a)	Conducted Emission	N/A
§15.209(a)(f)	Radiated Spurious Emissions	Compliant
§15.249(a)	Field Strength of Emissions	Compliant
§15.249(d)	Out of Band Emission	Compliant
§15.215(c)	Emission Bandwidth	Compliant

N/A: Not applicable.

3. Antenna Requirements

3.1 Standard Applicable

According to FCC 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.

3.2 Test Result

This product has an Integral Antenna, fulfill the requirement of this section.

4. Radiated Emissions

4.1 Standard Applicable

According to §15.249(a), the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency	Field strength of fundamental (milli-volts/meter)	Field strength of Harmonics (micro-volts/meter)
902-928MHz	50	500
2400-2483.5MHz	50	500
5725-5875MHz	50	500
24.0-24.25GHz	250	2500

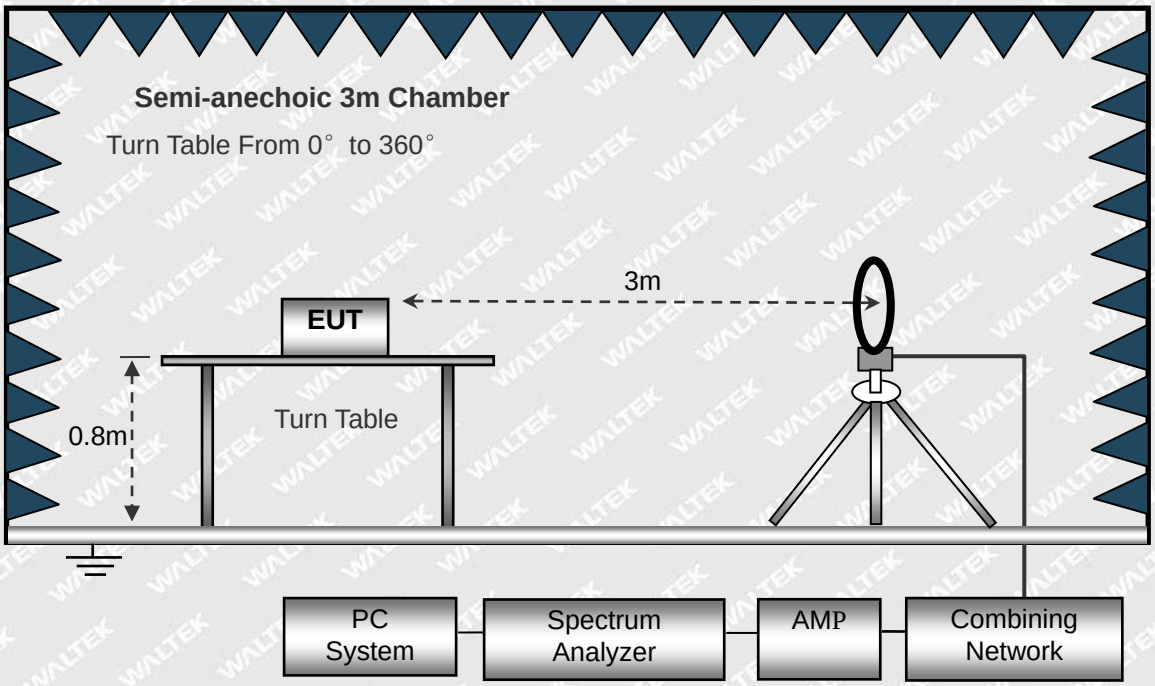
(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

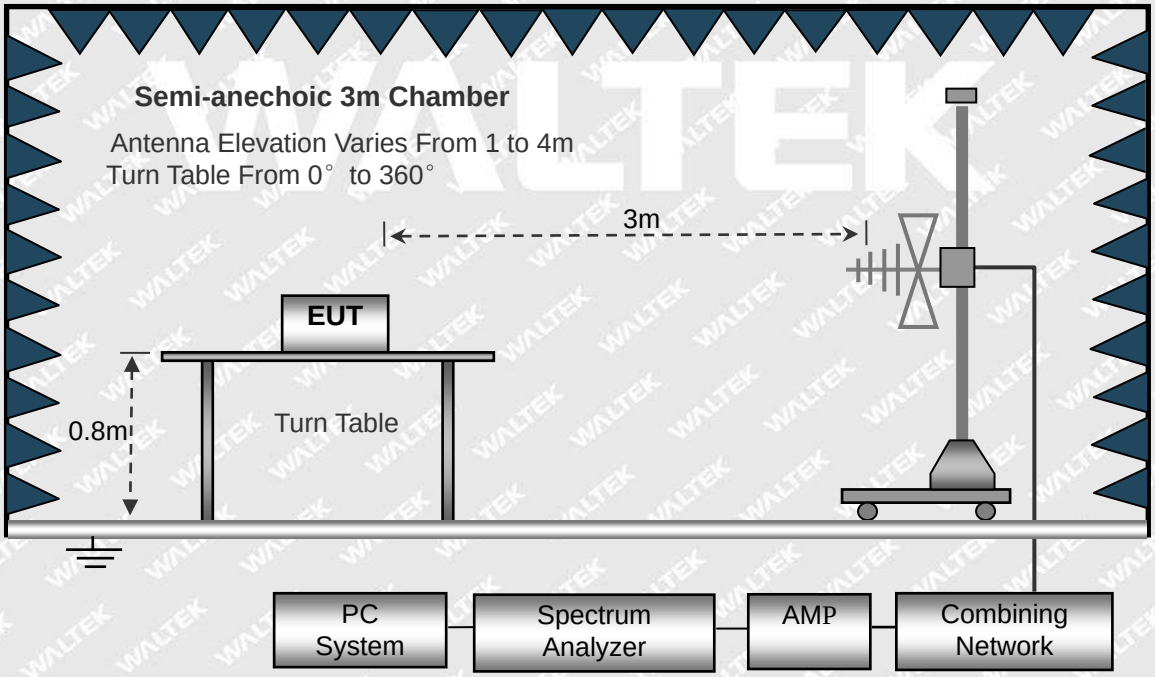
4.2 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.249(a) and FCC Part 15.209 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle.
The spacing between the peripherals was 10cm.

