

RF TEST REPORT

Applicant UAB TELTONIKA TELEMATICS
FCC ID 2A3HUFTW880
Product Fleet Telematics System
Brand TELTONIKA
Model FTW880-Q2AB0
Report No. EFTA25020079-IE-06-R1V1
Issue Date April 1, 2025

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 / FCC CFR 47 Part 22H / FCC CFR 47 Part 24E / FCC CFR47 Part 27C / FCC CFR 47 Part 90S**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	March 13, 2025
Rev.1	Updated information.	April 1, 2025
Note: This revised report (Report No.: EFTA25020079-IE-06-R1V1) supersedes and replaces the previously issued report (Report No.: EFTA25020079-IE-06-R1). Please discard or destroy the previously issued report and dispose of it accordingly.		

Summary of Measurement Results

Test Case	Clause in FCC rules	Limits	Verdict				
LTE-M Band 5/26 (824-849MHz)							
RF Power Output and Effective Radiated Power	2.1046 22.913(a)(5)	≤ 7 W (38.45 dBm)	PASS				
Radiated Spurious Emission	2.1053 22.917 (a)	≤ -13 dBm	PASS				
LTE-M Band 2/25							
RF Power Output and Effective Isotropic Radiated Power	2.1046 24.232(c)	≤ 2 W (33 dBm)	PASS				
Radiated Spurious Emission	2.1053 24.238(a)	≤ -13 dBm	PASS				
LTE-M Band 4/66							
RF Power Output and Effective Isotropic Radiated Power	2.1046 27.50(d)(4)	≤ 1 W (30 dBm)	PASS				
Radiated Spurious Emission	2.1053 27.53(h)	≤ -13 dBm	PASS				
LTE-M Band 12/85							
RF Power Output and Effective Radiated Power	2.1046 27.50(c)(10)	≤ 3 W (34.77 dBm)	PASS				
Radiated Spurious Emission	2.1053 27.53(g)	≤ -13 dBm	PASS				
LTE-M Band 13							
RF Power Output and Effective Radiated Power	2.1046 27.50(b)(10)	≤ 30 W (44.7 dBm)	PASS				
Radiated Spurious Emission	2.1053 27.53(c) 27.53(f)	<table><tr><td>Limit out of the band 1559-1610 MHz</td><td>≤ -13 dBm</td></tr><tr><td>Limit in the band 1559-1610 MHz</td><td>≤ -40 dBm</td></tr></table>	Limit out of the band 1559-1610 MHz	≤ -13 dBm	Limit in the band 1559-1610 MHz	≤ -40 dBm	PASS
Limit out of the band 1559-1610 MHz	≤ -13 dBm						
Limit in the band 1559-1610 MHz	≤ -40 dBm						
LTE-M Band 26 (814-824MHz)							
RF Power Output and Effective Radiated Power	2.1046 90.635(b)	≤ 100 W (50 dBm)	PASS				
Radiated Spurious Emission	2.1053 90.691	≤ -13 dBm	PASS				
Date of Testing: February 28, 2025 ~ March 3, 2025 Date of Sample Received: February 11, 2025 Note: PASS: The EUT complies with the essential requirements in the standard. FAIL: The EUT does not comply with the essential requirements in the standard. All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.							

Only Radiated Spurious Emission is tested for FTW880-Q2AB0 in this report, and because of the change of antenna gain, Effective Isotropic Radiated Power and Effective Radiated Power also re evaluated. Other test items refer to the Module report (Report No.: R1907A0450-R1V2; R1907A0450-R2V2; R1907A0450-R3V3; R1907A0450-R4V2; R1907A0450-R5V2, FCC ID: XMR2020BG95M1, Grant date: 03/17/2020).

1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **Eurofins TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2. Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3 Testing Location

Company: Eurofins TA Technology (Shanghai) Co., Ltd.
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2 General Description of Equipment under Test

2.1 Applicant and Manufacturer Information

Applicant	UAB TELTONIKA TELEMATICS
Applicant address	Saltoniskiu st. 9B-1, LT-08105, Vilnius, Lithuania
Manufacturer	UAB TELTONIKA TELEMATICS
Manufacturer address	Saltoniskiu st. 9B-1, LT-08105, Vilnius, Lithuania

2.2 General information

EUT Description				
Model	FTW880-Q2AB0			
Lab internal SN	EFTA25020079-IE-01/S01			
Hardware Version	FTW880_02			
Software Version	2.1.0_rc.2			
Power Supply	External power supply			
Antenna Type	Internal Antenna			
Rated Power Supply Voltage	12 VDC			
Operating Voltage	Minimum: 10VDC Maximum: 30VDC			
Operating Temperature	Lowest: -20°C Highest: +70°C			
Testing Temperature	Lowest: -30°C Highest: +50°C			
Operating Frequency Range(s)	Mode	Tx (MHz)	Rx (MHz)	Gain (dBi)
	LTE-M Band 2	1850 ~ 1910	1930 ~ 1990	3.30
	LTE-M Band 4	1710 ~ 1755	2110 ~ 2155	0.96
	LTE-M Band 5	824 ~ 849	869 ~ 894	2.26
	LTE-M Band 12	699 ~ 716	729 ~ 746	-1.12
	LTE-M Band 13	777 ~ 787	746 ~ 756	-1.12
	LTE-M Band 25	1850 ~ 1915	1930 ~ 1995	3.30
	LTE-M Band 26 (Part 22)	824 ~ 849	869 ~ 894	2.26
	LTE-M Band 26 (Part 90S)	814 ~ 824	859 ~ 869	2.26
	LTE-M Band 66	1710 ~ 1780	2110 ~ 2180	0.96
	LTE-M Band 85	698~716	728~746	-1.12
Test Modulation	(LTE-M) QPSK, 16QAM			
LTE Category	M1			
Maximum E.I.R.P./ E.R.P.	LTE-M Band 2	24.19 dBm		
	LTE-M Band 4	21.75 dBm		
	LTE-M Band 5	20.76 dBm		

	LTE-M Band 12	17.15 dBm
	LTE-M Band 13	17.20 dBm
	LTE-M Band 25	23.69 dBm
	LTE-M Band 26	20.60 dBm
	LTE-M Band 66	20.99 dBm
	LTE-M Band 85	17.99 dBm
Note: The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant.		

3 Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards:

FCC CFR 47 Part 2 (2024)

FCC CFR 47 Part 22H (2024)

FCC CFR 47 Part 24E (2024)

FCC CFR 47 Part 27C (2024)

FCC CFR 47 Part 90S (2024)

Reference standard:

ANSI C63.26-2015

KDB 971168 D01 Power Meas License Digital Systems v03r01

4 Test Configuration

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes. EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization (horizontal and vertical), the worst emission was found in position (Y axis, vertical polarization) and the worst case was recorded.

All mode and data rates and positions and RB size and modulations were investigated. Subsequently, only the worst case emissions are reported.

The following testing in LTE-M is set based on the maximum RF Output Power.

