

TEST REPORT

FCC/ISED Test for K44431501, 282F-431501
Class II Permissive Change

APPLICANT
JVCKENWOOD Corporation

REPORT NO.
HCT-RF-2602-FI002-R1

DATE OF ISSUE
March 9, 2026

Tested by
Jae Ryang Do



Technical Manager
Jong Seok Lee



This report is a revised document of Test Report HCT-RF-2602-FI002-R1 (Revision No.:).

HCT CO., LTD.
BongJai Huh
BongJai Huh / CEO



HCT CO.,LTD.

2-6, 73, 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea
Tel. +82 31 645 6300 Fax. +82 31 645 6401

TEST REPORT

REPORT NO.

HCT-RF-2602-FI002-R1

DATE OF ISSUE

March 09, 2026

Applicant**JVCKENWOOD Corporation**

3-12, Moriyacho, Kanagawa-ku, Yokohama-shi, Kanagawa, 221-0022, Japan

Product Name**UHF DIGITAL TRANSCEIVER****FCC Model Name**

NX-5300-K5, NX-5300-K6, NX-5300-F5, NX-5300-F6, TK-5330-F5, TK-5330-F6,
VP5330-F5, VP5330-F6, VP6330-F5, VP6330-F6, NX-5300S-K5, NX-5300S-K6

ISED Model Name

NX-5300-K5, NX-5300-K6, TK-5330-F5, TK-5330-F6, VP5330-F5, VP5330-F6,
VP6330-F5, VP6330-F6, NX-5300S-K5, NX-5300S-K6

FCC ID

K44431501

IC

282F-431501

Date of Test

January 07, 2026 ~ March 09, 2026

Location of Test

☒ Permanent Testing Lab ☐ On Site Testing Lab

(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

Test Standard Used

FCC Rule Part(s): §2, §22, §74, §90

ISED Rule Part(s):

RSS-Gen Issue 5 Amendment 2

RSS-119 Issue 12 Amendment 2

Test Results

PASS

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	February 12, 2026	Initial Release
1	March 09, 2026	1. Revised Section 8.2: - Added type of emission and the limit line. - Revised the detector settings. 2. Revised the test standard and procedure.

Notice

Content

The measurements shown in this report were made in accordance with the procedures specified in CFR47 section § 2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S.C. 853(a)

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the ISSED Rules under normal use and maintenance.

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked *.

Information provided by the applicant is marked **.

Test results provided by external providers are marked ***.

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

CONTENTS

1. GENERAL INFORMATION	6
2. EUT DESCRIPTION	6
3. INTRODUCTION	7
3.1. TEST METHODOLOGY	7
3.2. MEASURING INSTRUMENT CALIBRATION	7
3.3. TEST FACILITY	7
3.4. EQUIPMENT	8
3.5 DESCRIPTION OF TEST MODES	8
4. MEASUREMENT UNCERTAINTY	9
5. SUMMARY TEST OF RESULTS	10
6. TEST LIMIT	12
7. DESCRIPTION OF TESTS	14
7.1 Carrier Output Power	14
7.2 Carrier Frequency Stability	15
7.3 Occupied Bandwidth	16
7.4 Modulation Limiting	17
7.5 Audio Frequency Response / Audio Low Pass Filter Response	17
7.6 Emission Mask	19
7.7 Transient Frequency Behavior	21
7.8 Unwanted Emissions : Conducted Spurious Emission	23
7.9 Unwanted Emissions : Radiated Spurious Emission	24
7.10 Unwanted Emissions : Receiver Radiated Spurious Emission	25
8. TEST RESULT	27
8.1 Carrier Output Power	27
8.2 Emission Mask	28
8.3 Unwanted Emissions: Radiated Spurious Emission	31
8.4 Simultaneous transmission	32
9. LIST OF TEST EQUIPMENT	34
10. ANNEX A_ TEST SETUP PHOTO	35

1. GENERAL INFORMATION

Manufacturer:	JVCKENWOOD Corporation
Address:	3-12, Moriyacho, Kanagawa-ku, Yokohama-shi, Kanagawa, 221-0022, Japan
FCC ID:	K44431501
IC:	282F-431501
EUT Type:	UHF DIGITAL TRANSCEIVER
PMN: (Product Marketing Name)	NX-5300-K5, NX-5300-K6, TK-5330-F5, TK-5330-F6, VP5330-F5, VP5330-F6, VP6330-F5, VP6330-F6, NX-5300S-K5, NX-5300S-K6
HMN: (Host Marketing Number)	N/A
HVIN: (Hardware Version Identification Number)	NX-5300-K5, NX-5300-K6, TK-5330-F5, TK-5330-F6, VP5330-F5, VP5330-F6, VP6330-F5, VP6330-F6, NX-5300S-K5, NX-5300S-K6
FVIN: (Firmware Version Identification Number)	N/A

2. EUT DESCRIPTION

Power Supply Voltage	DC 7.5V
Output Power	5 W (Power output continuously variable to 1 W)
Channel Bandwidth	FCC : 12.5kHz / 6.25kHz ISED : 25kHz / 12.5kHz / 6.25kHz
Operating Temperature	-30 °C ~ +30 °C
Frequency Range	FCC: 406.1 - 470 MHz ISED: 406.1 – 430 MHz and 450 – 470 MHz

3. INTRODUCTION

3.1. TEST METHODOLOGY

FCC:

TIA-603-E & ANSI 63.26-2015 were used in the measurement.

ISED:

RSS-119 Issue 12 Amendment 2, RSS-Gen Issue 5 Amendment 2, and ANSI C63.26-2015 were used in the measurement.

3.2. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

3.3. TEST FACILITY

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea. The site is constructed in conformance with the requirements of ANSI C63.4-2014 and CISPR Publication 22.

Detailed description of test facility was submitted to the Commission and accepted dated March 11, 2024 (Registration Number: KR0032).