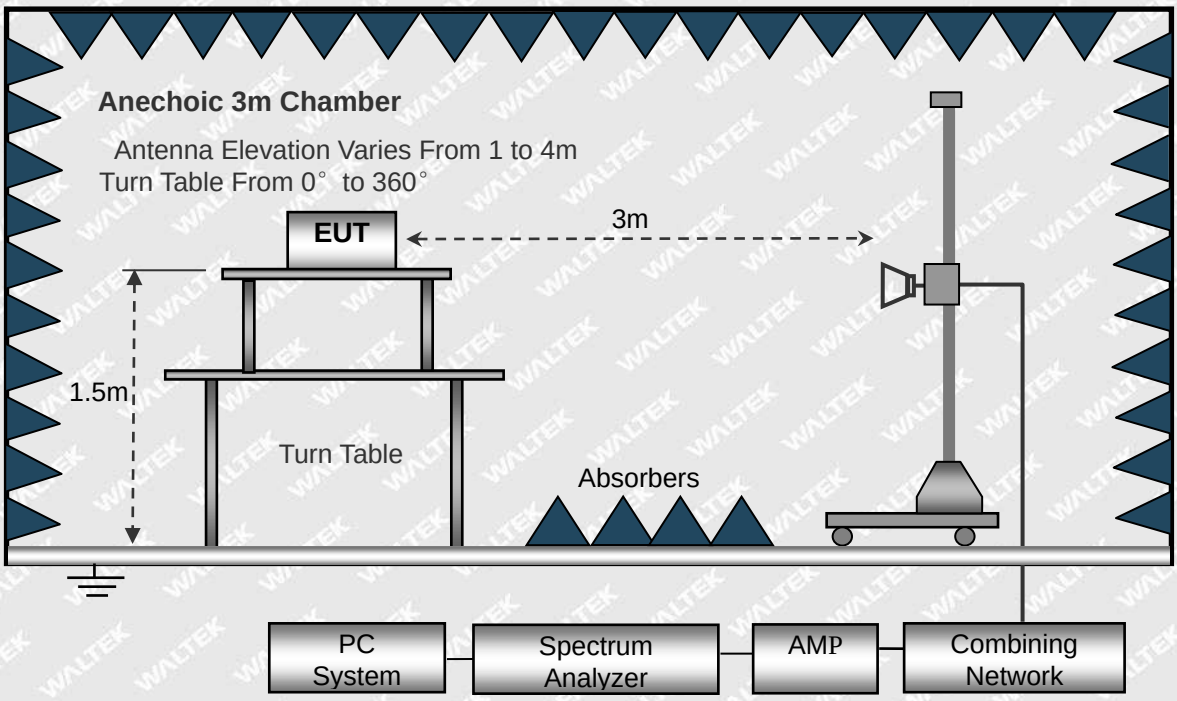
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30MHz to 1GHz.



The test setup for emission measurement above 1GHz.



Frequency :9kHz-30MHz	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW =30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

4.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Ant. Factor + Cable Loss – Ampl. Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit. The equation for margin calculation is as follows:

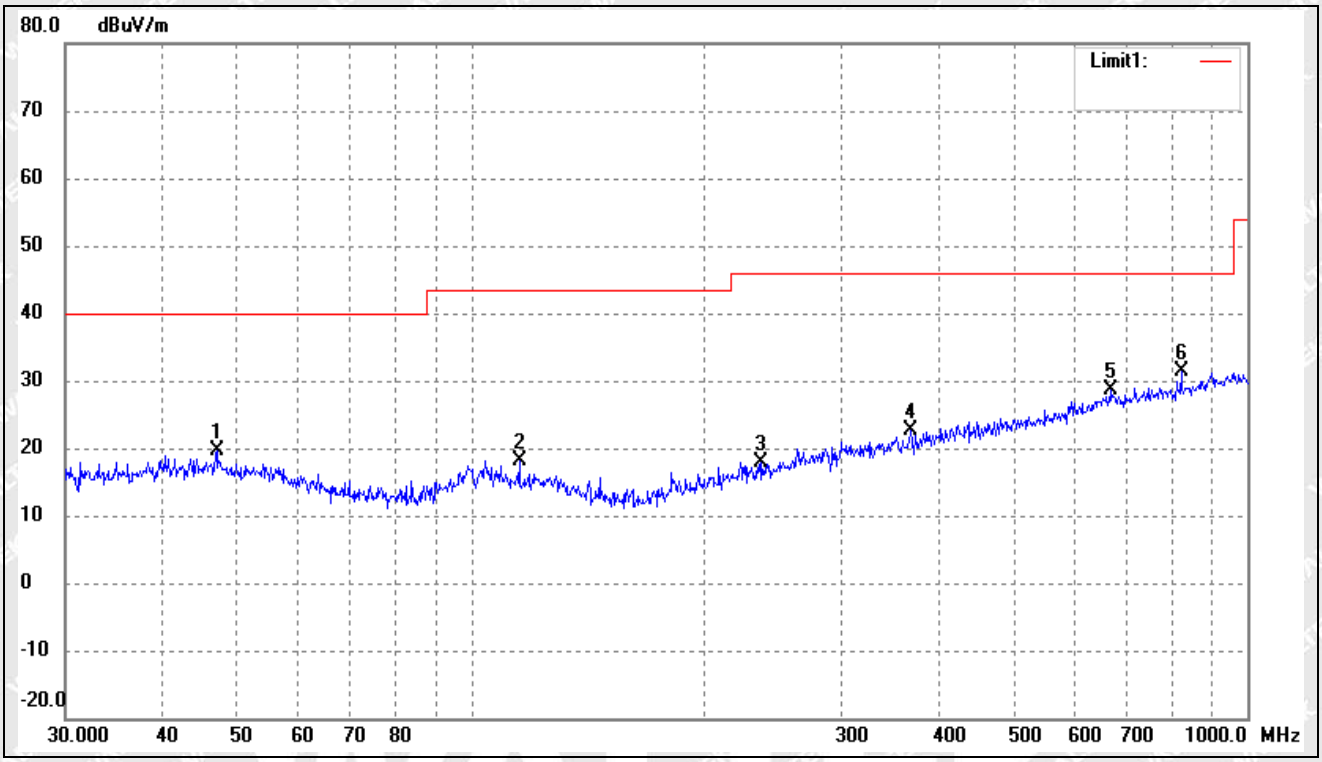
Margin = Corr. Ampl. – FCC Part 15C Limit

