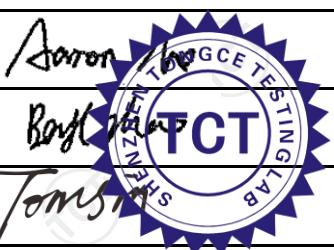


# TEST REPORT

<b>FCC ID.</b> .....	2A95D-POWFITTGLH
<b>Test Report No.</b> .....	TCT241111E003
<b>Date of issue</b> .....	Feb. 07, 2025
<b>Testing laboratory</b> .....	SHENZHEN TONGCE TESTING LAB
<b>Testing location/ address:</b>	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China
<b>Applicant's name</b> .....	Guangdong Mentech Technology Co., Ltd
<b>Address</b> .....	504, Building D1, TCL Science Park, No.1001 Zhongshan Garden Road, Xili Street, Nanshan District, Shenzhen, Guangdong, China
<b>Manufacturer's name</b> .....	NRadio Technologies Co., Ltd
<b>Address</b> .....	Room 408, Ziyun Building, No.211, Xin'an 2nd Rd., Bao'an District, Shenzhen, P.R.C.
<b>Standard(s)</b> .....	FCC CFR Title 47 Part22 FCC CFR Title 47 Part27
<b>Product Name</b> .....	TD-LTE
<b>Trade Mark</b> .....	mentech
<b>Model/Type reference</b> .....	PowFi TT GLH
<b>Rating(s)</b> .....	Rechargeable Li-ion Battery DC 3.8V
<b>Date of receipt of test item</b> .....	Nov. 11, 2024
<b>Date (s) of performance of test</b> .....	Nov. 11, 2024 ~ Feb. 07, 2025
<b>Tested by (+signature)</b> .....	Aaron MO
<b>Check by (+signature)</b> .....	Beryl ZHAO
<b>Approved by (+signature)</b> :	Tomsin



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**Appendix B: Photographs of Test Setup****Appendix C: Photographs of EUT****Test Data: Refer to Appendix For LTE Band 5, Appendix For LTE Band 41**

## 1. General Product Information

### 1.1. EUT description

<b>Product Name.....</b>	TD-LTE
<b>Model/Type reference.....</b>	PowFi TT GLH
<b>Sample Number.....</b>	TCT241111E002-0101
<b>Tx Frequency.....</b>	LTE Band 5: 824 MHz ~ 849 MHz LTE Band 41: 2535 MHz ~ 2675 MHz
<b>Rx Frequency .....</b>	LTE Band 5: 869 MHz ~ 894 MHz LTE Band 41: 2535 MHz ~ 2675 MHz
<b>Bandwidth.....</b>	LTE Band 5: 1.4MHz /3MHz /5MHz /10MHz LTE Band 41: 5MHz /10MHz /15MHz /20MHz
<b>Maximum Output Power to Antenna.....</b>	LTE Band 5: 21.94dBm LTE Band 41: 25.15dBm
<b>99% Occupied Bandwidth.....</b>	LTE Band 5: 9M00G7D LTE Band 41: 18M1W7D
<b>Type of Modulation.....</b>	QPSK/16QAM
<b>Antenna Type.....</b>	Internal Antenna
<b>Antenna Gain.....</b>	LTE Band 5: 0.2dBi LTE Band 41: 0.3dBi
<b>Rating(s).....</b>	Rechargeable Li-ion Battery DC 3.8V

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

### 1.2. Model(s) list

None.

