RF TEST REPORT

Applicant	Montage Connect, Inc.
FCC ID	2BLQ4-MG14
Product	Montage Connect Gateway
Model	MG14
Report No.	R2410A1544-R1
Issue Date	February 7, 2025

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 (2024)/ FCC CFR 47 Part 22H (2024) / FCC CFR 47 Part 24E (2024) / FCC CFR47 Part 27C (2024)**. 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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Summary of Measurement Results

No.	Test Case	Clause in FCC rules	Verdict
1	RF Power Output and Effective Radiated Power	2.1046 22.913(a)(5) 24.232(c) 27.50(d)(4) 27.50(b)(10) 27.50(c)(10)	PASS (because of the change of antenna gain, ERP/EIRP need to be re-evaluated)
2	Radiated Spurious Emission	2.1053 22.917(a) 24.238(a) 27.53(h) 27.53(g) 27.53(f) /27.53(c)	PASS
3	Occupied Bandwidth	Refer to the Module report (Report No.: (NIE) 67117RRF.001; (NIE) 67117RRF.002; (NIE) 67117RRF.003, FCC ID: 2AAGMGM02SA, Grant date:04/16/2021)	
4	Band Edge Compliance		
5	Peak-to-Average Power Ratio		
6	Frequency Stability		
7	Spurious Emissions at Antenna Terminals		
Date of Testing: November 10, 2024 ~ November 25, 2024 Date of Sample Received: October 28, 2024			
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.			

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	Montage Connect, Inc.
Applicant address	300 Lenora Steet #848, Seattle, Washington, USA
Manufacturer	Montage Connect, Inc.
Manufacturer address	300 Lenora Steet #848, Seattle, Washington, USA

2.2. General Information

EUT Description			
Model	MG14		
Lab internal SN	R2410A1544/S01		
HW Version	P1		
SW Version	1.0.1		
Power Supply	External power supply		
Antenna Type	Internal Antenna		
Antenna Gain	LTE-M Band 2	2.4dBi	
	LTE-M Band 4	2.6dBi	
	LTE-M Band 5	0.2dBi	
	LTE-M Band 12	0.2dBi	
	LTE-M Band 13	0.1dBi	
	LTE-M Band 17	0.2dBi	
	LTE-M Band 25	2.4dBi	
	LTE-M Band 66	2.6dBi	
Test Mode(s)	LTE-M Band 2/4/5/12/13/17/25/66;		
Test Modulation	(LTE-M) QPSK, 16QAM		
LTE-M Category	M1		
Maximum E.R.P.	LTE-M Band 2/25	25.39dBm	
	LTE-M Band 4/66	25.65dBm	
	LTE-M Band 5	19.02dBm	
	LTE-M Band 12/17	18.96dBm	
	LTE-M Band 13	18.88dBm	
Rated Power Supply Voltage	12VDC		
Operating Voltage	Minimum: 5VDC Maximum: 30VDC		
Operating Temperature	Lowest: -30°C Highest: +70°C		
Operating Frequency Range(s)	Band	Tx (MHz)	Rx (MHz)
	LTE-M Band 2	1850 ~ 1910	1930 ~ 1990
	LTE-M Band 4	1710 ~ 1755	2110 ~ 2155

	LTE-M Band 5	824 ~ 849	869 ~ 894
	LTE-M Band 12	699 ~ 716	729 ~ 746
	LTE-M Band 13	777 ~ 787	746 ~ 756
	LTE-M Band 17	704 ~ 716	734 ~ 746
	LTE-M Band 25	1850 ~ 1915	1930 ~ 1995
	LTE-M Band 66	1710 ~ 1780	2110 ~ 2180
Note: 1. 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 22H (2024)

FCC CFR 47 Part 24E (2024)

FCC CFR47 Part 27C (2024)

FCC CFR47 Part 2 (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, horizontal 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 WCDMA/LTE-M is set based on the maximum RF Output Power.
Test modes are chosen to be reported as the worst case configuration below:

