TEST REPORT

FCC Test for LGSRFT3
Certification

APPLICANT
LG Electronics Inc.

REPORT NO.
HCT-RF-2511-FC006-R3

DATE OF ISSUE
November 26, 2025

Tested by
Ki Jae Kwon

Technical Manager
Jong Seok Lee

Accredited by KOLAS, Republic of KOREA

HCT CO., LTD.
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

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

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Applicant	LG Electronics Inc. 222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do 17709, Republic of Korea
Product Name Model Name	RF Module LGSRFT3
FCC ID	2BO3LLGSRFT3
Date of Test	September 09, 2025 ~ November 13, 2025
Location of Test	■ Permanent Testing Lab ☐ On Site Testing (Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)
Test Standard Used	Part 15.255
Test Results	PASS
Brand	LG

REVISION HISTORY

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

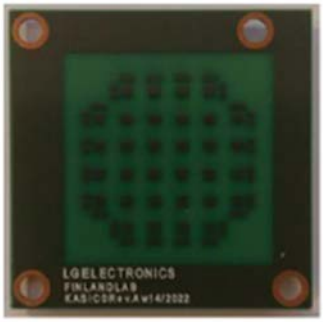
Revision No.	Date of Issue	Description
0	November 13, 2025	Initial Release
1	November 21, 2025	- We revised the OBW section's Note. - We revised the Test Configuration above 40 GHz. - We added an AC Power Line test section. - We added a Test Plot for SPURIOUS EMISSIONS. - Added equipment to the equipment list. - Added Conducted Disturbance to the MEASUREMENT UNCERTAINTY. - Added equipment to the equipment list
2	November 25, 2025	- We have added the power value of MCS0 to the worst data rate
3	November 26, 2025	- Added specification information to each test method. - We revised the Spurious Emissions plot.

Notice

Content
Engineering Statement: 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 FCC 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 This test report provides test result(s) under the scope accredited by the Korea Laboratory Accreditation Scheme (KOLAS), which signed the ILAC-MRA. (KOLAS (KS Q ISO/IEC 17025) Accreditation No. KT197)

CONTENTS

1. EUT DESCRIPTION

Model	LGSRFT3
Additional Model	-
EUT Type	RF Module
EUT Serial Number	LGSRFT3-01
Power Supply	DC 15.0 V
Frequency Range	57 GHz ~ 66 GHz
Modulation Type	QPSK, BPSK, 16QAM
Antenna Specification	Antenna type: Patch Array Antenna Peak Gain: 20 dBi 

2. TEST METHODOLOGY

The measurement procedure described in the “American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices” (ANSI C63.10-2020) Operating Under 47 CFR § 15.255 were used in the measurement.

2.1 EUT CONFIGURATION

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

2.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx Frequency that was for the purpose of the measurements.

2.3 GENERAL TEST PROCEDURES

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above the ground plane below 1 GHz and 1.5 m above 1 GHz with absorbers between the EUT and receiving antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set far-field distance away from the receiving antenna, which varied from 1 m to 4 m 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 8 of ANSI C63.10-2020.

2.4 DESCRIPTION OF TEST MODES

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

3. 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's, which is traceable to recognized national standards.
Especially, all antennas(Up to 40 GHz) for measurement are calibrated in accordance with the requirements of C63.5-2006.

4. FACILITIES AND ACCREDITATIONS

4.1 FACILITIES

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).

4.2 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 CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5. ANTENNA REQUIREMENTS

According to FCC 47 CFR § 15.203:

An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

(1) The antennas of this E.U.T are permanently attached.

(2) The E.U.T Complies with the requirement of § 15.203

6. MEASUREMENT UNCERTAINTY

Parameter	Expanded Uncertainty
Occupied Bandwidth	95 kHz
RF Output Power	0.68 dB
Conducted Disturbance (150 kHz ~ 30 MHz)	1.54 dB
Radiated Disturbance (9 kHz ~ 30 MHz)	4.36 dB
Radiated Disturbance (30 MHz ~ 1 GHz)	5.68 dB
Radiated Disturbance (1 GHz ~ 18 GHz)	5.75 dB
Radiated Disturbance (18 GHz ~ 40 GHz)	5.82 dB
Radiated Disturbance (Above 40 GHz)	5.58 dB
Transmitter Frequency Stability	27.94 kHz

Coverage factor $k = 2$, Confidence levels of 95 %

7. SUMMARY TEST OF RESULTS

Test Description	FCC Part Section(s)	Test Limit			Test Condition	Test Result
AC Power Line Conducted Emissions	§ 15.207	Frequency (MHz)	Quasi-peak (dBμV)	Average (dBμV)	Conducted	PASS
		0.15 – 0.5	66 to 56	56 to 46		
		0.5 – 5	56	46		
		5 - 30	60	50		
Occupied Bandwidth	§ 2.1049	N/A			Radiated	PASS
RF Output Power	§ 15.255(c)(1)(i)	< EIRP 40 dBm (Average) < EIRP 43 dBm (Peak)				PASS
	§ 15.255(e)(1)	< 500 mW (Peak Conducted)				
Spurious Emissions	§ 15.209, § 15.255(d)	0.009 – 0.490 MHz: 2400/F[kHz] 0.490 – 1.705 MHz: 24000/F[kHz] 1.705 – 30.0 MHz: 29.5 dBμV/m 30 – 88 MHz: 40.0 dBμV/m 88 – 216 MHz: 43.5 dBμV/m 216 – 960 MHz: 46.0 dBμV/m 960 – 40 000 MHz: 54.0 dBμV/m 40 – 200 GHz: < -9.92 dBm(EIRP)				PASS
Frequency Stability	§ 15.255(f)	57.0 ~ 66.0 GHz				PASS

Note:

1. The decision rule applies 'simple acceptance'

Worst data rate

Frequency (GHz)	Data rate (Mbps)	Total [dBm]
59.4	MCS 0	**34.17**
59.4	**MCS 1**	**36.04**
59.4	MCS 2	35.95
59.4	MCS 3	35.73
59.4	MCS 4	35.66
59.4	MCS 5	35.66
59.4	MCS 6	35.56
59.4	MCS 7	35.90
59.4	MCS 8	35.75
59.4	MCS 9	35.53
59.4	MCS 10	35.48
59.4	MCS 11	35.35
59.4	MCS 12	35.89
59.4	MCS 13	35.71
59.4	MCS 14	35.52
59.4	MCS 15	35.51
59.4	MCS 16	35.47

The worst case is MCS1.