The following testing in different Bandwidth is set to detail in the following table:

Test modes are chosen to be reported as the worst case configuration below for LTE-M Band:

Test items	Modes	Bandwidth (MHz)						Modulation		RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	50%	100%	L	M	H
Radiated Spurious Emission	LTE-M Band 2	O	-	O	-	-	O	O	-	O	-	-	-	O	-
	LTE-M Band 4	O	-	O	-	-	O	O	-	O	-	-	-	O	-
	LTE-M Band 5	O	-	O	O	-	-	O	-	O	-	-	-	O	-
	LTE-M Band 12	O	-	O	O	-	-	O	-	O	-	-	-	O	-
	LTE-M Band 13	-	-	O	O	-	-	O	-	O	-	-	-	O	-
	LTE-M Band 25	O	-	O	-	-	O	O	-	O	-	-	-	O	-
	LTE-M Band 26 (Part 22)	O	-	O	-	O	-	O	-	O	-	-	-	O	-
	LTE-M Band 26 (Part 90S)	O	-	O	O	-	-	O	-	O	-	-	-	O	-
	LTE-M Band 66	O	O	-	-	-	O	O	-	O	-	-	-	O	-
	LTE-M Band 85	-	-	O	-	-	-	O	-	O	-	-	-	O	-
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing.														

5 Test Case

5.1 RF Power Output and Effective Isotropic Radiated Power

Ambient condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Methods of Measurement

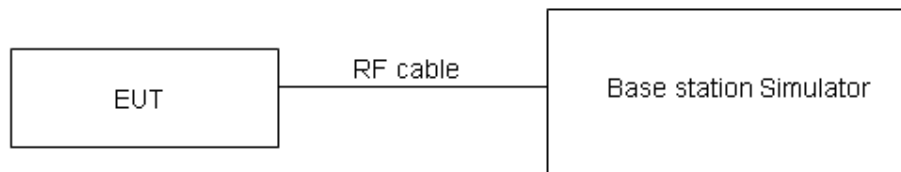
During the process of the testing, The EUT was connected to the Base Station Simulator with a known loss. The EUT is controlled by the Base Station Simulator test set to ensure max power transmission with proper modulation.

ERP can then be calculated as follows:

$EIRP \text{ (dBm)} = \text{Output Power (dBm)} + \text{Antenna Gain (dBi)}$

$EIRP \text{ (dBm)} = ERP \text{ (dBm)} + 2.15 \text{ (dB.)}$

Test Setup



Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U=0.4 \text{ dB}$ for RF power output, $k = 2$, $U= 1.19 \text{ dB}$ for ERP/EIRP.

Test Results

Refer to the section 6.1 of this report for test data.

5.2 Radiated Spurious Emission

Ambient condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Method of Measurement

1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.8 and ANSI C63.26-2015.
2. Below 1GHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
3. A loop antenna, A log-periodic antenna or horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
4. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=100kHz, VBW=300kHz for 30MHz to 1GHz and RBW=1MHz, VBW=3MHz for above 1GHz, and the maximum value of the receiver should be recorded as (Pr).
5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
7. The measurement results are obtained as described below:

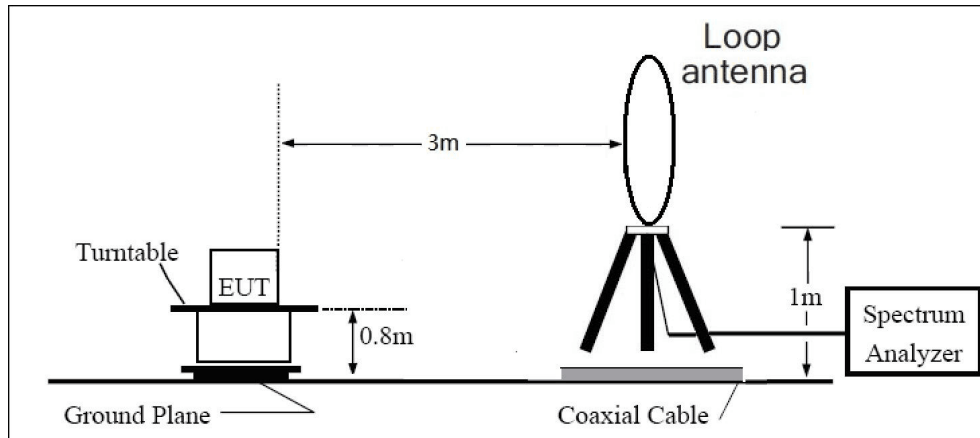
$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$
The measurement results are amend as described below:

$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, $\text{ERP} = \text{EIRP} - 2.15\text{dB}$.

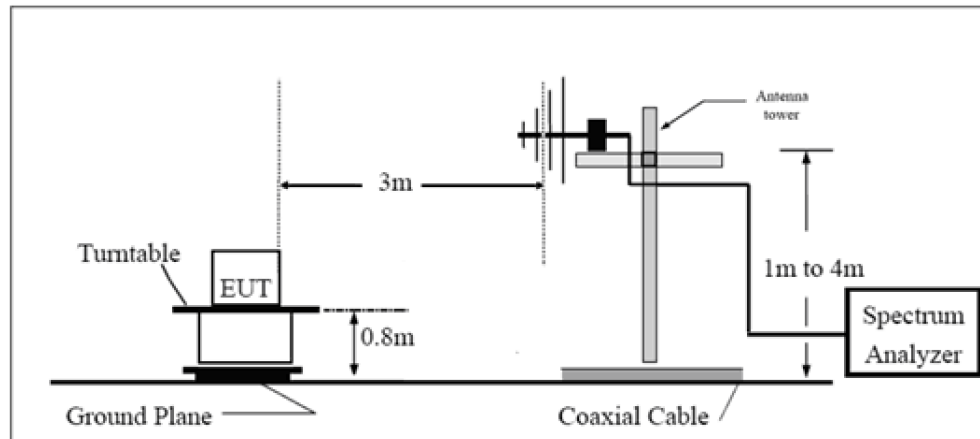
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

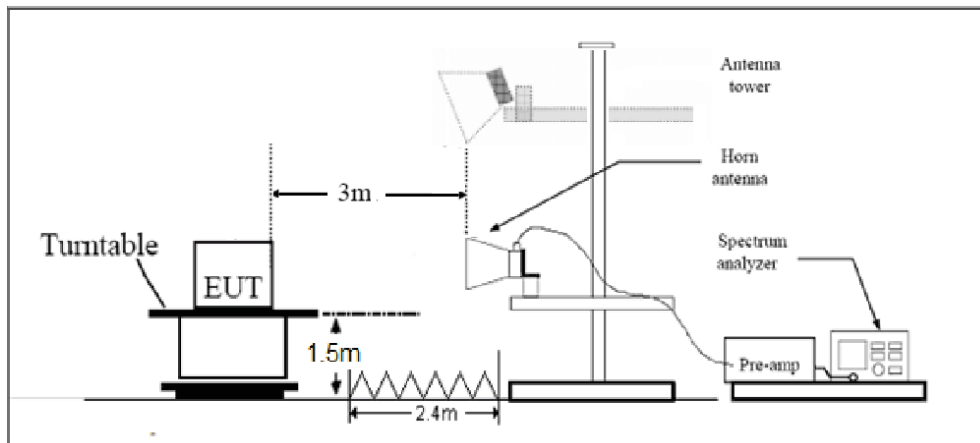
9KHz~ 30MHz



30MHz~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = \pm 1.96$, $U = \pm 3.55$ dB.

Test Results

Refer to the section 6.2 of this report for test data.

