



CERT#6677.01

TEST REPORT

Applicant: Quectel Wireless Solutions Co., Ltd.

Address: No. 8 Waipojing Road, Sijing Town, Songjiang District, Shanghai 201601, China

Equipment Type: Integrated GNSS Receiver

Model Name: LR700A

Brand Name: Quectel

FCC ID: XMR202512LR700A

ISED Number: 10224A-2025LR700A

Test Standard: 47 CFR Part 15 Subpart C
RSS-Gen Issue 5
RSS-247 Issue 4
(refer to section 3.1)

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ISSUED BY:

Shanghai Tejet Communications Technology Co., Ltd. Testing Center

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Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Apr. 14, 2026</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shanghai Tejet Communications Technology Co., Ltd. Testing Center
Address	1-2/F., Building 1, No.222, Xuanlan Road, Xuanqiao, Pudong New District, Shanghai, China

1.2 Test Location

Name	Shanghai Tejet Communications Technology Co., Ltd. Testing Center
Location	1-2/F., Building 1, No.222, Xuanlan Road, Xuanqiao, Pudong New District, Shanghai, China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1352. The laboratory is a testing organization accredited by ISED as a accredited testing laboratory. The company number is 29671 and CAB identifier number is CN0142.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Quectel Wireless Solutions Co., Ltd.
Address	No. 8 Waipojing Road, Sijing Town, Songjiang District, Shanghai 201601, China

2.2 Manufacturer Information

Manufacturer	Quectel Wireless Solutions Co., Ltd.
Address	No. 8 Waipojing Road, Sijing Town, Songjiang District, Shanghai 201601, China

2.3 General Description for Equipment under Test (EUT)

EUT Name	Integrated GNSS Receiver
Model Name Under Test	N/A
Series Model Name	N/A
Description of Model name differentiation	N/A
Sample Number	SC-SH25B0115-S02(conducted) SC-SH25B0115-S04(radiated)
Hardware Version	LR700A00AAASM_V1.2
Software Version	LR700A00AANR01A01
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	2G Network GPRS/EDGE 850/1900 3G Network WCDMA Band 2/4/5 4G Network LTE FDD Band 2/4/5/7/12/13/25/26/66 LTE TDD Band 38/41 WiFi 2.4G 802.11b/g/n (HT20) GPS, GLONASS, Galileo, Bei Dou, QZSS, NavIC Sub G
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The requirement for the following technical information of the EUT was tested in this report:

Modulation Technology	Frequency hopping system
Modulation Type	FHSS
Frequency Range	The frequency range used is 902 MHz to 928 MHz.
Number of Channel	50
Tested Channel	1 (902.75 MHz), 26 (915.25 MHz), 50 (927.25 MHz)
Antenna Type	PCB Antenna
Antenna Gain	-0.7 dBi
Antenna Impedance	50Ω
Antenna System (MIMO Smart Antenna)	N/A

All channel was listed on the following table:

Channel number	Freq. (MHz)	Channel number	Freq. (MHz)	Channel number	Freq. (MHz)	Channel number	Freq. (MHz)
1	902.75	17	910.75	33	918.75	49	926.75
2	903.25	18	911.25	34	919.25	50	927.25
3	903.75	19	911.75	35	919.75	--	--
4	904.25	20	912.25	36	920.25	--	--
5	904.75	21	912.75	37	920.75	--	--
6	905.25	22	913.25	38	921.25	--	--
7	905.75	23	913.75	39	921.75	--	--
8	906.25	24	914.25	40	922.25	--	--
9	906.75	25	914.75	41	922.75	--	--
10	907.25	26	915.25	42	923.25	--	--
11	907.75	27	915.75	43	923.75	--	--
12	908.25	28	916.25	44	924.25	--	--
13	908.75	29	916.75	45	924.75	--	--
14	909.25	30	917.25	46	925.25	--	--
15	909.75	31	917.75	47	925.75	--	--
16	910.25	32	918.25	48	926.25	--	--

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15 Subpart C	Intentional radiators of radio frequency equipment
2	RSS-Gen Issue 5	General Requirements for Compliance of Radio Apparatus
3	RSS-247 Issue 4	Digital Transmission Systems, Frequency Hopping Systems and Licence-Exempt Local Area Network Devices in 902-928 MHz, 2400-2483.5 MHz, 5150-5350 MHz, and 5470-5895 MHz bands
4	ANSI C63.10-2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
5	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
6	KDB 558074 D01 15.247 Meas Guidance v05r02☆	Guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules

3.2 Test Verdict

No.	Description	FCC Part No.	ISED Part No.	Channel	Test Result	Verdict	Remark
1	Antenna Requirement	15.203	RSS-247, 6.5 (c)	N/A	--	Pass	Note ¹
2	Number of Hopping Frequencies	15.247(a)	RSS-247, 6.2.3.1 (b)	Hopping Mode	ANNEX A.1	Pass	--
3	Peak Output Power and E.I.R.P	15.247(b)	RSS-247, 6.2.3.2	Low/Middle/High	ANNEX A.2	Pass	--
4	Occupied Bandwidth	15.247(a)	RSS-247, 6.2.1 (a)	Low/Middle/High	ANNEX A.3	Pass	--
5	Carrier Frequency Separation	15.247(a)	RSS-247, 6.2.3.1 (a)	Hopping Mode	ANNEX A.4	Pass	--
6	Time of Occupancy (Dwell time)	15.247(a)	RSS-247, 6.2.3.1 (b)	Hopping Mode	ANNEX A.5	Pass	--
7	Conducted Spurious Emission & Authorized-band band-edge	15.247(d)	RSS-247, 6.6	Hopping Mode, Low/Middle/High	ANNEX A.6	Pass	--
8	Conducted Emission	15.207	RSS-GEN, 8.8	Low/Middle/High	ANNEX A.7	Pass	--
9	Radiated Spurious Emission	15.209 15.247(d)	RSS-247, 6.6	Hopping Mode, Low/Middle/High	ANNEX A.8	Pass	--
10	Band Edge(Restricted-band band-edge)	15.209 15.247(d)	RSS-247, 6.6	Hopping Mode, Low/Middle/High	ANNEX A.9	Pass	--
11	Receiver Spurious Emissions	--	RSS-Gen, 7.3	--	--	N/A	Note ²

Note ¹: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203.

Note ²: Only radio communication receivers operating in stand-alone mode within the band 30-960 MHz, as well as scanner receivers, are subject to Industry Canada requirements, so this test is not applicable.

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	49% to 54%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	21.2 to 24.3
Working Voltage of the EUT	NV (Normal Voltage)	28V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	KEYSIGHT	N9020A	BH-EMC-L066	2025.02.12	2026.02.11
				2026.02.03	2027.02.02
Spectrum Analyzer	KEYSIGHT	N9010B	BH-EMC-L099	2025.02.12	2026.02.11
				2026.02.03	2027.02.02
Signal Generator	Anritsu	MG3710E	BH-EMC-L131	2025.02.12	2026.02.11
				2026.02.03	2027.02.02
Wideband Radio Communication Tester	R&S	CMW500	BH-EMC-L094	2025.02.11	2026.02.10
				2026.02.03	2027.02.02
EMI Receiver	KEYSIGHT	N9038A	BH-EMC-L015	2025.07.04	2026.07.03
Test Antenna-Loop(9 kHz-30 MHz)	SCHWARZBECK	FMZB 1519 B	BH-EMC-L067	2024.03.11	2027.03.10
Test Antenna-Bi-Log(30 MHz-3 GHz)	SCHWARZBECK	VULB 9163	BH-EMC-L008	2024.03.11	2027.03.10
Test Antenna-Horn(1-18 GHz)	SCHWARZBECK	BBHA 9120D	BH-EMC-L044	2024.03.11	2027.03.10
Test Antenna-Horn (18-40 GHz)	A-INFO	LB-180400-KF	BH-EMC-L061	2024.03.11	2027.03.10
Anechoic Chamber	YiHeng	9m*6m*6m	BH-EMC-L001	2024.04.18	2027.04.17
EMI Receiver	KEYSIGHT	N9038A	BH-EMC-L127	2025.02.12	2026.02.11
				2026.02.05	2027.02.04
LISN	SCHWARZBECK	NSLK 8127	BH-EMC-L011	2025.02.11	2026.02.10
				2026.02.04	2027.02.03
10dB Limiter	SCHWARZBECK	VTSD 9561-F	BH-EMC-L014	2025.02.11	2026.02.10
				2026.02.04	2027.02.03
Shielded Room	YiHeng	5m*4m*3.2 m	BH-EMC-L006	2024.02.22	2027.02.21

4.3 Test Software List

Description	Manufacturer	Software Version	Serial No.	Applicable Test Setup
BL410R	BALUN	V2.1.1.496	N/A	The section 4.6.1
BL410E	BALUN	V21.919	N/A	The section 4.6.2&4.6.3&4.6.4&4.6.5

4.4 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Parameters	Uncertainty
Occupied Channel Bandwidth	2.40 %
RF output power, conducted	0.41 dB
Power Spectral Density, conducted	1.74 dB
Unwanted Emissions, conducted	1.74 dB
All emissions, radiated	3.70 dB
Temperature	0.82 °C
Humidity	4.08 %

4.5 Decision Rule

- ☐ No Need
☒ Use General conformity decision rule (Consider uncertainty or not ☒No ☐Yes)
☐ Use Special Conformity Decision Rule (Consider uncertainty or not ☐No ☐Yes)

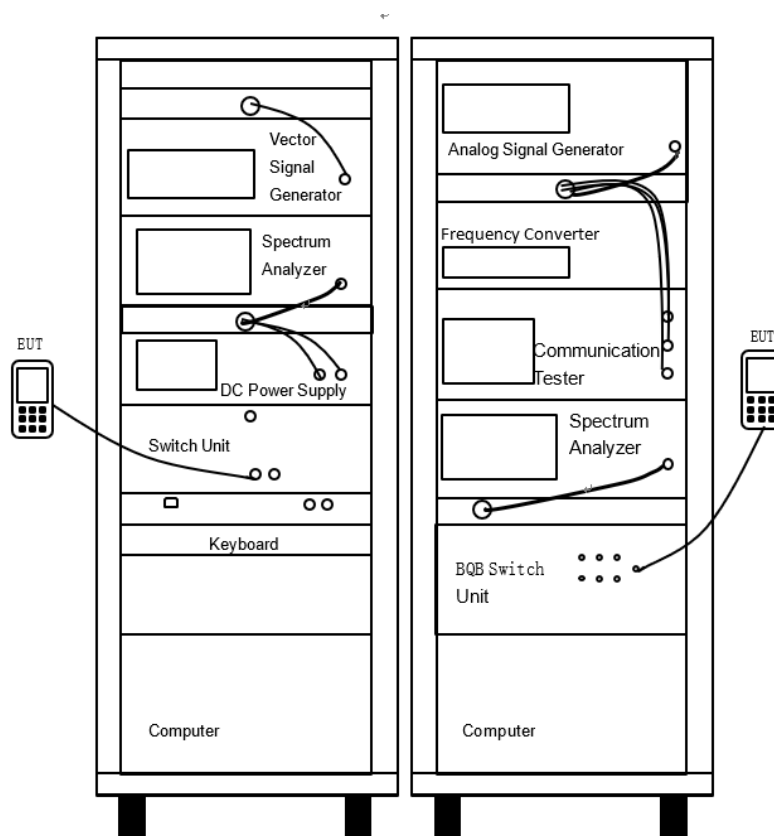
4.6 Description of Test Setup

4.6.1 For Antenna Port Test

Conducted value (dBm) = Measurement value (dBm) + cable loss (dB)