### 1.3. Emission Designator

LTE Band 5		QPSK		16QAM	
BW(MHz)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	
1.4	1M10G7D	0.098	1M10W7D	0.083	
3	2M74G7D	0.100	2M72W7D	0.086	
5	4M52G7D	0.098	4M52W7D	0.084	
10	9M00G7D	0.098	9M00W7D	0.084	

LTE Band 41		QPSK		16QAM	
BW(MHz)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	
5	4M49G7D	0.337	4M50W7D	0.221	
10	9M00G7D	0.343	9M00W7D	0.233	
15	13M5G7D	0.343	13M5W7D	0.231	
20	18M0G7D	0.351	18M1W7D	0.236	

## 1.4. Test Frequency

LTE Band 5(1.4MHz)		LTE Band 5(3MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20407	824.7	20415	825.5
20525	836.5	20525	836.5
20643	848.3	20635	847.5
LTE Band 5(5MHz)		LTE Band 5(10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20425	826.5	20450	829
20525	836.5	20525	836.5
20625	846.5	20600	844

LTE Band 41(5MHz)		LTE Band 41(10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
39675	2498.5	39675	2498.5
40620	2593	40620	2593
41565	2687.5	41565	2687.5
LTE Band 41(15MHz)		LTE Band 41(20MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
39725	2503.5	39725	2503.5
40620	2593	40620	2593
41515	2682.5	41515	2682.5

## 2. Test Result Summary

Requirement	CFR 47 Section	Result
Conducted Output Power	§2.1046; §22.913; §24.232(c); §27.50(d); §27.50(c); §27.50(b); §90.542(a)	PASS
Peak-to-Average Ratio	§2.1046; §24.232(d) §27.50(d); §27.50(c); §27.50(b)	PASS
Effective Radiated Power	§2.1046; §22.913; §24.232(c); §27.50(d); §27.50(c); §27.50(b); §90.542(a)	PASS
Equivalent Isotropic Radiated Power	§2.1046; §22.913; §24.232(c); §27.50(d); §27.50(c); §27.50(b); §90.542(a)	PASS
Occupied Bandwidth	§2.1049; §24.238(b); §27.53; §90.209(a)	PASS
Band Edge	§2.1051; §22.917(a); §27.53(h); §27.53(c); §27.53(g); §24.238(a); §90.543(e)	PASS
Conducted Spurious Emission	§2.1051; §22.917(a); §27.53(h); §27.53(g); §27.53(c); §24.238(a); §90.543(c)	PASS
Field Strength of Spurious Radiation	§2.1053; §22.917(a); §27.53(g); §27.53(c); §27.53(h); §24.238(a); §90.543(c)	PASS
Frequency Stability for Temperature & Voltage	§2.1055; §22.355; §27.54; §24.235; §90.213	PASS

**Note:**

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

### 3. General Information

#### 3.1. Test environment and mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar

Keep the EUT in communication with CMW500 and select channel with modulation All modes and data rates and positions were investigated.  
Test modes are chosen to be reported as the worst case configuration below:

Test Mode		
Band	Radiated TCs	Conducted TCs
LTE Band 5	QPSK Link (1.4MHz / 3MHz / 5MHz / 10MHz)	16QAM Link (1.4MHz / 3MHz / 5MHz / 10MHz)
LTE Band 41	QPSK Link (5MHz / 10MHz / 15MHz / 20MHz)	16QAM Link (5MHz / 10MHz / 15MHz / 20MHz)

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas License Digital Systems v03 with maximum output power. Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission. The sample was placed 0.8m/1.5m above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarization. The emissions worst-case are shown in Test Results of the following pages.

Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max. Output Power	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	5	v	v	v	v	-	-	v	v	v	-	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	-	v	v	v	v
26dB and 99% Bandwidth	5	v	v	v	v	-	-	v	v	-	-	v	v	v	v
	41	-	-	v	v	v	v	v	v	-	-	v	v	v	v
Conducted Band Edge	5	v	v	v	v	-	-	v	v	-	-	v	v	-	v
	41	-	-	v	v	v	v	v	v	-	-	v	v	-	v
Conducted Spurious Emission	5	v	v	v	v	-	-	v	v	v	-	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	-	v	v	v	v
Frequency Stability	5	v	-	-	-	-	-	v	v	-	-	v	v	v	v
	41	-	-	v	-	-	-	v	v	-	-	v	v	v	v
E.R.P./ E.I.R.P.	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	5	-	-	-	v	-	-	v	v	v	-	v	v	v	v
	41	-	-	-	-	-	-	v	v	v	-	v	v	v	v
Note	The mark "v" means that this configuration is chosen for testing The mark "-" means that this bandwidth is not supported.														

