



## Compliance Certification Services (Kunshan) Inc.

CCSEM-TRF-001 Rev. 02 Sep 01, 2023

Report No.: KSCR240600117902

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# TEST REPORT

**Application No.:** KSCR2406001179AT  
**FCC ID:** OJFE62-N3-7US  
**Applicant:** Corning Optical Communications LLC  
**Address of Applicant:** 840 N McCarthy Blvd, Milpitas, California, United States  
**Manufacturer:** Corning Optical Communications LLC  
**Address of Manufacturer:** 840 N McCarthy Blvd, Milpitas, California, United States  
**Equipment Under Test (EUT):**  
**EUT Name:** Remote Unit, Radio Node  
**Model No.:** E62-N3, SCRN-620 ♣  
♣ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.  
**Trade mark:** **CORNING**  
**Standard(s) :** FCC Part 2  
FCC Part 90 subpart R  
**Date of Receipt:** 2024-06-26  
**Date of Test:** 2024-06-26 to 2024-08-26  
**Date of Issue:** 2024-08-26

<b>Test Result:</b>	<b>Pass</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

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Revision Record			
Version	Description	Date	Remark
00	Original	2024-08-26	/

Authorized for issue by:				
Tested By		Damon Zhou		
		Damon Zhou /Project Engineer		
Approved By		Terry Hou		
		Terry Hou /Reviewer		



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## 2 Test Summary

Test Item	FCC Rule No.	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §90.541	PASS
Peak-Average Ratio	§90.541	PASS
Bandwidth	§2.1049(h)	PASS
Band Edge Compliance	§2.1051, §90.543	PASS
Spurious emissions at antenna terminals	§2.1051, §90.543	PASS
Radiated spurious radiation	§2.1051, §90.543	PASS
Frequency stability	§2.1055 §90.539	PASS
Emission Mask	§2.1055 §90.210	PASS
<p>Remark:</p> <p>EUT: In this whole report EUT means Equipment Under Test.</p> <p>Tx: In this whole report Tx (or tx) means Transmitter.</p> <p>Rx: In this whole report Rx (or rx) means Receiver.</p> <p>All modes have been tested and only record the worst test result.</p> <p>Test results of QPSK/16QAM/64QAM/256QAM have been evaluated, and only the worst results are recorded.</p> <p>The products are equipped with internal antenna and external antenna. The main difference is the appearance and antenna, but there is no difference in the circuit. Therefore, we only evaluated the internal and external antennas in the radiation test part, and the worst test result was the external antenna products with load test.</p> <p>According to ANSI C63.26:2015 section 5.2.5.3:</p> <p>For MIMO mode, the conducted bandedge and conducted spurious emission are tested on a single output port and then adjusted according to <math>10\text{LOG}(N_{\text{ANT}})</math> rule.</p>		
<p>Test method standard:</p> <p>ANSI C63.26-2015</p> <p>KDB 971168 D01 v03 r01</p>		

### Declaration of EUT Family Grouping:

There are series models mentioned in this report and they are the identical in electrical and electronic characters. Only the model E62-N3 was tested since their differences were the model number and appearance.

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## 4 General Information

### 4.1 Details of E.U.T.

Product Name:	Remote Unit
Device type	Base station
Model No.:	E62-N3
Antenna Type:	Internal
Antenna Gain:	3dBi (Provided by manufacturer)
Power Supply:	DC 48V
Frequency Band:	758MHz to 768MHz
Modulation Type:	5G NR: CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM
Antenna Delivery:	MIMO 2*2,SISO
Temperature Range:	-10℃ to 45℃

### 4.2 Test Frequency

5G NR (758-768MHz)	SCS	Carrier	Bandwidth (MHz)	Continue		
				Low	Middle	High
	15kHz	1 CC	5MHz	760.5	763	765.5
	30kHz	1 CC	5MHz	760.5	763	765.5
	15kHz	1 CC	10MHz	-	763	-
	30kHz	1 CC	10MHz	-	763	-

