TEST REPORT

Report No.: SHATBL2302026W01

Applicant	:	Star Systems International Limited
Product Name	:	SOLARIA
Brand Name	:	SSI
Model Name	:	HRD29000
Series Model	:	HRD2900XY(X,Y=0-9,A-Z,a-z,blank)
FCC ID	:	2AA7KSOLARIA29000
Test Standard	:	FCC Part 15.247
Date of Test	:	2023.03.19-2023.3.29

Report Prepared by : Chris Xu

(Chris Xu)

Report Approved by : Ghost Li.

(Ghost Li)

Authorized Signatory : Terry Yang

(Terry Yang)

TEST RESULT CERTIFICATION

Applicant.....:	Star Systems International Limited
Address..... :	Unit 7B 8/F, Vanta Industrial Centre. 21-23 Tai Lin Pai Road, Kwai Chung, NT, Hong Kong
Manufacturer's Name.....:	Star Systems International Limited
Address..... :	Unit 7B 8/F, Vanta Industrial Centre. 21-23 Tai Lin Pai Road, Kwai Chung, NT, Hong Kong
Product Description	
Product Name..... :	SOLARIA
Brand Name .....:	SSI
Model Name..... :	HRD29000
Series Model.....:	HRD2900XY (X,Y=0-9, A-Z, a-z, blank)
Test Standards..... :	FCC Part 15.247
Test Procedure..... :	ANSI C63.10-2013

The device has been tested by ATBL, and the test results show that the equipment under test (EUT) is in compliance with the FCC Part 15.247 requirements. And it is applicable only to the tested sample identified in the report.
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Date of receipt of test item.....:	2023.02.28
Date (s) of performance of tests. :	2023.03.19-2023.03.29
Date of Issue.....:	2023.03.31
Test Result.....:	Pass

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
SHATBL2302026W01	Rev. 01	Initial issue of report	Mar. 31, 2023

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:
KDB 558074 D01 15.247 Meas Guidance v05r02.

FCC Part15.247,Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	--
15.247(a)(1)	Hopping Channel Separation	PASS	--
15.247(a)(1)&(b)(1)	Output Power	PASS	--
15.209	Radiated Spurious Emission	PASS	--
15.247(d)	Conducted Spurious & Band Edge Emission	PASS	--
15.247(a)(1)(iii)	Number of Hopping Frequency	PASS	--
15.247(a)(1)(iii)	Dwell Time	PASS	--
15.247(a)(1)	Bandwidth	PASS	--
15.205	Restricted bands of operation	PASS	--
Part 15.247(d)/part 15.209(a)	Band Edge Emission	PASS	--
15.203	Antenna Requirement	PASS	--

NOTE:

(1) 'N/A' denotes test is not applicable in this Test Report.

(2) All tests are according to ANSI C63.10-2013.

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	SOLARIA
Trade Name	SSI
Model Name	HRD29000
Series Model	HRD2900XY (X,Y=0-9, A-Z, a-z, blank)
Model Difference	Different in antenna option
Operation mode	Dense reader mode
Channel List	Please refer to the Note 2.
RF Information	Frequency:902-928MHz Modulation:FHSS
Power Input	12V, 5A DC or PoE+ (IEEE805.3at)
Adapter	N/A
Battery	N/A
Hardware version number	V2.8
Software version number	2.6.41
Connecting I/O Port(s)	Please refer to the Note 1.

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.

2.

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	902.75	18	911.25	35	919.75
2	903.25	19	911.75	36	920.25
3	903.75	20	912.25	37	920.75
4	904.25	21	912.75	38	921.25
5	904.75	22	913.25	39	921.75
6	905.25	23	913.75	40	922.25
7	905.75	24	914.25	41	922.75
8	906.25	25	914.75	42	923.25
9	906.75	26	915.25	43	923.75
10	907.25	27	915.75	44	924.25
11	907.75	28	916.25	45	924.75
12	908.25	29	916.75	46	925.25
13	908.75	30	917.25	47	925.75
14	909.25	31	917.75	48	926.25
15	909.75	32	918.25	49	926.75
16	910.25	33	918.75	50	927.25
17	910.75	34	919.25		

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Name	Connector	Gain (dBi)	Antenna Cable loss (dB)
1	SSI	SOLARIA (HRD29000)	Avior	N/A	15	12
2	SSI	SOLARIA (HRD29000)	Avalon	N/A	13	12
3	SSI	SOLARIA (HRD29000)	Cheetah	N/A	12	12
4	SSI	SOLARIA (HRD29000)	Kuma	N/A	10	12

Note:

1. The EUT is transmitting through a long enough antenna cable with a stated loss of 12dB intc the antenna with typy N connector 15dBi gain.
2. Worst case modulation used by the device.
3. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.

2.2 DESCRIPTION OF THE TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Worst Mode	Description	Operation mode
Mode 1	CH01	Dense reader mode
Mode 2	CH26	Dense reader mode
Mode 3	CH50	Dense reader mode

Note:

(1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

(2) We tested for all available U.S. voltage and frequencies (For 120V, 50/60Hz and 240V, 50/60Hz) for which the device is capable of operation, and the worst case of 120V/ 60Hz is shown in the report.

(3)AC Mode and POE Mode had been test, but only worse Mode(AC mode) data was recorded in the test report.

For Conducted Emission

Test Case	
AC Conducted Emission	Mode 4 : Keeping TX

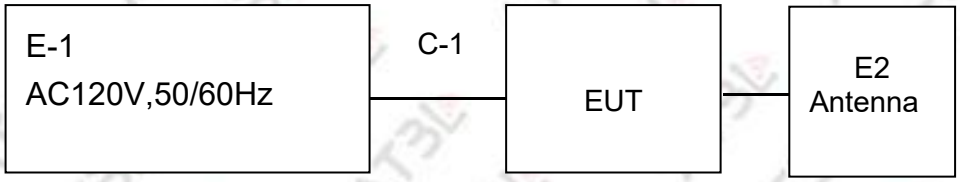
2.3 FREQUENCY HOPPING SYSTEM REQUIREMENTS

During testing, the channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware
of the final end product power parameters of FHSS.

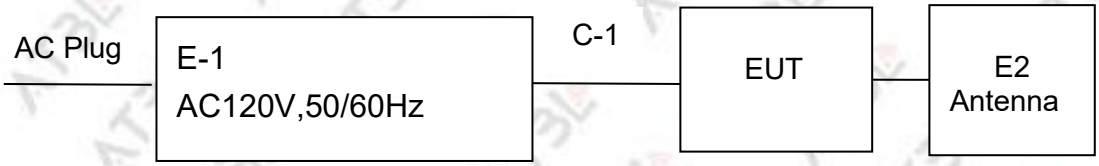
Type	Mode Or Modulation type	Power Class	Software For Testing
902-928MHz	FHSS	Default	web-interface (browser) and VS2008 Test Tool

2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



Conduction Emission Test



2.5LABORATORY INFORMATION

Company Name:	Shanghai ATBL Technology Co., Ltd.
Address:	Building 8,No.160 Basheng Road,Waigaoqiao Free Trade Zone,Pudong New Area,Shanghai
Telephone:	+86(0)21-51298625
The FCC Registration Number (FRN):	0031025281
A2LA Number:	6184.01
CNAS Number:	CNAS L14531

2.6 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y ±U**, where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainty
1	RF output power, conducted	±0.958dB
2	Conducted spurious emissions	±2.988dB
3	All emissions, radiated 30MHz-1GHz	±2.50dB
4	All emissions, radiated 1GHz-18GHz	±3.51dB
5	Occupied bandwidth	±2.320Hz
6	Power spectral density	±0.886dB

2.7 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
E-1	POE Adapter	PHIHONG	PPL65U-120	N/A	N/A
C-1	DC Cable	N/A	N/A	>300cm	N/A
E-2	Antenna	N/A	N/A	N/A	N/A

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
1	Notebook	Lenovo	DESKTOP-USDEO09	00326-10000-00000-AA636	N/A

Note:

(1) For detachable type I/O cable should be specified the length in cm in『Length』column.

2.8 EQUIPMENTS LIST

2.8.1 Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Management number	Calibrated until
Test Receiver	R&S	ESCI	100469	SHATBL-E003	2023.09.27
Spectrum Analyzer	Agilent	N9020A	MY50200811	SHATBL-E017	2023.09.27
Bilog Antenna	SCHWARZBECK	VLUB 9168	01174	SHATBL-E008	2023.09.27
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	SHATBL-E009	2023.09.27
Pre-Amplifier (0.1M-3GHz)	JPT	JPA-10M1G35	21010100035001	SHATBL-E005	2023.09.27
Pre-Amplifier (1G-18GHz)	JPT	JPA0118-55-303A	1910001800055000	SHATBL-E006	2023.09.27
Temperature & Humidity	DeLi	DeLi	N/A	SHATBL-E016	2023.09.27
Antenna/Turntable Controller	Brilliant	N/A	N/A	SHATBL-E007	N/A
Test SW	FALA	EMC-RI(Ver.4A2)		SHATBL-E046	N/A

2.8.2 Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Management number	Calibration date
Test Receiver	R&S	ESPI	101679	SHATBL-E012	2023.09.27
LISN	R&S	ENV216	101300	SHATBL-E013	2023.09.27
LISN	R&S	ENV216	100333	SHATBL-E041	2023.09.27
Temperature & Humidity	DeLi	DeLi	N/A	SHATBL-E015	2023.09.27
Test SW	FALA	EZ-EMC(Ver.EMC-CON3A1.1)		SHATBL-E044	N/A

2.8.3 RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	equipment number	Calibrated until
MIMO Power measurement test Set	DARE	RPR3006W	16I00054SN016	SHATBL-W006	2023.09.27
			RPR6W-20001005	SHATBL-W013	2023.09.27
Signal Analyzer	Agilent	N9020A	MY57300196	SHATBL-W004	2023.09.27
Signal Generator	Agilent	N5182B	MY46240556	SHATBL-W005	2023.09.27
Wireless Communications Test Set	R&S	CMW500	101331	SHATBL-W007	2023.09.27
Temperature & Humidity	Deli	deli	N/A	SHATBL-W011	2023.09.27
Attenuator	Agilent	8494B	DC-18G	SHATBL-W009	2023.09.27
Attenuator	Agilent	8496B	DC-18G	SHATBL-W010	2023.09.27
power splitter	MNK	MPD-DC/6-2S	62315 G51	SHATBL-W015	2023.09.27
			62315 G52	SHATBL-W016	2023.09.27
Filter	Chengdu kangmaiwei	ZBSF-C2400-2483.5-T3	N/A	SHATBL-W021	N/A
Constant temperature and humidity box	KSON	THS-B6C-150	6159K	SHATBL-W019	2024.1.16
Test SW	FALA	LZ-RF(Ver.LzRF-03A3.1)		SHATBL-W020	N/A

3.EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table.