7.1 ADDITIONAL DESCRIOPTIONS ABOUT TEST

All tests is performed by radiated measurement and applied below conditions.

: Measurement distance of fundamental tests is as follow.

Wavelength[m] = Speed of light[m/s] / Measurement frequency[Hz] = (3 x 10^{8}) / (66 x 10^{9}) = 0.0045

(2 X (EUT Antenna dimension)^2) / Wavelength = (2 X (0.03968)^2)/ 0.0045= 0.69 ***m***

(2 X (measurement Antenna dimension)^2) / Wavelength = (2 X (0.04179)^2)/ 0.0045= 0.77 ***m***

For fundamental and out-of-band emissions the largest far-field distance of either the EUT antenna or measurement antenna shall be used. **So, measurement distance is 1.0 m.**

: Spurious emissions measurement distance is shown in table below. (Far field)

Frequency Rage (GHz)	Wavelength (cm)	Far Field Distance (m)	Measured Distance (m)
40 ~ 60	0.50	1.354	1.5
60 ~ 90	0.33	0.856	1.0
90 ~ 140	0.21	0.572	1.0
140 ~ 200	0.15	0.365	1.0

8. TEST RESULT

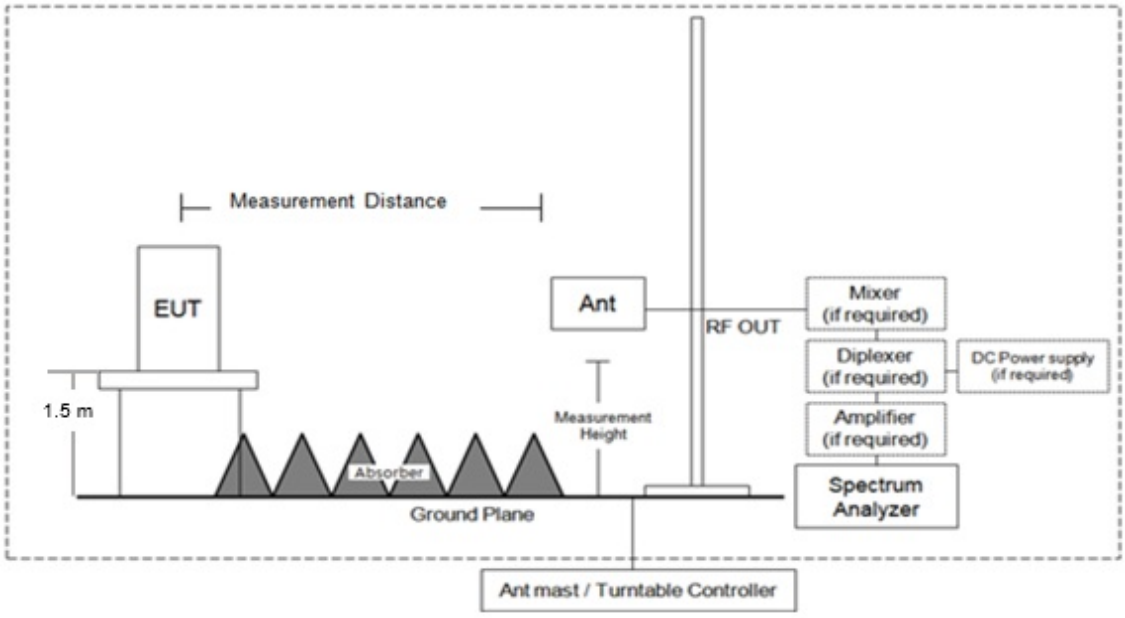
8.1 OCCUPIED BANDWIDTH

▣ TEST REQUIREMENT

§ 2.1049 Measurements required: Occupied bandwidth.

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured under the following conditions as applicable:

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

According to ANSI C63.10-2020, 9.4.

The occupied bandwidth (OBW) is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.

a) The following procedure shall be used for measuring 99% power bandwidth: Use the following spectrum analyzer settings:
   1) Span equal to approximately 1.5 times the OBW, centered on the carrier frequency
   2) RBW, prefer 1% to 5% of OBW, or a minimum of 1 MHz if this is not possible due to a large OBW
   3) VBW approximately 3 × RBW
   4) Set the reference level of the instrument as required to reduce the chance of the signal amplitude exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.1.6.
   5) Sweep = No faster than coupled (auto) time.
   6) Detector function = peak.
   7) Trace = max-hold.

Note: It was measured as the maximum RBW, VBW value of the equipment we used.

