



FCC Part 15C Test Report

FCC ID: 2BMWA-ZAIOSDR01

Applicant: Tianjin ZifiSense Technology Co., Ltd

Address: Room 1701, Building 2, Tianjin Science and Technology Plaza (Tiankai Park), West of Keyan East Road, Nankai District, Tianjin, China

Manufacturer: Tianjin ZifiSense Technology Co., Ltd

Address: Room 1701, Building 2, Tianjin Science and Technology Plaza (Tiankai Park), West of Keyan East Road, Nankai District, Tianjin, China

Product Name: ZETA SDR Gateway

Trade Mark: N/A

Model Number: APZC-SDR01

Date of Receipt: Jan. 14, 2026

Test Date: Jan. 14, 2026 - Jan. 30, 2026

Date of Report: Jan. 30, 2026

Prepared By: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China

Applicable Standards: FCC PART 15 C 15.249
ANSI C63.10:2020

Test Result: Pass

Report Number: DLE-260114038R

Prepared (Test Engineer): Alisa Song

Reviewer (Supervisor): Jack Bu

Approved (Manager): Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.



Table of Contents	Page
1 . SUMMARY OF TEST RESULTS	3
1.1 MEASUREMENT UNCERTAINTY	3
2 . GENERAL INFORMATION	4
2.1 GENERAL DESCRIPTION OF EUT	4
2.2 DESCRIPTION OF TEST MODES	5
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	5
2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	6
2.5 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING	6
2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS	7
3 . EMC EMISSION TEST	8
3.1 CONDUCTED EMISSION MEASUREMENT	8
3.1.1 POWER LINE CONDUCTED EMISSION LIMITS	8
3.1.2 TEST PROCEDURE	8
3.1.3 DEVIATION FROM TEST STANDARD	8
3.1.4 TEST SETUP	9
3.1.5 EUT OPERATING CONDITIONS	9
3.1.6 TEST RESULTS	9
3.2 RADIATED EMISSION MEASUREMENT	12
3.2.1 RADIATED EMISSION LIMITS	12
3.2.2 TEST PROCEDURE	13
3.2.3 DEVIATION FROM TEST STANDARD	13
3.2.4 TEST SETUP	13
3.2.5 EUT OPERATING CONDITIONS	14
3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)	15
3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)	16
3.2.8 TEST RESULTS (1GHZ~10GHZ)	23
4 . 20DB BANDWIDTH	25
4.1 APPLIED PROCEDURES / LIMIT	25
4.1.1 TEST PROCEDURE	25
4.1.2 DEVIATION FROM STANDARD	25
4.1.3 TEST SETUP	25
4.1.4 EUT OPERATION CONDITIONS	25
4.1.5 TEST RESULTS	26
5 . ANTENNA REQUIREMENT	29
5.1 STANDARD REQUIREMENT	29
5.2 EUT ANTENNA	29
6 . TEST SEUUP PHOTO	29
7 . EUT PHOTO	29



1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.249) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.205(a), 15.209(a) 15.249(a), 15.249(c)	Fundamental & Radiated Spurious Emission Measurement	PASS	
15.215(c)	20dB Bandwidth	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

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

Test lab: Shenzhen DL Testing Technology Co., Ltd.

101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1

Address: Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China

FCC Test Firm Registration Number: 854456

Designation Number: CN1307

IC Registered No.: 27485

CAB ID.: CN0118

1.1 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded 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	Conducted Emission Test	$\pm 2.56\text{dB}$
2	RF power, conducted	$\pm 0.42\text{dB}$
3	Spurious emissions, conducted	$\pm 2.76\text{dB}$
4	All emissions, radiated (<1G)	$\pm 3.65\text{dB}$
5	All emissions, radiated (>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^\circ\text{C}$
7	Humidity	$\pm 2\%$
8	20dB Bandwidth	$\pm 0.2\text{MHz}$



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product Name:	ZETA SDR Gateway
Trademark:	N/A
Model No.:	APZC-SDR01
Model Difference	N/A
Operation Frequency:	920-925 MHz
Channel numbers:	See channel list
EIRP Power:	0.19mW
Antenna Type:	External Antenna*2
Antenna gain:	2.38 dBi
Power supply:	Input: DC 12V

Note:

- 1.For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- 2.The EUT's all information provided by client.
3. LoRa non-hybrid system.

3. Channel List

Frequency Band	Channel Number	Frequency
920~925MHz	1	920.000MHz
	2	920.100MHz
	:	:
	25	922.500MHz
	:	:
	49	924.900MHz
	50	925.000MHz

Note: The channel spacing is 0.1MHz.



2.2 DESCRIPTION OF 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.

Pretest Mode	Description
Mode 1	920.000MHz
Mode 2	922.500MHz
Mode 3	925.000MHz
Mode 4	Link Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	920.000MHz
Mode 2	922.500MHz
Mode 3	925.000MHz
Mode 4	Link Mode

- Note: 1. The measurements are performed at the highest, middle, lowest available channels.
2. A new fully charged battery was used for testing during the test.

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



Power Line Conducted Emission Test





2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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.

Item	Equipment	Model/Type No.	Series No.	Note
E-1	ZETA SDR Gateway	APZC-SDR01	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

Note:

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

2.5 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

During testing, 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 end product.

Max output power Setting	
Test software Version	Test program: ZETA HEX Downloading tool V2.5.3



2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation test, Band-edge test and 6db bandwidth test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	Agilent	E4408B	MY50140780	Oct. 25, 2025	Oct. 24, 2026
2	Test Receiver (9kHz-7GHz)	R&S	ESRP7	101393	Oct. 25, 2025	Oct. 24, 2026
3	Bilog Antenna (30MHz-1GHz)	R&S	VULB9162	00306	Oct. 26, 2025	Oct. 25, 2026
4	Horn Antenna (1GHz-18GHz)	Schwarzbeck	BBHA9120D	02139	Oct. 26, 2025	Oct. 25, 2026
5	Horn Antenna (18GHz-40GHz)	A.H. Systems	SAS-574	588	Oct. 25, 2025	Oct. 24, 2026
6	Amplifier (9KHz-6GHz)	Schwarzbeck	BBV9743B	00153	Oct. 25, 2025	Oct. 24, 2026
7	Amplifier (1GHz-18GHz)	EMEC	EM01G8GA	00270	Oct. 25, 2025	Oct. 24, 2026
8	Amplifier (18GHz-40GHz)	Quanjuda	DLE-161	97	Oct. 25, 2025	Oct. 24, 2026
9	Loop Antenna (9KHz-30MHz)	Schwarzbeck	FMZB1519B	00014	Oct. 25, 2025	Oct. 24, 2026
10	RF cables1 (9kHz-1GHz)	ChengYu	966	004	Oct. 25, 2025	Oct. 24, 2026
11	RF cables2 (1GHz-40GHz)	ChengYu	966	003	Oct. 25, 2025	Oct. 24, 2026
12	Antenna connector	Florida RF Labs	N/A	RF 01#	Oct. 25, 2025	Oct. 24, 2026
13	Power probe	KEYSIGHT	U2021XA	MY55210018	Oct. 25, 2025	Oct. 24, 2026
14	Signal Analyzer 9kHz-26.5GHz	Agilent	N9020A	MY55370280	Oct. 25, 2025	Oct. 24, 2026
15	Test Receiver 20kHz-40GHz	R&S	ESU 40	100376	Oct. 25, 2025	Oct. 24, 2026
16	D.C. Power Supply	LongWei	PS-305D	010964729	Oct. 25, 2025	Oct. 24, 2026
17	966 chamber	YIHENG	966 Room	966	Nov. 06, 2023	Nov. 05, 2026