FREQUENCY (MHz)	Conducted Emissionlimit (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

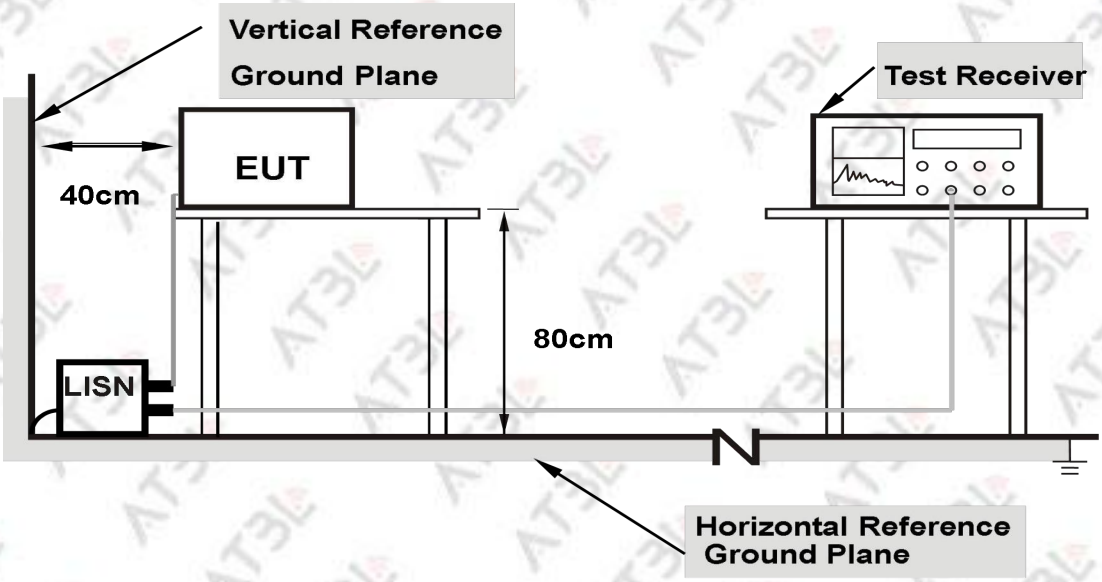
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2 TEST PROCEDURE

a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN is at least 80 cm from the nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 TEST SETUP



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

3.1.4 EUT OPERATING CONDITIONS

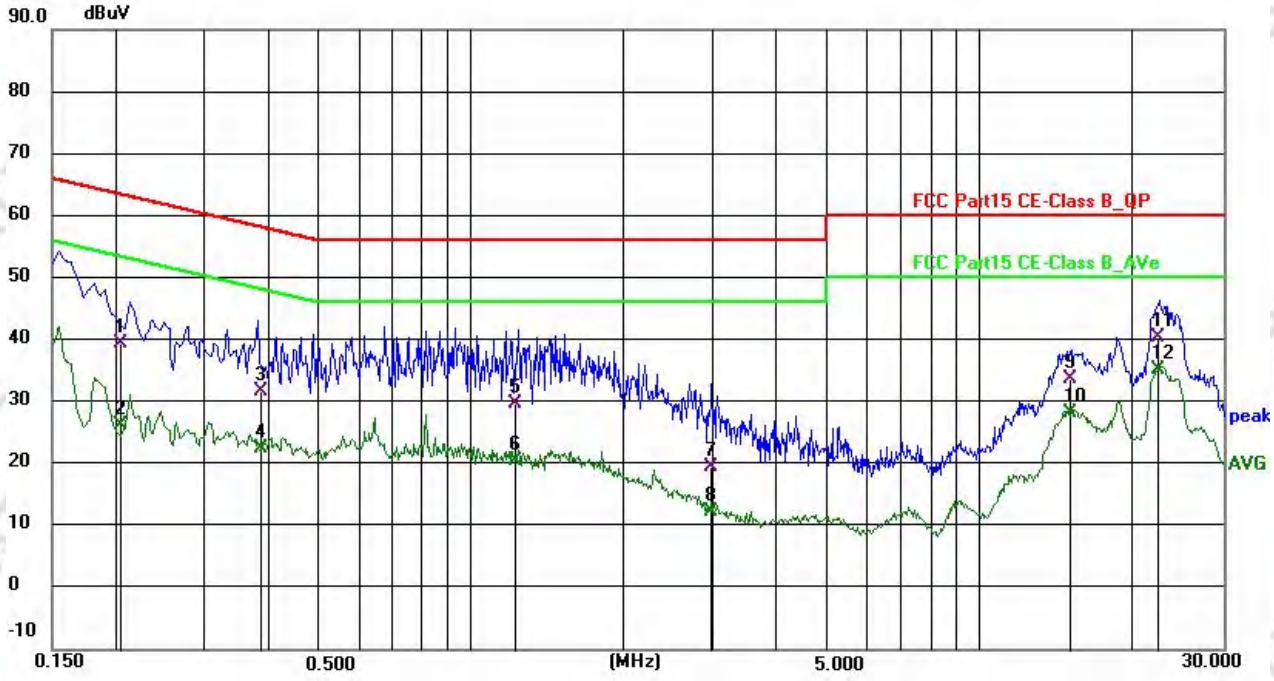
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.1.5 TEST RESULT

Temperature:	22℃	Relative Humidity:	35%RH
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 4		

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.2057	28.60	10.75	39.35	63.38	-24.03	QP
2	0.2057	15.48	10.75	26.23	53.38	-27.15	AVG
3	0.3842	21.02	10.68	31.70	58.19	-26.49	QP
4	0.3842	11.87	10.68	22.55	48.19	-25.64	AVG
5	1.2250	19.00	10.73	29.73	56.00	-26.27	QP
6	1.2250	9.70	10.73	20.43	46.00	-25.57	AVG
7	2.9587	8.75	10.81	19.56	56.00	-36.44	QP
8	2.9587	1.45	10.81	12.26	46.00	-33.74	AVG
9	15.1121	22.76	10.83	33.59	60.00	-26.41	QP
10	15.1121	17.32	10.83	28.15	50.00	-21.85	AVG
11	22.4232	29.28	11.12	40.40	60.00	-19.60	QP
12	22.4232	23.94	11.12	35.06	50.00	-14.94	AVG

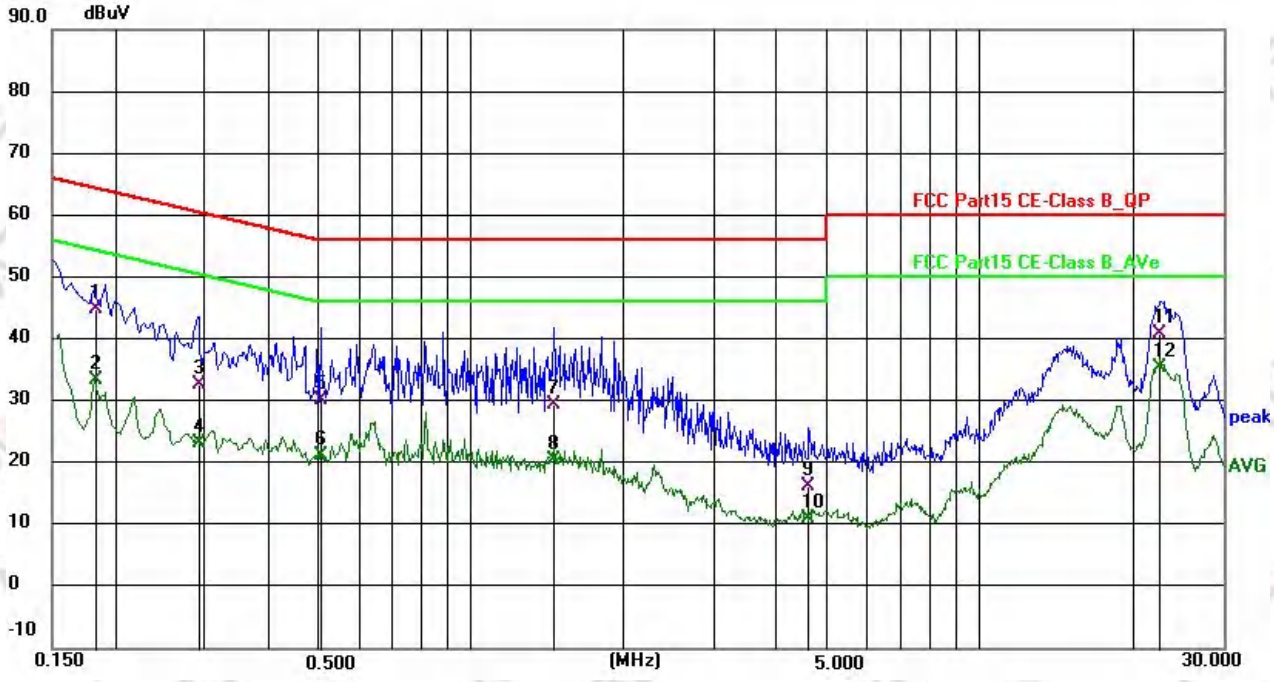
Remark:
1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)–Limit.
3. Factor=LISN factor+Cable loss+Limiter (10dB)



Temperature:	22℃	Relative Humidity:	35%RH
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	Mode 4		

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1833	34.40	10.41	44.81	64.33	-19.52	QP
2	0.1833	23.01	10.41	33.42	54.33	-20.91	AVG
3	0.2925	22.28	10.34	32.62	60.45	-27.83	QP
4	0.2925	12.89	10.34	23.23	50.45	-27.22	AVG
5	0.5090	19.95	10.32	30.27	56.00	-25.73	QP
6	0.5090	10.81	10.32	21.13	46.00	-24.87	AVG
7	1.4533	19.12	10.38	29.50	56.00	-26.50	QP
8	1.4533	10.20	10.38	20.58	46.00	-25.42	AVG
9	4.6012	5.74	10.42	16.16	56.00	-39.84	QP
10	4.6012	0.57	10.42	10.99	46.00	-35.01	AVG
11	22.5740	29.78	11.02	40.80	60.00	-19.20	QP
12	22.5740	24.46	11.02	35.48	50.00	-14.52	AVG

Remark:
1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)–Limit.
3. Factor=LISN factor+Cable loss+Limiter (10dB)



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS

In any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the Restricted band specified on Part15.205 (a)&209(a) limit in the table and according to ANSI C63.10-2013below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (0.009MHz - 1000MHz)

Frequencies (MHz)	Field Strength (micorvolts/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

LIMITS OF RADIATED EMISSION MEASUREMENT (1GHz-25 GHz)

FREQUENCY (MHz)	(dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

LIMITS OF RESTRICTED FREQUENCY BANDS

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	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	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	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	Above 38.6
13.36-13.41			

For Radiated Emission

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/QP/AV
Start Frequency	9 kHz/150kHz(Peak/QP/AV)
Stop Frequency	150kHz/30MHz(Peak/QP/AV)
RB / VB (emission in restricted band)	200Hz (From 9kHz to 0.15MHz)/ 9kHz (From 0.15MHz to 30MHz); 200Hz (From 9kHz to 0.15MHz)/ 9kHz (From 0.15MHz to 30MHz)

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/QP
Start Frequency	30 MHz(Peak/QP)
Stop Frequency	1000 MHz (Peak/QP)
RB / VB (emission in restricted band)	120 kHz / 300 kHz

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/AV
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier hamonic(Peak/AV)
RB / VB (emission in restricted band)	1MHz / 3MHz(Peak) 1 MHz/1/T MHz(AVG)

For Restricted band

Spectrum Parameter	Setting
Detector	Peak/AV
Start/Stop Frequency	Lower Band Edge: 2310 to 2410 MHz Upper Band Edge: 2475to 2500 MHz
RB / VB	1 MHz / 3 MHz(Peak) 1 MHz/1/T MHz(AVG)

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

a. The measuring distance at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz,and above 1GHz.
b. The EUT was placed on the top of a rotating table 0.8 m (above 1GHz is 1.5 m) above the ground at a 3 m anechoic chamber test site. The table was rotated 360 degree to determine the position of the highest radiation.
c. The height of the equipment shall be 0.8 m (above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. Horizontal and vertical polarization of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and QuasiPeak detector mode will be re-measured.
e. If the Peak Mode measured value is compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and no additional QP Mode measurement was performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

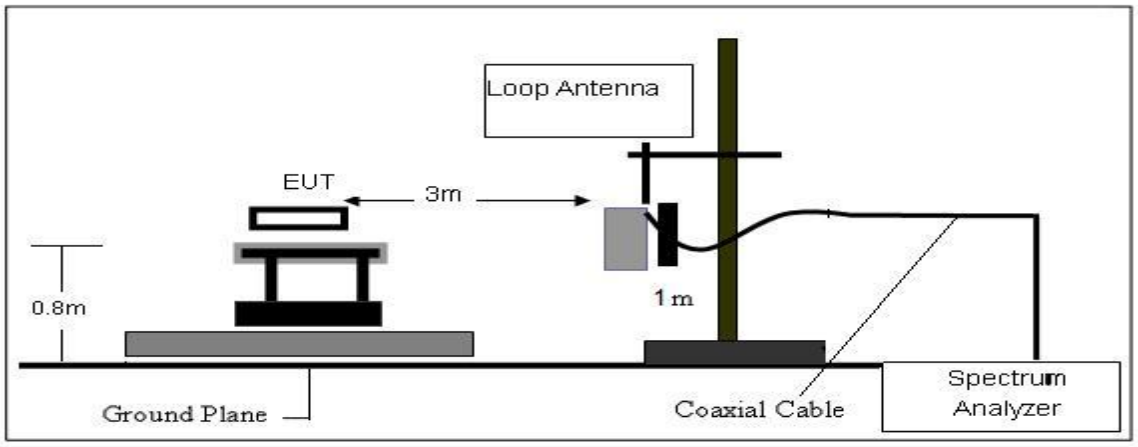
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

