



RADIO TEST REPORT

FCC ID : WS2-MT5C0103A
Equipment : Radar Product
Brand Name : Jorjin
Model Name : MT5C01-03
Applicant : JORJIN TECHNOLOGIES INC.
17F-1, No.239, Sec. 1, Datong Rd., Xizhi Dist., New
Taipei City 22161, Taiwan, R.O.C.
Manufacturer : JORJIN TECHNOLOGIES INC.
17F-1, No.239, Sec. 1, Datong Rd., Xizhi Dist., New
Taipei City 22161, Taiwan, R.O.C.
Standard : 47 CFR FCC Part 15.255

The product was received on Dec. 13, 2024, and testing was started from Mar. 30, 2026 and completed on Apr. 23, 2026. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2020, 47 CFR FCC Part 15.255 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Rex Liao

Sporton International Inc. Hsinchu Laboratory

No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



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Appendix A. Test Photos

Photographs of EUT v01



TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Temp.late No.: CB-A9_3 Ver1.0



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.207	AC Power Conducted Emissions	PASS	-
3.2	15.255(e)	Occupied Bandwidth	PASS	-
3.3	15.255(c)	EIRP Power	PASS	-
3.4	15.255(d)	Transmitter Spurious Emissions	PASS	-
3.5	15.255(f)	Frequency Stability	PASS	-
3.6	15.255(a),(h)	Operation Restriction and Group Installation	PASS	-

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the chapter "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Sam Chen

Report Producer: Sophia Shiung



1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information			
Frequency Range (GHz)	Operating Frequency Range (GHz)	Test Frequency (GHz)	Modulation
57-71 GHz	60.066~62.789	61.439	FMCW

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Remark
1	Texas Instruments	IWRL6432AOP	Chip antenna	N/A	20	2TX/3RX

Note: The above information was declared by manufacturer.

1.1.3 Power Levels

Applicable power levels	☐ Conducted ☒ EIRP	
Frequency (GHz)	Highest (P_{high}):	
	Mode	Peak Power (dBm)
61.439	FMCW	8.70

1.1.4 Operating Conditions

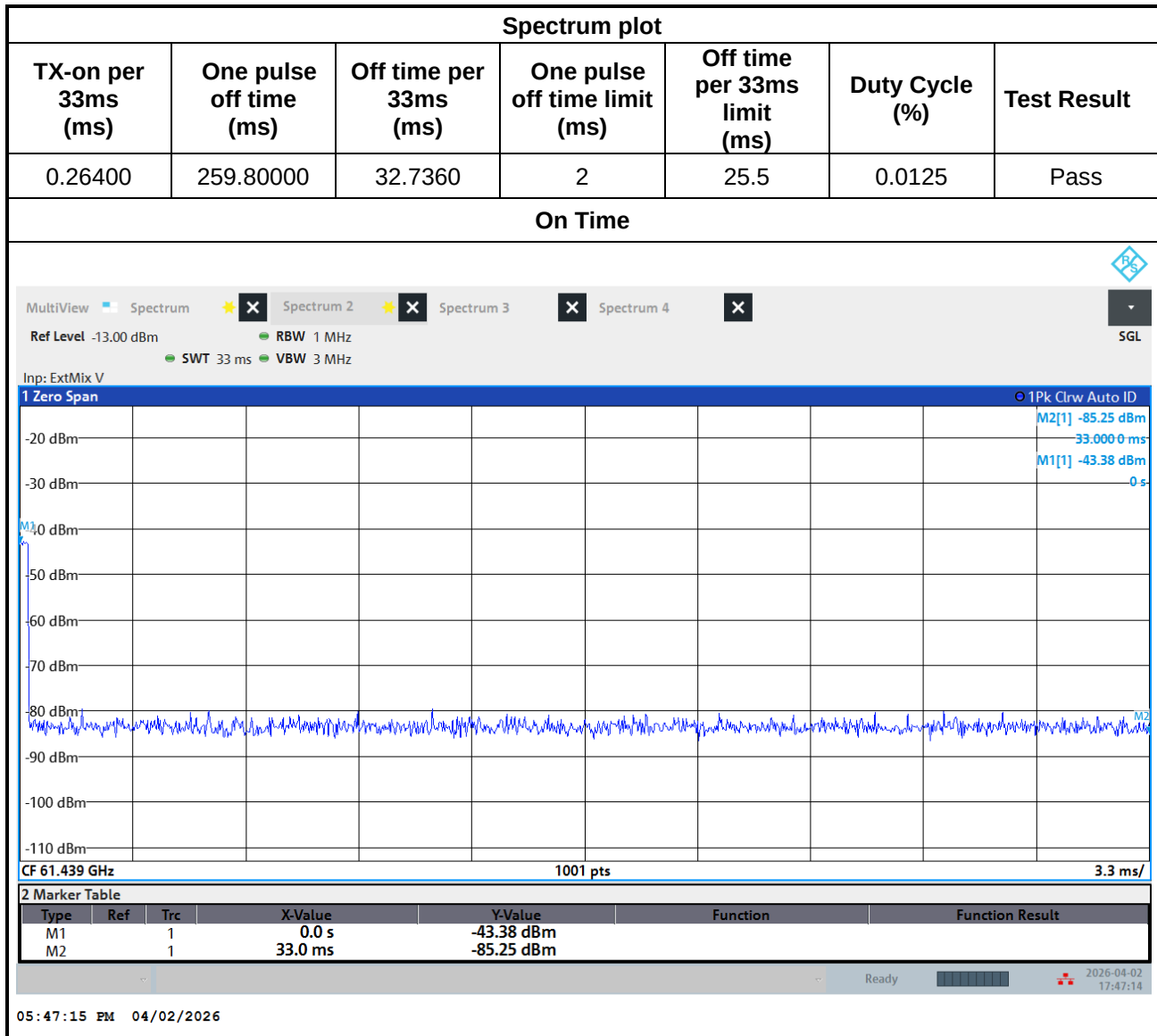
Operating Conditions			
☐ -20 °C to +50 °C			
☐ 0 °C to +40 °C			
☒ Other: -40 °C to +85 °C			
EUT Power Type	From DC external power (5V)		
Test Software Version	Industrial_Visualizer		
Supply Voltage	☐ AC	State AC voltage	V
Supply Voltage	☒ DC	State DC voltage 5	V

**1.1.5 Equipment Use Condition**

Equipment Use Condition	
☐	Fixed field disturbance sensors at 61-61.5GHz
☐	Except fixed field disturbance sensors at 61-61.5GHz
☐	Except fixed field disturbance sensors
☐	Field disturbance sensors/radar
☐	For fixed field disturbance sensors that occupy 500 MHz or less
☐	Field disturbance sensor/radar Personal portable equipment
☐	Field disturbance Sensors /radar(Outdoor drones/UA uses)
☐	Field disturbance Sensors /radar(vehicular applications (e.g., in-cabin radars))
☒	Field disturbance Sensors /radar(unrestricted radar use-case applications)
☐	Field disturbance Sensors /radar(Fixed outdoor or vehicular uses)(except in-cabin)
☐	For pulsed field disturbance sensors/radars

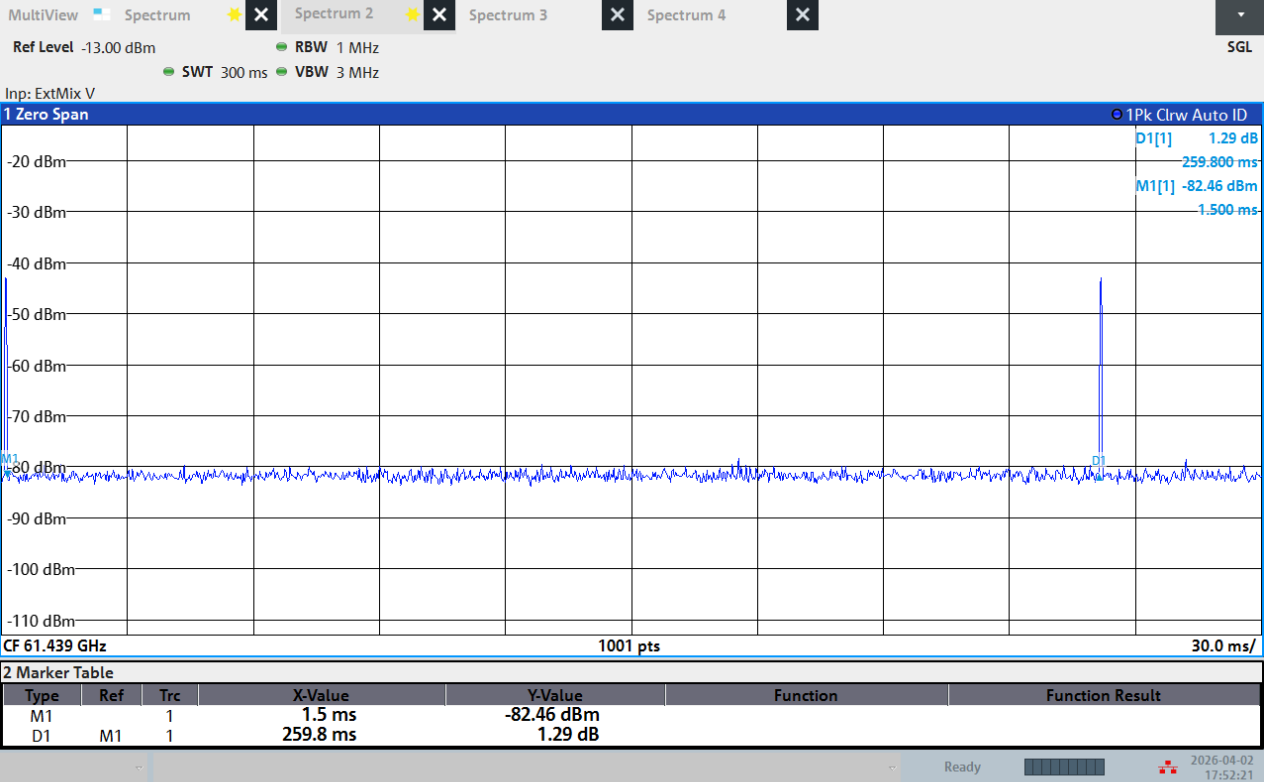


1.1.6 Duty Cycle



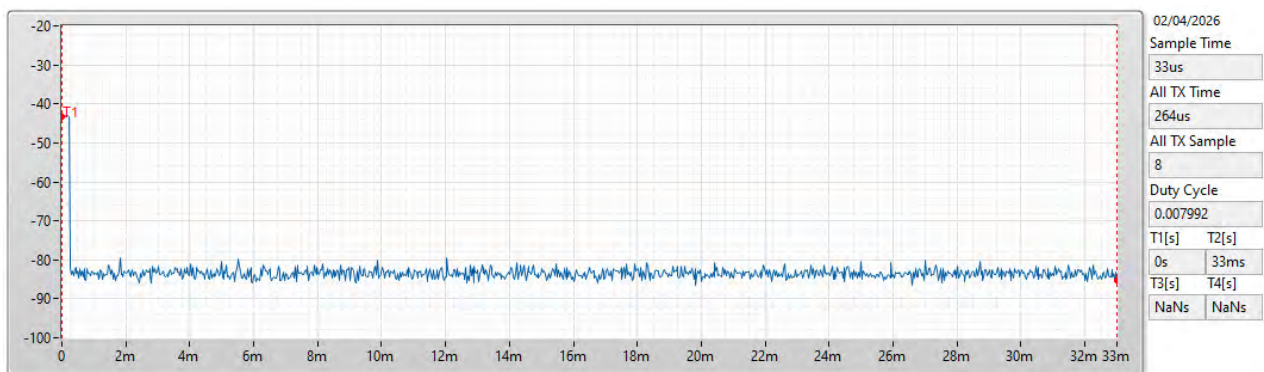


Off Time



05:52:22 PM 04/02/2026

Scope Result



T1:0s, T2:33ms, Sample time = 33us
All TX sample = 8
All TX time = 33us x 8 = 264us
Off Time = 33ms - 264us = 32.736ms

**1.1.7 Desensitization**

FMCW Chirp Width (MHz)	Chirp Time (μs)	Chirp Rate (MHz/μs)	Chirp Rate (Hz/S)	RBW (MHz)	RBW (Hz)	Normalized Sweep Rate (lin)	Peak Amplitude Response (lin)	Desensitization Factor (dB)
2073.6	23.04	90.00	9.00E+13	1	1.00E+06	90.00	0.159	15.99



1.2 Applicable Standards

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

- ♦ 47 CFR FCC Part 15.255
- ♦ ANSI C63.10-2020 Section 9. "Procedures for testing millimeter-wave systems"

The following reference test guidance is not within the scope of accreditation of TAF.