### 4.3 Test Support Unit

Description	Manufacture	Model No.	S/N
Notebook	ThinkPad	K27	/

## 4.4 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	$8.4 \times 10^{-8}$
2	Timeout	2s
3	Duty Cycle	0.37%
4	Occupied Bandwidth	3%
5	RF Conducted Power	0.6dB
6	RF Power Density	2.9dB
7	Conducted Spurious Emissions	0.75dB
8	RF Radiated Power	5.2dB (Below 1GHz)
		5.9dB (Above 1GHz)
9	Radiated Spurious Emission Test	4.2dB (Below 30MHz)
		4.5dB (30MHz-1GHz)
		5.1dB (1GHz-18GHz)
		5.4dB (Above 18GHz)
10	Temperature Test	1 °C
11	Humidity Test	3%
12	Supply Voltages	1.5%
13	Time	3%

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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### 4.5 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888

Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1.SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).

2.SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).

3. Sample source: sent by customer.

### 4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### • A2LA

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

#### • FCC

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

#### • ISED

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

#### • VCCI

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

### 4.7 Deviation from Standards

None

### 4.8 Abnormalities from Standard Conditions

None



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### 5 Equipment List

Item	Equipment	Manufacturer	Model	Inventory No	Cal Date	Cal. Due Date
<b>RF Conducted Test</b>						
1	Spectrum Analyzer	Keysight	N9020A	KUS1911E004-2	08/24/2023	08/23/2024
2	Spectrum Analyzer	Keysight	N9020A	KUS2001M001-2	08/24/2023	08/23/2024
3	Spectrum Analyzer	Keysight	N9030B	KSEM021-1	01/15/2024	01/14/2025
4	Signal Generator	R&S	SMBV100B	KSEM032	03/19/2024	03/18/2025
5	Signal Generator	R&S	SMW200A	KSEM020-1	08/24/2023	08/23/2024
6	Signal Generator	Agilent	N5182A	KUS2001M001-1	08/24/2023	08/23/2024
7	Radio Communication Test Station	Anritsu	MT8000A	KSEM001-1	08/24/2023	08/23/2024
8	Radio Communication Analyzer	Anritsu	MT8821C	KSEM002-1	03/19/2024	03/18/2025
9	Universal Radio Communication Tester	R&S	CMW500	KUS1911E004-1	08/24/2023	08/23/2024
10	Switcher	TST	FY562	KUS2001M001-4	01/15/2024	01/14/2025
11	AC Power Source	EXTECH	6605	KS301178	N.C.R	N.C.R
12	DC Power Supply	Aglient	E3632A	KS301180	N.C.R	N.C.R
13	Conducted Test Cable	Thermax	RF01-RF04	CZ301111-CZ301120	01/15/2024	01/14/2025
14	Temp. / Humidity Chamber	TERCHY	MHK-120AK	KS301190	08/24/2023	08/23/2024
15	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-5	03/19/2024	03/18/2025
16	Software	BST	TST-PASS	/	NCR	NCR
<b>RF Radiated Test</b>						
1	Spectrum Analyzer	R&S	FSV40	KUS1806E003	08/24/2023	08/23/2024
2	Universal Radio Communication Tester	R&S	CMW500	KSEM009-1	03/19/2024	03/18/2025
3	Signal Generator	Agilent	E8257C	KS301066	08/24/2023	08/23/2024
4	Loop Antenna	COM-POWER	AL-130R	KUS1806E001	03/18/2023	03/17/2025
5	Bilog Antenna	TESEQ	CBL 6112D	KUS1806E005	06/29/2023	06/28/2025
6	Bilog Antenna	TESEQ	CBL 6112D	KUS1806E006	03/19/2024	03/18/2025
7	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	KS301079	08/24/2023	08/23/2024
8	Horn-antenna(1-18GHz)	ETS-LINDGREN	3117	KS301186	04/07/2023	04/06/2025
9	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	CZ301058	01/07/2024	01/06/2026
10	Amplifier(30MHz~18GHz)	PANSHAN TECHNOLOGY	LNA:1~18G	KSEM010-1	01/15/2024	01/14/2025
11	Amplifier(18~40GHz)	PANSHAN TECHNOLOGY	LNA180400G40	KSEM038	08/24/2023	08/23/2024
12	RE Test Cable	REBES MICROWAVE	/	CZ301097	08/24/2023	08/23/2024
13	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-4	03/19/2024	03/18/2025
14	Software	Faratronic	EZ_EMV-3A1	/	NCR	NCR
15	Software	ESE	E3_V 6.111221a	/	NCR	NCR

