TEST REPORT

of

FCC Part 15 Subpart C

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

Product :	**NFC Reader**
Brand:	**TOSHIBA**
Model:	**3AA05969700**
Series Model:	**N/A**
Model Difference:	**N/A**
FCC ID:	**2AW3T-NFCV01**
FCC Rule Part:	**§15.225**
Applicant:	**Toshiba Global Commerce Solutions, Inc.**
Address:	**3901 South Miami Blvd. Durham, NC 27703, USA**

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-25LR0004FC**
Issue Date : **February 21, 2025**

Testing Laboratory
0997

VERIFICATION OF COMPLIANCE

Applicant:	Toshiba Global Commerce Solutions, Inc.
Product Description:	NFC Reader
Brand Name:	TOSHIBA
Model No.:	3AA05969700
Series Model:	N/A
Model Difference:	N/A
FCC ID：	2AW3T-NFCV01
Date of test:	February 5, 2025 ~ February 21, 2025
Date of EUT Received:	February 5, 2025

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.

Prepared By: Gigi Yeh / Senior Engineer

Test By: Weitin Chen
Weitin Chen / Senior Engineer

Approved By:
Jerry Liu / Manager

Version

Version No.	Date	Description
00	February 21, 2025	Initial creation of document

Uncertainty of Measurement

Parameter	Uncertainty (k=2)
Conducted Emission (AC power line)	± 1.6 dB
Spurious emissions, radiated	± 4.78 dB
RF power, conducted	± 2.20 dB
Power Density	± 2.21 dB
RF Frequency	± 1.43 %
DC Voltage	± 2.12 %

Table of Contents

1 General Information

1.1 Product Description

General Information	
Product Name:	NFC Reader
Brand Name:	TOSHIBA
Model Name:	3AA05969700
Model Difference:	N/A
Temperature Range:	0°C to +50°C
Power Supply:	5Vdc
NFC Information	
Modular:	ST25R3916B
Frequency Range:	Tx:13.56MHz
Max Output Power:	PK: 67.68dBuV/m at 3 m
Modulation type:	ASK
RF power setting:	default
PMN (Product Marketing Name)	NFC Reader
HVIN (Hardware Version Identification Number)	3AA05969700
FVIN (Firmware Version Identification Number)	70000000

Antenna Type	Brand	Model	Peak Gain	Frequency Range	Connector Type
Wire Type antenna	XAC	503600485	≤ -50dBi	13.56	N/A

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 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

NFC mode

Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1	NB	Dell	Shuri N5 13	NA	NA	150cm

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.

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)