The site is constructed in conformance with the requirements of ANSI C63.4-2014 + C63.4a-2017 and ANSI C63.25.1-2018.

Detailed description of test facility was submitted to the Commission and accepted dated March 13, 2024 (CAB identifier: KR0032).

The Fully-anechoic chamber and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea.

Detailed description of test facility was submitted to the Commission and accepted dated March 11, 2024 (Registration Number: KR0032).

The SAC(Semi-Anechoic Chamber) facility for Receiver Spurious Emissions constructed in conformance with the requirements of ANSI C63.4-2014 + C63.4a-2017 and ANSI C63.25.1-2018.

Detailed description of test facility was submitted to the Commission and accepted dated March 13, 2024 (CAB identifier: KR0032).

3.4. EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements. Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to ANSI/USEMCSC C63.2-2023, "American National Standard for Specifications of Electromagnetic Interference and Field Strength Measuring Instrumentation in the Frequency Range 9 kHz to 40 GHz".

3.5 DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting is programmed.

4. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014.

All measurement uncertainty values are shown with a coverage factor of $k=2$ to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty ($\pm$ dB)
Emission Mask	0.70 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.54 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.74 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.80 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.86 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (Above 40 GHz)	5.44 (Confidence level about 95 %, $k=2$)

5. SUMMARY TEST OF RESULTS

Test Requirement	FCC Part Section(s)	ISED Part Section(s)	Test Condition	Test Result	Status
Carrier RF Output Power	\$2.1046, \$22.565, \$74.461, \$90.205	RSS119 (5.4)	Conducted	PASS	C ^{Note3, 4}
Unwanted Emissions	\$2.1051, \$22.359, \$74.462, \$74.535, \$90.210	RSS119 (5.8)		PASS	NT ^{Note2}
99% Bandwidth	N/A	RSS119 (5.5)		PASS	NT ^{Note2}
Carrier Frequency Stability	\$2.1055, \$22.355, \$74.464, \$90.213(a)	RSS119 (5.3)		PASS	NT ^{Note2}
Audio Frequency Response	\$2.1047(a)	-		PASS	NT ^{Note2}
Audio Low Pass Filter	\$2.1047(a)	-		PASS	NT ^{Note2}
Modulation Limiting	\$2.1047(b), \$74.463,	-		PASS	NT ^{Note2}
Transient Frequency Behavior	\$74.462, \$90.214	RSS119 (5.9)		PASS	NT ^{Note2}
Emission Mask	\$2.1049, \$22.359, \$74.462, \$74.535, \$90.210	RSS119 (5.8)		PASS	C ^{Note3, 4}
Field Strength of Spurious Radiation	\$2.1053, \$22.359, \$74.462, \$74.535, \$90.210	RSS119 (5.8)	Radiated	PASS	C ^{Note3, 4}
Receiver Spurious Emissions	N/A	RSS-Gen(7)		PASS	NT ^{Note2}

Note:

1. C = Comply, NT = Not Tested, NA = Not Applicable, NC = Not Comply
2. The C2PC models are electrically identical to the original models. therefore, only selected test requirement were spot checked.
3. The data from that application has been verified through worst-case spot checks to demonstrate the device compliance, as shown in the test results in Section 8.
Please refer to the worst-case below.

Worst-case

1) Carrier RF Output Power:

- Type of emission: 8K30F1E, 8K30F1D, 8K30F7W
- Channel Bandwidth: 12.5 kHz
- Frequency: 406.15 MHz

2) Emission Mask:

Type of emission	Channel Bandwidth (kHz)	Frequency (MHz)
16K0F3E	25	406.15
11K0F3E	12.5	406.15
4K00F2D	6.25	469.95

3) Field Strength of Spurious Radiation:

- Type of emission: 11K0F3E
- Channel Bandwidth: 12.5 kHz
- Frequency: 469.95 MHz

4. The output power was confirmed to be within the tune-up range prior to the RSE spot checks.
This confirms that the digital circuit changes have no adverse effect on the original compliance data.
5. The NX-5300-K6 model was tested among various models.
6. The decision rule applies 'simple acceptance'

6. TEST LIMIT

Test Requirement	FCC	ISED
Carrier RF Output Power	Varies	60W
Unwanted Emissions	6.25 kHz: 55+ 10 log (P)dB 12.5 kHz: 50 + 10 log (P)dB 25 kHz: 43 + 10 log (P)dB	6.25 kHz: 55+ 10 log (P)dB 12.5 kHz: 50 + 10 log (P)dB 25 kHz: 43 + 10 log (P)dB
99% Bandwidth(ISED)	N/A	6.25 kHz: 6 kHz 12.5 kHz: 11.25kHz 25 kHz: 20 kHz
Carrier Frequency Stability	6.25 kHz = 1 ppm 12.5 kHz = 2.5 ppm 25 kHz = 5 ppm	6.25 kHz = 1 ppm 12.5 kHz = 2.5 ppm 25 kHz = 5 ppm
Audio Frequency Response	Varies	N/A
Audio Low Pass Filter		
Modulation Limiting	25 kHz = 5 kHz 12.5 kHz = 2.5 kHz	N/A
Transient Frequency Behavior	Note ¹	Note ¹
Emission Mask	Emission Mask B, D, E	Emission Mask B, D, E
Field Strength of Spurious Radiation	6.25 kHz: 55+ 10 log (P)dB 12.5 kHz: 50 + 10 log (P)dB 25 kHz: 43 + 10 log (P)dB	6.25 kHz: 55+ 10 log (P)dB 12.5 kHz: 50 + 10 log (P)dB 25 kHz: 43 + 10 log (P)dB
Receiver Spurious Emissions	N/A	Note ²

Note:
1. Transient Frequency Behavior Limit :