Test modes are chosen 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 2	-	-	O	-	-	O	O	-	O	-	-	-	O	-
	LTE-M 4	-	-	O	-	-	O	O	-	O	-	-	-	O	-
	LTE-M 5	-	-	O	O	-	-	O	-	O	-	-	-	O	-
	LTE-M 12	-	-	O	O	-	-	O	-	O	-	-	-	O	-
	LTE-M 13	-	-	O	O	-	-	O	-	O	-	-	-	O	-
	LTE-M 17	-	-	O	O	-	-	O	-	O	-	-	-	O	-
	LTE-M 25	-	-	O	-	-	O	O	-	O	-	-	-	O	-
	LTE-M 66	-	-	O	-	-	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 Radiated Power

Ambient Condition

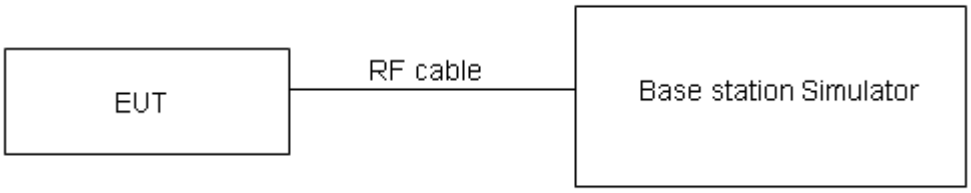
Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

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 (dBm) = Output Power (dBm) + Antenna Gain (dBi)
EIRP (dBm) = ERP (dBm) + 2.15 (dB).

Test Setup



Limits

No specific RF power output requirements in part 2.1046.

Rule Part 22.913(a)(5) specifies that "Mobile/portable stations are limited to 7 watts ERP".
Rule Part 24.232(c) Mobile and portable stations are limited to 2 watts EIRP.
Rule Part 24.232(e) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.
Rule Part 27.50(b) (10) specifies that “Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP”
Rule Part 27.50(c) (10) specifies that “Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP”
Rule Part 27.50(d) (4) specifies that “Fixed, mobile and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP”

Part 22.913(a)(5) Limit	≤ 7 W (38.45 dBm)
Part 24.232(c)(e) Limit	≤ 2 W (33 dBm)
Part 27.50(a)(3) Limit	≤ 250 mW (24 dBm)
Part 27.50(b)(10) Limit	≤ 3 W (34.77 dBm)
Part 27.50(c)(10) Limit	≤ 3 W (34.77 dBm)
Part 27.50(d)(4) Limit	≤ 1 W (30 dBm)

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 dB for RF power output, *k* = 2, *U*= 1.19 dB for ERP.

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

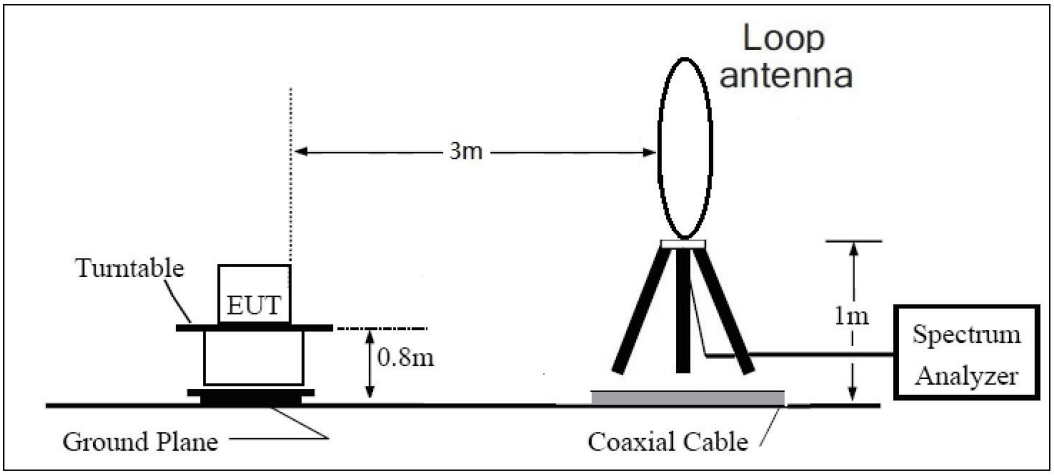
Method of Measurement

1. The testing follows FCC KDB 971168 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, 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:
Power (EIRP) = PMea - PAg - Pcl + Ga
The measurement results are amend as described below:
Power (EIRP) = PMea - Pcl + 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, ERP = EIRP-2.15dB.

