ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

EUT Description	Mobile Router
Applicant:	NEC Platforms,Ltd. Daini Tamachi Bldg., 14-1 Shiba 4-chome, Minato City, Tokyo 108-0014, Japan
Manufacturer:	NEC Platforms,Ltd. Daini Tamachi Bldg., 14-1 Shiba 4-chome, Minato City, Tokyo 108-0014, Japan
Brand Name:	NEC Platforms Ltd.
Model No.:	KMP8S3AD1-1A
Report Number:	TERF2506001854ER
FCC ID	2AA5WKMP8S3AD
Date of EUT Received:	June 2, 2025
Date of Test:	June 4, 2025～June 30, 2025
Issue Date:	August 7, 2025

Approved By _____
Vito Pei

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.26-2015 and the energy emitted by the sample EUT comply with FCC rule part 2, 22H & 24E & 27 C.

The results of this report relate only to the sample identified in this report.

Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TERF2506001854ER	00	Original	July 22, 2025	Karen Huang	
TERF2506001854ER	01	Adjust the report format	August 7, 2025	Karen Huang	*

Note:

1、 The remark "*" indicates modification of the report upon requests from certification body.

Contents

1 GENERAL PRODUCT INFORMATION

1.1 Product Description

Product Name:	Mobile Router
Brand Name:	NEC Platforms Ltd.
Model No.:	KMP8S3AD1-1A
Hardware Version:	1
Firmware Version:	1
Power Supply:	3.8Vdc
Test Software (Name/Version)	default(Link Call Radio Communcation Analyzer)

1.2 Operation Frequency Range

LTE Band 2			
Bandwidth (MHz)	Operation Frequency (MHz)		
1.4	1850.7	~	1909.3
3	1851.5	~	1908.5
5	1852.5	~	1907.5
10	1855.0	~	1905.0
15	1857.5	~	1902.5
20	1860.0	~	1900.0

LTE Band 4			
Bandwidth (MHz)	Operation Frequency (MHz)		
1.4	1710.7	~	1754.3
3	1711.5	~	1753.5
5	1712.5	~	1752.5
10	1715.0	~	1750.0
15	1717.5	~	1747.5
20	1720.0	~	1745.0

LTE Band 5			
Bandwidth (MHz)	Operation Frequency (MHz)		
1.4	824.7	~	848.3
3	825.5	~	847.5
5	826.5	~	846.5
10	829.0	~	844.0

LTE Band 12			
Bandwidth (MHz)	Operation Frequency (MHz)		
1.4	699.7	~	715.3
3	700.5	~	714.5
5	701.5	~	713.5
10	704.0	~	711.0

LTE Band 41			
Bandwidth (MHz)	Operation Frequency (MHz)		
5	2498.5	~	2687.5
10	2501.0	~	2685.0
15	2503.5	~	2682.5
20	2506.0	~	2680.0

1.3 Antenna Designation

Antenna Type	Antenna Model No.
Inverted F Antenna (Omni-directional)	ANT1
	ANT2
	ANT3
Note: Transmission frequencies in this test report are only available by the above antenna(s).	

Modulation	Frequency (MHz)			Peak Antenna Gain (dBi)		
				ANT1	ANT2	ANT3
LTE-Band 2	1850	~	1910	-	-	2
LTE-Band 4	1710	~	1755	-	-	2.4
LTE-Band 5	824	~	849	-1.5	-2	-
LTE-Band 12	699	~	716	-2.8	-6.6	-
LTE-Band 41	2496	~	2690	-	-	2.2

Note: The antenna information is provided by the applicant, and the laboratory shall not be held liable for the accuracy, completeness, or reliability of any applicant-supplied data.