- ♦ FCC KDB 414788 D01 v01r01
- ♦ FCC KDB 364244 D01 v01r01

1.3 Testing Location

Testing Location Information	
Test Lab. : Sporton International Inc. Hsinchu Laboratory	
Hsinchu	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)
(TAF: 3787)	TEL: 886-3-656-9065 FAX: 886-3-656-9085
	Test site Designation No. TW3787 with FCC.
	Conformity Assessment Body Identifier (CABID) TW3787 with ISCED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated (Frequency Stability)	TH03-CB	Nyle Chang	24.3~24.6 / 55~69	Apr. 02, 2026~ Apr. 07, 2026
Radiated < 1GHz (Others)	03CH03-CB	Lex Lee	21.6~23.1 / 58~62	Mar. 30, 2026~ Apr. 03, 2026
	03CH05-CB		21.5~22.9 / 57~60	
Radiated > 1GHz (Others)	03CH05-CB	Lex Lee	21.5~22.9 / 57~60	Apr. 02, 2026~ Apr. 03, 2026
AC Conduction	CO02-CB	Ryan Huang	21~22 / 58~59	Apr. 23, 2026



2 Test Configuration of Equipment under Test

2.1 Parameters of Test Software Setting

Frequency (GHz)	61.439
Software Setting	backoff6

2.2 Conformance Tests and Related Test Frequencies

Test Item	Test Frequencies (GHz)
AC Power Conducted Emissions Test Voltage: 120Vac / 60Hz	61.439
Occupied Bandwidth	61.439
EIRP Power	61.439
Transmitter Spurious Emissions (below 1 GHz)	61.439
Transmitter Spurious Emissions (1 GHz-40 GHz)	61.439
Transmitter Spurious Emissions (above 40 GHz)	61.439
Frequency Stability	61.439

Note: For AC Power Conducted Emissions test:

Test Mode	Description
1	Normal link: EUT

For Transmitter Spurious Emissions below 1 GHz test:

Test Mode	Description
1	Normal link: EUT in X axis
2	Normal link: EUT in Y axis
3	Normal link: EUT in Z axis
Mode 3 generated the worst test result, so it was recorded in this report.	

For Transmitter Spurious Emissions above 1 GHz test:

After evaluating, the worst case was found at Y axis, so it was selected to perform test and its test result was written in the report.

2.3 EUT Operation during Test

For AC Power Conducted Emissions test:

During the test, the EUT operation to normal function.

For Others:

During the test, executed the test program to control the EUT continuously transmit RF signal.



2.4 Accessories

N/A



2.5 Support Equipment

For AC Conducted:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	Acer	N17P3	N/A
B	Earphone	e-Power	GT-02	N/A
C	Mouse	Acer	MOJFUO	N/A

For Radiated < 1GHz (Others):

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	Acer	Swift3	N/A
B	Earphone	e-Power	S90W	N/A
C	Mouse	HP	FM100	N/A

For Radiated > 1GHz (Others) & Radiated (Frequency Stability):

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	Acer	Swift3	N/A

2.6 Far Field Boundary Calculations

The far-field boundary is given as:

$$\text{far field} = (2 * L^2) / \lambda$$

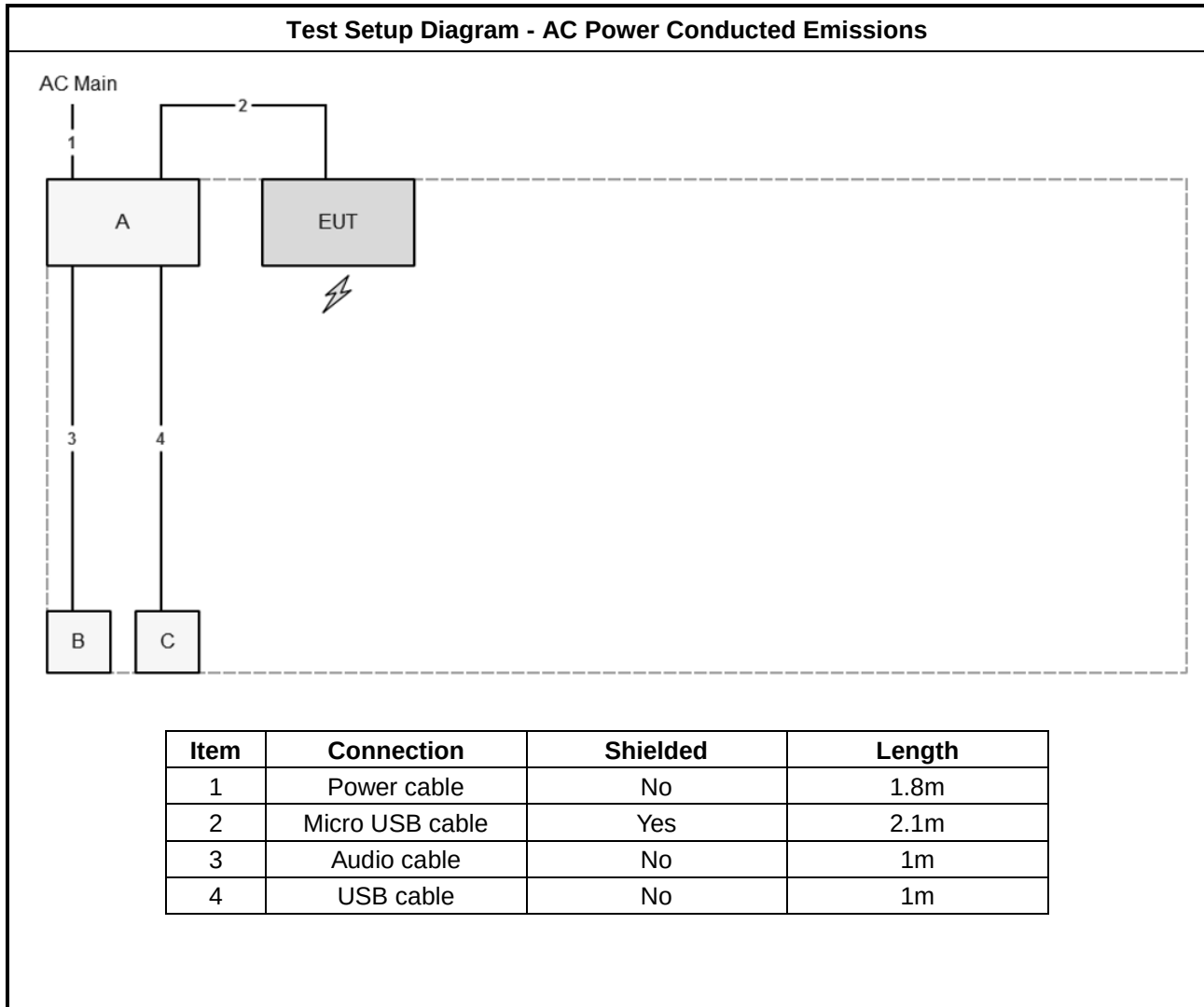
where:

L = Largest Antenna Dimension, including the reflector, in meters

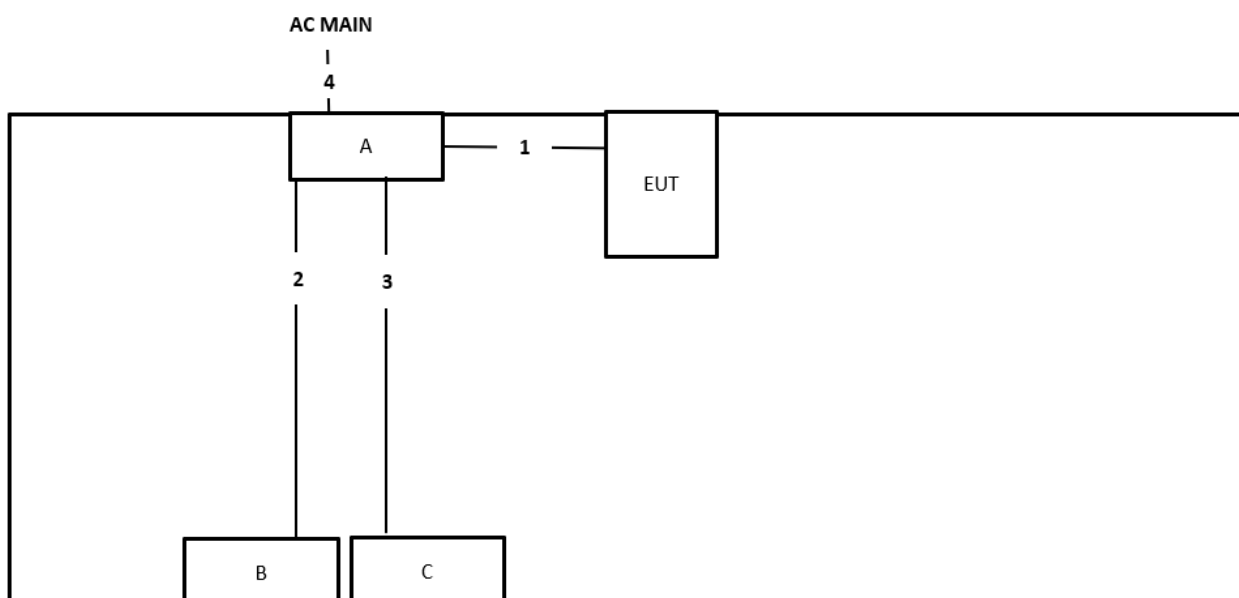
λ = wavelength in meters

Far Field (m)				
Frequency (GHz)	L (m)	Lambda (m)	d(Far Field) (m)	d(Far Field) (cm)
61.439	0.013	0.0048829	0.069	6.92