4.4 Summary of Test Results/Plots

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

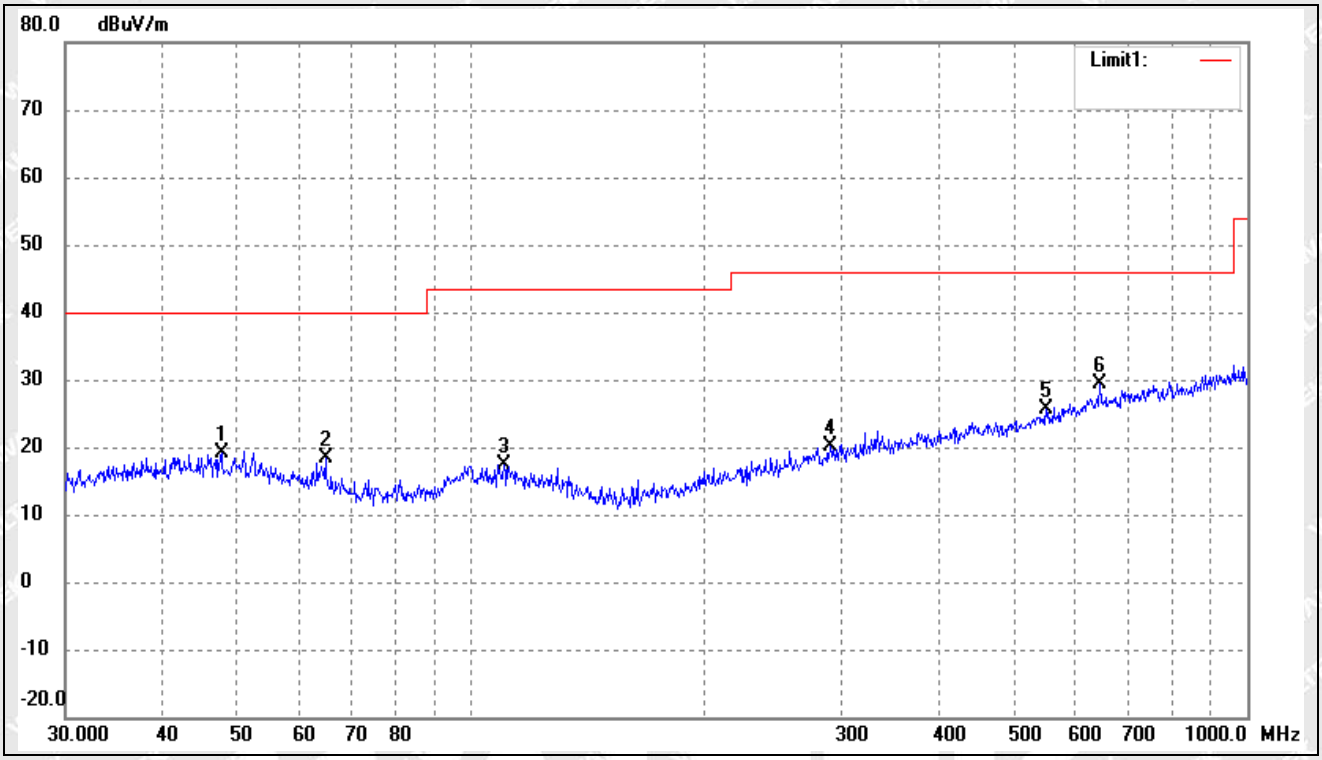
➢ Spurious Emissions Below 1GHz

Test Channel	Low	Polarity:	Horizontal



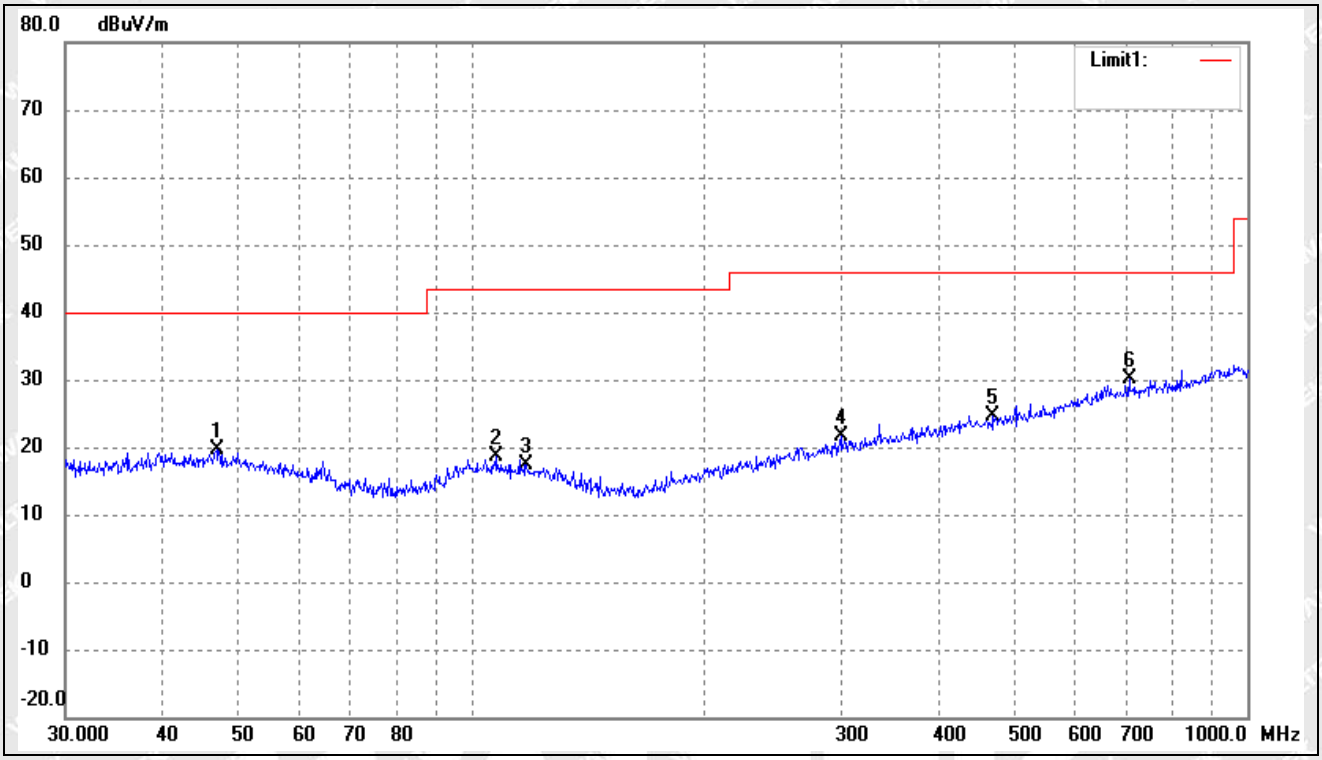
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	46.9948	27.49	-7.90	19.59	40.00	-20.41	-	-	peak
2	115.3205	27.10	-9.04	18.06	43.50	-25.44	-	-	peak
3	236.6447	25.39	-7.56	17.83	46.00	-28.17	-	-	peak
4	368.1116	26.88	-4.17	22.71	46.00	-23.29	-	-	peak
5	665.8035	28.00	0.64	28.64	46.00	-17.36	-	-	peak
6	821.7104	28.94	2.55	31.49	46.00	-14.51	-	-	peak