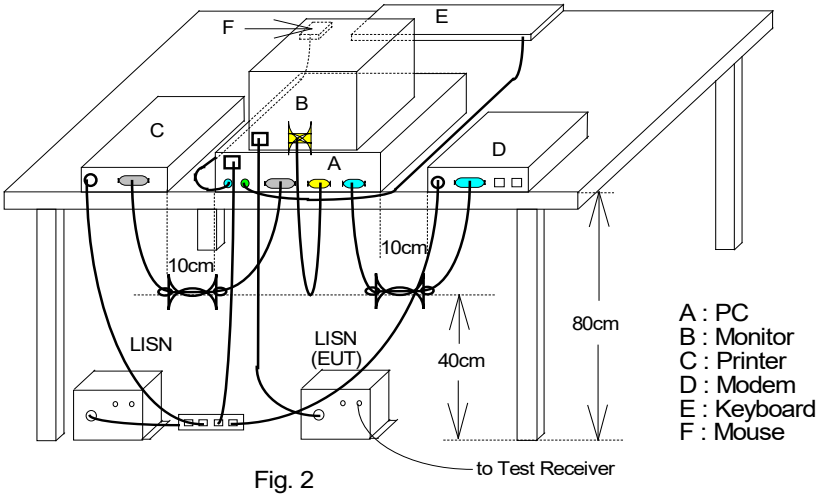


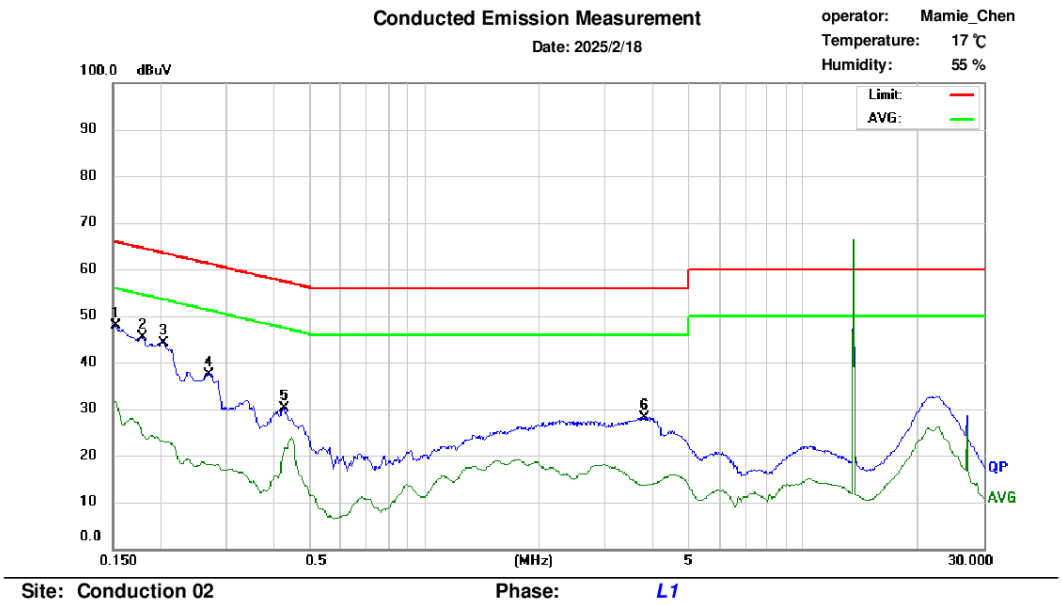
Fig. 2

5.3 Measurement Equipment Used:

Location	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conduction 02	EMI Receiver_20	R&S	ESR7	101326	05/30/2024	05/30/2025
Conduction 02	Conduction 02-1_01 Cable	WOKEN	CFD 300-NL	Conduction 02 -1	09/25/2024	09/25/2025
Conduction 02	LISN_26	R&S	ENV216	102378	11/29/2024	11/29/2025
Conduction 02	LISN_21	R&S	ENV216	101476	07/27/2024	07/27/2025
Conduction 02	ISN T8 CAT6A_02	SCHWARZBECK	NTFM 8158	NTFM 8158-00370	07/03/2024	07/03/2025
Conduction 02	ISN T4_06	TESEQ	ISN T400A	28574	09/12/2024	09/12/2025
Conduction 02	ISN T8_10	TESEQ	ISN T800	42773	07/02/2024	07/02/2025
Conduction 02	CDN ISN ST08A_01	TESEQ	CDN ISN ST08A	43352	09/06/2024	09/06/2025
Conduction 02 (EN_IEC_55014-1)	High Voltage Probe_01	SCHWARZBECK	TK 9420	TK 9420-796	08/02/2024	08/02/2026

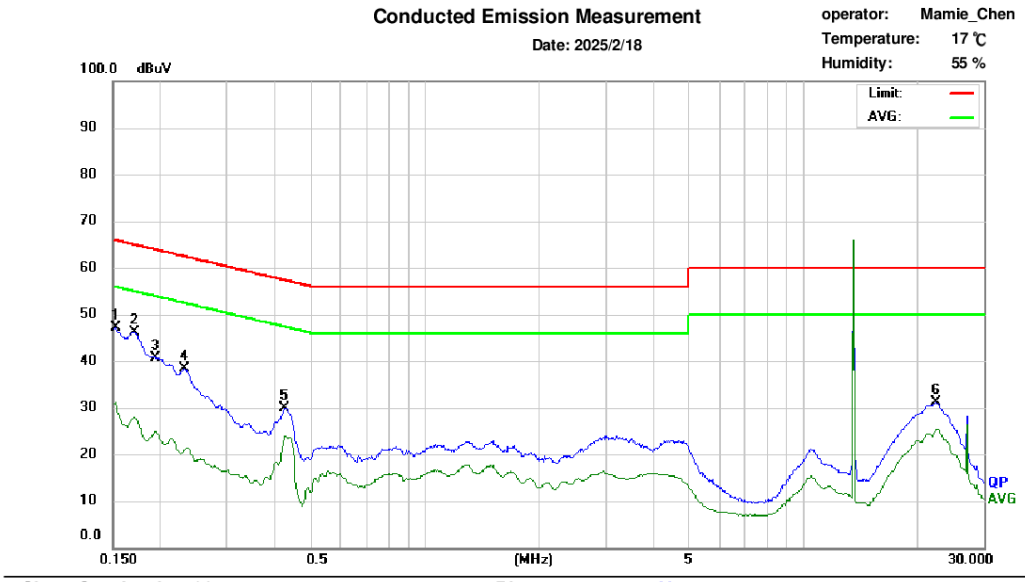
5.4 Measurement Result:

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



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*	0.152	38.20	22.03	9.68	47.88	65.88	-18.00	31.71	55.88	-24.17
2	0.179	35.59	15.04	9.68	45.27	64.52	-19.25	24.72	54.52	-29.80
3	0.204	34.46	13.30	9.68	44.14	63.45	-19.31	22.98	53.45	-30.47
4	0.269	27.78	8.54	9.68	37.46	61.14	-23.68	18.22	51.14	-32.92
5	0.424	20.55	11.55	9.68	30.23	57.36	-27.13	21.23	47.36	-26.13
6	3.802	18.33	3.75	9.80	28.13	56.00	-27.87	13.55	46.00	-32.45

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*	0.152	37.52	21.34	9.69	47.21	65.88	-18.67	31.03	55.88	-24.85
2	0.170	36.50	18.22	9.69	46.19	64.95	-18.76	27.91	54.95	-27.04
3	0.197	30.91	14.65	9.69	40.60	63.76	-23.16	24.34	53.76	-29.42
4	0.231	28.81	11.20	9.69	38.50	62.41	-23.91	20.89	52.41	-31.52
5	0.427	20.28	14.07	9.69	29.97	57.32	-27.35	23.76	47.32	-23.56
6	22.412	21.07	15.07	10.07	31.14	60.00	-28.86	25.14	50.00	-24.86