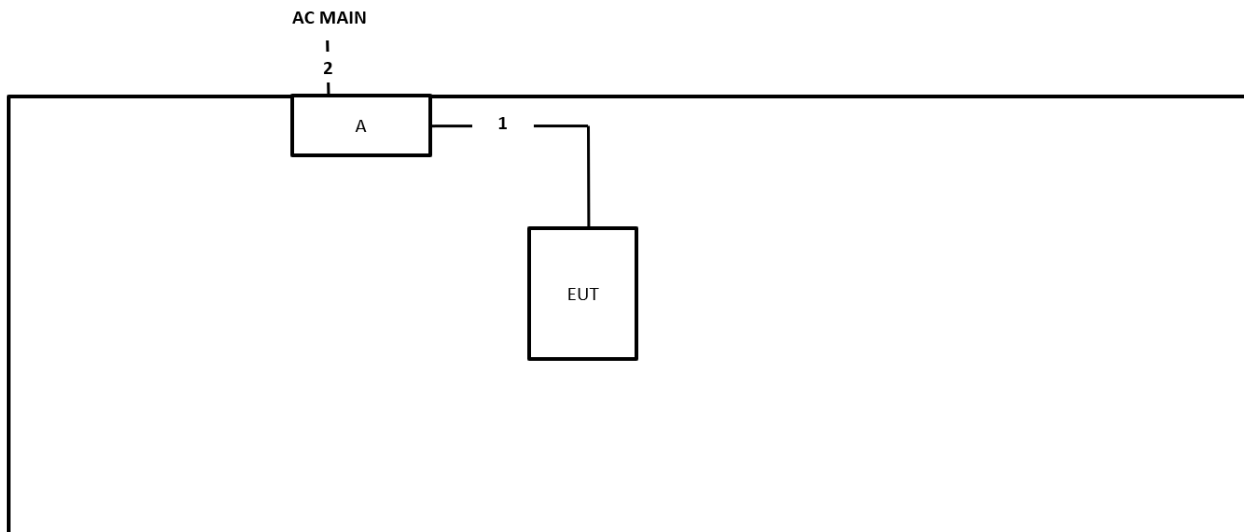
2.7 Test Setup Diagram



Test Setup Diagram - Transmitter Spurious Emissions below 1 GHz



Item	Connection	Shielded	Length
1	USB cable	Yes	2.1m
2	Audio cable	No	1m
3	USB cable	Yes	1m
4	Power cable	No	1.8m

Test Setup Diagram - Transmitter Spurious Emissions above 1 GHz


Item	Connection	Shielded	Length
1	USB cable	Yes	2.1m
2	Power cable	No	1.8m



3 Transmitter Test Result

3.1 AC Power Conducted Emissions

3.1.1 Limit of AC Power Conducted Emissions

AC Power Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

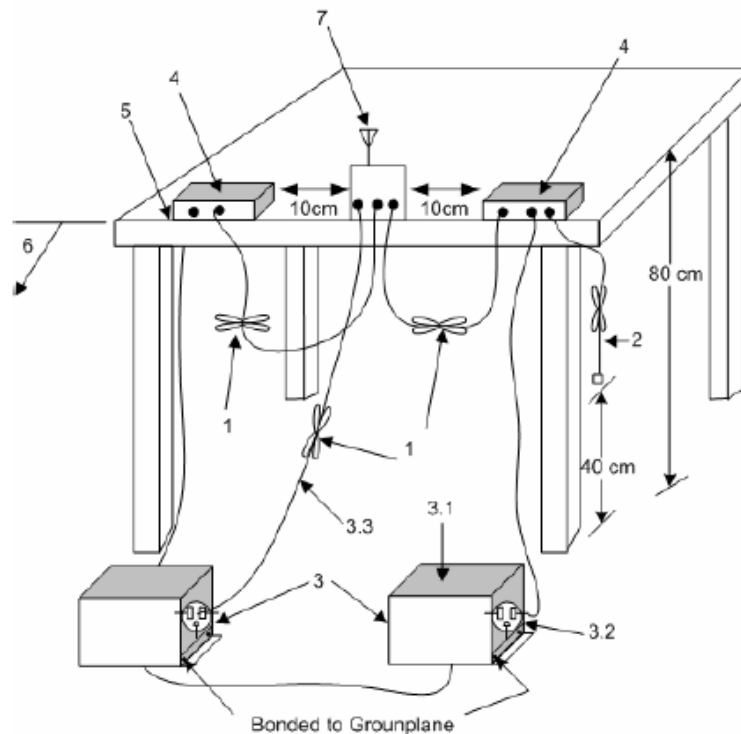
Refer a measuring instruments list in this test report.

3.1.3 Test Procedures

Method of measurement: Refer as ANSI C63.10-2020, clause 6.2.

3.1.4 Test Setup

AC Power Conducted Emissions



1—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 cm to 40 cm long.

2—The I/O cables that are not connected to an accessory 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.

3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.

3.1—All other equipment powered from additional LISN(s).

3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.

3.3—LISN at least 80 cm from nearest part of EUT chassis.

4—Non-EUT components of EUT system being tested.

5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.

6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.5 Measurement Results Calculation

The measured Level is calculated using:

- Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level
- Margin = -Limit + Level



3.1.6 Test Result of AC Power Conducted Emissions

Test Conditions	see ANSI C63.10, clause 5.11
Test Setup	see ANSI C63.10, clause 6.2.3

NOTE 1: If equipment having different channel plan and nominal channel bandwidth modes (see test report clause 1.1.1), the measurements are uninfluenced by different channel plan and nominal channel bandwidth modes, may not need to be repeated for all modes. If equipment having different transmit operating modes (see test report clause 1.1.2), the measurements are uninfluenced by different transmit operating modes, may not need to be repeated for all the operating modes. Similar, if the equipment supports different modulations and/or data rates, the measurements described in ANSI C63.10, clause 5.12 may not need to be repeated for all these modulations and data rates. Simple comparison of engineering test across all operating modes, modulations and data rates may need to be performed to define the worse case combination to be used for the conformance testing.

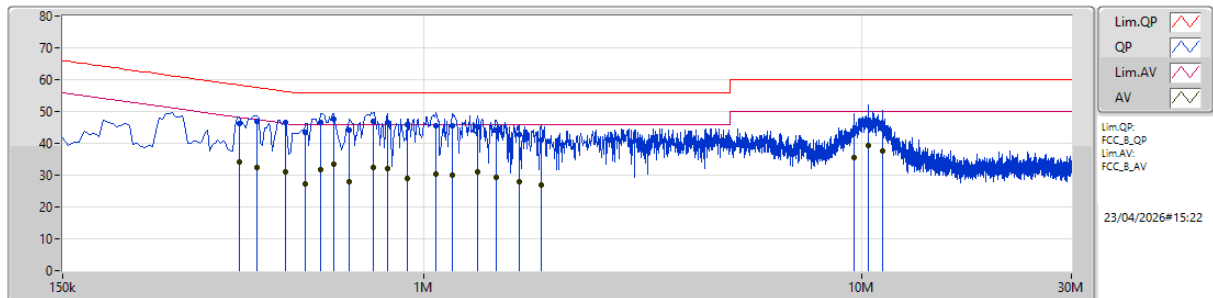
NOTE 2: ">20dB" means the tables in this clause should only list values of spurious emissions that exceed the level of 20 dB below the applicable limit, see ANSI C63.4, clause 10.1.8.1.



Phase

Line

Mode 1

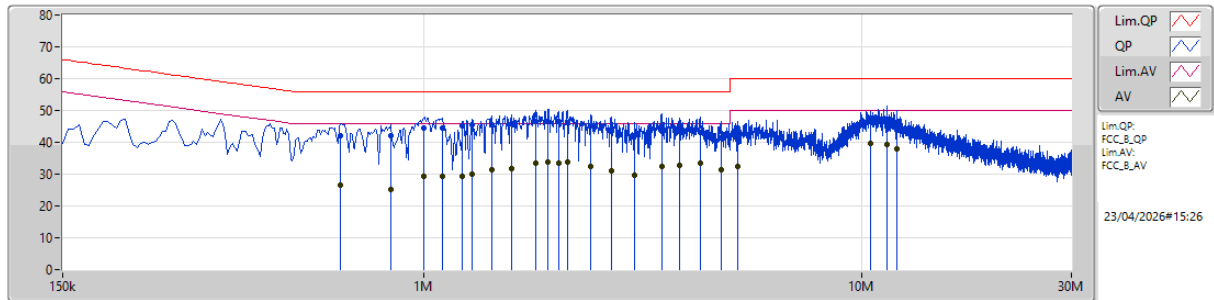


Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT								
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)								
QP	379.5k	46.29	58.29	-12.00	10.47	Line	-	35.82	0.12	0.27	10.08								
AV	379.5k	34.02	48.29	-14.27	10.47	Line	-	23.55	0.12	0.27	10.08								
QP	415.5k	47.03	57.53	-10.50	10.49	Line	-	36.54	0.12	0.28	10.09								
AV	415.5k	32.54	47.53	-14.99	10.49	Line	-	22.05	0.12	0.28	10.09								
QP	483k	46.48	56.29	-9.81	10.50	Line	-	35.98	0.13	0.27	10.10								
AV	483k	30.94	46.29	-15.35	10.50	Line	-	20.44	0.13	0.27	10.10								
QP	537k	43.37	56.00	-12.63	10.51	Line	-	32.86	0.14	0.27	10.10								
AV	537k	27.10	46.00	-18.90	10.51	Line	-	16.59	0.14	0.27	10.10								
QP	582k	46.64	56.00	-9.36	10.51	Line	-	36.13	0.14	0.26	10.11								
AV	582k	31.64	46.00	-14.36	10.51	Line	-	21.13	0.14	0.26	10.11								
QP	622.5k	47.49	56.00	-8.51	10.51	Line	"Worst"	36.98	0.14	0.26	10.11								
AV	622.5k	33.44	46.00	-12.56	10.51	Line	-	22.93	0.14	0.26	10.11								
QP	676.5k	44.10	56.00	-11.90	10.52	Line	-	33.58	0.15	0.26	10.11								
AV	676.5k	27.92	46.00	-18.08	10.52	Line	-	17.40	0.15	0.26	10.11								
QP	766.5k	46.82	56.00	-9.18	10.53	Line	-	36.29	0.16	0.25	10.12								
AV	766.5k	32.32	46.00	-13.68	10.53	Line	-	21.79	0.16	0.25	10.12								
QP	825k	46.71	56.00	-9.29	10.53	Line	-	36.18	0.16	0.25	10.12								
AV	825k	31.91	46.00	-14.09	10.53	Line	-	21.38	0.16	0.25	10.12								
QP	915k	45.97	56.00	-10.03	10.54	Line	-	35.43	0.17	0.24	10.13								
AV	915k	28.96	46.00	-17.04	10.54	Line	-	18.42	0.17	0.24	10.13								
QP	1.068M	45.57	56.00	-10.43	10.54	Line	-	35.03	0.18	0.24	10.12								
AV	1.068M	30.37	46.00	-15.63	10.54	Line	-	19.83	0.18	0.24	10.12								
QP	1.163M	45.62	56.00	-10.38	10.52	Line	-	35.10	0.18	0.24	10.10								
AV	1.163M	29.83	46.00	-16.17	10.52	Line	-	19.31	0.18	0.24	10.10								
QP	1.325M	45.32	56.00	-10.68	10.51	Line	-	34.81	0.19	0.25	10.07								
AV	1.325M	30.98	46.00	-15.02	10.51	Line	-	20.47	0.19	0.25	10.07								
QP	1.464M	44.20	56.00	-11.80	10.50	Line	-	33.70	0.20	0.25	10.05								
AV	1.464M	29.31	46.00	-16.69	10.50	Line	-	18.81	0.20	0.25	10.05								
QP	1.649M	42.73	56.00	-13.27	10.49	Line	-	32.24	0.21	0.25	10.03								
AV	1.649M	27.90	46.00	-18.10	10.49	Line	-	17.41	0.21	0.25	10.03								
QP	1.856M	40.98	56.00	-15.02	10.48	Line	-	30.50	0.22	0.26	10.00								
AV	1.856M	26.88	46.00	-19.12	10.48	Line	-	16.40	0.22	0.26	10.00								
QP	9.569M	43.33	60.00	-16.67	11.27	Line	-	32.06	0.62	0.36	10.29								
AV	9.569M	35.66	50.00	-14.34	11.27	Line	-	24.39	0.62	0.36	10.29								
QP	10.334M	46.47	60.00	-13.53	11.34	Line	-	35.13	0.65	0.36	10.33								
AV	10.334M	39.27	50.00	-10.73	11.34	Line	-	27.93	0.65	0.36	10.33								
QP	11.103M	44.72	60.00	-15.28	11.44	Line	-	33.28	0.70	0.37	10.37								
AV	11.103M	37.64	50.00	-12.36	11.44	Line	-	26.20	0.70	0.37	10.37								



