TEST REPORT

of

FCC Part 15 Subpart C

☒ New Application; ☐ Change ID Application; ☐ Class II PC

Product :	**Access Control Card Reader**
Brand:	**AUTEC**
Model:	**XMP-TMC2150**
Series Model:	**XMP-TMC2150-xxx-xx-xx; XMP-TMC2160-xxx-xx-xx (x=0~9 or x=A~Z)**
Model Difference:	**For market segmentation**
FCC ID:	**2A6AAXMP2150**
FCC Rule Part:	**§15.225, Cat: DXX**
Applicant:	**Autec Gesellschaft fuer Automationstechnik mbH**
Address:	**D-55234 Framersheim Bahnhofstrasse 57 + 61B, Germany**

Test Performed by:

International Standards Laboratory Corp. LT Lab.
TEL: +886-3-263-8888 FAX: +886-3-263-8899
No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist., Tao Yuan City 325, Taiwan

Report No.: **ISL-22LR0237FCC**
Issue Date :**2023/01/04**

Testing Laboratory
0997

VERIFICATION OF COMPLIANCE

Applicant:	Autec Gesellschaft fuer Automationstechnik mbH
Product Description:	Access Control Card Reader
Brand Name:	AUTEC
Model No.:	XMP-TMC2150
Series Model:	XMP-TMC2150-xxx-xx-xx; XMP-TMC2160-xxx-xx-xx (x=0~9 or x=A~Z)
Model Difference:	For market segmentation
FCC ID:	2A6AAXMP2150
Date of test:	2022/12/14~2022/12/30
Date of EUT Received:	2022/12/14

We hereby certify that:

All the tests in this report have been performed and recorded in accordance with the standards described above and performed by an independent electromagnetic compatibility consultant, International Standards Laboratory Corp.

The test results contained in this report accurately represent the measurements of the characteristics and the energy generated by sample equipment under test at the time of the test. The sample equipment tested as described in this report is in compliance with the limits of above standards.

Test By:	Weitin Chen	Date:	2023/01/04
	Weitin Chen / Senior Engineer		
Prepared By:	Gigi yeh	Date:	2023/01/04
	Gigi Yeh / Senior Engineer		
Approved By:	Jerry Liu	Date:	2023/01/04
	Jerry Liu / Assistant Manager		

Version

Version No.	Date	Description
00	2023/01/04	Initial creation of document

Uncertainty of Measurement

Parameter	Uncertainty (k=2)
Conducted Emission (AC power line)	±0.852 dB
Spurious emissions, radiated	±3.46 dB
RF power, conducted	±1.386 dB
Power Density	±1.432 dB
RF Frequency	±0.00298%
DC Voltage	±0.808%

Table of Contents

1 General Information

1.1 Product Description

General:

General Information	
Product Name:	Access Control Card Reader
Brand Name:	AUTEC
Model Name:	XMP-TMC2150
Series Model:	XMP-TMC2150-xxx-xx-xx; XMP-TMC2160-xxx-xx-xx (x=0~9 or x=A~Z)
Model Difference:	For market segmentation
Temperature Range	-20°C to +60°C
Power Supply:	12 V to 24 V DC
Information	
Frequency Range:	13.56MHz
Max Output Power:	68.86 dBuV/m at 3m
Channel number:	1 channels
Modulation type:	ASK
Test SW Version:	NA
RFpower setting:	default
Antenna Type	PCB Antenna, -0.5 dBi max

The Test report is applied for NFC.

Remark: The above DUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID:2A6AAXMP2150** filing to comply with Section 15.225 of the FCC Part 15, Subpart C Rules.

1.3 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI 63.4: 2014. Radiated testing was performed at an antenna to EUT distance 3 meters. Radiated testing was performed at an antenna to EUT distance 3 meters.

1.4 Test Facility

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of **International Standards Laboratory Corp.** <LT Lab.> No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist., Tao Yuan City 325, Taiwan which are constructed and calibrated to meet the FCC requirements in documents ANSI 63.4: 2014. FCC Registration Number is: TW0997, Canada Registration Number: 4067B-4.

1.5 Special Accessories

Not available for this EUT intended for grant.

1.6 Equipment Modifications

Not available for this EUT intended for grant.

2 System Test Configuration

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

The EUT (Transmitter) was tested with a test program to fix the Tx frequency that was for the purpose of the measurements. For more information please see test data and APPENDIX 1 for set-up photographs.

2.3 Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 7 and 13 of ANSI C63.4: 2014.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and Average detector mode.