Test Channel	Low	Polarity:	Vertical



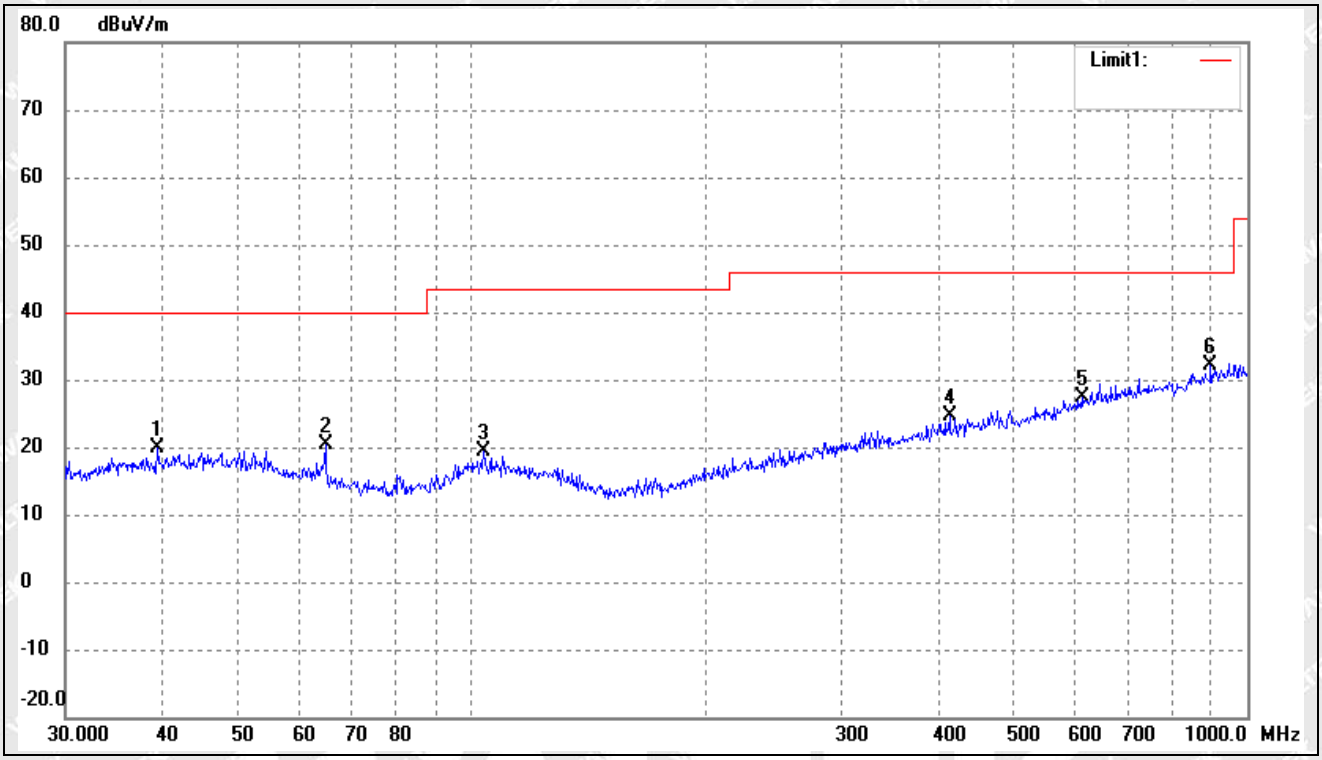
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	47.6586	27.16	-7.91	19.25	40.00	-20.75	-	-	peak
2	64.8865	28.94	-10.68	18.26	40.00	-21.74	-	-	peak
3	110.1816	26.13	-8.70	17.43	43.50	-26.07	-	-	peak
4	290.0172	25.80	-5.70	20.10	46.00	-25.90	-	-	peak
5	550.9480	27.02	-1.35	25.67	46.00	-20.33	-	-	peak
6	645.1195	28.92	0.35	29.27	46.00	-16.73	-	-	peak

Test Channel	Middle	Polarity:	Horizontal



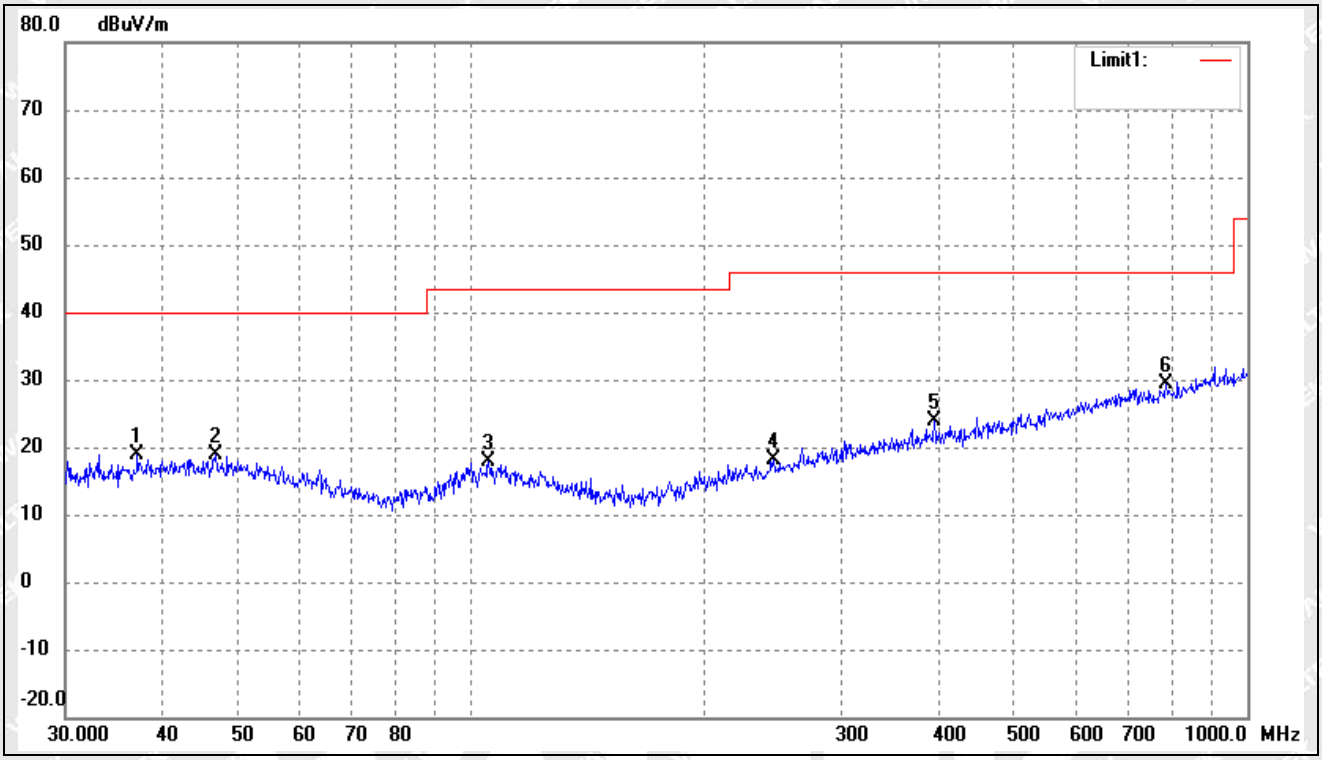
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	46.9948	27.49	-7.90	19.59	40.00	-20.41	-	-	peak
2	107.5101	27.28	-8.67	18.61	43.50	-24.89	-	-	peak
3	117.7725	26.57	-9.20	17.37	43.50	-26.13	-	-	peak
4	299.3158	27.05	-5.38	21.67	46.00	-24.33	-	-	peak
5	470.5232	27.40	-2.74	24.66	46.00	-21.34	-	-	peak
6	704.2261	28.91	1.18	30.09	46.00	-15.91	-	-	peak