## 6 Radio Spectrum Matter Test Results

### 6.1 Effective (Isotropic) Radiated Power Output Data

Test Requirement: §2.1046, §90.541

Test Method: ANSI C63.26, KDB 971168 D01 v03 r01

Limit: EIRP ≤ 60dBm/MHz

#### 6.1.1 E.U.T. Operation

Operating Environment:

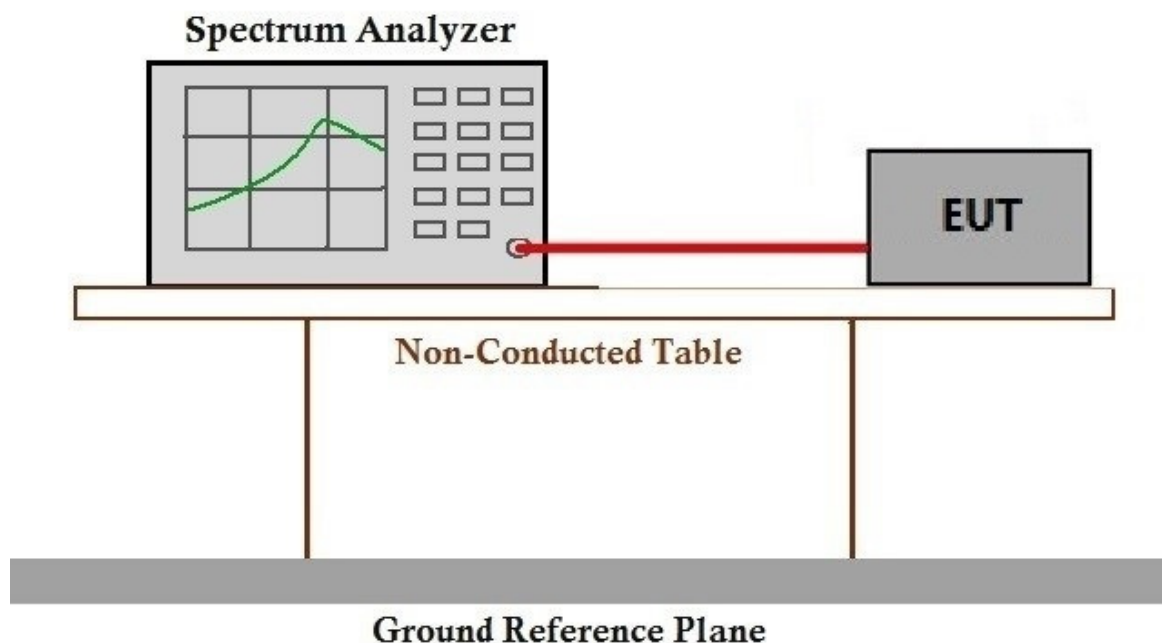
Temperature: 22.3 °C

Humidity: 56.7 % RH

Atmospheric Pressure: 1010 mbar

Test mode: Tx mode, Keep the EUT in transmitting mode.

#### 6.1.2 Test Setup Diagram



#### 6.1.3 Measurement Data

Please refer to Appendix B for KSCR240600117902.

