



FCC Radio Test Report

FCC ID: 2BONP-V32-KM-C-M

This report concerns: Original Grant

Project No. : 2503C254C
Equipment : Digital Poster
Brand Name : N/A
Test Model : V32-AI23-KN-C-K,V32-AI**_***** (The "*" in the model can be used with 0-9,A-Z,"-" or spaces, indicating only differences in appearance color,software version,customer code, and has no impact on safety and EMC performance)
Series Model : N/A
Applicant : SUZHOU ALLIN INNOVATION TECHNOLOGY CO., LTD
Address : No.15 Jintian Road, Suzhou Industrial Park, Suzhou, China
Manufacturer : SUZHOU ALLIN INNOVATION TECHNOLOGY CO., LTD
Address : No.15 Jintian Road, Suzhou Industrial Park, Suzhou, China
Factory : SUZHOU ALLIN INNOVATION TECHNOLOGY CO., LTD
Address : No.15 Jintian Road, Suzhou Industrial Park, Suzhou, China
Date of Receipt : Jun. 23, 2025
Date of Test : Jun. 23, 2025~Jul. 18, 2025
Issued Date : Jul. 29, 2025
Test Sample : Engineering Sample No.: SH202506231
Standard(s) : FCC CFR Title 47, Part 15, Subpart C

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc. (Shanghai)

Grani Zhou

Prepared by : Grani Zhou

Riley Wei

Approved by : Riley Wei

Add: No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210, China.

Tel: +86-021-61765666

Web: www.newbtl.com

Service mail: btl_qa@newbtl.com

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** assumes no responsibility for the data provided by the customer, any statements, inferences or generalizations drawn by the customer or others from the reports issued by **BTL**.

The report must not be used by the client to claim product certification, approval, or endorsement by A2LA or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

BTL's laboratory quality assurance procedures are in compliance with the ISO/IEC 17025: 2017 requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective. Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

Table of Contents	Page
REPORT ISSUED HISTORY	5
1 . APPLICABLE STANDARDS	6
2 . SUMMARY OF TEST RESULTS	6
2.1 TEST FACILITY	7
2.2 MEASUREMENT UNCERTAINTY	7
2.3 TEST ENVIRONMENT CONDITIONS	7
3 . GENERAL INFORMATION	8
3.1 GENERAL DESCRIPTION OF EUT	8
3.2 DESCRIPTION OF TEST MODES	9
3.3 DUTY CYCLE	10
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	11
3.5 SUPPORT UNITS	11
3.6 CUSTOMER INFORMATION DESCRIPTION	11
4 . AC POWER LINE CONDUCTED EMISSIONS	12
4.1 LIMIT	12
4.2 TEST PROCEDURE	12
4.3 DEVIATION FROM TEST STANDARD	12
4.4 TEST SETUP	13
4.5 EUT OPERATING CONDITIONS	13
4.6 TEST RESULTS	13
5 . RADIATED EMISSION	14
5.1 LIMIT	14
5.2 TEST PROCEDURE	15
5.3 DEVIATION FROM TEST STANDARD	16
5.4 TEST SETUP	17
5.5 EUT OPERATING CONDITIONS	18
5.6 TEST RESULTS - 9 KHZ TO 30 MHZ	18
5.7 TEST RESULTS - 30 MHZ TO 1000 MHZ	18
5.8 TEST RESULTS - ABOVE 1000 MHZ	18
6 . 20 DB SPECTRUM BANDWIDTH MEASUREMENT	19
6.1 LIMIT	19
6.2 TEST PROCEDURE	19
6.3 DEVIATION FROM STANDARD	19

Table of Contents	Page
6.4 TEST SETUP	19
6.5 EUT OPERATION CONDITIONS	19
6.6 TEST RESULTS	19
7 . TIMING TESTING	20
7.1 LIMIT	20
7.2 TEST PROCEDURE	20
7.3 DEVIATION FROM STANDARD	20
7.4 TEST SETUP	20
7.5 EUT OPERATION CONDITIONS	20
7.6 TEST RESULTS	20
8 . MEASUREMENT INSTRUMENTS LIST	21
9 . EUT TEST PHOTO	23
APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS	27
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ	30
APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ	35
APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ	38
APPENDIX E - 20 DB SPECTRUM BANDWIDTH	41
APPENDIX F - TIMING TESTING	43

REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-1-2503C254C	R00	This is a supplementary report to the original test report (BTL-FCCP-1-2503C254). The difference compared with original report are added a 433MHz module shield, 4G module and power cable. All test items have been re-evaluated, tested, and recorded in the report. The rest are kept the same.	Jul. 28, 2025	Invalid
BTL-FCCP-1-2503C254C	R01	This report added a note (See note 2 on Page 8 for details.). It is a revision of the report with serial number BTL-FCCP-1-2503C254C R00. This is a newly released report, replacing the BTL-ETSP-1-2410C356E R00 report.	Jul. 29, 2025	Valid

1. APPLICABLE STANDARDS

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

ANSI C63.10-2013

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart C				
Standard(s) Section	Test Item	Test Result	Judgment	Remark
15.207	AC Power Line Conducted Emissions	APPENDIX A	PASS	-----
15.205 15.209 15.231(e)	Radiated Emission	APPENDIX B APPENDIX C APPENDIX D	PASS	-----
15.231(c)	20 dB Spectrum Bandwidth	APPENDIX E	PASS	-----
15.231(e)	Timing Testing	APPENDIX F	PASS	-----
15.203	Antenna Requirement	-----	PASS	Note(2)

Note:

(1) "N/A" denotes test is not applicable in this test report.

(2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is located at the location of No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210, China.

BTL's Test Firm Registration Number for FCC: 964234

BTL's Designation Number for FCC: CN1374

2.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95.45% confidence level (based on a coverage factor ($k=2$))

The BTL measurement uncertainty as below table:

A. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	U_i (dB)
SH-CB02	CISPR	9kHz ~ 30MHz	2.72

Test Site	Method	Measurement Frequency Range	Ant. H / V	U_i (dB)
SH-CB02 (3m)	CISPR	30MHz ~ 200MHz	V	4.40
		30MHz ~ 200MHz	H	3.16
		200MHz ~ 1,000MHz	V	4.6
		200MHz ~ 1,000MHz	H	4.2

Test Site	Method	Measurement Frequency Range	U_i (dB)
SH-CB02 (3m)	CISPR	1GHz ~ 6GHz	4.56

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

2.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	25.1°C	47%	AC 120V/60Hz	Hans Zheng
Radiated Emissions-9kHz to 30 MHz	29°C	49%	AC 120V/60Hz	Orange Xia
Radiated Emissions-30MHz to 1000MHz	29°C	49%	AC 120V/60Hz	Orange Xia
Radiated Emissions-Above 1000MHz	29°C	49%	AC 120V/60Hz	Orange Xia
20 dB Spectrum Bandwidth	29°C	49%	AC 120V/60Hz	Orange Xia
Timing Testing	29°C	49%	AC 120V/60Hz	Orange Xia

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Digital Poster
Brand Name	N/A
Test Model	V32-AI23-KN-C-K,V32-AI** _***** (The "*" in the model can be used with 0-9,A-Z,"-" or spaces, indicating only differences in appearance color,software version,customer code, and has no impact on safety and EMC performance)
Series Model	N/A
Model Difference(s)	N/A
Power Source	AC mains.
Power Rating	AC 230V
Operation Frequency	433.3MHz
Modulation Type	FSK/GFSK
Field Strength	17.72 dBμV/m

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The WWAN section is the FCC ID of the contain module, and the newly applied one is the FCC ID for the 433M section.