3.2.3 DEVIATION FROM TEST STANDARD

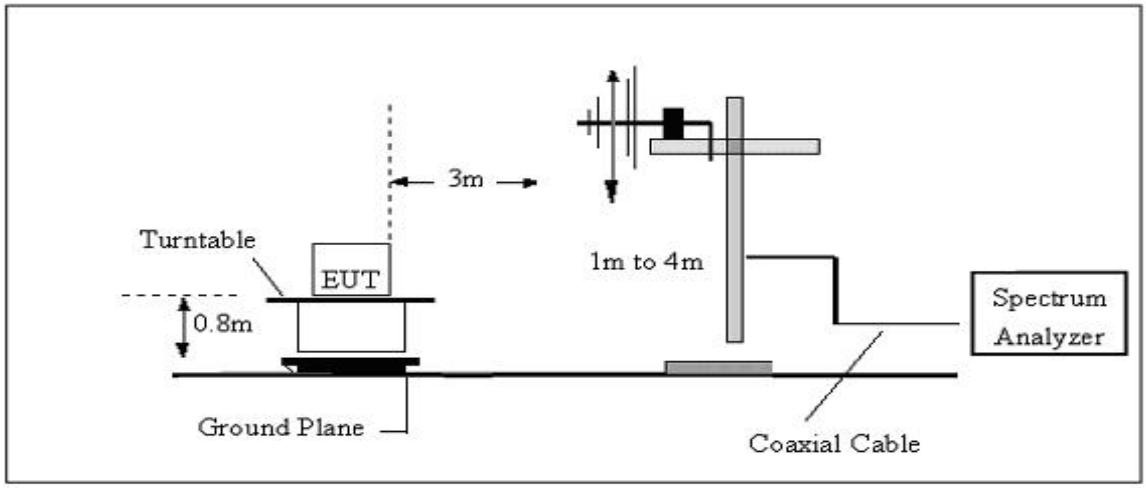
No deviation.

3.2.4 TESTSETUP

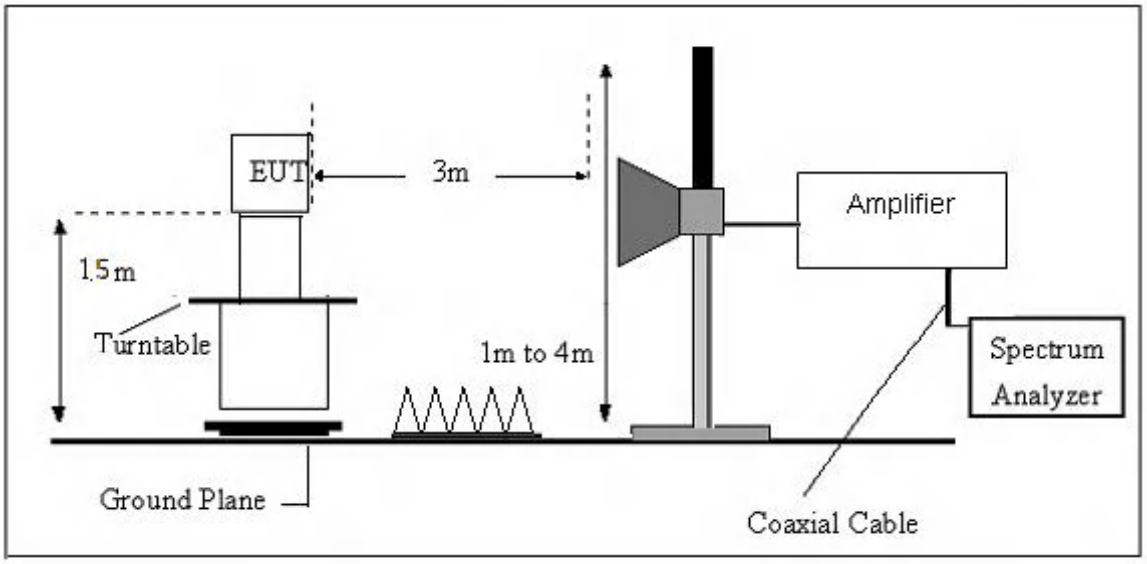
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



3.2.5 EUT OPERATING CONDITIONS

Please refer to section 3.1.4 of this report.

3.2.6 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting theAmplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

Where

FS = Field Strength

CL = Cable Attenuation Factor (Cable Loss)

RA = Reading Amplitude

AG = Amplifier Gain

AF = Antenna Factor

For example

Frequency	FS	RA	AF	CL	AG	Factor
(MHz)	(dBμV/m)	(dBμV/m)	(dB)	(dB)	(dB)	(dB)
300	40	58.1	12.2	1.6	31.9	-18.1

Factor=AF+CL-AG

3.2.7 TEST RESULTS

(9kHz-30MHz)

Temperature:	22(C)	Relative Humidity:	35%RH
Test Voltage:	DC 3.7V	Test Mode:	TX Mode

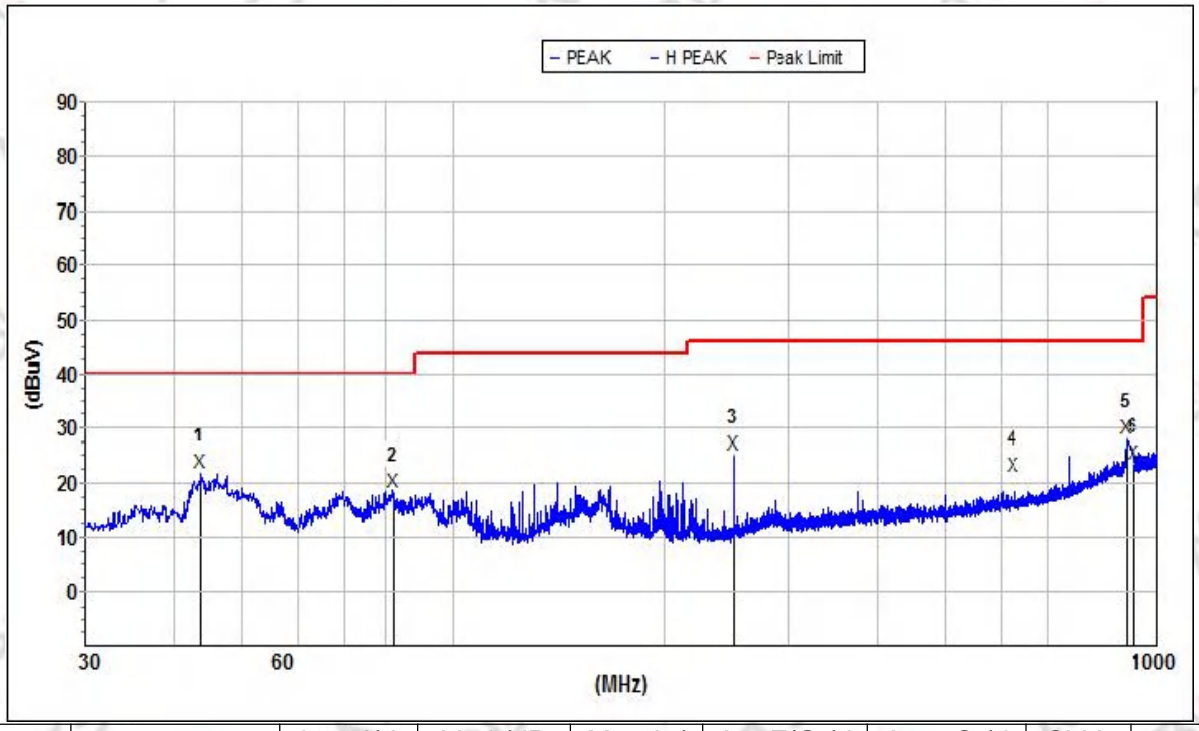
Note:
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
Distance extrapolation factor =40 log (specific distance/test distance)(dB);
Limit line = specific limits (dBuv) + distance extrapolation factor.

(30MHz-1000MHz)

Temperature:	22℃	Relative Humidity:	35%RH
Test Voltage:	DC 3.7V	Phase:	Horizontal
Test Mode:	Mode 1		

Remark:
1. Margin = Result (Result =Reading + Factor)–Limit
2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

902.75MHz Horizontal



Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F/G.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
1	43.827127	21.8	40.0	18.2	13.9	32.4	0.8	H
2	82.295017	18.2	40.0	21.8	9.3	32.9	0.9	H
3	249.909995	25.3	46.0	20.7	11.6	32.8	2.6	H
4	624.824554	21.3	46.0	24.7	16.1	32.4	3.4	H
5	902.000000	28.1	46.0	17.9	20.3	31.6	3.7	H
6	929.735207	23.6	46.0	22.4	20.3	31.4	3.8	H

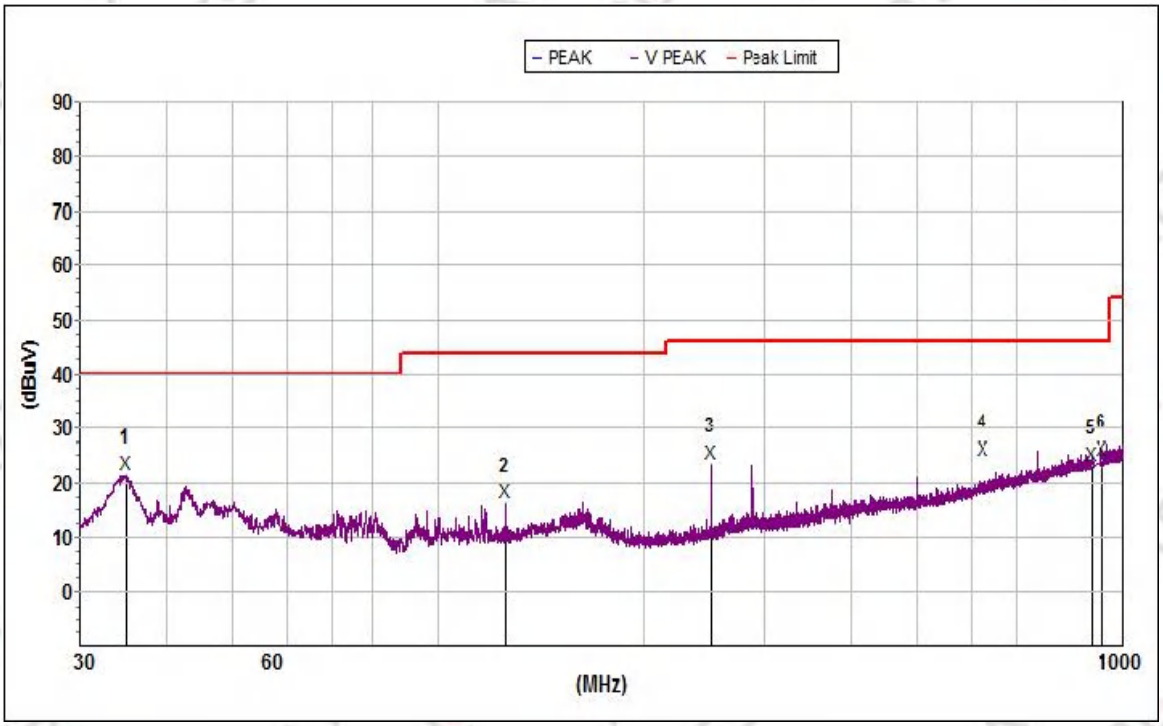
(30MHz-1000MHz)