Channel Bandwidth (kHz)	Time Intervals	Maximum Frequency Difference (kHz)	Transient Duration	
			138-174 MHz	406.1-512 MHz
25	t ₁	±25	5	10
	t ₂	±12.5	20	25
	t ₃	±25	5	10
12.5	t ₁	±12.5	5	10
	t ₂	±6.25	20	25
	t ₃	±12.5	5	10
6.25	t ₁	±6.25	5	10
	t ₂	±3.125	20	25
	t ₃	±6.25	5	10

2. Receiver Spurious Emissions Limit :

Frequency (MHz)	Field Strength (µv/m at 3meters)
30 – 88	100
88 - 216	150
216 – 960	200
Above 960	500

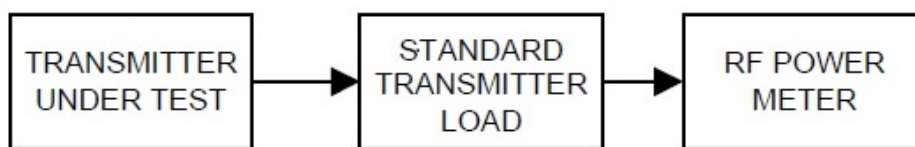
7. DESCRIPTION OF TESTS

7.1 Carrier Output Power

▣ DEFINITION

The conducted carrier power output rating for a transmitter is the power available at the output terminals of the transmitter when the output terminals are connected to the standard transmitter load.

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

ANSI C63.26-2015 Section 5.2.4.2

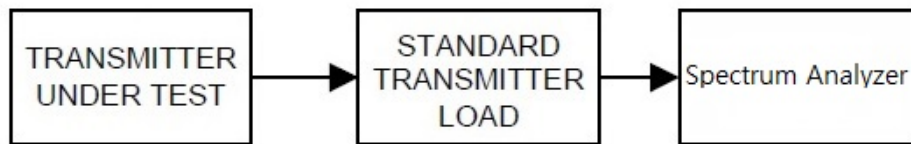
- a) Connect the equipment as illustrated.
- b) Detector: AVG RMS measurement
- c) Measure the transmitter output power during the defined duty cycle.
Correct for all losses in the RF path.
- d) The value recorded in step b) is the conducted carrier output power rating.

7.2 Carrier Frequency Stability

▣ DEFINITION

The carrier frequency stability is the ability of the transmitter to maintain an assigned carrier frequency.

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

ANSI C63.26-2015 Section 5.6

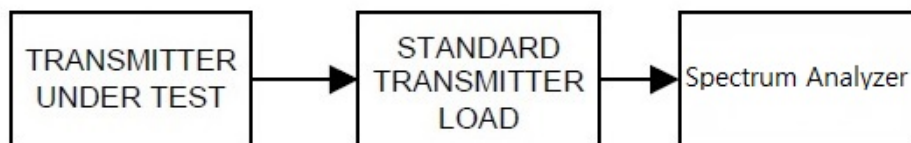
- a) The carrier frequency of the transmitter is measured at room temperature (20 °C to provide a reference).
- b) The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter.
Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
- c) Frequency measurements are made at 10 °C intervals ranging from -30 °C to +50 °C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level

7.3 Occupied Bandwidth

■ DEFINITION

The transmitter sideband spectrum denotes the sideband power produced at a discrete frequency separation from the carrier up to the test bandwidth (see TIA-603-E Section 1.3.4.4) due to all sources of unwanted noise within the transmitter in a modulated condition.

■ TEST CONFIGURATION



■ TEST PROCEDURE

ANSI C63.26-2015 Section 5.4.4

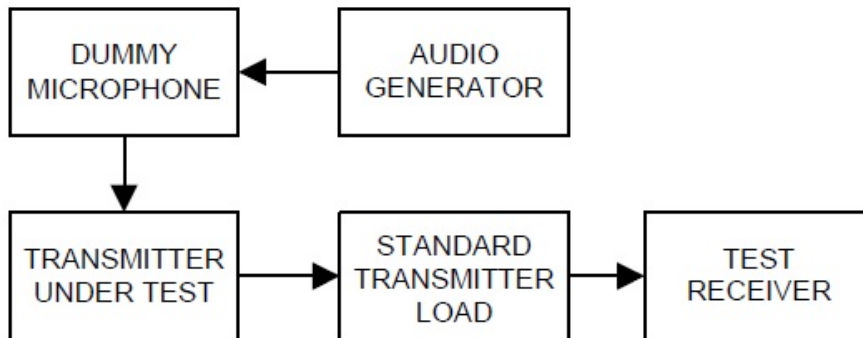
- a) The signal analyzer's automatic bandwidth measurement capability was used to perform the 99 % occupied bandwidth and the 26 dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- b) $RBW = 1 - 5\%$ of the expected OBW
- c) $VBW \geq 3 \times RBW$
- d) Detector = Peak
- e) Trace mode = max hold
- f) Sweep = auto couple
- g) The trace was allowed to stabilize

7.4 Modulation Limiting

▣ DEFINITION

Modulation limiting is the transmitter circuit's ability to limit the transmitter from producing deviations in excess of a rated system deviation.