### 3.2. Description of Support Units

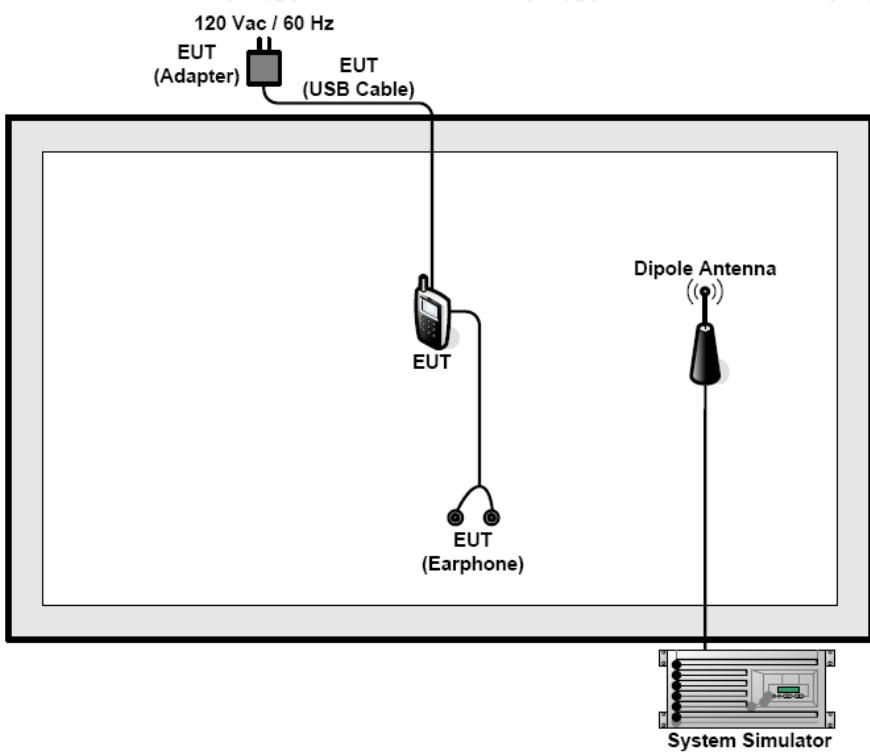
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

**Note:**

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

### 3.3. Configuration of Tested System



### 3.4. Measurement Results Explanation Example

**For all conducted test items:**

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level. The spectrum analyzer offset is derived from RF cable loss and attenuator factor.  
 $Offset = RF\ cable\ loss + attenuator\ factor$ .

## 4. Facilities and Accreditations

### 4.1. Facilities

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

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- A2LA-No.: 4320.01

SHENZHEN TONGCE TESTING LAB

The testing lab has been accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.

### 4.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

## 5. Measurement Uncertainty

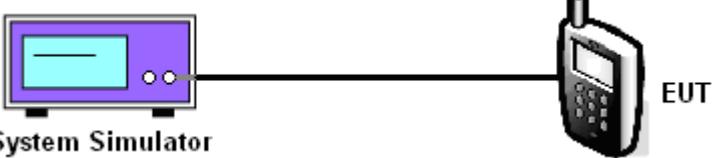
The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	$\pm 3.10$ dB
2	RF power, conducted	$\pm 0.12$ dB
3	Spurious emissions, conducted	$\pm 0.11$ dB
4	All emissions, radiated(<1 GHz)	$\pm 4.56$ dB
5	All emissions, radiated(1 GHz - 18 GHz)	$\pm 4.22$ dB
6	All emissions, radiated(18 GHz- 40 GHz)	$\pm 4.36$ dB