2.3.2 Radiated Emissions

The EUT is a placed on as turn table which is 0.8 m/1.5m(Frequency above 1GHz) above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 6 and 11 of ANSI C63.10: 2013.

2.4 Limitation

(1) Conducted Emission

According to section 15.207(a) Conducted Emission Limits is as following.

Frequency range MHz	Limits dB (uV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Note 1.The lower limit shall apply at the transition frequencies 2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

(2) Radiated Emission

1. The field strength of any emission within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters. (124dBuV/m at 3m)
2. Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters. (90.47dBuV/m at 3m.)
3. Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters. (80.5dBuV/m at 3m.)
4. The field strength of any emissions appearing outside of the 13.110-14.010 MHz shall not exceed the general radiated emission limits in section 15.209(Intentional Radiators general limit).as below.

Frequency (MHz)	Field strength μV/m	Distance (m)	Field strength at 3m dBμV/m
1.705-30	30	2 30	69.54
30-88	100	3	40
88-216	150	3	43.5
216-960	200	3	46
Above 960	500	3	54

Remark: 1. Emission level in dBuV/m=20 log (uV/m)

2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of §15.205
4. Emission spurious frequency which appearing within the Restricted Bands specified in provision of §15.205, then the general radiated emission limits in § 15.209 apply.
5.

Limitation Calculation:

15,848 microvolts/meter at 30 meters =20 log (15,848) dBuV/m at 30m = 84 dBuV/m at 30m= 124 dBuV/m at 3m

30m to 3m distance correction factor: 40 log (30/3) = 40 dB

(3) Frequency Tolerance

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

2.5 Configuration of Tested System

Fig. 2-1 Configuration of Tested System

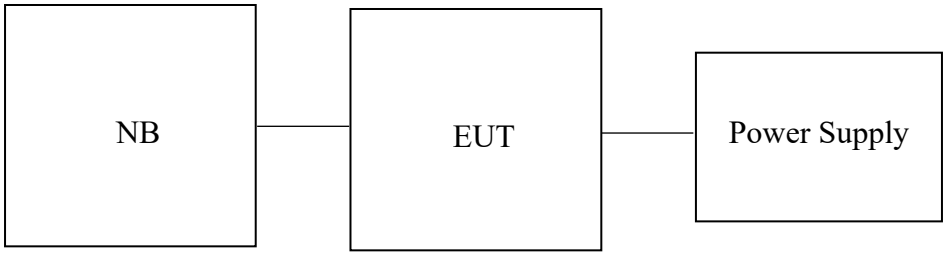


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1	Power Supply	MRL	TH-3203	NA	NA	100cm
2	NB	ASUS	NA	NA	150cm	200cm

3 Summary of Test Results

FCC Rules	Description Of Test	Result
§15.207	Conducted Emission	Compliant
§15.225 (a)-(d)	Radiated Emission	Compliant
§15.225 (e)	Frequency Stability	Compliant

4 Description of test modes

The EUT was tested when placed vertically on the table and the EUT stay in continuous transmitting mode.

After testing and evaluation at both 12V and 24V, the 12V test results are used to represent the worst-case scenario