### 6.2 Peak-Average Ratio

Test Requirement: §90.541

Test Method: ANSI C63.26, KDB 971168 D01 v03 r01

Limit: ≤13dB

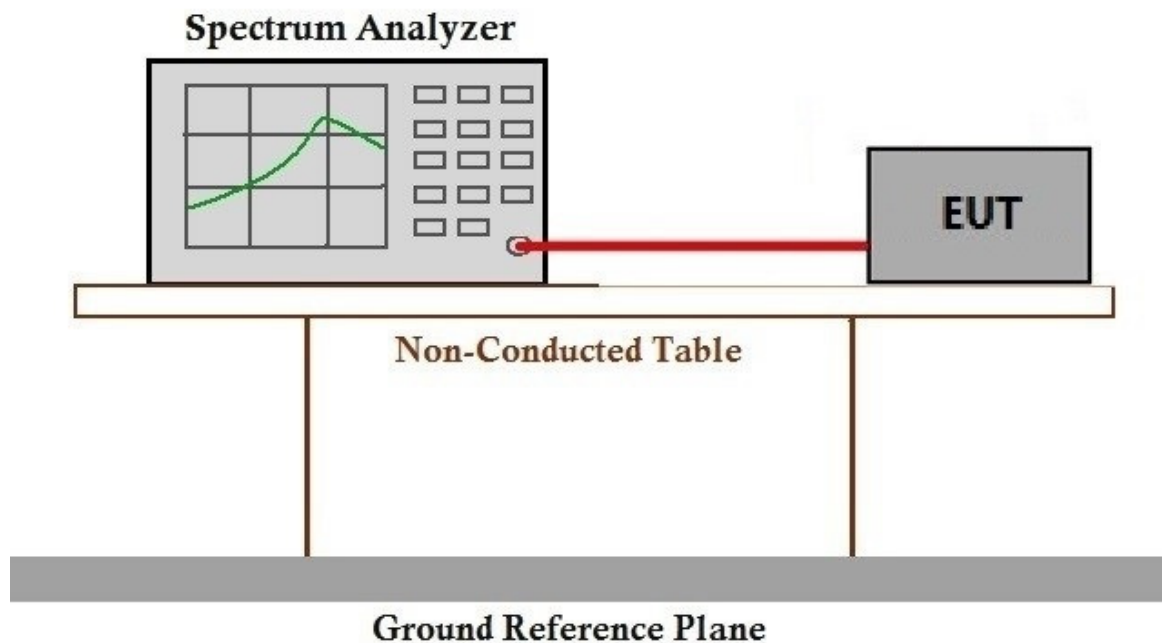
#### 6.2.1 E.U.T. Operation

Operating Environment:

Temperature: 22.3 °C Humidity: 56.7 % RH Atmospheric Pressure: 1010 mbar

Test mode: Tx mode, Keep the EUT in transmitting mode.

#### 6.2.2 Test Setup Diagram



#### 6.2.3 Measurement Data

Please refer to Appendix B for KSCR240600117902.

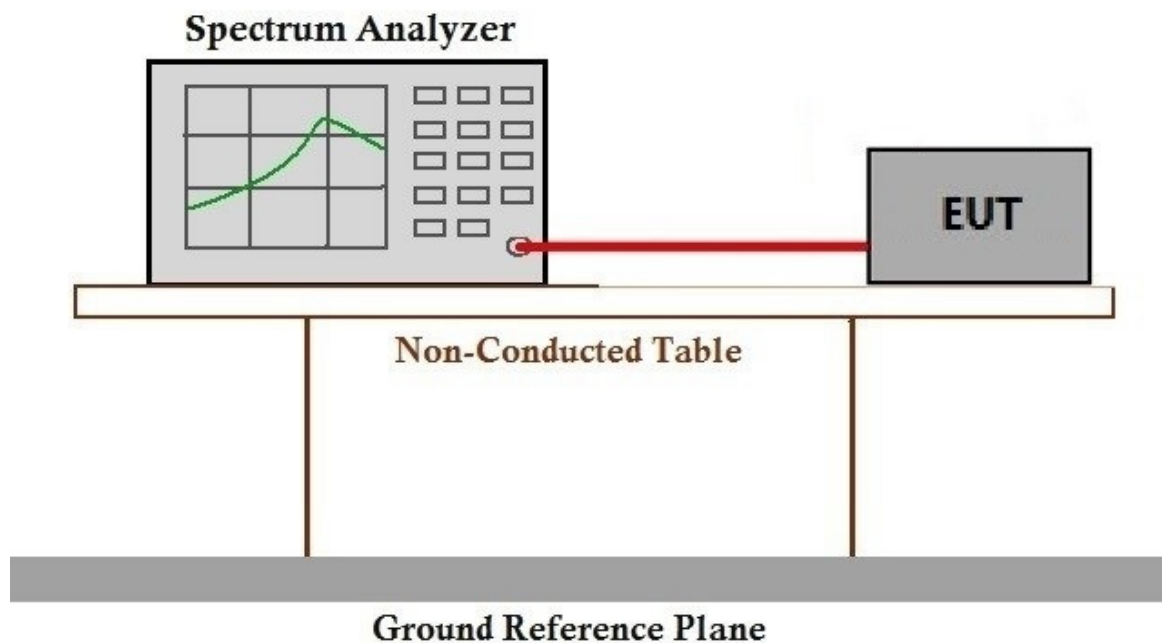
### 6.3 Bandwidth

Test Requirement: §2.1049(h)  
 Test Method: ANSI C63.26, KDB 971168 D01 v03 r01  
 Limit: OBW: No limit  
 EBW: No limit