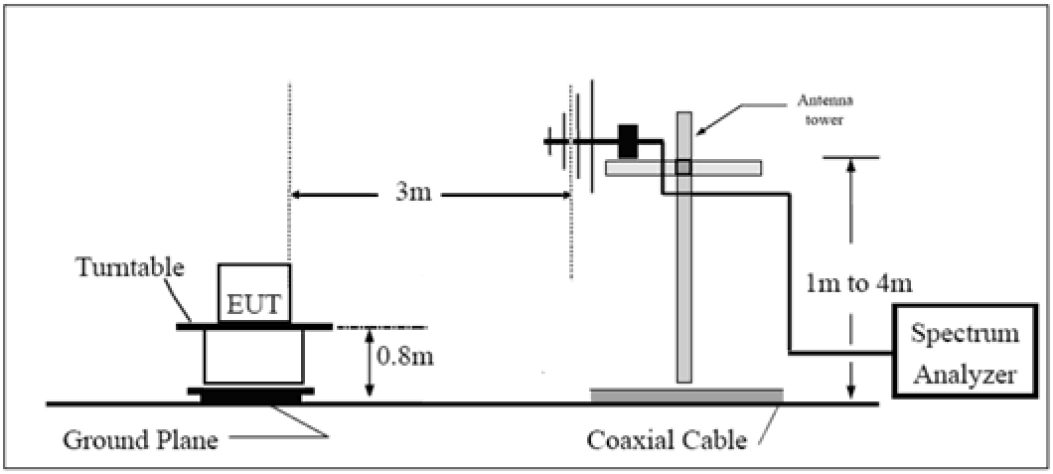
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test Setup

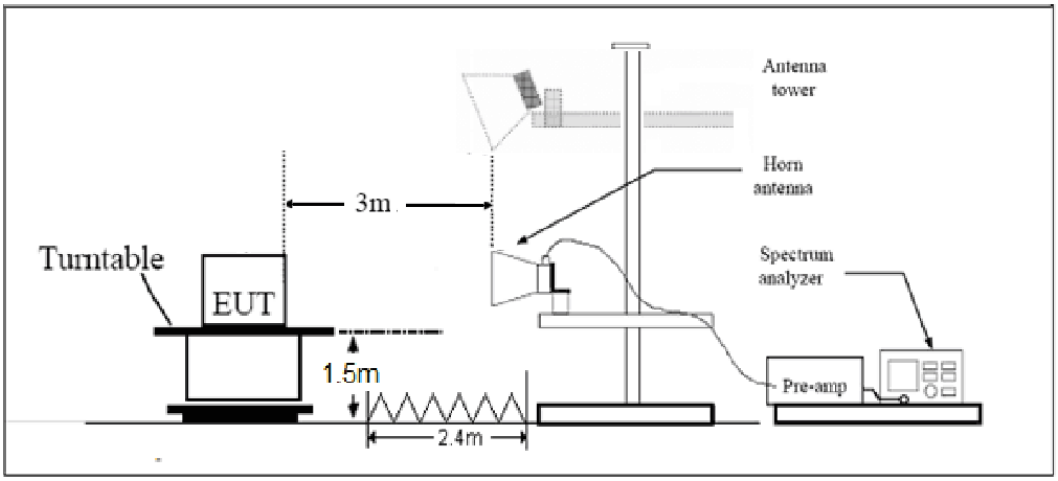
9KHz~ 30MHz



30MHz~ 1GHz



Above 1GHz



Note: Area side: 2.4mX3.6m

Limits

Rule Part 22.917(a) specifies that “The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) Db.”
Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log10 (P) dB.”
Rule Part 27.53(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.”
Rule Part 27.53 (g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.
Rule Part 27.53(f)For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.
Rule Part 27.53 (c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:
(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;
(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;
(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