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

FCC: TIA-603-E Section 2.2.3

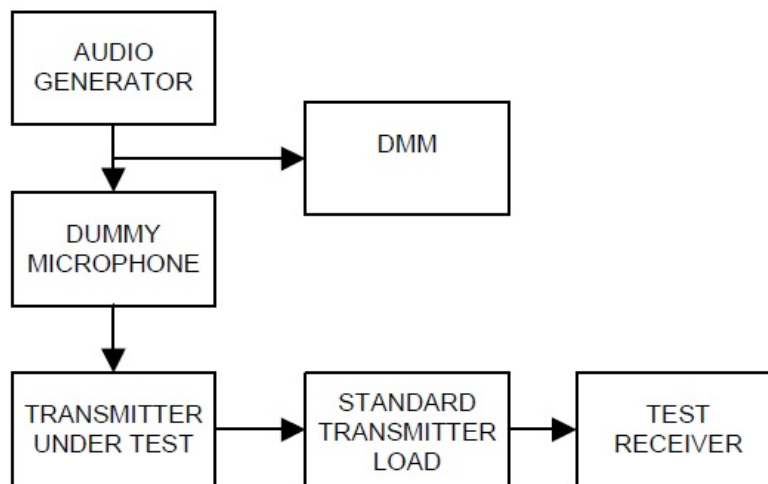
- Connect the equipment as illustrated.
- Adjust the transmitter per the manufacturer's procedure for full rated system deviation.
- Set the test receiver to measure Peak positive deviation.
Set the audio bandwidth for ≤ 0.25 Hz to $\geq 15,000$ Hz.
Turn the de-emphasis function off.
- Apply a 1000 Hz modulating signal to the transmitter from the audio frequency generator, and adjust the level obtain 60% of full rated system deviation.
- Increase the level from the audio frequency generator by 20 dB in one step (rise time between the 10% and 90% points shall be 0.1 second maximum).
- Measure both the instantaneous and steady-state deviation at and after the time of increasing the audio input level.
- With the level from the audio frequency generator held constant at the level obtained in step e), Slowly vary the audio frequency from 300 Hz to 3000 Hz and observe the steady-state deviation. Record the maximum deviation.
- Set the test receiver to measure Peak negative deviation and repeat steps d) through g).
- The values recorded in steps g) and h) are the modulation limiting.

7.5 Audio Frequency Response / Audio Low Pass Filter Response

▣ DEFINITION

The audio frequency response is the degree of closeness to which the frequency deviation of the transmitter follows a prescribed characteristic.

▣ TEST CONFIGURATION



■ TEST PROCEDURE

FCC: TIA-603-E Section 2.2.6

- a) Connect the equipment as illustrated.
- b) Set the test receiver to measure Peak positive deviation. Set the audio bandwidth for ≤ 50 Hz to $\geq 15,000$ Hz. Turn the de-emphasis function off.
- c) Set the DMM to measure rms voltage.
- d) Adjust the transmitter per the manufacturer's procedure for full rated system deviation.
- e) Apply a 1000 Hz tone and adjust the audio frequency generator to produce 20% of the rated system deviation.
- f) Set the test receiver to measure rms deviation and record the deviation reading.
- g) Record the DMM reading as V_{REF} .
- h) Set the audio frequency generator to the desired test frequency between 300 Hz and 3000 Hz.
- i) Vary the audio frequency generator output level until the deviation reading that was recorded in step f) is obtained.
- j) Record the DMM reading as V_{FREQ} .
- k) Calculate the audio frequency response at the present frequency as:
audio frequency response = $20 \times \log_{10}(V_{FREQ}/V_{REF})$
- l) Repeat steps h) through k) for all the desired test frequencies.

Note

Audio Filter of the above result is substituted with the same structure as Audio Frequency Response.

On the transmission condition below 3kHz, Transceiver shows pre-emphasis condition of transmission function.

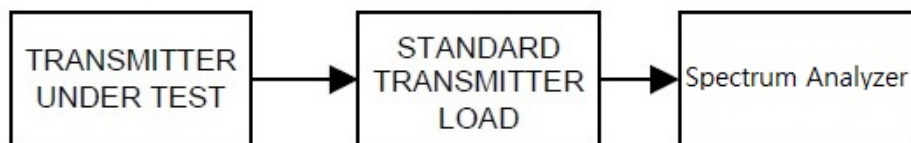
On the transmission condition above 3kHz, Transceiver shows Audio Low Pass Filter.

7.6 Emission Mask

■ DEFINITION

The transmitter sideband spectrum denotes the sideband power produced at a discrete frequency separation from the carrier up to the test bandwidth (see 1.3.4.4) due to all sources of unwanted noise within the transmitter in a modulated condition.

■ TEST CONFIGURATION



■ TEST PROCEDURE

FCC: TIA-603-E Section 2.2.11

ISED: RSS-119 Section 4.2

- a) Connect the equipment as illustrated. Use the table to determine the spectrum analyzer setting:
 - RBW = 300Hz(Emission Mask B), 100Hz(Emission Mask D, E)
 - VBW $\geq 3 \times$ RBW
 - Detector = Average(Emission Mask B), Peak(Emission Mask D, E)
 - Trace mode = Average(Emission Mask B), Max hold(Emission Mask D, E)
- b) Modulate the transmitter with a 2500 Hz sine wave at an input level 16 dB greater than that necessary to produce 50% of rated system deviation. The input level shall be established at the frequency of maximum response of the audio modulating circuit. Transmitters employing digital modulation techniques that bypass the limiter and the audio low-pass filter shall be modulated as specified by the manufacturer.

7.7 Transient Frequency Behavior

■ DEFINITION

Transient frequency behavior is a measure of the difference, as a function in time, of the actual transmitter frequency to the assigned transmitter frequency when the transmitted RF output power is switched on or off.