#### 6.3.1 E.U.T. Operation

Operating Environment:  
 Temperature: 22.3 °C Humidity: 56.7 % RH Atmospheric Pressure: 1010 mbar  
 Test mode: Tx mode, Keep the EUT in transmitting mode.

#### 6.3.2 Test Setup Diagram



#### 6.3.3 Measurement Data

Please refer to Appendix B for KSCR240600117902.

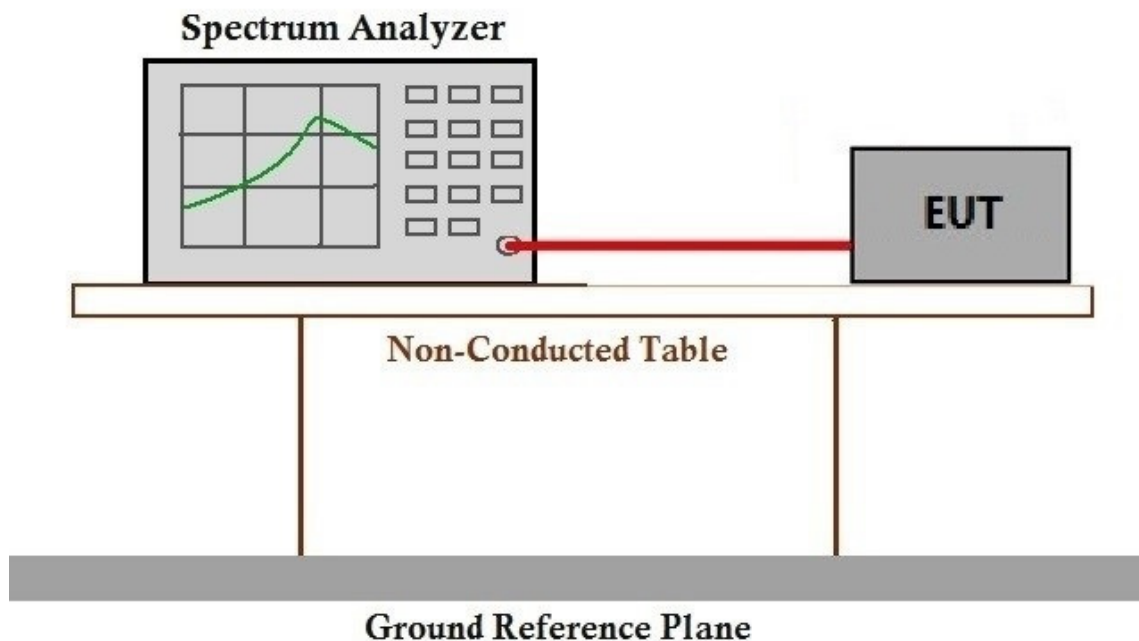
### 6.4 Band Edge Compliance

Test Requirement: §2.1051, §90.543  
 Test Method: ANSI C63.26, KDB 971168 D01 v03 r01  
 Limit:  $\leq -13\text{dBm/MHz}$

#### 6.4.1 E.U.T. Operation

Operating Environment:  
 Temperature: 22.3 °C Humidity: 56.7 % RH Atmospheric Pressure: 1010 mbar  
 Test mode: Tx mode, Keep the EUT in transmitting mode.

#### 6.4.2 Test Setup Diagram



#### 6.4.3 Measurement Data

Please refer to Appendix B for KSCR240600117902.

