

RF TEST REPORT

Applicant Samsung Electronics Co., Ltd.

FCC ID ZCASMA076M

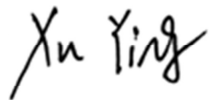
Product Multi-band GSM/WCDMA/LTE/5G NR
Mobile Phone with Bluetooth, WLAN

Model SM-A076M/DS; SM-A076M

Report No. EFTA25090192-IE-02-R2V2

Issue Date November 25, 2025

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR 47 Part 22H/ FCC CFR47 Part 27C**. 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.	November 17, 2025
Rev.1	Updated information.	November 25, 2025
Rev.2	Updated description.	November 25, 2025
Note: This revised report (Report No.: EFTA25090192-IE-02-R2V2) supersedes and replaces the previously issued report (Report No.: EFTA25090192-IE-02-R2V1). 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
NR Band n5			
RF Power Output and Effective Radiated Power	2.1046 22.913(a)(5)	$\leq 7 \text{ W (38.45 dBm)}$	PASS
Occupied Bandwidth	2.1049	No specific requirements	PASS
Band Edge Compliance	2.1051 22.917(a)	$\leq -13 \text{ dBm}$	PASS
Peak-to-Average Power Ratio	22.913(d) KDB 971168 D01(5.7)	$\leq 13 \text{ dB}$	PASS
Frequency Stability	2.1055 22.355(d)(1)	$\leq 2.5 \text{ ppm}$	PASS
Spurious Emissions at Antenna Terminals	2.1051 22.917(a)	$\leq -13 \text{ dBm}$	PASS
Radiated Spurious Emission	2.1053 22.917 (a)	$\leq -13 \text{ dBm}$	PASS
NR Band n66			
RF Power Output and Effective Isotropic Radiated Power	2.1046 27.50(d)(4)	$\leq 1 \text{ W (30 dBm)}$	PASS
Occupied Bandwidth	2.1049	No specific requirements	PASS
Band Edge Compliance	2.1051 27.53(h)	$\leq -13 \text{ dBm}$	PASS
Peak-to-Average Power Ratio	27.50(d)(5) KDB971168 D01(5.7)	$\leq 13 \text{ dB}$	PASS
Frequency Stability	2.1055 27.54	Shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.	PASS
Spurious Emissions at Antenna Terminals	2.1051 27.53(h)	$\leq -13 \text{ dBm}$	PASS
Radiated Spurious Emission	2.1053 27.53(h)	$\leq -13 \text{ dBm}$	PASS
NR Band n7/n41			
RF Power Output and Effective Isotropic Radiated Power	2.1046 27.50(h)(2)	$\leq 2 \text{ W (33 dBm)}$	PASS
Occupied Bandwidth	2.1049	No specific requirements	PASS
Band Edge Compliance	2.1051 27.53(m)(4)	The attenuation factor shall be not less than $40 + 10 \log (P) \text{ dB}$ on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P) \text{ dB}$ on all frequencies between 5	PASS

Test Case	Clause in FCC rules	Limits	Verdict
		megahertz and X megahertz from the channel edge, and $55 + 10 \log(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.	
Peak-to-Average Power Ratio	27.50(d)(5) KDB971168 D01(5.7)	≤ 13 dB	PASS
Frequency Stability	2.1055 27.54	Shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.	PASS
Spurious Emissions at Antenna Terminals	2.1051 27.53(m)	≤ -25 dBm	PASS
Radiated Spurious Emission	2.1053 27.53(m)	≤ -25 dBm	PASS
NR Band n78			
RF Power Output and Effective Isotropic Radiated Power	2.1046 27.50(k) (3) 27.50(j) (3)	≤ 1 W (30 dBm)	PASS
Occupied Bandwidth	2.1049	No specific requirements	PASS
Band Edge Compliance	2.1051 27.53(n) (2) 27.53(l) (2)	Part 27.53(n) (2) For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and	PASS

Test Case	Clause in FCC rules	Limits	Verdict
		adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. Part 27.53(l) (2) For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.	
Peak-to-Average Power Ratio	27.50(k) (4)	≤ 13 dB	PASS

Test Case	Clause in FCC rules	Limits	Verdict
	27.50(j)(4) KDB971168 D01(5.7)		
Frequency Stability	2.1055 / 27.54	Shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.	PASS
Spurious Emissions at Antenna Terminals	2.1051 27.53(n) (2) / 27.53(l) (2)	≤ -13 dBm	PASS
Radiated Spurious Emission	2.1053 27.53(n) (2) / 27.53(l) (2)	≤ -13 dBm	PASS
Date of Testing: September 17, 2025 ~ November 24, 2025 Date of Sample Received: September 16, 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.			