## 6. Test Results and Measurement Data

### 6.1. Effective Radiated Power and Effective Isotropic Radiated Power Measurement

#### 6.1.1. Test Specification

<b>Test Requirement:</b>	Refer to section 2
<b>Test Method:</b>	FCC part 2.1046
<b>Limit:</b>	LTE Band 5: 7W LTE Band 41: 2W
<b>Test Setup:</b>	 <p>System Simulator</p> <p>EUT</p>
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. The transmitter output port was connected to the system simulator.</li> <li>2. Set EUT at maximum power through system simulator.</li> <li>3. Select lowest, middle, highest channels for each band and different modulation.</li> <li>4. Measure and record the power level from the system simulator.</li> <li>5. Calculate the ERP and EIRP</li> </ol> <p>The relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:</p> $\text{ERP or EIRP} = P_{\text{Meas}} + G_T - L_c$ <p>where:</p> <p>ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as <math>P_{\text{Meas}}</math>, typically dBW or dBm);</p> <p><math>P_{\text{Meas}}</math> = measured transmitter output power or PSD, in dBm or dBW;</p> <p><math>G_T</math> = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);</p> <p><math>L_c</math> = signal attenuation in the connecting cable between the transmitter and antenna, in dB.</p> <p><i>Note: For personal/portable radios utilizing an integral antenna, the factor <math>L_c</math> is typically negligible. However, in a fixed station transmit system that utilizes a long cable run between the transmitter and the transmitting antenna, this factor can be significant.</i></p>

Test Result:

PASS

**6.1.2. Test Instruments**

Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
Wideband Radio Communication Tester	R&S	CMW500	137557	Jan. 21, 2025	Jan. 20, 2026
Power detector box	MWRFtest	MW100-RFCB	MW210531TCT	Jan. 21, 2025	Jan. 20, 2026

## 6.2. Peak to Average Ratio

### 6.2.1. Test Specification

<b>Test Requirement:</b>	Refer to section 2
<b>Test Method:</b>	FCC KDB 971168 D01v03
<b>Limit:</b>	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
<b>Test Setup:</b>	<p>The diagram illustrates the test setup. A purple 'System Simulator' and a green 'Spectrum Analyzer' are connected to a central 'Power Divider'. The Power Divider is connected to the 'EUT' (Equipment Under Test, a handheld device).</p>
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. The testing follows FCC KDB 971168 D01v03 Section 5.7.1.</li> <li>2. The EUT was connected to spectrum analyzer and system simulator via a power divider.</li> <li>3. Set EUT to transmit at maximum output power.</li> <li>4. Set the CCDF (Complementary Cumulative Distribution Function) option of the spectrum analyzer.</li> </ol> <p>Record the maximum PAPR level associated with a probability of 0.1%.</p>
<b>Test Result:</b>	PASS

### 6.2.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
Cavity 2 power dividers	SUWNON	16230009	12100581210184800	/	/
Wideband Radio Communication Tester	R&S	CMW500	137557	Jan. 21, 2025	Jan. 20, 2026
Spectrum Analyzer	R&S	FSV40-N	102188	Jan. 21, 2025	Jan. 20, 2026
Power detector box	MWRFtest	MW100-RFCB	MW210531TCT	Jan. 21, 2025	Jan. 20, 2026

### 6.3. 99% Occupied Bandwidth and 26dB Bandwidth Measurement

#### 6.3.1. Test Specification

<b>Test Requirement:</b>	Refer to section 2
<b>Test Method:</b>	FCC part 2.1049
<b>Limit:</b>	N/A
<b>Test Setup:</b>	<p>System Simulator</p> <p>Spectrum Analyzer</p> <p>Power Divider</p> <p>EUT</p>
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. The testing follows FCC KDB 971168 D01v03 Section 4.2.</li> <li>2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.</li> <li>3. The RF output of the EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.</li> <li>4. The 99% occupied bandwidth were measured, set RBW= 1% of OBW, VBW= 3*RBW, sample detector, trace maximum hold.</li> <li>5. The 26dB bandwidth were measured, set RBW= 1% of EBW, VBW= 3*RBW, peak detector, trace maximum hold.</li> </ol>
<b>Test Result:</b>	PASS