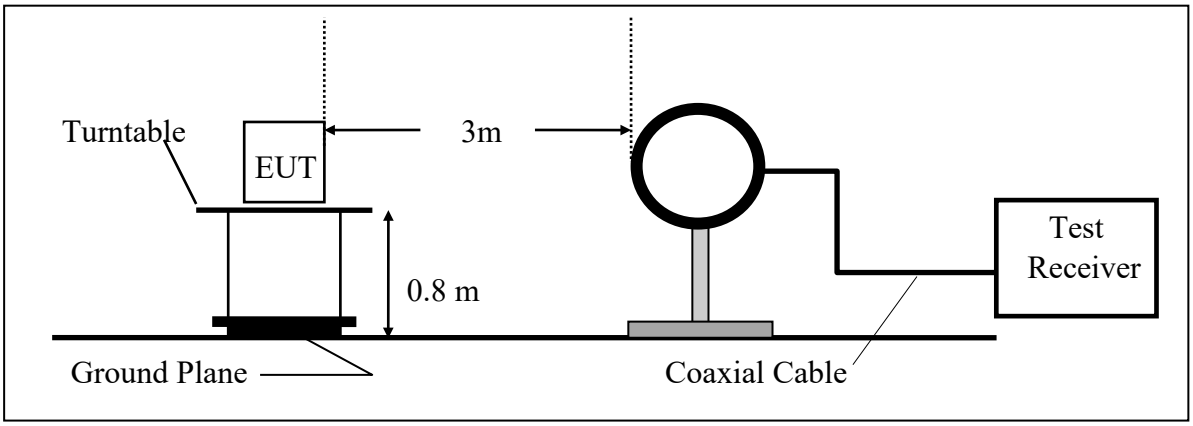
Radiated Emission Test

5.5 Measurement Procedure

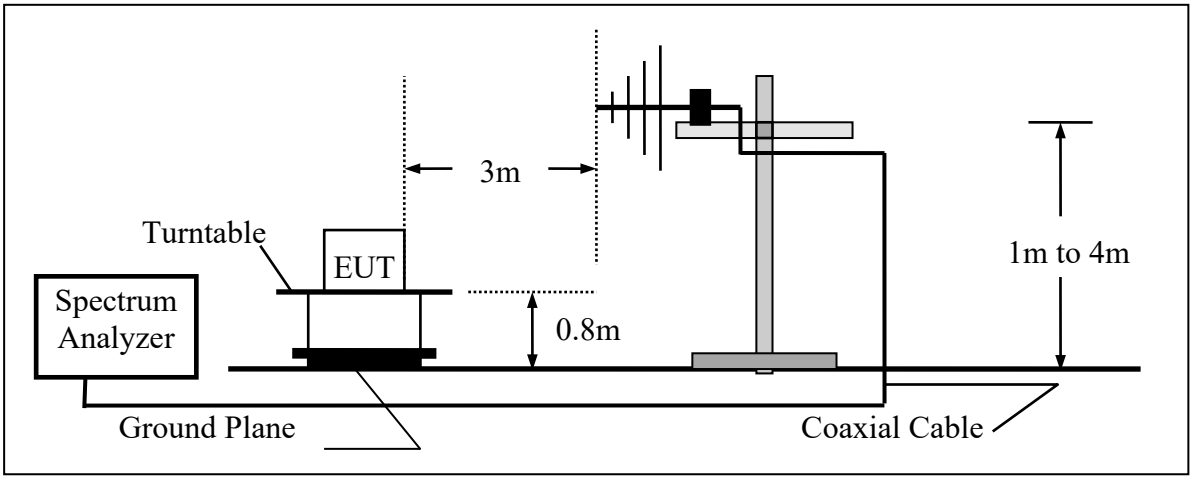
1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above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

5.6 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



5.7 Measurement Equipment Used:

Location Conducted	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Chamber 19	Spectrum analyzer	R&S	FSV40	101919	07/13/2024	07/13/2025
Chamber 19	EMI Receiver	R&S	ESR3	102461	05/08/2024	05/08/2025
Chamber 19	Loop Antenna	EM	EM-6879	271	09/25/2024	09/25/2025
Chamber 19	Bilog Antenna (30MHz-1GHz)	Schwarzbeck	VULB9168 w 6dB Att.	9168-736	03/08/2024	03/08/2025
Chamber 19	Horn antenna (1GHz-18GHz)	ETS·LINDGREN	3117	00218718	10/04/2024	10/04/2025
Chamber 19	Horn antenna (18GHz-26GHz)	Com-power	AH-826	081001	11/28/2024	11/28/2025
Chamber 19	Horn antenna (26GHz-40GHz)	Com-power	AH-640	100A	03/19/2024	03/19/2025
Chamber 19	Preamplifier (100kHz-1.3GHz)	HP	8447F	3113A04621	06/21/2024	06/21/2025
Chamber 19	Preamplifier (1GHz-26GHz)	HP	8449B	3008A02471	10/23/2024	10/23/2025
Chamber 19	Preamplifier (26GHz-40GHz)	MITEQ	JS4-26004000-27-5A	818471	05/13/2024	05/13/2025
Chamber 19	RF Cable (9kHz-26.5GHz)	Huber Suhner	Sucoflex 104A	MY1394/4A & 50886/4A	07/15/2024	07/15/2025
Chamber 19	RF Cable (18GHz-40GHz)	HUBER SUHNER	Sucoflex 102	27963/2&37421/2	11/22/2024	11/22/2025
Chamber 19	MXG Vector Signal Generator	Keysight	N5182B	MY53052399	12/26/2023	12/26/2025
Chamber 19	Test Software	Audix	E3 Ver:6.120203b	N/A	N/A	N/A

5.8 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

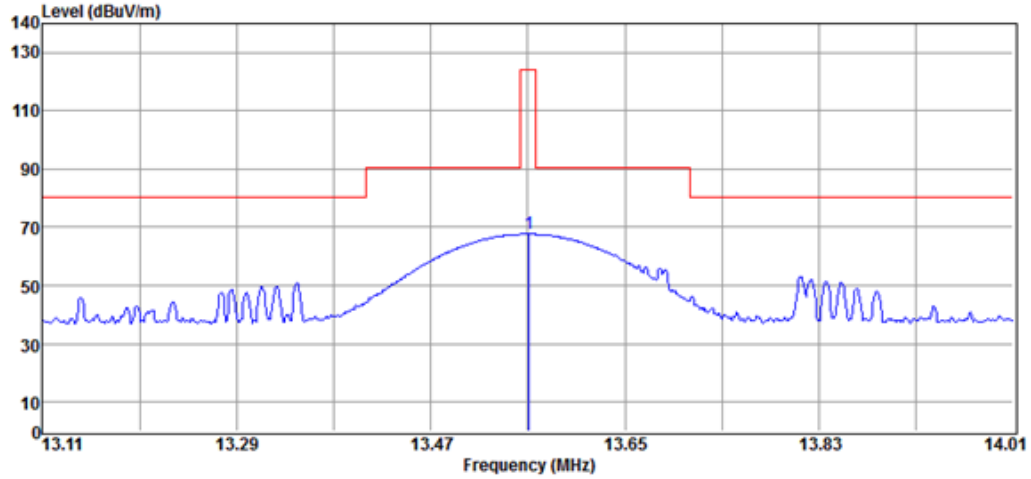
Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