▣ TEST RESULT

- CH.9-

TEST CONDITIONS:		Occupied Channel Bandwidth (GHz)
T nom	V nom	3.6776

- CH.10-

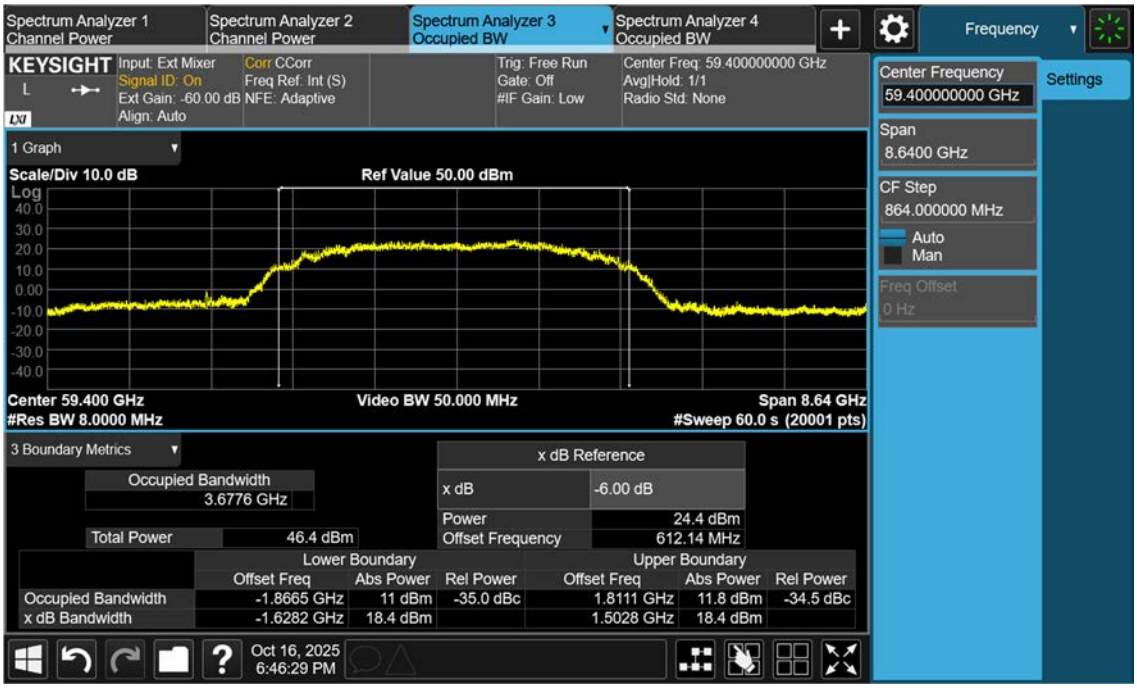
TEST CONDITIONS:		Occupied Channel Bandwidth (GHz)
T nom	V nom	3.5147

- CH.11-

TEST CONDITIONS:		Occupied Channel Bandwidth (GHz)
T nom	V nom	3.6113

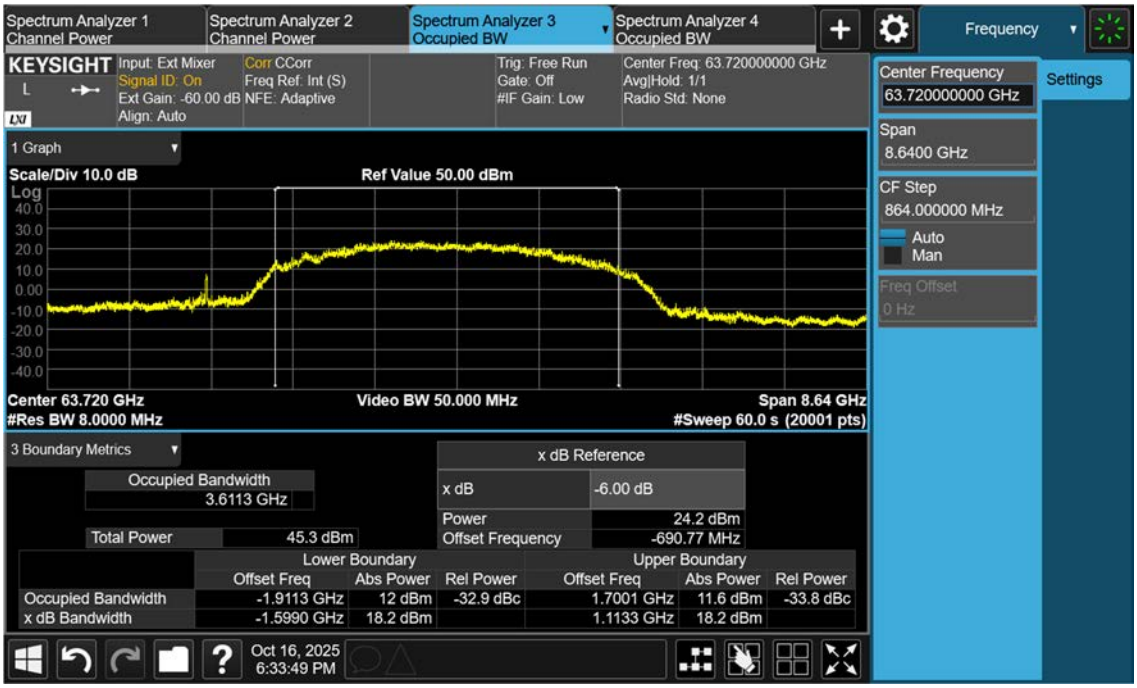
▣ RESULT PLOT

CH.9, Occupied Channel Bandwidth plot



CH.10, Occupied Channel Bandwidth plot

CH.11, Occupied Channel Bandwidth plot



8.2 RF OUTPUT POWER

▣ TEST REQUIREMENT

§ 15.255 Operation within the band 57-71 GHz.

(c) ***Radiated power limits.*** Within the 57-71 GHz band, emission levels shall not exceed the following equivalent isotropically radiated power (EIRP):

(1) Devices other than field disturbance sensors shall comply with one of the following power liits, as measured during the transmit interval;

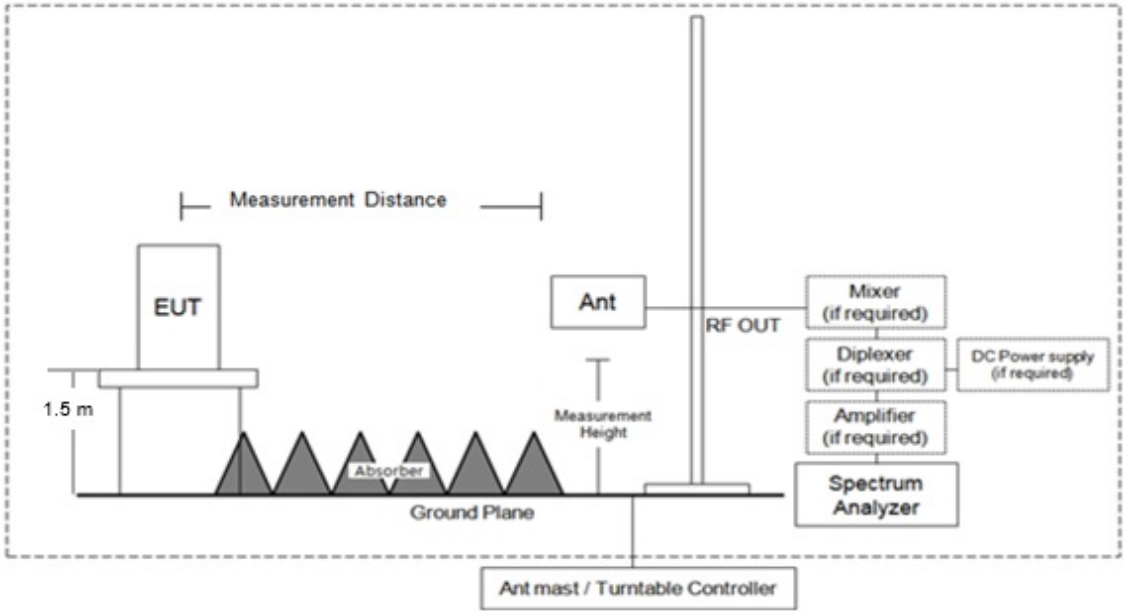
(i) The average power of any emission shall not exceed 40 dBm and the peak power of any emission shall not exceed 43 dBm;