6 Test Results

6.1 RF Power Output and Effective (Isotropic) Radiated Power

Band2	Channel/ Frequency(MHz)	Index	RB# RBstart	Conducted Power (dBm)		EIRP	
				QPSK	16QAM	QPSK	16QAM
1.4MHz	18607/1850.7	0	1#0	20.82	19.75	24.12	23.05
		0	6#0	18.80	18.69	22.10	21.99
	18900/1880	0	1#0	20.73	19.03	24.03	22.33
		0	6#0	18.00	18.34	21.30	21.64
	19193/1909.3	0	1#5	20.87	19.38	24.17	22.68
		0	6#0	18.56	18.96	21.86	22.26
3MHz	18615/1851.5	0	1#0	20.83	19.57	24.13	22.87
		0	6#0	18.63	18.90	21.93	22.20
	18900/1880	0	1#0	20.30	19.03	23.60	22.33
		0	6#0	17.95	18.16	21.25	21.46
	19185/1908.5	1	1#5	20.87	19.53	24.17	22.83
		1	6#0	18.48	18.78	21.78	22.08
5MHz	18625/1852.5	0	1#0	20.86	20.64	24.16	23.94
		0	6#0	19.68	19.79	22.98	23.09
	18900/1880	0	1#0	20.22	20.10	23.52	23.40
		0	6#0	19.03	19.17	22.33	22.47
	19175/1907.5	0	1#5	20.72	20.53	24.02	23.83
		3	6#0	19.56	19.79	22.86	23.09
10MHz	18650/1855	3	1#0	20.77	20.61	24.07	23.91
		0	4#0	20.89	20.81	24.19	24.11
	18900/1880	0	1#0	20.29	20.05	23.59	23.35
		0	4#0	20.29	20.59	23.59	23.89
	19150/1905	4	1#5	20.74	20.46	24.04	23.76
		7	4#2	20.65	20.88	23.95	24.18
15MHz	18675/1857.5	3	1#0	20.71	20.80	24.01	24.10
		0	6#0	20.76	20.85	24.06	24.15
	18900/1880	0	1#0	20.41	20.16	23.71	23.46
		0	6#0	20.15	20.35	23.45	23.65
	19125/1902.5	8	1#5	20.39	20.13	23.69	23.43
		11	6#0	20.49	20.70	23.79	24.00
20MHz	18700/1860	3	1#0	20.81	20.63	24.11	23.93

		0	6#0	20.71	20.83	24.01	24.13
		0	1#0	20.36	20.14	23.66	23.44
	18900/1880	0	6#0	20.19	20.35	23.49	23.65
	19100/1900	12	1#5	20.39	20.23	23.69	23.53
		15	6#0	20.31	20.49	23.61	23.79
Band4	Channel/ Frequency(MHz)	Index	RB# RBstart	Conducted Power (dBm)		EIRP	
				QPSK	16QAM	QPSK	16QAM
1.4MHz	19957 1710.7	0	1#0	20.40	19.72	21.36	20.68
		0	6#0	18.42	18.29	19.38	19.25
	20175/1732.5	0	1#0	20.79	19.30	21.75	20.26
		0	6#0	18.29	18.66	19.25	19.62
	20393/1754.3	0	1#5	20.75	19.48	21.71	20.44
		0	6#0	18.36	18.69	19.32	19.65
3MHz	19965/1711.5	0	1#0	20.43	19.17	21.39	20.13
		0	6#0	18.41	18.68	19.37	19.64
	20175/1732.5	0	1#0	20.41	19.02	21.37	19.98
		0	6#0	18.29	18.54	19.25	19.50
	20385/1753.5	1	1#5	20.64	19.31	21.60	20.27
		1	6#0	18.49	18.75	19.45	19.71
5MHz	19975/1712.5	0	1#0	20.57	20.11	21.53	21.07
		0	6#0	19.35	19.51	20.31	20.47
	20175/1732.5	0	1#0	20.34	20.09	21.30	21.05
		0	6#0	19.37	19.42	20.33	20.38
	20375/1752.5	3	1#5	20.56	20.17	21.52	21.13
		3	6#0	19.43	19.75	20.39	20.71
10MHz	20000/1715	0	1#0	20.52	20.14	21.48	21.10
		0	4#0	20.53	20.57	21.49	21.53
	20175/1732.5	0	1#0	20.32	20.08	21.28	21.04
		0	4#0	20.38	20.44	21.34	21.40
	20350/1750	7	1#5	20.48	20.25	21.44	21.21
		7	4#2	20.52	20.54	21.48	21.50
15MHz	20025/1717.5	0	1#0	20.55	20.25	21.51	21.21
		0	6#0	20.42	20.53	21.38	21.49
	20175/1732.5	0	1#0	20.51	20.12	21.47	21.08
		0	6#0	20.33	20.46	21.29	21.42
	20325/1747.5	11	1#5	20.41	20.13	21.37	21.09
		11	6#0	20.32	20.38	21.28	21.34
20MHz	20050/1720	0	1#0	20.53	20.18	21.49	21.14
		0	6#0	20.38	20.50	21.34	21.46
	20175/1732.5	0	1#0	20.45	20.18	21.41	21.14

	20300/1745	0	6#0	20.32	20.44	21.28	21.40
		15	1#5	20.43	20.08	21.39	21.04
		15	6#0	20.27	20.36	21.23	21.32
Band5	Channel/ Frequency(MHz)	Index	RB# RBstart	Conducted Power (dBm)		ERP	
				QPSK	16QAM	QPSK	16QAM
1.4MHz	20407/824.7	0	1#0	19.83	19.55	19.94	19.66
		0	6#0	18.17	17.89	18.28	18.00
	20525/836.5	0	1#0	20.65	18.97	20.76	19.08
		0	6#0	18.31	19.30	18.42	19.41
	20643/848.3	0	1#5	20.37	18.81	20.48	18.92
		0	6#0	17.99	18.78	18.10	18.89
3MHz	20415/825.5	0	1#0	20.31	18.90	20.42	19.01
		0	6#0	18.02	18.37	18.13	18.48
	20525/836.5	0	1#0	20.53	19.13	20.64	19.24
		0	6#0	18.31	18.51	18.42	18.62
	20635/847.5	1	1#5	20.40	19.02	20.51	19.13
		1	6#0	18.02	18.34	18.13	18.45
5MHz	20425/826.5	0	1#0	20.04	19.77	20.15	19.88
		0	6#0	19.11	19.35	19.22	19.46
	20525/836.5	0	1#0	20.42	20.04	20.53	20.15
		0	6#0	19.31	19.60	19.42	19.71
	20625/846.5	3	1#5	20.20	19.90	20.31	20.01
		3	6#0	19.23	19.41	19.34	19.52
10MHz	20450/829	0	1#0	20.25	19.78	20.36	19.89
		0	4#0	20.19	20.56	20.30	20.67
	20525/836.5	0	1#0	20.41	19.93	20.52	20.04
		0	4#0	20.31	20.46	20.42	20.57
	20600/844	7	1#5	20.14	19.81	20.25	19.92
		7	4#2	20.33	20.28	20.44	20.39
Band12	Channel/ Frequency(MHz)	Index	RB# RBstart	Conducted Power (dBm)		ERP	
				QPSK	16QAM	QPSK	16QAM
1.4MHz	23017/699.7	0	1#0	20.20	19.15	16.93	15.88
		0	6#0	18.36	18.17	15.09	14.90
	23095/707.5	0	1#0	20.41	18.95	17.14	15.68
		0	6#0	18.17	18.66	14.90	15.39
	23173/715.3	0	1#5	20.40	18.93	17.13	15.66
		0	6#0	18.08	18.45	14.81	15.18
3MHz	23025/700.5	0	1#0	20.42	19.27	17.15	16.00
		0	6#0	18.26	18.57	14.99	15.30