5.9 Measurement Result

Fundamental Measurement Result

International Standard Laboratory Corp.
Company Address:No.120,Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-02-19

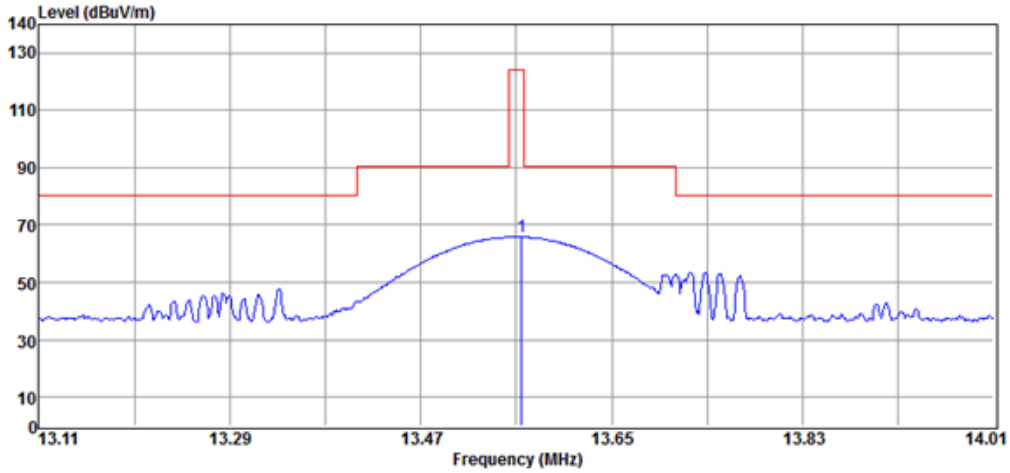
Project Number. :25LR0004 Temp.(℃)/RH(%) :21/63
Test Mode :Power Tested by :Weitin Chen



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	13.56	29.71	37.97	67.68	124.00	-56.32	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address:No.120,Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-02-19

Project Number. : 25LR0004 Temp.(℃)/RH(%) : 21/63
Test Mode : Power Tested by : Weitin Chen



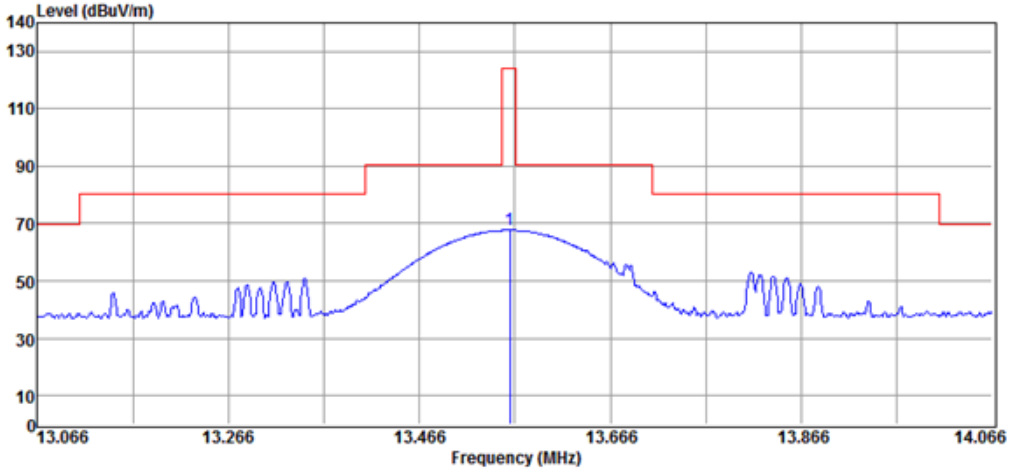
No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	13.57	27.87	37.97	65.84	124.00	-58.16	Peak	HORIZONTAL

Radiated Mask

Fundamental Measurement Result

International Standard Laboratory Corp.
Company Address:No.120,Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-02-13

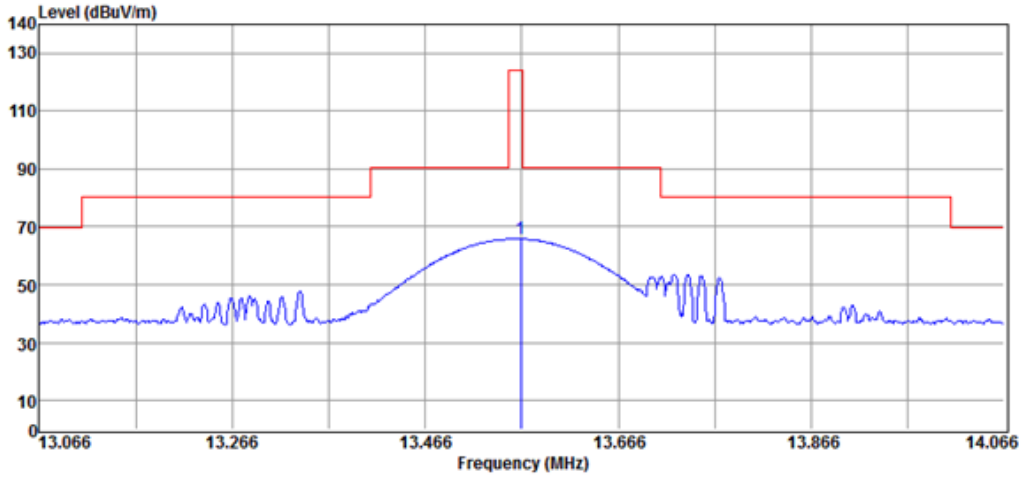
Project Number. : 25LR0004 Temp.(℃)/RH(%) : 21/63
Test Mode : MASK Tested by : Weitin Chen