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	Samsung Electronics Co., Ltd.
Applicant address	19 Chapin Rd., Building D Pine Brook, NJ 07058
Manufacturer	Samsung Electronics Co., Ltd.
Manufacturer address	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea

2.2 General information

EUT Description							
Model	SM-A076M/DS; SM-A076M						
IMEI	Conducted	350252030016169					
SN	Radiated	R7AY80GQMV L					
Hardware Version	REV1.0						
Software Version	A076M.001						
Power Supply	Battery / AC adapter						
Antenna Type	Internal Antenna						
Rated Power Supply Voltage	3.6VDC						
Operating Voltage	Minimum: 3.88VDC Maximum: 4.50VDC						
Operating Temperature	Lowest: -5°C Highest: +60°C						
Testing Temperature	Lowest: -30°C Highest: +50°C						
Operating Frequency Range(s)	Mode	Tx (MHz)	Rx (MHz)	Gain (dBi)			
				Ant 1	Ant 2	Ant 4	Ant 7
	NR Band n5	824 ~ 849	869 ~ 894	-4.5	/	-5.7	/
	NR Band n7	2500 ~ 2570	2620 ~ 2690	-1.4	-3.9	-0.6	-5.7
	NR Band n41	2496 ~ 2690	2496 ~ 2690	-1.4	-3.8	-0.4	-5.6
	NR Band n66	1710 ~ 1780	2110 ~ 2180	-1.9	/	-1.6	/
EN-DC Band(s)	NR Band n78	3450 ~ 3550	3450 ~ 3550	-2.5	-2.6	-2.4	-3.8
	DC_2A-n5A; DC_7A-n5A; DC_66A-n5A						
	DC_2A-n7A; DC_4A-n7A; DC_5A-n7A; DC_66A-n7A						
	DC_4A-n41A; DC_12A-n41A; DC_26A-n41A; DC_66A-n41A						
	DC_2A-n66A; DC_5A-n66A; DC_7A-n66A; DC_12A-n66A ; DC_13A-n66A						
	DC_2A-n78(3450-3550)A; DC_4A-n78(3450-3550)A; DC_5A-n78(3450-3550)A; DC_7A-n78(3450-3550)A; DC_12A-n78(3450-3550)A; DC_26A-n78(3450-3550)A; DC_38A-n78(3450-3550)A; DC_41A-n78(3450-3550)A;						

RF Test Report		Report No.: EP-TA20000102-12-02-REV2	
	DC_66A-n78(3450-3550)A		
Test Modulation	(NR) CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM; DFT-s OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM		
NR Release	16		
Power Class	NR: 3		
Maximum E.I.R.P./ E.R.P.	NR Band n5	17.63 dBm	
	DC_2A-n5A	16.98 dBm	
	NR Band n7	22.95 dBm	
	DC_5A-n7A	21.96 dBm	
	NR Band n41	25.64 dBm	
	DC_66A-n41A	24.77 dBm	
	NR Band n66	24.74 dBm	
	DC_7A-n66A	24.85 dBm	
	NR Band n78	27.65 dBm	
	DC_4A-n78A	26.86 dBm	
EUT Accessory			
Adapter 1	Manufacturer: RFTECH THAI NGUYEN CO., LTD Model: EP-T2510EBE		
Adapter 2	Manufacturer: RFTECH THAI NGUYEN CO., LTD Model: EP-TA200(EWE)		
Adapter 3	Manufacturer: Salcomp Industrial Eletrônica da Amazônia LTDA Model: EP-TA200B		
Adapter 4	Manufacturer: Haem vina Co., Ltd Model: EP-T1510		
Battery 1	Manufacturer: Ningde Amperex Technology Limited Model: LC-196		
Battery 2	Manufacturer: Sunwoda Electronic CO.,LTD. Model: LC-196		
USB Cable 1	Manufacturer: VietNam Broad Telecommunication Co., Ltd. Model: EP-DR140AWE		
USB Cable 2	Manufacturer: CRESYN ELLECTRONICS(DONGGUAN)CO;LTD. Model: EP-DR140AWE		
USB Cable 3	Manufacturer: VietNam Broad Telecommunication Co., Ltd. Model: EP-DN980BWE		
USB Cable 4	Manufacturer: CRESYN ELLECTRONICS(DONGGUAN)CO;LTD. Model: EP-DN980BWE		
Note:			
1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant.			
2. Radio equipment in band n78 is only allowed to operate from 3450 MHz to 3550 MHz for Subset 1; 3700 MHz to 3800 MHz for Subset 2 for the transmitter and receiver.			
3. The customer declares that SM-A076M/DS and SM-A076M are the same except for different model			

names and SM-A076M/DS is dual-card and SM-A076M is single-card, This report only tests SM-A076M/DS.

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 27C (2024)

Reference standard:

FCC CFR 47 Part 2 (2024)

ANSI C63.26-2015

KDB 971168 D01 Power Meas License Digital Systems v03r01

4 Test Configuration

There is more than one SIM card slot, each one should be applied throughout the compliance test respectively, and however, only the worst case (SIM 1) will be recorded in this report

II 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 NR is set based on the maximum RF Output Power.