#### 6.3.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
Cavity 2 power dividers	SUWNON	16230009	12100581210184800	/	/
Wideband Radio Communication Tester	R&S	CMW500	137557	Jan. 21, 2025	Jan. 20, 2026
Spectrum Analyzer	R&S	FSV40-N	102188	Jan. 21, 2025	Jan. 20, 2026
Power detector box	MWRFtest	MW100-RFCB	MW210531TCT	Jan. 21, 2025	Jan. 20, 2026

## 6.4. Band Edge and Conducted Spurious Emission Measurement

### 6.4.1. Test Specification

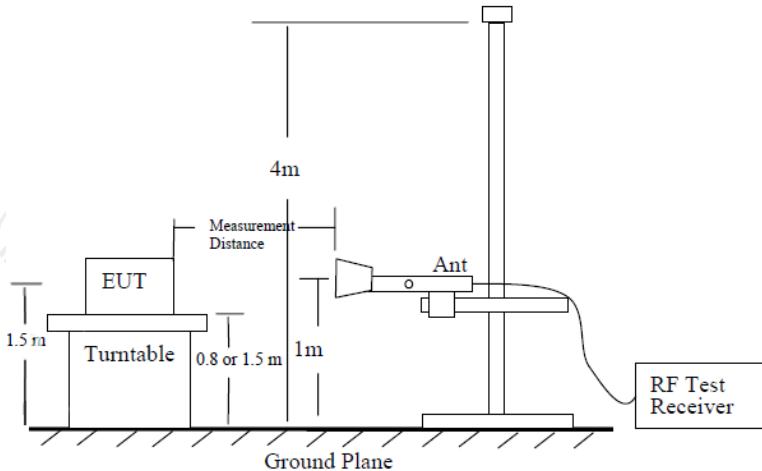
<b>Test Requirement:</b>	Refer to section 2
<b>Test Method:</b>	FCC part2.1051
<b>Limit:</b>	-13dbm Band 41: -10dBm/-13dbm/-25dbm
<b>Test Setup:</b>	<p>The diagram illustrates the test setup. A 'System Simulator' (represented by a purple box with a screen and buttons) is connected to a 'Power Divider' (represented by a black rectangle). The 'Power Divider' is connected to a 'Spectrum Analyzer' (represented by a green box with a screen and buttons) and an 'EUT' (Equipment Under Test, represented by a black mobile phone icon).</p>
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. The testing follows FCC KDB 971168 D01v03 Section 6.0.</li> <li>2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.</li> <li>3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.</li> <li>4. The band edges of low and high channels for the highest RF powers were measured.</li> <li>5. The conducted spurious emission for the whole frequency range was taken.</li> <li>6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.</li> <li>7. The limit line is derived from <math>43 + 10\log(P)</math> dB below the transmitter power  <math display="block">P(\text{Watts}) = P(W) - [43 + 10\log(P)] \text{ (dB)} = [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)} = -13\text{dBm}.</math> For Band 17, the limit line is derived from <math>55 + 10\log(P)</math> dB below the transmitter power </li> </ol>
<b>Test Result:</b>	PASS

**6.4.2. Test Instruments**

Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
Cavity 2 power dividers	SUWNON	16230009	12100581210184800	/	/
Wideband Radio Communication Tester	R&S	CMW500	137557	Jan. 21, 2025	Jan. 20, 2026
Spectrum Analyzer	R&S	FSV40-N	102188	Jan. 21, 2025	Jan. 20, 2026
Power detector box	MWRFtest	MW100-RFCB	MW210531TCT	Jan. 21, 2025	Jan. 20, 2026