	23095/707.5	0	1#0	20.37	19.15	17.10	15.88
		0	6#0	18.10	18.35	14.83	15.08
	23165/714.5	1	1#5	20.38	19.16	17.11	15.89
		1	6#0	18.13	18.37	14.86	15.10
5MHz	23035/701.5	3	1#0	20.42	20.16	17.15	16.89
		0	6#0	19.43	19.63	16.16	16.36
	23095/707.5	0	1#0	20.29	20.02	17.02	16.75
		0	6#0	19.22	19.53	15.95	16.26
	23155/713.5	0	1#5	20.16	19.90	16.89	16.63
		3	6#0	19.08	19.36	15.81	16.09
10MHz	23060/704	3	1#0	20.41	20.19	17.14	16.92
		0	4#0	20.33	20.38	17.06	17.11
	23095/707.5	0	1#0	20.32	20.01	17.05	16.74
		0	4#0	20.38	20.40	17.11	17.13
	23130/711	4	1#5	20.03	19.88	16.76	16.61
		7	4#2	20.28	20.25	17.01	16.98
Band13	Channel/ Frequency(MHz)	Index	RB# RBstart	Conducted Power (dBm)		ERP	
				QPSK	16QAM	QPSK	16QAM
5MHz	23205/779.5	0	1#0	20.14	20.21	16.87	16.94
		0	6#0	19.24	19.02	15.97	15.75
	23230/782	0	1#0	20.22	20.16	16.95	16.89
		0	6#0	19.24	19.38	15.97	16.11
	23255/784.5	3	1#5	20.05	19.79	16.78	16.52
		3	6#0	19.13	19.19	15.86	15.92
10MHz	23230/782	0	1#0	20.29	19.97	17.02	16.70
		0	4#0	20.35	20.47	17.08	17.20
Band25	Channel/ Frequency(MHz)	Index	RB# RBstart	Conducted Power (dBm)		EIRP	
				QPSK	16QAM	QPSK	16QAM
1.4MHz	26047/1850.7	0	1#0	19.73	19.20	23.03	22.50
		0	6#0	17.79	17.52	21.09	20.82
	26365/1882.5	0	1#0	20.39	18.93	23.69	22.23
		0	6#0	17.88	18.32	21.18	21.62
	26683/1914.3	0	1#5	20.37	18.93	23.67	22.23
		0	6#0	17.86	18.24	21.16	21.54
3MHz	26055/1851.5	0	1#0	19.88	18.77	23.18	22.07
		0	6#0	17.80	17.94	21.10	21.24
	26365/1882.5	0	1#0	20.14	18.92	23.44	22.22
		0	6#0	17.85	18.03	21.15	21.33
	26675/1913.5	1	1#5	20.12	18.94	23.42	22.24

		1	6#0	17.88	18.05	21.18	21.35
5MHz	26065/1852.5	0	1#0	19.77	19.59	23.07	22.89
		0	6#0	18.74	18.90	22.04	22.20
	26365/1882.5	0	1#0	19.97	19.81	23.27	23.11
		0	6#0	18.82	19.06	22.12	22.36
	26665/1912.5	0	1#5	19.98	19.71	23.28	23.01
		3	6#0	18.88	19.07	22.18	22.37
10MHz	26090/1855	3	1#0	19.62	19.92	22.92	23.22
		0	4#0	19.68	19.49	22.98	22.79
	26365/1882.5	0	1#0	19.96	19.73	23.26	23.03
		0	4#0	19.91	20.25	23.21	23.55
	26640/1910	4	1#5	19.95	19.69	23.25	22.99
		7	4#2	19.85	19.76	23.15	23.06
15MHz	26115/1857.5	3	1#0	19.79	19.58	23.09	22.88
		0	6#0	19.62	19.71	22.92	23.01
	26365/1882.5	0	1#0	19.91	19.76	23.21	23.06
		0	6#0	19.82	19.96	23.12	23.26
	26615/1907.5	8	1#5	19.99	19.66	23.29	22.96
		11	6#0	19.76	19.97	23.06	23.27
20MHz	26140/1860	3	1#0	19.75	19.54	23.05	22.84
		0	6#0	19.62	19.75	22.92	23.05
	26365/1882.5	0	1#0	19.87	19.67	23.17	22.97
		0	6#0	19.78	19.91	23.08	23.21
	26590/1905	12	1#5	19.95	19.70	23.25	23.00
		15	6#0	19.78	19.99	23.08	23.29
Band26-part90	Channel/ Frequency(MHz)	Index	RB# RBstart	Conducted Power (dBm)		ERP	
				QPSK	16QAM	QPSK	16QAM
1.4MHz	26697/814.7	0	1#0	19.89	19.57	20.00	19.68
		0	6#0	18.13	17.92	18.24	18.03
	26740/819	0	1#0	20.42	18.75	20.53	18.86
		0	6#0	18.09	18.91	18.20	19.02
	26783/823.3	0	1#5	20.31	18.74	20.42	18.85
		0	6#0	18.05	18.92	18.16	19.03
3MHz	26705/815.5	0	1#0	20.25	18.97	20.36	19.08
		0	6#0	18.08	18.45	18.19	18.56
	26740/819	0	1#0	20.25	18.98	20.36	19.09
		0	6#0	18.05	18.41	18.16	18.52
	26775/822.5	1	1#5	20.04	18.80	20.15	18.91
		1	6#0	18.04	18.41	18.15	18.52
5MHz	26715/816.5	3	1#0	20.20	19.83	20.31	19.94

	26740/819	0	6#0	19.16	19.45	19.27	19.56
		0	1#0	20.18	19.85	20.29	19.96
		0	6#0	19.14	19.44	19.25	19.55
		0	1#5	20.09	19.61	20.20	19.72
		3	6#0	19.13	19.41	19.24	19.52
10MHz	26740/819	0	1#0	20.28	19.81	20.39	19.92
		0	4#0	20.17	20.49	20.28	20.60
Band26-part22	Channel/ Frequency(MHz)	Index	RB# RBstart	Conducted Power (dBm)		ERP	
				QPSK	16QAM	QPSK	16QAM
1.4MHz	26797/824.7	0	1#0	20.46	19.10	20.57	19.21
		0	6#0	18.21	18.38	18.32	18.49
	26915/836.5	0	1#0	20.31	18.63	20.42	18.74
		0	6#0	17.90	18.75	18.01	18.86
	27033/848.3	0	1#5	20.17	18.68	20.28	18.79
		0	6#0	17.98	18.73	18.09	18.84
3MHz	26805/825.5	0	1#0	20.26	18.96	20.37	19.07
		0	6#0	18.06	18.38	18.17	18.49
	26915/836.5	0	1#0	20.09	18.84	20.20	18.95
		0	6#0	17.91	18.32	18.02	18.43
	27025/847.5	1	1#5	20.05	18.64	20.16	18.75
		1	6#0	18.01	18.03	18.12	18.14
5MHz	26815/826.5	3	1#0	20.10	19.79	20.21	19.90
		0	6#0	19.15	19.35	19.26	19.46
	26915/836.5	0	1#0	19.82	20.24	19.93	20.35
		0	6#0	19.06	19.24	19.17	19.35
	27015/846.5	0	1#5	19.86	19.36	19.97	19.47
		3	6#0	19.08	19.35	19.19	19.46
10MHz	26840/829	3	1#0	20.21	19.71	20.32	19.82
		0	4#0	20.17	20.44	20.28	20.55
	26915/836.5	0	1#0	20.09	19.65	20.20	19.76
		0	4#0	20.07	20.46	20.18	20.57
	26990/844	4	1#5	19.94	19.48	20.05	19.59
		7	4#2	20.15	20.49	20.26	20.60
15MHz	26865/831.5	3	1#0	20.15	19.85	20.26	19.96
		0	6#0	20.11	20.22	20.22	20.33
	26915/836.5	0	1#0	20.05	19.72	20.16	19.83
		0	6#0	20.06	20.39	20.17	20.50
	26965/841.5	8	1#5	19.91	19.52	20.02	19.63
		11	6#0	20.08	20.33	20.19	20.44
Band66	Channel/	Index	RB#	Conducted Power		EIRP	