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

ENDC test Effective Isotropic Radiated Power and RSE, report only show worst mode.

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

Test items	Mode	Bandwidth (MHz)													Modulation			RB			Test Channel		
		5	10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16QAM/ 64QAM/ 256QAM	1	50%	100%	L	M	H
RF Power Output	NR n5	O	O	O	O	-	-	-	-	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	DC_2A-n5A	O	O	O	O	-	-	-	-	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	DC_7A-n5A	O	O	O	O	-	-	-	-	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	DC_66A-n5A	O	O	O	O	-	-	-	-	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	NR n7	O	O	O	O	O	O	O	O	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	DC_2A-n7A	O	O	O	O	O	O	O	O	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	DC_4A-n7A	O	O	O	O	O	O	O	O	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	DC_5A-n7A	O	O	O	O	O	O	O	O	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	DC_66A-n7A	O	O	O	O	O	O	O	O	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	NR n41	-	O	O	O	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	DC_4A-n41A	-	O	O	O	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	DC_12A-n41A	-	O	O	O	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	DC_26A-n41A	-	O	O	O	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	DC_66A-n41A	-	O	O	O	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	NR n66	O	O	O	O	O	O	O	-	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	DC_2A-n66A	O	O	O	O	O	O	O	-	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	DC_5A-n66A	O	O	O	O	O	O	O	-	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	DC_7A-n66A	O	O	O	O	O	O	O	-	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	DC_12A-n66A	O	O	O	O	O	O	O	-	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	DC_13A-n66A	O	O	O	O	O	O	O	-	-	-	-	-	-	O	O	O	O	O	O	O	O	O
	NR n78	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	DC_2A-n78A	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	DC_4A-n78A	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	DC_5A-n78A	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	DC_7A-n78A	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	DC_12A-n78A	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	DC_26A-n78A	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	DC_38A-n78A	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	DC_41A-n78A	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	DC_66A-n78A	-	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Test items	Mode	Bandwidth (MHz)													Modulation			RB			Test Channel		

		5	10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16QAM/ 64QAM/ 256QAM	1	50%	100%	L	M	H
Effective Isotropic Radiated Power	NR n5	0	0	0	0	-	-	-	-	-	-	-	-	-	0	0	0	0	-	-	0	0	0
	DC_2A-n5A	0	0	0	0	-	-	-	-	-	-	-	-	-	0	0	0	0	-	-	0	0	0
	NR n7	0	0	0	0	0	0	0	0	-	-	-	-	-	0	0	0	0	-	-	0	0	0
	DC_5A-n7A	0	0	0	0	0	0	0	0	-	-	-	-	-	0	0	0	0	-	-	0	0	0
	NR n41	-	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
	DC_66A-n41A	-	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
	NR n66	0	0	0	0	0	0	0	-	-	-	-	-	-	0	0	0	0	-	-	0	0	0
	DC_7A-n66A	0	0	0	0	0	0	0	-	-	-	-	-	-	0	0	0	0	-	-	0	0	0
	NR n78	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
	DC_4A-n78A	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Test items	Mode	Bandwidth (MHz)													Modulation			RB			Test Channel		
		5	10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16QAM/ 64QAM/ 256QAM	1	50%	100%	L	M	H
Occupied Bandwidth	NR n5	0	0	0	0	-	-	-	-	-	-	-	-	-	0	0	0	-	-	0	0	0	0
	NR n7	0	0	0	0	0	0	0	0	-	-	-	-	-	0	0	0	-	-	0	0	0	0
	NR n41	-	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
	NR n66	0	0	0	0	0	0	0	-	-	-	-	-	-	0	0	0	-	-	0	0	0	0
	NR n78	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Band Edge Compliance	NR n5	0	0	0	0	-	-	-	-	-	-	-	-	-	-	0	-	0	-	0	0	-	0
	NR n7	0	0	0	0	0	0	0	0	-	-	-	-	-	-	0	-	0	-	0	0	-	0
	NR n41	-	0	0	0	-	0	0	0	0	0	0	0	0	-	0	-	0	-	0	0	-	0
	NR n66	0	0	0	0	0	0	0	-	-	-	-	-	-	-	0	-	0	-	0	0	-	0
	NR n78	-	0	0	0	0	0	0	0	0	0	0	0	0	-	0	-	0	-	0	0	-	0
Test items	Mode	Bandwidth (MHz)													Modulation			RB			Test Channel		
		5	10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16QAM/ 64QAM/ 256QAM	1	50%	100%	L	M	H
Peak-to- Average Power Ratio	NR n5	0	0	0	0	-	-	-	-	-	-	-	-	-	0	0	0	-	-	0	-	0	-
	NR n7	0	0	0	0	0	0	0	0	-	-	-	-	-	0	0	0	-	-	0	-	0	-
	NR n41	-	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	-	0	-
	NR n66	0	0	0	0	0	0	0	-	-	-	-	-	-	0	0	0	-	-	0	-	0	-
	NR n78	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	-	0	-
Test items	Mode	Bandwidth (MHz)													Modulation			RB			Test Channel		
		5	10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16QAM/ 64QAM/ 256QAM	1	50%	100%	L	M	H
Frequency Stability	NR n5	0	0	0	0	-	-	-	-	-	-	-	-	-	-	0	-	-	-	0	-	0	-
	NR n7	0	0	0	0	0	0	0	0	-	-	-	-	-	-	0	-	-	-	0	0	-	0
	NR n41	-	0	0	0	-	0	0	0	0	0	0	0	0	-	0	-	-	-	0	0	-	0
	NR n66	0	0	0	0	0	0	0	-	-	-	-	-	-	-	0	-	-	-	0	0	-	0
	NR n78	-	0	0	0	0	0	0	0	0	0	0	0	0	-	0	-	-	-	0	0	-	0
Test items	Mode	Bandwidth (MHz)													Modulation			RB			Test Channel		
		5	10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16QAM/ 64QAM/ 256QAM	1	50%	100%	L	M	H
Spurious	NR n5	0	0	0	0	-	-	-	-	-	-	-	-	-	-	0	-	0	-	0	-	0	-
	NR n7	0	0	0	0	0	0	0	0	-	-	-	-	-	-	0	-	0	-	0	-	0	-