1.4 Type of Emission & Max ERP/EIRP Power Measurement Result:

Part22

Band	Technology (GSM, CDMA, etc…)	Frequency		Conducted Power (dBm)	Conducted Power (W)	ERP/EIRP (dBm)	ERP/EIRP (W)	Frequency Tolerance		Emission Designator (See 47 CFR 2.201 and 2.202)	BW(MHz)	Optional
		Min (MHz)	Max (MHz)					Value	%, Hz, ppm			
LTE B5	QPSK	829.0	844.0	22.93	0.196	19.28	0.085	0.0221	ppm	8M98G7D	10.0	Part22
LTE B5	16QAM	829.0	844.0	21.84	0.153	18.19	0.066	0.0221	ppm	8M97D7W	10.0	Part22

Part24

Band	Technology (GSM, CDMA, etc…)	Frequency		Conducted Power (dBm)	Conducted Power (W)	ERP/EIRP (dBm)	ERP/EIRP (W)	Frequency Tolerance		Emission Designator (See 47 CFR 2.201 and 2.202)	BW(MHz)	Optional
		Min (MHz)	Max (MHz)					Value	%, Hz, ppm			
LTE B2	QPSK	1860.0	1900.0	20.68	0.117	22.68	0.185	0.0093	ppm	17M9G7D	20.0	Part24
LTE B2	16QAM	1860.0	1900.0	19.70	0.093	21.70	0.148	0.0093	ppm	17M9D7W	20.0	Part24
LTE B2	16QAM	1852.5	1907.5	19.77	0.095	21.77	0.150	0.0093	ppm	4M49D7W	5.0	Part24

Part27

Band	Technology (GSM, CDMA, etc…)	Frequency		Conducted Power (dBm)	Conducted Power (W)	ERP/EIRP (dBm)	ERP/EIRP (W)	Frequency Tolerance		Emission Designator (See 47 CFR 2.201 and 2.202)	BW(MHz)	Optional
		Min (MHz)	Max (MHz)					Value	%, Hz, ppm			
LTE B4	QPSK	1720.0	1745.0	22.92	0.196	25.32	0.340	0.0108	ppm	17M9G7D	20.0	Part27
LTE B4	16QAM	1720.0	1745.0	21.78	0.151	24.18	0.262	0.0108	ppm	17M9D7W	20.0	Part27
LTE B4	16QAM	1710.7	1754.3	21.79	0.151	24.19	0.262	0.0108	ppm	1M09D7W	1.4	Part27
LTE B12	QPSK	704.0	711.0	22.68	0.185	17.73	0.059	0.0278	ppm	9M01G7D	10.0	Part27
LTE B12	16QAM	704.0	711.0	21.60	0.145	16.65	0.046	0.0278	ppm	8M99D7W	10.0	Part27
LTE B41	QPSK	2506.0	2680.0	21.99	0.158	24.19	0.262	0.0073	ppm	17M9G7D	20.0	Part27
LTE B41	16QAM	2506.0	2680.0	20.77	0.119	22.97	0.198	0.0073	ppm	17M9D7W	20.0	Part27
LTE B41	16QAM	2503.5	2682.5	20.84	0.121	23.04	0.201	0.0073	ppm	13M4D7W	15.0	Part27

1.5 Test Methodology of Applied Standards

FCC 47 CFR Part 2, 22H, 24E, 27C
ANSI C63.26-2015
KDB971168 D01 Power Meas license Digital System v03r01
KDB412172 D01 Determining ERP and EIRP v01r01

1.6 Test Facility

Laboratory	Test Site Address	Test Site Name	FCC Designation number	IC CAB identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan.	SAC 1	TW0027	TW3702
		SAC 2		
		SAC 3		
		Conduction 1		
		Conducted 1		
		Conducted 2		
		Conducted 3		
		Conducted 4		
		Conducted 5		
		Conducted 6		
	No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333	Conduction C	TW0028	
		SAC C		
		SAC D		
		SAC G		
		Conducted A		
		Conducted B		
		Conducted C		
		Conducted D		
		Conducted E		
		Conducted F		
		Conducted G		

Note: Test site name is remarked on the equipment list in each section of this report as an indication where measurements occurred in specific test site and address.

1.7 Special Accessories

No special accessories were used during testing.