5 Conducted Emissions Test

5.1 Measurement Procedure:

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

5.2 Test SET-UP (Block Diagram of Configuration)

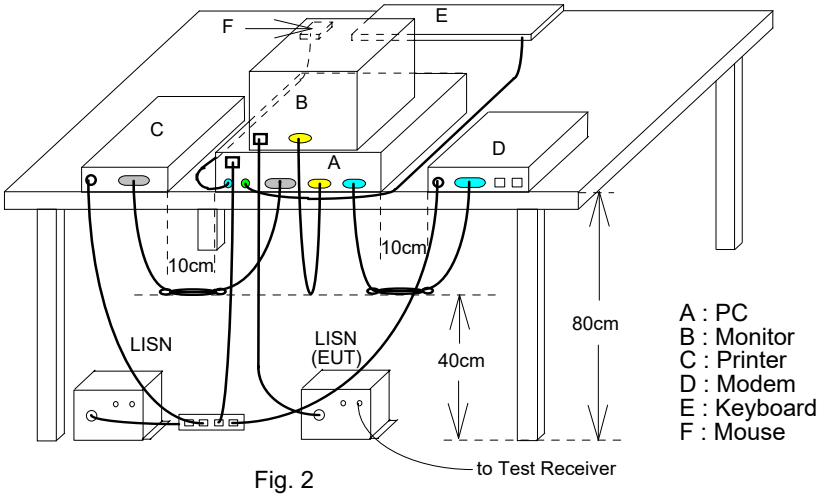
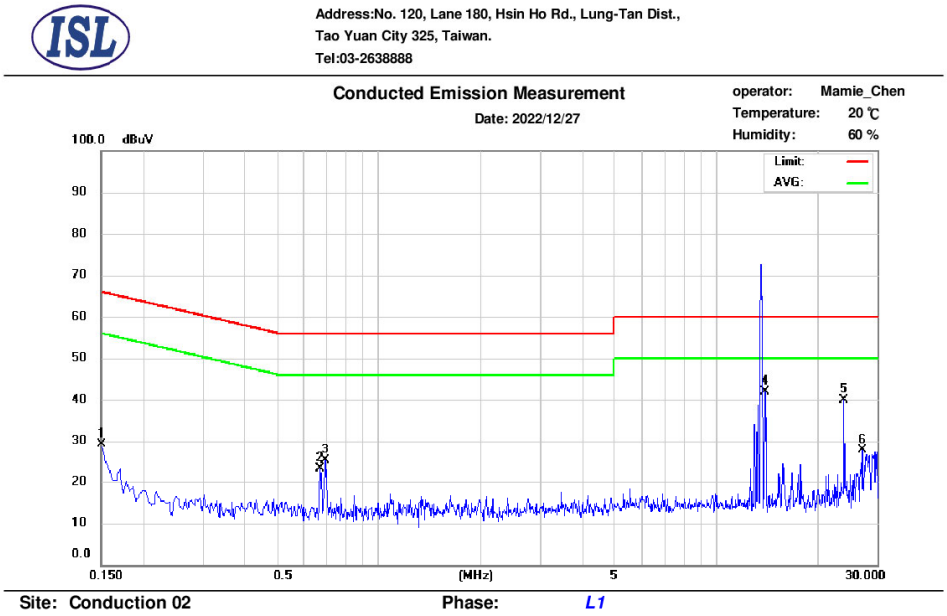


Fig. 2

5.3 Measurement Equipment Used:

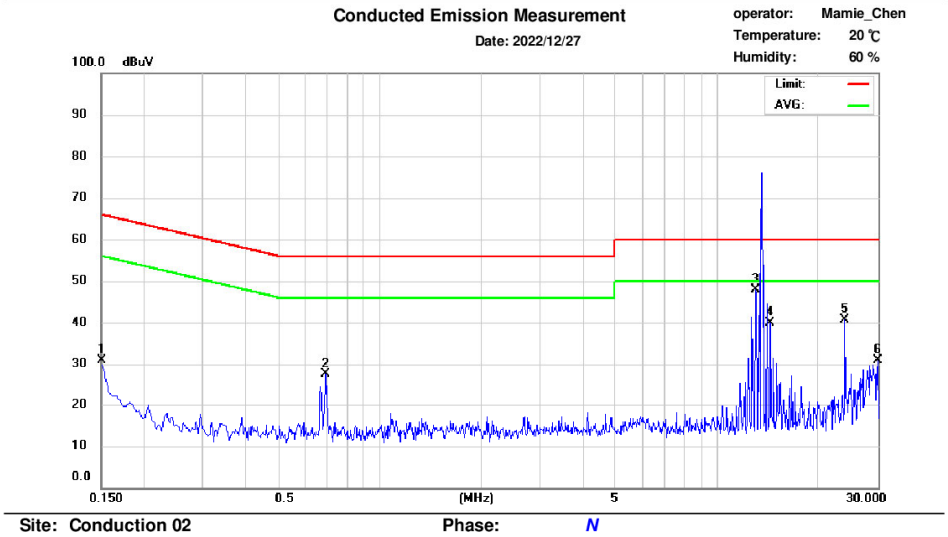
Location	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conduction 02	EMI Receiver 14	ROHDE& SCHWARZ	ESCI	101034	05/25/2022	05/25/2023
Conduction 02	Conduction 02-1 Cable	WOKEN	CFD 300-NL	Conduction 02 -1	10/11/2022	10/11/2023
Conduction 02	LISN 26	R&S	ENV216	102378	12/08/2022	12/08/2023
Conduction 02	LISN 21	R&S	ENV216	101476	07/20/2022	07/20/2023
Conduction 02	ISN T4 07	Teseq GmbH	ISN T400A	30449	07/28/2022	07/28/2023
Conduction 02	ISN T8 10	TESEQ	ISN T800	42773	08/05/2022	08/05/2023
Conduction 02	ISN T8 CAT6A_01	SCHWARZBECK	NTFM 8158	8158 0123	01/25/2022	01/25/2023
Conduction 02	CDN ISN ST08A_1	Teseq GmbH	CDN ISN ST08A	43352	10/04/2022	10/04/2023
Conduction 02	Capacitive Voltage Probe 01	SCHAFFNER	CVP 2200A	18711	02/23/2022	02/23/2023
Conduction 02	Current Probe	SCHAFFNER	SMZ 11	18030	02/23/2022	02/23/2023