3. Channel List:

EUT Test Channel	Test Frequency (MHz)
CH01	433.3

4. Table for Filed Antenna:

Ant.	Brand	Part number	Antenna Type	Connector	Gain (dBi)
1	ShenZhen Xinersheng Technology Co.,Ltd	XESANTI2B13 410	PCB	IPEX	0.02

3.2 DESCRIPTION OF TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

Pretest Mode	Description
Mode 1	TX Mode_433.3MHz

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

AC Power Line Conducted Emissions	
Final Test Mode	Description
Mode 1	TX Mode_433.3MHz

Radiated Emissions test - Below 1GHz	
Final Test Mode	Description
Mode 1	TX Mode_433.3MHz

Radiated Emissions test - Above 1GHz	
Final Test Mode	Description
Mode 1	TX Mode_433.3MHz

Conducted test	
Final Test Mode	Description
Mode 1	TX Mode_433.3MHz

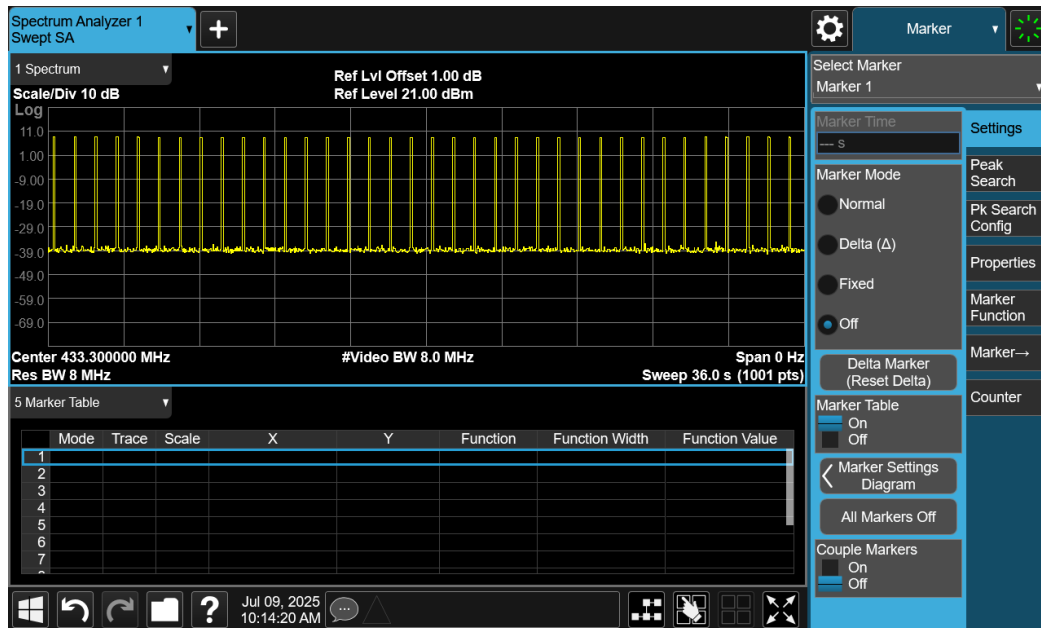
3.3 DUTY CYCLE

Test Frequency (MHz)	On Time (ms)	Total Time (ms)	Duty Cycle (%)
433.3	324	3600	9%

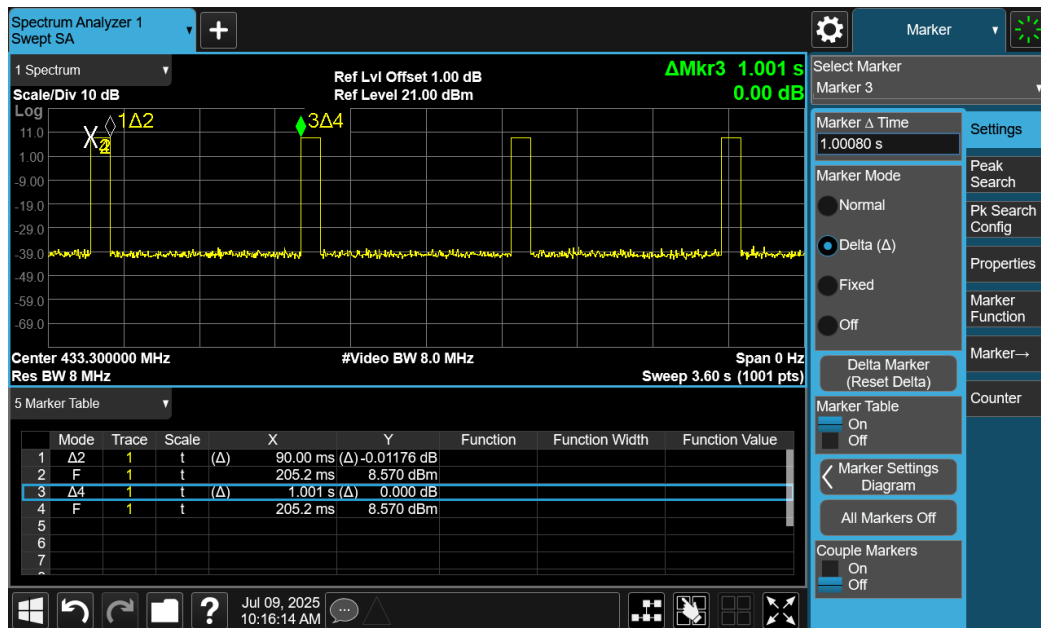
Average Reading = Peak Reading (dBuV/m) + 20log (Duty cycle)

Average Reading = Peak+20*log (Duty Cycle) = Peak-20.92

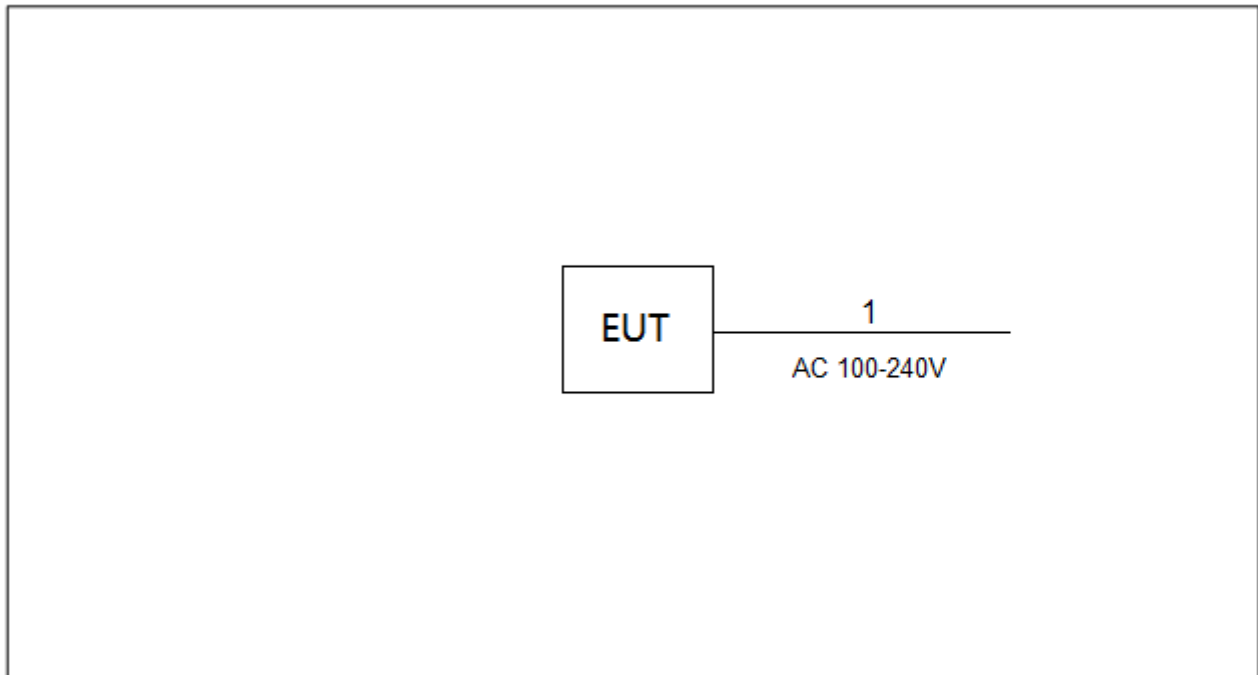
Total Time



On Time



3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.5 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
-	-	-	-	-

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	AC Cable	NO	NO	1.2m

3.6 CUSTOMER INFORMATION DESCRIPTION

- 1) The antenna gain is provided by the manufacturer.
- 2) Except for AC power line conducted emissions and radiated emissions, the results of all test items include cable losses. All cable losses are provided by the testing laboratory.

4. AC POWER LINE CONDUCTED EMISSIONS

4.1 LIMIT

Frequency of Emission (MHz)	Limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.5 - 5.0	56	4
5.0 - 30.0	60	50

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.