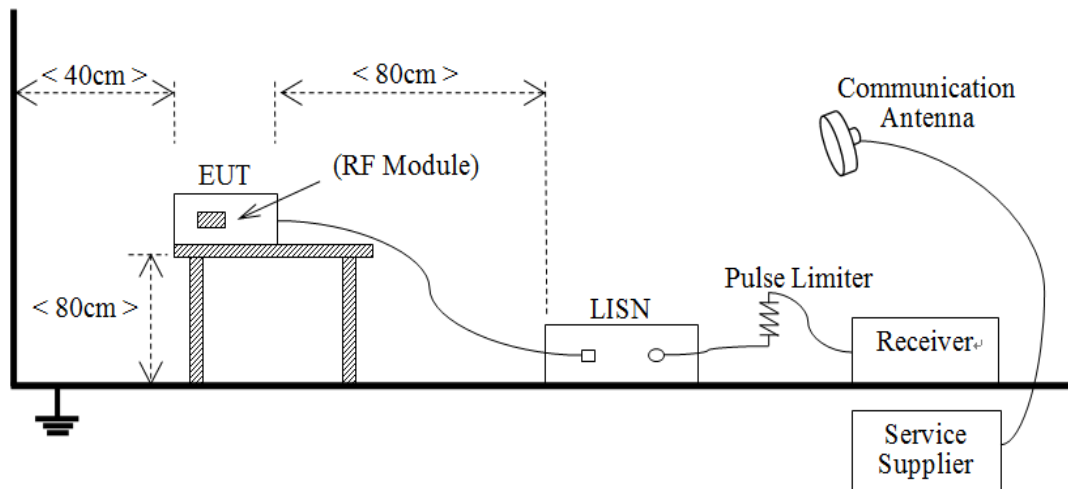
For example: the measurement value is 10 dBm and the cable 0.5 dB used, then the final result of EUT:

Conducted value (dBm) = 10 dBm + 0.5 dB = 10.5 dBm



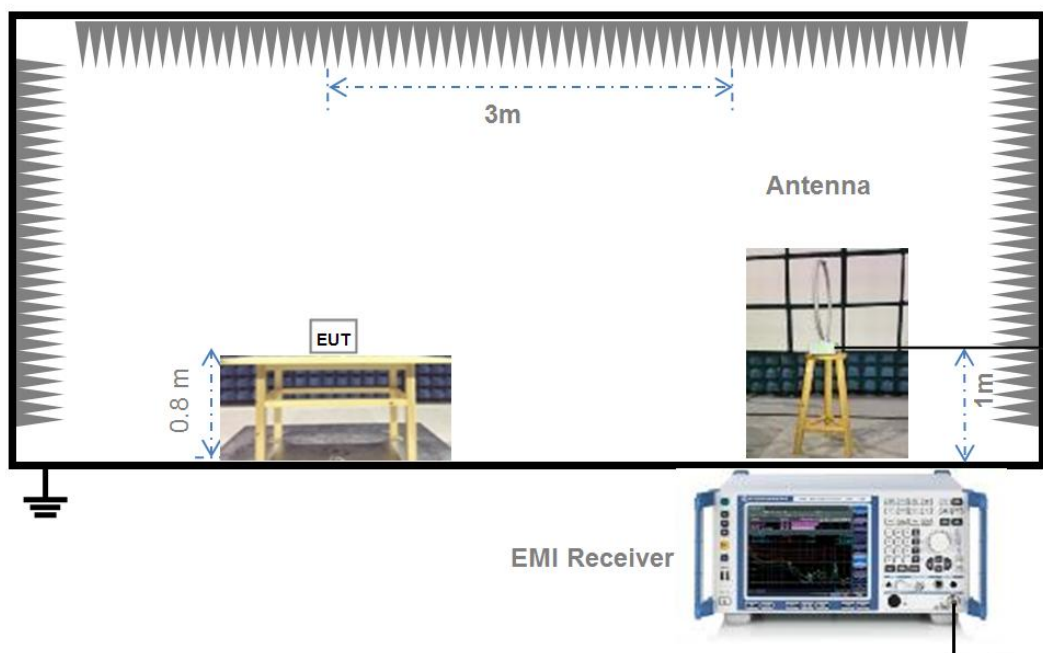
(Diagram 1)

4.6.2 For AC Power Supply Port Test



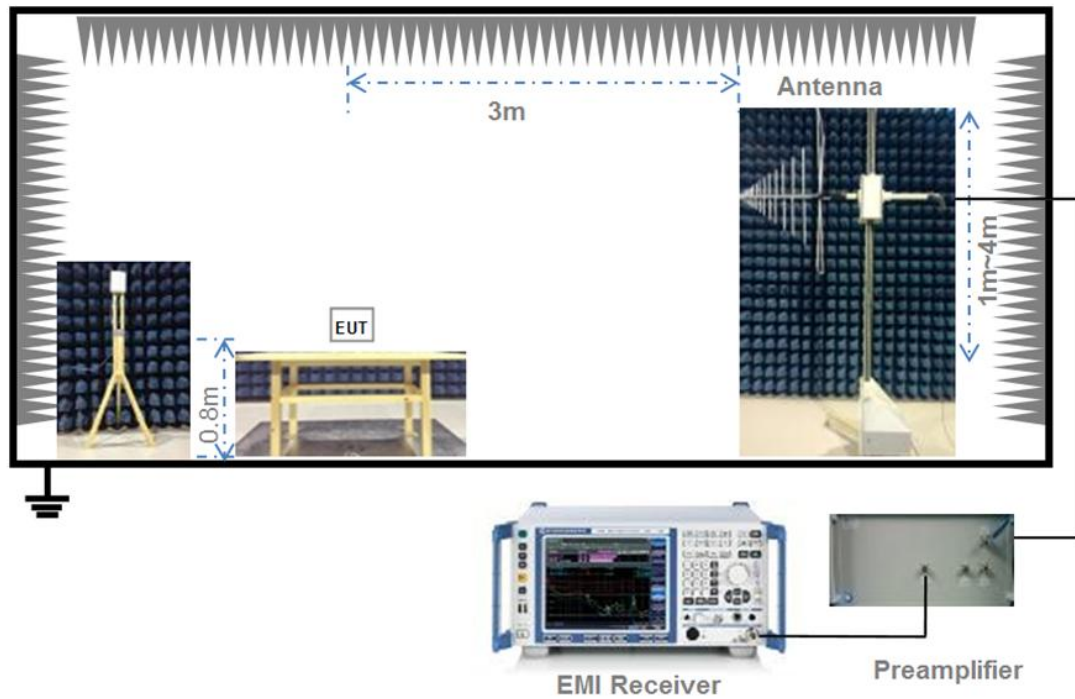
(Diagram 2)

4.6.3 For Radiated Test (Below 30 MHz)



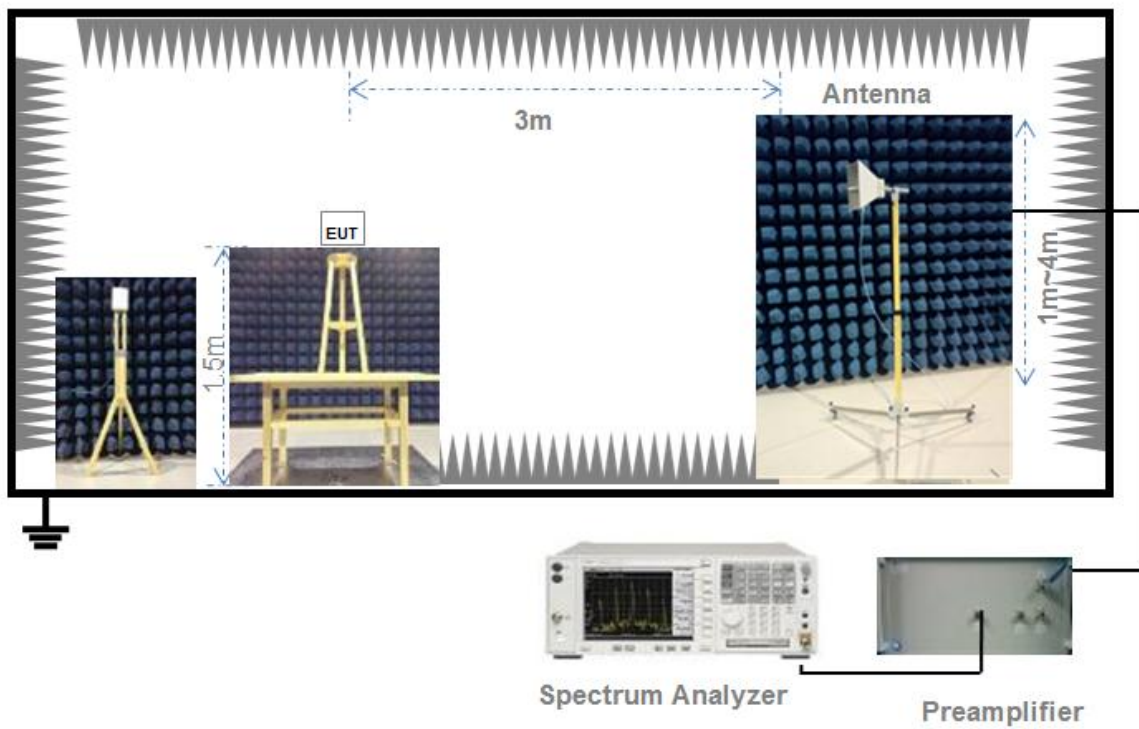
(Diagram 3)

4.6.4 For Radiated Test (30 MHz-1 GHz)



(Diagram 4)

4.6.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

4.7 Measurement Results Explanation Example

4.7.1 For conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Relevant Standards

FCC §15.203 & 15.247(b); RSS-247, 6.5 (c)

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall 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. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

If directional gain of transmitting antennas is greater than 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. 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 FCC rule.