Part 22.917(a) Limit		-13 dBm
Part 24.238(a) Limit		-13 dBm
Part 27.53 (h)/(g) Limit		-13 dBm
Part 27.53(f) Limit	Limit out of the band 1559-1610 MHz	-13 dBm
	Limit in the band 1559-1610 MHz	-40 dBm

Measurement Uncertainty

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

Test Results

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

6. Test Result

6.1. RF Power Output and Effective Radiated Power

LTE-M Band 2/25							
Bandwidth (MHz)	Channel	Frequency (MHz) (dBi)	Modulation	RB SIZE	RB OFFSET	Average Power (dBm)	EIRP (dBm)
20	26140	1860	QPSK	1	0	22.96	25.36
			QPSK	6	0	22.99	25.39
			16QAM	1	0	22.82	25.22
			16QAM	5	0	22.81	25.21
	26365	1882.5	QPSK	1	0	22.63	25.03
			16QAM	6	0	22.69	25.09
			QPSK	1	0	22.4	24.80
			16QAM	5	0	22.42	24.82
	26590	1905	QPSK	1	0	22.75	25.15
			16QAM	6	0	22.77	25.17
			QPSK	1	0	22.62	25.02
			16QAM	5	0	22.53	24.93

LTE-M Band 5							
Bandwidth (MHz)	Channel	Frequency (MHz) (dBi)	Modulation	RB SIZE	RB OFFSET	Average Power (dBm)	ERP (dBm)
5	20425	826.5	QPSK	1	0	23.12	19.02
			QPSK	6	0	22.26	18.16
			16QAM	1	0	23.01	18.91
			16QAM	5	0	21.28	17.18
	20525	836.5	QPSK	1	0	22.92	18.82
			16QAM	6	0	22.07	17.97
			QPSK	1	0	22.07	17.97
			16QAM	5	0	21.1	17.00
	20625	846.5	QPSK	1	0	23.1	19.00
			16QAM	6	0	22.23	18.13
			QPSK	1	0	22.85	18.75
			16QAM	5	0	21.18	17.08

LTE-M Band 12/17							
Bandwidth (MHz)	Channel	Frequency (MHz) (dBi)	Modulation	RB SIZE	RB OFFSET	Average Power (dBm)	ERP (dBm)
5	23035	701.5	QPSK	1	0	22.99	18.89
			QPSK	6	0	22.14	18.04
			16QAM	1	0	22.8	18.70
			16QAM	5	0	21.19	17.09
	23095	707.5	QPSK	1	0	22.92	18.82
			16QAM	6	0	22.06	17.96
			QPSK	1	0	22.83	18.73
			16QAM	5	0	21.1	17.00
	23155	713.5	QPSK	1	0	23.06	18.96
			16QAM	6	0	22.28	18.18
			QPSK	1	0	22.99	18.89
			16QAM	5	0	21.32	17.22

LTE-M Band 13							
Bandwidth (MHz)	Channel	Frequency (MHz) (dBi)	Modulation	RB SIZE	RB OFFSET	Average Power (dBm)	ERP (dBm)
5	23205	779.5	QPSK	1	0	23.08	18.88
			QPSK	6	0	22.16	17.96
			16QAM	1	0	22.88	18.68
			16QAM	5	0	21.17	16.97
	23230	782	QPSK	1	0	22.93	18.73
			16QAM	6	0	22.09	17.89
			QPSK	1	0	22.8	18.60
			16QAM	5	0	21.1	16.90
	23255	784.5	QPSK	1	0	23.06	18.86
			16QAM	6	0	22.23	18.03
			QPSK	1	0	23.01	18.81
			16QAM	5	0	21.23	17.03