5.4 Measurement Result:



No.	Frequency (MHz)	QP_R (dBuV)	AVG_R (dBuV)	Correct Factor (dB)	QP Emission (dBuV)	QP Limit (dBuV)	QP Margin (dB)	AVG Emission (dBuV)	AVG Limit (dBuV)	AVG Margin (dB)
1	0.150	18.52	14.80	9.64	28.16	66.00	-37.84	24.44	56.00	-31.56
2	0.670	13.20	12.66	9.66	22.86	56.00	-33.14	22.32	46.00	-23.68
3	0.694	13.73	10.69	9.66	23.39	56.00	-32.61	20.35	46.00	-25.65
4	13.982	27.41	2.05	9.91	37.32	60.00	-22.68	11.96	50.00	-38.04
5	23.962	22.98	12.50	9.91	32.89	60.00	-27.11	22.41	50.00	-27.59
6	27.114	16.68	15.86	9.89	26.57	60.00	-33.43	25.75	50.00	-24.25

Address:No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist.,
Tao Yuan City 325, Taiwan.
Tel:03-2638888



Site: Conduction 02 Phase: *N*

No.	Frequency (MHz)	QP_R (dBuV)	AVG_R (dBuV)	Correct Factor (dB)	QP Emission (dBuV)	QP Limit (dBuV)	QP Margin (dB)	AVG Emission (dBuV)	AVG Limit (dBuV)	AVG Margin (dB)
1	0.150	18.30	14.60	9.63	27.93	66.00	-38.07	24.23	56.00	-31.77
2	0.694	15.29	12.19	9.66	24.95	56.00	-31.05	21.85	46.00	-24.15
3	13.042	29.12	3.16	9.94	39.06	60.00	-20.94	13.10	50.00	-36.90
4	14.406	25.14	1.71	9.95	35.09	60.00	-24.91	11.66	50.00	-38.34
5	23.974	28.51	19.79	10.04	38.55	60.00	-21.45	29.83	50.00	-20.17
6	29.854	12.50	6.88	10.07	22.57	60.00	-37.43	16.95	50.00	-33.05