	Frequency(MHz)		RBstart	(dBm)			
				QPSK	16QAM	QPSK	16QAM
1.4MHz	131979/1710.7	0	1#0	19.74	19.02	20.70	19.98
		0	6#0	17.65	17.51	18.61	18.47
	132322/1745	0	1#0	20.01	18.73	20.97	19.69
		0	6#0	17.49	17.88	18.45	18.84
	132665/1779.3	0	1#5	19.98	18.23	20.94	19.19
		0	6#0	17.73	18.39	18.69	19.35
3MHz	131987/1711.5	0	1#0	19.89	18.52	20.85	19.48
		0	6#0	17.69	17.96	18.65	18.92
	132322/1745	0	1#0	19.89	18.39	20.85	19.35
		0	6#0	17.71	17.90	18.67	18.86
	132657/1778.5	1	1#5	19.77	18.35	20.73	19.31
		1	6#0	17.72	18.11	18.68	19.07
5MHz	131997/1712.5	0	1#0	19.88	19.48	20.84	20.44
		0	6#0	18.77	18.84	19.73	19.80
	132322/1745	0	1#0	19.86	20.03	20.82	20.99
		0	6#0	18.69	18.74	19.65	19.70
	132647/1777.5	0	1#5	19.71	19.33	20.67	20.29
		3	6#0	18.71	18.98	19.67	19.94
10MHz	132022/1715	3	1#0	19.93	19.65	20.89	20.61
		0	4#0	19.86	19.91	20.82	20.87
	132022/1745	0	1#0	19.75	19.57	20.71	20.53
		0	4#0	19.67	19.70	20.63	20.66
	132622/1775	4	1#5	19.23	18.87	20.19	19.83
		7	4#2	19.33	19.45	20.29	20.41
15MHz	132047/1717.5	3	1#0	19.91	19.55	20.87	20.51
		0	6#0	19.78	19.87	20.74	20.83
	132322/1745	0	1#0	19.73	19.52	20.69	20.48
		0	6#0	19.65	19.73	20.61	20.69
	132597/1772.5	8	1#5	19.21	19.31	20.17	20.27
		11	6#0	19.39	19.54	20.35	20.50
20MHz	132072/1720	3	1#0	19.76	19.99	20.72	20.95
		0	6#0	19.84	19.83	20.80	20.79
	132322/1745	0	1#0	19.74	19.77	20.70	20.73
		0	6#0	19.67	19.55	20.63	20.51
	132572/1770	12	1#5	19.31	18.95	20.27	19.91
		15	6#0	19.38	19.52	20.34	20.48
Band85	Channel/ Frequency(MHz)	Index	RB# RBstart	Conducted Power (dBm)		ERP	
				QPSK	16QAM	QPSK	16QAM

5MHz	134027/700.5	0	1#0	20.63	20.54	17.36	17.27
		0	6#0	20.37	20.39	17.10	17.12
	134092/707	0	1#0	20.91	20.65	17.64	17.38
		0	6#0	20.62	20.53	17.35	17.26
	134157/713.5	3	1#5	21.03	20.44	17.76	17.17
		3	6#0	20.68	20.55	17.41	17.28
10MHz	134052/703	0	1#0	20.79	20.27	17.52	17.00
		0	4#0	20.36	20.62	17.09	17.35
	134092/707	0	1#0	21.07	20.43	17.80	17.16
		0	4#0	20.94	21.15	17.67	17.88
	134132/711	0	1#5	21.11	20.51	17.84	17.24
		0	4#2	21.13	21.26	17.86	17.99

6.2 Radiated Spurious Emission

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

LTE-M Band 2 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3759.00	-64.56	2.60	12.50	Vertical	-54.66	-13.00	41.66	96
3	5638.88	-61.93	3.30	12.50	Vertical	-52.73	-13.00	39.73	12
4	7520.00	-53.69	4.20	12.20	Vertical	-45.69	-13.00	32.69	63
5	9400.00	-53.76	4.30	11.10	Vertical	-46.96	-13.00	33.96	20
6	11280.00	-49.87	5.90	11.90	Vertical	-43.87	-13.00	30.87	0
7	13160.00	-49.96	5.70	14.00	Vertical	-41.66	-13.00	28.66	1
8	15040.00	-51.74	5.80	13.10	Vertical	-44.44	-13.00	31.44	32
9	16920.00	-51.25	6.10	14.60	Vertical	-42.75	-13.00	29.75	63
10	18800.00	/	/	/	/	/	/	/	/

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 2 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3755.63	-66.84	2.60	12.50	Vertical	-56.94	-13.00	43.94	30
3	5633.63	-62.39	3.30	12.50	Vertical	-53.19	-13.00	40.19	20
4	7510.00	-54.83	4.20	12.20	Vertical	-46.83	-13.00	33.83	1
5	9387.50	-52.94	4.30	11.10	Vertical	-46.14	-13.00	33.14	2
6	11265.00	-48.60	5.90	11.90	Vertical	-42.60	-13.00	29.60	35
7	13142.00	-50.14	5.70	14.00	Vertical	-41.84	-13.00	28.84	32
8	15020.00	-51.90	5.80	13.10	Vertical	-44.60	-13.00	31.60	52
9	16897.50	-51.50	6.10	14.60	Vertical	-43.00	-13.00	30.00	14
10	18800.00	/	/	/	/	/	/	/	/