Temperature:	22℃	Relative Humidity:	35%RH
Test Voltage:	DC 3.7V	Phase:	Vertical
Test Mode:	Mode 1		

Remark:

3. Margin = Result (Result =Reading + Factor)–Limit
4. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

902.75MHz Vertical



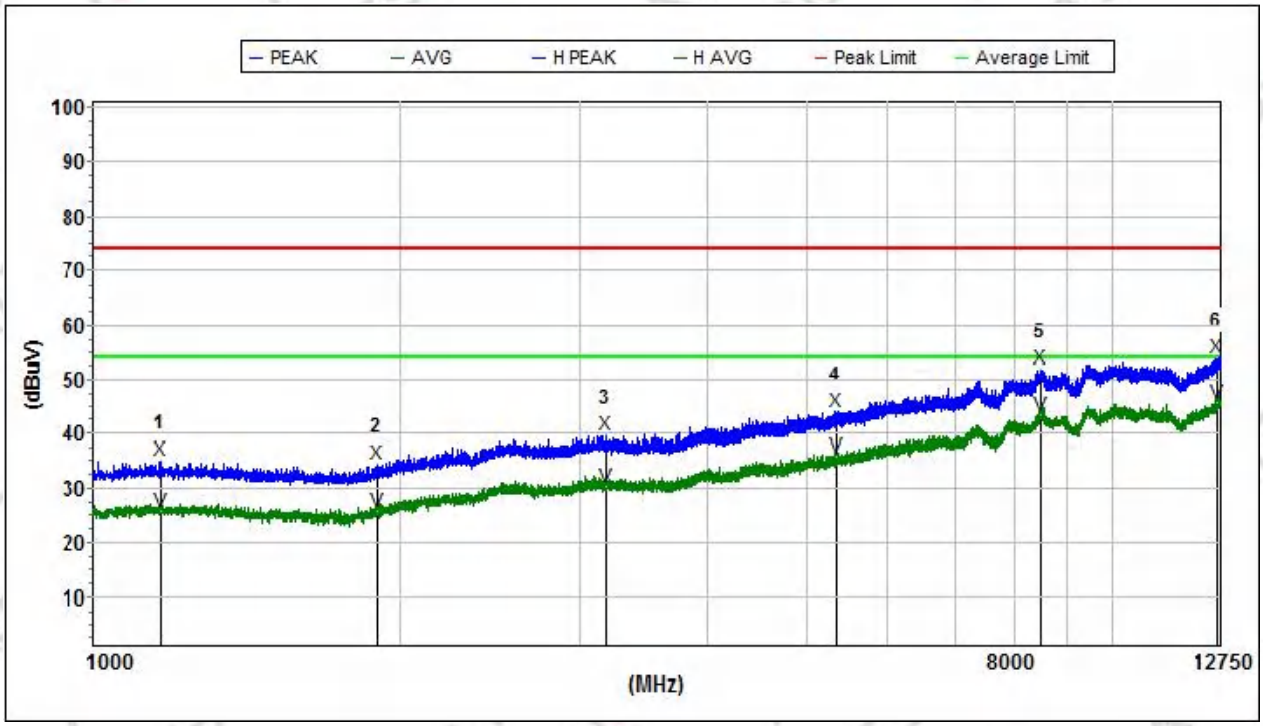
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F/G.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
1	35.009779	21.5	40.0	18.5	13.4	32.2	0.8	V
2	124.917634	16.4	43.5	27.1	12.5	32.9	1.4	V
3	249.909995	23.7	46.0	22.3	11.6	32.8	2.6	V
4	624.824554	24.1	46.0	21.9	18.9	32.3	3.4	V
5	900.083363	23.3	46.0	22.7	21.7	31.6	3.7	V
6	934.750751	24.3	46.0	21.7	22.1	31.4	3.7	V

1000MHz-18000MHz

Temperature:	22℃	Relative Humidity:	35%RH
Test Voltage:	DC 3.7V	Phase:	Horizontal
Test Mode:	Mode 1		

Remark:
5. Margin = Result (Result =Reading + Factor)–Limit
6. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

902.75MHz Horizontal



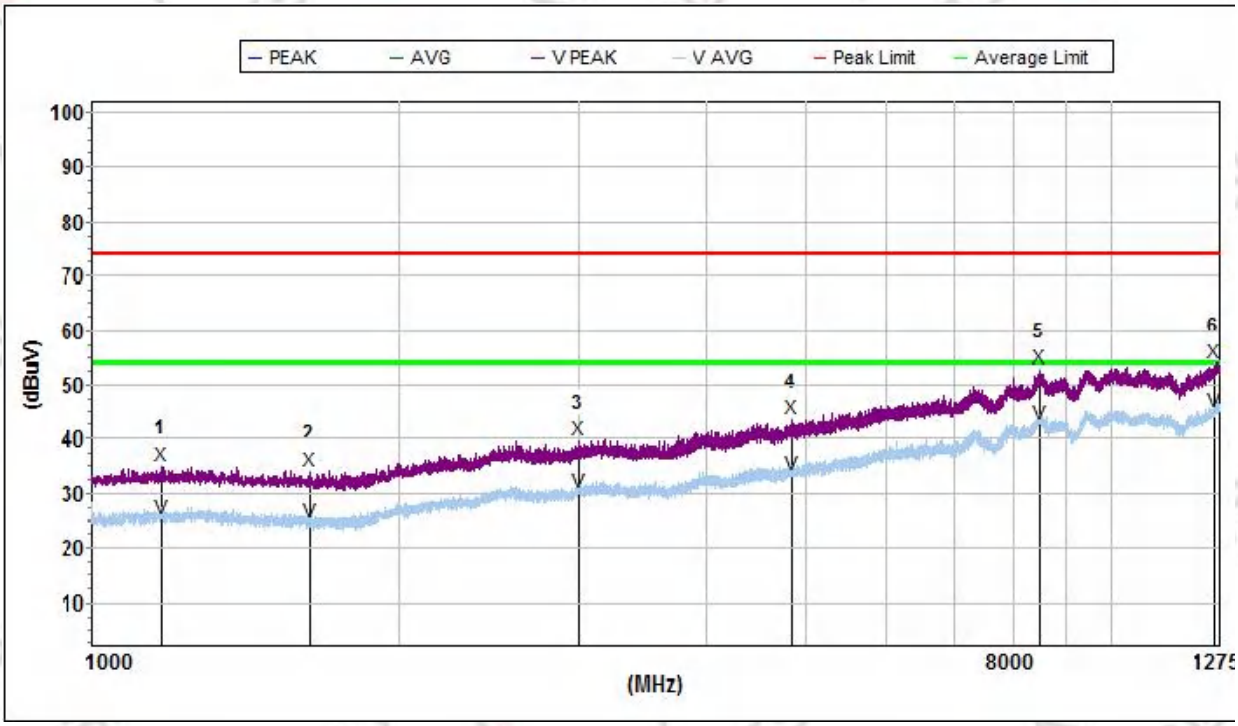
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F/G.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1	1161.562500	35.1	74.0	38.9	25.6	60.8	2.2	H
2	1897.112500	34.5	74.0	39.5	25.6	61.0	2.6	H
3	3181.975000	39.8	74.0	34.2	29.7	58.6	3.0	H
4	5366.887500	44.2	74.0	29.8	32.8	57.9	3.9	H
5	8491.212500	52.1	74.0	21.9	37.7	55.7	5.1	H
6	12661.287500	53.8	74.0	20.2	39.4	58.0	6.1	H
Avg								
1	1161.562500	25.8	54.0	28.2	25.6	60.8	2.2	H
2	1897.112500	25.6	54.0	28.4	25.6	61.0	2.6	H
3	3181.975000	30.2	54.0	23.8	29.7	58.6	3.0	H
4	5366.887500	35.9	54.0	18.1	32.8	57.9	3.9	H
5	8491.212500	43.4	54.0	10.6	37.7	55.7	5.1	H
6	12661.287500	45.8	54.0	8.2	39.4	58.0	6.1	H

(1000MHz-18000MHz)

Temperature:	22℃	Relative Humidity:	35%RH
Test Voltage:	DC 3.7V	Phase:	Vertical
Test Mode:	Mode 1		

Remark:
7. Margin = Result (Result =Reading + Factor)–Limit
8. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

902.75MHz Vertical



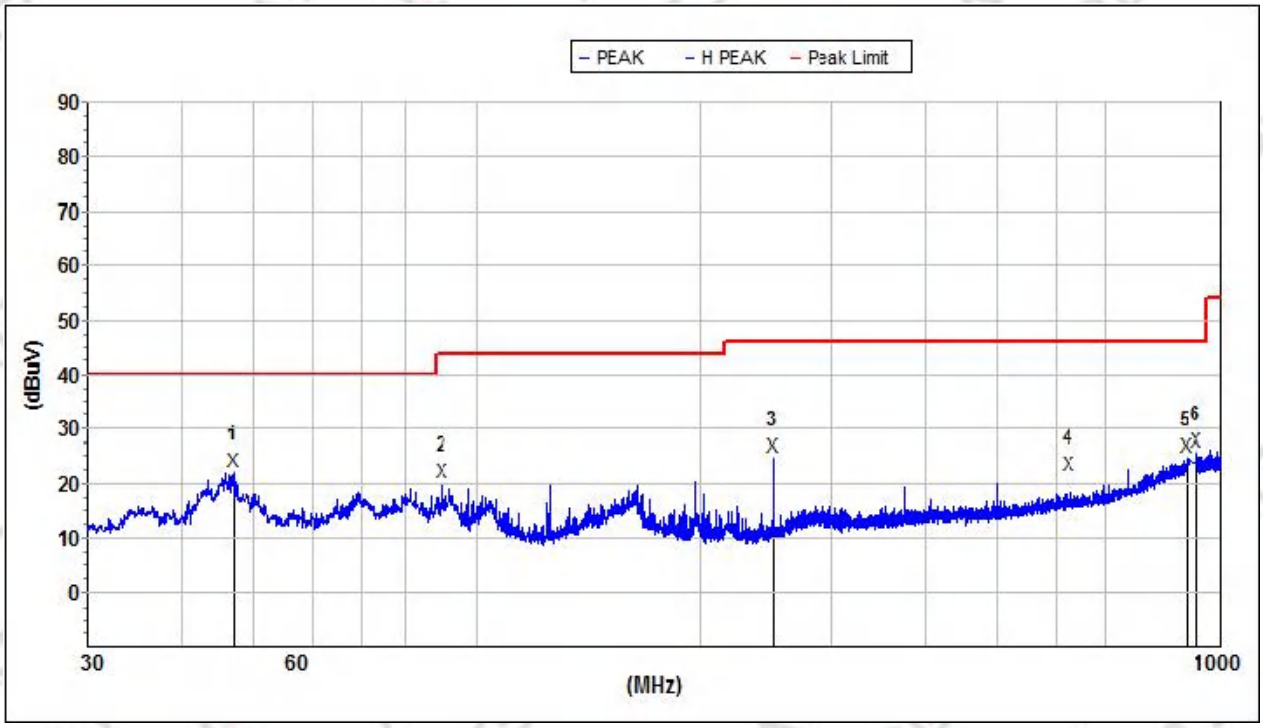
Mk.	Freq.(MHz)	Level (dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F/G.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1	1170.362854	35.3	74.0	38.7	25.6	60.8	2.2	V
2	1632.548101	34.2	74.0	39.8	25.2	61.2	2.5	V
3	3003.937904	39.7	74.0	34.3	29.4	58.8	3.0	V
4	4842.051296	43.9	74.0	30.1	32.4	57.5	3.6	V
5	8482.385465	53.0	74.0	21.0	37.6	55.8	5.1	V
6	12609.597251	54.0	74.0	20.0	39.3	58.1	6.0	V
Avg								
1	1170.362854	25.3	54.0	28.7	25.6	60.8	2.2	V
2	1632.548101	24.7	54.0	29.3	25.2	61.2	2.5	V
3	3003.937904	30.4	54.0	23.6	29.4	58.8	3.0	V
4	4842.051296	33.6	54.0	20.4	32.4	57.5	3.6	V
5	8482.385465	42.8	54.0	11.2	37.6	55.8	5.1	V
6	12609.597251	45.0	54.0	9.0	39.3	58.1	6.0	V