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

Protected Method	Description
The antenna is embedded in the product.	An embedded-in antenna design is used.

Reference Documents	Item
Photo	Please refer to the EUT Photo documents.

5.1.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

5.2 Frequency Hopping Systems

5.2.1 Relevant Standards

FCC §15.247(a) (1) (i) (ii) (iii) (iv); FCC §15.247(g); FCC §15.247(h)

Describe how the hopping sequence is generated. Provide an example of the hopping sequence channels, to demonstrate that the sequence meets the requirement specified in the definition of an FHSS system. Per the definition in Section 2.1(c), the hop set shall appear as random in the near term, shall appear as evenly distributed in the long term, and sequential hops shall be randomly distributed in both direction and magnitude of change.

Describe how each individual EUT meets the requirement that each of its hopping channels is used equally on average (e.g., that each new transmission event begins on the next channel in the hopping sequence after the final channel used in the previous transmission event).

Describe how the associated receiver(s) complies with the requirement that the input bandwidth (either RF or IF) matches the bandwidth of the transmitted signal.

Describe how the associated receiver(s) has the ability to shift frequencies in synchronization with the transmitted signals.

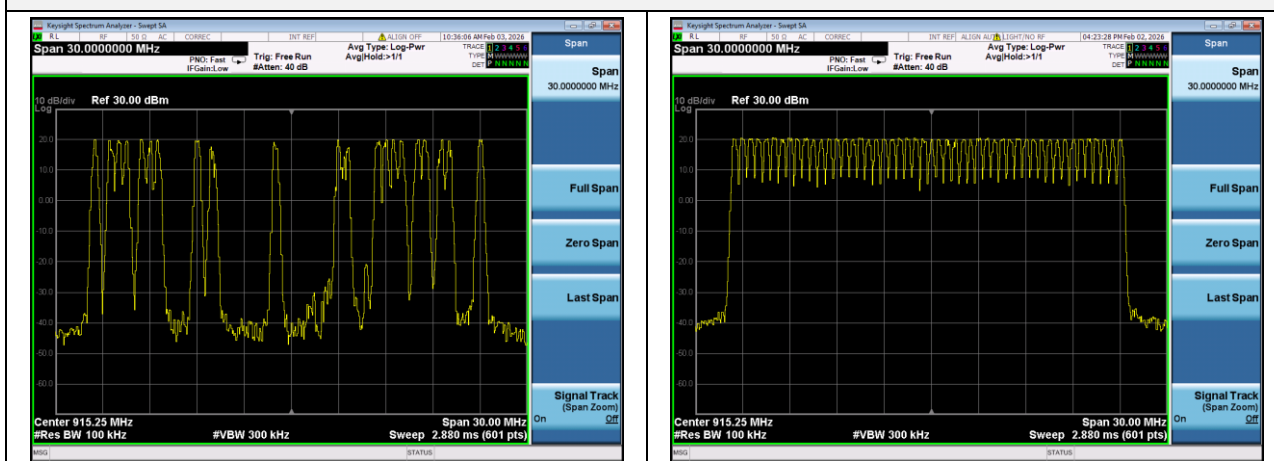
For short burst systems, describe how the EUT complies with the requirement that it be designed to be capable of operating as a true frequency hopping system. Specifically, the device shall comply with the equal frequency use and pseudorandom hopping sequence requirement when transmitting in short bursts, and shall be designed to comply when presented with continuous data (or information) stream.

Describe how the EUT complies with the requirement that it not have the ability to be coordinated with other FHSS systems in an effort to avoid the simultaneous occupancy of individual hopping frequencies by multiple transmitters.

5.2.2 Description of the systems

1. According to the preset procedure of the whole network, all the stations in the automatic control network synchronously change the frequency multiple times within one second, and temporarily stay on each frequency hopping channel. Periodic synchronization signaling is sent from the primary station, instructing all slaves to simultaneously change the operating frequency, then the hopping sequence is generated.
2. The hop set shall appear as random in the near term, shall appear as evenly distributed in the long term, and sequential hops shall be randomly distributed in both direction and magnitude of change.

Reference Documents



5.3 Number of Hopping Frequencies

5.3.1 Limit

FCC §15.247(a) (1) (iii); RSS-247, 6.2.3.1 (b)

Frequency hopping systems operating in the 2400 MHz to 2483.5 MHz bands shall use at least 15 hopping frequencies.

5.3.2 Test Setup

See section 4.6.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = The frequency band of operation

RBW = To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize

5.3.4 Test Result

Please refer to ANNEX A.1.

5.4 Peak Output Power and E.I.R.P

5.4.1 Test Limit

FCC § 15.247(b)

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

RSS-247, 6.2.3.2

For Frequency Hopping Systems operating in the band 2400-2483.5 MHz: If the hopset uses 75 or more hopping channels, the maximum peak conducted output power shall not exceed 1.0 W. If the hopset uses less than 75 hopping channels the maximum peak conducted output power shall not exceed 0.125 W. The e.i.r.p. shall not exceed 4 W, except as provided in sections 6.5 a) and b).

5.4.2 Test Setup

See section 4.6.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.4.3 Test Procedure

The Module operates at hopping-off test mode. The lowest, middle and highest channels are selected to perform testing to verify the conducted RF output peak power of the Module.

Use the following spectrum analyzer settings:

Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel

RBW > the 20 dB bandwidth of the emission being measured

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize.

5.4.4 Test Result

Please refer to ANNEX A.2.

5.5 Occupied Bandwidth

5.5.1 Limit

FCC §15.247(a); RSS-247, 6.2.1 (a)

Measurement of the 20dB bandwidth of the modulated signal.

5.5.2 Test Setup

See section 4.6.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.5.3 Test Procedure

Use the following spectrum analyzer settings:

Span = approximately 2 to 5 times the 20 dB bandwidth, centered on a hopping channel

RBW = in the range of 1% to 5% of the OBW

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

The EUT should be transmitting at its maximum data rate, Allow the trace to stabilize.

5.5.4 Test Result

Please refer to ANNEX A.3.

5.6 Carrier Frequency Separation

5.6.1 Limit

FCC §15.247(a); RSS-247, 6.2.3.1 (a)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 2/3 of the 20 dB bandwidth of the hopping channel, whichever is greater.

5.6.2 Test Setup

See section 4.6.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.6.3 Test Procedure

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = wide enough to capture the peaks of two adjacent channels

Resolution (or IF) Bandwidth (RBW) $\geq 1\%$ of the span

Video (or Average) Bandwidth (VBW) $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

5.6.4 Test Result

Please refer to ANNEX A.4.

5.7 Time of Occupancy (Dwell time)

5.7.1 Limit

FCC §15.247(a); RSS-247, 6.2.3.1 (b)

Frequency hopping systems operating in the band 2400-2483.5 MHz shall use at least 15 hopping channels. The average time of occupancy on any channel shall not be greater than 0.4 s within a period of 0.4 s, multiplied by the number of hopping channels employed. Transmissions on particular hopping frequencies may be avoided or suppressed provided that at least 15 hopping channels are used.

5.7.2 Test Setup

See section 4.6.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.7.3 Test Procedure

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

Span: Zero span, centered on a hopping channel

RBW shall be $\leq$ channel spacing and where possible RBW should be set $\gg 1/T$, where T is the expected dwell time per channel

Sweep: As necessary to capture the entire dwell time per hopping channel; where possible use a video trigger and trigger delay so that the transmitted signal starts a little to the right of the start of the plot. The trigger level might need slight adjustment to prevent triggering when the system hops on an adjacent channel; a second plot might be needed with a longer sweep time to show two successive hops on a channel

Detector function: Peak

Trace: Max hold

Use the marker-delta function to determine the transmit time per hop. If this value varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation in transmit time.

The average time of occupancy on any channel within the Period can be calculated with formulas:

For GFSK and 8-DPSK:

For DH1 package type

$$\{\text{Total of Dwell}\} = \{\text{Pulse Time}\} * (1600 / 2) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\}$$

$$\{\text{Period}\} = 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}$$

For DH3 package type

$$\{\text{Total of Dwell}\} = \{\text{Pulse Time}\} * (1600 / 4) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\}$$

$$\{\text{Period}\} = 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}$$

For DH5 package type

$$\{\text{Total of Dwell}\} = \{\text{Pulse Time}\} * (1600 / 6) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\}$$

$$\{\text{Period}\} = 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}$$

For AFH Mode:

For DH1 package type

$$\{\text{Total of Dwell}\} = \{\text{Pulse Time}\} * (800 / 2) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\}$$

$$\{\text{Period}\} = 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}$$

For DH3 package type

$$\{\text{Total of Dwell}\} = \{\text{Pulse Time}\} * (800 / 4) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\}$$
$$\{\text{Period}\} = 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}$$

For DH5 package type

$$\{\text{Total of Dwell}\} = \{\text{Pulse Time}\} * (800 / 6) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\}$$
$$\{\text{Period}\} = 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}$$

The lowest, middle and highest channels are selected to perform testing to record the dwell time of each occupation measured in this channel, which is called Pulse Time here.

5.7.4 Test Result

Please refer to ANNEX A.5.

5.8 Conducted Spurious Emission & Authorized-band band-edge

5.8.1 Limit

FCC §15.247(d); RSS-247, 6.6

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

5.8.2 Test Setup

See section 4.6.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.8.3 Test Procedure

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.

RBW = 100 kHz

VBW = 300 kHz

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize

5.8.4 Test Result

Please refer to ANNEX A.6.

5.9 Conducted Emission

5.9.1 Limit

FCC §15.207; RSS-GEN, 8.8

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 within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

5.9.2 Test Setup

See section 4.6.2 for test setup description for the AC power supply port. The photo of test setup please refer to ANNEX B.

5.9.3 Test Procedure

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

5.9.4 Test Result

Please refer to ANNEX A.7.

5.10 Radiated Spurious Emission

5.10.1 Limit

FCC §15.209&15.247(d); RSS-247, 6.6

Radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

According to FCC section 15.209 (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 ($\mu\text{V}/\text{m}$)	Measurement Distance (m)
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

Note:

1. Field Strength ($\text{dB}\mu\text{V}/\text{m}$) = $20 \times \log[\text{Field Strength } (\mu\text{V}/\text{m})]$.
2. In the emission tables above, the tighter limit applies at the band edges.
3. For Above 1000 MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.
4. For above 1000 MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK).