1.8 Equipment Modifications

There was no modifications incorporated into the EUT.

1.9 Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz

Radiated emission below 30MHz is measured in a 9m*6m*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site.
There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

2 SYSTEM TEST CONFIGURATION

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

The EUT (Transmitter) was operated in the continuous transmission mode employed with the simulator of the Base Station that fixates at test default channels to fix the Tx frequency which was for the purpose of the measurements.

2.3 Test Procedure

2.3.1 Conducted Measurement at Antenna Port

The EUT is placed on a table which is 0.8 m above ground plane. A low loss of RF cable was used to connect the antenna port of EUT to measurement equipment.

2.3.2 Radiated Emissions (ERP/EIRP)

The EUT is placed on a turn table, for emission measurements below 1 GHz is 0.8 m above ground plane, for emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both Horizontal and Vertical. In order to find out the max. emission, the relative positions of this transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made “while keeping the antenna in the ‘cone of radiation’ from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response.” is still within the 3dB illumination BW of the measurement antenna.

2.4 Measurement Results Explanation Example

For all conducted test items:
The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.
Note:
The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

2.5 Final Amplifier Voltage and Current Information:

Part22

LTE Band 5		
Test mode	DC voltage (V)	DC current (mA)
LTE Band 5_10M QPSK	3.8	670

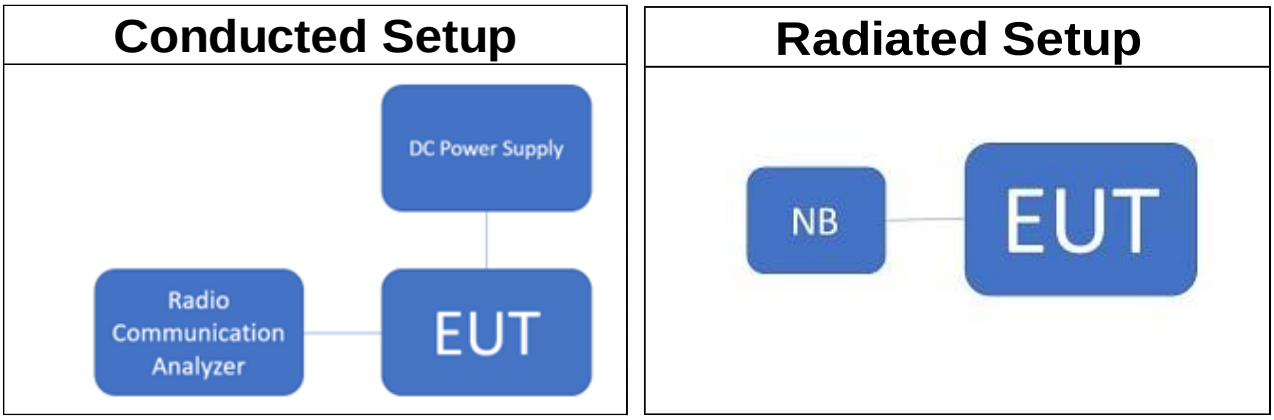
Part24

LTE Band 2		
Test mode	DC voltage (V)	DC current (mA)
LTE Band 2_20M QPSK	3.8	800

Part27

LTE Band 4		
Test mode	DC voltage (V)	DC current (mA)
LTE Band 4_20M QPSK	3.8	860
LTE Band 12		
Test mode	DC voltage (V)	DC current (mA)
LTE Band 12_10M QPSK	3.8	720
LTE Band 41		
Test Mode	DC voltage (V)	DC current (mA)
LTE Band 41_20M QPSK	3.8	490

2.6 Test Configuration



Note: Radio Communication Analyzer is placed in remote side for radiated test.