Emissions	NR n41	-	O	O	O	-	O	O	O	O	O	O	O	O	-	O	-	O	-	O	-	O	-
at Antenna	NR n66	O	O	O	O	O	O	O	-	-	-	-	-	-	-	O	-	O	-	O	-	O	-
Terminals	NR n78	-	O	O	O	O	O	O	O	O	O	O	O	O	-	O	-	O	-	O	-	O	-
Test items	Mode	Bandwidth (MHz)													Modulation			RB			Test Channel		
		5	10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16QAM/64QAM/256QAM	1	50%	100%	L	M	H
Radiates Spurious Emission	NR n5	-	O	-	-	-	-	-	-	-	-	-	-	-	-	O	-	O	-	-	-	O	-
	NR n7	-	-	-	O	-	-	-	-	-	-	-	-	-	-	O	-	O	-	-	-	O	-
	NR n41	-	-	-	-	-	-	O	-	-	-	-	-	-	-	O	-	O	-	-	-	O	-
	NR n66	O	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	O	-	-	-	O	-
	NR n78	-	-	-	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.

3. Sub 6GHz operates using 15kHz Subcarrier Spacing with both CP-OFDM and DFT-s OFDM waveforms. The band supports PI/2 BPSK ,QPSK, 16QAM, 64QAM, and 256QAM modulation. The test data provided in this report represents the worst case configurations.

5 Test Case

5.1 RF Power Output and Effective Isotropic Radiated Power

Ambient condition

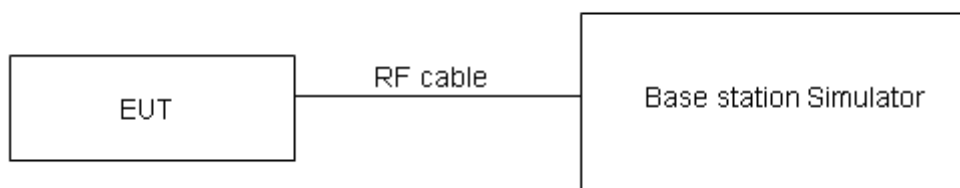
Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Methods of Measurement

For Conducted

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.

Test Setup



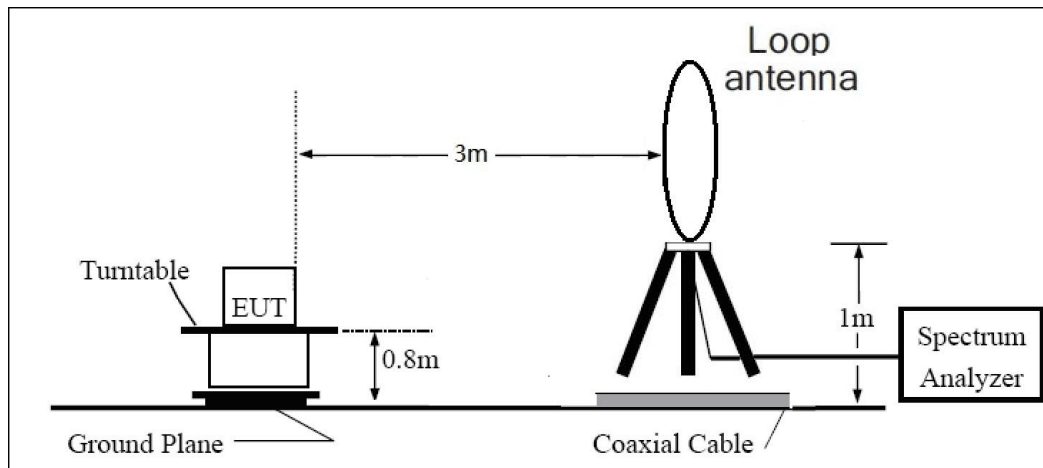
For Radiated

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:
$$\text{Power(EIRP)} = \text{PMea} - \text{PAG} - \text{Pcl} + \text{Ga}$$