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	13.56	29.71	37.97	67.68	124.00	-56.32	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address:No.120,Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-02-13

Project Number. : 25LR0004 Temp.(℃)/RH(%) : 21/63
Test Mode : MASK Tested by : Weitin Chen

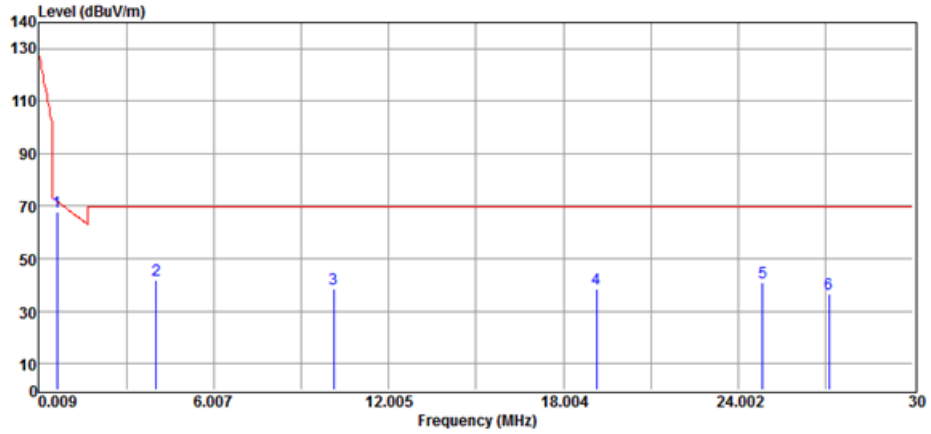


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	13.57	27.87	37.97	65.84	124.00	-58.16	Peak	HORIZONTAL

Radiated Spurious Emission Measurement Result (below 1GHz)

International Standard Laboratory Corp.
Company Address:No.120,Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-02-13

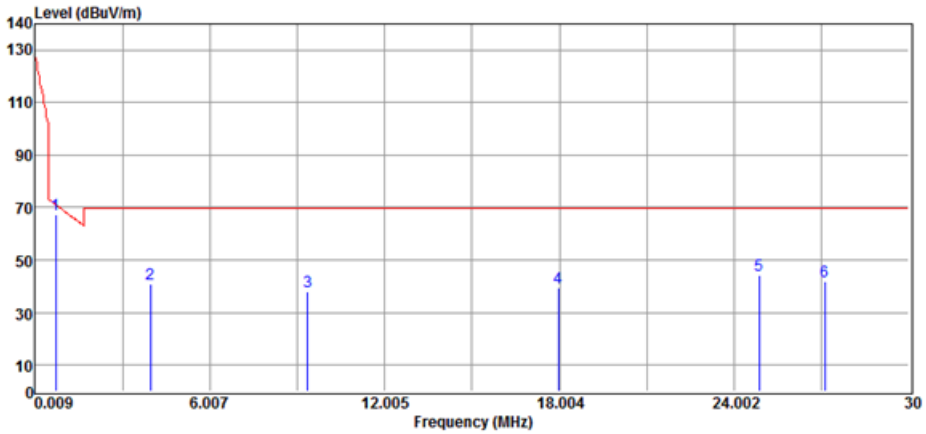
Project Number. : 25LR0004 Temp.(℃)/RH(%) : 21/63
Test Mode : Tx Tested by : Weitin Chen



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	0.64	24.63	43.11	67.74	71.76	-4.02	Peak	VERTICAL
2	4.03	5.26	36.43	41.69	69.54	-27.85	Peak	VERTICAL
3	10.12	0.54	38.09	38.63	69.54	-30.91	Peak	VERTICAL
4	19.14	0.36	37.98	38.34	69.54	-31.20	Peak	VERTICAL
5	24.84	4.06	36.76	40.82	69.54	-28.72	Peak	VERTICAL
6	27.12	0.73	36.02	36.75	69.54	-32.79	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address:No.120,Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-02-13

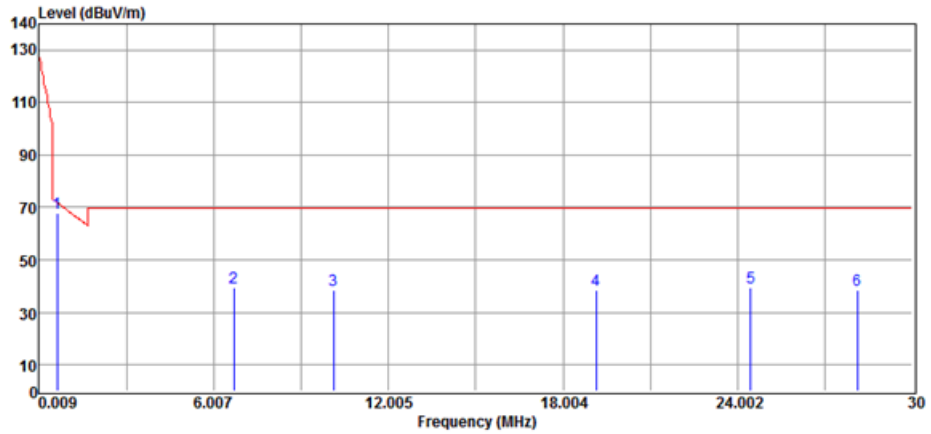
Project Number. : 25LR0004 Temp.(℃)/RH(%) : 21/63
Test Mode : Tx Tested by : Weitin Chen