Test Channel	Middle	Polarity:	Vertical



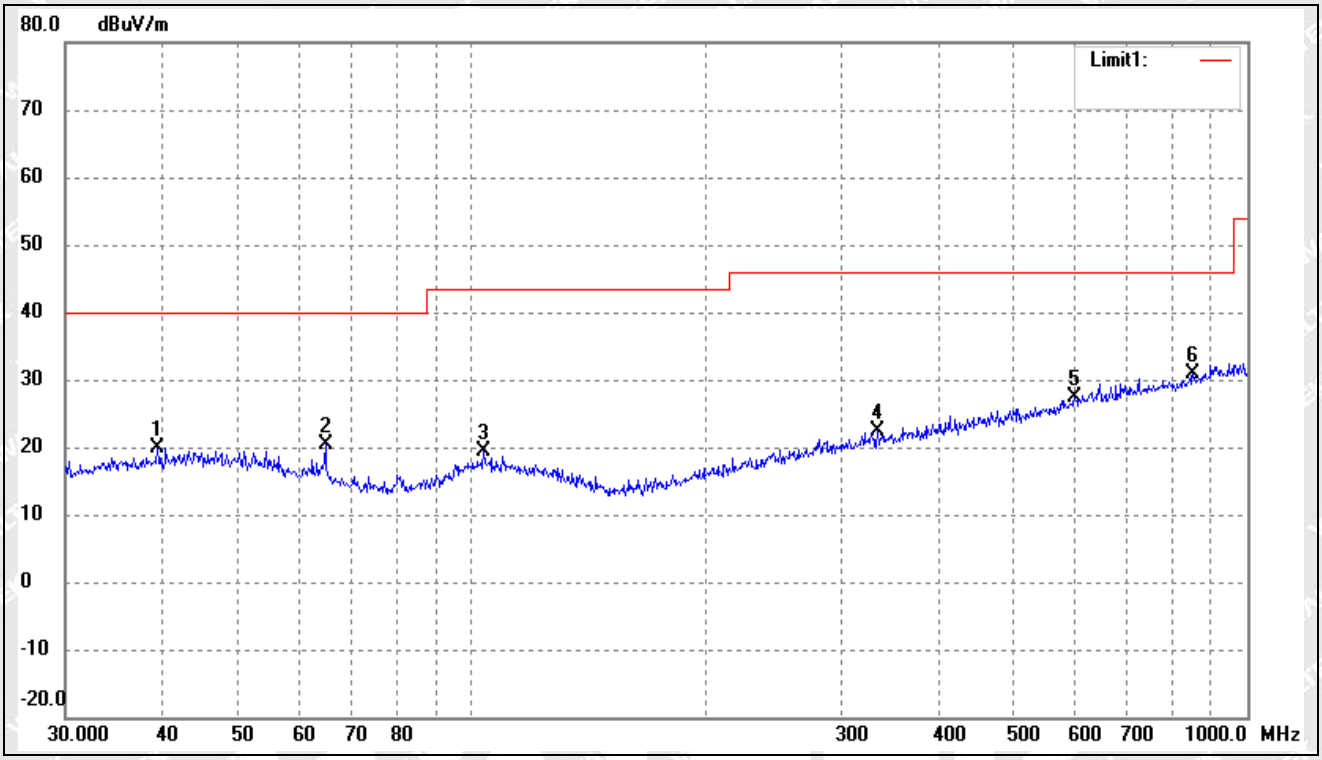
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	39.4371	27.73	-7.90	19.83	40.00	-20.17	-	-	peak
2	64.8865	31.12	-10.68	20.44	40.00	-19.56	-	-	peak
3	103.8055	28.00	-8.66	19.34	43.50	-24.16	-	-	peak
4	413.2706	27.98	-3.47	24.51	46.00	-21.49	-	-	peak
5	612.0642	27.46	-0.15	27.31	46.00	-18.69	-	-	peak
6	896.9965	28.19	3.85	32.04	46.00	-13.96	-	-	peak

Test Channel	High	Polarity:	Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	37.1550	27.25	-8.41	18.84	40.00	-21.16	-	-	peak
2	46.8303	26.71	-7.89	18.82	40.00	-21.18	-	-	peak
3	105.2718	26.47	-8.66	17.81	43.50	-25.69	-	-	peak
4	245.0900	25.40	-7.26	18.14	46.00	-27.86	-	-	peak
5	394.8545	27.53	-3.72	23.81	46.00	-22.19	-	-	peak
6	785.0935	27.34	2.04	29.38	46.00	-16.62	-	-	peak

Test Channel	High	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	39.4372	27.73	-7.90	19.83	40.00	-20.17	-	-	peak
2	64.8865	31.12	-10.68	20.44	40.00	-19.56	-	-	peak
3	103.8055	28.00	-8.66	19.34	43.50	-24.16	-	-	peak
4	333.6867	27.16	-4.76	22.40	46.00	-23.60	-	-	peak
5	599.3213	27.71	-0.34	27.37	46.00	-18.63	-	-	peak
6	851.0353	27.94	3.02	30.96	46.00	-15.04	-	-	peak

Remark: '-'Means' the test Degree and Height are not recorded by the test software and only show the worst case in the test report.

Spurious Emissions Above 1GHz

Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel-2407MHz							
2407	88.02	-10.85	77.17	114	-36.83	H	PK
2407	87.60	-10.85	76.75	94	-17.25	H	AV
4814	57.60	-6.03	51.57	74	-22.43	H	PK
4814	53.66	-6.03	47.63	54	-6.37	H	AV
7221	49.64	-1.64	48.00	74	-26.00	H	PK
7221	42.29	-1.64	40.65	54	-13.35	H	AV
2407	79.57	-10.85	68.72	114	-45.28	V	PK
2407	80.03	-10.85	69.18	94	-24.82	V	AV
4814	53.96	-6.03	47.93	74	-26.07	V	PK
4814	51.01	-6.03	44.98	54	-9.02	V	AV
7221	46.49	-1.64	44.85	74	-29.15	V	PK
7221	38.45	-1.64	36.81	54	-17.19	V	AV
Middle Channel-2440MHz							
2440	86.10	-10.78	75.32	114	-38.68	H	PK
2440	85.68	-10.78	74.90	94	-19.10	H	AV
4880	57.45	-5.90	51.55	74	-22.45	H	PK
4880	54.34	-5.90	48.44	54	-5.56	H	AV
7320	47.86	-1.58	46.28	74	-27.72	H	PK
7320	41.55	-1.58	39.97	54	-14.03	H	AV
2440	80.84	-10.78	70.06	114	-43.94	V	PK
2440	79.16	-10.78	68.38	94	-25.62	V	AV
4880	55.99	-5.90	50.09	74	-23.91	V	PK
4880	50.75	-5.90	44.85	54	-9.15	V	AV
7320	47.54	-1.58	45.96	74	-28.04	V	PK
7320	37.74	-1.58	36.16	54	-17.84	V	AV

Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel-2478MHz							
2478	87.17	-10.70	76.47	114	-37.53	H	PK
2478	86.75	-10.70	76.05	94	-17.95	H	AV
4956	55.89	-5.81	50.08	74	-23.92	H	PK
4956	53.09	-5.81	47.28	54	-6.72	H	AV
7434	49.92	-1.52	48.40	74	-25.60	H	PK
7434	42.87	-1.52	41.35	54	-12.65	H	AV
2478	78.12	-10.70	67.42	114	-46.58	V	PK
2478	79.74	-10.70	69.04	94	-24.96	V	AV
4956	55.00	-5.81	49.19	74	-24.81	V	PK
4956	52.58	-5.81	46.77	54	-7.23	V	AV
7434	47.32	-1.52	45.80	74	-28.20	V	PK
7434	37.64	-1.52	36.12	54	-17.88	V	AV

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, which above 5th Harmonics are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. The measurements greater than 20dB below the limit from 9kHz to 30MHz..

5. Out of Band Emissions

5.1 Standard Applicable

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

5.2 Test Procedure

As the radiation test, set the Lowest and Highest Transmitting Channel, observed the outside band of 2400MHz to 2483.5MHz, than mark the higher-level emission for comparing with the FCC rules.

5.3 Summary of Test Results/Plots

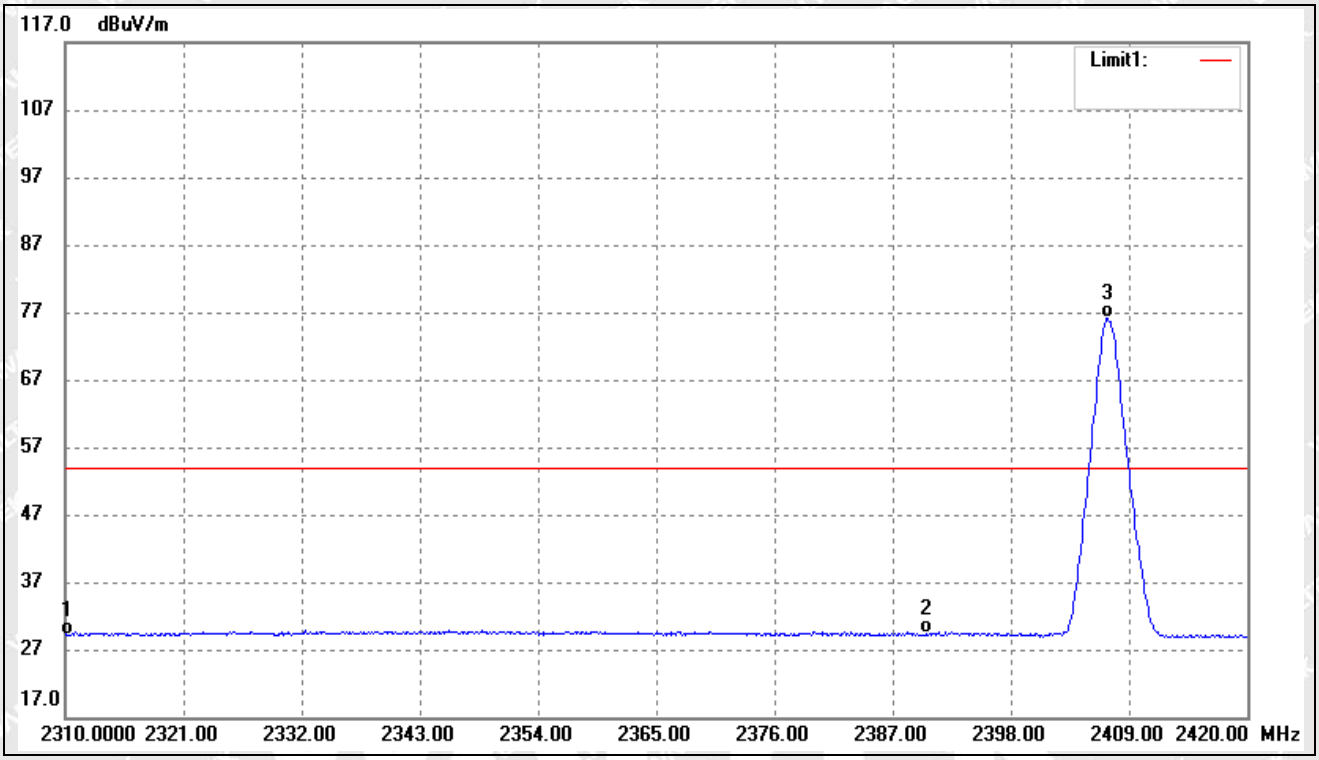
Test mode	Frequency	Limit	Result
	MHz	dBuV / dBc	
Lowest	2310.00	<54dBuV	Pass
	2390.00	<54dBuV	Pass
	2400.00	<54dBuV	Pass
Highest	2483.50	<54dBuV	Pass
	2500.00	<54dBuV	Pass

The edge emissions are below the FCC 15.209 Limits or complies with the 15.249 requirements.

Please refer to the test plots as below.