Conduction Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	843 Shielded Room	YIHENG	843 Room	843	Nov. 05, 2023	Nov. 04, 2026
2	EMI Receiver	R&S	ESR	101421	Oct. 25, 2025	Oct. 24, 2026
3	LISN	R&S	ENV216	102417	Oct. 25, 2025	Oct. 24, 2026
4	843 Cable 1#	ChengYu	CE Cable	001	Oct. 25, 2025	Oct. 24, 2026

Other

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	FALA	EZ_EMCC	EMC-CON 3A1.1
2	EMC radiation test system	FALA	EZ_EMCC	FA-03A2
3	RF test system	MAIWEI	MTS8310	2.0.0.0
4	RF communication test system	MAIWEI	MTS8200	2.0.0.0
5	TST PASS RF Auto Test System	TST	TST PASS	v2.0



3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Limit (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.50	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

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

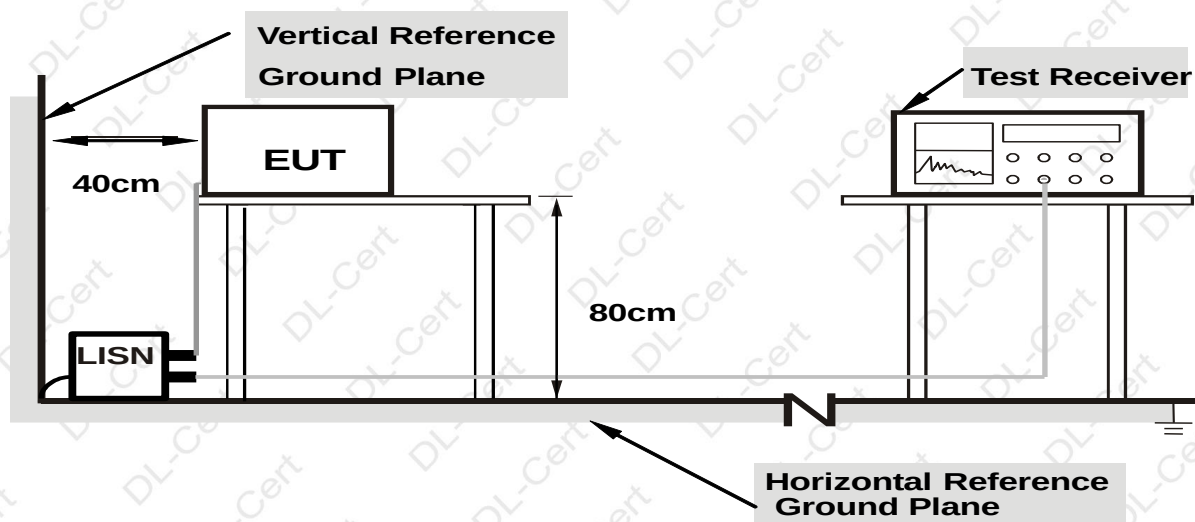
- The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- 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.
- 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.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation



3.1.4 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 from other units and other metal planes

3.1.5 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.

We pretest AC 120V and AC 230V, the worst voltage was AC 120V and the data recording in the report.

3.1.6 TEST RESULTS

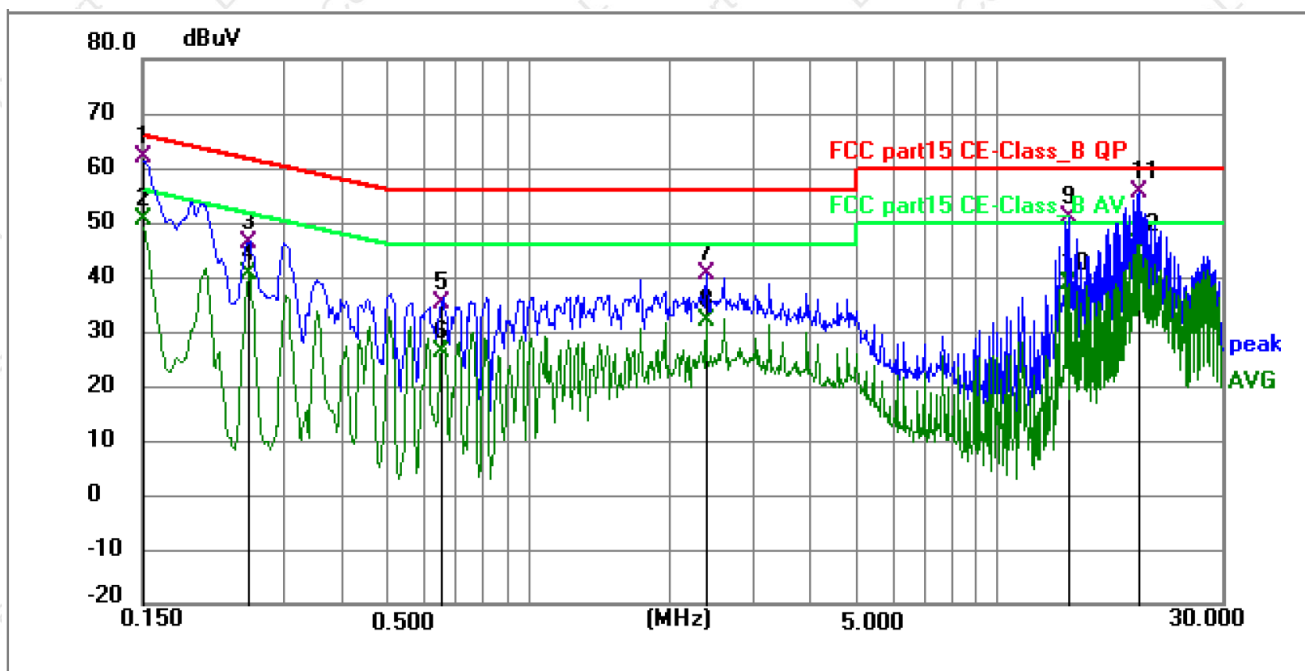
PASS

Please refer to the following page.



Conducted Emission Test Data (Monitor)

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase:	Line
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 1



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1 *	0.1500	52.15	9.94	62.09	66.00	-3.91	QP	P	
2	0.1500	40.48	9.94	50.42	56.00	-5.58	AVG	P	
3	0.2535	36.15	9.98	46.13	61.64	-15.51	QP	P	
4	0.2535	30.51	9.98	40.49	51.64	-11.15	AVG	P	
5	0.6540	25.23	9.87	35.10	56.00	-20.90	QP	P	
6	0.6540	16.44	9.87	26.31	46.00	-19.69	AVG	P	
7	2.3909	30.52	10.00	40.52	56.00	-15.48	QP	P	
8	2.3909	22.13	10.00	32.13	46.00	-13.87	AVG	P	
9	14.1402	40.79	10.26	51.05	60.00	-8.95	QP	P	
10	14.1402	28.64	10.26	38.90	50.00	-11.10	AVG	P	
11	20.0085	45.15	10.38	55.53	60.00	-4.47	QP	P	
12	20.0085	35.48	10.38	45.86	50.00	-4.14	AVG	P	