(30MHz-1000MHz)

Temperature:	22℃	Relative Humidity:	35%RH
Test Voltage:	DC 3.7V	Phase:	Horizontal
Test Mode:	Mode 2		

Remark:
9. Margin = Result (Result =Reading + Factor)–Limit
10. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

915.25MHz Horizontal



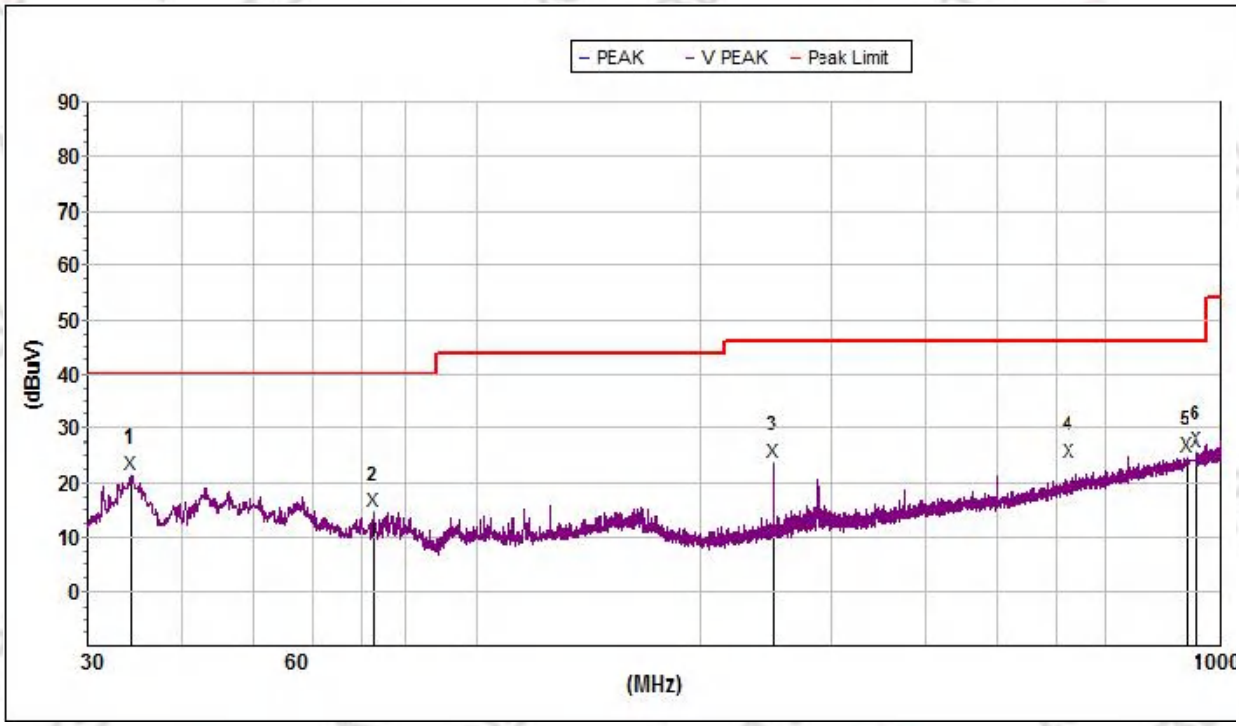
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F/G.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
1	47.094214	22.3	40.0	17.7	13.7	32.6	0.8	H
2	89.718077	20.1	43.5	23.4	9.4	32.9	1.1	H
3	249.909995	24.9	46.0	21.1	11.6	32.8	2.6	H
4	624.824554	21.6	46.0	24.4	16.1	32.3	3.4	H
5	900.849528	24.8	46.0	21.2	19.9	31.6	3.7	H
6	930.152139	25.7	46.0	20.3	20.3	31.4	3.7	H

(30MHz-1000MHz)

Temperature:	22℃	Relative Humidity:	35%RH
Test Voltage:	DC 3.7V	Phase:	Vertical
Test Mode:	Mode 2		

Remark:
11. Margin = Result (Result =Reading + Factor)–Limit
12. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

915.25MHz Vertical



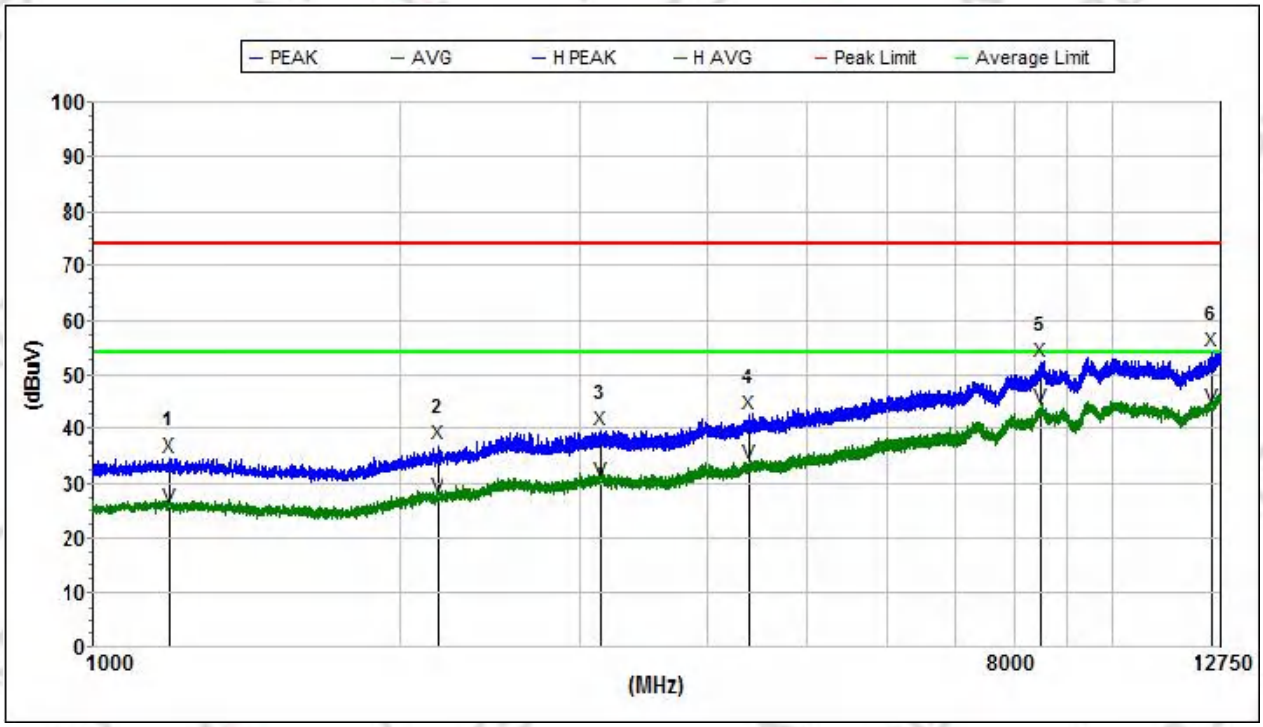
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F/G.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
1	34.345919	21.5	40.0	18.5	13.4	32.2	0.8	V
2	72.712351	14.6	40.0	25.4	10.4	32.8	0.8	V
3	249.909995	23.8	46.0	22.2	11.6	32.8	2.6	V
4	624.824554	24.0	46.0	22.0	18.8	32.4	3.4	V
5	900.849528	24.8	46.0	21.2	21.8	31.6	3.6	V
6	928.485531	25.7	46.0	20.3	22.1	31.4	3.8	V

(1000MHz-18000MHz)

Temperature:	22℃	Relative Humidity:	35%RH
Test Voltage:	DC 3.7V	Phase:	Horizontal
Test Mode:	Mode 2		

Remark:
13. Margin = Result (Result =Reading + Factor)–Limit
14. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

915.25MHz Horizontal



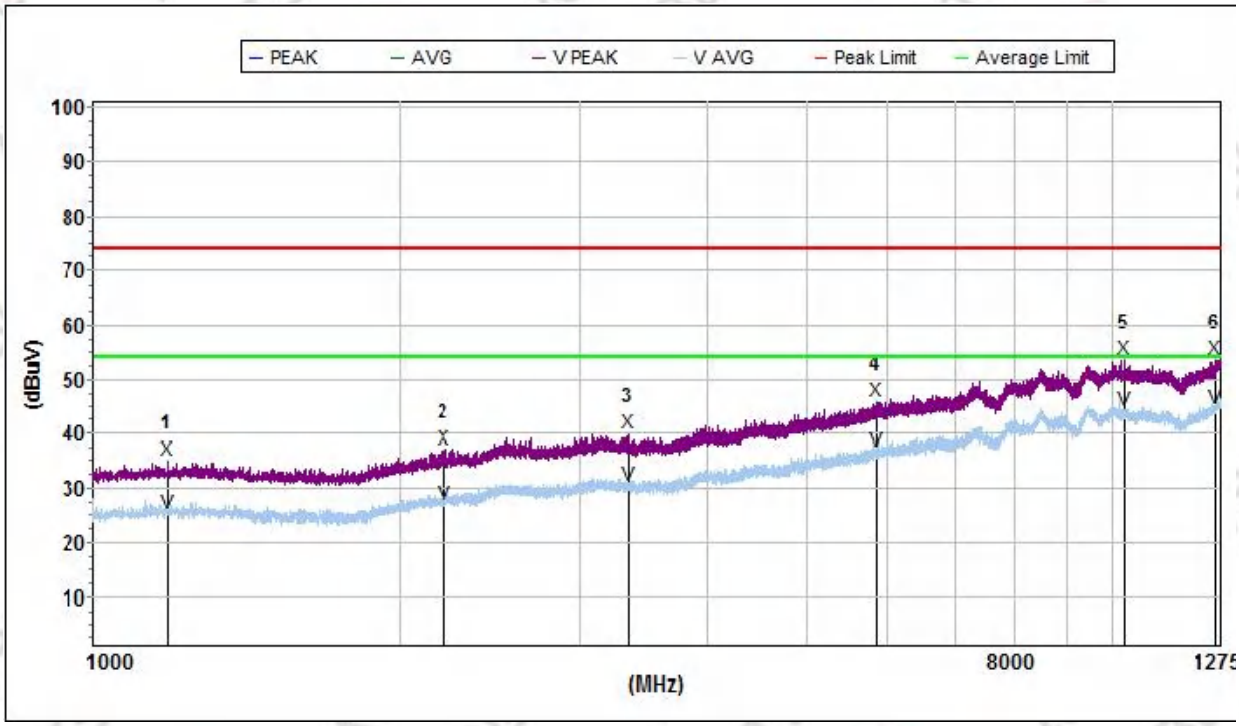
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F/G.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1	1188.000000	34.8	74.0	39.2	25.7	60.8	2.2	H
2	2179.700000	37.3	74.0	36.7	27.2	60.6	2.7	H
3	3147.312500	39.8	74.0	34.2	29.7	58.6	3.0	H
4	4403.387500	42.7	74.0	31.3	31.6	58.0	3.5	H
5	8493.562500	52.2	74.0	21.8	37.7	55.7	5.1	H
6	12503.250000	54.3	74.0	19.7	39.1	58.1	6.0	H
Avg								
1	1188.000000	25.8	54.0	28.2	25.7	60.8	2.2	H
2	2179.700000	27.5	54.0	26.5	27.2	60.6	2.7	H
3	3147.312500	30.7	54.0	23.3	29.7	58.6	3.0	H
4	4403.387500	33.8	54.0	20.2	31.6	58.0	3.5	H
5	8493.562500	44.2	54.0	9.8	37.7	55.7	5.1	H
6	12503.250000	44.0	54.0	10.0	39.1	58.1	6.0	H