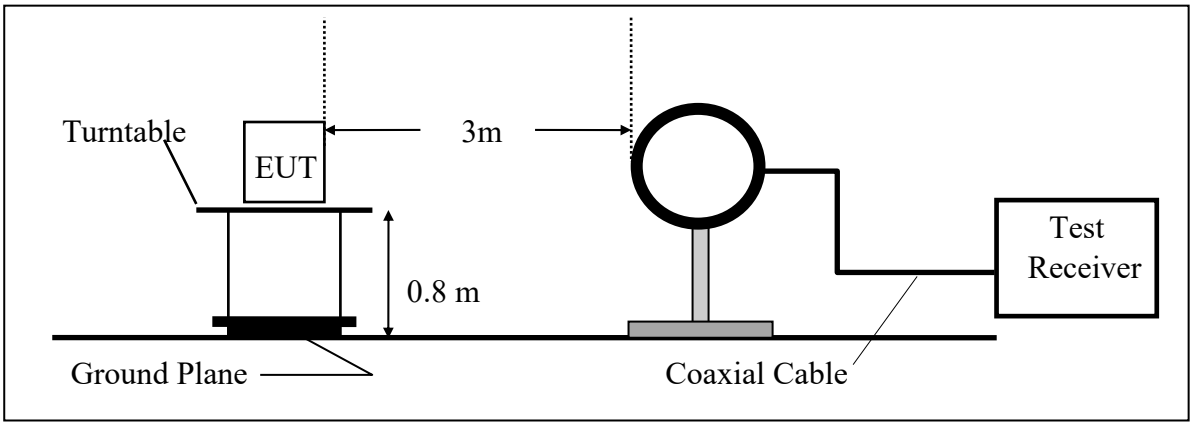
6 Radiated Emission Test

6.1 Measurement Procedure

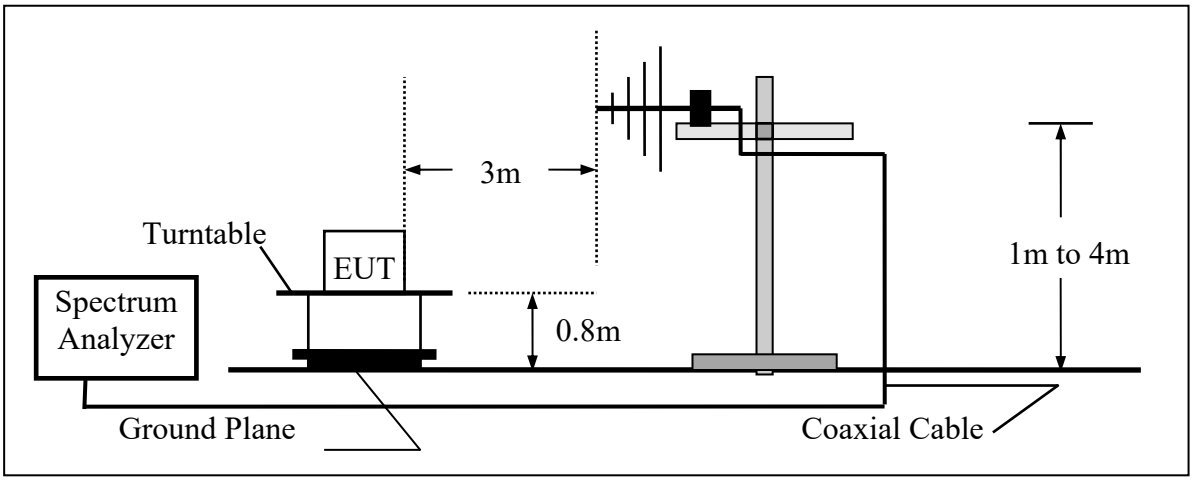
1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measured were complete.

6.2 Test SET-UP (Block Diagram of Configuration)

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



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



6.3 Measurement Equipment Used:

Location Conducted	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Chamber 19	Signal analyzer	R&S	FSV40	101919	08/17/2022	08/17/2023
Chamber 19	EMI Receiver	R&S	ESR3	102461	05/10/2022	05/10/2023
Chamber 19	Loop Antenna	EM	EM-6879	271	10/05/2022	10/05/2023
Chamber 19	Bilog Antenna (30MHz-1GHz)	Schwarzbeck	VULB9168 w 6dB Att.	9168-736	03/09/2022	03/09/2023
Chamber 19	Horn antenna (1GHz-18GHz)	ETS	3117	00218718	10/12/2022	10/12/2023
Chamber 19	Horn antenna (18GHz-26GHz)	Com-power	AH-826	081001	11/24/2022	11/24/2023
Chamber 19	Horn antenna (26GHz-40GHz)	Com-power	AH-640	100A	03/18/2022	03/18/2023
Chamber 19	Preamplifier (9kHz-1GHz)	HP	8447F	3113A04621	06/24/2022	06/24/2023
Chamber 19	Preamplifier (1GHz - 26GHz)	EM	EM01M26G	060681	05/12/2022	05/12/2023
Chamber 19	Preamplifier (26GHz-40GHz)	MITEQ	JS4-26004000-27-5A	818471	05/12/2022	05/12/2023
Chamber 19	RF Cable (100kHz-26.5GHz)	Huber Suhner	Sucoflex 104A	MY1394/4A & 50886/4A	09/02/2022	09/02/2023
Chamber 19	RF Cable (18GHz-40GHz)	HUBER SUHNER	Sucoflex 102	27963/2&37421/2	11/23/2022	11/23/2023
Chamber 19	Signal Generator	Anritsu	MG3692A	20311	12/29/2022	12/29/2023
Chamber 19	Test Software	Audix	E3 Ver:6.120203b	N/A	N/A	N/A

6.4 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier 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	