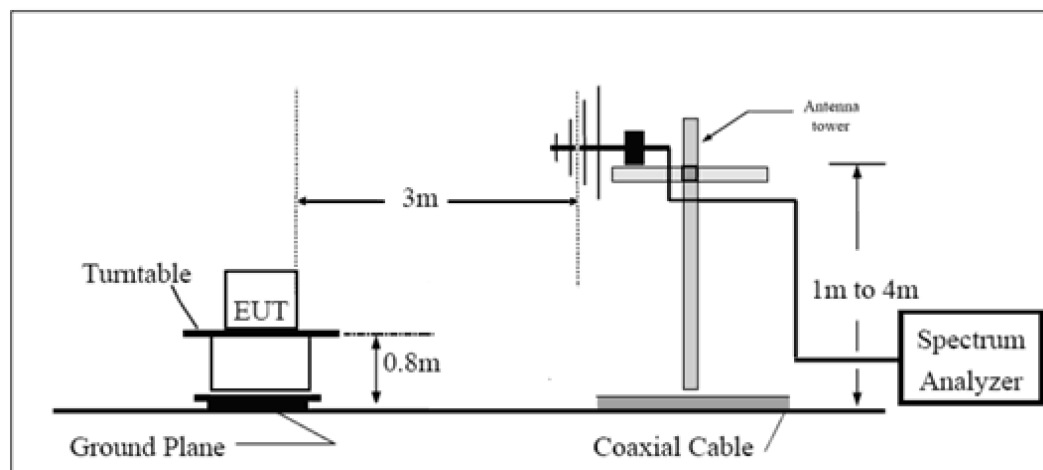
The measurement results are amend as described below:
$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the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

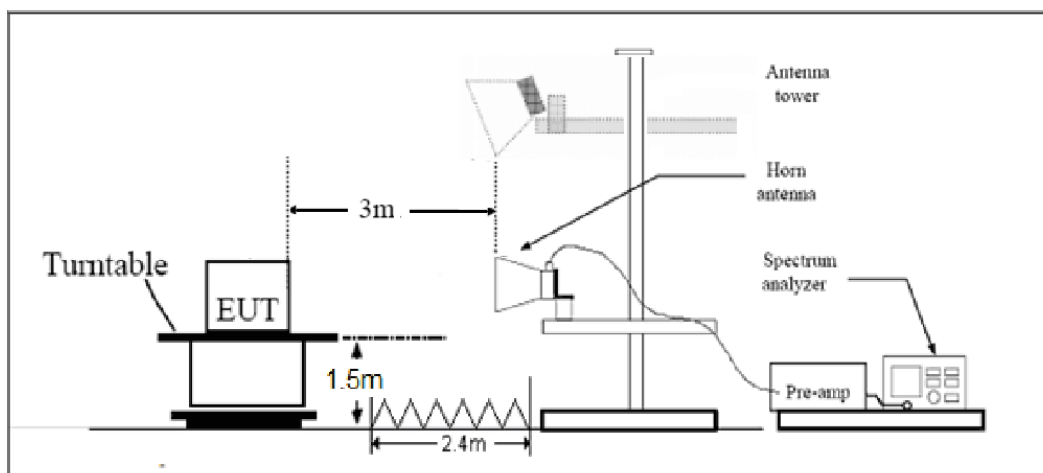
9KHz~ 30MHz



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 $k = 2$, $U=0.4$ dB for RF power output, $k = 2$, $U= 1.19$ dB for ERP/EIRP.

Test Results

The detailed test data see EFTA25090192-IE-02-R2-ANNEX AV1 Test Result.

5.2 Occupied Bandwidth

Ambient condition

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

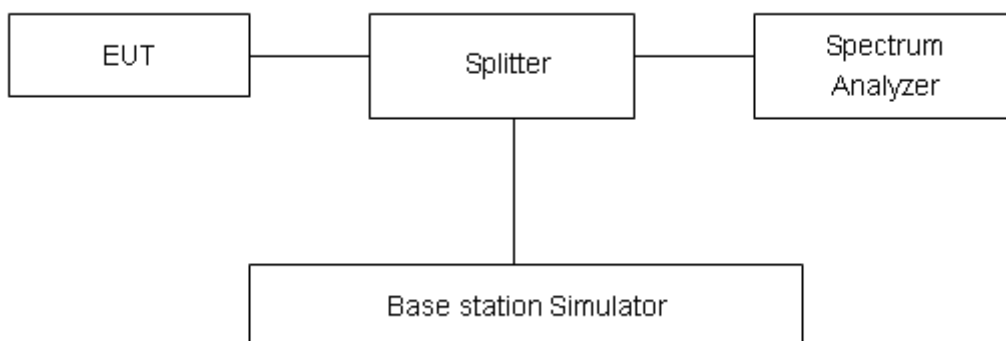
Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The occupied bandwidth is measured using spectrum analyzer.