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	0.73	24.87	42.35	67.22	71.02	-3.80	Peak	HORIZONTAL
2	3.97	4.57	36.44	41.01	69.54	-28.53	Peak	HORIZONTAL
3	9.37	0.21	38.03	38.24	69.54	-31.30	Peak	HORIZONTAL
4	17.97	1.76	37.85	39.61	69.54	-29.93	Peak	HORIZONTAL
5	24.87	7.55	36.78	44.33	69.54	-25.21	Peak	HORIZONTAL
6	27.12	5.63	36.02	41.65	69.54	-27.89	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address:No.120,Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-02-13

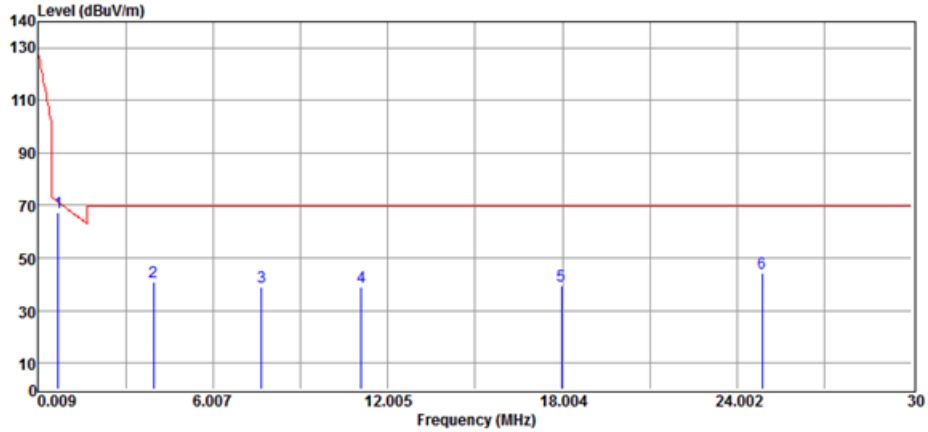
Project Number. : 25LR0004 Temp.(℃)/RH(%) : 21/63
Test Mode : Rx Tested by : Weitin Chen



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	0.64	24.63	43.11	67.74	71.76	-4.02	Peak	VERTICAL
2	6.70	1.33	38.26	39.59	69.54	-29.95	Peak	VERTICAL
3	10.12	0.54	38.09	38.63	69.54	-30.91	Peak	VERTICAL
4	19.14	0.36	37.98	38.34	69.54	-31.20	Peak	VERTICAL
5	24.45	2.75	36.56	39.31	69.54	-30.23	Peak	VERTICAL
6	28.11	2.70	35.76	38.46	69.54	-31.08	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address:No.120,Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-02-13

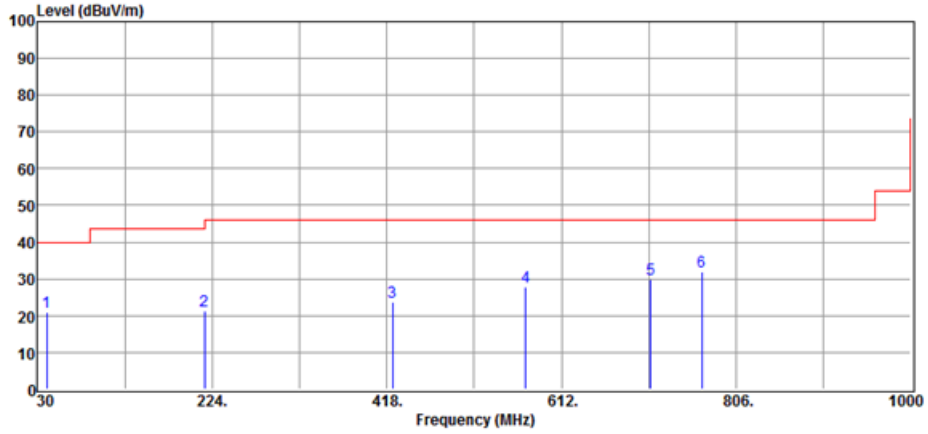
Project Number. : 25LR0004 Temp.(℃)/RH(%) : 21/63
Test Mode : Rx Tested by : Weitin Chen



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	0.70	24.99	42.54	67.53	71.26	-3.73	Peak	HORIZONTAL
2	3.97	4.57	36.44	41.01	69.54	-28.53	Peak	HORIZONTAL
3	7.69	0.50	38.38	38.88	69.54	-30.66	Peak	HORIZONTAL
4	11.11	0.76	38.04	38.80	69.54	-30.74	Peak	HORIZONTAL
5	17.97	1.76	37.85	39.61	69.54	-29.93	Peak	HORIZONTAL
6	24.87	7.55	36.78	44.33	69.54	-25.21	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address:No.120,Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-02-13

Project Number. : 25LR0004 Temp.(℃)/RH(%) : 21/63
Test Mode : Tx Tested by : Weitin Chen



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	40.68	30.23	-9.39	20.84	40.00	-19.16	Peak	VERTICAL
2	215.27	32.82	-11.49	21.33	43.50	-22.17	Peak	VERTICAL
3	424.79	27.95	-4.18	23.77	46.00	-22.23	Peak	VERTICAL
4	572.23	29.06	-1.10	27.96	46.00	-18.04	Peak	VERTICAL
5	710.94	28.35	1.56	29.91	46.00	-16.09	Peak	VERTICAL
6	768.17	28.89	3.04	31.93	46.00	-14.07	Peak	VERTICAL