4.2 TEST PROCEDURE

- a. 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 equipment powered from additional LISN(s). The LISN provide 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 at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

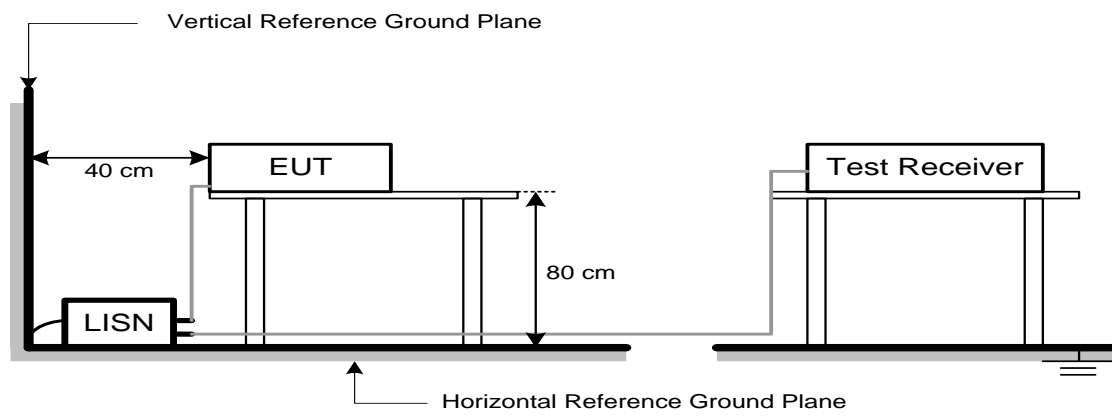
The following table is the setting of the receiver:

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

4.3 DEVIATION FROM TEST STANDARD

No deviation.

4.4 TEST SETUP



4.5 EUT OPERATING CONDITIONS

EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULTS

Please refer to the APPENDIX A.

5. RADIATED EMISSION

5.1 LIMIT

Frequency Band (MHz)	Fundamental Emissions Limit($\mu\text{V/m}$) at 3m
40.66-40.70	1000
70-130	500
130-174	500-1500(Note1)
174-260	1500
260-470	1500-5000(Note1)
Above 470	5000

Frequency Band (MHz)	Spurious Emissions Limit($\mu\text{V/m}$) at 3m (Note2)
40.66-40.70	100
70-130	50
130-174	50-150(Note1)
174-260	150
260-470	150-500(Note1)
Above 470	500

Note:

- 1) Linear interpolations, the formulas for calculating the maximum permitted fundamental field strengths are as follows:
 - a) For the band 130 - 174 MHz, $\mu\text{V/m}$ at 3 meters = $22.72727 \times (\text{operating frequency, MHz}) - 2454.545$;
 - b) For the band 260 - 470 MHz, $\mu\text{V/m}$ at 3 meters = $16.6667 \times (\text{operating frequency, MHz}) - 2833.3333$.

So the field strength of emission limits has been calculated in below table.

Carrier Frequency (MHz)	Fundamental Emissions Limit($\text{dB}\mu\text{V/m}$) at 3m
433.92 MHz	72.87 (Average)
433.92 MHz	92.87 (Peak)

- 2) The limits on the field strength of the spurious emissions in the above table are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in 15.209, whichever limit permits a higher field strength.

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.

LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-1000 MHz)

Frequency (MHz)	Field Strength (microvolts/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 1000 MHz)

Frequency (MHz)	(dBuV/m at 3 m)	
	Peak	Average
Above 1000	74	54

NOTE:

- (1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

5.2 TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1 GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1 GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- i. For the actual test configuration, please refer to the related Item -EUT Test Photos.

The following table is the setting of the receiver:

Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~150 kHz for RBW 200 Hz
Start ~ Stop Frequency	0.15 MHz~30 MHz for RBW 9 kHz
Start ~ Stop Frequency	30 MHz~1000 MHz for RBW 100 kHz

Receiver Parameter	Setting
Attenuation	Auto
Center Frequency	Fundamental Frequency
RBW	120 kHz
Detector	Peak / Average

Spectrum Parameters	Setting
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 1MHz for Peak, AV Mode with Dwell time

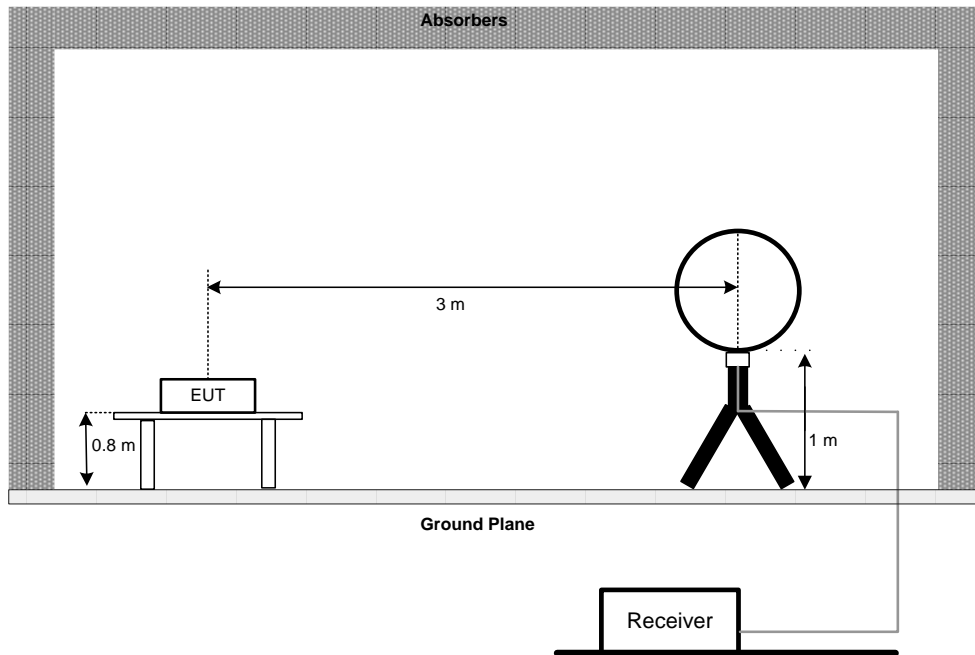
Receiver Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector
Start ~ Stop Frequency	1 GHz~6 GHz for PK/AVG detector
Start ~ Stop Frequency	431.92 MHz~435.92 MHz for PK/AVG detector

5.3 DEVIATION FROM TEST STANDARD

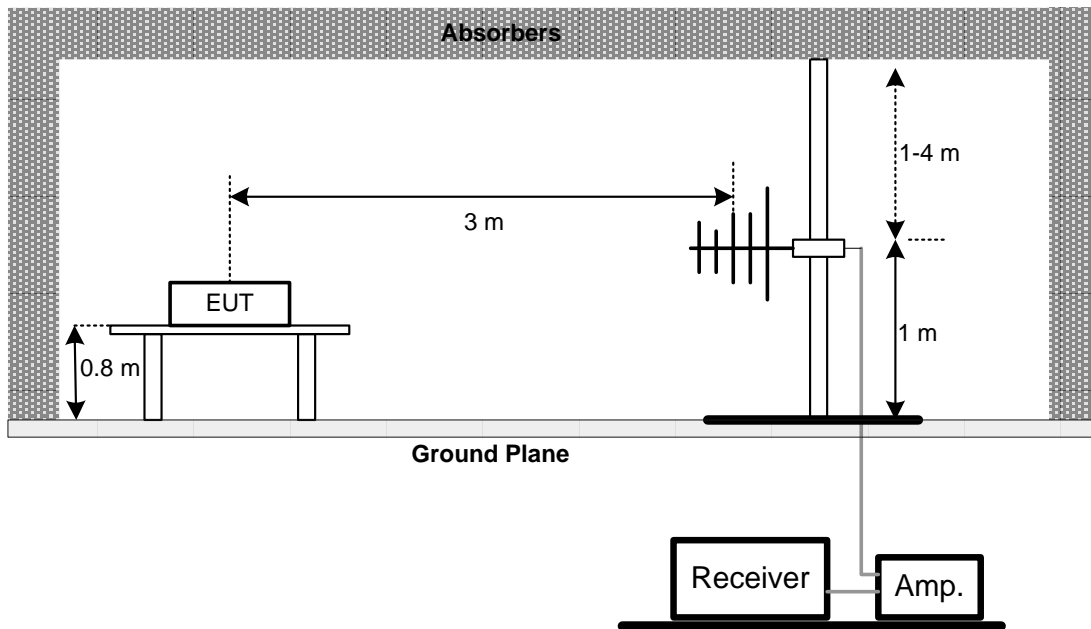
No deviation.