5.10.2 Test Setup

See section 4.6.3 to 4.6.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.10.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360° , and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported, Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

5.10.4 Test Result

Please refer to ANNEX A.8.

5.11 Band Edge (Restricted-band band-edge)

5.11.1 Limit

FCC §15.209&15.247(d); RSS-247, 6.6

Radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

5.11.2 Test Setup

See section 4.6.3 to 4.6.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.11.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported, Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

5.11.4 Test Result

Please refer to ANNEX A.9.

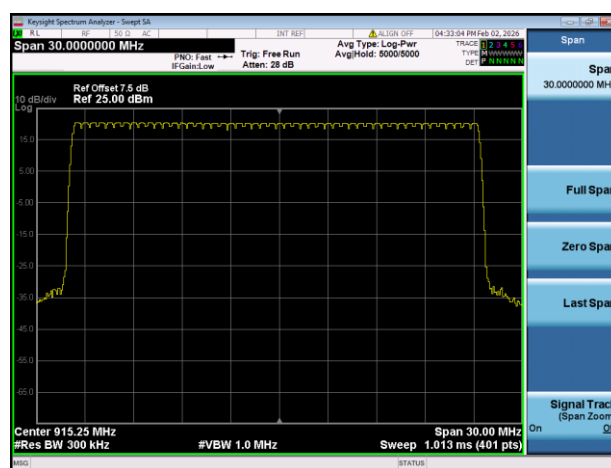
ANNEX A TEST RESULT

A.1 Number of Hopping frequencies

Test Data

Test Mode	Frequency Block (MHz)	Measured Channel Numbers	Min. Limit	Verdict
Sub G	902-928	50	50	Pass

Test Plots



A.2 Peak Output Power and E.I.R.P

Peak Power Test Data

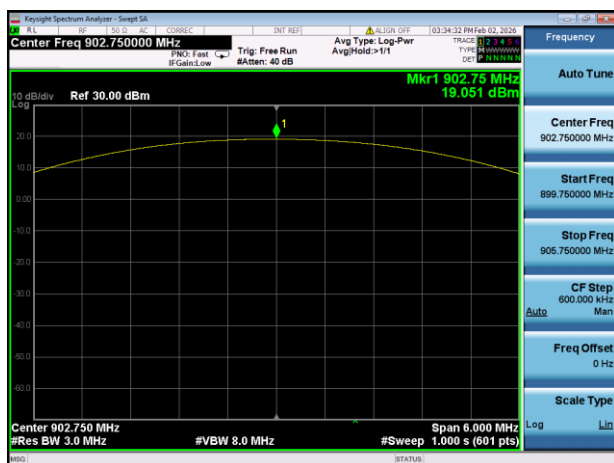
Channel	Measured Output Peak Power		Limit		Verdict
	Sub G		dBm	mW	
	dBm	mW			
Low	19.05	80.37	30	1000	Pass
Middle	18.93	78.11			Pass
High	20.12	102.80			Pass

E.I.R.P Test Data (For ISSED)

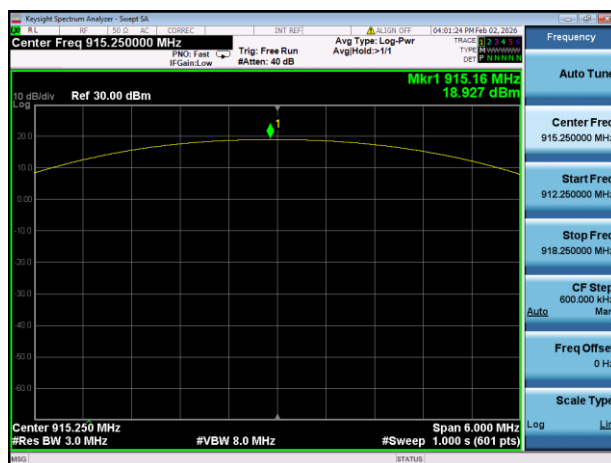
Channel	E.I.R.P		Limit		Verdict
	Sub G		dBm	mW	
	dBm	mW			
Low	18.35	68.41	36	4000	Pass
Middle	18.23	66.48			Pass
High	19.42	87.50			Pass

Test Plots

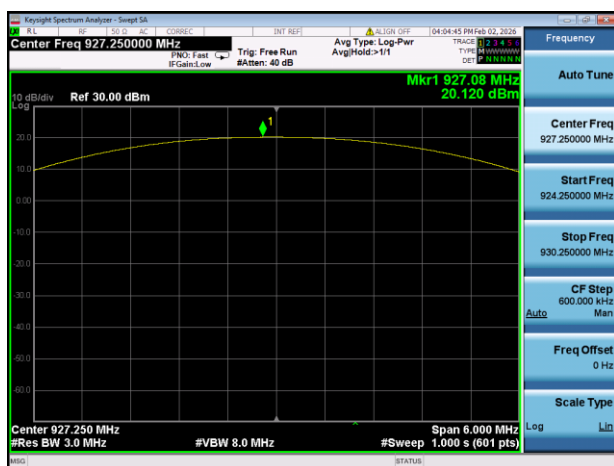
LOW CHANNEL



MIDDLE CHANNEL



HIGH CHANNEL



A.3 Occupied Bandwidth

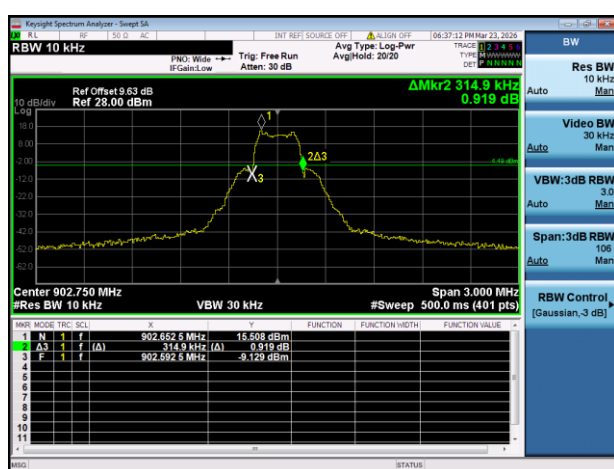
Test Data

Sub G			
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)	Verdict
Low	0.314941	0.284272	Pass
Middle	0.314941	0.284300	Pass
High	0.314941	0.284996	Pass

Test Plots

20 dB Bandwidth

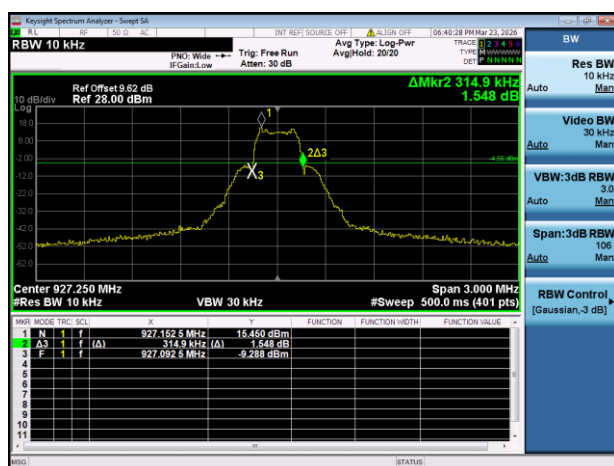
LOW CHANNEL



MIDDLE CHANNEL

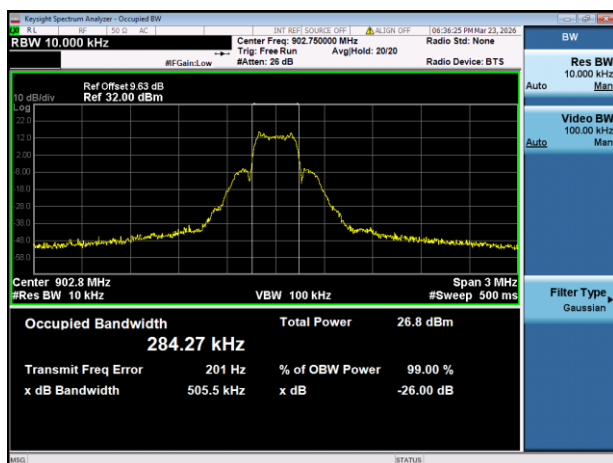


HIGH CHANNEL

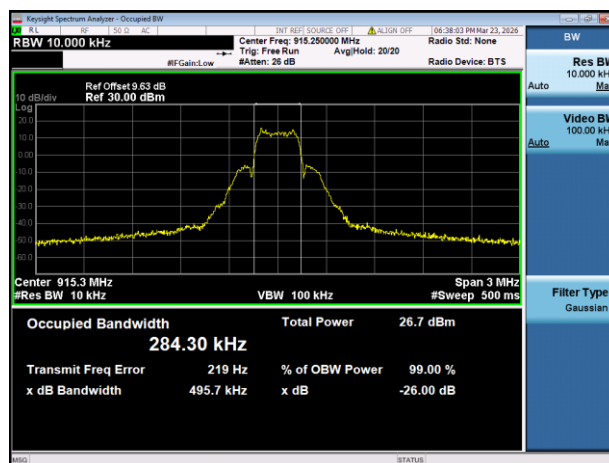


99% Bandwidth

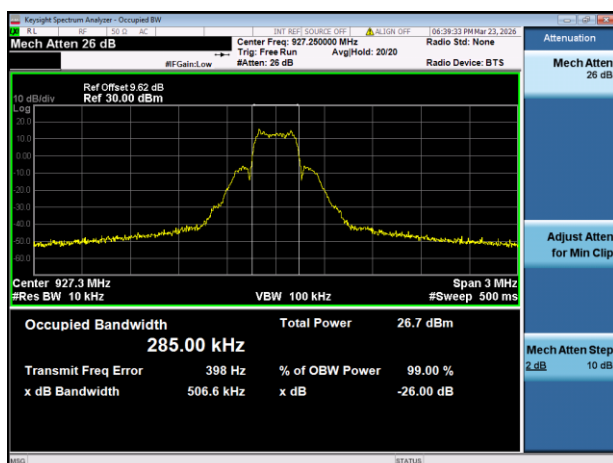
LOW CHANNEL



MIDDLE CHANNEL



HIGH CHANNEL

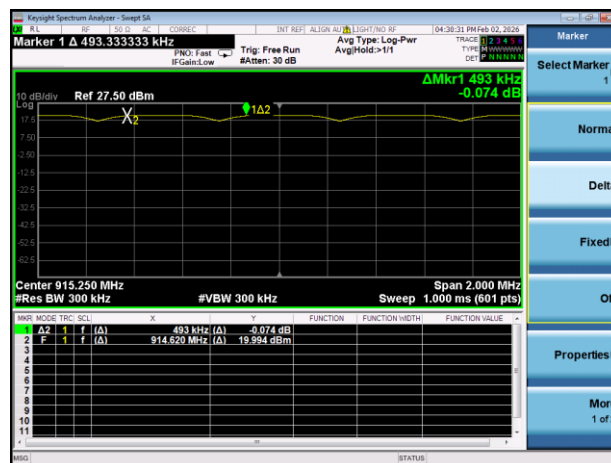


A.4 Carrier Frequency Separation

Test Data

Mode	Frequency separation (MHz)	Max 20 dB Bandwidth (MHz)	Verdict
Sub G	0.493	0.315	Pass