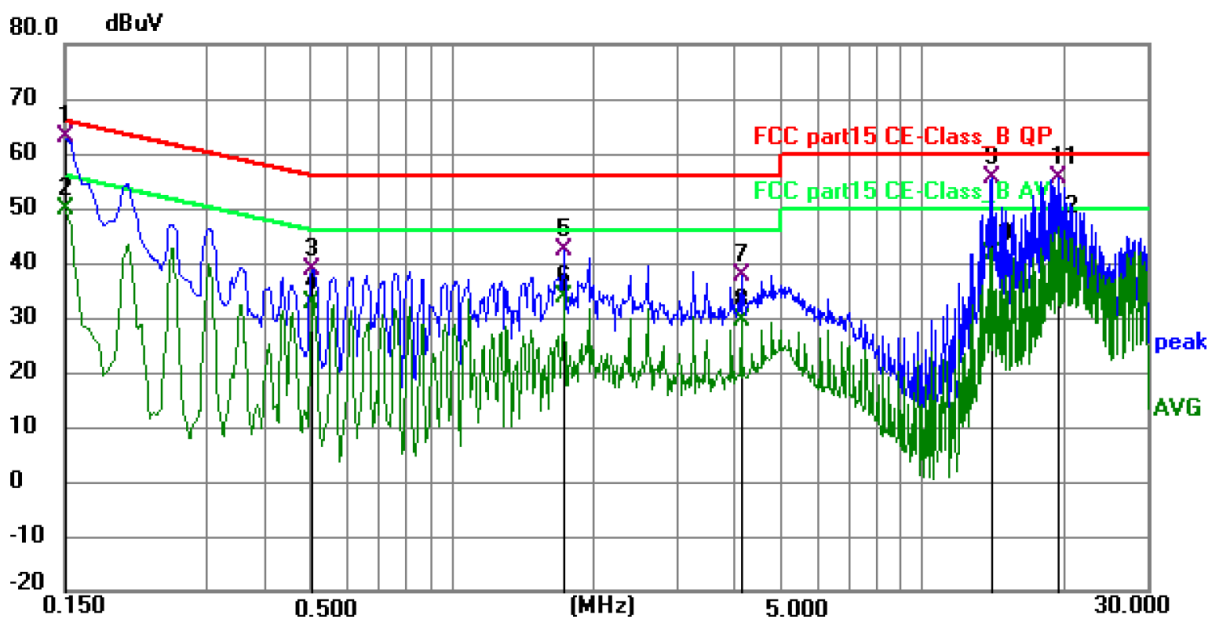
Remark:

Margin = Limit – Level, Correct Factor = Cable lose + LISN insertion loss, Level= Reading + Correct factor



Conducted Emission Test Data (Monitor)

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase:	Neutral
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 1



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1 *	0.1500	52.98	9.97	62.95	66.00	-3.05	QP	P	
2	0.1500	39.84	9.97	49.81	56.00	-6.19	AVG	P	
3	0.5053	28.90	9.89	38.79	56.00	-17.21	QP	P	
4	0.5053	22.62	9.89	32.51	46.00	-13.49	AVG	P	
5	1.7383	32.34	10.00	42.34	56.00	-13.66	QP	P	
6	1.7383	23.75	10.00	33.75	46.00	-12.25	AVG	P	
7	4.1280	27.71	10.11	37.82	56.00	-18.18	QP	P	
8	4.1280	19.18	10.11	29.29	46.00	-16.71	AVG	P	
9	14.1180	45.39	10.24	55.63	60.00	-4.37	QP	P	
10	14.1180	31.45	10.24	41.69	50.00	-8.31	AVG	P	
11	19.3290	45.40	10.28	55.68	60.00	-4.32	QP	P	
12	19.3290	36.19	10.28	46.47	50.00	-3.53	AVG	P	

Remark:

Margin = Limit – Level, Correct Factor = Cable lose + LISN insertion loss, Level= Reading + Correct factor



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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 (Above 1000MHz)

FREQUENCY (MHz)	Limit (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).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	25GHz
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP



3.2.2 TEST PROCEDURE

Below 1GHz test procedure as below:

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

- Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre.
- Test the EUT in the lowest channel, the middle channel, the Highest channel

Note:

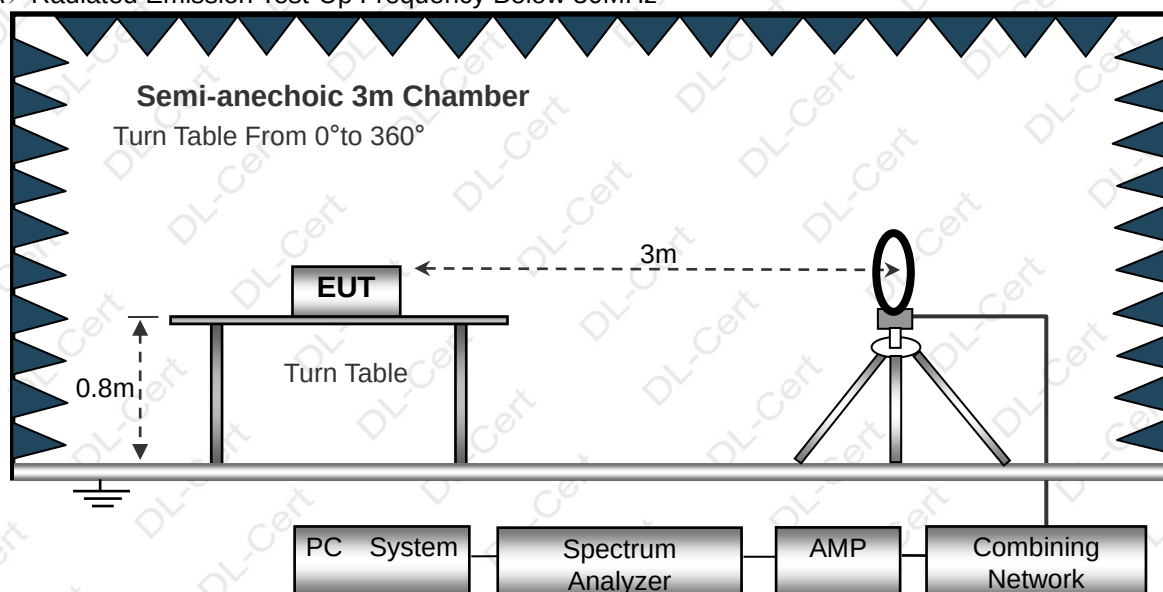
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3 DEVIATION FROM TEST STANDARD