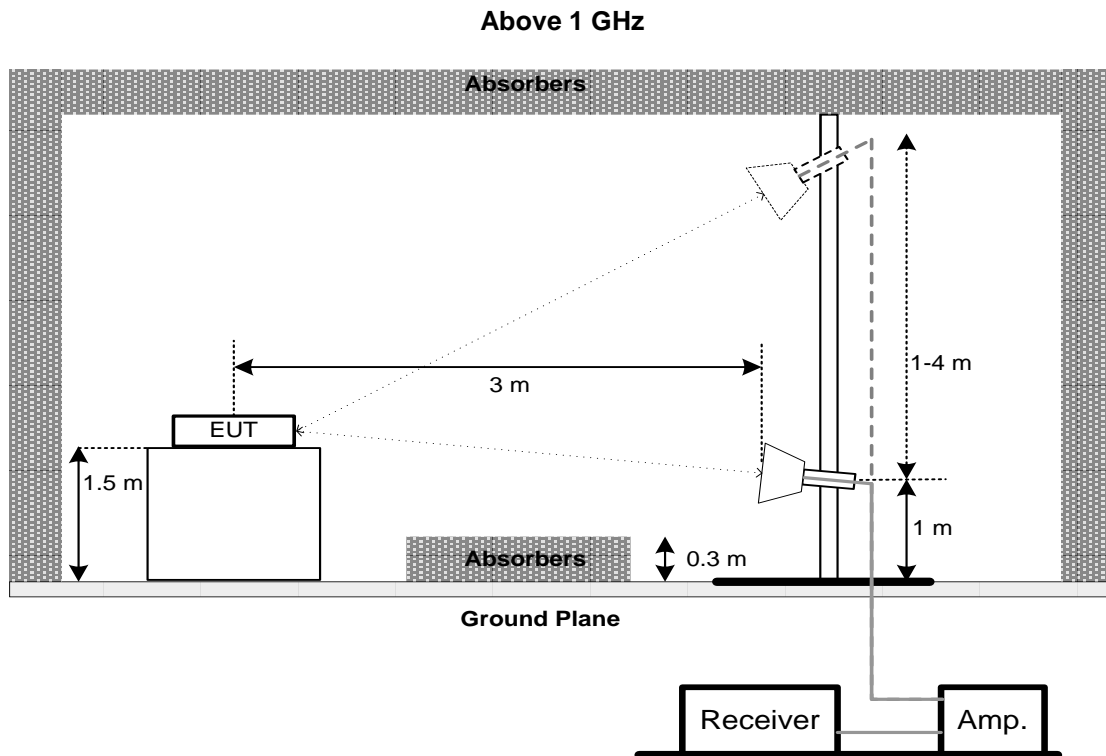
5.4 TEST SETUP

9 kHz to 30 MHz



30 MHz to 1 GHz





5.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS - 9 KHZ TO 30 MHZ

Please refer to the APPENDIX B.

Remark:

- (1) Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB).
- (2) Limit line = specific limits (dBuV) + distance extrapolation factor.

5.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX C.

5.8 TEST RESULTS - ABOVE 1000 MHZ

Please refer to the APPENDIX D.

6. 20 DB SPECTRUM BANDWIDTH MEASUREMENT

6.1 LIMIT

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

6.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Span Frequency	> 20dB Bandwidth
RBW	10 kHz
VBW	10 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX E.

7. TIMING TESTING

7.1 LIMIT

Devices operated under the provisions of this paragraph shall be provided with a means for automatically limiting operation so that the duration of each transmission shall not be greater than one second and the silent period between transmissions shall be at least 30 times the duration of the transmission but in no case less than 10 seconds.

7.2 TEST PROCEDURE

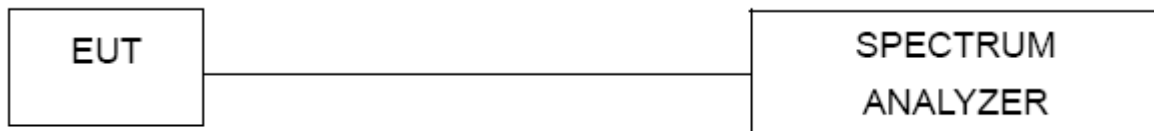
- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Span Frequency	Zero Span
RBW	1 MHz
VBW	1 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	On Time: 50s Off Time: 50s

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULTS

Please refer to the APPENDIX F.

8. MEASUREMENT INSTRUMENTS LIST

AC Power Line Conducted Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Line Impedance Stabilisation Network	Schwarzbeck	NNLK 8129	598	Aug. 21, 2025
2	TWO-LINE V-NETWORK	R&S	ENV216	101340	Jul. 04, 2026
3	Test Cable	emci	EMCRG400-BM-N M-10000	N/A	Mar. 17, 2026
4	EMI Test Receiver	R&S	ESR3	100082	Dec. 22, 2025
5	50Ω coaxial switch	Anritsu	MP59B	6201750902	Jan. 18, 2026
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Loop Antenna	EMCI	EMCI LPA600	275	Mar. 8, 2026
2	MXE EMI Receiver	Keysight	N9038A	MY56400088	Jan. 18, 2026
3	Measurement Software	Farad	EZ-EMC Ver.NB-03A1	N/A	N/A
4	Pre-Amplifier	emci	EMC9135	980401	Jan. 18, 2026

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	emci	VULB 9168	1467	Mar. 7, 2026
2	Pre-Amplifier	emci	EMC9135	980401	Jan. 18, 2026
3	MXE EMI Receiver	Keysight	N9038A	MY56400088	Jan. 18, 2026
4	Test Cable	emci	EMC104-SM-SM-7 000	181020	Feb. 27, 2026
5	Test Cable	emci	RWP50-4.6A-SMS M-1M	20200928 002	Feb. 27, 2026
6	Test Cable	emci	EMC104-SM-SM-2 500	170618	Feb. 27, 2026
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1	N/A	N/A

Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double-Ridged Waveguide Horn Antenna	ETS-Lindgren	BBHA 9120D	9120D-1817	May. 7, 2026
2	Pre-Amplifier	emci	EMC051845SE	980725	Jul. 04, 2026
3	EXA Spectrum Analyzer	Keysight	N9010A	MY56480579	Jan. 18, 2026
4	Test Cable	emci	EMC104-SM-SM-7000	181020	Feb. 27, 2026
5	Test Cable	emci	RWP50-4.6A-SMS M-1M	20200928 002	Feb. 27, 2026
6	Test Cable	emci	EMC104-SM-SM-2500	170618	Feb. 27, 2026
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1	N/A	N/A

20 dB Spectrum Bandwidth & Timing Testing					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY56480545	Jul. 04, 2026
2	BTL Conducted Test	BTL	20250107	N/A	N/A

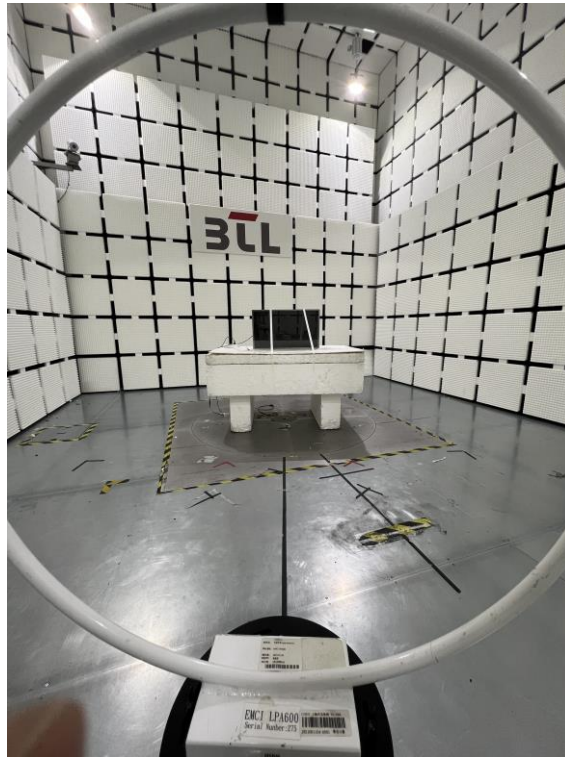
Remark "N/A" denotes no model name, serial no. or calibration specified.