## 6.5. Field Strength of Spurious Radiation Measurement

### 6.5.1. Test Specification

<b>Test Requirement:</b>	Refer to section 2
<b>Test Method:</b>	FCC part 2.1053
<b>Limit:</b>	For Band 5: -13dBm For Band 41: -25dBm
<b>Test setup:</b>	
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. The testing follows FCC KDB 971168 D01v03 Section 5.8 and ANSI / TIA-603-D-2010Section 2.2.12.</li> <li>2. The EUT was placed on a rotatable wooden table 0.8 meters above the ground.</li> <li>3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.</li> <li>4. The table was rotated 360 degrees to determine the position of the highest spurious emission.</li> <li>5. The height of the receiving antenna is varied between one meter and four meters to search for the maximum</li> </ol>

	<p>spurious emission for both horizontal and vertical polarizations.</p> <p>6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.</p> <p>7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.</p> <p>8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.</p> <p>9. Taking the record of output power at antenna port.</p> <p>10. Repeat step 7 to step 8 for another polarization.</p> <p>11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain</p> <p>12. ERP (dBm) = EIRP - 2.15</p> <p>13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.</p> <p>14. The limit line is derived from <math>43 + 10\log(P)</math> dB below the transmitter power P(Watts)</p> $= P(W) - [43 + 10\log(P)] \text{ (dB)}$ $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$ $= -13 \text{ dBm.}$
<b>Test results:</b>	PASS
<b>Remark:</b>	All modulations have been tested, but only the worst modulation show in this test item.

### 6.5.2. Test Instruments

Radiated Emission Test Site (966)					
Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
Wideband Radio Communication Tester	R&S	CMW500	137557	Jan. 21, 2025	Jan. 20, 2026
Spectrum Analyzer	R&S	FSQ40	200061	Jun. 27, 2024	Jun. 26, 2025
Signal Generator	Agilent	N5173B	MY58108823	Jan. 21, 2025	Jan. 20, 2026
Broadband Antenna	Schwarzbeck	VULB9163	340	Jun. 29, 2024	Jun. 28, 2025
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jun. 29, 2024	Jun. 28, 2025
Broadband Antenna	Schwarzbeck	VULB9163	412	Jun. 29, 2024	Jun. 28, 2025
Horn Antenna	Schwarzbeck	BBHA 9120D	1201	Jun. 29, 2024	Jun. 28, 2025
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Jan. 23, 2025	Jan. 22, 2026
Coaxial cable	SKET	RE-03-D	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-03-M	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-03-L	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-04-D	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-04-M	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-04-L	/	Jun. 27, 2024	Jun. 26, 2025
Antenna Mast	Keleto	RE-AM	/	/	/
EMI Test Software	EZ_EMCA	FA-03A2 RE+	1.1.4.2	/	/

### 6.5.3. Test Data

#### Frequency Range (9 kHz-30MHz)

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Limit@3m (dB $\mu$ V/m)
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**Note:** 1. Emission Level=Reading+ Cable loss+Antenna factor-Amp factor

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement

Band	Band 5(QPSK, 10MHz)			Test channel:	Lowest
Test mode:				Temperature :	25°C
				Relative Humidity:	56%

**Note:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
1658.00	Vertical	-41.83	-6.46	-48.29	-13.00	PASS
2487.00	V	-45.99	-2.84	-48.83		
3316.00	V	-60.65	-0.48	-61.13		
1658.00	Horizontal	-40.64	-6.30	-46.94		
2487.00	H	-41.81	-2.95	-44.76		
3316.00	H	-58.82	-0.10	-58.92		

**Note:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
1673.00	Vertical	-39.69	-6.46	-46.15	-13.00	PASS
2509.50	V	-52.08	-2.75	-54.83		
3346.00	V	-58.46	-0.47	-58.93		
1673.00	Horizontal	-38.77	-6.32	-45.09		
2509.50	H	-44.60	-2.86	-47.46		
3346.00	H	-59.46	-0.10	-59.56		