2.7 Control Unit(s)

Radiated Emission Test Site: SAC C					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
Notebook	HP	HSN-Q35C-4	P0004691	N/A	N/A
USB Cable	I Max	USB-C1200	N/A	N/A	N/A

3 SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a)	RF Power Output	Compliant
§22.913(a)(5) §24.232(c) §27.50(c)(10) §27.50(d)(4) §27.50(h)(2)	ERP/ EIRP measurement	Compliant
§2.1049(h)	99% & 26dB Occupied Bandwidth	Compliant
§2.1051 §22.917(a)(b) §24.238(a) §27.53(g) §27.53(h)(1)&(3) §27.53(m) §27.53(m)(4)(6)	Out of Band Emissions at Antenna Terminals and Band Edge / Emission mask re-quirements	Compliant
§2.1053 §22.917(a)(b) §24.238(a) §27.53(g) §27.53(h)(1)&(3) §27.53(m)(4)	Field Strength of Spurious Radiation	Compliant
§22.913(d) §24.232(d) §27.50(a)(1)(B) §27.50(d)(5)	Peak to Average Ratio	Compliant
§2.1055(a)(1) §22.355 §24.235 §27.54	Frequency Stability	Compliant

4 DESCRIPTION OF TEST MODES

4.1 The Worst Test Modes and Channel Details

1. The EUT has been tested under operating condition.
2. Pre-Scan has been conducted to determine the worst-case scenario from all possible combinations among available modulations, data rates and antenna ports, the worst case configurations listed below for the final test.
3. The field strength of radiated emission was measured as the EUT positioned in different orthogonal planes (E1/E2/H) based on actual usage of the EUT to pre-scan the emissions for determining the worst case scenario.

4.2 Measurement Configuration

Part22

LTE Band 5

Test Item	Available Channel	Tested Channel	BW(MHz)	Modulation	RB Size 1RB	RB Size Half RB	RB Size Full RB
Max. OutPut Pow er	20407 to 20643	20407, 20525, 20643	1.4	QPSK,16QAM,64Q AM	V	V	V
	20415 to 20635	20415, 20525, 20635	3		V	V	V
	20425 to 20625	20425, 20525, 20625	5		V	V	V
	20450 to 20600	20450, 20525, 20600	10		V	V	V
Freqency Stability	20450 to 20600	20525	10	QPSK	-	-	V
26dB and 99% Bandw idth	20407 to 20643	20407, 20525, 20643	1.4	QPSK,16QAM,64Q AM	-	-	V
	20415 to 20635	20415, 20525, 20635	3		-	-	V
	20425 to 20625	20425, 20525, 20625	5		-	-	V
	20450 to 20600	20450, 20525, 20600	10		-	-	V
Peak-to-Av erage Ratio	20407 to 20643	20407, 20525, 20643	1.4	64QAM	-	-	V
	20415 to 20635	20415, 20525, 20635	3		-	-	V
	20425 to 20625	20425, 20525, 20625	5		-	-	V
	20450 to 20600	20450, 20525, 20600	10		-	-	V
Out of Band Emissions at Antenna Terminals	20407 to 20643	20407, 20643	1.4	QPSK	V	-	V
	20415 to 20635	20415, 20635	3		V	-	V
	20425 to 20625	20425, 20625	5		V	-	V
	20450 to 20600	20450, 20600	10		V	-	V
Conducted Spurious Emission	20450 to 20600	20450, 20525, 20600	10	QPSK	V	-	-
Radiated Spurious Emission	20450 to 20600	20450, 20525, 20600	10	QPSK	V	-	-