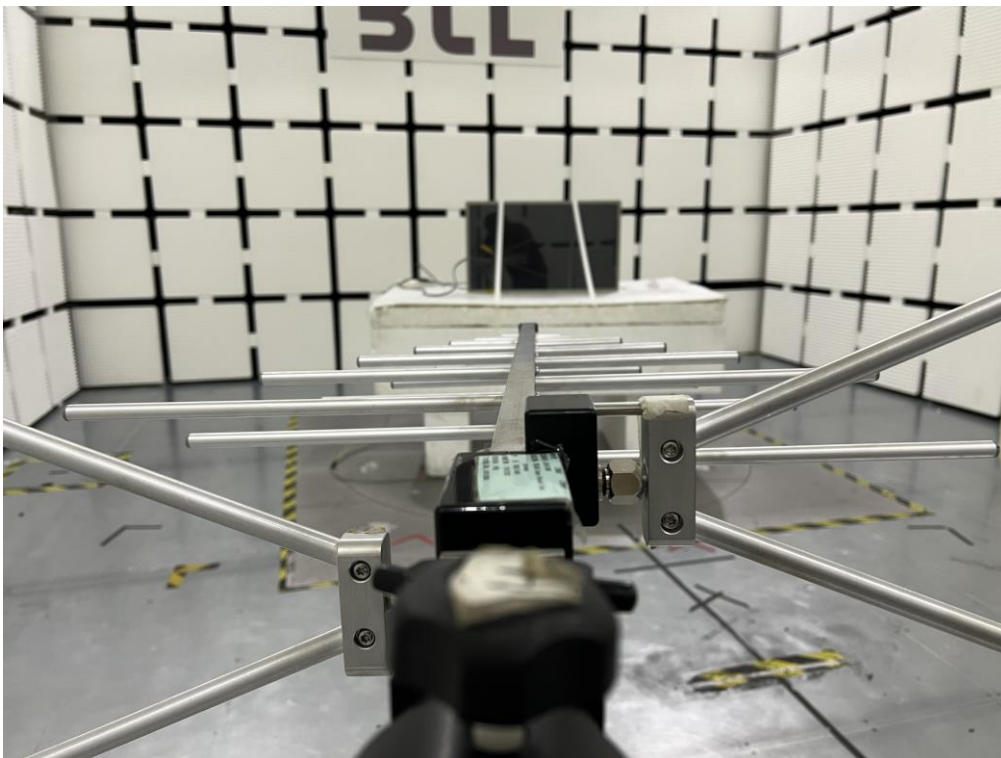
All calibration period of equipment list is one year.

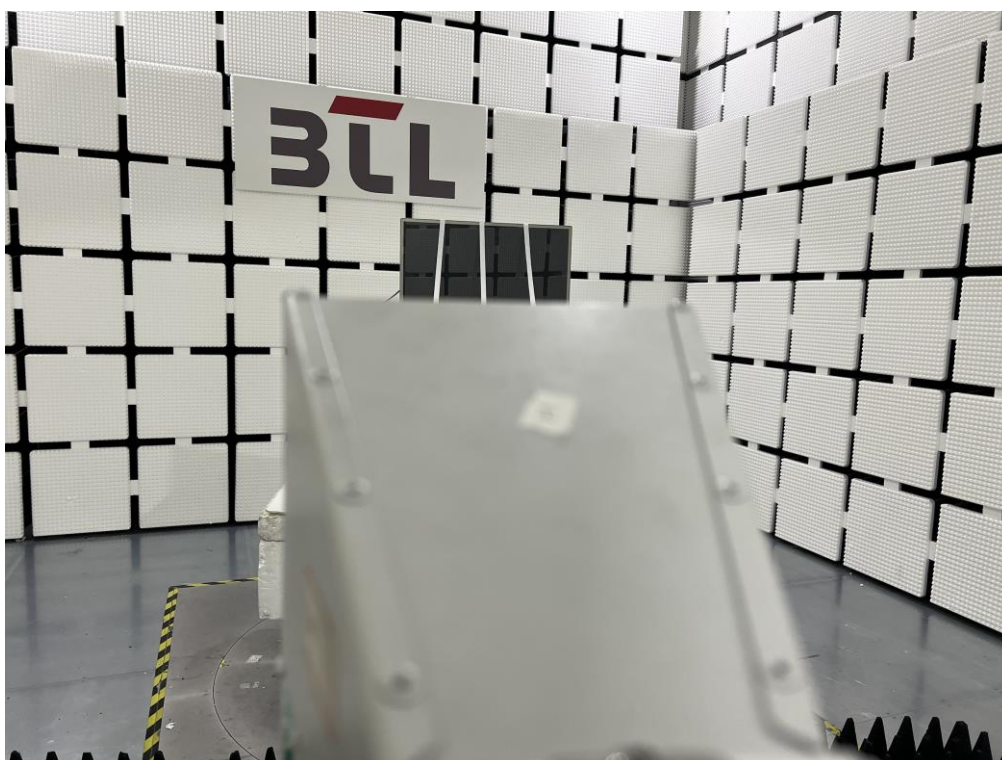
9. EUT TEST PHOTO

AC Power Line Conducted Emissions



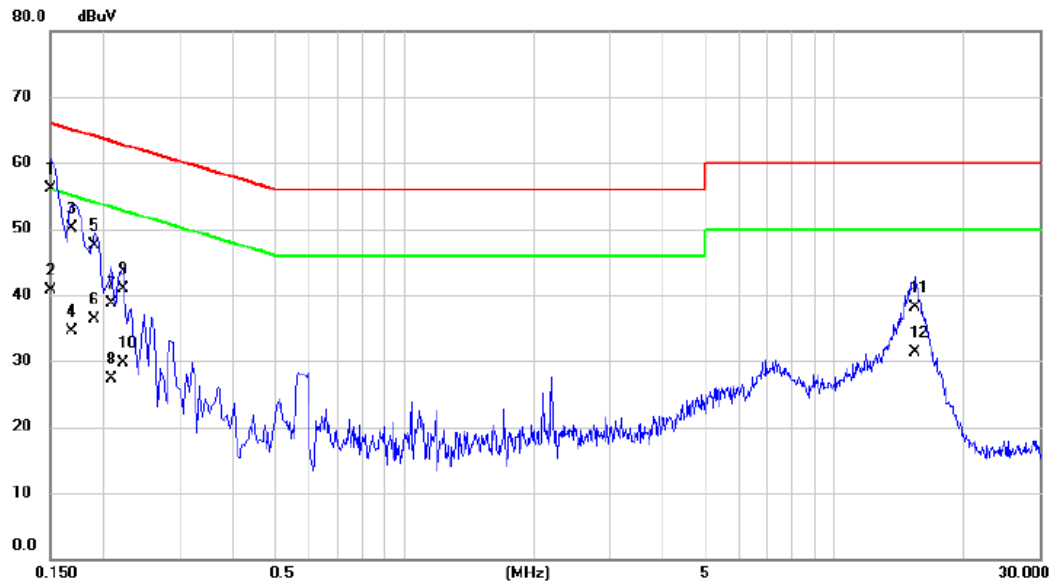
Radiated Emissions Test Photos**9 kHz to 30 MHz**

Radiated Emissions Test Photos**30 MHz to 1 GHz**

Radiated Emissions Test Photos**Above 1 GHz**

APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode	TX Mode_433.3MHz	Phase	Line
-----------	------------------	-------	------



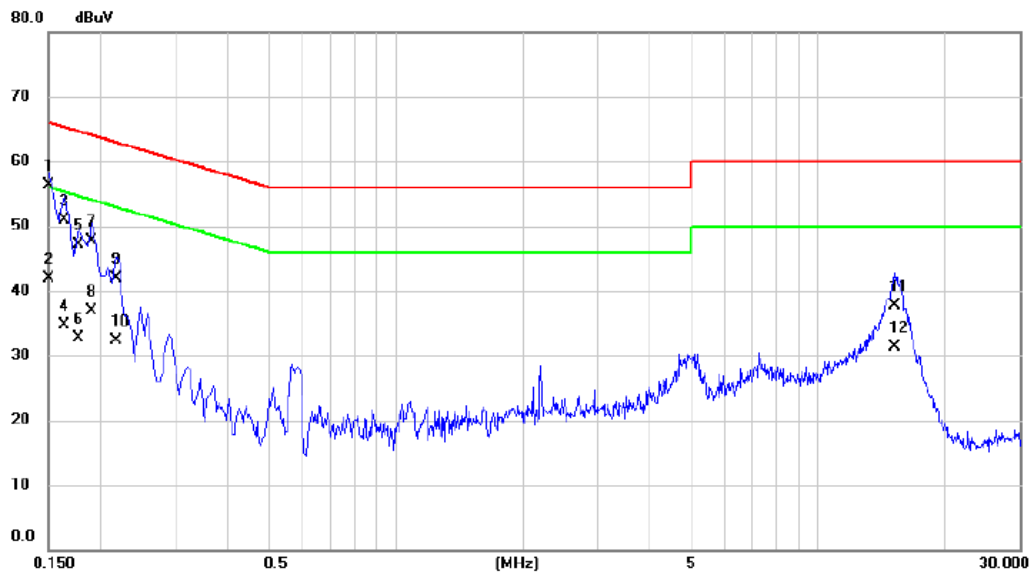
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1500	46.60	9.56	56.16	66.00	-9.84	QP	
2		0.1500	31.10	9.56	40.66	56.00	-15.34	AVG	
3		0.1680	40.50	9.57	50.07	65.06	-14.99	QP	
4		0.1680	25.00	9.57	34.57	55.06	-20.49	AVG	
5		0.1905	38.00	9.57	47.57	64.01	-16.44	QP	
6		0.1905	26.80	9.57	36.37	54.01	-17.64	AVG	
7		0.2085	29.10	9.57	38.67	63.26	-24.59	QP	
8		0.2085	17.70	9.57	27.27	53.26	-25.99	AVG	
9		0.2220	31.40	9.57	40.97	62.74	-21.77	QP	
10		0.2220	20.20	9.57	29.77	52.74	-22.97	AVG	
11		15.3960	27.60	10.42	38.02	60.00	-21.98	QP	
12		15.3960	20.90	10.42	31.32	50.00	-18.68	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode_433.3MHz	Phase	Neutral
-----------	------------------	-------	---------