Phase Neutral

Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	645k	42.15	56.00	-13.85	10.51	Neutral	-	31.64	0.14	0.26	10.11						
AV	645k	26.46	46.00	-19.54	10.51	Neutral	-	15.95	0.14	0.26	10.11						
QP	838.5k	42.09	56.00	-13.91	10.52	Neutral	-	31.57	0.15	0.25	10.12						
AV	838.5k	25.19	46.00	-20.81	10.52	Neutral	-	14.67	0.15	0.25	10.12						
QP	1.001M	44.62	56.00	-11.38	10.52	Neutral	-	34.10	0.15	0.24	10.13						
AV	1.001M	29.31	46.00	-16.69	10.52	Neutral	-	18.79	0.15	0.24	10.13						
QP	1.1M	44.43	56.00	-11.57	10.51	Neutral	-	33.92	0.16	0.24	10.11						
AV	1.1M	29.28	46.00	-16.72	10.51	Neutral	-	18.77	0.16	0.24	10.11						
QP	1.226M	45.14	56.00	-10.86	10.50	Neutral	-	34.64	0.16	0.25	10.09						
AV	1.226M	29.21	46.00	-16.79	10.50	Neutral	-	18.71	0.16	0.25	10.09						
QP	1.289M	45.39	56.00	-10.61	10.50	Neutral	-	34.89	0.17	0.25	10.08						
AV	1.289M	29.92	46.00	-16.08	10.50	Neutral	-	19.42	0.17	0.25	10.08						
QP	1.428M	45.43	56.00	-10.57	10.49	Neutral	-	34.94	0.18	0.25	10.06						
AV	1.428M	31.43	46.00	-14.57	10.49	Neutral	-	20.94	0.18	0.25	10.06						
QP	1.581M	45.99	56.00	-10.01	10.47	Neutral	-	35.52	0.18	0.25	10.04						
AV	1.581M	31.82	46.00	-14.18	10.47	Neutral	-	21.35	0.18	0.25	10.04						
QP	1.797M	46.53	56.00	-9.47	10.46	Neutral	"Worst"	36.07	0.19	0.26	10.01						
AV	1.797M	33.58	46.00	-12.42	10.46	Neutral	-	23.12	0.19	0.26	10.01						
QP	1.923M	46.41	56.00	-9.59	10.46	Neutral	-	35.95	0.20	0.26	10.00						
AV	1.923M	33.78	46.00	-12.22	10.46	Neutral	-	23.32	0.20	0.26	10.00						
QP	2.027M	46.43	56.00	-9.57	10.45	Neutral	-	35.98	0.20	0.26	9.99						
AV	2.027M	33.28	46.00	-12.72	10.45	Neutral	-	22.83	0.20	0.26	9.99						
QP	2.126M	46.25	56.00	-9.75	10.46	Neutral	-	35.79	0.21	0.26	9.99						
AV	2.126M	33.64	46.00	-12.36	10.46	Neutral	-	23.18	0.21	0.26	9.99						
QP	2.405M	45.17	56.00	-10.83	10.49	Neutral	-	34.68	0.23	0.27	9.99						
AV	2.405M	32.35	46.00	-13.65	10.49	Neutral	-	21.86	0.23	0.27	9.99						
QP	2.675M	43.38	56.00	-12.62	10.50	Neutral	-	32.88	0.24	0.27	9.99						
AV	2.675M	31.03	46.00	-14.97	10.50	Neutral	-	20.53	0.24	0.27	9.99						
QP	3.021M	41.90	56.00	-14.10	10.51	Neutral	-	31.39	0.26	0.27	9.98						
AV	3.021M	29.54	46.00	-16.46	10.51	Neutral	-	19.03	0.26	0.27	9.98						
QP	3.485M	43.36	56.00	-12.64	10.54	Neutral	-	32.82	0.28	0.28	9.98						
AV	3.485M	32.39	46.00	-13.61	10.54	Neutral	-	21.85	0.28	0.28	9.98						
QP	3.831M	43.43	56.00	-12.57	10.55	Neutral	-	32.88	0.29	0.28	9.98						
AV	3.831M	32.91	46.00	-13.09	10.55	Neutral	-	22.36	0.29	0.28	9.98						
QP	4.277M	43.12	56.00	-12.88	10.61	Neutral	-	32.51	0.32	0.29	10.00						
AV	4.277M	33.33	46.00	-12.67	10.61	Neutral	-	22.72	0.32	0.29	10.00						
QP	4.758M	41.30	56.00	-14.70	10.69	Neutral	-	30.61	0.35	0.30	10.04						
AV	4.758M	31.38	46.00	-14.62	10.69	Neutral	-	20.69	0.35	0.30	10.04						
QP	5.19M	41.76	60.00	-18.24	10.75	Neutral	-	31.01	0.38	0.30	10.07						
AV	5.19M	32.43	50.00	-17.57	10.75	Neutral	-	21.68	0.38	0.30	10.07						
QP	10.433M	46.68	60.00	-13.32	11.28	Neutral	-	35.40	0.59	0.36	10.33						
AV	10.433M	39.54	50.00	-10.46	11.28	Neutral	-	28.26	0.59	0.36	10.33						
QP	11.414M	45.71	60.00	-14.29	11.40	Neutral	-	34.31	0.65	0.37	10.38						
AV	11.414M	39.14	50.00	-10.86	11.40	Neutral	-	27.74	0.65	0.37	10.38						
QP	12.026M	44.70	60.00	-15.30	11.46	Neutral	-	33.24	0.68	0.37	10.41						
AV	12.026M	38.04	50.00	-11.96	11.46	Neutral	-	26.58	0.68	0.37	10.41						

3.2 Occupied Bandwidth

3.2.1 Limit of Occupied Bandwidth

6dBc Bandwidth (see Note 1)	None
99% Occupied Bandwidth (see Note 2)	None

NOTE 1: The 6dBc bandwidth is the frequency bandwidth of the signal power at the -6 dBc points when measured with a 100 kHz resolution bandwidth. These measurements shall also be performed at normal test conditions.

NOTE 2: The 99% occupied bandwidth is the frequency bandwidth of the signal power at the 99% channel power of occupied bandwidth when resolution bandwidth should be approximately 1 % to 5 % of the occupied bandwidth (OBW). These measurements shall also be performed at normal test conditions.

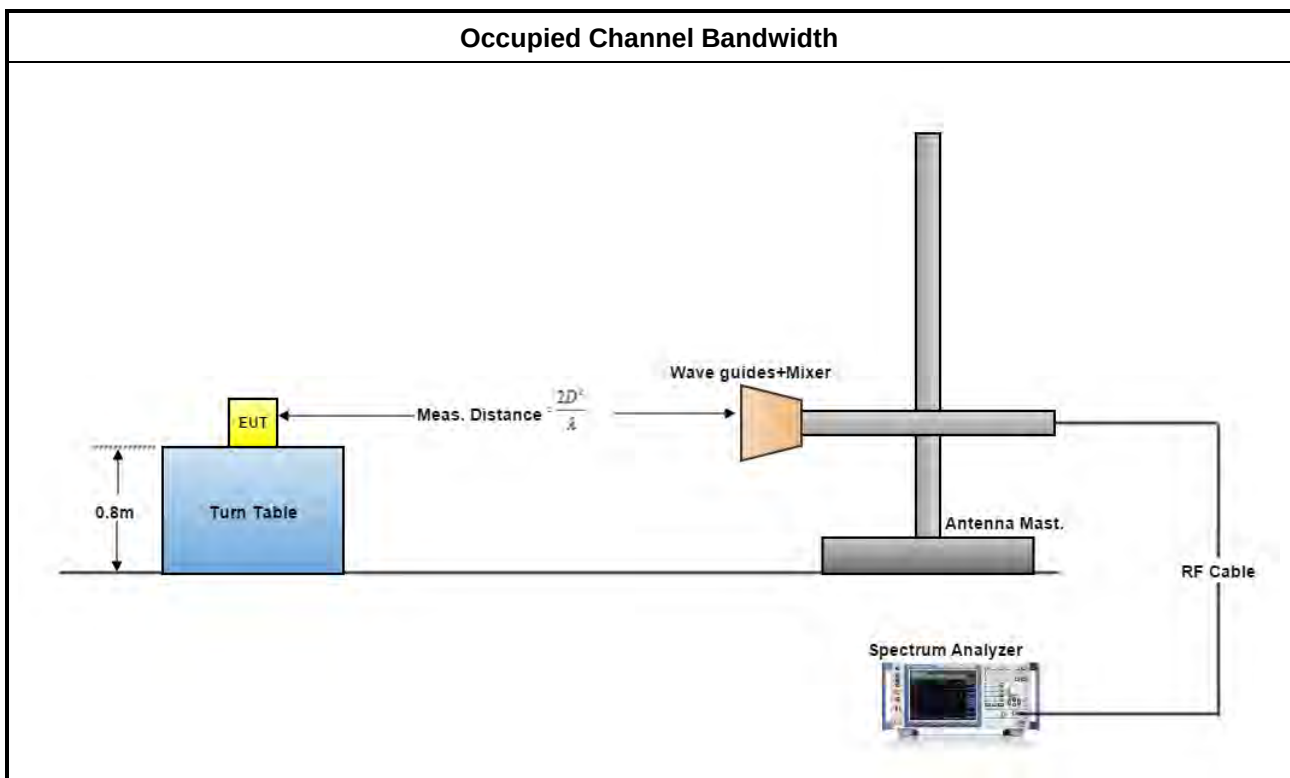
3.2.2 Measuring Instruments

Refer a measuring instruments list in this test report.

3.2.3 Test Procedures

Method of measurement: Refer as ANSI C63.10-2020, clauses 9.4.