(e) ***Limits on transmitter conducted output power.***

(1) Except as specified in paragraph (e)(2) of this section, the peak transmitter conducted output power of devices other than field disturbance sensors/radars shall not exceed 500 mW. Depending on the gain of the antenna, it may be necessary to operate the intentional radiator using a lower peak transmitter output power in order to comply with the EIRP limits specified in paragraph (c) of this section.

▣ TEST CONFIGURATION

40 GHz – 200 GHz



▣ TEST PROCEDURE

According to ANSI C63.10-2020, 9.8.

Where applicable, the following procedure shall be used for measuring the field strength from millimeter-wave systems:

a) Set up the test as follows:
   1) For conducted measurements, connect the external mixer or spectrum analyzer, with appropriate attenuation as needed to reduce the chance of damage or overload to the measurement instrumentation, to the output port of the EUT.
   2) For radiated measurements, connect the measurement antenna for the fundamental frequency band to a spectrum analyzer via an external mixer, or directly to the spectrum analyzer if the instrument supports the required frequency range.

b) For all measurements
   1) For pulsed emissions, the procedures in 4.1.5.2.4 and Annex C shall be used.
   2) For FMCW emissions, the procedures in 4.1.5.2.8 and Annex L shall be used.
   3) For any other emission, set spectrum analyzer RBW, VBW, detector, span, and so on, to the proper values.

c) For radiated measurements:
   1) Place the measurement antenna at a measurement distance that is in the far-field of the measurement antenna, in the far-field of the EUT antenna, and meets the measurement distance requirements for final radiated measurements as specified in 9.1.4.
   2) Place the measurement antenna in the main beam of the EUT then maximize the fundamental emission using the procedures of 9.7, noting that multiple peaks can be found at different beam orientations and/or polarizations.
   3) Correct the power reading from the spectrum analyzer for any external gain and/or attenuation between the measurement antenna and the spectrum analyzer. This is the power at the output of the measurement antenna
   4) Calculate the EIRP from the power at the output of the measurement antenna using Equation (22), and then convert to linear form using Equation (24).
   5) Where applicable, calculate conducted output power from the EIRP using Equation (27).

d) For conducted measurements:
   1) Correct the power reading from the spectrum analyzer for any external gain and/or attenuation between the EUT and the spectrum analyzer. This is the conducted output power of the EUT.
   2) Calculate the EIRP from the conducted output power of the EUT using Equation (23), and then convert to linear form using Equation (24).

e) Repeat the preceding sequence to determine the EIRP and where applicable, conducted power for each detector (peak and average) as required.

Repeat the preceding sequence for every operating configuration supported by the EUT.

▣ TEST RESULTS

Radiated Power

- CH.9-

TEST CONDITIONS	59.40 GHz	Limit	Detector
	RF output power (dBm)	(dBm)	
H / Normal	36.04	40	Average
	42.58	43	Peak

- CH.10-

TEST CONDITIONS	61.56 GHz	Limit	Detector
	RF output power (dBm)	(dBm)	
H / Normal	35.96	40	Average
	42.57	43	Peak

- CH.11-

TEST CONDITIONS	63.72 GHz	Limit	Detector
	RF output power (dBm)	(dBm)	
H / Normal	36.03	40	Average
	42.60	43	Peak

Conducted Output Power

Ch.	Frequency [GHz]	Peak EIRP [dBm]	Antenna Gain [dBi]	Peak Conducted Output Power		Limit [mW]
				[dBm]	[mW]	
9	59.40	42.58	20	22.58	181.13	500
10	61.56	42.57	20	22.57	180.72	500
11	63.72	42.60	20	22.6	181.97	500

Note: Peak Conducted Output Power [dBm] = Peak E.I.R.P. [dBm] – EUT Ant. Gain [dBi]

▣ RESULT PLOT

CH.9, Average Output Power

CH.9, Peak Output Power

CH.10, Average Output Power

CH.10, Peak Output Power

CH.11, Average Output Power

CH.11, Peak Output Power

8.3 SPURIOUS EMISSIONS

▣ TEST REQUIREMENT

§ 15.209 Radiated emission limits; general requirements.

(a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meter)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

§ 15.255 Operation within the band 57-71 GHz.

(d) *Limits on spurious emissions.*

(1) The power density of any emissions outside the 57-71 GHz band shall consist solely of spurious emissions.

(2) Radiated emissions below 40 GHz shall not exceed the general limits in § 15.209.

(3) Between 40 GHz and 200 GHz, the level of these emissions shall not exceed 90 pW/cm^2 at a distance of 3 meters.

(4) The levels of the spurious emissions shall not exceed the level of the fundamental emission.

▣ TEST PROCEDURE

For below 40 GHz

According to ANSI C63.10-2020, 9.11.

1. The EUT was placed on a turntable, which was 80 cm above the reference ground plane for emissions testing at or below 1 GHz, and 1.5 m above the reference ground plane for emission measurements from 1 GHz to 40 GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
4. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
5. Repeat above procedures until the measurements for all frequencies are complete.