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 2 20MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3742.13	-66.66	2.60	12.50	Vertical	-56.76	-13.00	43.76	32
3	5613.38	-64.02	3.30	12.50	Vertical	-54.82	-13.00	41.82	6
4	7484.63	-53.74	4.20	12.20	Vertical	-45.74	-13.00	32.74	32
5	9355.33	-52.08	4.30	11.10	Vertical	-45.28	-13.00	32.28	1
6	11226.39	-50.19	5.90	11.90	Vertical	-44.19	-13.00	31.19	0
7	13097.46	-50.43	5.70	14.00	Vertical	-42.13	-13.00	29.13	32
8	14968.52	-49.71	5.80	13.10	Vertical	-42.41	-13.00	29.41	2
9	16938.59	-50.96	6.10	14.60	Vertical	-42.46	-13.00	29.46	2
10	18800.00	/	/	/	/	/	/	/	/
Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE-M Band 4 QPSK 1.4MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3464.25	-76.88	2.70	12.70	Vertical	-66.88	-13.00	53.88	95
3	5197.50	-72.04	3.20	12.50	Vertical	-62.74	-13.00	49.74	63
4	6930.00	-66.40	4.20	11.80	Vertical	-58.80	-13.00	45.80	21
5	8662.50	-63.19	4.40	12.50	Vertical	-55.09	-13.00	42.09	0
6	10395.00	-58.89	4.70	11.30	Vertical	-52.29	-13.00	39.29	0
7	12127.50	-61.77	5.20	13.80	Vertical	-53.17	-13.00	40.17	32
8	13860.00	-54.39	5.70	11.30	Vertical	-48.79	-13.00	35.79	0
9	15592.50	-64.11	6.10	16.80	Vertical	-53.41	-13.00	40.41	2
10	17325.00	-60.30	6.10	14.20	Vertical	-52.20	-13.00	39.20	21
Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE-M Band 4 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3460.50	-75.79	2.70	12.70	Vertical	-65.79	-13.00	52.79	96
3	5191.50	-71.45	3.20	12.50	Vertical	-62.15	-13.00	49.15	2
4	6930.00	-65.97	4.20	11.80	Vertical	-58.37	-13.00	45.37	0
5	8662.50	-63.69	4.40	12.50	Vertical	-55.59	-13.00	42.59	33
6	10380.00	-60.84	4.70	11.30	Vertical	-54.24	-13.00	41.24	55
7	12110.00	-61.75	5.20	13.80	Vertical	-53.15	-13.00	40.15	69
8	13840.00	-55.42	5.70	11.30	Vertical	-49.82	-13.00	36.82	75
9	15570.00	-63.87	6.10	16.80	Vertical	-53.17	-13.00	40.17	0
10	17300.00	-59.00	6.10	14.20	Vertical	-50.90	-13.00	37.90	3
Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE-M Band 4 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3447.75	-77.27	2.70	12.70	Vertical	-67.27	-13.00	54.27	14
3	5170.88	-72.50	3.20	12.50	Vertical	-63.20	-13.00	50.20	2
4	6930.00	-66.61	4.20	11.80	Vertical	-59.01	-13.00	46.01	65
5	8662.50	-62.50	4.40	12.50	Vertical	-54.40	-13.00	41.40	33
6	10395.00	-59.18	4.70	11.30	Vertical	-52.58	-13.00	39.58	20
7	12127.50	-61.45	5.20	13.80	Vertical	-52.85	-13.00	39.85	10
8	13860.00	-55.68	5.70	11.30	Vertical	-50.08	-13.00	37.08	5
9	15592.50	-62.86	6.10	16.80	Vertical	-52.16	-13.00	39.16	2
10	17325.00	-59.60	6.10	14.20	Vertical	-51.50	-13.00	38.50	1
Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE-M Band 5 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673.00	-58.17	1.70	8.70	Vertical	-53.32	-13.00	40.32	62
3	2509.50	-50.80	2.30	12.00	Vertical	-43.25	-13.00	30.25	30
4	3346.00	-67.32	2.70	12.70	Vertical	-59.47	-13.00	46.47	96
5	4182.50	-62.46	3.00	12.50	Vertical	-55.11	-13.00	42.11	30
6	5019.00	-60.38	3.40	12.50	Vertical	-53.43	-13.00	40.43	20
7	5855.50	-59.10	3.40	12.80	Vertical	-51.85	-13.00	38.85	52
8	6692.00	-53.88	4.10	11.50	Vertical	-48.63	-13.00	35.63	62
9	7528.50	-52.13	4.20	12.20	Vertical	-46.28	-13.00	33.28	114
10	8365.00	-50.89	4.30	12.50	Vertical	-44.84	-13.00	31.84	52

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 5 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1668.60	-57.98	1.70	8.70	Vertical	-53.13	-13.00	40.13	95
3	2503.30	-50.89	2.30	12.00	Vertical	-43.34	-13.00	30.34	32
4	3337.50	-66.34	2.70	12.70	Vertical	-58.49	-13.00	45.49	32
5	4171.88	-63.25	3.00	12.50	Vertical	-55.90	-13.00	42.90	10
6	5006.25	-60.82	3.40	12.50	Vertical	-53.87	-13.00	40.87	20
7	5840.63	-59.98	3.40	12.80	Vertical	-52.73	-13.00	39.73	20
8	6675.00	-54.46	4.10	11.50	Vertical	-49.21	-13.00	36.21	0
9	7509.38	-52.73	4.20	12.20	Vertical	-46.88	-13.00	33.88	0
10	8343.75	-52.47	4.30	12.50	Vertical	-46.42	-13.00	33.42	14

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 5 10MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1664.40	-60.32	1.70	8.70	Vertical	-55.47	-13.00	42.47	110
3	2496.60	-50.54	2.30	12.00	Vertical	-42.99	-13.00	29.99	20
4	3326.00	-66.84	2.70	12.70	Vertical	-58.99	-13.00	45.99	96
5	4157.50	-63.46	3.00	12.50	Vertical	-56.11	-13.00	43.11	52
6	4989.00	-62.68	3.40	12.50	Vertical	-55.73	-13.00	42.73	32
7	5820.50	-60.15	3.40	12.80	Vertical	-52.90	-13.00	39.90	210
8	6652.00	-55.17	4.10	11.50	Vertical	-49.92	-13.00	36.92	52
9	7483.50	-51.12	4.20	12.20	Vertical	-45.27	-13.00	32.27	3
10	8315.00	-52.53	4.30	12.50	Vertical	-46.48	-13.00	33.48	2

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 12 QPSK 1.4MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1413.60	-69.13	1.70	8.70	Vertical	-64.28	-13.00	51.28	96
3	2120.40	-63.39	2.10	11.10	Vertical	-56.54	-13.00	43.54	20
4	2827.20	-67.08	2.30	13.10	Vertical	-58.43	-13.00	45.43	52
5	3537.50	-65.93	2.60	12.70	Vertical	-57.98	-13.00	44.98	63
6	4245.00	-63.20	3.30	12.50	Vertical	-56.15	-13.00	43.15	230
7	4952.50	-63.39	3.40	12.50	Vertical	-56.44	-13.00	43.44	32
8	5660.00	-61.54	3.30	12.50	Vertical	-54.49	-13.00	41.49	3
9	6367.50	-57.08	3.80	11.50	Vertical	-51.53	-13.00	38.53	1
10	7075.00	-52.02	4.20	11.80	Vertical	-46.57	-13.00	33.57	2