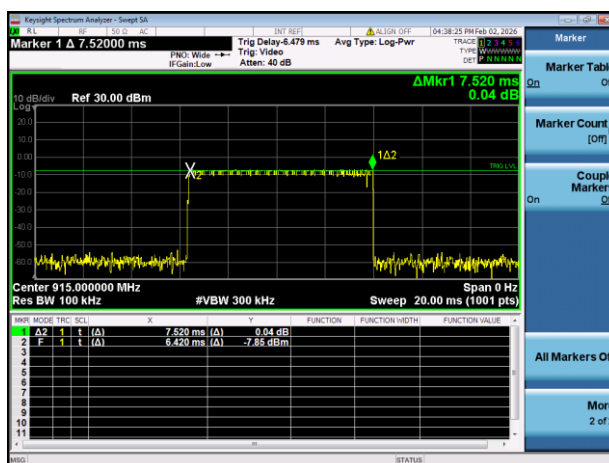
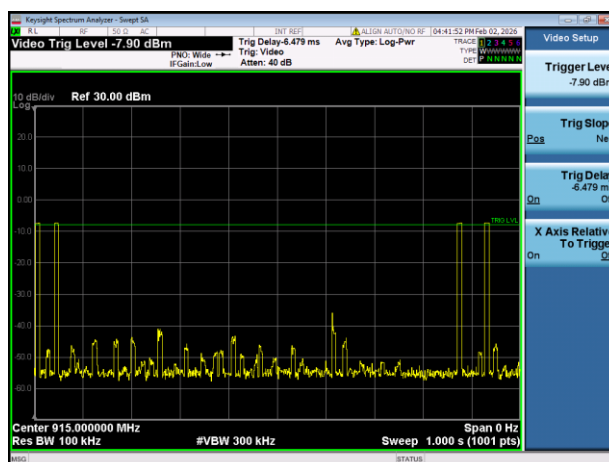
Test Plots



A.5 Time of Occupancy (Dwell time)

Test Data

Total of Dwell (ms)	Limit (sec)	Verdict
30.080	0.4	Pass



A.6 Conducted Spurious Emissions & Authorized-band band-edge

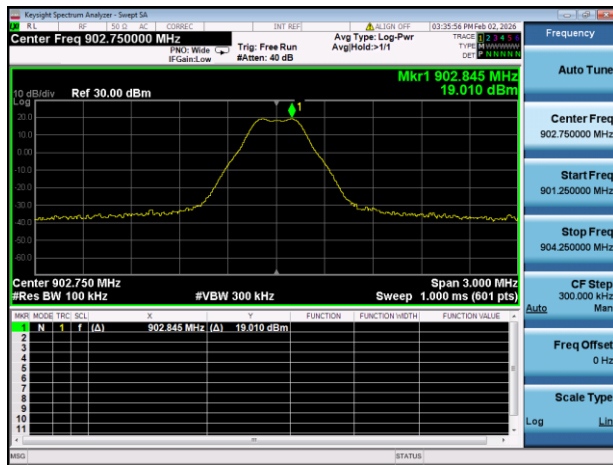
Test Data

Sub G				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-23.98	19.01	-0.99	Pass
Middle	-24.84	18.92	-1.08	Pass
High	-23.90	19.60	-0.40	Pass

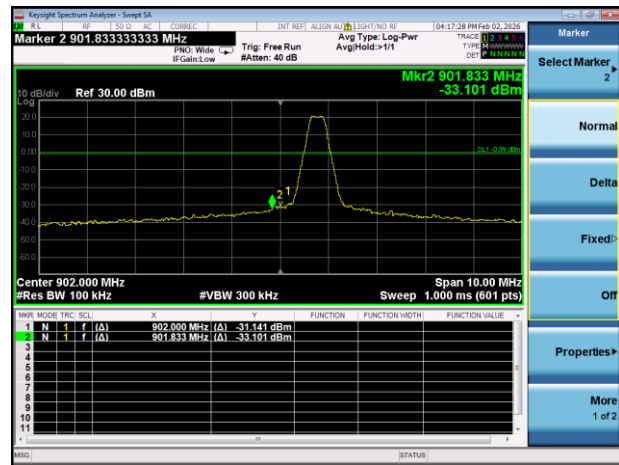
Sub G				
Mode	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Hopping	-24.85	20.55	0.55	Pass

Test Plots

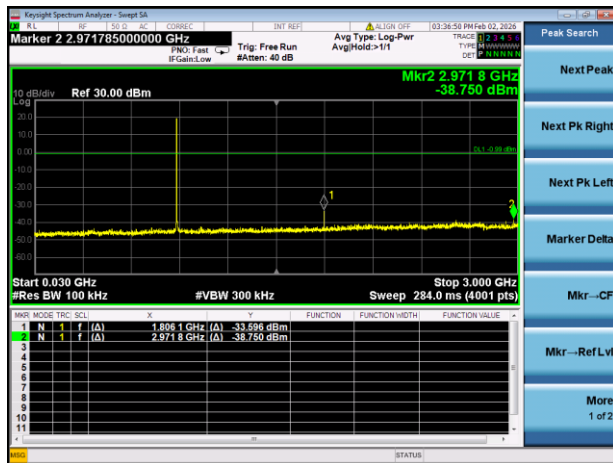
LOW CHANNEL, CARRIER LEVEL



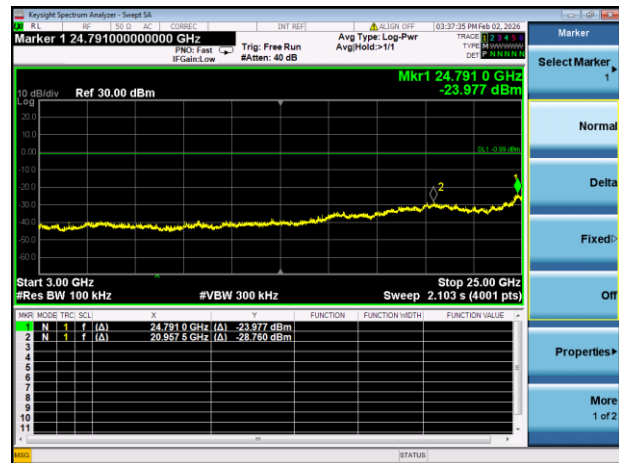
LOW CHANNEL, Band Edge



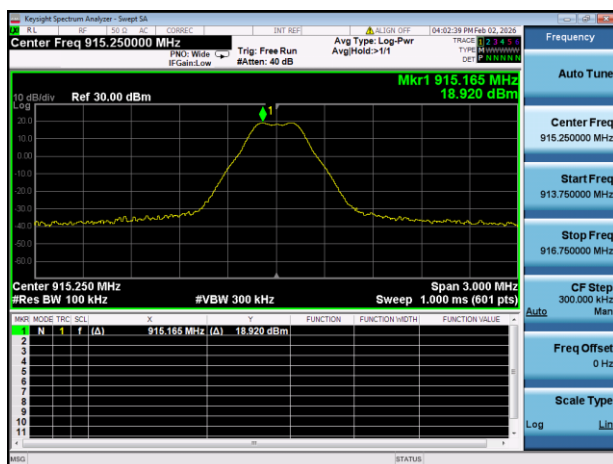
LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



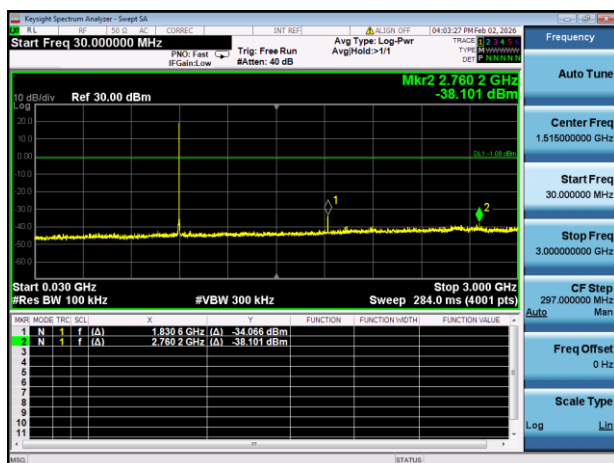
LOW CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



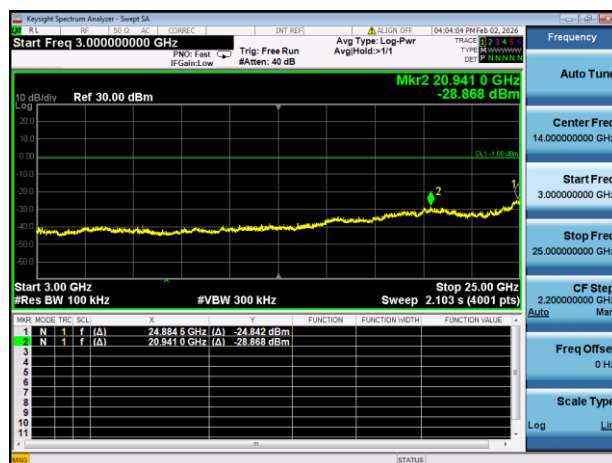
MIDDLE CHANNEL, CARRIER LEVEL



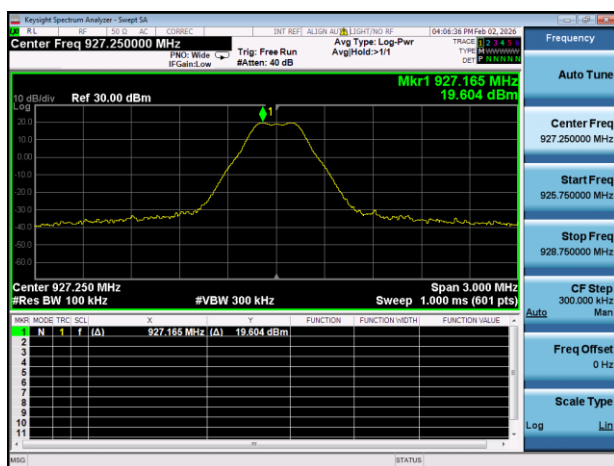
MIDDLE CHANNEL , SPURIOUS 30 MHz ~ 3 GHz