LTE-M Band 4/66							
Bandwidth (MHz)	Channel	Frequency (MHz) (dBi)	Modulation	RB SIZE	RB OFFSET	Average Power (dBm)	EIRP (dBm)
20	132072	1720	QPSK	1	0	23.05	25.65
			QPSK	6	0	23.04	25.64
			16QAM	1	0	22.93	25.53
			16QAM	5	0	22.91	25.51
	132322	1745	QPSK	1	0	23.04	25.64
			16QAM	6	0	23.03	25.63
			QPSK	1	0	22.89	25.49
			16QAM	5	0	22.87	25.47
	132572	1770	QPSK	1	0	22.99	25.59
			16QAM	6	0	22.97	25.57
			QPSK	1	0	22.93	25.53
			16QAM	5	0	22.79	25.39

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 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	3755.40	-65.91	2.60	12.50	Horizontal	-56.01	-13.00	43.01	21
3	5632.10	-57.87	3.30	12.50	Horizontal	-48.67	-13.00	35.67	135
4	7509.20	-56.33	4.20	12.20	Horizontal	-48.33	-13.00	35.33	251
5	9388.20	-42.39	4.30	11.10	Horizontal	-35.59	-13.00	22.59	46
6	11265.00	-50.51	5.90	11.90	Horizontal	-44.51	-13.00	31.51	87
7	13152.60	-51.27	5.70	14.00	Horizontal	-42.97	-13.00	29.97	12
8	15040.20	-50.21	5.80	13.10	Horizontal	-42.91	-13.00	29.91	254
9	16926.20	-49.64	6.10	14.60	Horizontal	-41.14	-13.00	28.14	13
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	3742.30	-66.57	2.60	12.50	Horizontal	-56.67	-13.00	43.67	26
3	5609.90	-54.31	3.30	12.50	Horizontal	-45.11	-13.00	32.11	185
4	7480.80	-55.03	4.20	12.20	Horizontal	-47.03	-13.00	34.03	3
5	9351.40	-51.58	4.30	11.10	Horizontal	-44.78	-13.00	31.78	78
6	11220.60	-50.14	5.90	11.90	Horizontal	-44.14	-13.00	31.14	90
7	13090.80	-51.43	5.70	14.00	Horizontal	-43.13	-13.00	30.13	45
8	14959.20	-49.42	5.80	13.10	Horizontal	-42.12	-13.00	29.12	135
9	16831.00	-51.00	6.10	14.60	Horizontal	-42.50	-13.00	29.50	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 Horizontal 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	-75.03	2.70	12.70	Horizontal	-65.03	-13.00	52.03	142
3	5191.50	-71.87	3.20	12.50	Horizontal	-62.57	-13.00	49.57	78
4	6930.00	-69.22	4.20	11.80	Horizontal	-61.62	-13.00	48.62	0
5	8662.50	-64.45	4.40	12.50	Horizontal	-56.35	-13.00	43.35	23
6	10380.00	-60.21	4.70	11.30	Horizontal	-53.61	-13.00	40.61	1
7	12110.00	-63.26	5.20	13.80	Horizontal	-54.66	-13.00	41.66	214
8	13840.00	-56.36	5.70	11.30	Horizontal	-50.76	-13.00	37.76	14
9	15570.00	-66.03	6.10	16.80	Horizontal	-55.33	-13.00	42.33	90
10	17300.00	-60.92	6.10	14.20	Horizontal	-52.82	-13.00	39.82	158

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 Horizontal 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	-74.94	2.70	12.70	Horizontal	-64.94	-13.00	51.94	142
3	5170.88	-71.28	3.20	12.50	Horizontal	-61.98	-13.00	48.98	23
4	6930.00	-69.25	4.20	11.80	Horizontal	-61.65	-13.00	48.65	3
5	8662.50	-66.16	4.40	12.50	Horizontal	-58.06	-13.00	45.06	76
6	10395.00	-60.12	4.70	11.30	Horizontal	-53.52	-13.00	40.52	17
7	12127.50	-62.95	5.20	13.80	Horizontal	-54.35	-13.00	41.35	176
8	13860.00	-56.45	5.70	11.30	Horizontal	-50.85	-13.00	37.85	1
9	15592.50	-66.25	6.10	16.80	Horizontal	-55.55	-13.00	42.55	23
10	17325.00	-60.64	6.10	14.20	Horizontal	-52.54	-13.00	39.54	86