3.2.4 Test Setup





3.2.5 Test Result of Occupied Bandwidth

Test Conditions	see ANSI C63.10, clause 5.11
Test Setup	see ANSI C63.10, clause 9.4
NOTE: If equipment having different transmit operating modes (see test report clause 1.1.2), the measurements are uninfluenced by different transmit operating modes, may not need to be repeated for all the operating modes. Similar, if the equipment supports different modulations and/or data rates, the measurements described in ANSI C63.10, clause 5.11 may not need to be repeated for all these modulations and data rates. Simple comparison of engineering test across all operating modes, modulations and data rates may need to be performed to define the worse case combination to be used for the conformance testing. Refer as ANSI C63.10, clause 15, observe and record with plotted graphs or photographs the worst-case (i.e., widest) occupied bandwidth produced by these different modulation sources.	

Test Results			
Test Freq. (GHz)	6 dBc Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit (MHz)
61.439	2722.30	2700.59	N/A



3.2.5.1 Bandwidth Plots

6 dBc Bandwidth



Occupied Bandwidth





3.3 EIRP Power

3.3.1 Limit of EIRP Power

Applications	Frequency Range (GHz)	Peak (dBm)	Average (dBm)	Duty Cycle Requirement
Field disturbance sensors/radar	57 ~ 71	< 10	N/A	N/A
For fixed field disturbance sensors that occupy 500 MHz or less	61 ~ 61.5	< 43	< 40	N/A
	57 ~ 61 & 61.5 ~ 71	< 13	< 10	N/A
Field disturbance sensor/radar Personal portable equipment	59.3 ~ 71	< 10	N/A	N/A
Field disturbance Sensors /radar (Outdoor drones/UA uses)	60 ~ 64	< 20	N/A	At least 16.5 ms off time per 33 ms Operation shall be limited to a maximum of 121.92 m above ground level.
Field disturbance Sensors /radar (vehicular applications (e.g., in-cabin radars))	57 ~ 59.4	Indoor < 20 Outdoor < 30	N/A	N/A
Field disturbance Sensors /radar (unrestricted radar use-case applications)	57 ~ 61.56	< 3	N/A	N/A
		< 20	N/A	At least 16.5 ms off time per 33 ms
	57 ~ 64	< 14	N/A	At least 25.5 ms off time per 33 ms
Field disturbance Sensors /radar (Fixed outdoor or vehicular uses) (except in-cabin)	57 ~ 64	< 20	N/A	At least 16.5 ms off time per 33 ms
For pulsed field disturbance sensors/radars	57 ~ 64	< 33	< 13	Pulse duration < 6 ns Duty cycle < 10%, in any 0.3 μ s time window
	61.5 ~ 64	< 25	< 5	Any 0.3 μ s time window

NOTE: For the applicable limit, see 15.255 (c)

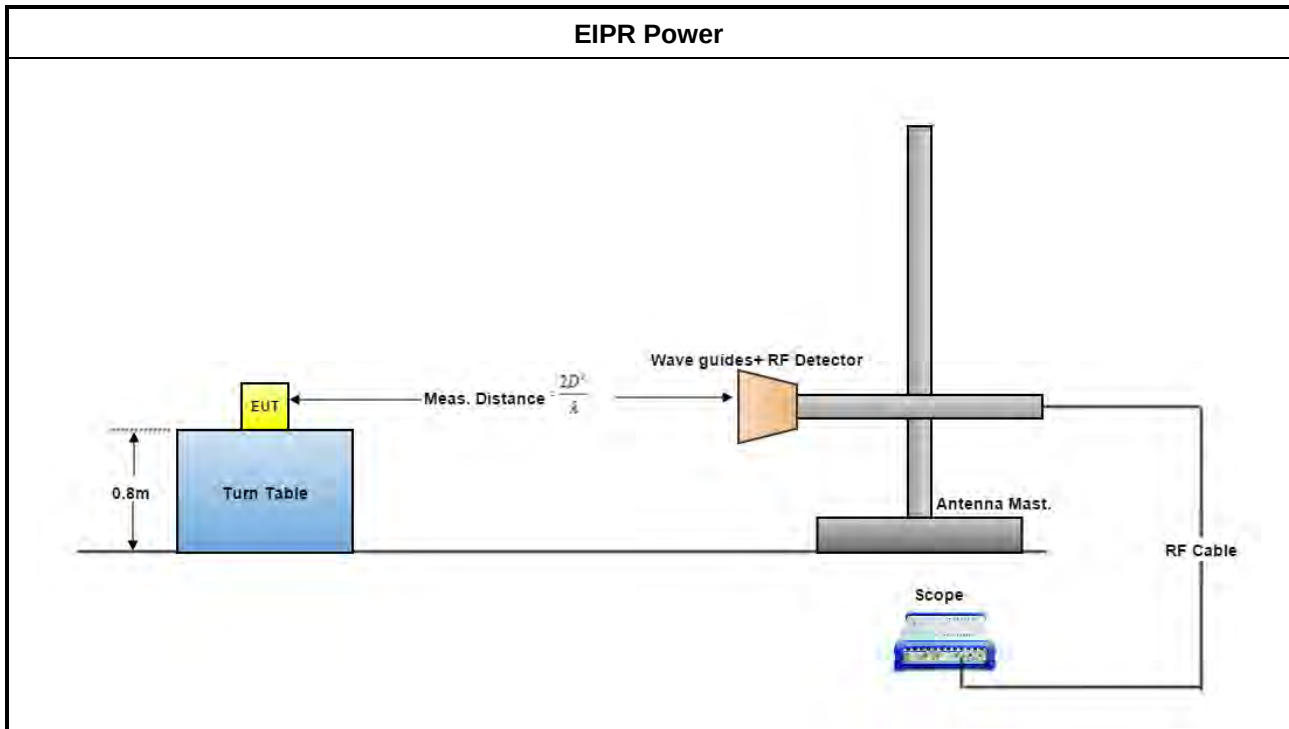
3.3.2 Measuring Instruments

Refer a measuring instruments list in this test report.

3.3.3 Test Procedures

Method of measurement: Refer as ANSI C63.10-2020 clause 9.8.

3.3.4 Test Setup



3.3.5 Test Result of EIRP Power

Test Conditions see ANSI C63.10, clause 5.11 & clause 9

Test Setup see ANSI C63.10, clause 9.8

NOTE: If the equipment supports different modulations and/or data rates, the measurements described in ANSI C63.10, clause 5.11 may not need to be repeated for all these modulations and data rates. Simple comparison of engineering test across all operating modes, modulations and data rates may need to be performed to define the worst case combination to be used for the conformance testing.

**3.3.6 Test Result of EIRP Power**

Freq. (GHz)	Rx Gain (dBi)	P-Peak (dBm)	Test Distance (m)	Desensitization Factor (dB)	EIRP-Peak (dBm)	EIRP-Peak Limit (dBm)	Test Result
61.439	23.6	-45.88	0.50	15.99	8.70	14	Pass

Calculate the EIRP from the radiated measurement in the far-field using Equation:

$$\text{EIRP} = 21.98 - 20\log(\lambda) + 20\log(D) + P - G$$

where:

EIRP: is the equivalent isotropic radiated power, in dBm

P: is the power measured at the output of the test antenna, in dBm

λ : is the wavelength of the emission under investigation $[300/\text{fMHz}]$, in m

G: is the gain of the test antenna, in dBi.

3.4 Transmitter Spurious Emissions

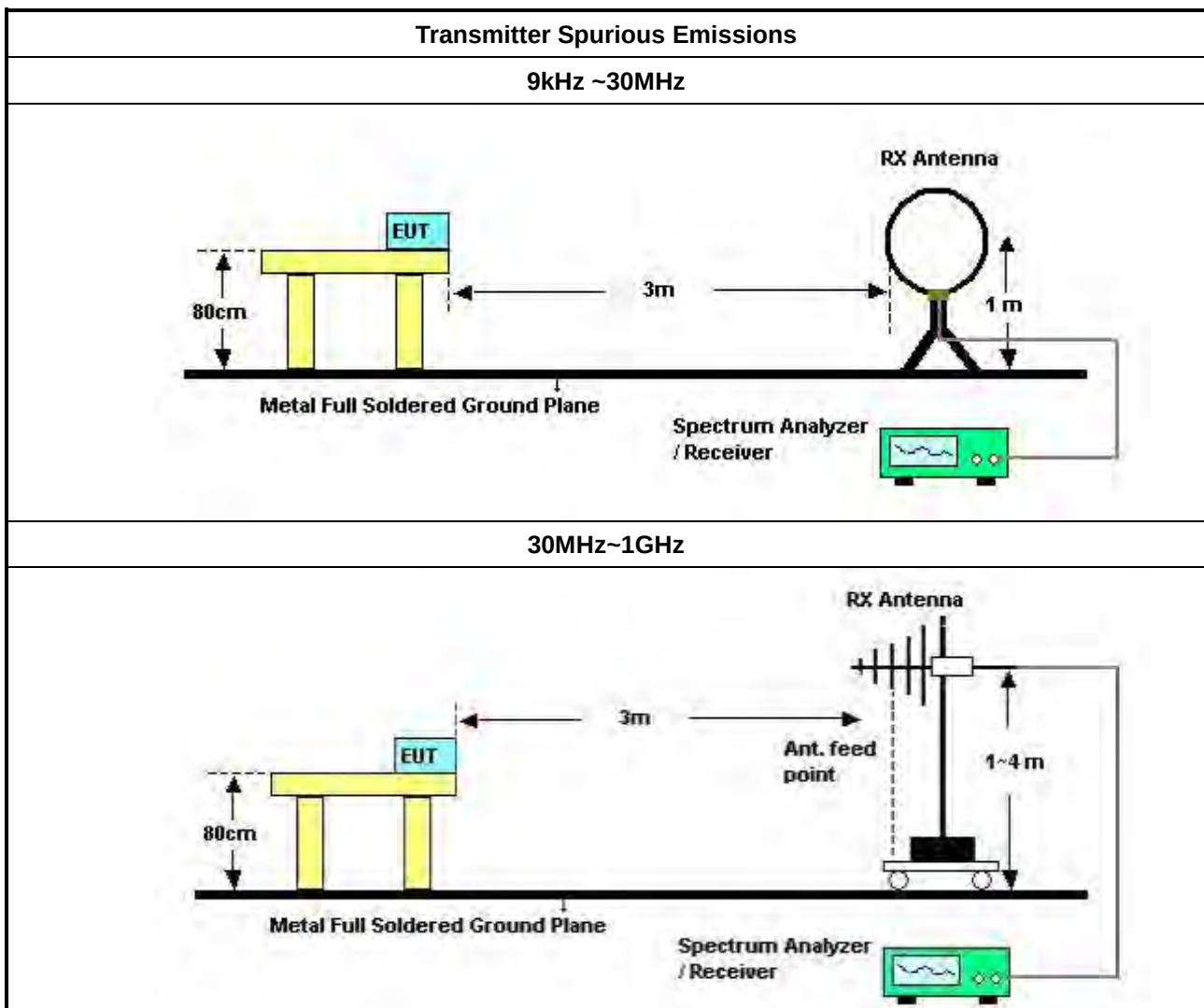
3.4.1 Limit of Transmitter Spurious Emissions