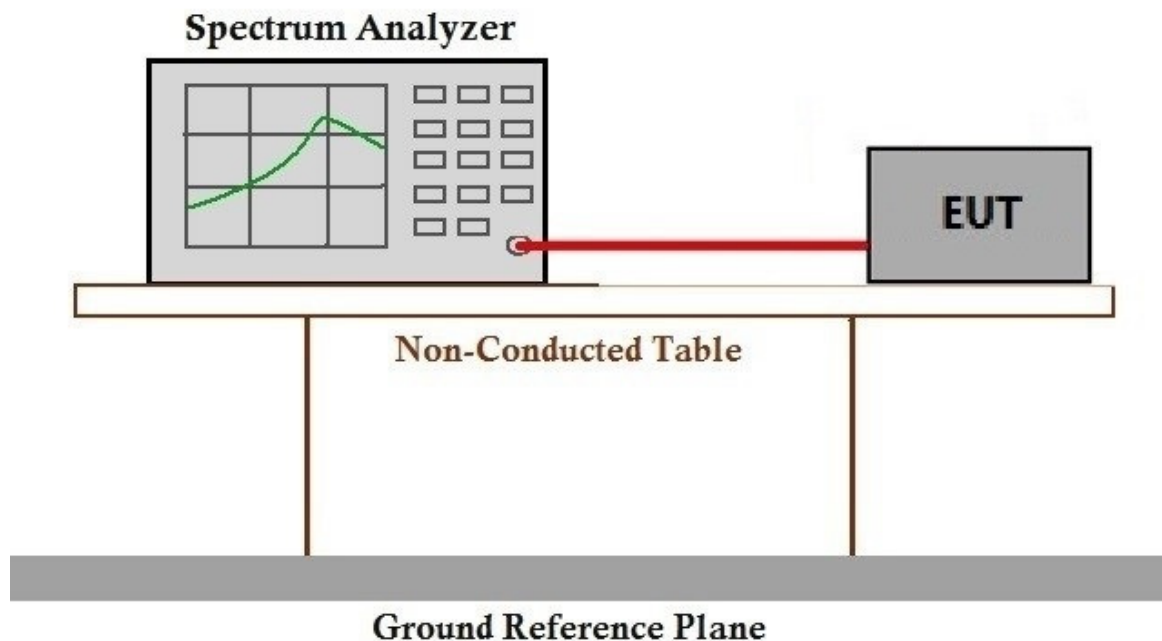
### 6.5 Spurious emissions at antenna terminals

Test Requirement: §2.1051, §90.543  
 Test Method: ANSI C63.26, KDB 971168 D01 v03 r01  
 Limit:  $\leq -13\text{dBm/MHz}$

#### 6.5.1 E.U.T. Operation

Operating Environment:  
 Temperature: 22.3 °C Humidity: 56.7 % RH Atmospheric Pressure: 1010 mbar  
 Test mode: Tx mode, Keep the EUT in transmitting mode.

#### 6.5.2 Test Setup Diagram



#### 6.5.3 Measurement Data

Note:

- 1) We have evaluated all subcarrier spacing modes and bandwidth modes, and only show the worst mode in the report
- 2) Test results of QPSK/16QAM/64QAM/256QAM have been evaluated, and only the worst results are recorded.

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### 6.6 Radiated spurious radiation