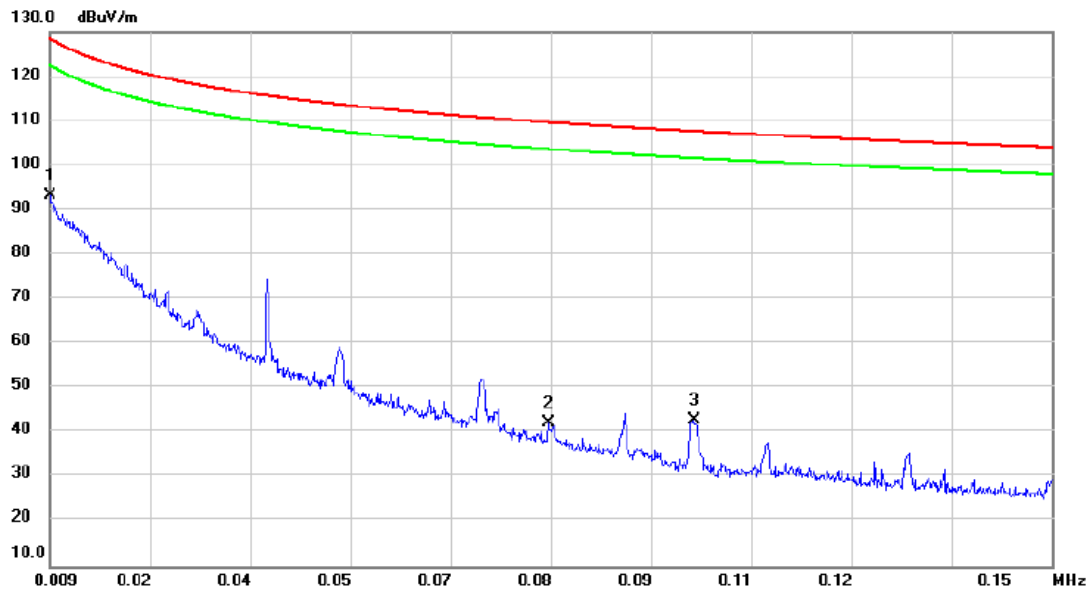
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1500	46.60	9.63	56.23	66.00	-9.77	QP	
2		0.1500	32.30	9.63	41.93	56.00	-14.07	AVG	
3		0.1635	41.20	9.64	50.84	65.28	-14.44	QP	
4		0.1635	25.10	9.64	34.74	55.28	-20.54	AVG	
5		0.1770	37.40	9.64	47.04	64.63	-17.59	QP	
6		0.1770	23.00	9.64	32.64	54.63	-21.99	AVG	
7		0.1905	38.00	9.64	47.64	64.01	-16.37	QP	
8		0.1905	27.20	9.64	36.84	54.01	-17.17	AVG	
9		0.2175	32.20	9.64	41.84	62.91	-21.07	QP	
10		0.2175	22.60	9.64	32.24	52.91	-20.67	AVG	
11		15.1845	27.10	10.54	37.64	60.00	-22.36	QP	
12		15.1845	20.80	10.54	31.34	50.00	-18.66	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

Test Mode	TX Mode_433.3MHz	Polarization	Ant 0°
-----------	------------------	--------------	--------

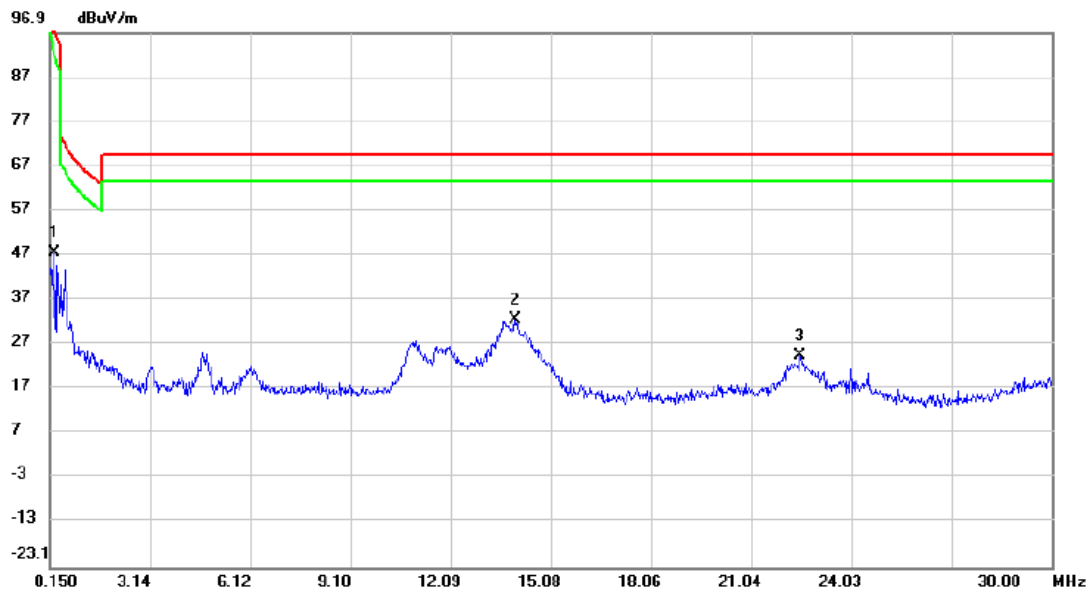


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	0.0090	23.29	69.99	93.28	128.52	-35.24	AVG	
2		0.0792	8.66	33.56	42.22	109.63	-67.41	AVG	
3		0.0997	14.04	28.73	42.77	107.63	-64.86	QP	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode_433.3MHz	Polarization	Ant 0°
-----------	------------------	--------------	--------



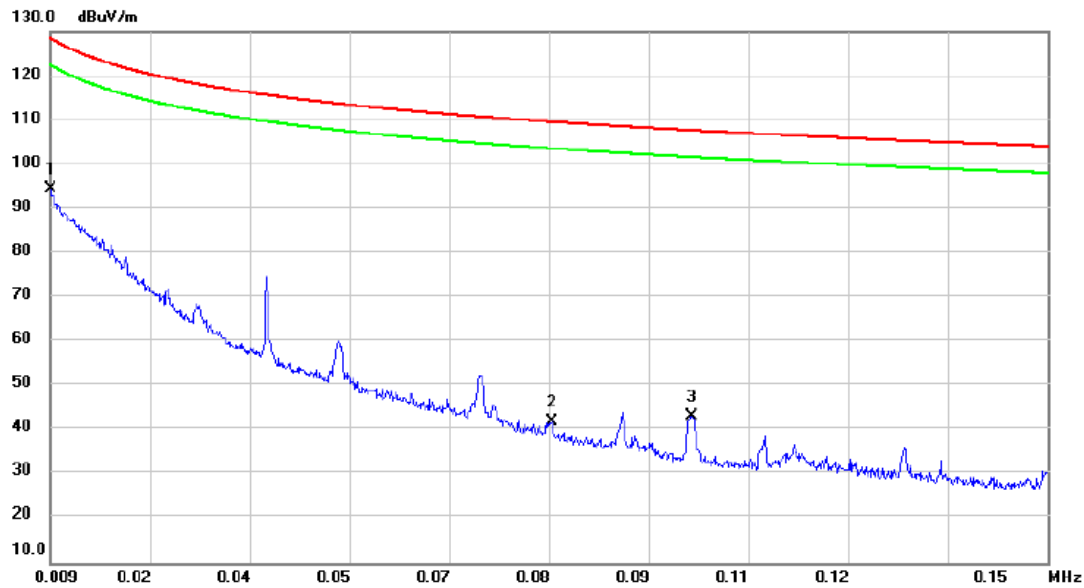
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		0.2993	34.35	13.22	47.57	98.08	-50.51	AVG	
2	*	14.0004	35.09	-2.67	32.42	69.54	-37.12	QP	
3		22.5077	30.01	-5.68	24.33	69.54	-45.21	QP	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode_433.3MHz	Polarization	Ant 90°
-----------	------------------	--------------	---------