6.5 Measurement Result

Fundamental Measurement Result

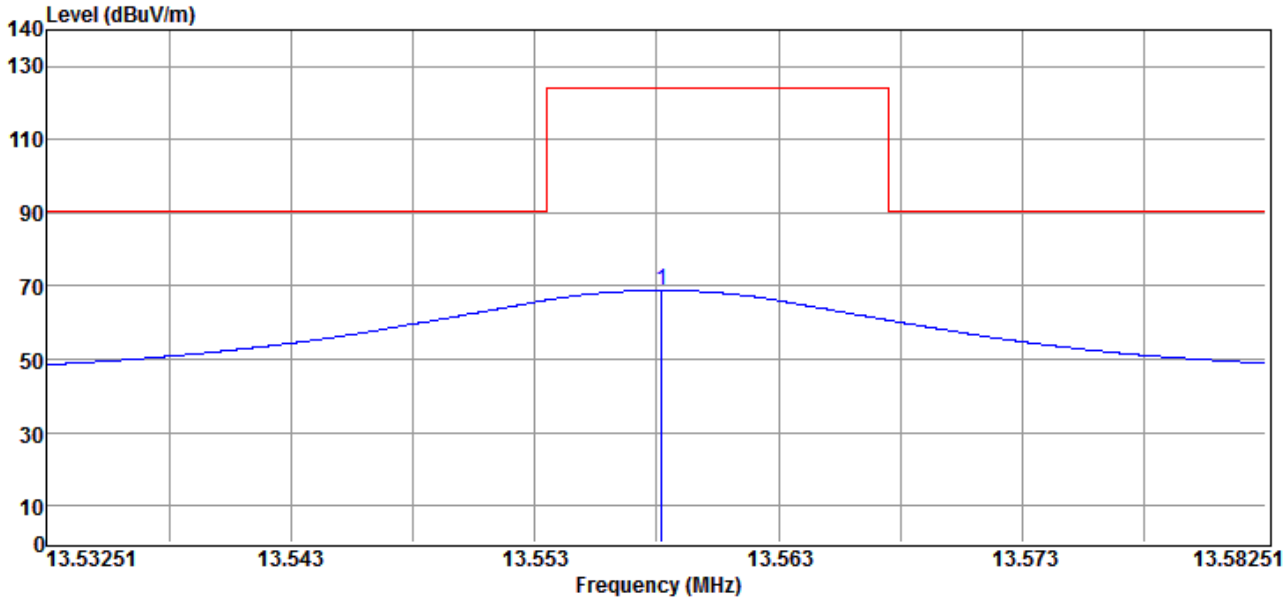
Operation Mode : TX mode
Fundamental Frequency : 13.56 MHz
Temp : 25 ℃
Test Date :2022/12/26
Test By : Weitin
Hum. : 60%

Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
13.56	57.87	10.99	68.86	124.00	-55.14	Peak	VERTICAL
13.56	54.43	10.99	65.42	124.00	-58.58	Peak	HORIZONTAL

Radiated Mask

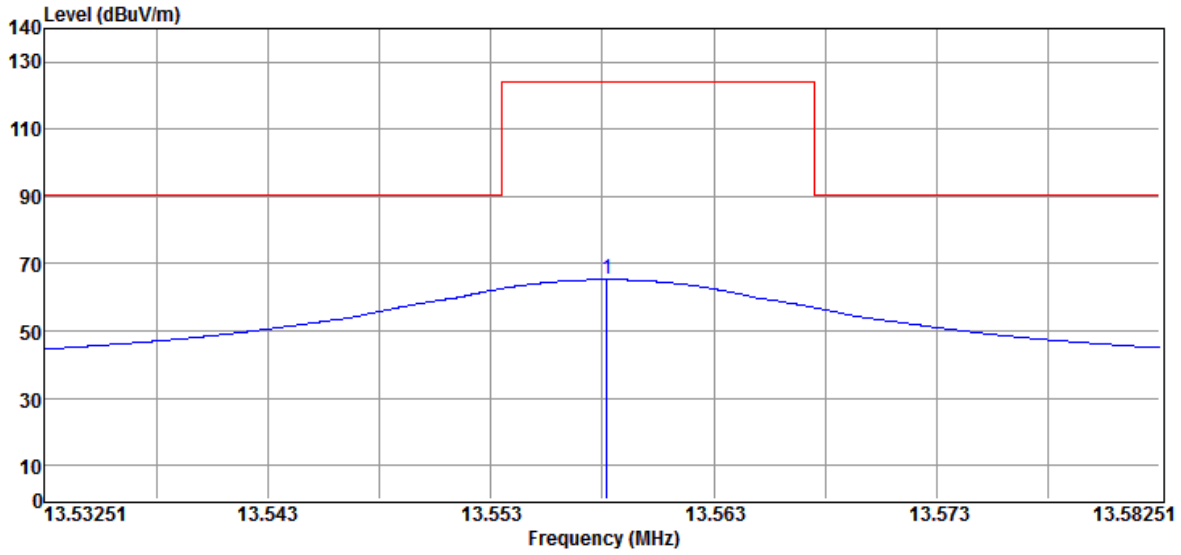
Fundamental Measurement Result

Operation Mode	: MASK	Test Date	:2022/12/26
Fundamental Frequency	: 13.56 MHz	Test By	: Weitin
Temp	: 25 ℃	Hum.	: 60%