Part24

LTE Band 2

Test Item	Available Channel	Tested Channel	BW(MHz)	Modulation	RB Size 1RB	RB Size Half RB	RB Size Full RB
Max. OutPut Pow er	18607 to 19193	18607, 18900, 19193	1.4	QPSK,16QAM,64QAM	V	V	V
	18615 to 19185	18615, 18900, 19185	3		V	V	V
	18625 to 19175	18625, 18900, 19175	5		V	V	V
	18650 to 19150	18650, 18900, 19150	10		V	V	V
	18675 to 19125	18675, 18900, 19125	15		V	V	V
	18700 to 19100	18700, 18900, 19100	20		V	V	V
Freqency Stability	18650 to 19150	18900	10	QPSK	-	-	V
26dB and 99% Bandw idth	18607 to 19193	18607, 18900, 19193	1.4	QPSK,16QAM,64QAM	-	-	V
	18615 to 19185	18615, 18900, 19185	3		-	-	V
	18625 to 19175	18625, 18900, 19175	5		-	-	V
	18650 to 19150	18650, 18900, 19150	10		-	-	V
	18675 to 19125	18675, 18900, 19125	15		-	-	V
	18700 to 19100	18700, 18900, 19100	20		-	-	V
Peak-to-Av erage Ratio	18607 to 19193	18607, 18900, 19193	1.4	64QAM	-	-	V
	18615 to 19185	18615, 18900, 19185	3		-	-	V
	18625 to 19175	18625, 18900, 19175	5		-	-	V
	18650 to 19150	18650, 18900, 19150	10		-	-	V
	18675 to 19125	18675, 18900, 19125	15		-	-	V
	18700 to 19100	18700, 18900, 19100	20		-	-	V
Out of Band Emissions at Antenna Terminals	18607 to 19193	18607, 19193	1.4	QPSK	V	-	V
	18615 to 19185	18615, 19185	3		V	-	V
	18625 to 19175	18625, 19175	5		V	-	V
	18650 to 19150	18650, 19150	10		V	-	V
	18675 to 19125	18675, 19125	15		V	-	V
	18700 to 19100	18700, 19100	20		V	-	V
Conducted Spurious Emission	18700 to 19100	18700, 18900, 19100	20	QPSK	V	-	-
Radiated Spurious Emission	18700 to 19100	18700, 18900, 19100	20	QPSK	V	-	-

Part27

LTE Band 4

Test Item	Available Channel	Tested Channel	BW(MHz)	Modulation	RB Size 1RB	RB Size Half RB	RB Size Full RB
Max. OutPut Pow er	19957 to 20393	19957, 20175, 20393	1.4	QPSK,16QAM,64QAM	V	V	V
	19965 to 20385	19965, 20175, 20385	3		V	V	V
	19975 to 20375	19975, 20175, 20375	5		V	V	V
	20000 to 20350	20000, 20175, 20350	10		V	V	V
	20025 to 20325	20025, 20175, 20325	15		V	V	V
	20050 to 20300	20050, 20175, 20300	20		V	V	V
Freqency Stability	20000 to 20350	20175	10	QPSK	-	-	V
26dB and 99% Bandw idth	19957 to 20393	19957, 20175, 20393	1.4	QPSK,16QAM,64QAM	-	-	V
	19965 to 20385	19965, 20175, 20385	3		-	-	V
	19975 to 20375	19975, 20175, 20375	5		-	-	V
	20000 to 20350	20000, 20175, 20350	10		-	-	V
	20025 to 20325	20025, 20175, 20325	15		-	-	V
	20050 to 20300	20050, 20175, 20300	20		-	-	V
Peak-to-Av erage Ratio	19957 to 20393	19957, 20175, 20393	1.4	64QAM	-	-	V
	19965 to 20385	19965, 20175, 20385	3		-	-	V
	19975 to 20375	19975, 20175, 20375	5		-	-	V
	20000 to 20350	20000, 20175, 20350	10		-	-	V
	20025 to 20325	20025, 20175, 20325	15		-	-	V
	20050 to 20300	20050, 20175, 20300	20		-	-	V
Out of Band Emissions at Antenna Terminals	19957 to 20393	19957, 20393	1.4	QPSK	V	-	V
	19965 to 20385	19965, 20385	3		V	-	V
	19975 to 20375	19975, 20375	5		V	-	V
	20000 to 20350	20000, 20350	10		V	-	V
	20025 to 20325	20025, 20325	15		V	-	V
	20050 to 20300	20050, 20300	20		V	-	V
Conducted Spurious Emission	20050 to 20300	20050, 20175, 20300	20	QPSK	V	-	-
Radiated Spurious Emission	20050 to 20300	20050, 20175, 20300	20	QPSK	V	-	-