No deviation

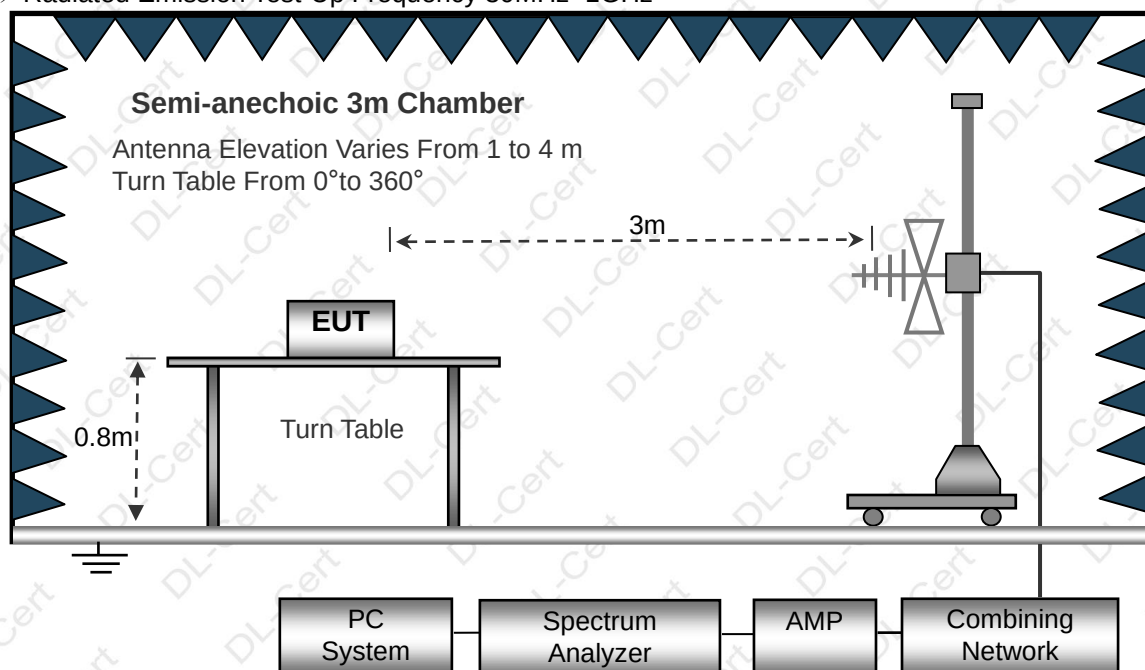
3.2.4 TEST SETUP

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

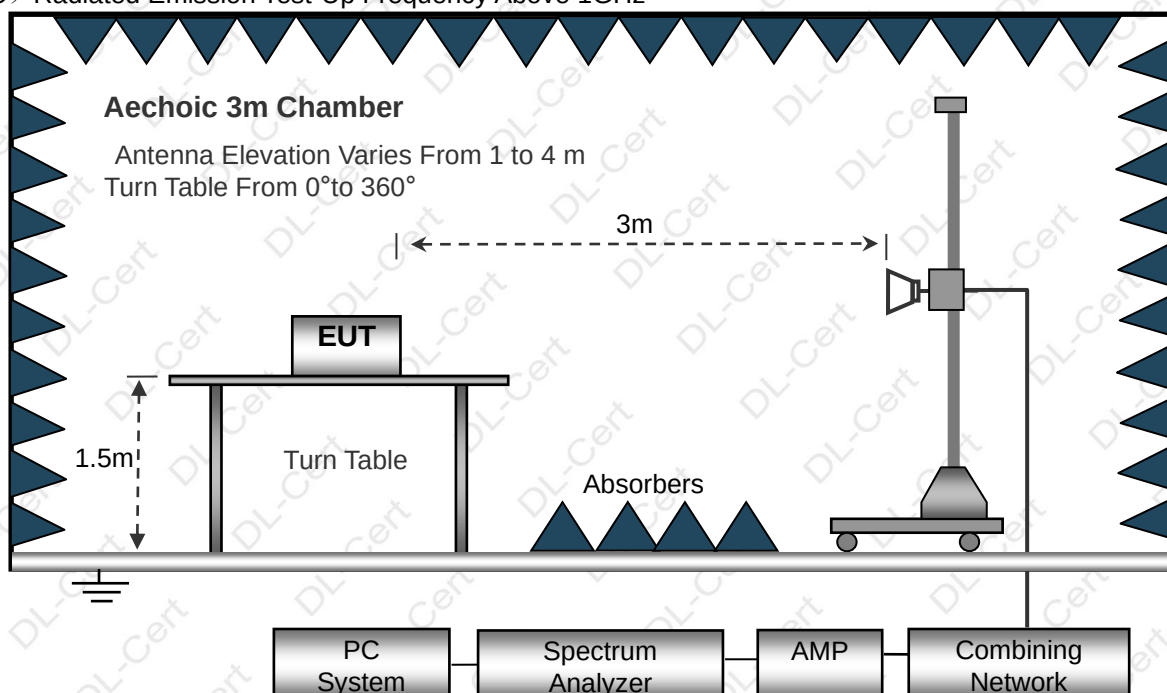




(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



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

**3.2.5 EUT OPERATING CONDITIONS**

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

**3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)**

Temperature:	20℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Mode 4	Polarization :	--

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

NOTE:

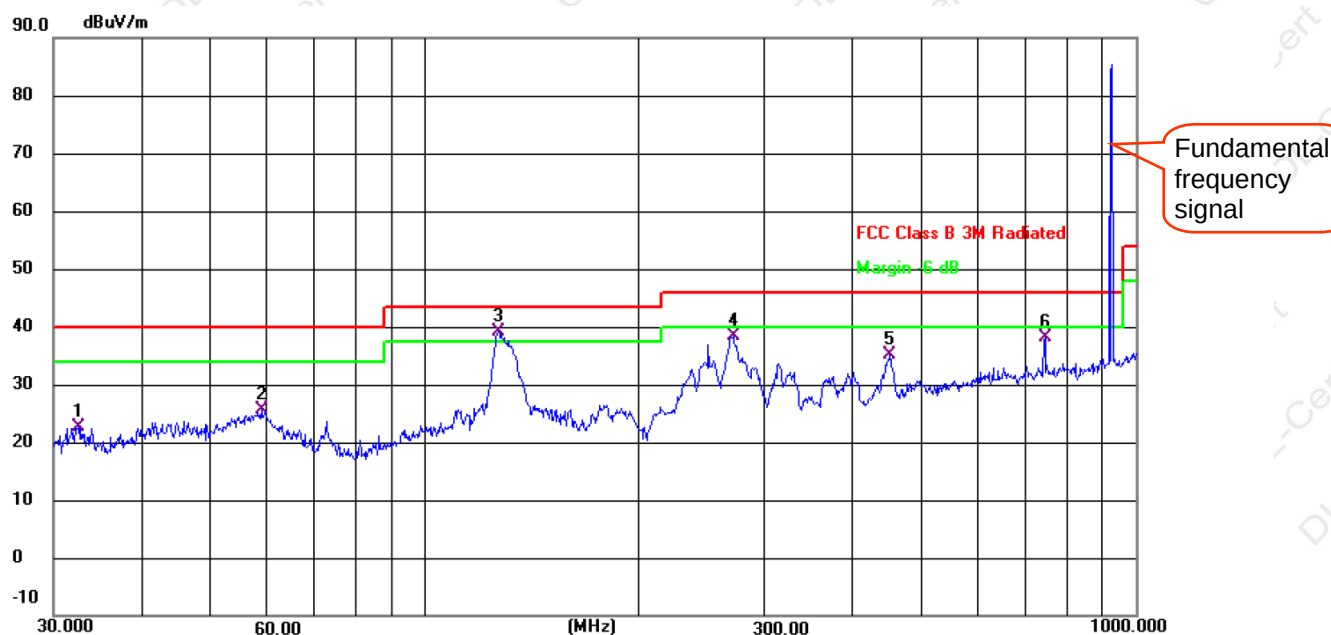
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance/test distance})$ (dB);

Limit line = specific limits(dBuV) + distance extrapolation factor.

**3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)**

Temperature:	26℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Horizontal
Test Voltage :	AC 120V/60Hz		
Test Mode :	Mode 1		



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	32.5197	32.45	-9.86	22.59	40.00	-17.41	QP	
2	58.8185	33.23	-7.67	25.56	40.00	-14.44	QP	
3 *	126.7723	51.18	-12.08	39.10	43.50	-4.40	QP	
4	271.3245	44.81	-6.54	38.27	46.00	-7.73	QP	
5	451.1349	37.19	-1.96	35.23	46.00	-10.77	QP	
6	744.8659	35.32	2.75	38.07	46.00	-7.93	QP	