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 Horizontal 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	-56.86	1.70	8.70	Horizontal	-52.01	-13.00	39.01	289
3	2503.30	-51.09	2.30	12.00	Horizontal	-43.54	-13.00	30.54	14
4	3337.50	-62.63	2.70	12.70	Horizontal	-54.78	-13.00	41.78	1
5	4171.88	-63.52	3.00	12.50	Horizontal	-56.17	-13.00	43.17	23
6	5006.25	-60.74	3.40	12.50	Horizontal	-53.79	-13.00	40.79	185
7	5840.63	-57.26	3.40	12.80	Horizontal	-50.01	-13.00	37.01	41
8	6675.00	-49.86	4.10	11.50	Horizontal	-44.61	-13.00	31.61	59
9	7509.38	-52.76	4.20	12.20	Horizontal	-46.91	-13.00	33.91	26
10	8343.75	-53.33	4.30	12.50	Horizontal	-47.28	-13.00	34.28	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 Horizontal 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	-57.69	1.70	8.70	Horizontal	-52.84	-13.00	39.84	236
3	2493.50	-59.94	2.30	12.00	Horizontal	-52.39	-13.00	39.39	14
4	3326.00	-63.35	2.70	12.70	Horizontal	-55.50	-13.00	42.50	14
5	4157.50	-63.42	3.00	12.50	Horizontal	-56.07	-13.00	43.07	278
6	4989.00	-61.64	3.40	12.50	Horizontal	-54.69	-13.00	41.69	12
7	5820.50	-57.20	3.40	12.80	Horizontal	-49.95	-13.00	36.95	38
8	6652.00	-50.81	4.10	11.50	Horizontal	-45.56	-13.00	32.56	26
9	7483.50	-52.19	4.20	12.20	Horizontal	-46.34	-13.00	33.34	12
10	8315.00	-53.78	4.30	12.50	Horizontal	-47.73	-13.00	34.73	145