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	13.56	57.84	10.99	68.83	124.00	-55.17	Peak	VERTICAL

Operation Mode	: MASK	Test Date	:2022/12/26
Fundamental Frequency	: 13.56 MHz	Test By	: Weitin
Temp	: 25 ℃	Hum.	: 60%



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	13.56	56.75	11.00	67.75	124.00	-56.25	Peak	HORIZONTAL

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode: Transmitting Mode
Test Date: 2021/05/04
Fundamental Frequency: 13.56MHz
Test By: Weitin
Temperature : 25 ℃
Humidity : 65 %

No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	0.43	37.47	19.18	56.65	103.62	-46.97	Peak	VERTICAL
2	1.87	23.57	12.15	35.72	69.54	-33.82	Peak	VERTICAL
3	7.00	18.07	10.76	28.83	69.54	-40.71	Peak	VERTICAL
4	10.45	16.75	11.48	28.23	69.54	-41.31	Peak	VERTICAL
5	20.73	17.98	10.47	28.45	69.54	-41.09	Peak	VERTICAL
6	24.99	17.40	11.59	28.99	69.54	-40.55	Peak	VERTICAL
7	40.67	43.54	-6.26	37.28	40.00	-2.72	Peak	VERTICAL
8	359.80	47.78	-3.35	44.43	46.00	-1.57	Peak	VERTICAL
9	419.94	43.27	-2.11	41.16	46.00	-4.84	Peak	VERTICAL
10	480.08	37.08	-0.68	36.40	46.00	-9.60	Peak	VERTICAL
11	600.36	33.47	1.79	35.26	46.00	-10.74	Peak	VERTICAL
12	779.81	33.82	4.71	38.53	46.00	-7.47	Peak	VERTICAL

Remark:

1 No further spurious emissions detected from the lowest internal frequency and 30MHz.
2 Measuring frequencies from the lowest internal frequency to the 1GHz.
3 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak / QP detector mode.
4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5 The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz, VBW=300kHz.
6 Peak is below the average limit, so that the average result is not measured

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode: Transmitting Mode
Test Date: 2021/05/04
Fundamental Frequency: 13.56MHz
Test By: Weitin
Temperature : 25 ℃
Humidity : 65 %

No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	0.43	36.86	19.18	56.04	103.62	-47.58	Peak	HORIZONTAL
2	2.83	17.30	10.93	28.23	69.54	-41.31	Peak	HORIZONTAL
3	8.11	17.86	11.09	28.95	69.54	-40.59	Peak	HORIZONTAL
4	10.48	16.96	11.47	28.43	69.54	-41.11	Peak	HORIZONTAL
5	21.24	17.59	10.62	28.21	69.54	-41.33	Peak	HORIZONTAL
6	24.99	18.19	11.59	29.78	69.54	-39.76	Peak	HORIZONTAL
7	40.67	42.69	-6.26	36.43	40.00	-3.57	Peak	HORIZONTAL
8	216.24	42.56	-7.77	34.79	46.00	-11.21	Peak	HORIZONTAL
9	336.52	40.05	-3.33	36.72	46.00	-9.28	Peak	HORIZONTAL
10	359.80	44.20	-3.35	40.85	46.00	-5.15	Peak	HORIZONTAL
11	419.94	38.94	-2.11	36.83	46.00	-9.17	Peak	HORIZONTAL
12	600.36	36.13	1.79	37.92	46.00	-8.08	Peak	HORIZONTAL

Remark:

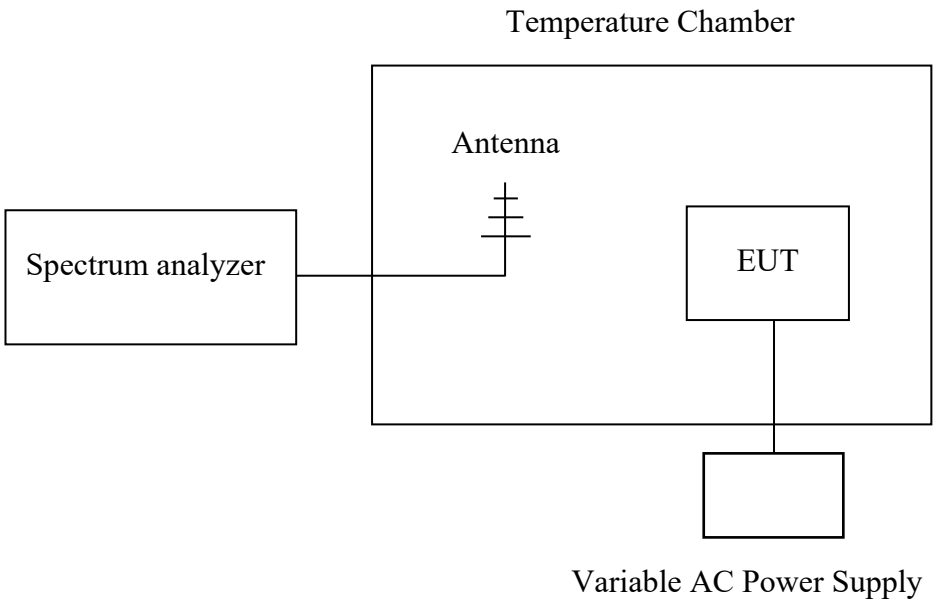
1 No further spurious emissions detected from the lowest internal frequency and 30MHz.
2 Measuring frequencies from the lowest internal frequency to the 1GHz.
3 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak / QP detector mode.
4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5 The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz, VBW=300kHz.
6 Peak is below the average limit, so that the average result is not measured

7 Frequency Tolerance

7.1 Measurement Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set EUT as normal operation
3. Set SPA Center Frequency = fundamental frequency, RBW, VBW= 10kHz, Span =100kHz.
4. Set SPA Max hold. Mark peak.
5.

7.2 Test SET-UP (Block Diagram of Configuration)



7.3 Measurement Equipment Used:

Location Conducted	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conducted	Power Meter	Anritsu	ML2495A	1116010	09/29/2022	09/29/2023
Conducted	Power Sensor	Anritsu	MA2411B	34NKF50	09/29/2022	09/29/2023
Conducted	Power Sensor	DARE	RPR3006W	13I00030SNO33	01/07/2022	01/07/2023
Conducted	Power Sensor	DARE	RPR3006W	13I00030SNO34	01/07/2022	01/07/2023
Conducted	Power Sensor	DARE	RPR3006W	14I00889SNO35	06/29/2022	06/29/2023
Conducted	Power Sensor	DARE	RPR3006W	14I00889SNO36	06/29/2022	06/29/2023
Conducted	Temperature Chamber	KSON	THS-B4H100	2287	05/20/2022	05/20/2023
Conducted	DC Power supply	ABM	8185D	N/A	01/06/2022	01/06/2023
Conducted	AC Power supply	EXTECH	CFC105W	NA	N/A	N/A
Conducted	Spectrum analyzer	Keysight	N9010A	MY56070257	09/28/2022	09/28/2023
Conducted (TS8997)	Wideband Radio Communication Tester	R&S	CMW500	168811	09/22/2022	09/22/2023
Conducted (TS8997)	Signal Generator	R&S	SMB100B	101085	09/21/2022	09/21/2023
Conducted (TS8997)	Vector Signal Generator	R&S	SMBV100A	263246	09/21/2022	09/21/2023
Conducted (TS8997)	Signal analyzer 40GHz	R&S	FSV40	101884	09/22/2022	09/22/2023
Conducted (TS8997)	OSP150 extension unit CAM-BUS	R&S	OSP150	101107	09/21/2022	09/21/2023
Conducted (TS8997)	Test Software	R&S	EMC32 Ver:11.40.00	NA	NA	NA
Conducted (TS8997)	Wideband Radio Communication Tester	R&S	CMW500	168811	09/22/2022	09/22/2023

7.4 Measurement Results

Refer to attached data chart.

A. Temperature Variation

Limit: +/- 0.01%					
Power Supply	Environment	Frequency	Delta (kHz)	Limit (kHz)	**Result**
Vdc	Temperature (℃)	(MHz)			
12	-20	13.560015	-0.002	1.356	**Pass**
	-10	13.560018	0.001		**Pass**
	0	13.560011	-0.006		**Pass**
	10	13.560016	-0.001		**Pass**
	20	13.560017	0.000		**Pass**
	30	13.560018	0.001		**Pass**
	40	13.560016	-0.001		**Pass**
	50	13.560015	-0.002		**Pass**

B. Supply Voltage Variation

Limit: +/- 0.01%					
Power Supply	Environment	Frequency	Delta (kHz)	Limit (kHz)	**Result**
Vdc	Temperature (℃)	(MHz)			
12	20	13.560017	0.000	1.356	**Pass**
13.2	20	13.560016	-0.001		**Pass**
10.8	20	13.560017	0.000		**Pass**