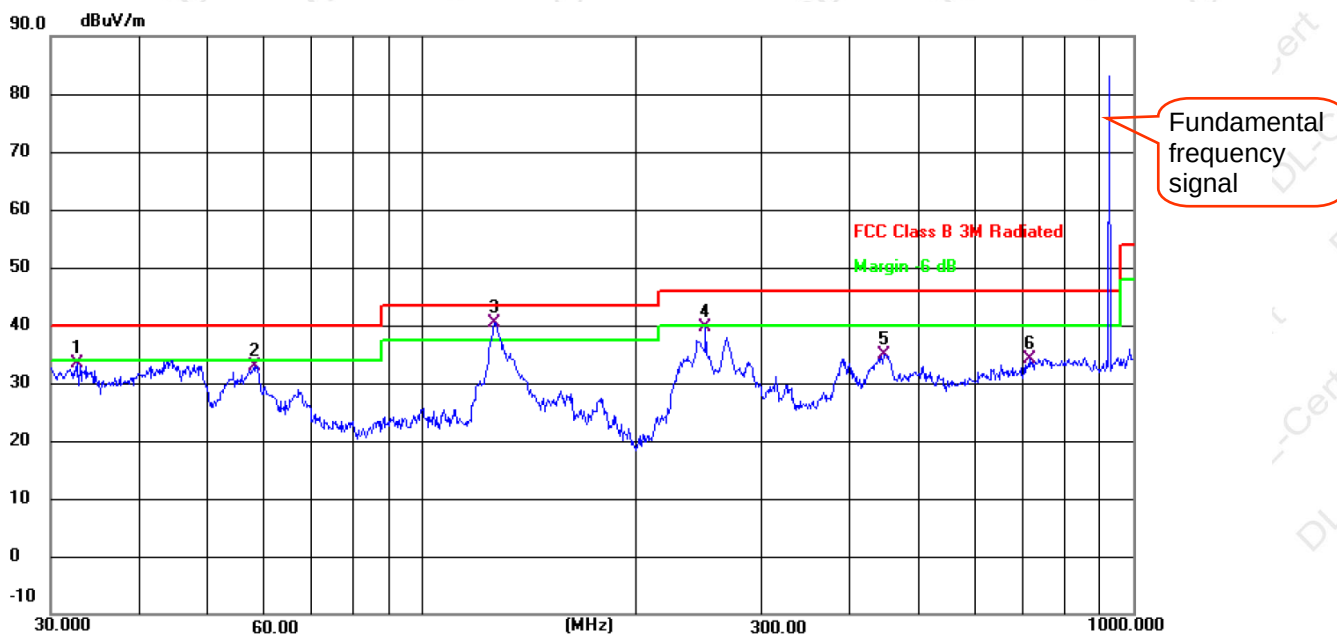
Remark:

Correct Factor = Cable loss + Antenna factor – Preamplifier;

Level = Reading Level + Correct Factor; Margin = Level - Limit;



Temperature:	26°C	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Vertical
Test Voltage :	AC 120V/60Hz		
Test Mode :	Mode 1		



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	32.7486	43.28	-9.81	33.47	40.00	-6.53	QP	
2	58.2028	40.52	-7.55	32.97	40.00	-7.03	QP	
3 *	126.3285	52.39	-11.90	40.49	43.50	-3.01	QP	
4	250.3009	46.97	-7.31	39.66	46.00	-6.34	QP	
5	446.4139	37.09	-2.26	34.83	46.00	-11.17	QP	
6	714.1733	31.89	2.18	34.07	46.00	-11.93	QP	

Remark:

Correct Factor = Cable loss + Antenna factor – Preamplifier;

Level = Reading Level + Correct Factor; Margin = Level - Limit;



Temperature:	26°C	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Horizontal
Test Voltage :	AC 120V/60Hz		
Test Mode :	Mode 2		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		32.5197	33.95	-9.86	24.09	40.00	-15.91	QP	
2		58.8185	34.73	-7.67	27.06	40.00	-12.94	QP	
3	*	126.7723	51.68	-12.08	39.60	43.50	-3.90	QP	
4		271.3245	45.31	-6.54	38.77	46.00	-7.23	QP	
5		451.1349	33.19	-1.96	31.23	46.00	-14.77	QP	
6		744.8659	33.32	2.75	36.07	46.00	-9.93	QP	

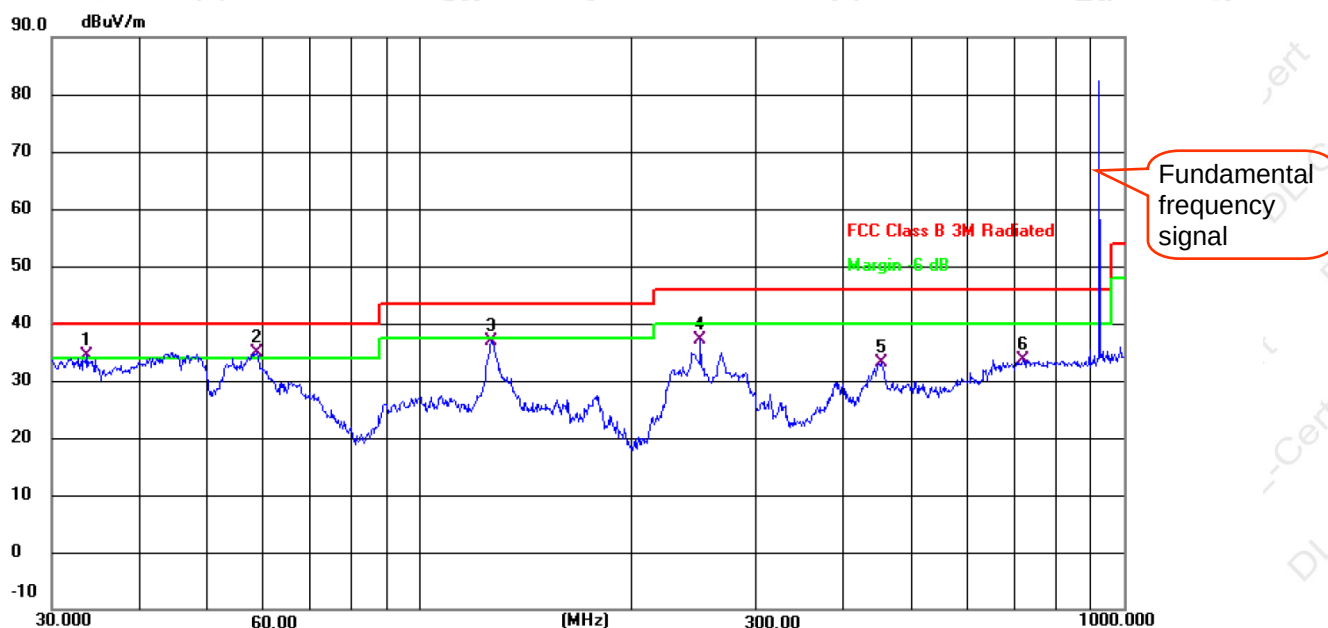
Remark:

Correct Factor = Cable loss + Antenna factor – Preamplifier;

Level = Reading Level + Correct Factor; Margin = Level - Limit;



Temperature:	26℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Vertical
Test Voltage :	AC 120V/60Hz		
Test Mode :	Mode 2		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	!	33.6802	43.85	-9.56	34.29	40.00	-5.71	QP	
2	*	58.6126	42.44	-7.63	34.81	40.00	-5.19	QP	
3		126.3285	48.89	-11.90	36.99	43.50	-6.51	QP	
4		250.3009	44.48	-7.32	37.16	46.00	-8.84	QP	
5		452.7196	35.13	-1.95	33.18	46.00	-12.82	QP	
6		719.1992	31.23	2.31	33.54	46.00	-12.46	QP	