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 12 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1410.60	-66.88	1.70	8.70	Vertical	-62.03	-13.00	49.03	65
3	2115.90	-63.72	2.10	11.10	Vertical	-56.87	-13.00	43.87	20
4	2820.00	-66.14	2.30	13.10	Vertical	-57.49	-13.00	44.49	62
5	3525.00	-66.55	2.60	12.70	Vertical	-58.60	-13.00	45.60	32
6	4230.00	-63.79	3.30	12.50	Vertical	-56.74	-13.00	43.74	52
7	4935.00	-63.00	3.40	12.50	Vertical	-56.05	-13.00	43.05	36
8	5640.00	-63.63	3.30	12.50	Vertical	-56.58	-13.00	43.58	15
9	6345.00	-55.79	3.80	11.50	Vertical	-50.24	-13.00	37.24	144
10	7050.00	-50.87	4.20	11.80	Vertical	-45.42	-13.00	32.42	163
Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE-M Band 12 QPSK 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1405.00	-62.20	1.70	8.70	Vertical	-57.35	-13.00	44.35	32
3	2107.50	-62.54	2.10	11.10	Vertical	-55.69	-13.00	42.69	200
4	2810.00	-66.22	2.30	13.10	Vertical	-57.57	-13.00	44.57	0
5	3512.50	-65.35	2.60	12.70	Vertical	-57.40	-13.00	44.40	20
6	4215.00	-62.82	3.30	12.50	Vertical	-55.77	-13.00	42.77	32
7	4917.50	-62.35	3.40	12.50	Vertical	-55.40	-13.00	42.40	62
8	5620.00	-61.18	3.30	12.50	Vertical	-54.13	-13.00	41.13	22
9	6322.50	-56.13	3.80	11.50	Vertical	-50.58	-13.00	37.58	0
10	7025.00	-51.16	4.20	11.80	Vertical	-45.71	-13.00	32.71	0
Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE-M Band 13 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1559.70	-71.10	1.70	8.70	Vertical	-64.10	-40.00	24.10	22
3	2339.24	-56.96	2.10	12.00	Vertical	-49.21	-13.00	36.21	17
4	3118.00	-66.35	2.30	13.10	Vertical	-57.70	-13.00	44.70	56
5	3897.50	-63.16	2.90	12.50	Vertical	-55.71	-13.00	42.71	178
6	4677.00	-63.78	3.10	12.50	Vertical	-56.53	-13.00	43.53	12
7	5456.50	-61.06	3.30	12.50	Vertical	-54.01	-13.00	41.01	26
8	6236.00	-56.54	3.50	12.80	Vertical	-49.39	-13.00	36.39	76
9	7015.50	-51.31	4.20	11.80	Vertical	-45.86	-13.00	32.86	123
10	7795.00	-53.94	4.40	12.30	Vertical	-48.19	-13.00	35.19	28
Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE-M Band 13 QPSK 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1555.79	-68.38	1.70	8.70	Vertical	-63.53	-13.00	50.53	14
3	2333.32	-59.17	2.10	12.00	Vertical	-51.42	-13.00	38.42	78
4	3108.00	-66.98	2.30	13.10	Vertical	-58.33	-13.00	45.33	186
5	3885.00	-64.34	2.90	12.50	Vertical	-56.89	-13.00	43.89	17
6	4662.00	-62.58	3.10	12.50	Vertical	-55.33	-13.00	42.33	46
7	5439.00	-61.77	3.30	12.50	Vertical	-54.72	-13.00	41.72	38
8	6216.00	-58.52	3.50	12.80	Vertical	-51.37	-13.00	38.37	37
9	6993.00	-55.07	4.20	11.80	Vertical	-49.62	-13.00	36.62	175
10	7770.00	-51.20	4.40	12.30	Vertical	-45.45	-13.00	32.45	26
Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE-M Band 25 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3763.80	-66.02	2.60	12.50	Vertical	-56.12	-13.00	43.12	189
3	5645.90	-62.40	3.30	12.50	Vertical	-53.20	-13.00	40.20	76
4	7530.00	-54.91	4.20	12.20	Vertical	-46.91	-13.00	33.91	40
5	9412.50	-51.39	4.30	11.10	Vertical	-44.59	-13.00	31.59	275
6	11295.00	-49.98	5.90	11.90	Vertical	-43.98	-13.00	30.98	263
7	13177.50	-50.77	5.70	14.00	Vertical	-42.47	-13.00	29.47	101
8	15060.00	-52.49	5.80	13.10	Vertical	-45.19	-13.00	32.19	2
9	16942.50	-52.37	6.10	14.60	Vertical	-43.87	-13.00	30.87	251
10	18825.00	/	/	/	/	/	/	/	/

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 25 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.80	-67.25	2.60	12.50	Vertical	-57.35	-13.00	44.35	31
3	5641.30	-62.53	3.30	12.50	Vertical	-53.33	-13.00	40.33	64
4	7530.00	-54.01	4.20	12.20	Vertical	-46.01	-13.00	33.01	215
5	9412.50	-53.74	4.30	11.10	Vertical	-46.94	-13.00	33.94	255
6	11295.00	-49.65	5.90	11.90	Vertical	-43.65	-13.00	30.65	312
7	13177.50	-50.72	5.70	14.00	Vertical	-42.42	-13.00	29.42	182
8	15060.00	-51.42	5.80	13.10	Vertical	-44.12	-13.00	31.12	3
9	16942.50	-51.50	6.10	14.60	Vertical	-43.00	-13.00	30.00	0
10	18825.00	/	/	/	/	/	/	/	/

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 25 20MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3747.30	-66.97	2.60	12.50	Vertical	-57.07	-13.00	44.07	245
3	5620.70	-62.66	3.30	12.50	Vertical	-53.46	-13.00	40.46	220
4	7496.00	-53.41	4.20	12.20	Vertical	-45.41	-13.00	32.41	84
5	9370.00	-52.34	4.30	11.10	Vertical	-45.54	-13.00	32.54	295
6	11244.00	-49.26	5.90	11.90	Vertical	-43.26	-13.00	30.26	0
7	13118.00	-50.66	5.70	14.00	Vertical	-42.36	-13.00	29.36	309
8	14992.00	-49.91	5.80	13.10	Vertical	-42.61	-13.00	29.61	295
9	16866.00	-52.69	6.10	14.60	Vertical	-44.19	-13.00	31.19	0
10	18740.00	/	/	/	/	/	/	/	/

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 26 (824-849MHz) 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673.00	-57.71	1.70	8.70	Vertical	-52.86	-13.00	39.86	52
3	2509.50	-51.98	2.30	12.00	Vertical	-44.43	-13.00	31.43	30
4	3346.00	-67.03	2.70	12.70	Vertical	-59.18	-13.00	46.18	95
5	4182.50	-64.51	3.00	12.50	Vertical	-57.16	-13.00	44.16	20
6	5019.00	-61.33	3.40	12.50	Vertical	-54.38	-13.00	41.38	32
7	5855.50	-60.36	3.40	12.80	Vertical	-53.11	-13.00	40.11	14
8	6692.00	-55.24	4.10	11.50	Vertical	-49.99	-13.00	36.99	2
9	7528.50	-52.41	4.20	12.20	Vertical	-46.56	-13.00	33.56	32
10	8365.00	-53.67	4.30	12.50	Vertical	-47.62	-13.00	34.62	0

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 26 (824-849MHz) 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1668.00	-58.80	1.70	8.70	Vertical	-53.95	-13.00	40.95	52
3	2502.00	-50.59	2.30	12.00	Vertical	-43.04	-13.00	30.04	2
4	3336.00	-66.68	2.70	12.70	Vertical	-58.83	-13.00	45.83	95
5	4170.00	-64.45	3.00	12.50	Vertical	-57.10	-13.00	44.10	63
6	5004.00	-61.53	3.40	12.50	Vertical	-54.58	-13.00	41.58	144
7	5838.00	-60.42	3.40	12.80	Vertical	-53.17	-13.00	40.17	11
8	6672.00	-55.40	4.10	11.50	Vertical	-50.15	-13.00	37.15	2
9	7506.00	-53.07	4.20	12.20	Vertical	-47.22	-13.00	34.22	32
10	8340.00	-54.19	4.30	12.50	Vertical	-48.14	-13.00	35.14	0

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 26 (824-849MHz) 15MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1658.00	-59.34	1.70	8.70	Vertical	-54.49	-13.00	41.49	32
3	2487.00	-52.00	2.30	12.00	Vertical	-44.45	-13.00	31.45	0
4	3316.00	-67.76	2.70	12.70	Vertical	-59.91	-13.00	46.91	62
5	4145.00	-64.75	3.00	12.50	Vertical	-57.40	-13.00	44.40	30
6	4974.00	-62.20	3.40	12.50	Vertical	-55.25	-13.00	42.25	52
7	5803.00	-60.59	3.40	12.80	Vertical	-53.34	-13.00	40.34	488
8	6632.00	-55.64	4.10	11.50	Vertical	-50.39	-13.00	37.39	144
9	7461.00	-51.99	4.20	12.20	Vertical	-46.14	-13.00	33.14	10
10	8290.00	-53.95	4.30	12.50	Vertical	-47.90	-13.00	34.90	0