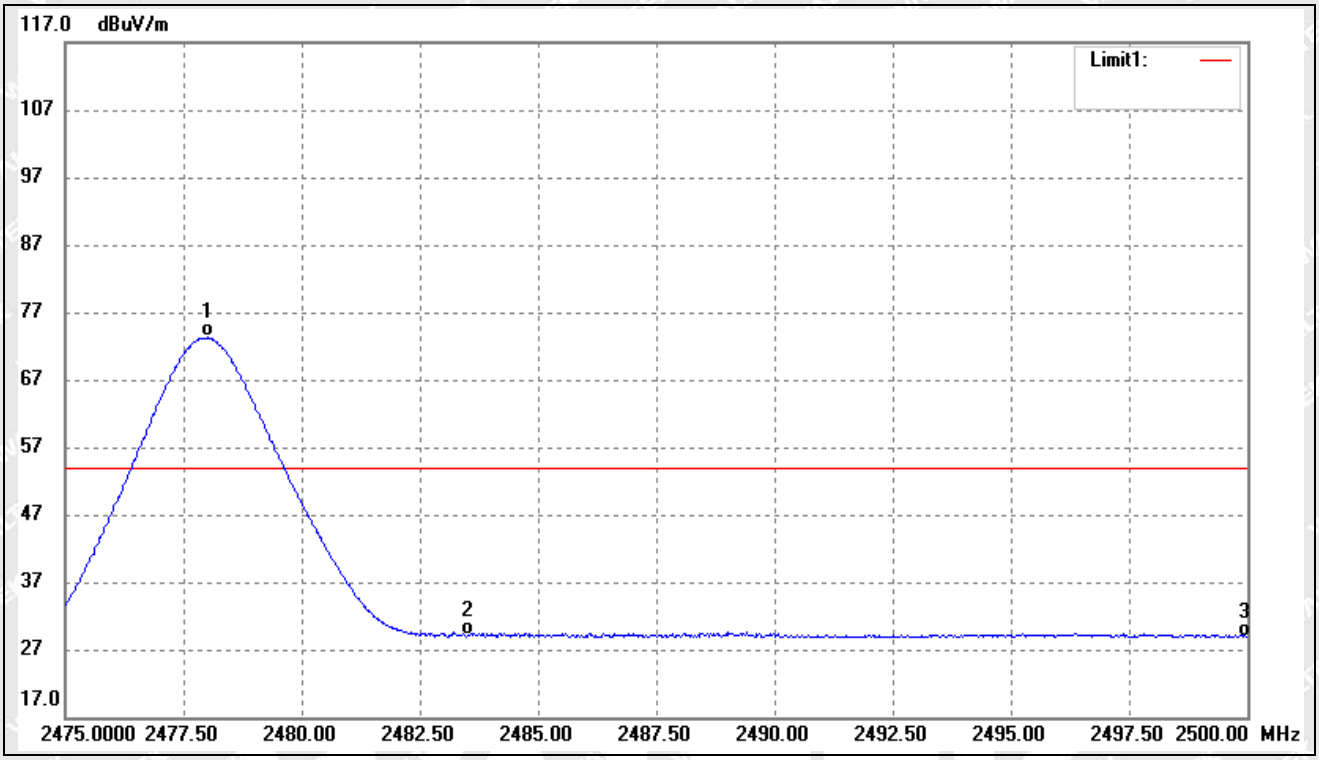
RBW: 1MHz; VBW: 3MHz

Test Channel	Low	Polarity:	Horizontal (worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	40.30	-11.07	29.23	54.00	-24.77	Ave Detector
	2310.000	53.54	-11.07	42.47	74.00	-31.53	Peak Detector
2	2390.000	40.18	-10.89	29.29	54.00	-24.71	Ave Detector
	2390.000	56.89	-10.89	46.00	74.00	-28.00	Peak Detector
3	2407.020	86.97	-10.85	76.12	/	/	Ave Detector
	2406.910	87.55	-10.85	76.70	/	/	Peak Detector

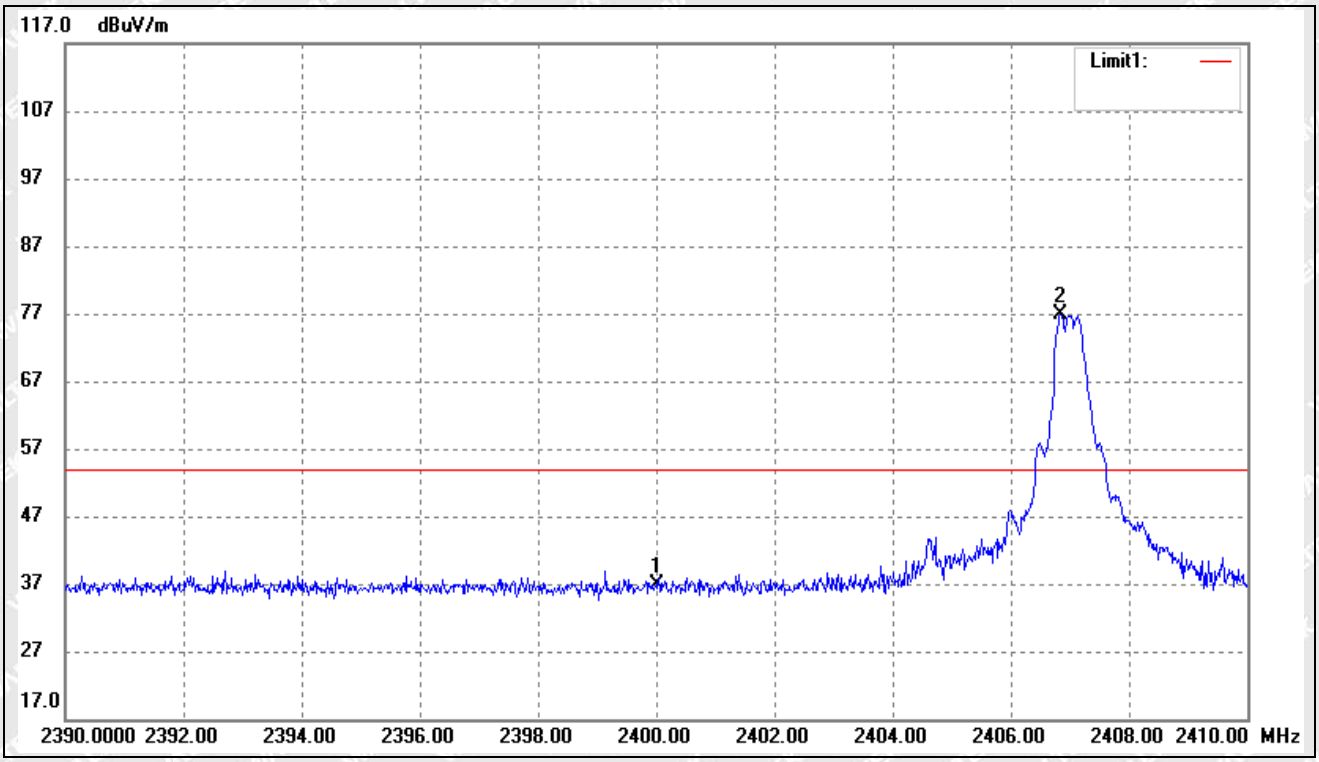
Test Channel	High	Polarity:	Horizontal (worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2478.000	83.96	-10.70	73.26	/	/	Ave Detector
	2477.800	84.40	-10.70	73.70	/	/	Peak Detector
2	2483.500	39.83	-10.69	29.14	54.00	-24.86	Ave Detector
	2483.500	57.74	-10.69	47.05	74.00	-26.95	Peak Detector
3	2500.000	39.63	-10.65	28.98	54.00	-25.02	Ave Detector
	2500.000	52.87	-10.65	42.22	74.00	-31.78	Peak Detector