■ TEST CONFIGURATION



■ TEST PROCEDURE

ANSI C63.26-2015 Section 6.5.2.2

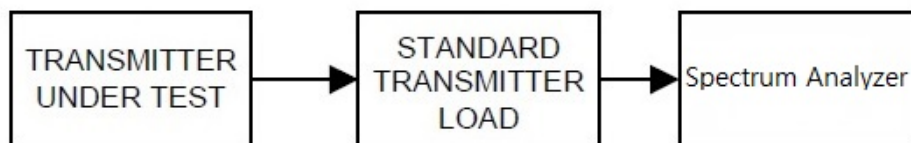
- a) Connect the equipment as illustrated
- b) Verify RF attenuator power rating for EUT providing adequate protection to the combining network and measurement equipment.
- c) Tune spectrum analyzer center frequency to EUT frequency and span to at least 100 kHz. Set amplitude according to EUT RF power.
- d) Switch transmitter on and adjust settings in accordance with step c); switch transmitter to the off position.
- e) Set analyzer to FM mode; re-tune analyzer to EUT frequency and span according to step c), while in FM demodulation mode.
- f) An RF test signal of the same frequency as the EUT from the signal generator shall be modulated by a frequency of 1 kHz with a deviation equal to plus or minus the value of the channel spacing (separation). The RF signal strength shall be adjusted allowing the analyzer to demodulate the signal in FM mode.
- g) Adjust analyzer x axis to capture at least 100 ms of demodulated signal.
- h) Adjust analyzer y axis for the correct deviation amplitude.
- i) The analyzer display should show a continuous 1 kHz signal and the channel spacing deviation amplitude.
- j) Change analyzer settings to single sweep and external trigger. For newer analyzers, the channel bandwidth might have to be adjusted for the correct sample rate and sweep speed.
- k) Turn on EUT and adjust analyzer to display desired signal by adjusting trigger settings and considerations in step j). Turn off EUT.
- l) Repeat step k) until optimum set-up is achieved.
- m) Start measurement by turning on EUT. Observe measurements results in analyzer display, EUTON starts at the moment the 1 kHz signal is suppressed (t_2). See Figure 11 for transient frequency behavior with switch on.
- n) Record values observed in step m) as frequency difference versus time.
- o) Turn off EUT. EUTOFF is considered at the start of the 1 kHz signal defined as t_3 .
- p) Record the values observed in step o) as frequency difference versus time.

7.8 Unwanted Emissions : Conducted Spurious Emission

■ DEFINITION

Conducted spurious emissions are emissions at the antenna terminals on a frequency or frequencies that are outside a band sufficient to ensure transmission of information of required quality for the class of communication desired.

■ TEST CONFIGURATION



■ TEST PROCEDURE

FCC: ANSI C63.26-2015 Section 5.7

ISED: ANSI C63.26-2015 Section 5.7/ RSS-119 Section 4.2

- a) RBW = 100 kHz(Below 1GHz), 1 MHz(Above 1GHz)
- b) VBW $\geq$ 3 MHz
- c) Detector = Average(Emission Mask B), Peak(Emission Mask D, E)
- d) Trace mode = Average(Emission Mask B), Max hold(Emission Mask D, E)
- e) Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$ (Emission Mask B)
Number of points in sweep = Auto (Emission Mask D, E)
- f) Sweep time > number of points in sweep $\times$ symbol period (Emission Mask B)
Sweep time > number of points in sweep $\times$ symbol period (Emission Mask D, E)

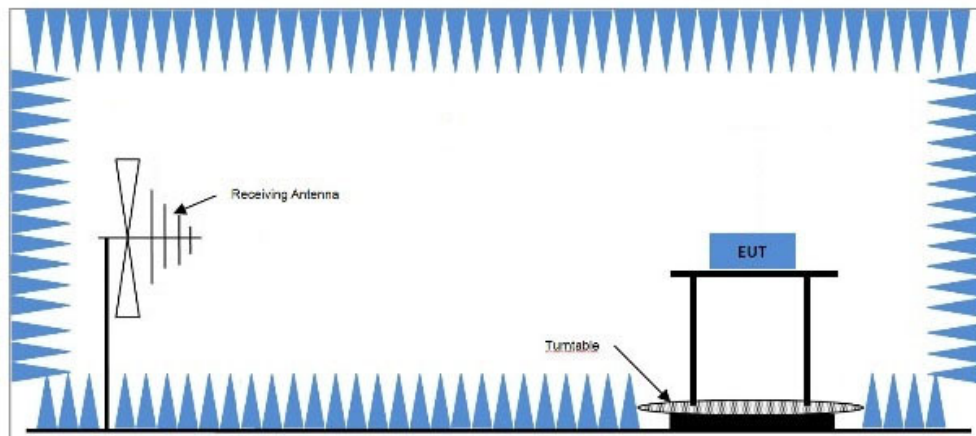
7.9 Unwanted Emissions : Radiated Spurious Emission

■ DEFINITION

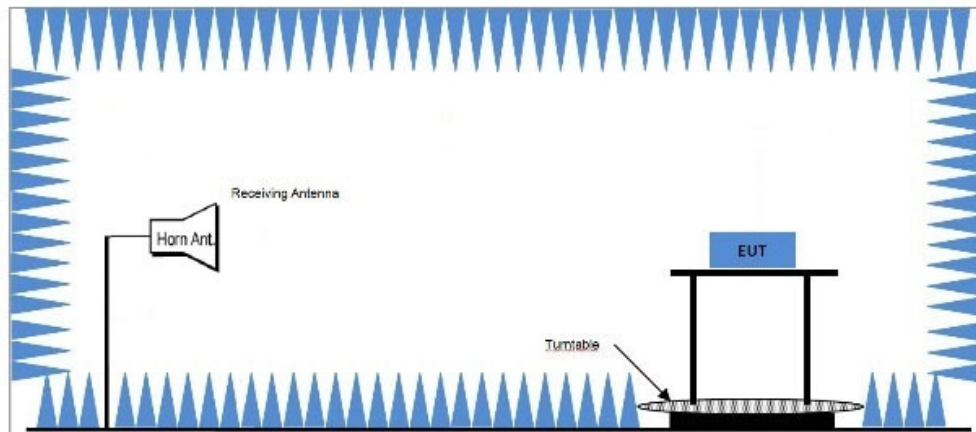
Radiated spurious emissions are emissions from the equipment when transmitting into a non-radiating load on a frequency or frequencies that are outside an occupied band sufficient to ensure transmission of information of required quality for the class of communications desired.