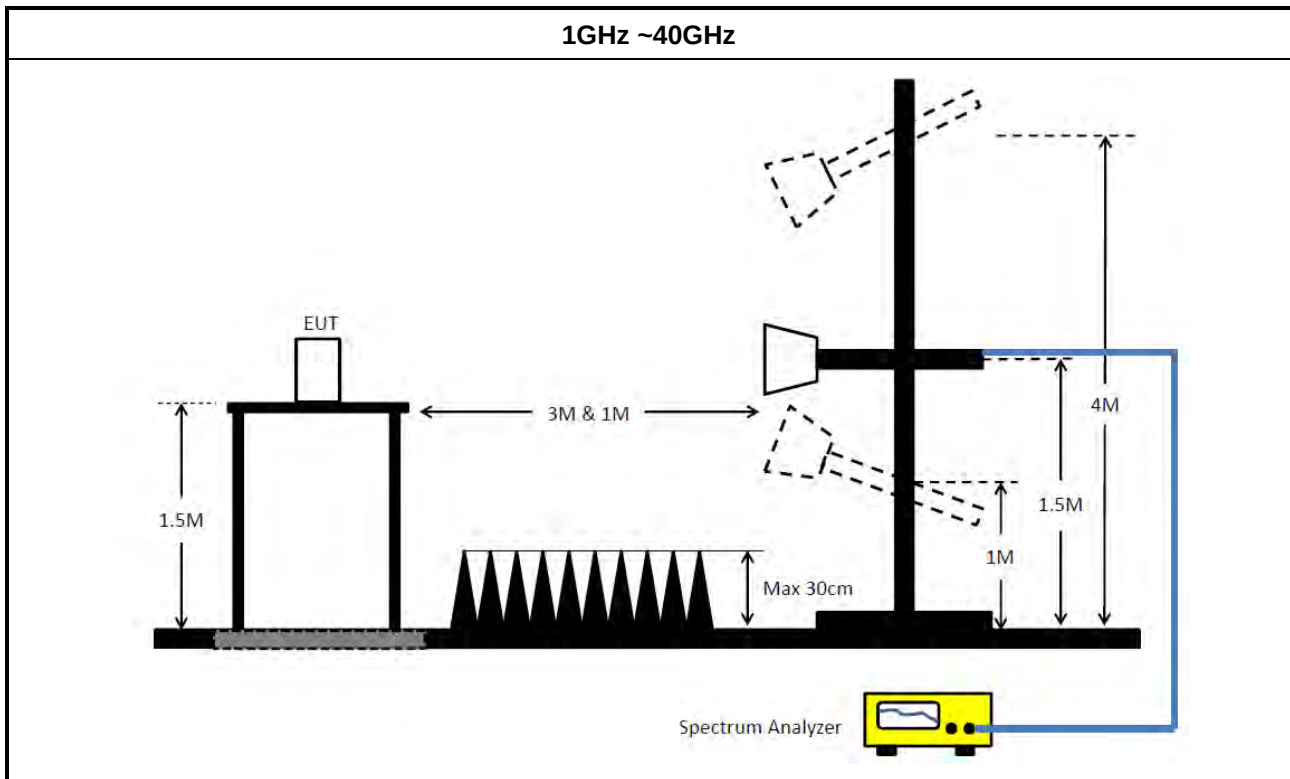
Frequency Range	Limit
Radiated emissions below 40 GHz	Reference to section 15.209
Radiated emissions above 40 GHz – 200GHz	90 pW/cm ² @ 3 m (Equivalent EIRP 102 µW, -9.91dBm)
NOTE 1: For the applicable limit, see 15.255(d).	
NOTE 2: Spurious emissions shall not exceed the level of the fundamental emission.	

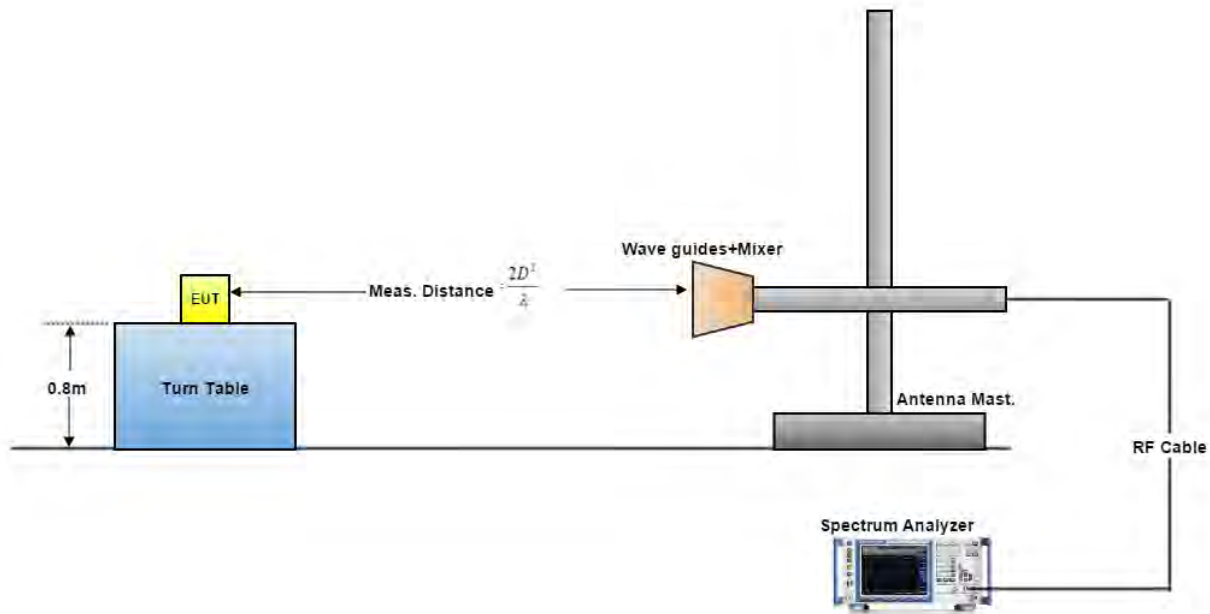
3.4.2 Test Procedures

Method of measurement: Refer as ANSI C63.10-2020, clause 9.11

3.4.3 Test Setup





Above 40GHz


A measuring distance of at 3 m shall be used for measurements at frequencies up to 15 GHz. For frequencies above 15 GHz, any suitable measuring distance may be used. The measurement distance is chosen up to far field distance, depending on the test system noise floor for detecting spurious emission signals. Then above 15 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from spec. distance (3 m) to measurement distance. Distance extrapolation factor = $20 \log (\text{spec. distance [3 m]} / \text{measurement distance [N m]})$ (dB) . The measurements described in ANSI C63.10, clause 7.8.6. If the emission cannot be detected at 1 m, reduce the RBW to increase system sensitivity. Note the value. If the emission still cannot be detected, move the horn closer to the EUT, noting the distance at which a measurement is made.

3.4.4 Measurement Results Calculation

The measured Level is calculated using:

For below 40GHz

Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

For above 40GHz

$\text{EIRP} = \text{Meas. Level} - \text{RX Antenna Gain} + 20 \cdot \log(4 \cdot \pi \cdot (3.14159) \cdot D / (300 / (\text{Frequency} \cdot 1000)))$



3.4.5 Test Result of Transmitter Spurious Emissions

Test Conditions	see ANSI C63.10, clause 5.11 & clause 9
Test Setup	see ANSI C63.10, clause 9.11, 9.12
NOTE: If equipment having different channel plan and nominal channel bandwidth modes (see test report clause 1.1.1), the measurements are uninfluenced by different channel plan and nominal channel bandwidth modes, may not need to be repeated for all modes.	

3.4.5.1 Test Result of Transmitter Spurious Emissions (Below 30MHz)

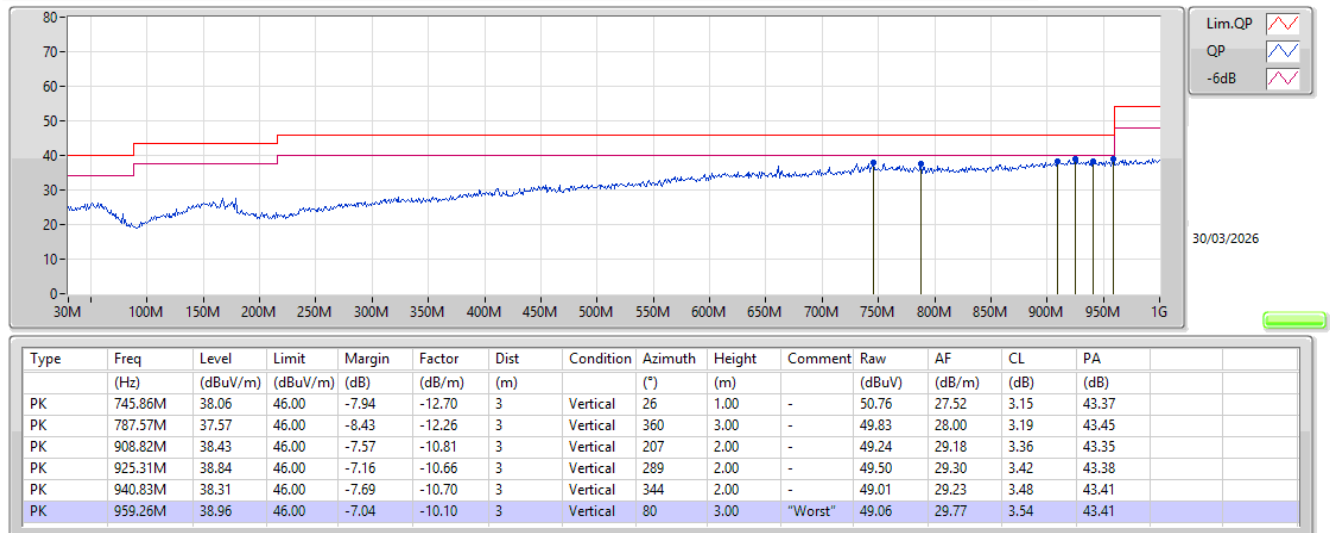
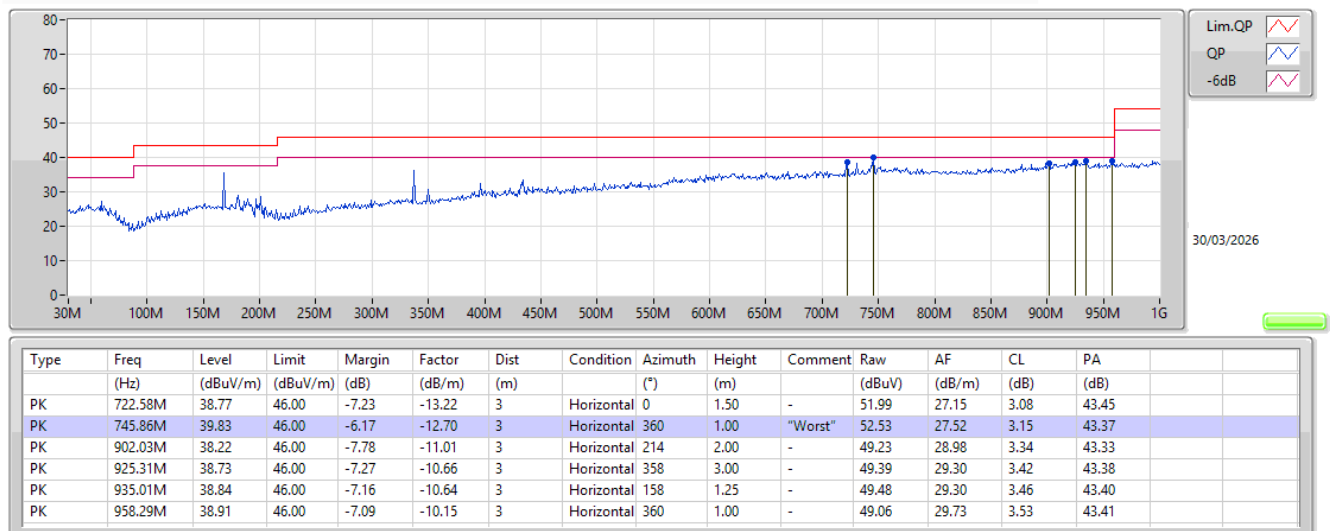
There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.