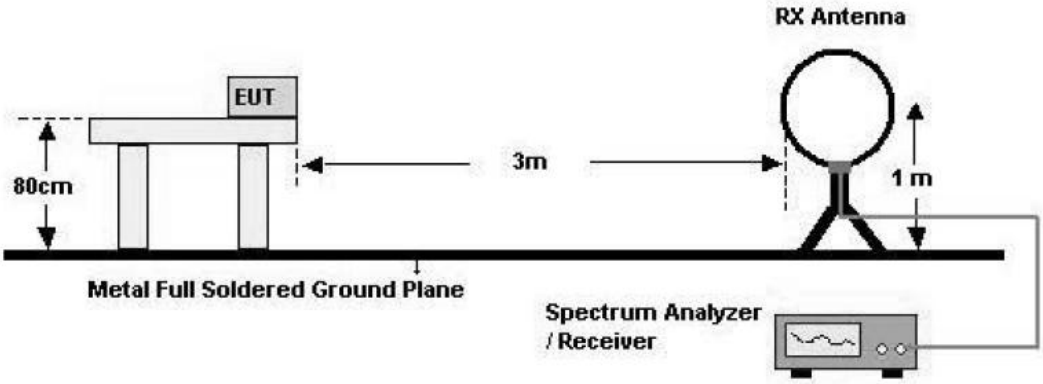
For Above 40 GHz

According to ANSI C63.10-2020, 9.10.

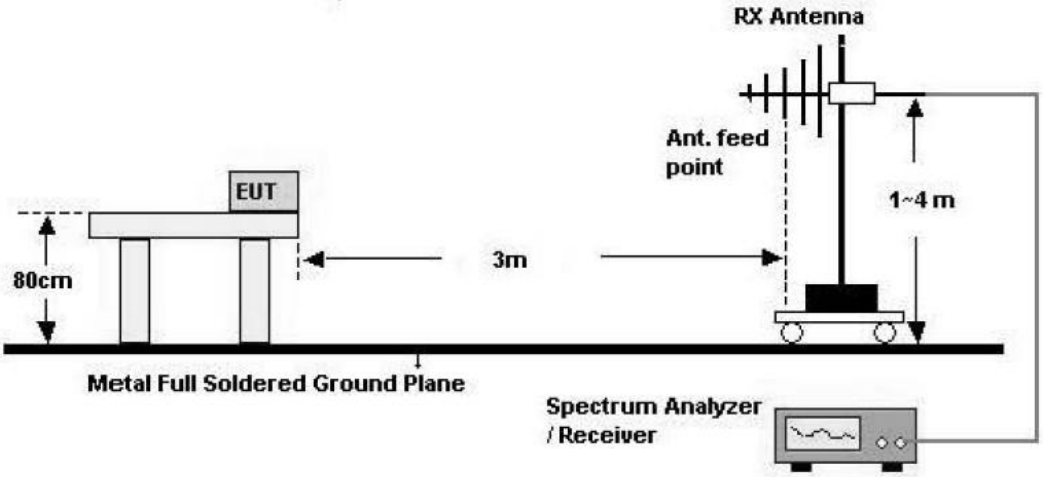
1. Connect the test antenna covering the appropriate frequency range to a spectrum analyzer via an external mixer to the spectrum analyzer.
2. Set spectrum analyzer RBW = 1 MHz, VBW = 3 MHz, average detector.
3. Calculate the distance to the far field boundary and determine the maximum measurement distance.
4. Perform an exploratory search for emissions and determine the approximate direction at which each observed emission emanates from the EUT.
5. Exploratory measurements be made at a closer distance than the validated maximum measurement distance.
6. Perform a final measurement; begin with the test antenna at the approximate position where the maximum level occurred during the exploratory scan.
7. Slowly scan the test antenna around this position, slowly vary the test antenna polarization by rotating through at least 0° to 180°, and slowly vary the orientation of the test antenna to find the final position, polarization, and orientation at which the maximum level of the emission is observed.
8. Record the measured reading with the test antenna fixed at this maximized position, polarization, and orientation. Record the measurement distance.
9. Calculate the maximum field strength of the emission at the measurement distance and the adjusted/corrected power at the output of the test antenna.
10. Calculate the EIRP from the measured field strength and then convert to the linear.
11. Calculate the power density at the distance specified by the limit from the field strength at the distance specified by the limit.
12. Repeat the preceding sequence for every emission observed in the frequency band under investigation.