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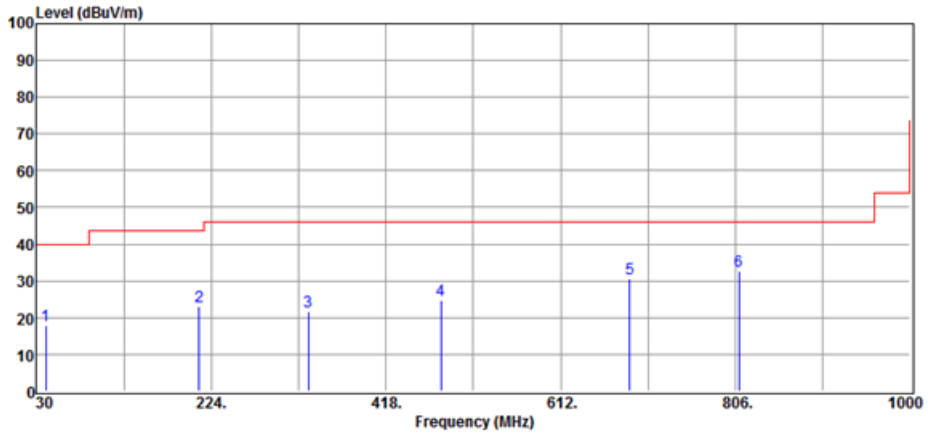
Project Number. : 25LR0004 Temp.(℃)/RH(%) : 21/63
Test Mode : Tx Tested by : Weitin Chen



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	40.67	27.37	-9.39	17.98	40.00	-22.02	Peak	HORIZONTAL
2	210.42	34.62	-11.52	23.10	43.50	-20.40	Peak	HORIZONTAL
3	331.67	28.47	-6.65	21.82	46.00	-24.18	Peak	HORIZONTAL
4	479.11	27.77	-3.06	24.71	46.00	-21.29	Peak	HORIZONTAL
5	688.63	29.31	1.33	30.64	46.00	-15.36	Peak	HORIZONTAL
6	809.88	29.38	3.27	32.65	46.00	-13.35	Peak	HORIZONTAL

International Standard Laboratory Corp.
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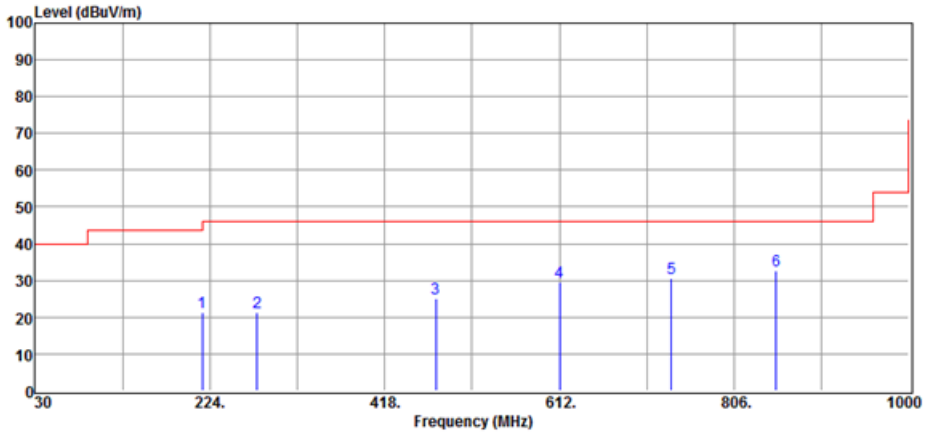
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-02-13

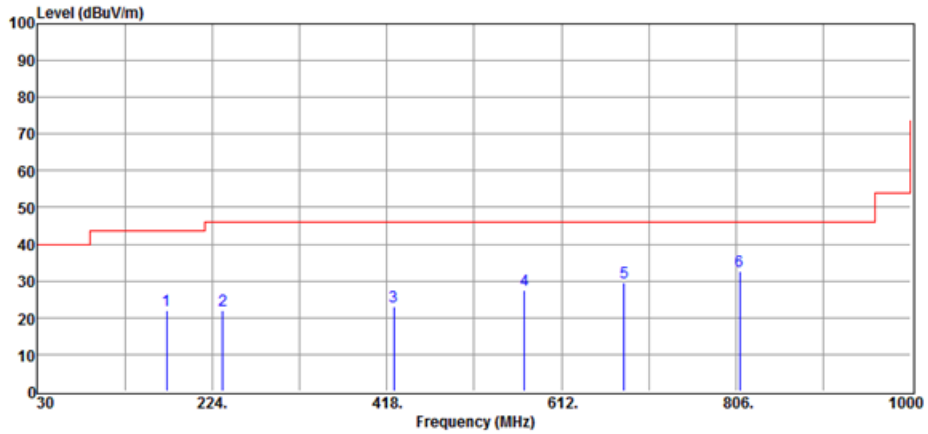
Project Number. : 25LR0004 Temp.(℃)/RH(%) : 21/63
Test Mode : Rx Tested by : Weitin Chen



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	215.27	32.82	-11.49	21.33	43.50	-22.17	Peak	VERTICAL
2	276.38	29.83	-8.37	21.46	46.00	-24.54	Peak	VERTICAL
3	475.23	28.06	-3.07	24.99	46.00	-21.01	Peak	VERTICAL
4	612.00	29.47	0.04	29.51	46.00	-16.49	Peak	VERTICAL
5	736.16	28.61	2.08	30.69	46.00	-15.31	Peak	VERTICAL
6	852.56	28.62	3.93	32.55	46.00	-13.45	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address:No.120,Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-02-13

Project Number. :25LR0004 Temp.(℃)/RH(%) :21/63
Test Mode :Rx Tested by :Weitin Chen