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

The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10 harmonic or 40 GHz, whichever is appropriate.

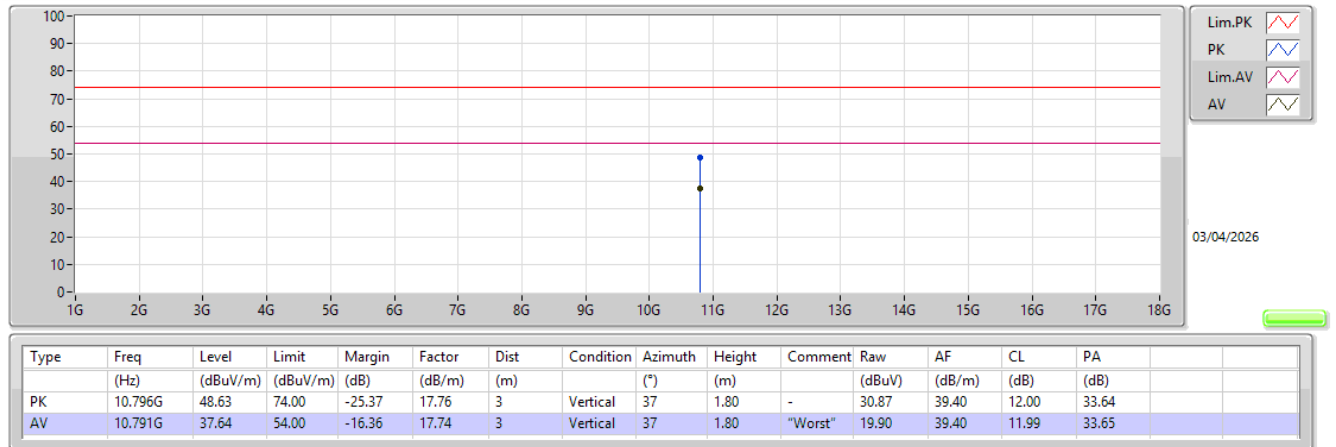
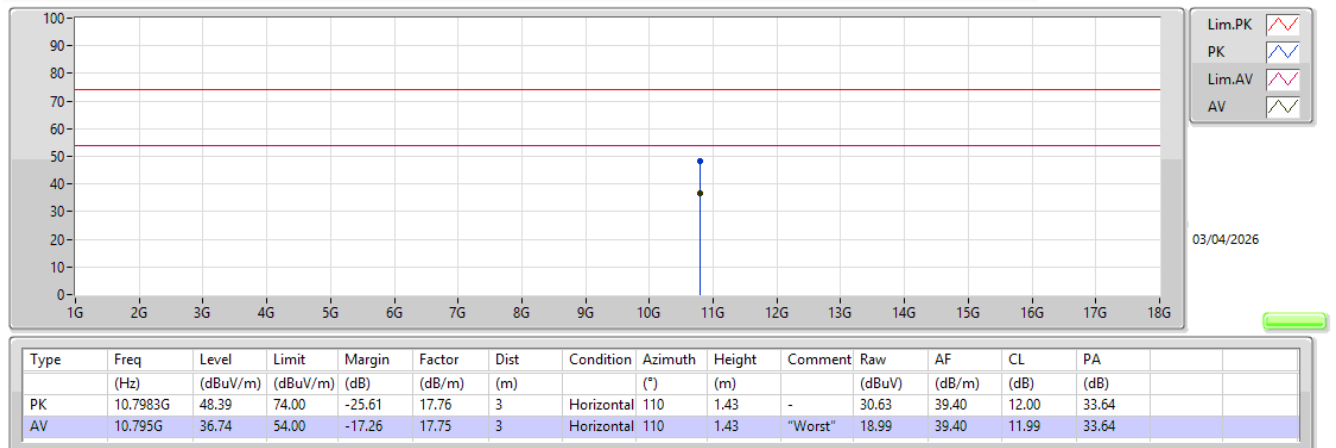
**3.4.5.2 Test Result of Transmitter Spurious Emissions**

Test Range	30 MHz – 1000 MHz	Test Distance	3 m
Test Configuration	Normal link		

Vertical**Mode 3****Horizontal****Mode 3**

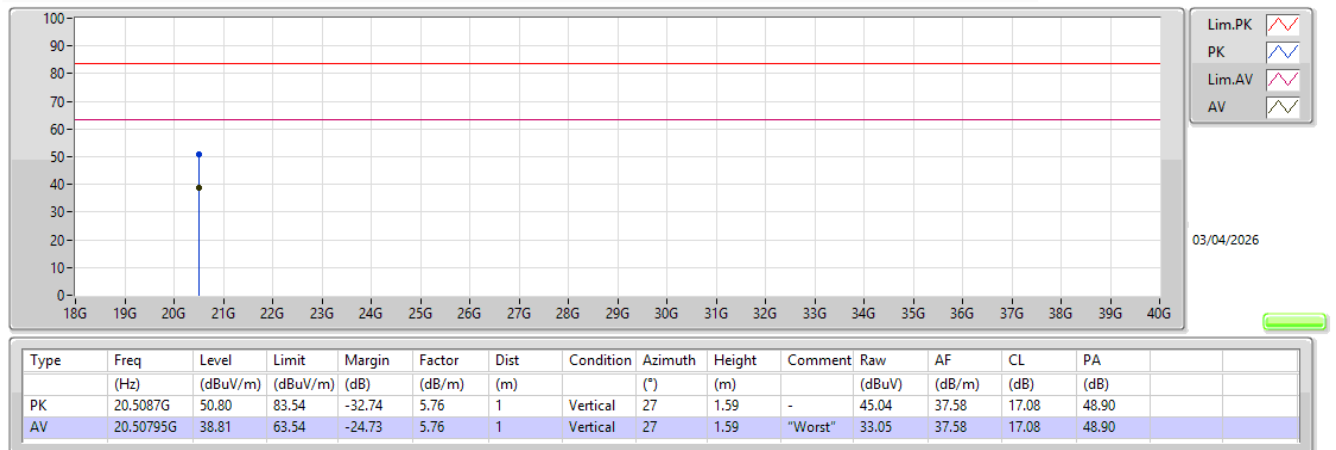
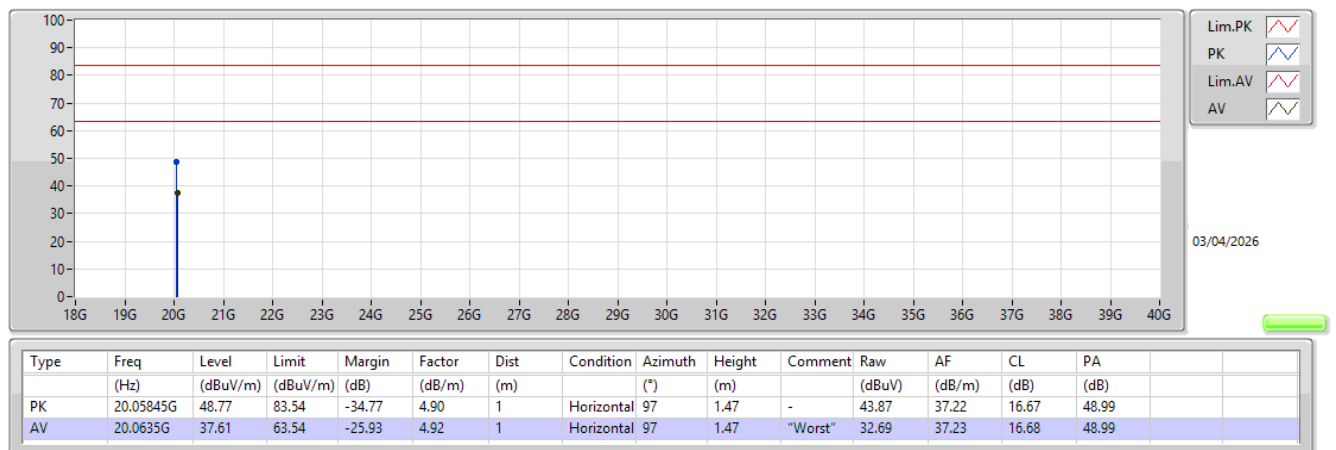


Test Range	1 GHz – 18 GHz	Test Distance	3 m
Test Freq. (GHz)	61.439		

Vertical**Mode 1****Horizontal****Mode 1**



Test Range	18 GHz – 40 GHz	Test Distance	1 m
Test Freq. (GHz)	61.439		

Vertical**Mode 1****Horizontal****Mode 1**



Test Range	40GHz – 200GHz
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Test Frequency (GHz)	Rx Antenna Gain (dBi)	Measurement Distance (m)	Read Worse Frequency (GHz)	Read Level (dBm)
61.439	23.60	1.00	42.01	-86.88
EIRP (dBm)	Specification Distance (m)	Power Density (pW/cm²)	Limit (pW/cm²)	Test Result
-45.58	3	0.0245	90	PASS

Note:

Calculate the EIRP from the radiated measurement in the far-field using Equation:

$$\text{EIRP} = 21.98 - 20\log(\lambda) + 20\log(D) + P - G$$

where:

EIRP: is the equivalent isotropic radiated power, in dBm

P: is the power measured at the output of the test antenna, in dBm

λ : is the wavelength of the emission under investigation [300/fMHz], in m

G: is the gain of the test antenna, in dBi.

3.5 Frequency Stability

3.5.1 Limit of Frequency Stability

Frequency Stability	Limit
Refer as 15.255(f) and ANSI C63.10-2020, clause 9.5	within the frequency bands
Note: These measurements shall also be performed at normal and extreme test conditions.	