Test Requirement: §2.1051, §90.543

Test Method: ANSI C63.26, KDB 971168 D01 v03 r01

Limit:  $\leq -13\text{dBm/MHz}$

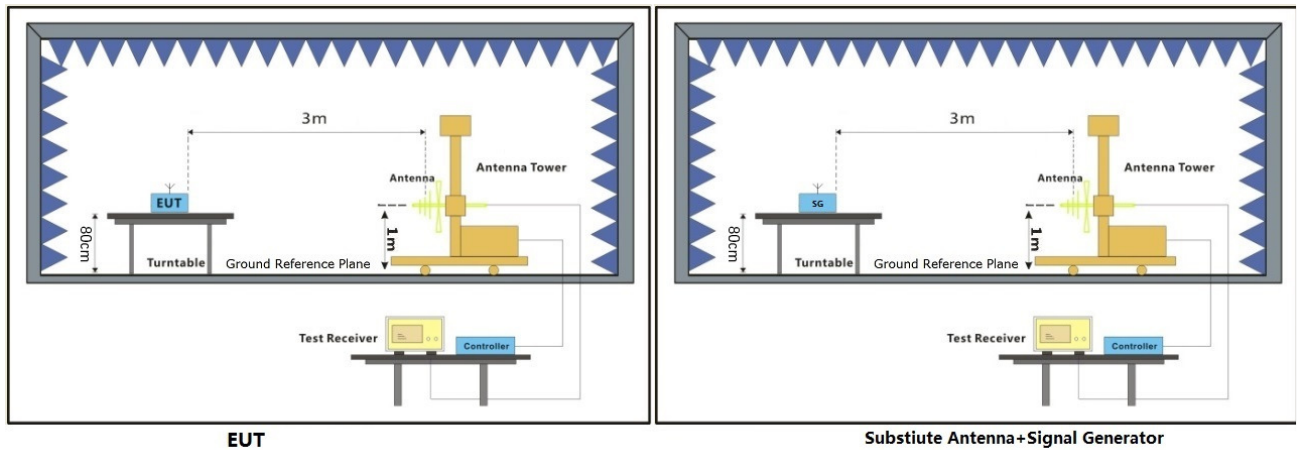
#### 6.6.1 E.U.T. Operation

Operating Environment:

Temperature: 22.3 °C Humidity: 56.7 % RH Atmospheric Pressure: 1010 mbar

Test mode: Tx mode, Keep the EUT in transmitting mode.

#### 6.6.2 Test Setup Diagram



### **6.6.3 Measurement Procedure and Data**

#### **Test Procedure:**

- (1) On a test site, the EUT shall be placed on a turntable and in the position closest to the normal use as declared by the user.
- (2) The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.
- (3) The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.
- (4) The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
- (5) The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.
- (6) The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- (7) The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.
- (8) The maximum signal level detected by the measuring receiver shall be noted.
- (9) The measurement shall be repeated with the test antenna set to horizontal polarization.
- (10) Replace the antenna with a proper Antenna (substitution antenna).
- (11) The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.
- (12) The substitution antenna shall be connected to a calibrated signal generator.
- (13) If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- (14) The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
- (15) The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
- (16) The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
- (17) The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

Please refer to Appendix B for KSCR240600117902.



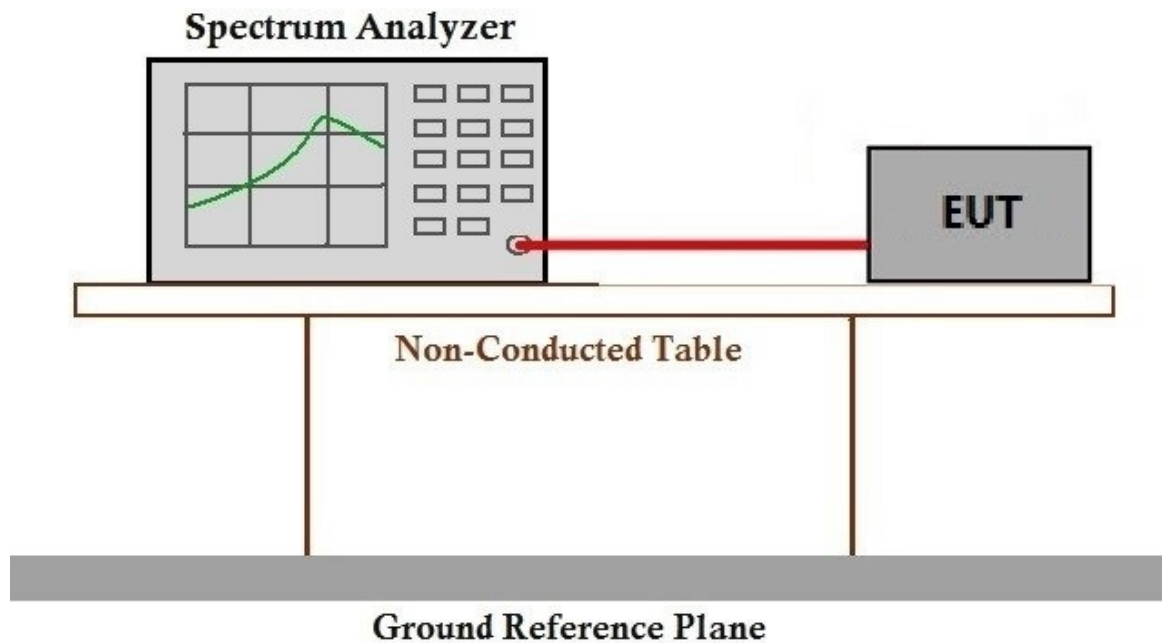
### 6.7 Frequency stability

Test Requirement: §2.1055  
 Test Method: ANSI C63.26, KDB 971168 D01 v03 r01  
 Limit: Fundamental emission stays within authorized frequency block