(1000MHz-18000MHz)

Temperature:	22℃	Relative Humidity:	35%RH
Test Voltage:	DC 3.7V	Phase:	Vertical
Test Mode:	Mode 2		

Remark:
15. Margin = Result (Result =Reading + Factor)–Limit
16. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

915.25MHz Vertical



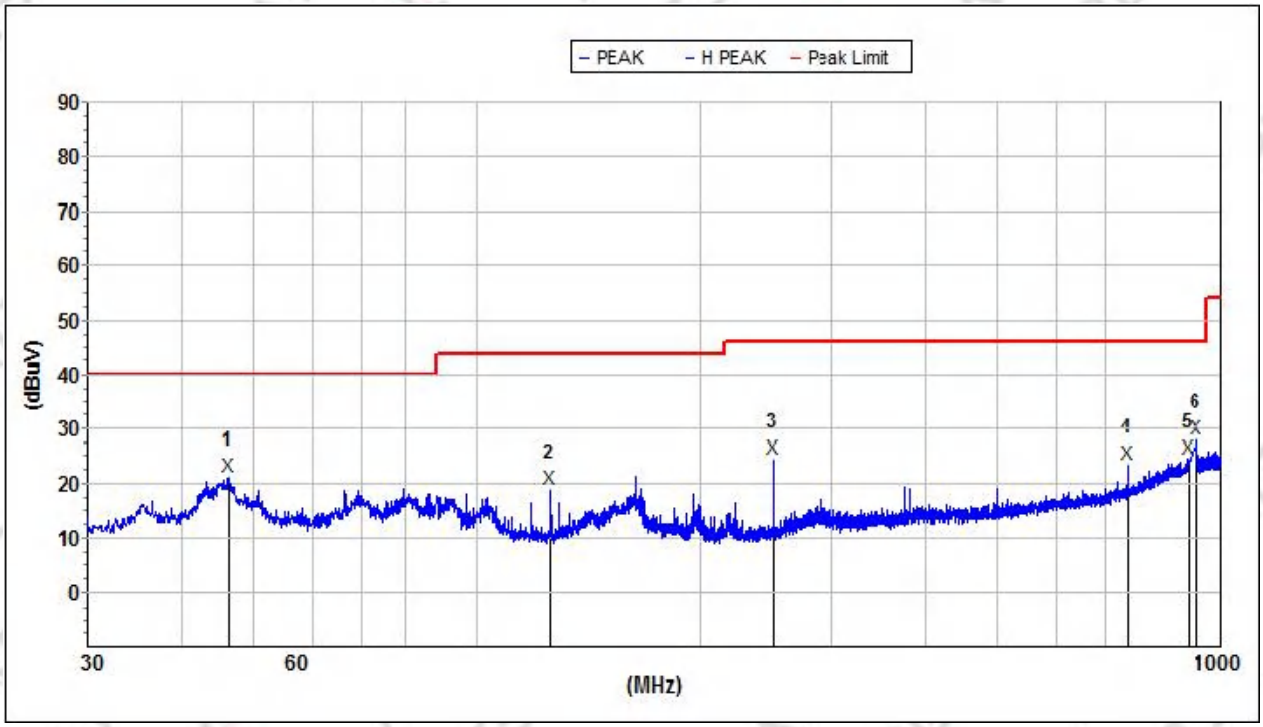
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F/G.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak								
1	1183.887500	35.2	74.0	38.8	25.7	60.8	2.2	V
2	2206.215040	37.3	74.0	36.7	27.2	60.5	2.7	V
3	3349.412500	40.0	74.0	34.0	29.5	58.2	3.1	V
4	5869.200000	46.1	74.0	27.9	33.9	58.1	4.1	V
5	10239.025000	53.5	74.0	20.5	38.7	60.7	5.5	V
6	12606.062500	53.7	74.0	20.3	39.3	58.1	6.0	V
Avg								
1	1183.887500	25.3	54.0	28.7	25.7	60.8	2.2	V
2	2206.215040	27.0	54.0	27.0	27.2	60.5	2.7	V
3	3349.412500	30.7	54.0	23.3	29.5	58.2	3.1	V
4	5869.200000	36.9	54.0	17.1	33.9	58.1	4.1	V
5	10239.025000	44.3	54.0	9.7	38.7	60.7	5.5	V
6	12606.062500	44.8	54.0	9.2	39.3	58.1	6.0	V

(30MHz-1000MHz)

Temperature:	22℃	Relative Humidity:	35%RH
Test Voltage:	DC 3.7V	Phase:	Horizontal
Test Mode:	Mode 3		

Remark:
17. Margin = Result (Result =Reading + Factor)–Limit
18. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

927.25MHz Horizontal



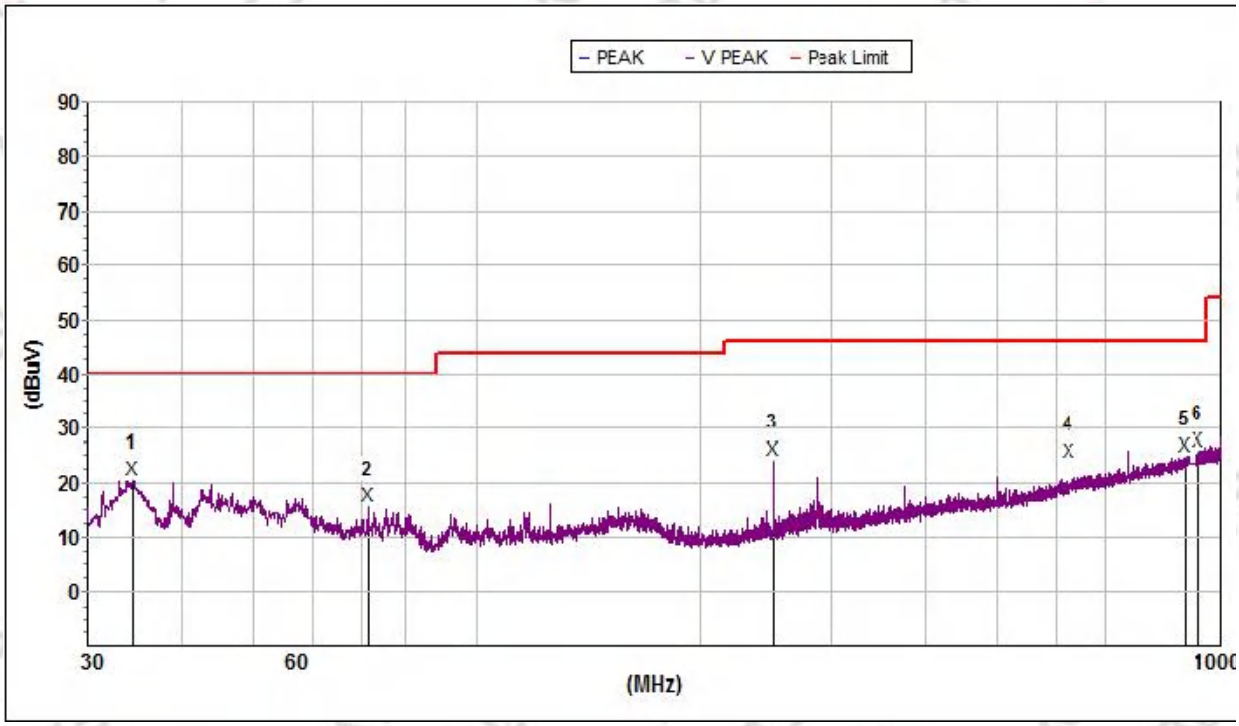
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F/G.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
1	46.338999	21.3	40.0	18.7	13.7	32.5	0.8	H
2	125.023966	19.1	43.5	24.4	12.5	32.9	1.4	H
3	249.909995	24.5	46.0	21.5	11.6	32.8	2.6	H
4	749.929454	23.6	46.0	22.4	17.4	32.2	3.6	H
5	901.616346	24.7	46.0	21.3	20.2	31.6	3.7	H
6	928.000000	28.2	46.0	17.8	20.3	31.4	3.8	H

(30MHz-1000MHz)

Temperature:	22℃	Relative Humidity:	35%RH
Test Voltage:	DC 3.7V	Phase:	Vertical
Test Mode:	Mode 3		

Remark:
19. Margin = Result (Result =Reading + Factor)–Limit
20. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

927.25MHz Vertical



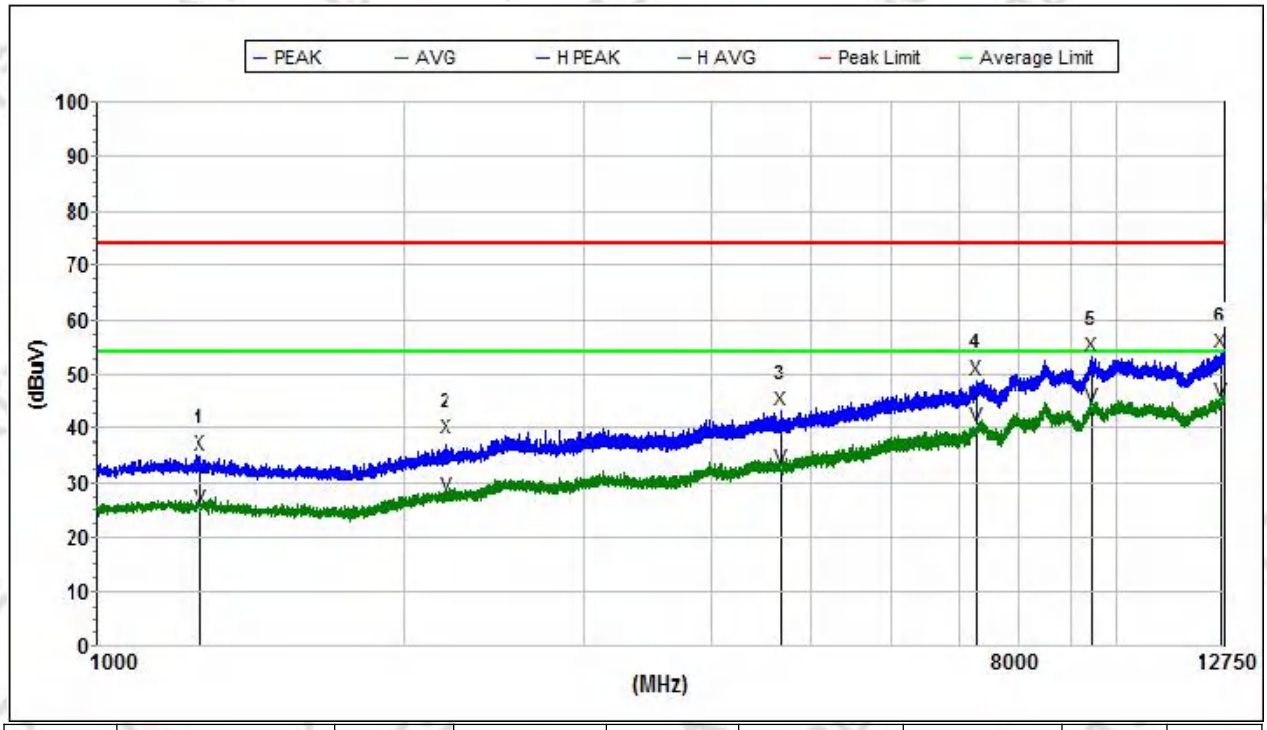
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F/G.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
1	34.463012	20.6	40.0	19.4	13.4	32.2	0.8	V
2	71.394290	15.8	40.0	24.2	10.6	32.8	0.8	V
3	249.909995	24.2	46.0	21.8	11.6	32.8	2.6	V
4	624.824554	24.0	46.0	22.0	18.9	32.3	3.4	V
5	895.119144	24.9	46.0	21.1	21.6	31.6	3.6	V
6	931.334462	25.7	46.0	20.3	22.1	31.4	3.7	V

(1000MHz-18000MHz)

Temperature:	22℃	Relative Humidity:	35%RH
Test Voltage:	DC 3.7V	Phase:	Horizontal
Test Mode:	Mode 3		

Remark:
21. Margin = Result (Result =Reading + Factor)–Limit
22. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

927.25MHz Horizontal



Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Ant.F/G.(dB/m)	Amp.G.(dB)	Cbl.L.(dB)	Pol.
Peak:								
1	1260.262500	35.2	74.0	38.8	25.8	61.0	2.3	H
2	2200.850000	38.1	74.0	35.9	27.2	60.5	2.7	H
3	4670.700000	43.5	74.0	30.5	31.8	57.8	3.6	H
4	7273.325000	49.0	74.0	25.0	36.8	57.6	4.5	H
5	9451.187500	53.2	74.0	20.8	38.6	59.6	5.4	H
6	12649.537500	53.8	74.0	20.2	39.3	58.0	6.1	H
Avg								
1	1260.262500	25.2	54.0	28.8	25.8	61.0	2.3	H
2	2200.850000	27.6	54.0	26.4	27.2	60.5	2.7	H
3	4670.700000	32.9	54.0	21.1	31.8	57.8	3.6	H
4	7273.325000	40.6	54.0	13.4	36.8	57.6	4.5	H
5	9451.187500	44.2	54.0	9.8	38.6	59.6	5.4	H
6	12649.537500	45.0	54.0	9.0	39.3	58.0	6.1	H

Note: The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.