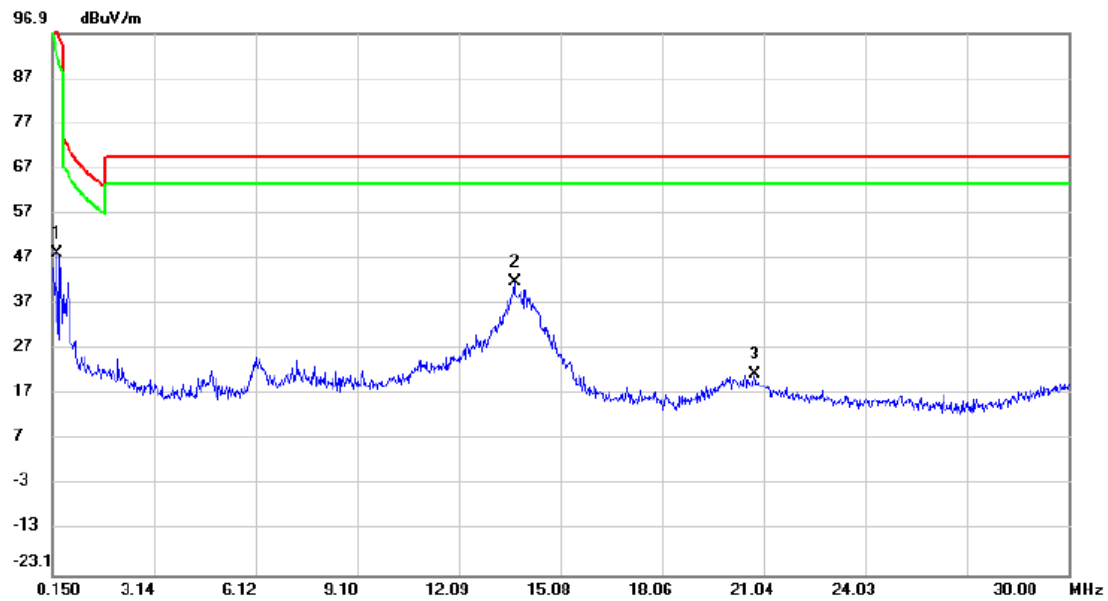
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	0.0090	24.56	69.99	94.55	128.52	-33.97	AVG	
2		0.0800	8.55	33.36	41.91	109.54	-67.63	AVG	
3		0.0998	14.50	28.71	43.21	107.62	-64.41	QP	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode_433.3MHz	Polarization	Ant 90°
-----------	------------------	--------------	---------



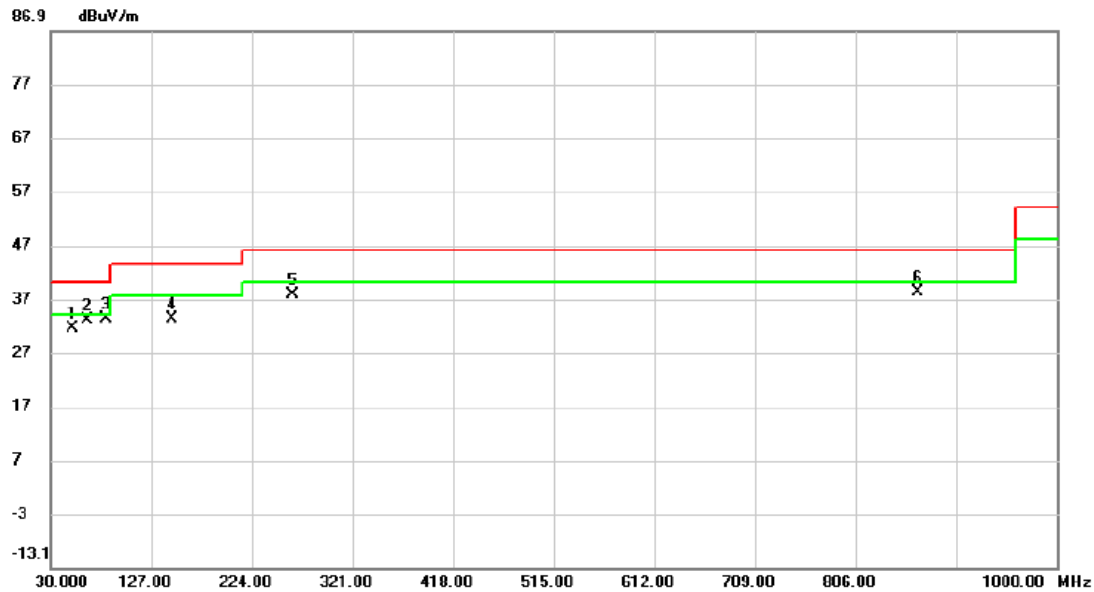
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		0.2993	35.03	13.22	48.25	98.08	-49.83	AVG	
2	*	13.7317	44.51	-2.56	41.95	69.54	-27.59	QP	
3		20.7764	26.06	-4.63	21.43	69.54	-48.11	QP	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

Test Mode	TX Mode_433.3MHz	Polarization	Vertical
-----------	------------------	--------------	----------

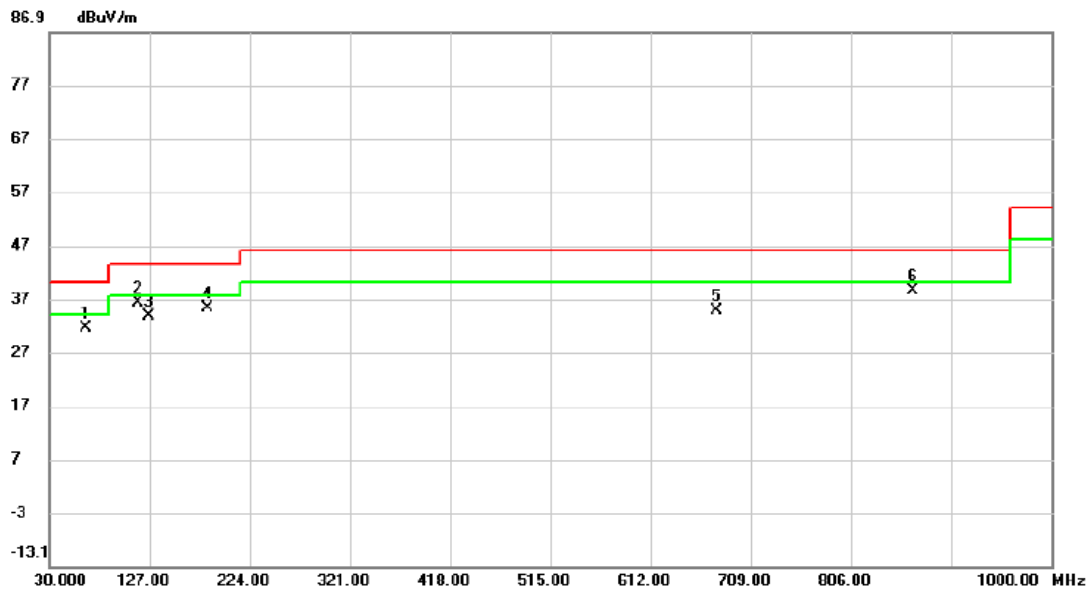


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		51.3400	48.71	-17.18	31.53	40.00	-8.47	peak	
2		64.9200	51.37	-18.36	33.01	40.00	-6.99	peak	
3	*	83.3500	55.40	-22.09	33.31	40.00	-6.69	peak	
4		146.8850	50.10	-16.84	33.26	43.50	-10.24	peak	
5		262.8000	54.98	-17.16	37.82	46.00	-8.18	peak	
6		866.6250	44.20	-6.00	38.20	46.00	-7.80	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.
- (3) About the duty cycle correction factor calculated, please refer to the Section 3.3.