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 Horizontal 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	-63.95	1.70	8.70	Horizontal	-59.10	-13.00	46.10	2
3	2115.90	-48.01	2.10	11.10	Horizontal	-41.16	-13.00	28.16	78
4	2820.00	-56.22	2.30	13.10	Horizontal	-47.57	-13.00	34.57	125
5	3525.00	-57.69	2.60	12.70	Horizontal	-49.74	-13.00	36.74	28
6	4230.00	-62.60	3.30	12.50	Horizontal	-55.55	-13.00	42.55	69
7	4935.00	-62.69	3.40	12.50	Horizontal	-55.74	-13.00	42.74	14
8	5640.00	-59.10	3.30	12.50	Horizontal	-52.05	-13.00	39.05	135
9	6345.00	-55.11	3.80	11.50	Horizontal	-49.56	-13.00	36.56	2
10	7050.00	-53.18	4.20	11.80	Horizontal	-47.73	-13.00	34.73	76
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 Horizontal 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	-61.22	1.70	8.70	Horizontal	-56.37	-13.00	43.37	12
3	2107.50	-47.02	2.10	11.10	Horizontal	-40.17	-13.00	27.17	23
4	2810.00	-57.44	2.30	13.10	Horizontal	-48.79	-13.00	35.79	75
5	3512.50	-54.10	2.60	12.70	Horizontal	-46.15	-13.00	33.15	41
6	4215.00	-61.93	3.30	12.50	Horizontal	-54.88	-13.00	41.88	135
7	4917.50	-61.65	3.40	12.50	Horizontal	-54.70	-13.00	41.70	25
8	5620.00	-62.25	3.30	12.50	Horizontal	-55.20	-13.00	42.20	38
9	6322.50	-54.42	3.80	11.50	Horizontal	-48.87	-13.00	35.87	175
10	7025.00	-53.61	4.20	11.80	Horizontal	-48.16	-13.00	35.16	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 Horizontal 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	-64.78	1.70	8.70	Horizontal	-57.78	-40.00	17.78	22
3	2340.10	-40.74	2.10	12.00	Horizontal	-32.99	-13.00	19.99	17
4	3118.00	-60.01	2.30	13.10	Horizontal	-51.36	-13.00	38.36	56
5	3897.50	-62.55	2.90	12.50	Horizontal	-55.10	-13.00	42.10	178
6	4677.00	-62.25	3.10	12.50	Horizontal	-55.00	-13.00	42.00	12
7	5456.50	-60.44	3.30	12.50	Horizontal	-53.39	-13.00	40.39	26
8	6236.00	-46.71	3.50	12.80	Horizontal	-39.56	-13.00	26.56	76
9	7015.50	-53.80	4.20	11.80	Horizontal	-48.35	-13.00	35.35	123
10	7795.00	-50.95	4.40	12.30	Horizontal	-45.20	-13.00	32.20	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 Horizontal 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	1561.72	-69.58	1.70	8.70	Horizontal	-62.58	-40.00	22.58	156
3	2334.70	-67.43	2.10	12.00	Horizontal	-32.50	-13.00	19.50	78
4	3108.00	-40.25	2.30	13.10	Horizontal	-51.23	-13.00	38.23	186
5	3885.00	-59.88	2.90	12.50	Horizontal	-54.92	-13.00	41.92	17
6	4662.00	-62.37	3.10	12.50	Horizontal	-55.15	-13.00	42.15	46
7	5439.00	-62.40	3.30	12.50	Horizontal	-52.27	-13.00	39.27	38
8	6216.00	-59.32	3.50	12.80	Horizontal	-40.76	-13.00	27.76	37
9	6993.00	-47.91	4.20	11.80	Horizontal	-48.60	-13.00	35.60	175
10	7770.00	-54.05	4.40	12.30	Horizontal	-49.24	-13.00	36.24	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 Horizontal position.

LTE-M Band 17 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	1415.00	-61.89	1.70	8.70	Horizontal	-57.04	-13.00	44.04	36
3	2122.50	-44.13	2.10	11.10	Horizontal	-37.28	-13.00	24.28	58
4	2830.00	-56.84	2.30	13.10	Horizontal	-48.19	-13.00	35.19	39
5	3537.50	-60.13	2.60	12.70	Horizontal	-52.18	-13.00	39.18	47
6	4245.00	-63.00	3.30	12.50	Horizontal	-55.95	-13.00	42.95	63
7	4952.50	-62.09	3.40	12.50	Horizontal	-55.14	-13.00	42.14	55
8	5660.00	-58.21	3.30	12.50	Horizontal	-51.16	-13.00	38.16	36
9	6367.50	-52.82	3.80	11.50	Horizontal	-47.27	-13.00	34.27	95
10	7075.00	-53.26	4.20	11.80	Horizontal	-47.81	-13.00	34.81	154
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 Horizontal position.									

LTE-M Band 17 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	1410.00	-63.16	1.70	8.70	Horizontal	-58.31	-13.00	45.31	167
3	2115.00	-44.77	2.10	11.10	Horizontal	-37.92	-13.00	24.92	28
4	2820.00	-56.22	2.30	13.10	Horizontal	-47.57	-13.00	34.57	267
5	3525.00	-64.95	2.60	12.70	Horizontal	-57.00	-13.00	44.00	36
6	4230.00	-62.09	3.30	12.50	Horizontal	-55.04	-13.00	42.04	58
7	4935.00	-59.65	3.40	12.50	Horizontal	-52.70	-13.00	39.70	145
8	5640.00	-54.40	3.30	12.50	Horizontal	-47.35	-13.00	34.35	69
9	6345.00	-52.85	3.80	11.50	Horizontal	-47.30	-13.00	34.30	77
10	7050.00	-54.41	4.20	11.80	Horizontal	-48.96	-13.00	35.96	254
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 Horizontal 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	-66.16	2.60	12.50	Horizontal	-56.26	-13.00	43.26	31
3	5641.30	-53.61	3.30	12.50	Horizontal	-44.41	-13.00	31.41	64
4	7530.00	-55.94	4.20	12.20	Horizontal	-47.94	-13.00	34.94	215
5	9412.50	-52.33	4.30	11.10	Horizontal	-45.53	-13.00	32.53	255
6	11295.00	-49.88	5.90	11.90	Horizontal	-43.88	-13.00	30.88	312
7	13177.50	-50.41	5.70	14.00	Horizontal	-42.11	-13.00	29.11	182
8	15060.00	-50.76	5.80	13.10	Horizontal	-43.46	-13.00	30.46	3
9	16942.50	-50.49	6.10	14.60	Horizontal	-41.99	-13.00	28.99	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 Horizontal position.									