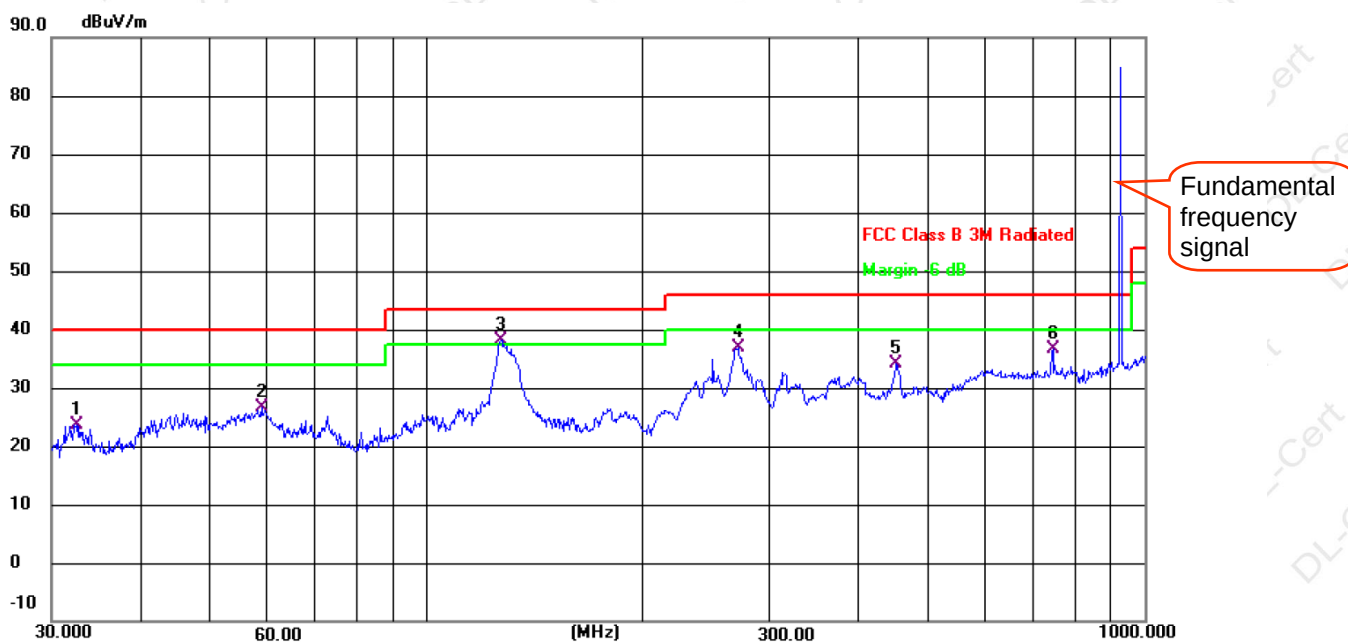
Remark:

Correct Factor = Cable loss + Antenna factor – Preamplifier;

Level = Reading Level + Correct Factor; Margin = Level - Limit;



Temperature:	26℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Horizontal
Test Voltage :	AC 120V/60Hz		
Test Mode :	Mode 3		



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	32.5197	33.45	-9.86	23.59	40.00	-16.41	QP	
2	58.8185	34.23	-7.67	26.56	40.00	-13.44	QP	
3 *	126.7723	50.18	-12.08	38.10	43.50	-5.40	QP	
4	271.3245	43.31	-6.54	36.77	46.00	-9.23	QP	
5	451.1349	36.19	-1.96	34.23	46.00	-11.77	QP	
6	744.8659	33.82	2.75	36.57	46.00	-9.43	QP	

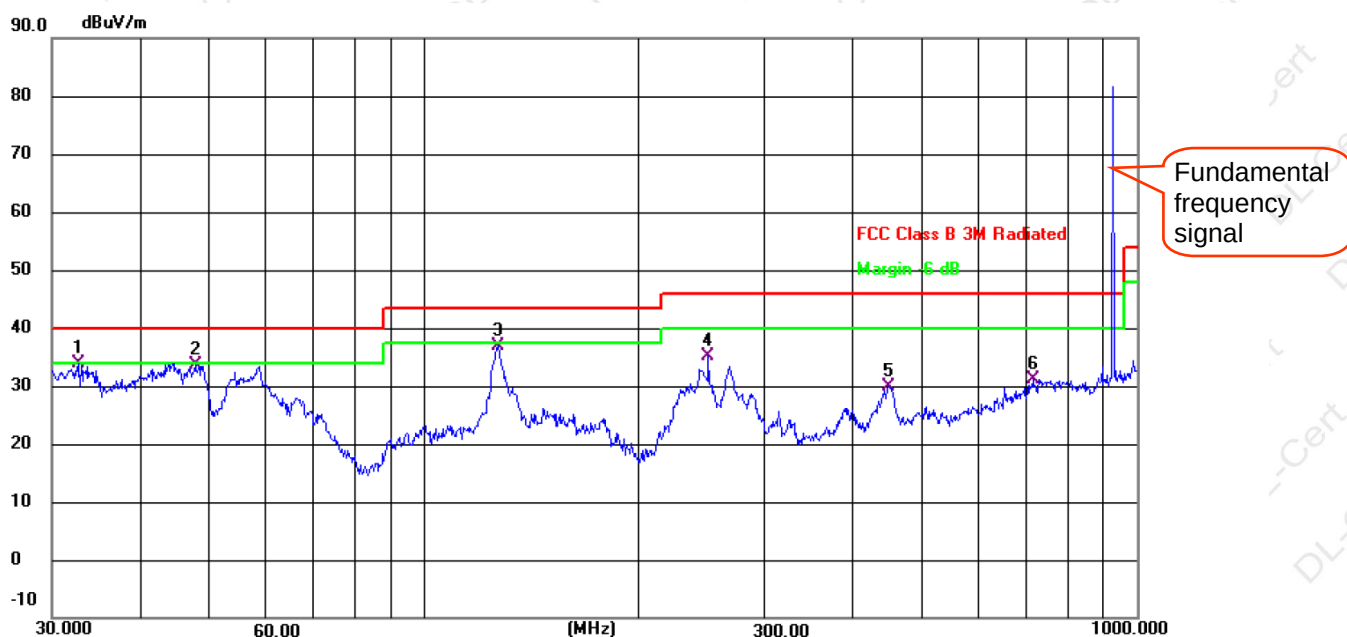
Remark:

Correct Factor = Cable loss + Antenna factor – Preamplifier;

Level = Reading Level + Correct Factor; Margin = Level - Limit;



Temperature:	26℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Vertical
Test Voltage :	AC 120V/60Hz		
Test Mode :	Mode 3		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	*	32.7486	43.78	-9.81	33.97	40.00	-6.03	QP	
2		47.6584	40.40	-6.89	33.51	40.00	-6.49	QP	
3		126.7723	49.06	-12.08	36.98	43.50	-6.52	QP	
4		250.3009	42.48	-7.32	35.16	46.00	-10.84	QP	
5		447.9821	31.93	-2.12	29.81	46.00	-16.19	QP	
6		714.1733	28.89	2.18	31.07	46.00	-14.93	QP	

Remark:

Correct Factor = Cable loss + Antenna factor – Preamplifier;

Level = Reading Level + Correct Factor; Margin = Level - Limit;



Fundamental Test:

(Pre-scan in the X, Y and Z ax of orientation, the worst case Z-axis of orientation was recorded.)

Note:

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)

Level (dBμV/m) = Reading (dBμV) + Factor (dB/m)

Margin (dB) = Limit (dBμV/m) - Level (dBμV/m)

Frequency	Receiver Reading	Rx Antenna Polar	Factor	Level	Limit	Margin	Detector
MHz	dBμV	H/V	dB/m	dBμV/m	dBμV/m	dB	
Low Channel: 920.00MHz							
920.00	51.63	H	34.44	86.07	94	-7.93	QP
920.00	52.44	V	34.44	86.88	94	-7.12	QP
Middle Channel: 922.50MHz							
922.50	53.41	H	34.5	87.91	94	-6.09	QP
922.50	51.79	V	34.5	86.29	94	-7.71	QP
High Channel: 925.00MHz							
925.00	51.95	H	34.56	86.51	94	-7.49	QP
925.00	52.47	V	34.56	87.03	94	-6.97	QP