▣ TEST CONFIGURATION

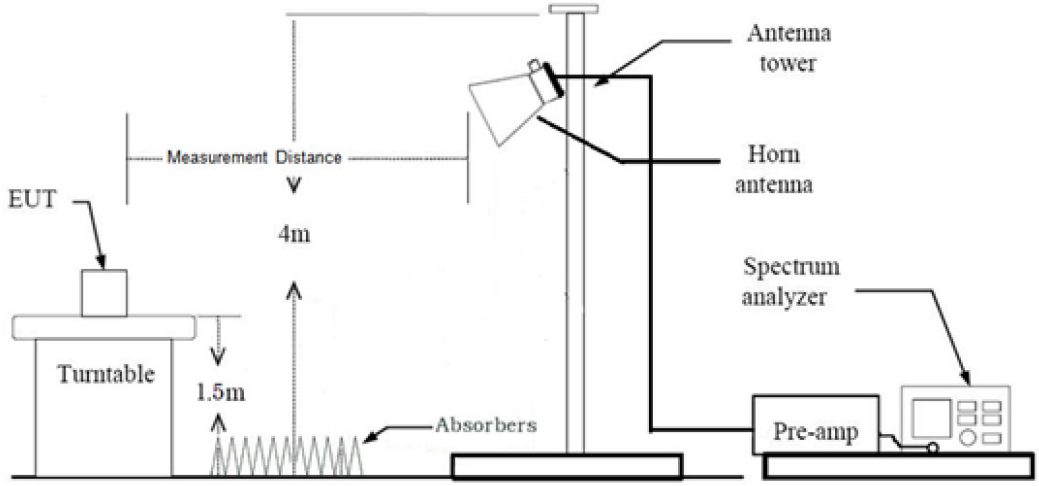
Below 30 MHz



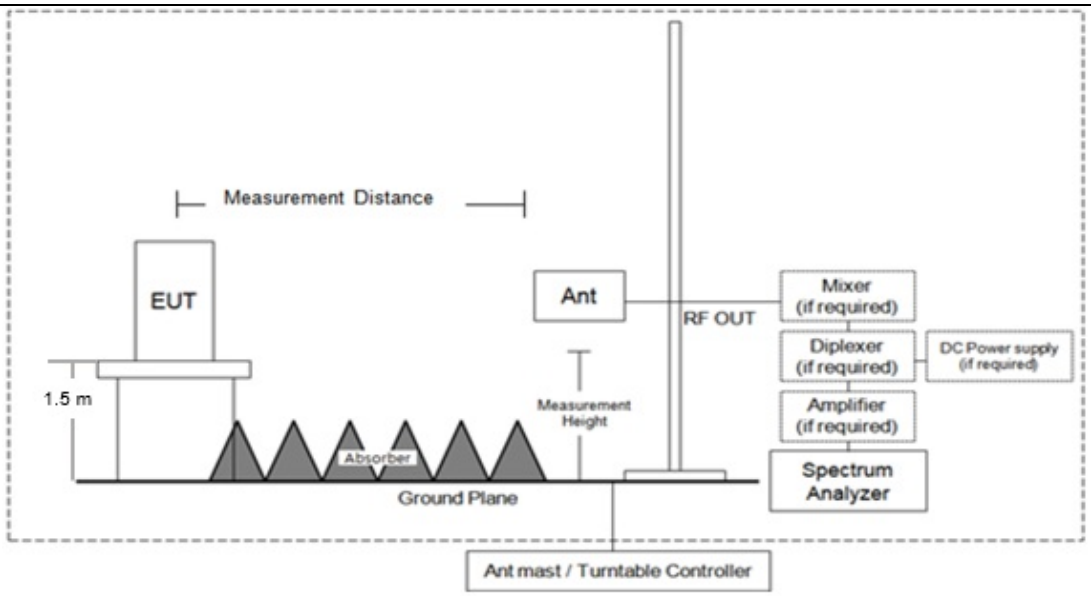
30 MHz - 1 GHz



1 GHz ~ 40 GHz



40 GHz – 200 GHz



▣ TEST RESULTS

9 kHz ~ 30 MHz

Operation Mode: Continuous TX Mode

Frequency	Reading	Ant. Factor	Cable Loss	Ant. Pol.	Total	Limit	Margin
MHz	dBμV	dB/m	dB	(H/V)	dBμV/m	dBμV/m	dB
No Critical peaks found							

Notes:

1. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
2. Limit line = specific Limits (dBuV) + Distance extrapolation factor
3. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)
4. Measurements were performed for the EUT in the X, Y, and Z planes, with both horizontal and vertical polarizations of the detecting antenna.

30 MHz ~ 1 GHz

Operation Mode: Continuous TX Mode

Frequency	Reading	Ant. Factor	Cable Loss	Ant. Pol.	Total	Limit	Margin
MHz	dBμV	dB/m	dB	(H/V)	dBμV/m	dBμV/m	dB
No Critical peaks found							

Notes:

1. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.
2. Measurements were performed for the EUT in the X, Y, and Z planes, with both horizontal and vertical polarizations of the detecting antenna.

1 GHz ~ 18 GHz

Operation Frequency: Continuous TX Mode

Frequency	Reading	A.F. + C.L. – Amp. G. + D.F.	Ant. Pol.	Total	Limit	Margin
[GHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]
No Critical peaks found						

※ A.F.: Antenna Factor, C.L.: Cable Loss, Amp. G.: Amplifier Gain, D.F.: Distance Factor

18 GHz – 40 GHz

Operation Frequency: Continuous TX Mode

Frequency	Reading	A.F. + C.L. – Amp. G. + D.F.	Ant. Pol.	Total	Limit	Margin
[GHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]
No Critical peaks found						

※ A.F.: Antenna Factor, C.L.: Cable Loss, Amp. G.: Amplifier Gain, D.F.: Distance Factor

40 GHz ~ 200 GHz

Operation Frequency: Continuous TX Mode

Frequency	Reading	A.F. + C.L. – Amp. G. + D.F.	Ant. Pol.	Total	Limit	Margin
[GHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]
No Critical peaks found						

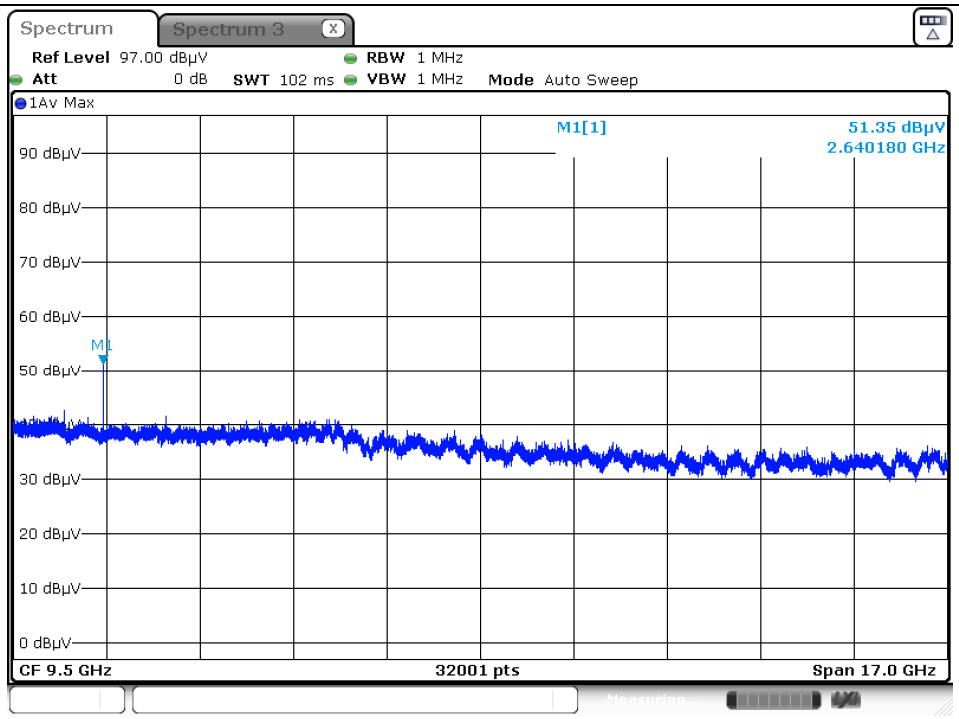
※ A.F.: Antenna Factor, C.L.: Cable Loss, Amp. G.: Amplifier Gain, D.F.: Distance Factor

Notes:

1. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
2. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
3. Total = Reading Value + Antenna Factor + Cable Loss – Amplifier Gain + Distance Factor
4. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
5. Measurements were performed for the EUT in the X, Y, and Z planes, with both horizontal and vertical polarizations of the detecting antenna.