**Note:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test mode:	Band 5(QPSK, 10MHz)				Test channel:	Highest
					Temperature :	25°C
					Relative Humidity:	56%

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
1688.00	Vertical	-43.83	-6.45	-50.28	-13.00	PASS
2532.00	V	-52.74	-2.65	-55.39		
3376.00	V	-64.31	-0.47	-64.78		
1688.00	Horizontal	-38.65	-6.34	-44.99		
2532.00	H	-48.18	-2.74	-50.92		
3376.00	H	-64.22	-0.10	-64.32		

Band	Band 5(16QAM, 10MHz)			Test channel:	Lowest
Test mode:				Temperature :	25°C
				Relative Humidity:	56%

**Note:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
1658.00	Vertical	-39.36	-6.46	-45.82	-13.00	PASS
2487.00	V	-45.15	-2.84	-47.99		
3316.00	V	-60.11	-0.48	-60.59		
1658.00	Horizontal	-39.27	-6.30	-45.57		
2487.00	H	-46.04	-2.95	-48.99		
3316.00	H	-58.82	-0.10	-58.92		

**Note:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
1673.00	Vertical	-40.00	-6.46	-46.46	-13.00	PASS
2509.50	V	-52.16	-2.75	-54.91		
3346.00	V	-58.83	-0.47	-59.30		
1673.00	Horizontal	-36.55	-6.32	-42.87		
2509.50	H	-47.09	-2.86	-49.95		
3346.00	H	-59.14	-0.10	-59.24		

**Note:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test mode:	Band 5(16QAM, 10MHz)				Test channel:	Highest
					Temperature :	25°C
					Relative Humidity:	56%

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
1688.00	Vertical	-42.85	-6.45	-49.30	-13.00	PASS
2532.00	V	-51.56	-2.65	-54.21		
3376.00	V	-60.21	-0.47	-60.68		
1688.00	Horizontal	-39.38	-6.34	-45.72		
2532.00	H	-48.47	-2.74	-51.21		
3376.00	H	-62.80	-0.10	-62.90		

Band	Band 41(QPSK, 20MHz)			Test channel:	Lowest
Test mode:				Temperature:	25°C
				Relative Humidity:	56%

**Note:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
5012.00	Vertical	-41.75	5.92	-35.83	-25.00	PASS
7518.00	V	-47.66	10.43	-37.23		
10024.00	V	-62.13	14.81	-47.32		
5012.00	Horizontal	-42.24	6.31	-35.93		
7518.00	H	-44.42	10.03	-34.39		
10024.00	H	-60.75	14.45	-46.30		

Band	Band 41(QPSK, 20MHz)			Test channel:	Middle
Test mode:				Temperature:	25°C
				Relative Humidity:	56%

**Note:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
5186.00	Vertical	-42.97	6.19	-36.78	-25.00	PASS
7779.00	V	-51.91	10.74	-41.17		
10372.00	V	-62.40	15.04	-47.36		
5186.00	Horizontal	-38.33	6.64	-31.69		
7779.00	H	-44.72	10.68	-34.04		
10372.00	H	-60.21	15.04	-45.17		

Band	Band 41(QPSK, 20MHz)			Test channel:	Highest
Test mode:				Temperature:	25°C
				Relative Humidity:	56%

**Note:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
5360.00	Vertical	-43.76	6.46	-37.30	-25.00	PASS
8040.00	V	-53.14	11.15	-41.99		
10720.00	V	-64.61	15.28	-49.33		
5360.00	Horizontal	-39.07	6.97	-32.10		
8040.00	H	-47.29	11.37	-35.92		
10720.00	H	-64.18	15.63	-48.55		

Band	Band 41(16QAM, 20MHz)			Test channel:	Lowest
Test mode:				Temperature:	25°C
				Relative Humidity:	56%