**3.2.8 TEST RESULTS (1GHZ~10GHZ)**

ANT1

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
operation frequency: 920.00MHz									
V	1840	74.70	52.16	2.78	27.41	52.73	74	-21.27	PK
V	1840	65.72	52.16	2.78	27.41	43.75	54	-10.25	AV
V	3680	77.61	51.74	3.08	31.25	60.20	74	-13.80	PK
V	3680	63.98	51.74	3.08	31.25	46.57	54	-7.43	AV
V	9493	56.92	51.56	7.36	41.57	54.29	74	-19.71	PK
V	9493	45.53	51.56	7.36	41.57	42.90	54	-11.10	AV
H	1840	73.59	52.16	2.78	27.41	51.62	74	-22.38	PK
H	1840	60.95	52.16	2.78	27.41	38.98	54	-15.02	AV
H	3680	71.88	51.74	3.08	31.25	54.47	74	-19.53	PK
H	3680	59.93	51.74	3.08	31.25	42.52	54	-11.48	AV
H	9493	59.54	51.56	7.36	41.57	56.91	74	-17.09	PK
H	9493	47.27	51.56	7.36	41.57	44.64	54	-9.36	AV
operation frequency: 922.50MHz									
V	1846	74.77	52.11	2.82	27.47	52.95	74	-21.05	PK
V	1846	64.74	52.11	2.82	27.47	42.92	54	-11.08	AV
V	3692	76.98	51.77	3.03	31.34	59.58	74	-14.42	PK
V	3692	62.96	51.77	3.03	31.34	45.56	54	-8.44	AV
V	9389	56.58	51.56	7.36	41.57	53.95	74	-20.05	PK
V	9389	42.64	51.56	7.36	41.57	40.01	54	-13.99	AV
H	1846	75.04	52.11	2.82	27.47	53.22	74	-20.78	PK
H	1846	61.70	52.11	2.82	27.47	39.88	54	-14.12	AV
H	3692	71.02	51.77	3.03	31.34	53.62	74	-20.38	PK
H	3692	59.03	51.77	3.03	31.34	41.63	54	-12.37	AV
H	9389	59.35	51.56	7.36	41.57	56.72	74	-17.28	PK
H	9389	45.67	51.56	7.36	41.57	43.04	54	-10.96	AV
operation frequency: 925.00MHz									
V	1850	74.03	52.23	2.86	27.44	52.10	74	-21.90	PK
V	1850	63.86	52.23	2.86	27.44	41.93	54	-12.07	AV
V	3700	75.77	51.69	3.05	31.39	58.52	74	-15.48	PK
V	3700	61.97	51.69	3.05	31.39	44.72	54	-9.28	AV
V	9389	57.89	51.56	7.36	41.57	55.26	74	-18.74	PK
V	9389	41.30	51.56	7.36	41.57	38.67	54	-15.33	AV
H	1850	73.59	52.23	2.86	27.44	51.66	74	-22.34	PK
H	1850	61.05	52.23	2.86	27.44	39.12	54	-14.88	AV
H	3700	70.54	51.69	3.05	31.39	53.29	74	-20.71	PK
H	3700	60.04	51.69	3.05	31.39	42.79	54	-11.21	AV
H	9389	59.50	51.56	7.36	41.57	56.87	74	-17.13	PK
H	9389	44.12	51.56	7.36	41.57	41.49	54	-12.51	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



ANT2

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
operation frequency: 920.00MHz									
V	1840	73.59	52.16	2.78	27.41	51.62	74	-22.38	PK
V	1840	64.75	52.16	2.78	27.41	42.78	54	-11.22	AV
V	3680	76.46	51.74	3.08	31.25	59.05	74	-14.95	PK
V	3680	63.03	51.74	3.08	31.25	45.62	54	-8.38	AV
V	9493	56.08	51.56	7.36	41.57	53.45	74	-20.55	PK
V	9493	44.86	51.56	7.36	41.57	42.23	54	-11.77	AV
H	1840	72.50	52.16	2.78	27.41	50.53	74	-23.47	PK
H	1840	60.05	52.16	2.78	27.41	38.08	54	-15.92	AV
H	3680	70.82	51.74	3.08	31.25	53.41	74	-20.59	PK
H	3680	59.04	51.74	3.08	31.25	41.63	54	-12.37	AV
H	9493	58.66	51.56	7.36	41.57	56.03	74	-17.97	PK
H	9493	46.57	51.56	7.36	41.57	43.94	54	-10.06	AV
operation frequency: 922.50MHz									
V	1846	73.96	52.11	2.82	27.47	52.14	74	-21.86	PK
V	1846	64.04	52.11	2.82	27.47	42.22	54	-11.78	AV
V	3692	76.15	51.77	3.03	31.34	58.75	74	-15.25	PK
V	3692	62.28	51.77	3.03	31.34	44.88	54	-9.12	AV
V	9389	55.97	51.56	7.36	41.57	53.34	74	-20.66	PK
V	9389	42.18	51.56	7.36	41.57	39.55	54	-14.45	AV
H	1846	74.23	52.11	2.82	27.47	52.41	74	-21.59	PK
H	1846	61.03	52.11	2.82	27.47	39.21	54	-14.79	AV
H	3692	70.25	51.77	3.03	31.34	52.85	74	-21.15	PK
H	3692	58.39	51.77	3.03	31.34	40.99	54	-13.01	AV
H	9389	58.71	51.56	7.36	41.57	56.08	74	-17.92	PK
H	9389	45.18	51.56	7.36	41.57	42.55	54	-11.45	AV
operation frequency: 925.00MHz									
V	1850	73.71	52.23	2.86	27.44	51.78	74	-22.22	PK
V	1850	63.58	52.23	2.86	27.44	41.65	54	-12.35	AV
V	3700	75.44	51.69	3.05	31.39	58.19	74	-15.81	PK
V	3700	61.70	51.69	3.05	31.39	44.45	54	-9.55	AV
V	9389	57.64	51.56	7.36	41.57	55.01	74	-18.99	PK
V	9389	41.12	51.56	7.36	41.57	38.49	54	-15.51	AV
H	1850	73.27	52.23	2.86	27.44	51.34	74	-22.66	PK
H	1850	60.78	52.23	2.86	27.44	38.85	54	-15.15	AV
H	3700	70.23	51.69	3.05	31.39	52.98	74	-21.02	PK
H	3700	59.78	51.69	3.05	31.39	42.53	54	-11.47	AV
H	9389	59.24	51.56	7.36	41.57	56.61	74	-17.39	PK
H	9389	43.93	51.56	7.36	41.57	41.30	54	-12.70	AV
Remark:									
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit									
2. If peak below the average limit, the average emission was no test.									
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.									



4. 20DB BANDWIDTH

4.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.215) , Subpart C	
Section	Test Item
15.215	Bandwidth