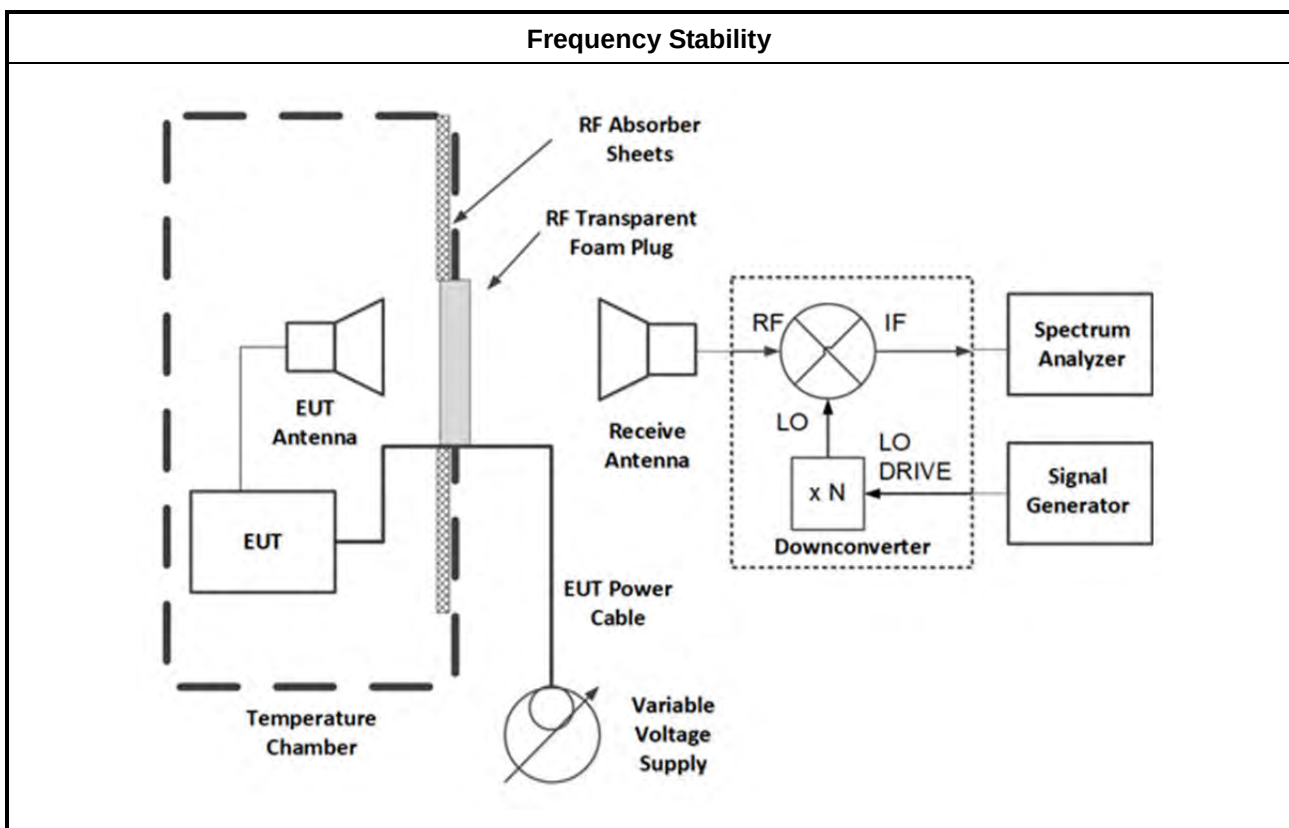
3.5.2 Measuring Instruments

Refer a measuring instruments list in this test report.

3.5.3 Test Procedures

Method of measurement: Refer as ANSI C63.10-2020, clauses 9.5.

3.5.4 Test Setup





3.5.5 Test Result of Frequency Stability

Test Conditions	see ANSI C63.10, clause 5.11 & clause 9
Test Setup	see ANSI C63.10, clause 9.5
NOTE: If equipment having different channel plan and nominal channel bandwidth modes (see test report clause 1.1.1), the measurements are uninfluenced by different channel plan and nominal channel bandwidth modes, may not need to be repeated for all modes.	

3.5.5.1 Frequency Stability with Respect to Ambient Temperature

Frequency Stability with Respect to Ambient Temperature			
Test Results			
Test Temperature (°C)	Measured Frequency (MHz)	Delta Frequency (kHz)	Limit (±kHz)
-40	61423.669	-1738	Within band
-30	61424.344	-1063	Within band
-20	61435.369	9962	Within band
-10	61427.520	2113	Within band
0	61431.735	6328	Within band
10	61428.116	2709	Within band
20	61425.407	Reference	Within band
30	61419.648	-5759	Within band
40	61428.282	2875	Within band
50	61427.983	2576	Within band
65	61418.264	-7143	Within band
70	61425.784	377	Within band
80	61437.820	12413	Within band
85	61437.830	12423	Within band
NOTE: The manufacturer's specified temperature range of -40 to 85°C.			

**3.5.5.2 Frequency Stability When Varying Supply Voltage**

Frequency Stability When Varying Supply Voltage			
Test Results			
Test Voltage: (Vdc)	Measured Frequency (MHz)	Delta Frequency (kHz)	Limit (±kHz)
4.25	61426.321	914	Within band
5	61425.407	Reference	Within band
5.75	61425.028	-379	Within band



3.6 Operation Restriction and Group Installation

3.6.1 Limit of Operation Restriction and Group Installation

Item	Limit
Operation Restriction	Operation is not permitted for the following products: ♦ Equipment used on aircraft or satellites. (Refer as 15.255 (a)) ♦ Field disturbance sensors, including vehicle radar systems, unless the field disturbance sensors are employed for fixed operation. (Refer as 15.255 (a))
Group Installation	Operation is not permitted for the following products: ♦ External phase-locking (Refer as 15.255 (h))

3.6.2 Result of Operation Restriction

Manufacturer declares that EUT will not be used on aircraft or satellites. Then user manual will include a statement to caution EUT is not permitted for use on aircraft or satellites.

3.6.3 Result of Group Installation

The frequency, amplitude and phase of the transmit signal are set within the EUT. There are no external phase-locking inputs or any other means of combining two or more units together to realize a beam-forming array.



4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Feb. 25, 2026	Feb. 24, 2027	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Jan. 29, 2026	Jan. 28, 2027	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	May 14, 2025	May 13, 2026	Conduction (CO02-CB)
COND Cable	Woken	Cable	CO02	0.15MHz ~ 30MHz	Sep.14, 2025	Sep.13, 2026	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F-N	00378	9kHz ~ 30MHz	Sep.14, 2025	Sep.13, 2026	Conduction (CO02-CB)
Test Software	SPORTON	SENSE-EMI	V5.11	150kHz-30MHz	N.C.R.	N.C.R.	Conduction (CO02-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30MHz	Oct. 20, 2025	Oct. 19, 2026	Radiation (03CH03-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH03-CB	30MHz ~ 1GHz	Jan. 16, 2026	Jan. 15, 2027	Radiation (03CH03-CB)
Bilog Antenna with 6dB Attenuator	Schwarzbeck & EMC	VULB9168 & EMCI-N-6-06	1808 & AT-06039	25MHz ~ 1GHz	May 23, 2025	May 22, 2026	Radiation (03CH03-CB)
Amplifier	SGH	SGH301	20240606-1	30MHz ~ 1GHz	Jun. 03, 2025	Jun. 02, 2026	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP40	100019	9kHz ~ 40GHz	Jul. 17, 2025	Jul. 16, 2026	Radiation (03CH03-CB)
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 29, 2025	Oct. 28, 2026	Radiation (03CH03-CB)
RF Cable-low	Woken	RG402	Low Cable-02+29	30MHz ~ 1GHz	Jul. 15, 2025	Jul. 14, 2026	Radiation (03CH03-CB)
Test Software	SPORTON	SENSE-EMI	V5.11.10	30MHz-40GHz	N.C.R.	N.C.R.	Radiation (03CH03-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30MHz	Oct. 20, 2025	Oct. 19, 2026	Radiation (03CH05-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30MHz ~ 1GHz	Jul. 31, 2025	Jul. 30, 2026	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH05-CB	1GHz ~18GHz 3m	Sep. 27, 2025	Sep. 26, 2026	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 21, 2026	Mar. 20, 2027	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120 D-1291	1GHz~18GHz	Jun. 06, 2025	Jun. 05, 2026	Radiation (03CH05-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Oct. 07, 2025	Oct. 06, 2026	Radiation (03CH05-CB)
Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	May 01, 2025	Apr. 30, 2026	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz ~ 26.5GHz	Jun. 28, 2025	Jun. 27, 2026	Radiation (03CH05-CB)
Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 21, 2025	Nov. 20, 2026	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Apr. 21, 2025	Apr. 20, 2026	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 29, 2025	Oct. 28, 2026	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Sep. 25, 2025	Sep. 24, 2026	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-28	1GHz~18GHz	Sep. 25, 2025	Sep. 24, 2026	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+28	1GHz~18GHz	Sep. 25, 2025	Sep. 24, 2026	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40GHz	Feb. 11, 2026	Feb. 10, 2027	Radiation (03CH05-CB)
*Harmonic Mixer	R&S	FS-Z60	100114	40GHz~60GHz	Nov. 22, 2024	Nov. 21, 2026	Radiation (03CH05-CB)
*Harmonic Mixer	R&S	FS-Z90	102135	60GHz~90GHz	Sep. 13, 2024	Sep. 12, 2026	Radiation (03CH05-CB)
*Harmonic Mixer	R&S	FS-Z140	101160	90GHz~140GHz	Jan. 20, 2025	Jan. 19, 2027	Radiation (03CH05-CB)
*Harmonic Mixer	R&S	FS-Z220	101065	140GHz~220GHz	Jan. 20, 2025	Jan. 19, 2027	Radiation (03CH05-CB)
Standard Horn Antenna	Custom Microwave	M19RH	U91113-A	40 ~ 60 GHz	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Standard Horn Antenna	Custom Microwave	M12RH	E91113-A	60 ~ 90 GHz	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Standard Horn Antenna	Custom Microwave	M08RH	F91113-A	90 ~ 140 GHz	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Standard Horn Antenna	Custom Microwave	M05RH	G91113-A	140 ~ 220 GHz	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE-EMI	V5.11.10	30MHz-40GHz	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Spectrum analyzer	R&S	FSV40	101028	9kHz~40GHz	Jan. 14, 2026	Jan. 13, 2027	Radiation (TH03-CB)
Temp. and Humidity Chamber	Gaint Force	GTH-408-40-CP-AR	MAA1410-011	-40~100 degree	Aug. 25, 2025	Aug. 24, 2026	Radiation (TH03-CB)
RF Cable	Woken	RG402	High Cable-11	30MHz ~18 GHz	Sep. 30, 2025	Sep. 29, 2026	Radiation (TH03-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable	Woken	RG402	High Cable-12	30MHz –18 GHz	Sep. 30, 2025	Sep. 29, 2026	Radiation (TH03-CB)
RF Cable	Woken	RG402	High Cable-13	30MHz –18 GHz	Sep. 30, 2025	Sep. 29, 2026	Radiation (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz –18 GHz	Sep. 30, 2025	Sep. 29, 2026	Radiation (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz –18 GHz	Sep. 30, 2025	Sep. 29, 2026	Radiation (TH03-CB)

Note: Calibration Interval of instruments listed above is one year.

“*” Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.

5 Measurement Uncertainty

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.8 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (40GHz ~ 60GHz)	3.0 dB	Confidence levels of 95%
Radiated Emission (60GHz ~ 90GHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (90GHz ~ 200GHz)	3.1 dB	Confidence levels of 95%
Occupied Bandwidth	2.1 %	Confidence levels of 95%
Frequency Stability	0.02 ppm	Confidence levels of 95%
Radiated EIRP	3.2 dB	Confidence levels of 95%
Temperature	1.0°C	Confidence levels of 95%