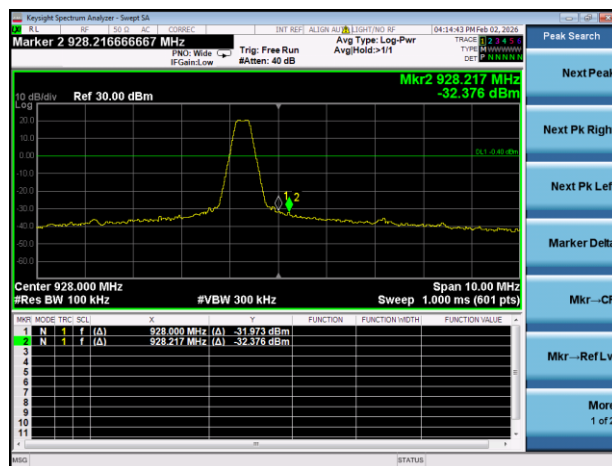
MIDDLE CHANNEL , SPURIOUS 3 GHz ~ 25 GHz



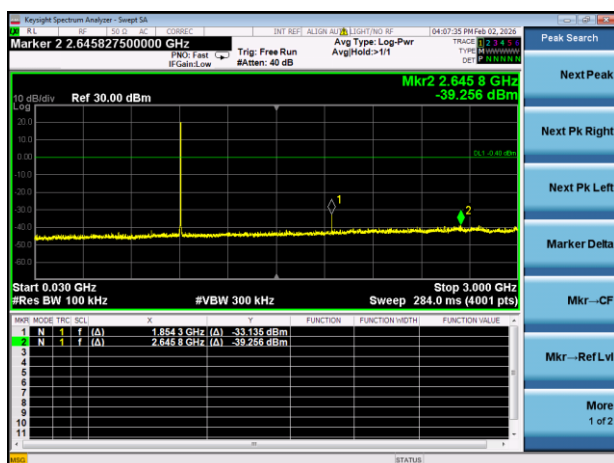
HIGH CHANNEL, CARRIER LEVEL



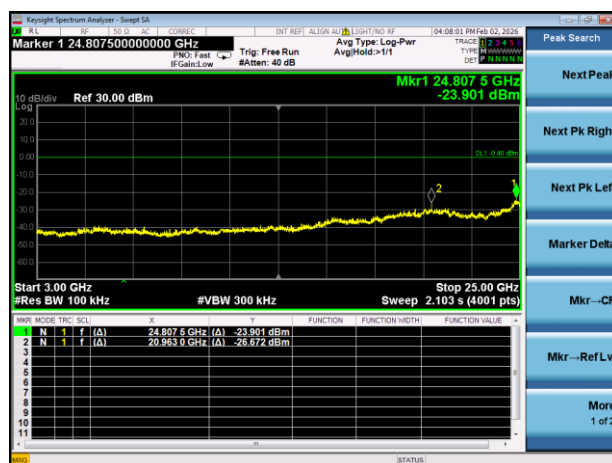
HIGH CHANNEL , BAND EDGE



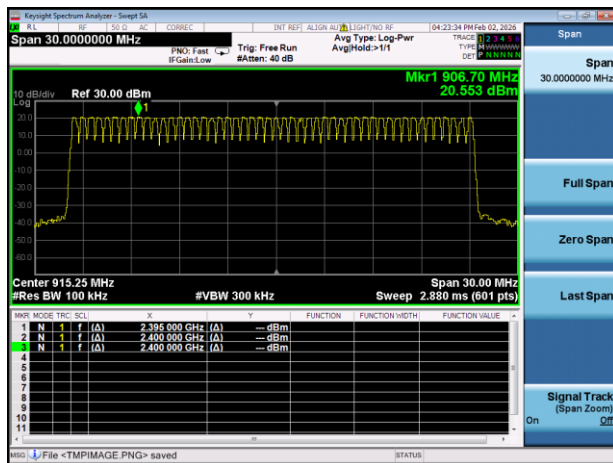
HIGH CHANNEL , SPURIOUS 30 MHz ~ 3 GHz



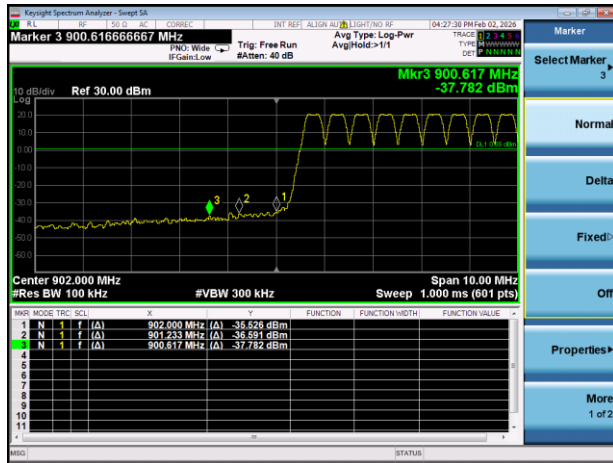
HIGH CHANNEL , SPURIOUS 3 GHz ~ 25 GHz



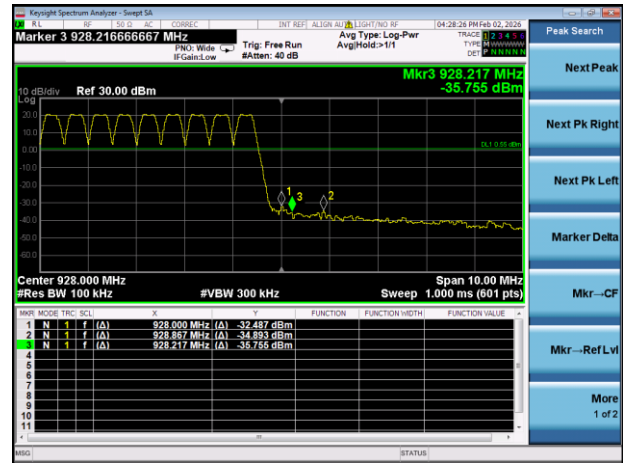
HOPPING, CARRIER LEVEL



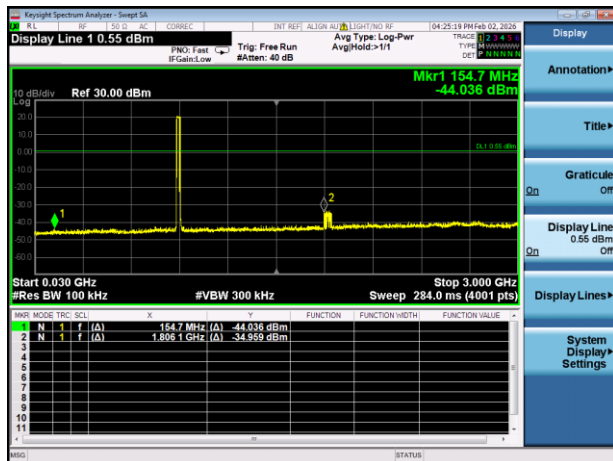
HOPPING BAND EDGE (LOW)



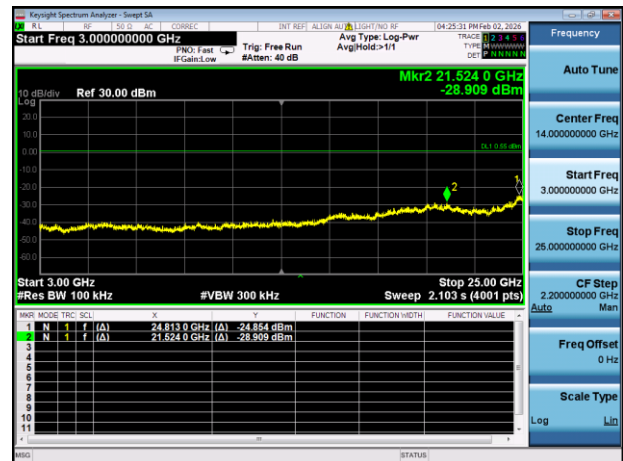
HOPPING BAND EDGE (HIGH)



HOPPING Mode, SPURIOUS 30 MHz ~ 3 GHz



Hopping Mode, SPURIOUS 3 GHz ~ 25 GHz



A.7 Conducted Emission

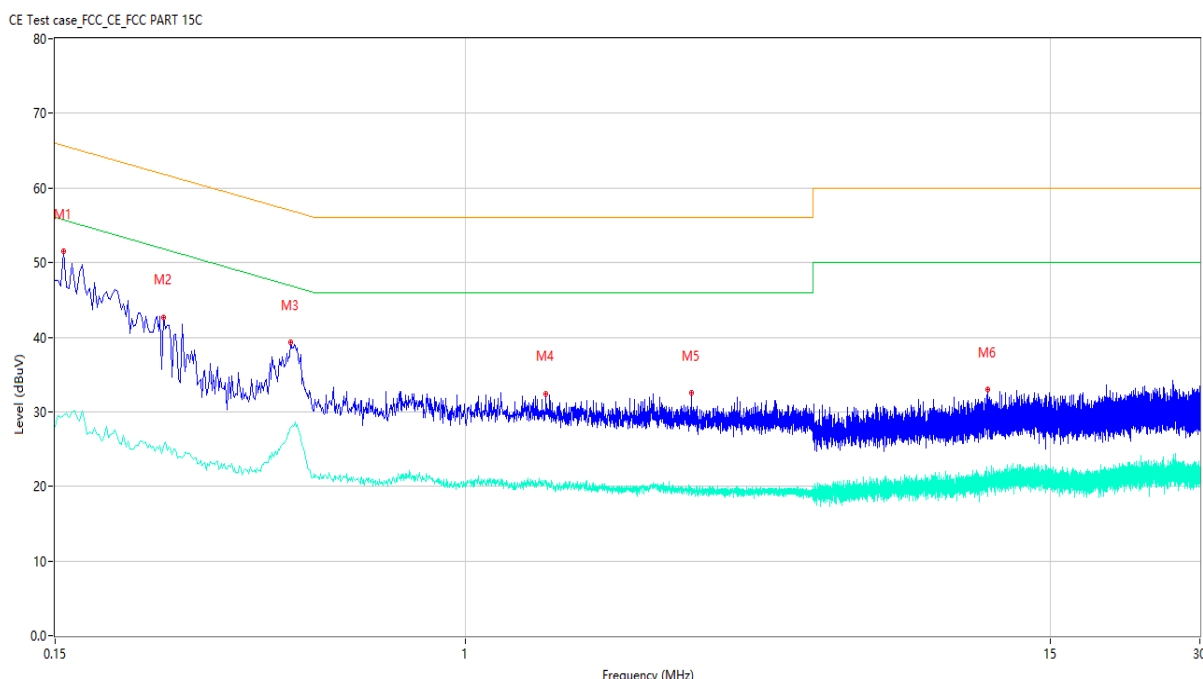
Note ¹: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