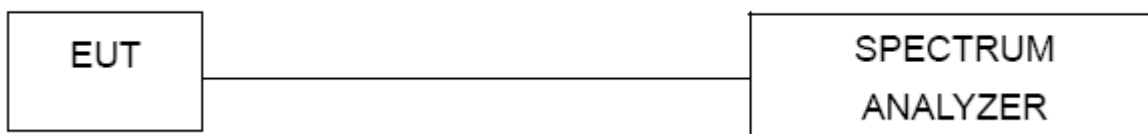
4.1.1 TEST PROCEDURE

1. Set RBW = OBW1%-5%.
2. Set the video bandwidth (VBW) $\geq$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



4.1.4 EUT OPERATION CONDITIONS

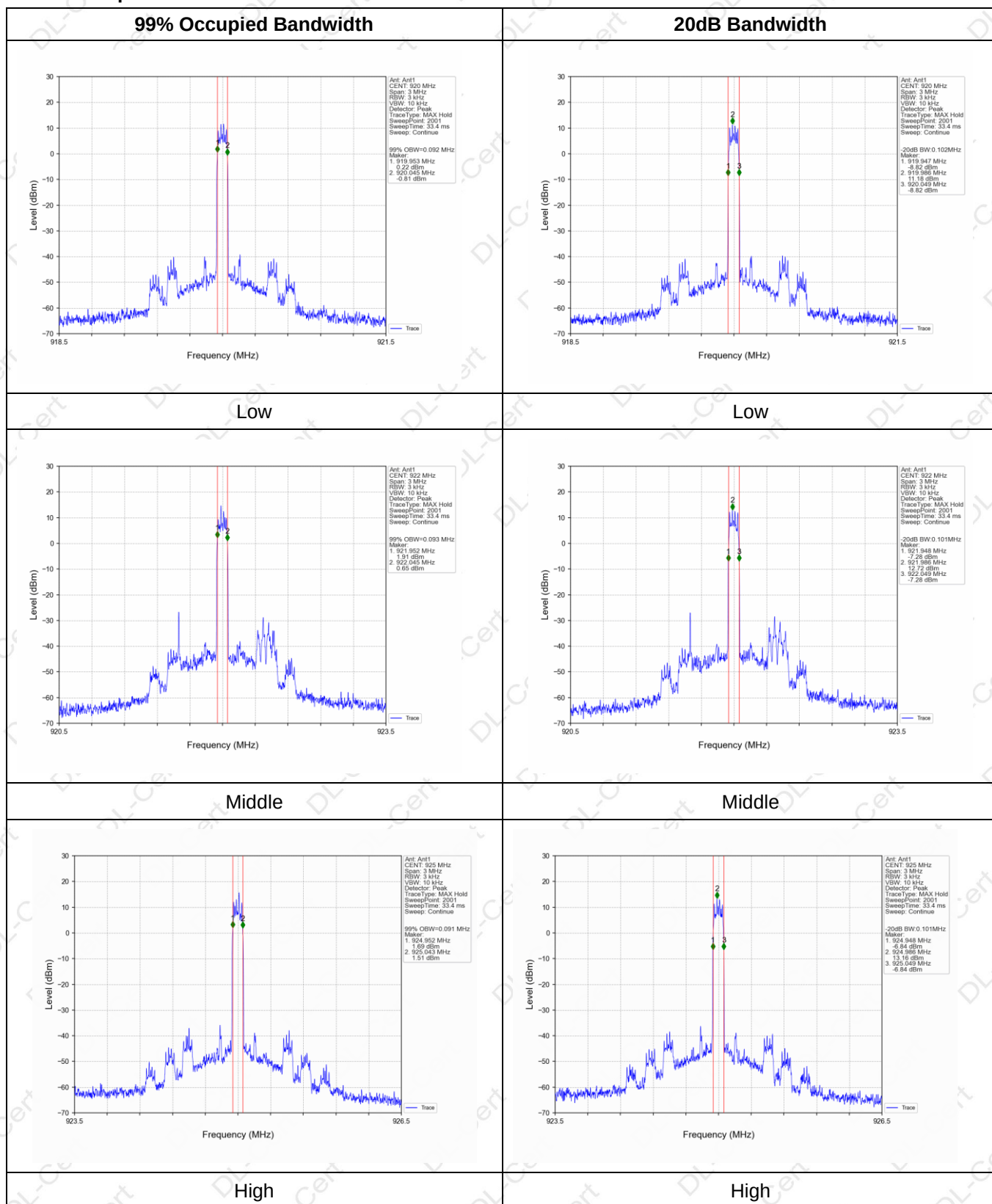
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

**4.1.5 TEST RESULTS**

Test Mode	Test Channel	99% Occupied Bandwidth (MHz)	20dB Bandwidth (MHz)	Result
ANT 1	Low	0.092	0.102	Pass
	Middle	0.093	0.101	Pass
	High	0.091	0.101	Pass
ANT 2	Low	0.093	0.101	Pass
	Middle	0.093	0.100	Pass
	High	0.092	0.100	Pass

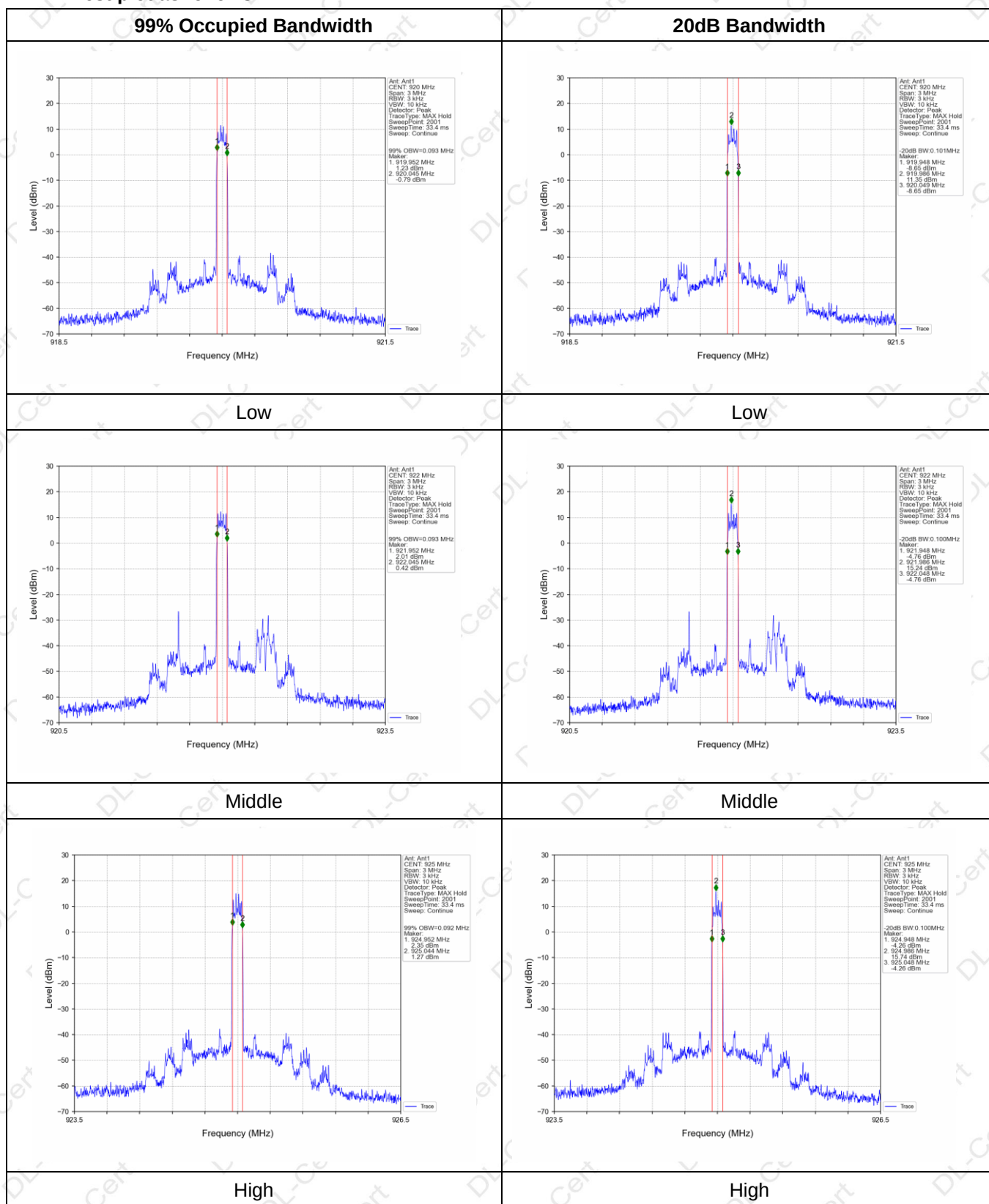


ANT1 Test plot as follows:





ANT2 Test plot as follows:





5. ANTENNA REQUIREMENT

5.1 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.

5.2 EUT ANTENNA

The EUT antenna is external antenna, It comply with the standard requirement.

6. TEST SEUUP PHOTO

Reference to the appendix I for details.

7. EUT PHOTO

Reference to the appendix II for details.

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