▣ RESULT PLOT

CH.9, Spurious Emissions plot, 1 GHz ~ 18 GHz



Note: Only the worst case plots for Radiated Spurious Emissions.

8.4 FREQUENCY STABILITY

▣ TEST REQUIREMENT

§ 15.255 Operation within the band 57-71 GHz.

(f) ***Frequency stability.*** Fundamental emissions must be contained within the frequency bands specified in this section during all conditions of operation. Equipment is presumed to operate over the temperature range −20 to + 50 degrees Celsius with an input voltage variation of 85% to 115% of rated input voltage, unless justification is presented to demonstrate otherwise.

▣ TEST PROCEDURE

According to ANSI C63.10-2020, 6.8.

Some unlicensed wireless device requirements specify frequency stability tests with variation of supply voltage and temperature; the requirements can be found in the regulatory specifications for each type of unlicensed wireless device. The procedures listed in 6.8.1 and 6.8.2 shall be used for frequency stability tests.

6.8.1 Frequency stability with respect to ambient temperature

a) Supply the EUT with a nominal ac voltage or install a new or fully charged battery in the EUT. If possible, a dummy load shall be connected to the EUT because an antenna near the metallic walls of an environmental test chamber could affect the output frequency of the EUT. If the EUT is equipped with a permanently attached, adjustable-length antenna, then the EUT shall be placed in the center of the chamber with the antenna adjusted to the shortest length possible. Turn ON the EUT and tune it to one of the number of frequencies shown in 5.6.

b) Couple the unlicensed wireless device output to the measuring instrument by connecting an antenna to the measuring instrument with a suitable length of coaxial cable and placing the measuring antenna near the EUT (e.g., 15 cm away), or by connecting a dummy load to the measuring instrument, through an attenuator if necessary.

NOTE—An instrument that has an adequate level of accuracy as specified by the procuring or regulatory agency is the recommended measuring instrument.

c) Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).

d) Turn the EUT OFF and place it inside the environmental temperature chamber. For devices that have oscillator heaters, energize only the heater circuit.

e) Set the temperature control on the chamber to the highest specified in the regulatory

requirements for the type of device and allow the oscillator heater and the chamber temperature to stabilize.

f) While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 min, 5 min, and 10 min after the EUT is energized. Four measurements in total are made.

g) Measure the frequency at each of frequencies specified in 5.6.

h) Switch OFF the EUT but do not switch OFF the oscillator heater.

i) Lower the chamber temperature by not more than 10 °C, and allow the temperature inside the chamber to stabilize.

j) Repeat step f) through step i) down to the lowest specified temperature.

6.8.2 Frequency stability when varying supply voltage

Unless otherwise specified, these tests shall be made at ambient room temperature (+15 °C to +25 °C). An antenna shall be connected to the antenna output terminals of the EUT if possible. If the EUT is equipped with or uses an adjustable-length antenna, then it shall be fully extended.

a) Supply the EUT with nominal voltage or install a new or fully charged battery in the EUT. Turn ON the EUT and couple its output to a frequency counter or other frequency measuring instrument.
NOTE—An instrument that has an adequate level of accuracy as specified by the procuring or regulatory agency is the recommended measuring instrument.

b) Tune the EUT to one of the number of frequencies required in 5.6. Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).

c) Measure the frequency at each of the frequencies specified in 5.6.

d) Repeat the above procedure at 85% and 115% of the nominal supply voltage as described in 5.13.

Notes:

1. Frequency stability was investigated at 10 °C intervals from −20 °C to +50 °C after the unit had stabilized, and the readings were recorded in a tabular format. The voltage supplied to the EUT was 15.0 V, and the reference temperature was set at 20 °C.
2. The operating temperature and voltage ranges declared by the manufacturer (temperature: -10°C to 50°C, voltage: DC 13.5 V to 16.5 V) are narrower than those specified in the standard. However, the test was performed within the limits defined by the standard.

▣ TEST RESULTS

Reference: 15 V at 20°C

Voltage (V)	Temp. (℃)	Meas. Time	Frequency (GHz)		Frequency Error (GHz)	
			Start	Stop	Start	Stop
15	+20(Ref)	Startup	57.5323	65.4191	-	-
	-20		57.5031	65.4256	-0.0292	0.0065
	-10		57.5016	65.4260	-0.0307	0.0069
	0		57.5181	65.419	-0.0142	-0.0001
	10		57.5254	65.4245	-0.0069	0.0054
	30		57.5299	65.4217	-0.0024	0.0026
	40		57.5247	65.4166	-0.0076	-0.0025
	50		57.5260	65.4175	-0.0063	-0.0016
15	+20(Ref)	2 min	57.2320	65.4185	-	-
	-20		57.5029	65.4260	0.2709	0.0075
	-10		57.5019	65.4256	0.2699	0.0071
	0		57.5176	65.4193	0.2856	0.0008
	10		57.5257	65.4240	0.2937	0.0055
	30		57.5302	65.4220	0.2982	0.0035
	40		57.5242	65.4163	0.2922	-0.0022
	50		57.5256	65.4177	0.2936	-0.0008
15	+20(Ref)	5 min	57.5328	65.4194	-	-
	-20		57.5325	65.4197	-0.0003	0.0003
	-10		57.5330	65.4200	0.0002	0.0006
	0		57.5326	65.4196	-0.0002	0.0002
	10		57.5324	65.4193	-0.0004	-0.0001
	30		57.5328	65.4198	0.0000	0.0004
	40		57.5325	65.4194	-0.0003	0.0000
	50		57.5327	65.4198	-0.0001	0.0004
15	+20(Ref)	10 min	57.5325	65.419	-	-
	-20		57.5323	65.4188	-0.0002	-0.0002
	-10		57.5326	65.4192	0.0001	0.0002
	0		57.5324	65.4187	-0.0001	-0.0003
	10		57.5319	65.4183	-0.0006	-0.0007
	30		57.5324	65.4186	-0.0001	-0.0004
	40		57.5320	65.4182	-0.0005	-0.0008
	50		57.5323	65.4178	-0.0002	-0.0012
12.75	20	-	57.5321	65.4188	-0.0002	-0.0003
17.25	20		57.5336	65.4194	0.0013	0.0003

8.5 AC Power line Conducted Emissions

▣ TEST REQUIREMENT

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56[a]	56 to 46[a]
0.50 to 5	56	46
5 to 30	60	50

[a]Decreases with the logarithm of the frequency.