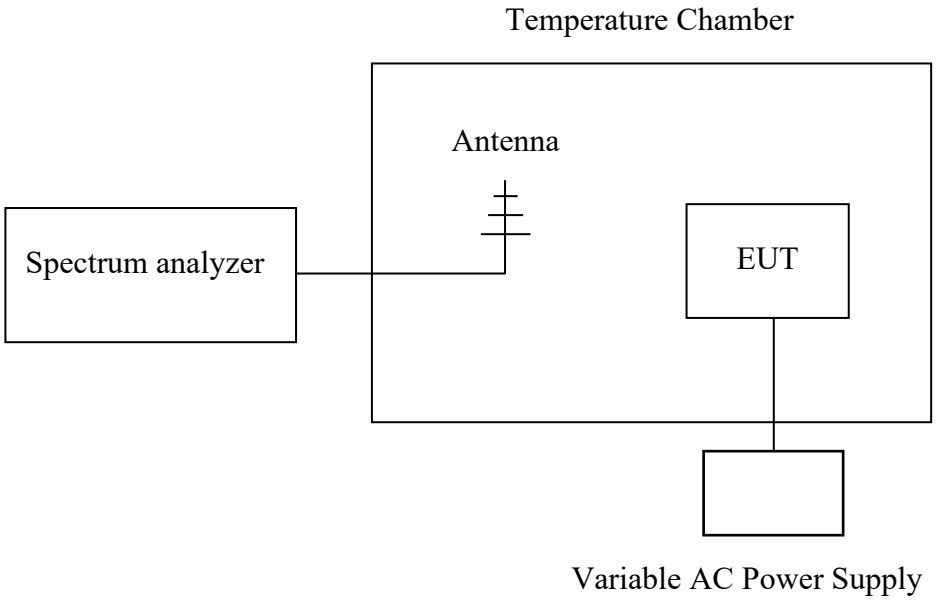
No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	173.56	31.38	-9.35	22.03	43.50	-21.47	Peak	HORIZONTAL
2	235.64	32.66	-10.51	22.15	46.00	-23.85	Peak	HORIZONTAL
3	425.76	27.29	-4.14	23.15	46.00	-22.85	Peak	HORIZONTAL
4	571.26	28.60	-1.14	27.46	46.00	-18.54	Peak	HORIZONTAL
5	681.84	28.32	1.11	29.43	46.00	-16.57	Peak	HORIZONTAL
6	809.88	29.38	3.27	32.65	46.00	-13.35	Peak	HORIZONTAL

Frequency Tolerance

5.10 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.

5.11 Test SET-UP (Block Diagram of Configuration)



5.12 Measurement Equipment Used:

Location Conducted	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conducted	Power Meter	Anritsu	ML2495A	1116010	09/26/2024	09/26/2025
Conducted	Power Sensor	Anritsu	MA2411B	34NKF50	09/26/2024	09/26/2025
Conducted	Temperature Chamber	KSON	THS-B4H100	2287	05/10/2024	05/09/2025
Conducted	DC Power supply	ABM	8185D	N/A	12/27/2024	12/27/2025
Conducted	AC Power supply	EXTECH	CFC105W	NA	N/A	N/A
Conducted	Spectrum analyzer	Keysight	N9010A	MY56070257	09/25/2024	09/25/2025
Conducted	Test Software	DARE	Radiation Ver:2013.1.23	NA	NA	NA
Conducted	Wideband Radio Comm. Tester	R&S	CMW500	1201.002K50108 793-JG	10/26/2024	10/26/2025
Conducted	Radio Communication Test Station	Anritsu	MT8000A	6272539604	08/29/2024	08/29/2025
Conducted	MT8000A Test Software	Anritsu	MX800000A Application Launcher V10.10.34.0	NA	NA	NA
Conducted	BT Simulator	Agilent	N4010A	MY48100200	NA	NA
Conducted	MXG Vector Signal Generator	Keysight	N5182B	MY53052399	12/26/2023	12/26/2025
Conducted (TS8997)	Wideband Radio Comm. Tester	R&S	CMW500	168811	09/25/2024	09/25/2025
Conducted (TS8997)	UP/DOWN converter	R&S	CMW-Z800A	100566	09/25/2024	09/25/2025
Conducted (TS8997)	Signal Generator	R&S	SMB100A	183701	09/10/2024	09/10/2025
Conducted (TS8997)	Vector Signal Generator	R&S	SMM100A	101908	09/10/2024	09/10/2025
Conducted (TS8997)	Signal analyzer 40GHz	R&S	FSV40	101884	09/11/2024	09/11/2025
Conducted (TS8997)	OSP150 extension unit CAM-BUS	R&S	OSP150	101107	09/11/2024	09/11/2025
Conducted (TS8997)	Test Software	R&S	EMC32 Ver: 12.00.00	NA	NA	NA

5.13 Measurement Results

Refer to attached data chart.

A. Temperature Variation

Temperature test						
Limit: +/- 0.01%						
Power Supply	Environment	Nominal Frequency	Measured Frequency	Delta (kHz)	Limit (kHz)	**Result**
Vdc	Temperature (°C)	(MHz)	(MHz)			
5	-20	13.56	13.5587	-1.300	1.356	**Pass**
	-10	13.56	13.5587	-1.300		**Pass**
	0	13.56	13.5588	-1.200		**Pass**
	10	13.56	13.5587	-1.300		**Pass**
	20	13.56	13.56	0.000		**Pass**
	30	13.56	13.5587	-1.300		**Pass**
	40	13.56	13.5587	-1.300		**Pass**
	50	13.56	13.5588	-1.200		**Pass**

B. Supply Voltage Variation

Voltage Test						
Limit: +/- 0.01%						
Power Supply	Environment	Nominal Frequency	Measured Frequency	Delta (kHz)	Limit (kHz)	Result
Vdc	Temperature (°C)	(MHz)	(MHz)			
5	20	13.56	13.56	0.000	1.356	**Pass**
5.75	20	13.56	13.5588	-1.200		**Pass**
4.25	20	13.56	13.5587	-1.300		**Pass**