LTE-M Band 25 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	3747.30	-64.83	2.60	12.50	Horizontal	-54.93	-13.00	41.93	245
3	5620.70	-53.60	3.30	12.50	Horizontal	-44.40	-13.00	31.40	220
4	7496.00	-55.34	4.20	12.20	Horizontal	-47.34	-13.00	34.34	84
5	9370.00	-51.65	4.30	11.10	Horizontal	-44.85	-13.00	31.85	295
6	11244.00	-50.63	5.90	11.90	Horizontal	-44.63	-13.00	31.63	0
7	13118.00	-51.24	5.70	14.00	Horizontal	-42.94	-13.00	29.94	309
8	14992.00	-49.06	5.80	13.10	Horizontal	-41.76	-13.00	28.76	295
9	16866.00	-50.70	6.10	14.60	Horizontal	-42.20	-13.00	29.20	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 Horizontal 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	-77.16	2.70	12.70	Horizontal	-67.16	-13.00	54.16	2
3	5229.00	-70.42	3.20	12.50	Horizontal	-61.12	-13.00	48.12	24
4	6972.00	-69.12	4.20	11.80	Horizontal	-61.52	-13.00	48.52	246
5	8715.00	-59.37	4.40	12.50	Horizontal	-51.27	-13.00	38.27	142
6	10458.00	-59.55	4.70	11.30	Horizontal	-52.95	-13.00	39.95	26
7	12201.00	-59.28	5.20	13.80	Horizontal	-50.68	-13.00	37.68	3
8	13944.00	-56.69	5.70	11.30	Horizontal	-51.09	-13.00	38.09	76
9	15687.00	-65.59	6.10	16.80	Horizontal	-54.89	-13.00	41.89	143
10	17430.00	-61.29	6.10	14.20	Horizontal	-53.19	-13.00	40.19	25

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 Horizontal 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	-75.48	2.70	12.70	Horizontal	-65.48	-13.00	52.48	12
3	5209.00	-69.57	3.20	12.50	Horizontal	-60.27	-13.00	47.27	135
4	6945.75	-68.96	4.20	11.80	Horizontal	-61.36	-13.00	48.36	2
5	8682.00	-64.63	4.40	12.50	Horizontal	-56.53	-13.00	43.53	68
6	10418.63	-59.53	4.70	11.30	Horizontal	-52.93	-13.00	39.93	79
7	12455.00	-62.94	5.20	13.80	Horizontal	-54.34	-13.00	41.34	142
8	13891.50	-57.37	5.70	11.30	Horizontal	-51.77	-13.00	38.77	21
9	15627.00	-65.45	6.10	16.80	Horizontal	-54.75	-13.00	41.75	95
10	17364.38	-60.81	6.10	14.20	Horizontal	-52.71	-13.00	39.71	25

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 Horizontal 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
Horn Antenna	SCHWARZBECK	BBHA 9120D	1594	2023-12-05	2026-12-04
Horn Antenna	ETS-Lindgren	3160-09	00102643	2024-09-24	2027-09-23
Software	R&S	EMC32	10.35.10	/	/

ANNEX A: The EUT Appearance

The EUT Appearance is submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos is submitted separately.

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