RBW is set to $\geq 1\%$ EBW, VBW is set to 3x RBW.

99% power and -26dBc occupied bandwidths are recorded. Spectrum analyzer plots are included on the following pages.

Test Setup



Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U=624\text{Hz}$.

Test Results

The detailed test data see EFTA25090192-IE-02-R2-ANNEX BV1 Test Result.

5.3 Band Edge Compliance

Ambient condition

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

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The band edge of the lowest and highest channels were measured.

The testing follows KDB 971168 D01 v03r01 Section 6.0

The EUT was connected to spectrum analyzer and system simulator via a power divider.

The band edges of low and high channels for the highest RF powers were measured.

For LTE Band 7 set RBW $\geq$ 1% EBW in the 1MHz band immediately outside and adjacent to the band edge. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.

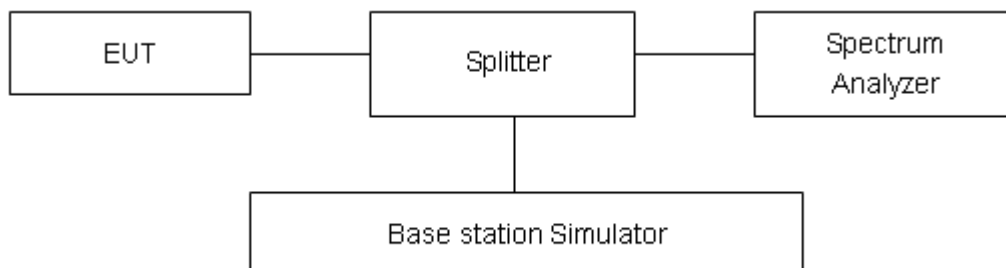
For LTE Band 41 the middle channel, high channel set RBW $\geq$ 1% EBW in the 1MHz band immediately outside and adjacent to the band edge. Beyond the 1 MHz band from the band edge, RBW=1MHz was used; Low channel set RBW $\geq$ 2% EBW in the 1MHz band immediately outside and adjacent to the band edge. Beyond the 1 MHz band from the band edge, RBW=1MHz was used. RBW is set to $\geq$ 1%EBW, VBW is set to 3x RBW on spectrum analyzer.

Set spectrum analyzer with RMS detector.

The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

Checked that all the results comply with the emission limit line.

Test Setup



Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U=0.684\text{dB}$.

Test Results

The detailed test data see EFTA25090192-IE-02-R2-ANNEX C Test Result.

5.4 Peak-to-Average Power Ratio (PAPR)

Ambient condition

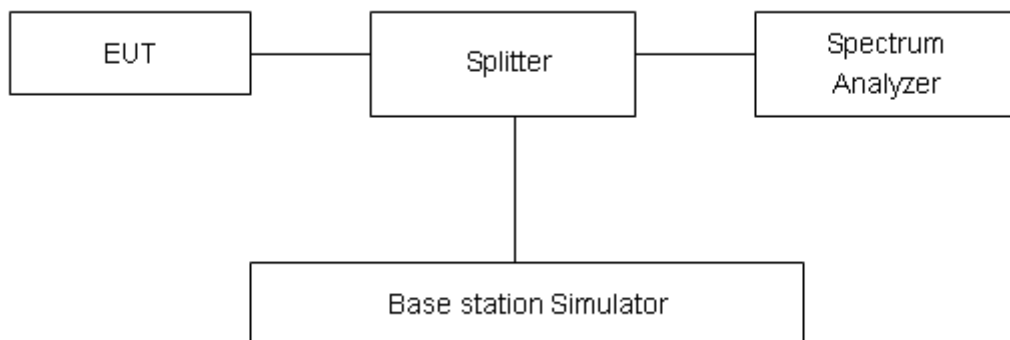
Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Methods of Measurement

Measure the total peak power and record as PPK. And measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

$$\text{PAPR (dB)} = \text{PPk (dBm)} - \text{PAvg (dBm)}.$$

Test Setup



Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.4$ dB.

Test Results

The detailed test data see EFTA25090192-IE-02-R2-ANNEX D Test Result.

5.5 Frequency Stability

Ambient condition

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

Method of Measurement

Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -30°C to +50°C in 10°C step size.