Note ²: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

Note ³: Results (dBuV) = Original reading level of Spectrum Analyzer (dBuV) + Factor (dB)

Test Data and Plots

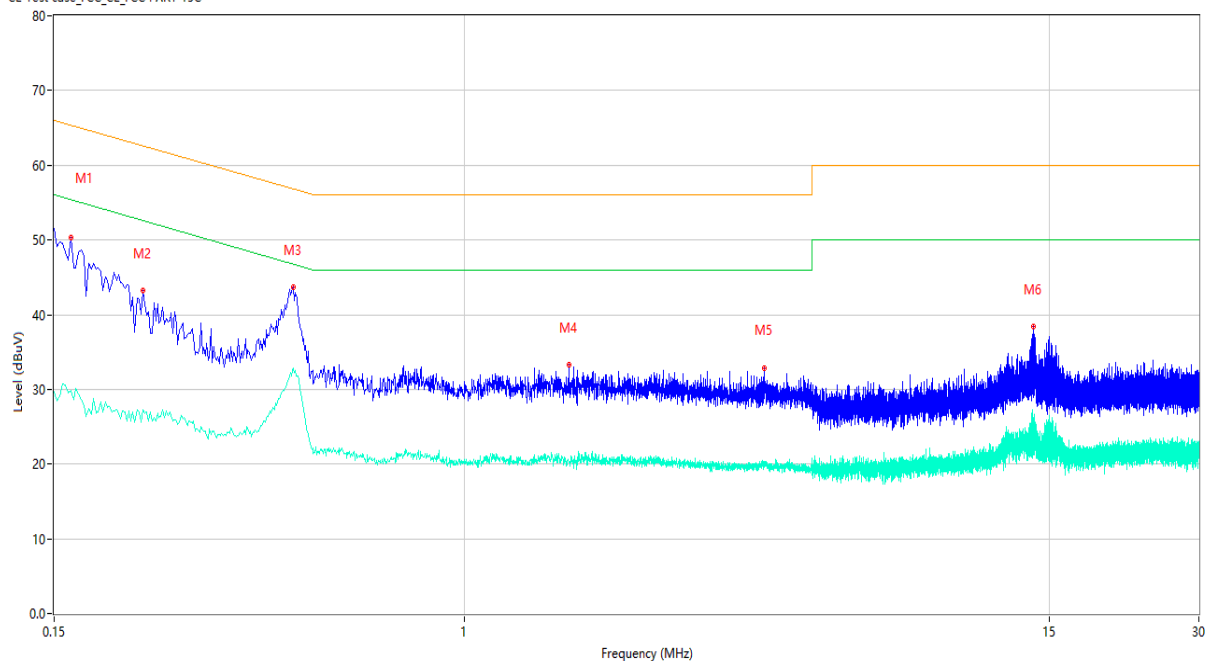
PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.156	51.48	10.06	65.67	14.19	Peak	L	Pass
1**	0.156	29.55	10.06	55.67	26.12	AV	L	Pass
2	0.248	42.63	10.12	61.82	19.19	Peak	L	Pass
2**	0.248	25.37	10.12	51.82	26.45	AV	L	Pass
3	0.446	39.34	10.14	56.95	17.61	Peak	L	Pass
3**	0.446	27.89	10.14	46.95	19.06	AV	L	Pass
4	1.456	32.47	10.26	56.00	23.53	Peak	L	Pass
4**	1.456	20.77	10.26	46.00	25.23	AV	L	Pass
5	2.856	32.51	10.38	56.00	23.49	Peak	L	Pass
5**	2.856	18.89	10.38	46.00	27.11	AV	L	Pass
6	11.238	32.97	11.00	60.00	27.03	Peak	L	Pass
6**	11.238	20.45	11.00	50.00	29.55	AV	L	Pass

PHASE N

CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.162	50.35	10.15	65.36	15.01	Peak	N	Pass
1**	0.162	29.89	10.15	55.36	25.47	AV	N	Pass
2	0.226	43.24	10.16	62.60	19.36	Peak	N	Pass
2**	0.226	27.30	10.16	52.60	25.30	AV	N	Pass
3	0.454	43.65	10.17	56.80	13.15	Peak	N	Pass
3**	0.454	32.90	10.17	46.80	13.90	AV	N	Pass
4	1.626	33.31	10.24	56.00	22.69	Peak	N	Pass
4**	1.626	20.24	10.24	46.00	25.76	AV	N	Pass
5	4.008	32.90	10.38	56.00	23.10	Peak	N	Pass
5**	4.008	20.38	10.38	46.00	25.62	AV	N	Pass
6	13.934	38.37	11.09	60.00	21.63	Peak	N	Pass
6**	13.934	26.08	11.09	50.00	23.92	AV	N	Pass

A.8 Radiated Spurious Emission

Note 1: The symbol of "--" in the table which means not application.

Note 2: For the test data above 1 GHz, According the ANSI C63.10-2020, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 3: The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

Note 4: The EUT is working in the Normal link mode below 1 GHz. All modes have been tested and normal link mode is worst.

Note 5: The marked spikes near 902 MHz to 928 MHz with circle should be ignored because they are Fundamental signal.

Test Data and Plots

LOW CHANNEL, 30 MHz to 1 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin(dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	45.229	23.89	-14.70	40.0	16.11	Peak	0.00	100	Horizontal	Pass
2	99.985	36.55	-16.11	43.5	6.95	Peak	360.00	200	Horizontal	Pass
3	157.410	30.56	-19.06	43.5	12.94	Peak	258.00	100	Horizontal	Pass
4	214.979	29.88	-16.21	43.5	13.62	Peak	286.00	200	Horizontal	Pass
5	425.711	30.99	-9.84	46.0	15.01	Peak	109.00	100	Horizontal	Pass
6	902.661	105.18	0.80	46.0	-59.18	Peak	240.00	100	Horizontal	N/A

LOW CHANNEL,30 MHz to 1 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin(dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	41.931	26.69	-15.34	40.0	13.31	Peak	224.00	100	Vertical	Pass
2	92.129	30.05	-17.46	43.5	13.45	Peak	28.00	100	Vertical	Pass
3	149.989	28.14	-19.56	43.5	15.36	Peak	272.00	100	Vertical	Pass
4	213.330	35.20	-16.30	43.5	8.30	Peak	303.00	100	Vertical	Pass
5	442.784	31.00	-9.58	46.0	15.00	Peak	145.00	100	Vertical	Pass
6	902.661	113.38	0.80	46.0	-67.38	Peak	188.00	100	Vertical	N/A

MIDDLE CHANNEL,30 MHz to 1 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin(dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	48.139	24.36	-14.52	40.0	15.64	Peak	137.00	200	Horizontal	Pass
2	96.445	33.41	-16.45	43.5	10.09	Peak	360.00	200	Horizontal	Pass
3	215.076	31.12	-16.21	43.5	12.38	Peak	108.00	100	Horizontal	Pass
4	374.738	30.25	-11.23	46.0	15.75	Peak	95.00	200	Horizontal	Pass
5	638.578	35.38	-4.60	46.0	10.62	Peak	0.00	100	Horizontal	Pass
6	915.222	106.71	0.75	46.0	-60.71	Peak	231.00	100	Horizontal	N/A

MIDDLE CHANNEL,30 MHz to 1 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin(dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	42.077	26.38	-15.30	40.0	13.62	Peak	0.00	100	Vertical	Pass
2	88.297	29.50	-18.60	43.5	14.00	Peak	328.00	100	Vertical	Pass
3	149.989	30.47	-19.56	43.5	13.03	Peak	267.00	200	Vertical	Pass
4	215.028	36.04	-16.21	43.5	7.46	Peak	285.00	200	Vertical	Pass
5	423.238	31.27	-9.83	46.0	14.73	Peak	55.00	200	Vertical	Pass
6	915.174	113.07	0.74	46.0	-67.07	Peak	206.00	200	Vertical	N/A

HIGH CHANNEL,30 MHz to 1 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin(dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	49.594	23.41	-14.53	40.0	16.59	Peak	321.00	100	Horizontal	Pass
2	100.373	30.22	-16.08	43.5	13.28	Peak	352.00	200	Horizontal	Pass
3	153.578	34.04	-19.36	43.5	9.46	Peak	145.00	200	Horizontal	Pass
4	246.941	28.74	-14.18	46.0	17.26	Peak	291.00	100	Horizontal	Pass
5	422.947	31.49	-9.83	46.0	14.51	Peak	52.00	100	Horizontal	Pass
6	927.153	108.56	1.15	46.0	-62.56	Peak	236.00	100	Horizontal	N/A

HIGH CHANNEL,30 MHz to 1 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin(dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	42.222	26.31	-15.26	40.0	13.69	Peak	136.00	100	Vertical	Pass
2	96.008	35.41	-16.52	43.5	8.09	Peak	130.00	100	Vertical	Pass
3	214.203	34.84	-16.25	43.5	8.66	Peak	124.00	100	Vertical	Pass
4	340.642	27.87	-11.87	46.0	18.13	Peak	339.00	200	Vertical	Pass
5	550.017	35.59	-6.92	46.0	10.41	Peak	341.00	100	Vertical	Pass
6	927.347	114.27	1.16	46.0	-68.27	Peak	205.00	200	Vertical	N/A