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

▣ TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors : Quasi Peak and Average Detector.

Sample Calculation

Quasi-peak(Final Result) = Measured Value + Correction Factor

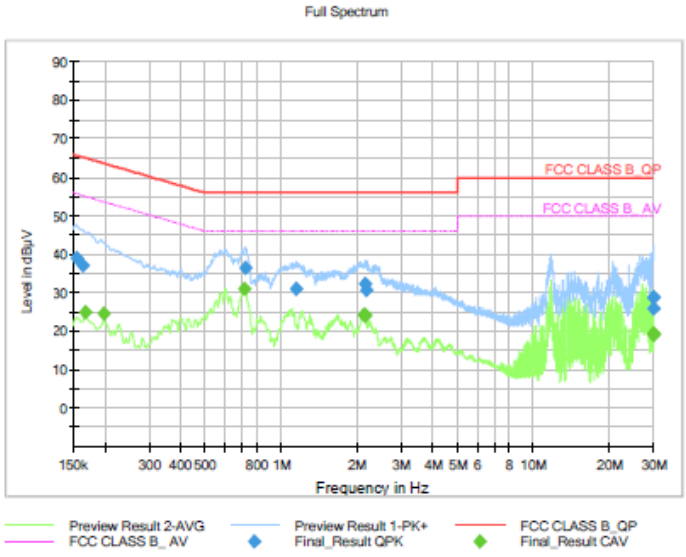
▣ TEST RESULT

Test 1 / 1

Test Report

Common Information

EUT : LGSRFT3
Operating Conditions :
Comment :



Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1545	39.20	65.75	26.56	9.000	L1	9.6
0.1635	37.07	65.28	28.22	9.000	L1	9.6
0.7228	36.51	56.00	19.49	9.000	N	9.6
1.1548	30.92	56.00	25.08	9.000	L1	9.7
2.1650	32.17	56.00	23.83	9.000	N	9.6
2.1763	30.86	56.00	25.14	9.000	L1	9.7
29.9165	28.82	60.00	31.18	9.000	N	10.0
29.9480	25.99	60.00	34.01	9.000	N	10.0
29.9998	28.82	60.00	31.18	9.000	L1	10.0

Final_Result_CAV

Frequency (MHz)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1680	25.06	55.06	30.00	9.000	N	9.6
0.1995	24.64	53.63	28.99	9.000	N	9.6
0.7160	31.14	46.00	14.86	9.000	N	9.6
2.1403	24.45	46.00	21.55	9.000	N	9.6
2.1470	24.34	46.00	21.66	9.000	N	9.6
2.1673	24.04	46.00	21.96	9.000	N	9.6
29.9188	19.24	50.00	30.76	9.000	N	10.0
29.9323	19.58	50.00	30.42	9.000	N	10.0
29.9998	19.17	50.00	30.83	9.000	N	10.0

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9. LIST OF TEST EQUIPMENT

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Signal Analyzer	FSW85	Rohde&Schwarz	101256	10/16/2026	Annual
PXA Signal Analyzer	N9030B	Keysight	MY57143020	06/18/2026	Annual
Temperature & Humidity Chamber	PL-2KP	ESPEC	14005385	07/04/2026	Annual
Controller(Antenna mast & Turn Table)	CO3000	Innco systems	CO3000/1251/48920320/P	N/A	N/A
Antenna Mast	MA4640	Innco systems	S4AM	08/01/2026	Annual
Turn Table	1060	Innco systems	N/A	N/A	N/A
Turn Table	N/A	Ets	N/A	N/A	N/A
Amp & Filter Bank Switch Controller	FBSM-01B	TNM system	TM20090002	N/A	N/A
RF Switching System	FBSR-04C (LNA)	TNM system	S4L4	03/12/2026	Annual
RF Switching System	FBSR-04C (Thru)	TNM system	S4L6	03/12/2026	Annual
Loop Antenna	FMZB1513	SCHWARZBECK	1513-333	06/23/2027	Biennial
Hybrid Antenna	VULB 9168	Schwarzbeck	9168-0895	08/28/2026	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	9120D-937	02/07/2027	Biennial
Horn Antenna	BBHA 9170	Schwarzbeck	BBHA9170541	10/24/2027	Biennial
Horn Antenna	WR-19 Horn Antenna	OML INC.	M19RH-180423-1	03/07/2026	Biennial
Horn Antenna	WR-12 Horn Antenna	OML INC.	M12RH-180423-1	03/07/2026	Biennial
Horn Antenna	WR-08 Horn Antenna	OML INC.	M08RH-180501-1	03/07/2026	Biennial
Horn Antenna	WR-05 Horn Antenna	OML INC.	M05RH-180501-1	03/07/2026	Biennial
Horn Antenna	SAR-2309-15-S2	ERAVANT	08394-01	12/19/2026	Biennial
Harmonic Mixer	WR-19	VDI	SAX 771	02/15/2026	Annual
Harmonic Mixer	WR-15	VDI	SAX 936	02/15/2026	Annual
Harmonic Mixer	WR-12	VDI	SAX 773	02/15/2026	Annual
Harmonic Mixer	WR-08	VDI	SAX 779	02/15/2026	Annual
Harmonic Mixer	WR-05	VDI	SAX 774	02/15/2026	Annual
DC Power Supply	PWR800L	KIKUSUI	RK000880	07/03/2026	Annual
LISN	ENV216	Rohde&Schwarz	102245	07/15/2026	Annual
EMI Test Receiver	ESR	Rohde&Schwarz	101910	08/20/2026	Annual

Notes:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

10. ANNEX A_ TEST SETUP PHOTO

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

No.	Description
1	HCT-RF-2511-FC006-P