- (1) With all power removed, the temperature was decreased to -10°C and permitted to stabilize for three hours.
- (2) Measure the carrier frequency with the test equipment in a "call mode". These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.
- (3) Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

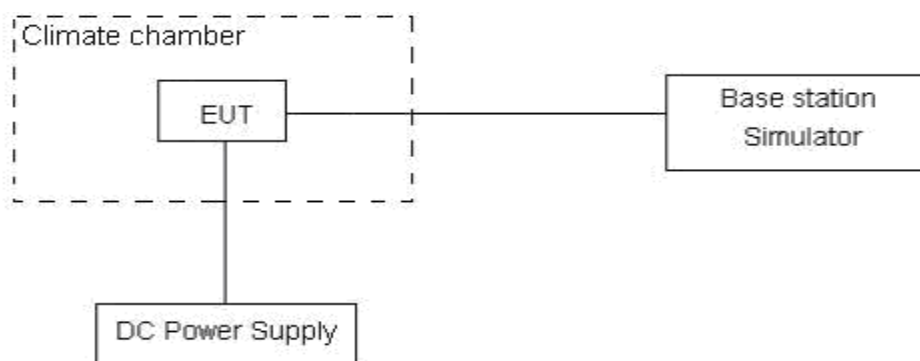
Frequency Stability (Voltage Variation)

The frequency stability shall be measured with variation of primary supply voltage as follows:

Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

This transceiver is specified to operate with an input voltage of between 3.88 V and 4.50 V, with a nominal voltage of 3.60V.

Test setup



Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 3$, $U = 0.01$ ppm.

Test Results

The detailed test data see EFTA25090192-IE-02-R2-ANNEX E Test Result.

5.6 Spurious Emissions at Antenna Terminals

Ambient condition

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

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 9kHz to the 10th harmonic of the carrier. The peak detector is used.

RBW is set to 1 kHz (0.009MHz~ 0.15 MHz),

RBW is set to 10 kHz (0.15 MHz~ 30 MHz)

RBW is set to 1000 kHz (30MHz~1000 MHz)

RBW is set to 1000 kHz (above 1000MHz)

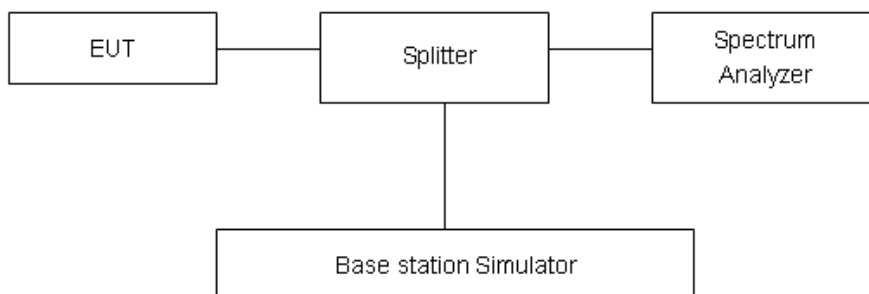
For Band 7/41/66/78, the RBW is set to 100KHz below 1G, and the factor is 10dB for 1MHz.

Sweep is set to AUTO.

Of those disturbances below (limit – 20 dB), the mark is not required for the EUT.

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

Test setup



Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
9kHz-1GHz	0.684 dB
above 1GHz	1.407 dB

Test Results

The detailed test data see EFTA25090192-IE-02-R2-ANNEX F Test Result.

5.7 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:

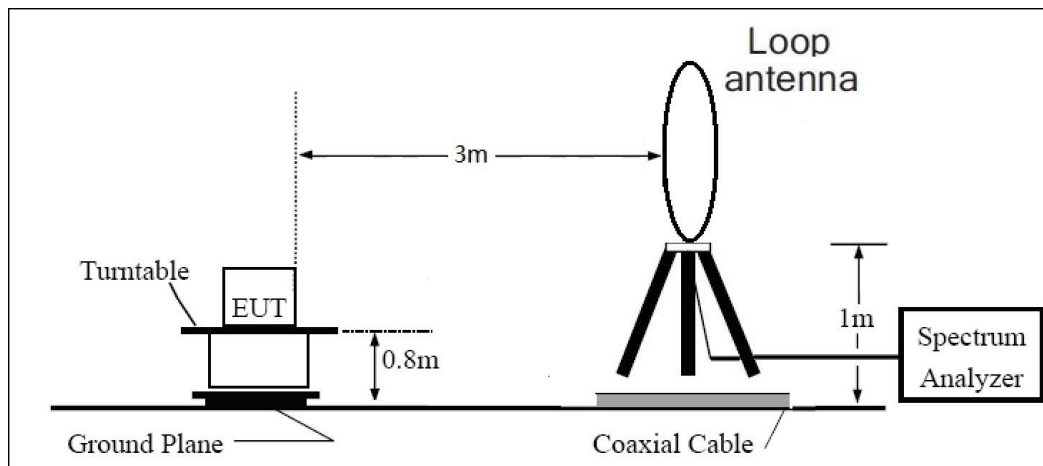
$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$
The measurement results are amend as described below:

$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
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, $\text{ERP} = \text{EIRP} - 2.15\text{dB}$.