■ TEST CONFIGURATION

Below 1 GHz



Above 1 GHz



■ TEST PROCEDURE

FCC: ANSI C63.26-2015 Section 5.5.3

ISED: ANSI C63.26-2015 Section 5.5.3/ RSS-119 Section 4.2

- a) Radiated tests are performed in the Fully-anechoic chamber.
- b) RBW = 100 kHz(Below 1GHz), 1 MHz(Above 1GHz)
- c) VBW $\geq$ 3 MHz
- d) Detector = Average(Emission Mask B), Peak(Emission Mask D, E)
- e) Trace mode = Average(Emission Mask B), Max hold(Emission Mask D, E)
- f) In the fully-anechoic chamber, setup as illustrated above the DUT placed on the 2.5m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization.
The “Read Value” is the spectrum reading the maximum power value.
- g) The substitution antenna is substituted for DUT at the same position and signals generator (S.G) export the CW signal to the substitution antenna via a TX cable. The receiver antenna shall be rotated vertical and horizontal polarization to find the maximum radiation power.
Record the power level of maximum radiation power from spectrum.
So, the measured Factor value = Ref level of S.G + TX cables loss – Substituted Antenna Gain.
- h) Result(dBm) = “Reading” + Factor

7.10 Unwanted Emissions : Receiver Radiated Spurious Emission

■ TEST PROCEDURE

ISED: RSS-Gen Section 7

a) Radiated tests are performed in the Semi Anechoic Chamber.

b) Test Settings:

Operating conditions:	Under normal test conditions
Operation Mode:	Receive
Method of testing:	Radiated
S/A. Settings:	F < 1 GHz: RBW: 120 kHz, VBW: 300 kHz (Quasi-Peak) F > 1 GHz: RBW: 1 MHz, VBW: 1 MHz (Average)
Mode of operation:	Receive