LOW CHANNEL 1 GHz to 10 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin(dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1207.500	40.04	-15.83	74.0	33.96	Peak	220.00	150	Horizontal	Pass
1**	1207.500	28.96	-15.83	54.0	25.04	AV	220.00	150	Horizontal	Pass
2	1805.750	59.96	-15.90	N/A	N/A	Peak	253.00	150	Horizontal	N/A
2**	1805.750	59.31	-15.90	N/A	N/A	AV	253.00	150	Horizontal	N/A
3	2708.250	43.88	-10.37	74.0	30.12	Peak	69.00	150	Horizontal	Pass
3**	2708.250	38.33	-10.37	54.0	15.67	AV	69.00	150	Horizontal	Pass
4	3611.000	46.24	-5.10	74.0	27.76	Peak	0.00	150	Horizontal	Pass
4**	3611.000	37.20	-5.10	54.0	16.80	AV	0.00	150	Horizontal	Pass
5	5029.000	49.74	-2.13	74.0	24.26	Peak	241.00	150	Horizontal	Pass
5**	5029.000	38.20	-2.13	54.0	15.80	AV	241.00	150	Horizontal	Pass
6	7872.500	54.20	1.78	74.0	19.80	Peak	338.00	150	Horizontal	Pass
6**	7872.500	42.50	1.78	54.0	11.50	AV	338.00	150	Horizontal	Pass

LOW CHANNEL 1 GHz to 10 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin(dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1281.000	39.47	-15.89	74.0	34.53	Peak	52.00	150	Vertical	Pass
1**	1281.000	28.34	-15.89	54.0	25.66	AV	52.00	150	Vertical	Pass
2	1805.250	59.37	-15.88	N/A	N/A	Peak	288.00	150	Vertical	N/A
2**	1805.250	56.02	-15.88	N/A	N/A	AV	288.00	150	Vertical	N/A
3	2708.250	44.29	-10.37	74.0	29.71	Peak	211.00	150	Vertical	Pass
3**	2708.250	38.77	-10.37	54.0	15.23	AV	211.00	150	Vertical	Pass
4	4031.000	46.12	-4.03	74.0	27.88	Peak	351.00	150	Vertical	Pass
4**	4031.000	35.26	-4.03	54.0	18.74	AV	351.00	150	Vertical	Pass
5	5366.000	48.88	-2.03	74.0	25.12	Peak	209.00	150	Vertical	Pass
5**	5366.000	38.29	-2.03	54.0	15.71	AV	209.00	150	Vertical	Pass
6	7782.000	53.09	1.37	74.0	20.91	Peak	360.00	150	Vertical	Pass
6**	7782.000	42.12	1.37	54.0	11.88	AV	360.00	150	Vertical	Pass

MIDDLE CHANNEL 1 GHz to 10 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin(dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1281.500	40.12	-15.91	74.0	33.88	Peak	215.00	150	Horizontal	Pass
1**	1281.500	28.26	-15.91	54.0	25.74	AV	215.00	150	Horizontal	Pass
2	1830.750	58.34	-16.08	N/A	N/A	Peak	242.00	150	Horizontal	N/A
2**	1830.750	57.86	-16.08	N/A	N/A	AV	242.00	150	Horizontal	N/A
3	2745.750	44.25	-10.54	74.0	29.75	Peak	60.00	150	Horizontal	Pass
3**	2745.750	38.71	-10.54	54.0	15.29	AV	60.00	150	Horizontal	Pass
4	3999.500	46.20	-4.79	74.0	27.80	Peak	360.00	150	Horizontal	Pass
4**	3999.500	34.82	-4.79	54.0	19.18	AV	360.00	150	Horizontal	Pass
5	5465.000	48.52	-2.32	74.0	25.48	Peak	360.00	150	Horizontal	Pass
5**	5465.000	37.67	-2.32	54.0	16.33	AV	360.00	150	Horizontal	Pass
6	7961.500	52.83	2.36	74.0	21.17	Peak	322.00	150	Horizontal	Pass
6**	7961.500	42.56	2.36	54.0	11.44	AV	322.00	150	Horizontal	Pass

MIDDLE CHANNEL 1 GHz to 10 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin(dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1208.000	39.83	-15.87	74.0	34.17	Peak	262.00	150	Vertical	Pass
1**	1208.000	28.82	-15.87	54.0	25.18	AV	262.00	150	Vertical	Pass
2	1830.750	56.87	-16.08	N/A	N/A	Peak	265.00	150	Vertical	N/A
2**	1830.750	56.19	-16.08	N/A	N/A	AV	265.00	150	Vertical	N/A
3	2745.750	44.18	-10.54	74.0	29.82	Peak	360.00	150	Vertical	Pass
3**	2745.750	35.62	-10.54	54.0	18.38	AV	360.00	150	Vertical	Pass
4	4167.500	47.44	-4.43	74.0	26.56	Peak	359.00	150	Vertical	Pass
4**	4167.500	35.56	-4.43	54.0	18.44	AV	359.00	150	Vertical	Pass
5	5967.000	51.35	-0.25	74.0	22.65	Peak	19.00	150	Vertical	Pass
5**	5967.000	39.72	-0.25	54.0	14.28	AV	19.00	150	Vertical	Pass
6	7927.000	52.81	1.97	74.0	21.19	Peak	162.00	150	Vertical	Pass
6**	7927.000	42.60	1.97	54.0	11.40	AV	162.00	150	Vertical	Pass

HIGH CHANNEL 1 GHz to 10 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin(dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1349.750	45.89	-15.95	74.0	28.11	Peak	114.00	150	Horizontal	Pass
1**	1349.750	39.44	-15.95	54.0	14.56	AV	114.00	150	Horizontal	Pass
2	1854.750	58.55	-15.82	N/A	N/A	Peak	212.00	150	Horizontal	N/A
2**	1854.750	57.89	-15.82	N/A	N/A	AV	212.00	150	Horizontal	N/A
3	2781.750	49.09	-9.89	74.0	24.91	Peak	31.00	150	Horizontal	Pass
3**	2781.750	46.06	-9.89	54.0	7.94	AV	31.00	150	Horizontal	Pass
4	3709.500	45.95	-5.05	74.0	28.05	Peak	359.00	150	Horizontal	Pass
4**	3709.500	39.85	-5.05	54.0	14.15	AV	359.00	150	Horizontal	Pass
5	5106.500	50.12	-2.64	74.0	23.88	Peak	0.00	150	Horizontal	Pass
5**	5106.500	38.95	-2.64	54.0	15.05	AV	0.00	150	Horizontal	Pass
6	7921.000	54.61	1.94	74.0	19.39	Peak	359.00	150	Horizontal	Pass
6**	7921.000	44.07	1.94	54.0	9.93	AV	359.00	150	Horizontal	Pass

HIGH CHANNEL 1 GHz to 10 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin(dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1200.000	41.28	-15.74	74.0	32.72	Peak	69.00	150	Vertical	Pass
1**	1200.000	35.22	-15.74	54.0	18.78	AV	69.00	150	Vertical	Pass
2	1854.750	58.01	-15.82	N/A	N/A	Peak	192.00	150	Vertical	N/A
2**	1854.750	56.96	-15.82	N/A	N/A	AV	192.00	150	Vertical	N/A
3	2782.000	46.04	-9.87	74.0	27.96	Peak	282.00	150	Vertical	Pass
3**	2782.000	39.66	-9.87	54.0	14.34	AV	282.00	150	Vertical	Pass
4	3709.500	45.90	-5.05	74.0	28.10	Peak	188.00	150	Vertical	Pass
4**	3709.500	41.55	-5.05	54.0	12.45	AV	188.00	150	Vertical	Pass
5	5031.500	50.31	-2.15	74.0	23.69	Peak	39.00	150	Vertical	Pass
5**	5031.500	39.03	-2.15	54.0	14.97	AV	39.00	150	Vertical	Pass
6	7741.000	54.29	1.33	74.0	19.71	Peak	1.00	150	Vertical	Pass
6**	7741.000	43.72	1.33	54.0	10.28	AV	1.00	150	Vertical	Pass

A.9 Band Edge (Restricted-band band-edge)

Note 1: The lowest and highest channels are tested to verify the band edge emissions. Please refer to the following the plots for emissions values.

Note 2: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.

Note 3: According the ANSI C63.10-2020, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 4: The Level (dBuV/m) has been corrected by factor.

Test Data and Plots

LOW CHANNEL, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	613.124	46.28	-4.70	54.0	7.72	Peak	235.00	150	Horizontal	Pass
1**	613.124	34.66	-4.70	--	-34.66	AV	235.00	150	Horizontal	N/A
2	610.856	47.15	-4.71	54.0	6.85	Peak	320.00	150	Horizontal	Pass
2**	610.856	34.45	-4.71	--	-34.45	AV	320.00	150	Horizontal	N/A

LOW CHANNEL, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	612.824	45.90	-4.71	54.0	8.10	Peak	360.00	150	Vertical	Pass
1**	612.824	34.57	-4.71	--	-34.57	AV	360.00	150	Vertical	N/A
2	609.452	46.52	-4.72	54.0	7.51	Peak	55.00	150	Vertical	Pass
2**	609.452	34.42	-4.72	--	-34.42	AV	55.00	150	Vertical	N/A

HIGH CHANNEL, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	964.960	52.11	1.30	54.0	1.89	Peak	219.00	150	Horizontal	Pass
1**	964.960	40.75	1.30	--	-40.75	AV	219.00	150	Horizontal	N/A
2	976.760	52.80	1.49	54.0	1.20	Peak	360.00	150	Horizontal	Pass
2**	976.760	40.71	1.49	--	-40.71	AV	360.00	150	Horizontal	N/A

HIGH CHANNEL, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	970.720	51.91	1.40	54.0	2.09	Peak	0.00	150	Vertical	Pass
1**	970.720	40.44	1.40	--	-40.44	AV	0.00	150	Vertical	N/A
2	980.320	52.52	1.51	54.0	1.51	Peak	140.00	150	Vertical	Pass
2**	980.320	40.83	1.51	--	-40.83	AV	140.00	150	Vertical	N/A

HIGH CHANNEL, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1018.510	45.84	-9.96	54.0	8.16	Peak	191.00	150	Horizontal	Pass
1**	1018.510	33.92	-9.96	--	-33.92	AV	191.00	150	Horizontal	N/A
2	1062.880	44.70	-10.34	54.0	9.30	Peak	306.00	150	Horizontal	Pass
2**	1062.880	33.50	-10.34	--	-33.50	AV	306.00	150	Horizontal	N/A

HIGH CHANNEL, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1002.400	45.23	-9.63	54.0	8.77	Peak	360.00	150	Vertical	Pass
1**	1002.400	33.62	-9.63	--	-33.62	AV	360.00	150	Vertical	N/A
2	1054.510	45.27	-10.40	54.0	8.73	Peak	307.00	150	Vertical	Pass
2**	1054.510	33.29	-10.40	--	-33.29	AV	307.00	150	Vertical	N/A

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SH25B1326-AR-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SH25B1326-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SH25B1326-AI.PDF”.

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--END OF REPORT--