3.2.6 TEST RESULTS (BAND EDGE REQUIREMENTS）

Note:

The main frequency is too far away from the restricted band and does not require testing.

4. CONDUCTED SPURIOUS & BAND EDGE EMISSION

4.1 LIMIT

According to FCC section 15.247(d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

4.2 TEST PROCEDURE

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	30 MHz to 10th carrier harmonic
RB / VB (emission in restricted band)	100 kHz/300 kHz
Trace-Mode:	Max hold

For Band edge

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 800 - 904 MHz Upper Band Edge: 924 - 1000 MHz
RB / VB (emission in restricted band)	100 kHz/300 kHz
Trace-Mode:	Max hold

For Hopping Band edge

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 800 - 904 MHz Upper Band Edge: 924 - 1000 MHz
RB / VB (emission in restricted band)	100 kHz/300 kHz
Trace-Mode:	Max hold

4.3 TEST SETUP

The EUT is connected to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. Tune the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, the span is set to be greater than RBW.

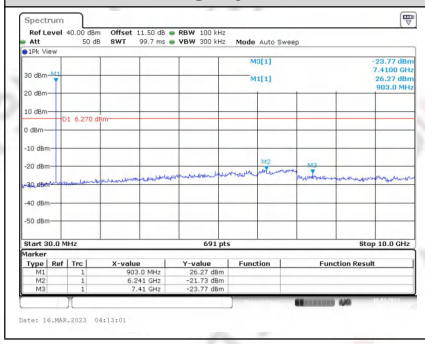
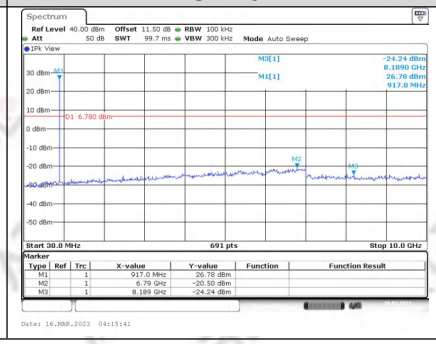
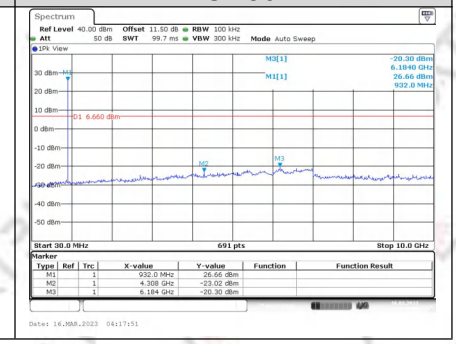
4.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

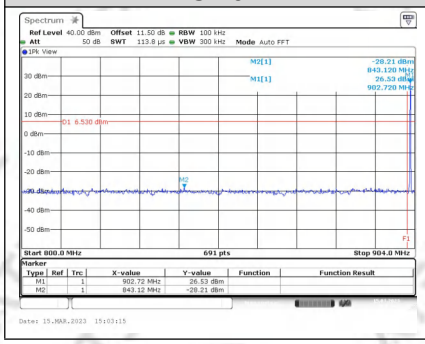
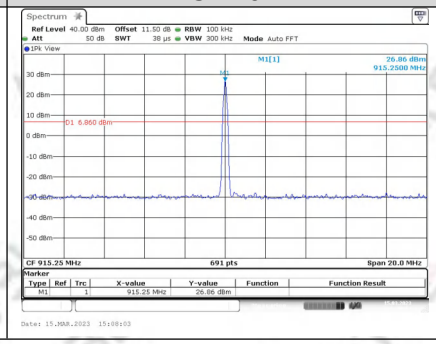
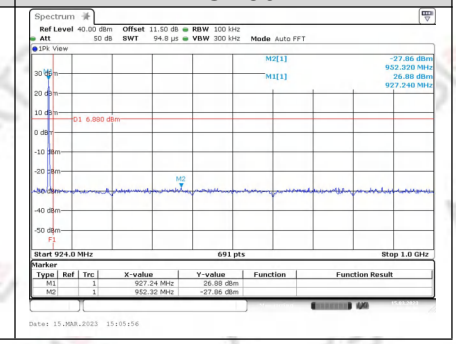
4.5 TEST RESULTS

Temperature:	22℃	Relative Humidity:	35%
Test Mode:	Dense reader mode / CH01, CH26, CH50	Test Voltage:	DC 3.7V

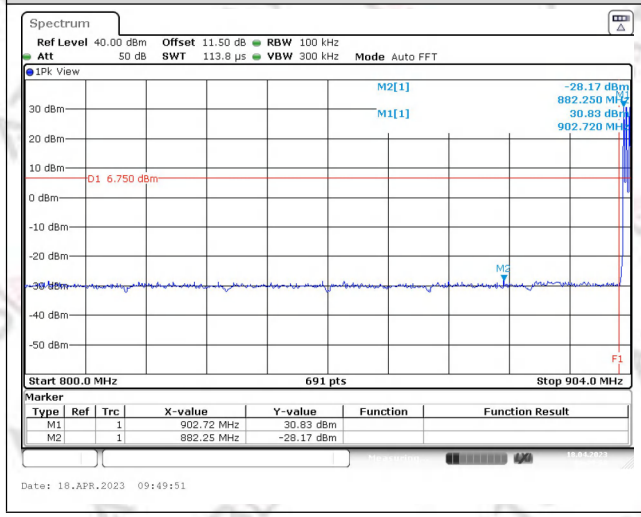
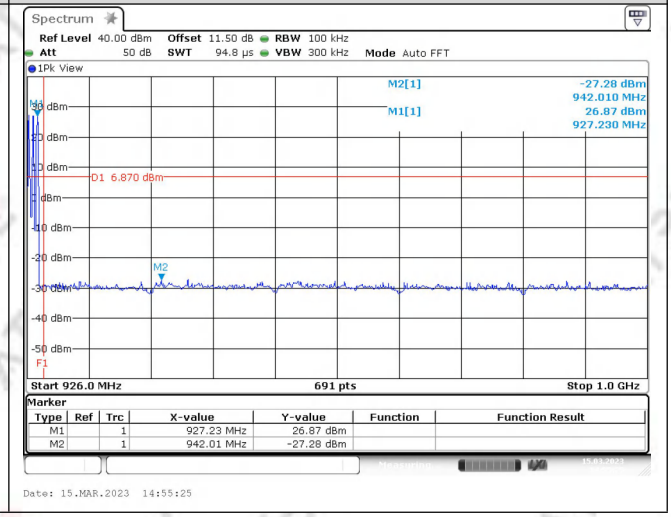
For Conducted Spurious

CH01	CH26	CH50
		

For Band edge

CH01	CH26	CH50
		

For Hopping Band edge

CH01	CH50
	

5. NUMBER OF HOPPING CHANNEL

5.1 LIMIT

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.
EUT 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating FrequencyRange
RB	100kHz
VB	300kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. Spectrum Setting: RBW= 100kHz, VBW=300kHz, Sweep time = Auto.

5.3 TEST SETUP

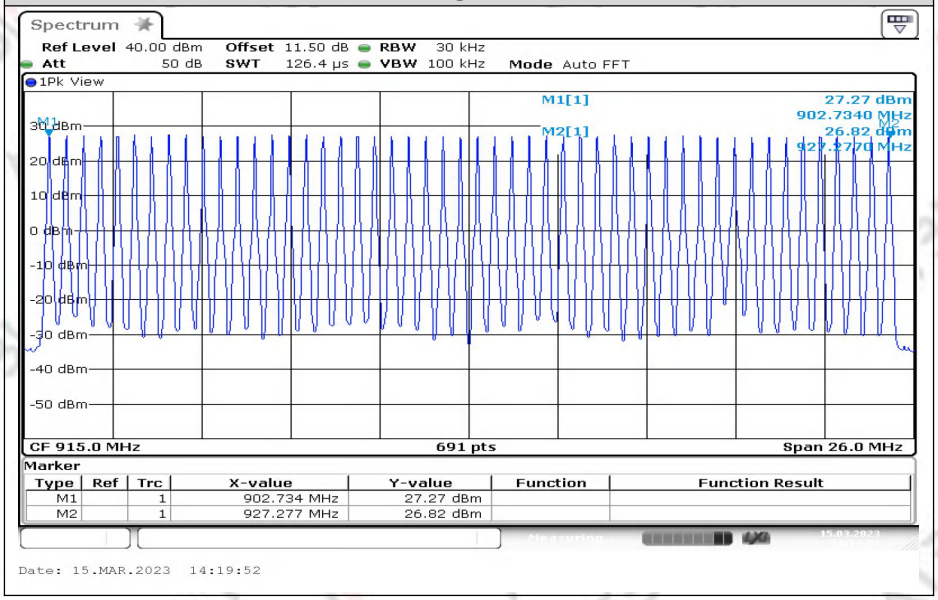
5.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

5.5 TEST RESULTS

Temperature:	22℃	Relative Humidity:	35%
Test Mode:	Hopping Mode (Dense reader mode)	Test Voltage:	DC 3.7V

Number of Hopping Channel	50
Hopping channel	



6. AVERAGE TIME OF OCCUPANCY

6.1 LIMIT

FCC Part 15.247,Subpart C				
Section	Test Item	Limit	FrequencyRange (MHz)	Result
15.247 (a)(1)(iii)	Average Time of Occupancy	0.4sec	902-928	PASS

6.2 TEST PROCEDURE

a. The transmitter output (antenna port) was connected to the spectrum analyzer.
b. Set RBW =1MHz/VBW =3MHz.
c. Use a video trigger with the trigger level set to enable triggering only on full pulses.
d. Sweep Time is more than once pulse time.
e. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
f. Measure the maximum time duration of one single pulse.