#### 6.7.1 E.U.T. Operation

Operating Environment:  
 Temperature: 22.3 °C Humidity: 56.7 % RH Atmospheric Pressure: 1010 mbar  
 Test mode: Tx mode, Keep the EUT in transmitting mode.

#### 6.7.2 Test Setup Diagram



#### 6.7.3 Measurement Data

Please refer to Appendix B for KSCR240600117902.

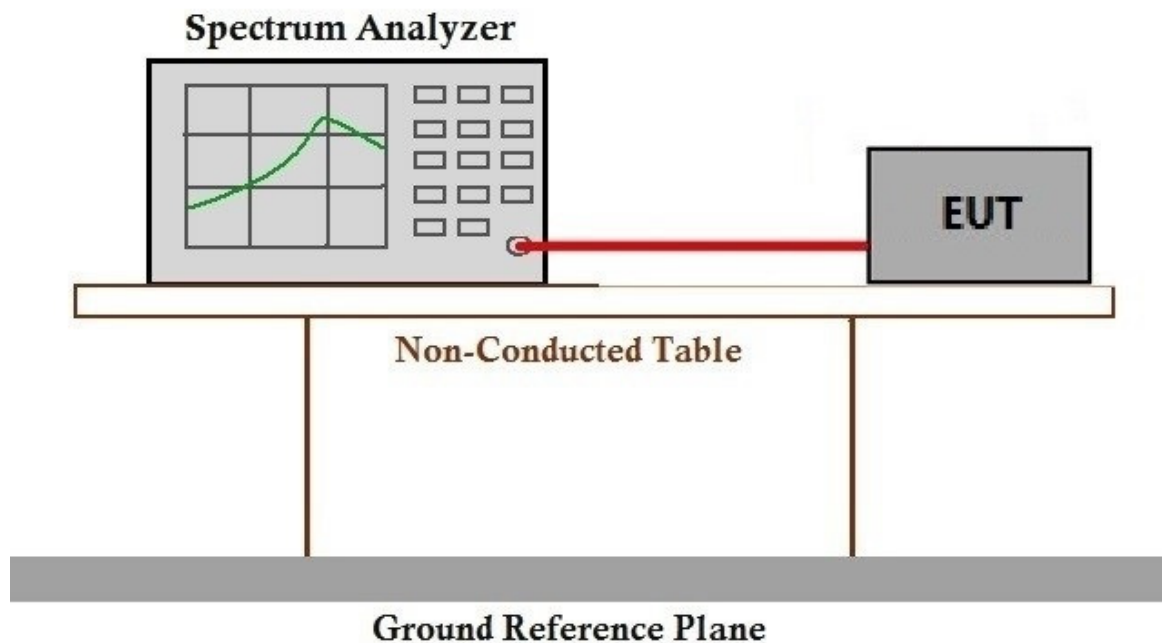
### 6.8 Emission Mask

Test Requirement: §2.1055 §90.210  
 Test Method: ANSI C63.26, KDB 971168 D01 v03 r01  
 Limit: Fundamental emission stays within authorized frequency block

#### 6.8.1 E.U.T. Operation

Operating Environment:  
 Temperature: 22.3 °C Humidity: 56.7 % RH Atmospheric Pressure: 1010 mbar  
 Test mode: Tx mode, Keep the EUT in transmitting mode.

#### 6.8.2 Test Setup Diagram



#### 6.8.3 Measurement Data

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### **7 Photographs - Test Setup**

Please refer to test setup photo

### **8 Photographs - EUT Constructional Details**

Please refer to external and internal photo

- End of the Report -