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 26 (814-824MHz) 1.4MHz CH Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1636.60	-65.58	1.70	8.70	Vertical	-60.73	-13.00	47.73	65
3	2454.90	-51.55	2.30	12.00	Vertical	-44.00	-13.00	31.00	20
4	3273.20	-67.10	2.20	13.10	Vertical	-58.35	-13.00	45.35	96
5	4091.50	-63.91	3.00	12.50	Vertical	-56.56	-13.00	43.56	32
6	4909.80	-62.90	3.10	12.50	Vertical	-55.65	-13.00	42.65	52
7	5728.10	-60.30	3.40	12.50	Vertical	-53.35	-13.00	40.35	63
8	6546.40	-56.09	3.80	11.50	Vertical	-50.54	-13.00	37.54	10
9	7364.70	-51.81	4.20	12.20	Vertical	-45.96	-13.00	32.96	22
10	8183.00	-53.88	4.30	12.30	Vertical	-48.03	-13.00	35.03	32

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 26 (814-824MHz) 5MHz CH Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1633.00	-66.37	1.70	8.70	Vertical	-61.52	-13.00	48.52	3
3	2449.50	-50.59	2.30	12.00	Vertical	-43.04	-13.00	30.04	15
4	3266.00	-68.17	2.20	13.10	Vertical	-59.42	-13.00	46.42	14
5	4082.50	-64.85	3.00	12.50	Vertical	-57.50	-13.00	44.50	22
6	4899.00	-63.54	3.10	12.50	Vertical	-56.29	-13.00	43.29	65
7	5715.50	-62.57	3.40	12.50	Vertical	-55.62	-13.00	42.62	0
8	6532.00	-55.78	3.80	11.50	Vertical	-50.23	-13.00	37.23	85
9	7348.50	-52.45	4.20	12.20	Vertical	-46.60	-13.00	33.60	32
10	8165.00	-53.39	4.30	12.30	Vertical	-47.54	-13.00	34.54	20

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 26 (814-824MHz) 10MHz CH Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1628.00	-67.85	1.70	8.70	Vertical	-63.00	-13.00	50.00	20
3	2442.00	-51.79	2.30	12.00	Vertical	-44.24	-13.00	31.24	0
4	3256.00	-67.34	2.20	13.10	Vertical	-58.59	-13.00	45.59	145
5	4070.00	-64.08	3.00	12.50	Vertical	-56.73	-13.00	43.73	152
6	4884.00	-62.22	3.10	12.50	Vertical	-54.97	-13.00	41.97	32
7	5698.00	-64.13	3.40	12.50	Vertical	-57.18	-13.00	44.18	8
8	6512.00	-55.68	3.80	11.50	Vertical	-50.13	-13.00	37.13	32
9	7326.00	-52.66	4.20	12.20	Vertical	-46.81	-13.00	33.81	0
10	8140.00	-53.12	4.30	12.30	Vertical	-47.27	-13.00	34.27	0

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 66 QPSK 1.4MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3509.25	-76.21	2.70	12.70	Vertical	-66.21	-13.00	53.21	85
3	5262.50	-72.43	3.20	12.50	Vertical	-63.13	-13.00	50.13	62
4	7018.00	-61.61	4.20	11.80	Vertical	-54.01	-13.00	41.01	32
5	8772.50	-62.43	4.40	12.50	Vertical	-54.33	-13.00	41.33	20
6	10527.00	-59.80	4.70	11.80	Vertical	-52.70	-13.00	39.70	0
7	12281.50	-60.55	5.20	13.80	Vertical	-51.95	-13.00	38.95	2
8	14036.00	-56.80	5.70	13.20	Vertical	-49.30	-13.00	36.30	32
9	15790.50	-64.21	6.10	16.80	Vertical	-53.51	-13.00	40.51	10
10	17545.00	-59.90	6.10	14.20	Vertical	-51.80	-13.00	38.80	2

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE-M Band 66 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3486.00	-75.53	2.70	12.70	Vertical	-65.53	-13.00	52.53	32
3	5229.00	-72.94	3.20	12.50	Vertical	-63.64	-13.00	50.64	2
4	6972.00	-66.22	4.20	11.80	Vertical	-58.62	-13.00	45.62	52
5	8715.00	-63.71	4.40	12.50	Vertical	-55.61	-13.00	42.61	32
6	10458.00	-60.75	4.70	11.80	Vertical	-53.65	-13.00	40.65	2
7	12201.00	-60.82	5.20	13.80	Vertical	-52.22	-13.00	39.22	1
8	13944.00	-57.45	5.70	13.20	Vertical	-49.95	-13.00	36.95	25
9	15687.00	-64.77	6.10	16.80	Vertical	-54.07	-13.00	41.07	2
10	17430.00	-60.15	6.10	14.20	Vertical	-52.05	-13.00	39.05	144
Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE-M Band 66 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3472.88	-75.71	2.70	12.70	Vertical	-65.71	-13.00	52.71	2
3	5209.00	-71.94	3.20	12.50	Vertical	-62.64	-13.00	49.64	33
4	6945.75	-66.59	4.20	11.80	Vertical	-58.99	-13.00	45.99	3
5	8682.00	-63.02	4.40	12.50	Vertical	-54.92	-13.00	41.92	6
6	10418.63	-58.86	4.70	11.80	Vertical	-51.76	-13.00	38.76	5
7	12455.00	-60.27	5.20	13.80	Vertical	-51.67	-13.00	38.67	9
8	13891.50	-56.92	5.70	13.20	Vertical	-49.42	-13.00	36.42	48
9	15627.00	-63.87	6.10	16.80	Vertical	-53.17	-13.00	40.17	99
10	17364.38	-59.15	6.10	14.20	Vertical	-51.05	-13.00	38.05	2
Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE-M Band 85 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1396.00	-65.52	1.70	8.70	Vertical	-60.67	-13.00	47.67	2
3	2094.00	-63.65	2.10	11.10	Vertical	-56.80	-13.00	43.80	78
4	2792.00	-56.98	2.30	13.10	Vertical	-48.33	-13.00	35.33	125
5	3490.00	-67.69	2.60	12.70	Vertical	-59.74	-13.00	46.74	21
6	4188.00	-64.11	3.30	12.50	Vertical	-57.06	-13.00	44.06	175
7	4886.00	-63.19	3.40	12.50	Vertical	-56.24	-13.00	43.24	25
8	5584.00	-62.35	3.30	12.50	Vertical	-55.30	-13.00	42.30	175
9	6282.00	-58.37	3.80	11.50	Vertical	-52.82	-13.00	39.82	0
10	6980.00	-56.48	4.20	11.80	Vertical	-51.03	-13.00	38.03	12
Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

7 Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Spectrum Analyzer	R&S	FSV30	100815	2024-12-02	2025-12-01
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2023-04-16	2026-04-15
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	391	2022-09-29	2025-09-28
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	1439	2024-07-06	2027-07-05
Horn Antenna	SCHWARZBECK	BBHA 9120D	1594	2023-12-05	2026-12-04
Horn Antenna	ETS-Lindgren	3160-09	00102643	2024-9-24	2027-9-23
Software	R&S	EMC32	10.35.10	/	/

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.

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