Test Mode	TX Mode_433.3MHz	Polarization	Horizontal
-----------	------------------	--------------	------------



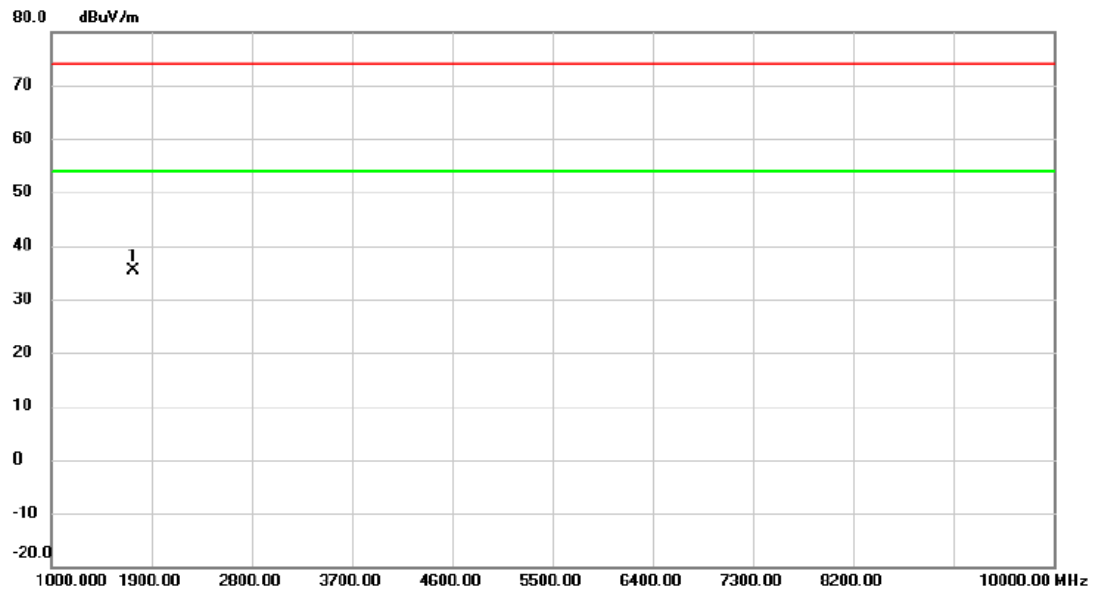
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		64.9200	49.93	-18.36	31.57	40.00	-8.43	peak	
2	*	115.8450	55.99	-19.59	36.40	43.50	-7.10	peak	
3		126.5150	52.19	-18.51	33.68	43.50	-9.82	peak	
4		182.7750	53.69	-18.32	35.37	43.50	-8.13	peak	
5		675.5350	42.90	-8.10	34.80	46.00	-11.20	peak	
6		866.6250	44.64	-6.00	38.64	46.00	-7.36	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.
- (3) About the duty cycle correction factor calculated, please refer to the Section 3.3.

APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ

Test Mode	TX Mode_433.3MHz	Polarization	Vertical
-----------	------------------	--------------	----------



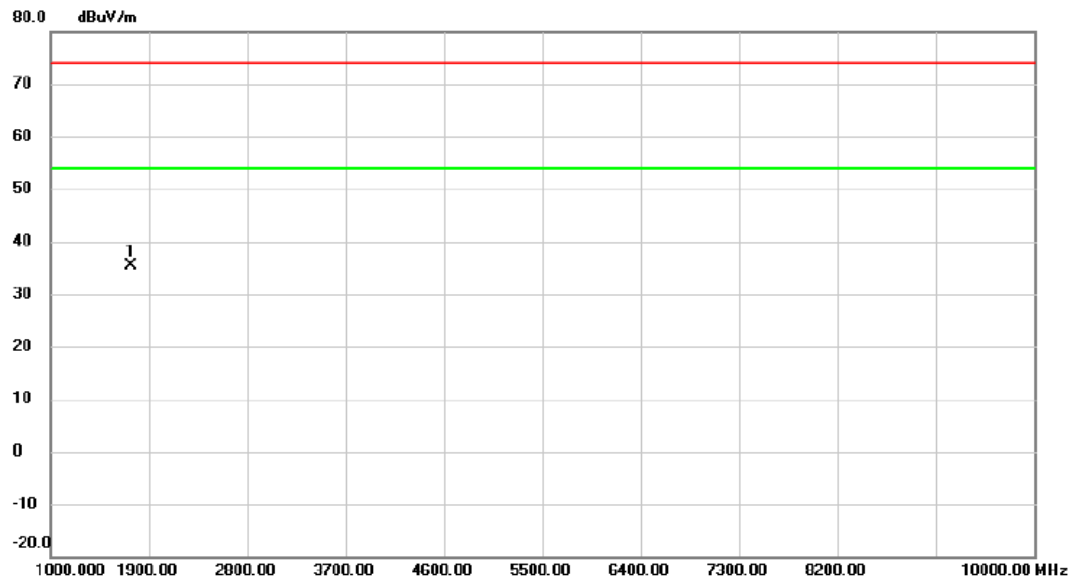
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector	Comment
1	*	1732.000	41.93	-6.45	35.48	74.00	-38.52	peak	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode_433.3MHz	Polarization	Horizontal
-----------	------------------	--------------	------------



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1 *	1732.000	41.73	-6.45	35.28	74.00	-38.72	peak	

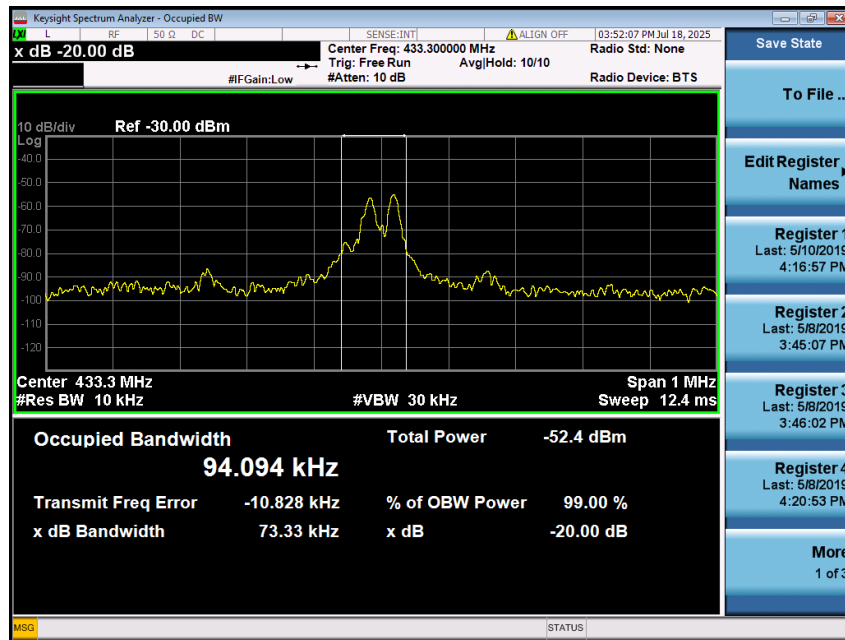
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

APPENDIX E - 20 DB SPECTRUM BANDWIDTH

Test Mode	TX Mode_433.3MHz
-----------	------------------

Frequency (MHz)	20 dB Bandwidth (MHz)	Limit (MHz)	Result
433.3	0.073	1.0833	PASS



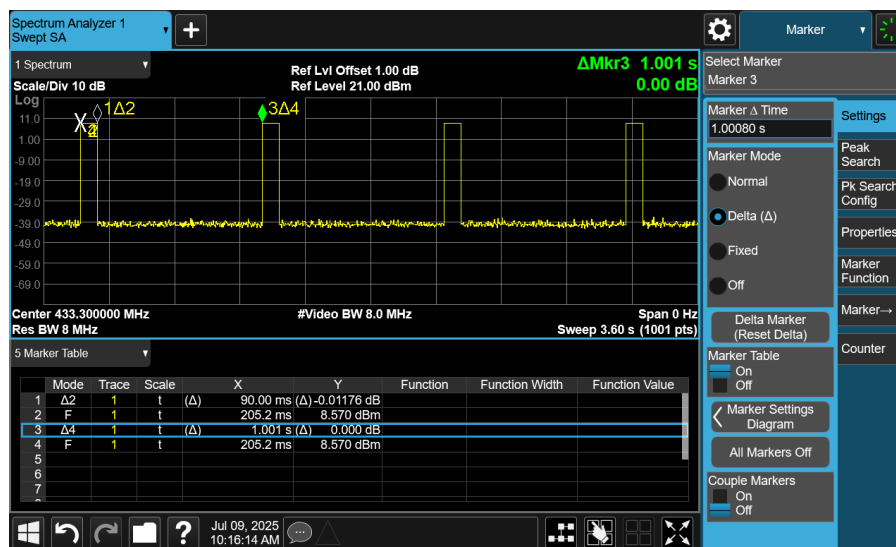
APPENDIX F - TIMING TESTING

Test Mode	TX Mode_433.3MHz
-----------	------------------

Frequency (MHz)	On Time (Sec)	Limit (Sec)
433.3	0.09	≤1

Frequency (MHz)	Off Time (Sec)	Limit (Sec)
433.3	0.911	≥10

Frequency (MHz)	On Time*30 (Sec)	Limit (Sec)
433.3	2.7	≤15.42



End of Test Report