**Note:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
5012.00	Vertical	-42.15	5.92	-36.23	-25.00	PASS
7518.00	V	-45.16	10.43	-34.73		
10024.00	V	-63.21	14.81	-48.40		
5012.00	Horizontal	-39.92	6.31	-33.61		
7518.00	H	-46.33	10.03	-36.30		
10024.00	H	-60.06	14.45	-45.61		

Band	Band 41(16QAM, 20MHz)			Test channel:	Middle
Test mode:				Temperature:	25°C
				Relative Humidity:	56%

**Note:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
5186.00	Vertical	-40.94	6.19	-34.75	-25.00	PASS
7779.00	V	-51.55	10.74	-40.81		
10372.00	V	-60.46	15.04	-45.42		
5186.00	Horizontal	-40.08	6.64	-33.44		
7779.00	H	-47.59	10.68	-36.91		
10372.00	H	-60.57	15.04	-45.53		

Band	Band 41(16QAM, 20MHz)			Test channel:	Highest
Test mode:				Temperature:	25°C
				Relative Humidity:	56%

**Note:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
5360.00	Vertical	-42.95	6.46	-36.49	-25.00	PASS
8040.00	V	-52.12	11.15	-40.97		
10720.00	V	-60.70	15.28	-45.42		
5360.00	Horizontal	-39.41	6.97	-32.44		
8040.00	H	-47.63	11.37	-36.26		
10720.00	H	-62.85	15.63	-47.22		

## 6.6. Frequency Stability Measurement

### 6.6.1. Test Specification

<b>Test Requirement:</b>	FCC part 27.54, FCC part 22.355, 24.235
<b>Test Method:</b>	FCC Part 2.1055
<b>Limit:</b>	$\pm 2.5$ ppm
<b>Test Setup:</b>	
<b>Test Procedure:</b>	<p><b>Test Procedures for Temperature Variation</b></p> <ol style="list-style-type: none"> <li>1. The testing follows FCC KDB 971168 D01v03 Section 9.0.</li> <li>2. The EUT was set up in the thermal chamber and connected with the system simulator.</li> <li>3. With power OFF, the temperature was decreased to <math>-30^{\circ}\text{C}</math> and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.</li> <li>4. With power OFF, the temperature was raised in <math>10^{\circ}\text{C}</math> steps up to <math>50^{\circ}\text{C}</math>. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.</li> </ol> <p><b>Test Procedures for Voltage Variation</b></p> <ol style="list-style-type: none"> <li>1. The testing follows FCC KDB 971168 D01v03 Section 9.0.</li> <li>2. The EUT was placed in a temperature chamber at <math>25\pm 5^{\circ}\text{C}</math> and connected with the system simulator.</li> <li>3. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.</li> <li>4. The variation in frequency was measured for the worst case.</li> <li>5. The worst case(worst bandwidth) for frequency stability reported in the Test Data. The worst bandwidth is as follow: 1.4M is for LTE Band 5, 5M is for LTE Band 41</li> </ol>
<b>Test Result:</b>	PASS

**6.6.2. Test Instruments**

Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
Wideband Radio Communication Tester	R&S	CMW500	137557	Jan. 21, 2025	Jan. 20, 2026
Programable temprature and humidity chamber	JQ	JQ-2000	/	Jun. 27, 2024	Jun. 26, 2025
DC power supply	Kingrang	KR3005K	/	Jun. 27, 2024	Jun. 26, 2025
Power detector box	MWRFtest	MW100-RFCB	MW210531TCT	Jan. 21, 2025	Jan. 20, 2026

## Appendix B: Photographs of Test Setup

Please refer to document Appendix No.: TCT241111E003-A.

## Appendix C: Photographs of EUT

Please refer to document Appendix No.: TCT241111E003-B & TCT241111E003-C.

**Test Data for Appendix Refer to Appendix For LTE Band 5, Appendix For LTE Band 41**

\*\*\*\*\***END OF REPORT**\*\*\*\*\*