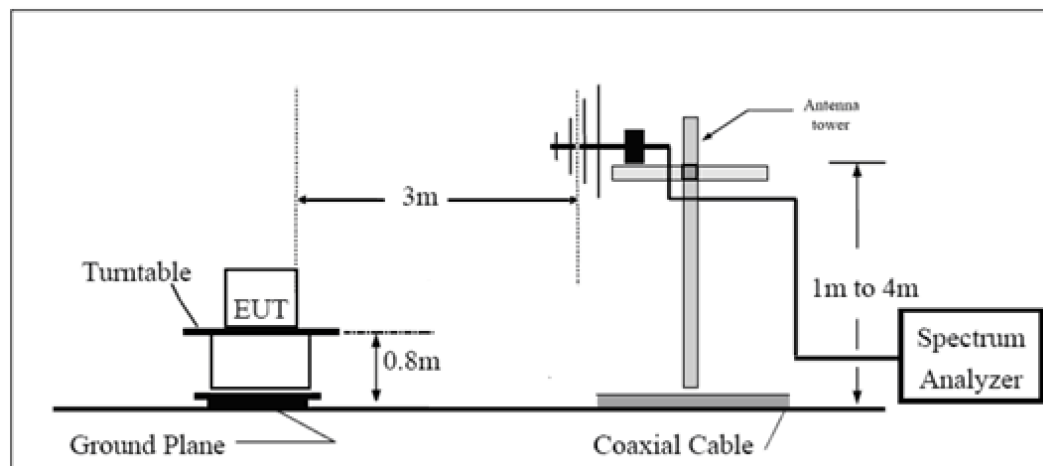
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

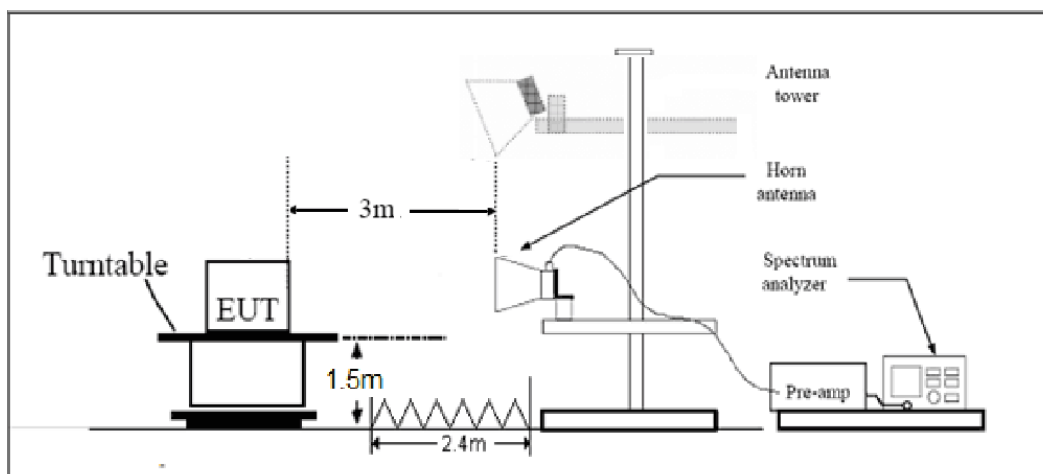
9KHz~ 30MHz



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

The detailed test data see EFTA25090192-IE-02-R2-ANNEX G Test Result.

6 Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Wireless Communication Tester	Anritsu	MT8000A	6261844783	2025-05-06	2026-05-05
Wireless Communication Tester	Anritsu	MT8821C	6201538758	2025-05-06	2026-05-05
Climate Chamber	WEISS	VT 4002	58226119450010	2025-05-06	2026-05-05
Spectrum Analyzer	Keysight	N9020A	MY52330084	2025-05-06	2026-05-05
DC Power Supply	UNI-T	UTP1310+	C220795889	2025-05-06	2026-05-05
Spectrum Analyzer	R&S	FSV3044	101053	2024-12-02	2025-12-01
Spectrum Analyzer	Keysight	N9020B	MY60112762	2025-05-06	2026-05-05
Software	MW	MTS 8200	V2.0.0.0	-	-
Spectrum Analyzer	R&S	FSV30	100815	2024-12-02	2025-12-01
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	2024-09-24	2027-09-23
Horn Antenna	STEATITE	QSH-SL-26-40-K-15	16779	2023-01-17	2026-01-16
Software	R&S	EMC32	10.35.10	/	/

7 The EUT Appearance

Refer to *EUT Appearance*.

8 Test Setup Photos

Refer to *Part 22_27 Test Setup*.

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