6.3 TEST SETUP

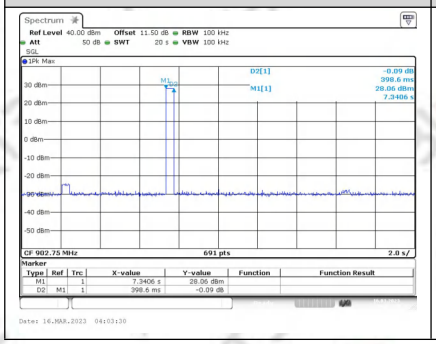
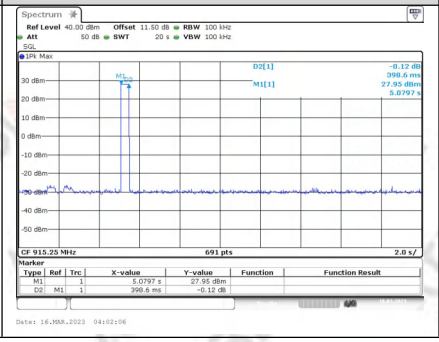
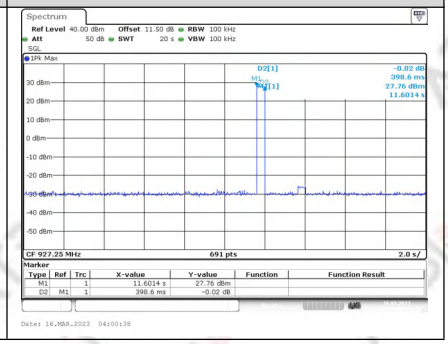
6.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

6.5 TEST RESULTS

Temperature:	22℃	Relative Humidity:	35%
Test Mode:	Dense reader mode / CH01, CH26, CH50	Test Voltage:	DC 3.7V

Frequency (MHz)	Single Pulse Time (ms)	Number Of Pulses	Dwell Time(s)	Limits(s)
902.75	398.6	1	0.3986	0.4
915.25	398.6	1	0.3986	0.4
927.25	398.6	1	0.3986	0.4

CH01	CH26	CH50
		

7. HOPPING CHANNEL SEPARATION MEASUREMEN

7.1 LIMIT

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	1MHz
RB	30KHz
VB	100KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.2 TEST PROCEDURE

a. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.

b. Spectrum Setting: RBW= 30KHz, VBW= 100KHz, Sweep time = Auto.

7.3 TEST SETUP

7.4 EUT OPERATION CONDITIONS

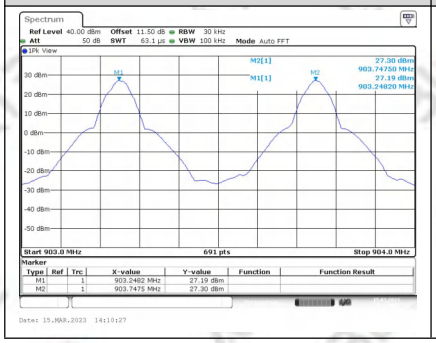
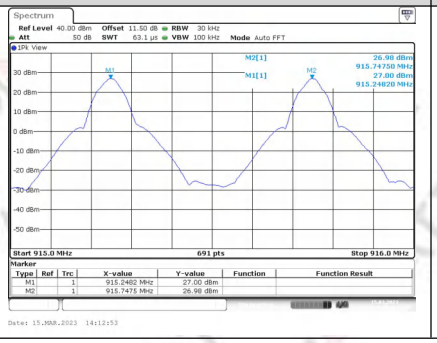
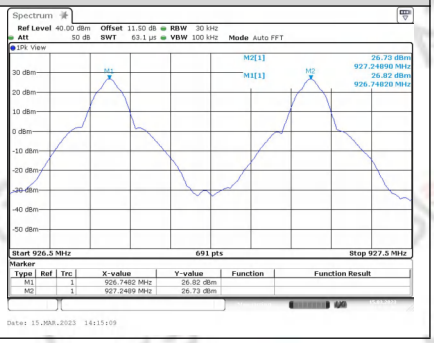
The EUT was programmed to be in continuously transmitting mode.

7.5 TEST RESULTS

Temperature:	22℃	Relative Humidity:	35%
Test Mode:	Dense reader mode / CH01, CH26, CH50	Test Voltage:	DC 3.7V

Frequency	Mark1 Frequency （MHz）	Mark2 Frequency （MHz）	Ch. Separation (kHz)	Limit (kHz)	Result
902.75 MHz	903.2482	903.7475	499.3	84.66	Pass
915.25 MHz	915.2482	915.7475	499.3	84.66	Pass
927.25 MHz	926.7482	927.2489	500.7	84.66	Pass

Ch. Separation Limits: > 20dB bandwidth

CH01	CH26	CH50
		

8. BANDWIDTH TEST

8.1 LIMIT

FCC Part15 15.247,Subpart C				
Section	Test Item	Limit	FrequencyRange (MHz)	Result
15.247(a)(1)	Bandwidth	N/A	902-928	PASS

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	500 KHz
RB	3 KHz
VB	10 KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

8.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. Spectrum Setting: RBW= 30kHz, VBW=100kHz, Sweep time = Auto.

8.3 TEST SETUP

8.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

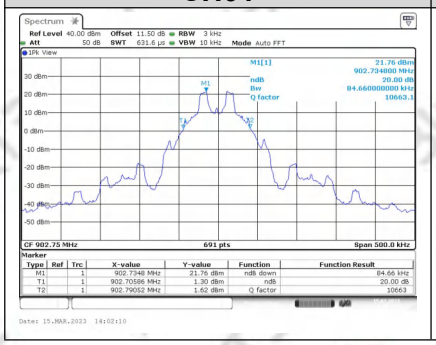
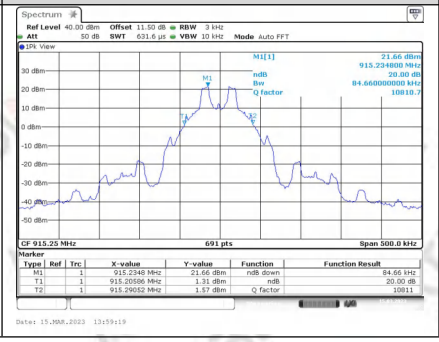
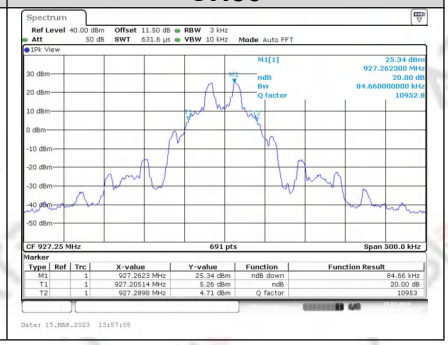
8.5 TEST RESULTS

Temperature:	22℃	Relative Humidity:	35%
Test Mode:	Dense reader mode / CH01, CH26, CH50	Test Voltage:	DC 3.7V

Frequency	20dB Bandwidth (kHz)	99% Bandwidth (kHz)	Result
902.75 MHz	84.66	81.04	PASS
915.25 MHz	84.66	80.32	PASS
927.25 MHz	84.66	81.04	PASS

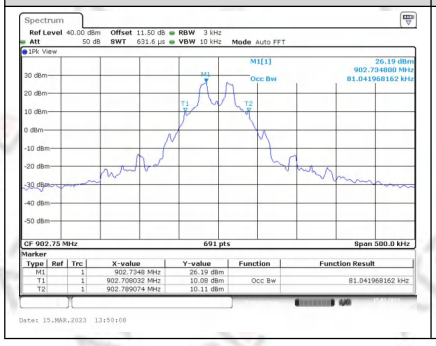
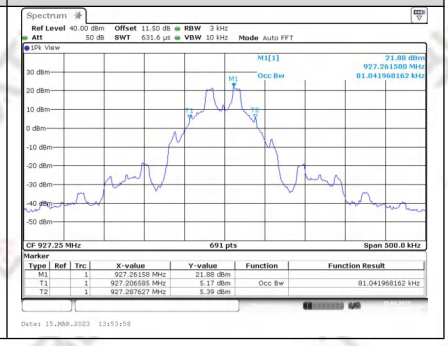
20dB Bandwidth

(MHz)

CH01	CH26	CH50
		

99% Bandwidth

(MHz)

CH01	CH26	CH50
		

9. OUTPUT POWER TEST

9.1 LIMIT

FCC Part 15.247				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (b)(2) RSS-2475.4(a)	Output Power	1 W	902-928	PASS
RSS-247 5.4(a)	EIRP	4W		

9.2 TEST PROCEDURE

This is an RF-conducted test to evaluate maximum peak output power. Use a direct connection between the antenna port of the unlicensed wireless device and the spectrum analyzer, through suitable attenuation. The hopping shall be disabled for this test:

a) Use the following spectrum analyzer settings:
1) Span: Approximately five times the 20 dB bandwidth, centered on a hopping channel.
2) RBW > 20 dB bandwidth of the emission being measured.
3) VBW ≥ RBW.
4) Sweep: Auto.
5) Detector function: Peak.
6) Trace: Max hold.
b) Allow trace to stabilize.
c) Use the marker-to-peak function to set the marker to the peak of the emission.
d) The indicated level is the peak output power, after any corrections for external attenuators and cables.
e) A plot of the test results and setup description shall be included in the test report.
NOTE—A peak responding power meter may be used, where the power meter and sensor system video bandwidth is greater than the occupied bandwidth of the unlicensed wireless device, rather than a spectrum analyzer.
PKPM1 Peak power meter method:
The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DSS bandwidth and shall use a fast-responding diode detector.

9.3 TEST SETUP

9.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

9.5 TEST RESULTS

Temperature:	22℃	Relative Humidity:	35%
Test Voltage:	DC 3.7V		

Mode	Channel Number	Frequency (MHz)	Peak Power	Average Power	Limit
			(dBm)	(dBm)	(dBm)
Dense reader mode	01	902.75	29.35	27.21	30.00
	26	915.25	29.20	27.11	30.00
	50	927.25	29.09	26.98	30.00

EIRP Power

Mode	Frequency (MHz)	Antenna Gain	Cable Loss	Peak Power	EIRP Power	Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)
Dense reader mode	902.75	15	12	29.35	32.35	36
	915.25	15	12	29.20	32.20	36
	927.25	15	12	29.09	32.09	36

NOTE:

The EUT is transmitting through a long enough antenna cable with a stated loss of 12dB intc the antenna with typy N connector 15dBi gain.

10. ANTENNA REQUIREMENT

10.1 STANDARD REQUIREMENT

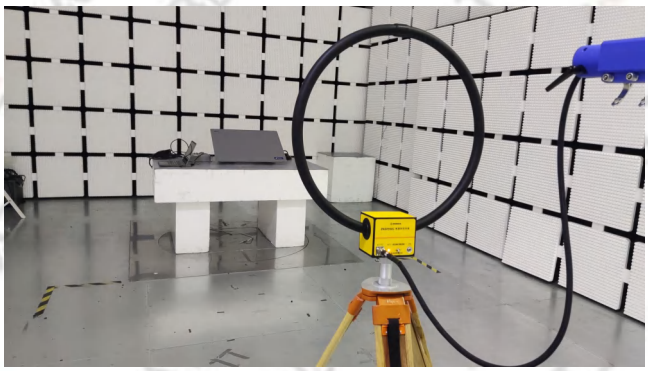
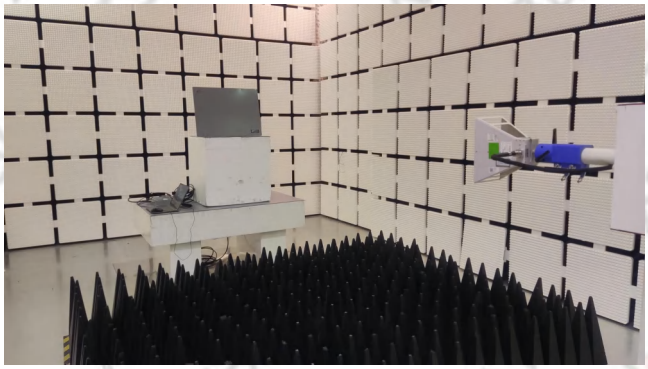
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

10.2 EUT ANTENNA

The EUT antenna is External Antenna. It comply with the standard requirement.

APPENDIX-PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

AC Power Line Conducted Emissions	Radiated Emissions for 9kHz~30MHz
	
Radiated Emissions for 30MHz~1GHz	Radiated Emissions for 1GHz~18GHz
	
Conducted for RF	N/A
	N/A

※※※※※END OF THE REPORT※※※※※