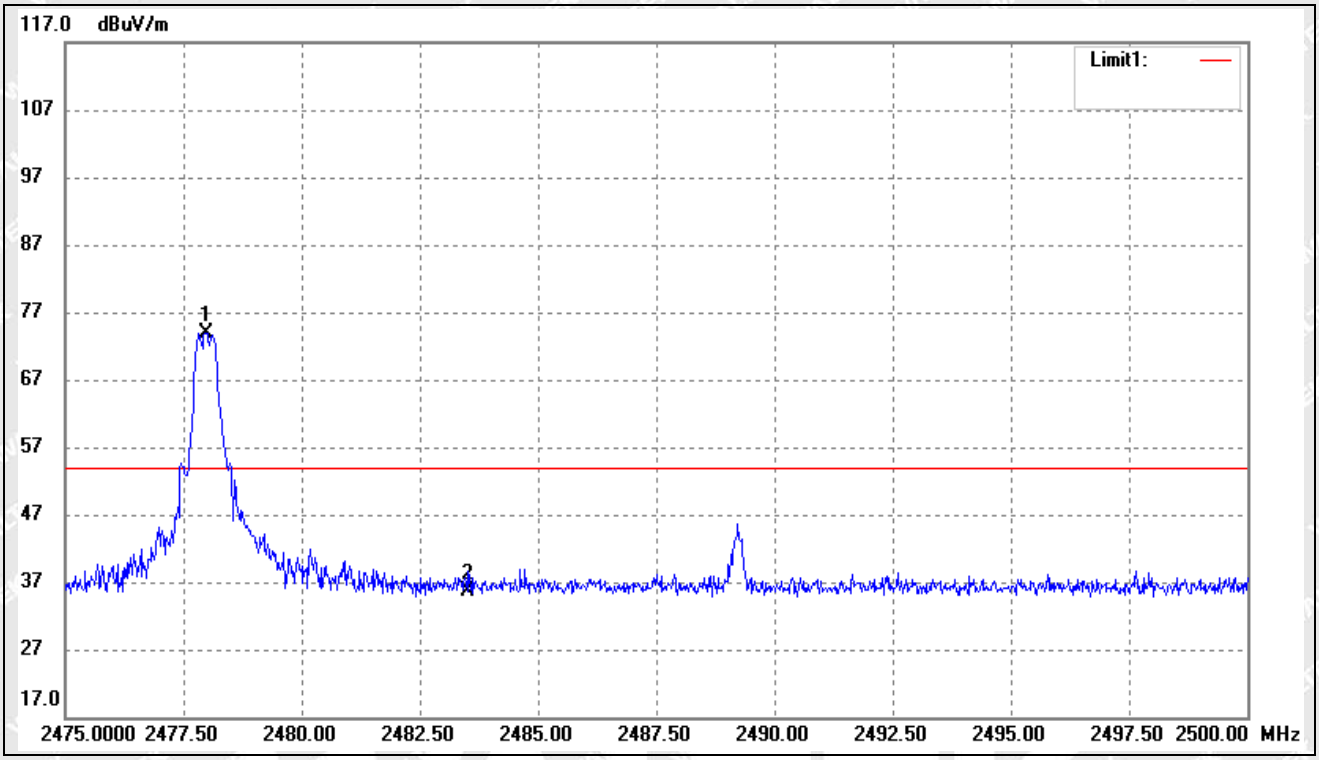
Band edge
RBW: 100kHz; VBW: 300kHz

Test Channel	Low	Polarity:	Horizontal (worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2400.000	47.81	-10.87	36.94	54.00	-17.06	Ave Detector
2	2406.840	87.61	-10.85	76.76	/	/	Ave Detector

Test Channel	High	Polarity:	Horizontal (worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2477.975	84.50	-10.70	73.80	/	/	Ave Detector
2	2483.500	46.39	-10.69	35.70	54.00	-18.30	Ave Detector

6. Emission Bandwidth

6.1 Standard Applicable

According to 15.215(c), intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

6.2 Test Procedure

According to the ANSI 63.10-2013, the emission bandwidth test method as follows.

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
Set span = 1MHz, centered on a transmitting channel
RBW ≥1% 20dB Bandwidth, VBW ≥RBW
Sweep = auto
Detector function = peak
Trace = max hold
All the trace to stabilize, use the marker-to-peak function to set the marker to the peak of the emission, use the marker-delta function to measure and record the 20dB down and 99% bandwidth of the emission.

6.3 Summary of Test Results/Plots

Test Channel	20dB Bandwidth(MHz)
Low Channel	1.028
Middle Channel	0.753
High Channel	0.574

Please refer to the following test plots:

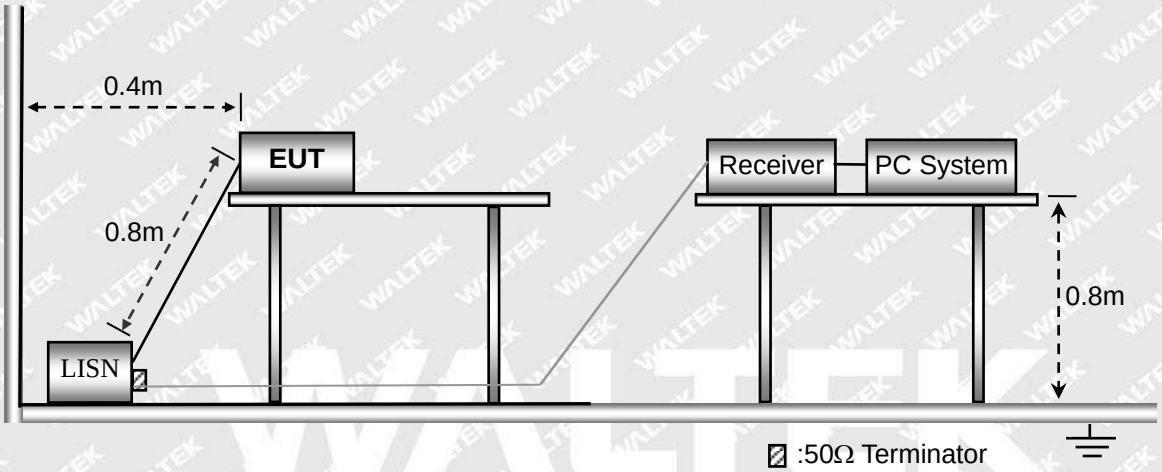
Low Channel	
Middle Channel	
High Channel	

7. Conducted Emissions

7.1 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle.
The spacing between the peripherals was 10cm.

7.2 Basic Test Setup Block Diagram



7.3 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency	150kHz
Stop Frequency	30MHz
Sweep Speed	Auto
IF Bandwidth	10kHz
Quasi-Peak Adapter Bandwidth	9kHz
Quasi-Peak Adapter Mode	Normal

7.4 Summary of Test Results/Plots

Not applicable

APPENDIX PHOTOGRAPHS

Please refer to "ANNEX"

******* END OF REPORT *******