8. TEST RESULT

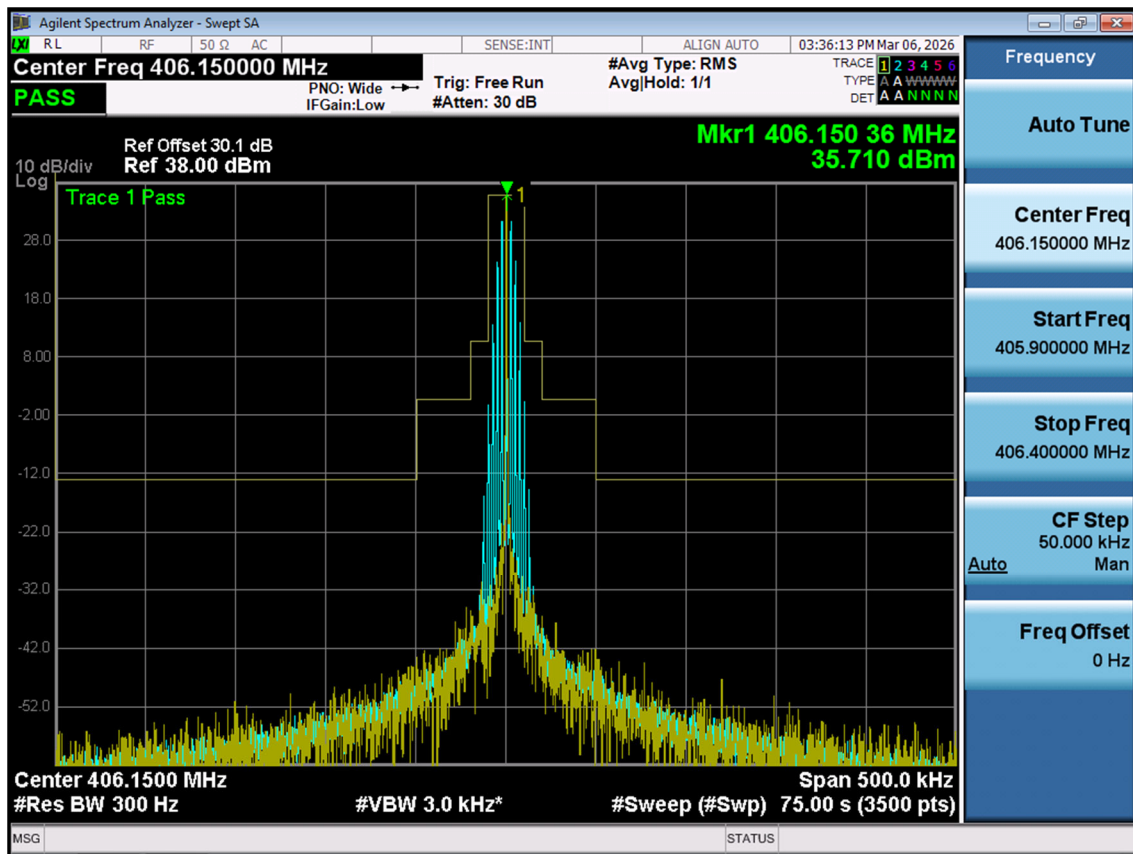
8.1 Carrier Output Power

■ MODE:	Digital
■ TYPE OF EMISSION:	8K30F1E,8K30F1D,8K30F7W
■ CHANNEL SPACING:	12.5 kHz
■ FREQUENCY (MHz):	406.15

Test Result			
Original		C2PC	
dBm	W	dBm	W
37.00	5.01	36.63	4.60

8.2 Emission Mask

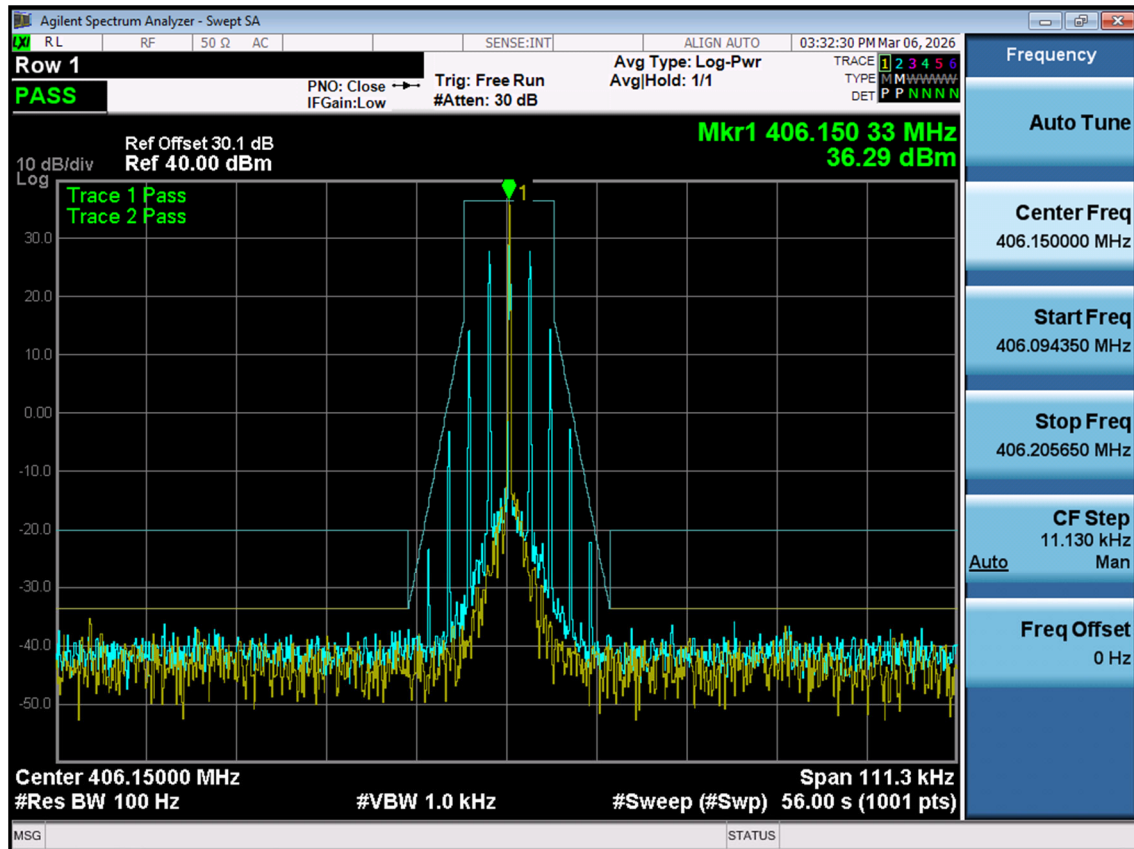
☒ TYPE OF EMISSION: 16K0F3E
☒ CHANNEL SPACING: 25 kHz
☒ FREQUENCY (MHz):: 406.15



Note:

1. Emission Mask B.

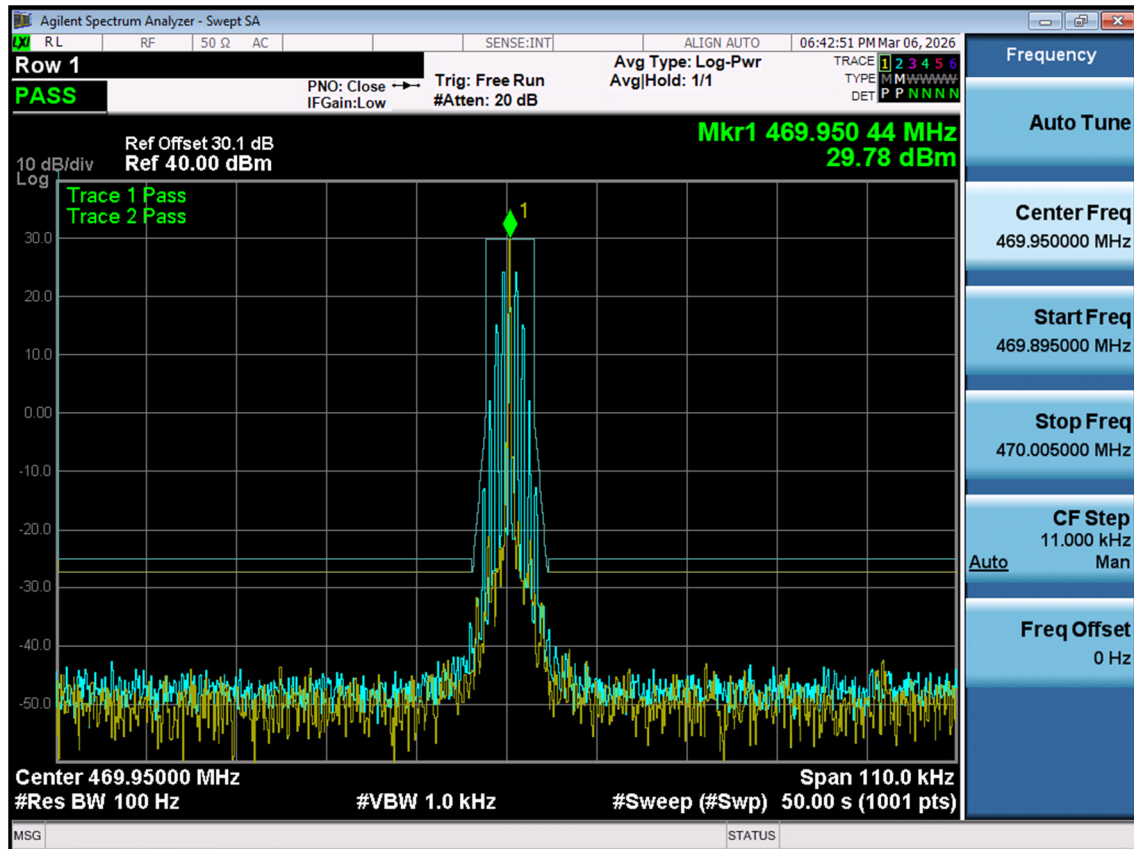
☒ TYPE OF EMISSION: 11K0F3E
☒ CHANNEL SPACING: 12.5 kHz
☒ FREQUENCY (MHz):: 406.15



Note:

1. Emission Mask D.
2. Applied the blue line with the lesser limit

☒ TYPE OF EMISSION: 4K00F2D
☒ CHANNEL SPACING: 6.25 kHz
☒ FREQUENCY (MHz):: 469.95



Note:

1. Emission Mask E.
2. Applied the blue line with the lesser limit.

8.3 Unwanted Emissions: Radiated Spurious Emission

■ MODE: Analog
■ TYPE OF EMISSION: 11K0F3E
■ Channel Bandwidth: 12.5 kHz
■ FREQUENCY (MHz):: 469.95

Measured Frequency (MHz)	Reading [dBm]	Factor (dB)	Pol	Result (dBm)	Limit (dBm)	Margin (dB)
1879.80	-44.13	-6.90	H	-51.03	-20.00	31.03

8.4 Simultaneous transmission

Worst-case

Simultaneous transmission Scenario	UHF	Bluetooth	Bluetooth LE	Worst-case Scenario
WWAN + Bluetooth	on	on		
WWAN + Bluetooth LE	on		on	O

Test Configuration	LMR	Bluetooth LE
Frequency (MHz)	469.95	2402
Mode	11K0F3E	1 Mbps

Note

1. The worst-case configuration was selected based on the result with the minimum RSE margin for each test (UHF, Bluetooth, and Bluetooth LE).
 2. Simultaneous transmission testing was performed in a Semi-Anechoic Chamber (SAC).
 3. No intermodulation signals were detected during the simultaneous transmission testing.
 4. Spurious emissions from the UHF and Bluetooth LE carriers were tested in accordance with their respective FCC/ISED regulations.
- All results comply with the applicable limits, as summarized in the table below.

Bluetooth LE

Frequency [MHz]	Measured value [dBμV]	Duty Cycle Factor [dB]	C.L.+A.F.+D.F.-A.G. [dB/m]	ANT. POL [H/V]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4 804	47.51	7.69	3.05	H	50.56	73.98	23.42	PK
4 804	31.42	7.69	3.05	H	42.16	53.98	11.82	AV

UHF

Frequency [MHz]	Measured value [dBμV]	C.L.+A.F. [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Result [dBm]	Limit [dBm]	Margin [dB]
1879.80	16.95	33.83	V	50.78	-44.42	-20.00	24.42

9. LIST OF TEST EQUIPMENT

Equipment	Model	Manufacture	Serial No.	Due to Calibration	Calibration Interval
Audio Analyzer	8903B	Hewlett Packard	3413A13913	2026-08-18	Annual
Modulation Analyzer	8901B	Hewlett Packard	2406A00169	2026-07-04	Annual
SMA-50-010	5930	HUBER+SUHNER	56	2026-09-16	Annual
Horn Antenna	BBHA 9120D	Schwarzbeck	03197	2026-11-28	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	03201	2026-11-28	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	2027-03-05	Biennial
Hybrid Antenna	VULB9168	Schwarzbeck	760	2027-02-17	Biennial
RF Switching System	1G HPF + LNA	HCT CO., LTD.,	F2L2	2026-12-01	Annual
TUNABLE NOTCH FILTER	220NFNM	EAGLE	H00564-7	2026-09-22	Annual
TUNABLE NOTCH FILTER	220NFNM	EAGLE	H00564-8	2026-09-22	Annual
TUNABLE NOTCH FILTER	220NFNM	EAGLE	H00564-9	2026-09-22	Annual
TUNABLE NOTCH FILTER	220NFNM	EAGLE	H00564-10	2026-09-22	Annual
SIGNAL GENERATOR	SMB100A	ROHDE & SCHWARZ	177633	2026-07-22	Annual
Spectrum Analyzer	FSV40	ROHDE & SCHWARZ	101733	2026-09-17	Annual
Spectrum Analyzer	N9020A	Agilent	MY52090906	2026-04-14	Annual
DC POWER SUPPLY	E3632A	Agilent	MY50360067	2027-01-27	Annual
Controller (Antenna mast & Turn Table)	CO3000	Innco system	CO3000-4p	N/A	N/A
Antenna Position Tower	MA4640/800-XP-EP	Innco system	S3AM	2026-07-25	Annual
Turn Table	DS1500-S-1t	Innco system	N/A	N/A	N/A
Hybrid Antenna	VULB 9168	Schwarzbeck	9168-1135	2026-08-19	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	9120D-1191	2027-10-21	Biennial
Amp & Filter Bank Switch Controller	FBSM-01A	TNM system	0	N/A	N/A
RF Switching System	FBSR-03A (3G HPF+LNA)	T&M SYSTEM	S3L1	2026-10-20	Annual
RF Switching System	FBSR-03A (10dB ATT+LNA)	T&M SYSTEM	S3L2	2026-10-20	Annual
RF Switching System	FBSR-03A (7G HPF+LNA)	T&M SYSTEM	S3L3	2026-10-20	Annual
RF Switching System	FBSR-03A (3dB ATT+LNA)	T&M SYSTEM	S3L4	2026-10-20	Annual
Automation Software	FCC WLAN Radiated	HCT CO., LTD.	-	-	-
Power Amplifier	CBL18265035	CERNEX	22966	2026-10-21	Annual
Spectrum Analyzer	FSW85	Rohde & Schwarz	101256	2026-10-16	Annual
High Pass Filter	F5_HPF 1.5G	Wainwright Instruments GmbH	F5	2026-05-09	Annual

Note:

- Equipment whose calibration due date was updated during the test period was not used between the previous due date and the update.
All reported measurements were performed using equipment within valid calibration.
- Especially, all antenna for measurement is calibrated in accordance with the requirements of ANSI C63.5-2017.

10. ANNEX A_ TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

No.	Description
1	HCT-RF-2602-FI002-P