LTE Band 12

Test Item	Available Channel	Tested Channel	BW(MHz)	Modulation	RB Size 1RB	RB Size Half RB	RB Size Full RB
Max. OutPut Pow er	23017 to 23173	23017, 23095, 23173	1.4	QPSK,16QAM,64Q AM	V	V	V
	23025 to 23165	23025, 23095, 23165	3		V	V	V
	23035 to 23155	23035, 23095, 23155	5		V	V	V
	23060 to 23130	23060, 23095, 23130	10		V	V	V
Freqency Stability	23060 to 23130	23095	10	QPSK	-	-	V
26dB and 99% Bandw idth	23017 to 23173	23017, 23095, 23173	1.4	QPSK,16QAM,64Q AM	-	-	V
	23025 to 23165	23025, 23095, 23165	3		-	-	V
	23035 to 23155	23035, 23095, 23155	5		-	-	V
	23060 to 23130	23060, 23095, 23130	10		-	-	V
Peak-to-Av erage Ratio	23017 to 23173	23017, 23095, 23173	1.4	64QAM	-	-	V
	23025 to 23165	23025, 23095, 23165	3		-	-	V
	23035 to 23155	23035, 23095, 23155	5		-	-	V
	23060 to 23130	23060, 23095, 23130	10		-	-	V
Out of Band Emissions at Antenna Terminals	23017 to 23173	23017, 23173	1.4	QPSK	V	-	V
	23025 to 23165	23025, 23165	3		V	-	V
	23035 to 23155	23035, 23155	5		V	-	V
	23060 to 23130	23060, 23130	10		V	-	V
Conducted Spurious Emission	23060 to 23130	23060, 23095, 23130	10	QPSK	V	-	-
Radiated Spurious Emission	23060 to 23130	23060, 23095, 23130	10	QPSK	V	-	-

LTE Band 41

Test Item	Available Channel	Tested Channel	BW(MHz)	Modulation	RB Size 1RB	RB Size Half RB	RB Size Full RB
Max. OutPut Pow er	39675 to 41565	39675, 40620, 41565	5	QPSK,16QAM,64Q AM	V	V	V
	39700 to 41540	39700, 40620, 41540	10		V	V	V
	39725 to 41515	39725, 40620, 41515	15		V	V	V
	39750 to 41490	39750, 40620, 41490	20		V	V	V
Freqency Stability	39700 to 41540	40620	10	QPSK	-	-	V
26dB and 99% Bandw idth	39675 to 41565	39675, 40620, 41565	5	QPSK,16QAM,64Q AM	-	-	V
	39700 to 41540	39700, 40620, 41540	10		-	-	V
	39725 to 41515	39725, 40620, 41515	15		-	-	V
	39750 to 41490	39750, 40620, 41490	20		-	-	V
Peak-to-Av erage Ratio	39675 to 41565	39675, 40620, 41565	5	64QAM	-	-	V
	39700 to 41540	39700, 40620, 41540	10		-	-	V
	39725 to 41515	39725, 40620, 41515	15		-	-	V
	39750 to 41490	39750, 40620, 41490	20		-	-	V
Out of Band Emissions at Antenna Terminals	39675 to 41565	39675, 40620, 41565	5	QPSK	V	-	V
	39700 to 41540	39700, 40620, 41540	10		V	-	V
	39725 to 41515	39725, 40620, 41515	15		V	-	V
	39750 to 41490	39750, 40620, 41490	20		V	-	V
Conducted Spurious Emission	39750 to 41490	39750, 40620, 41490	20	QPSK	V	-	-
Radiated Spurious Emission	39750 to 41490	39750, 40620, 41490	20	QPSK	V	-	-

5 MEASUREMENT UNCERTAINTY

Test Items	Uncertainty		
Power Density	+/-	0.61	dB
Output Power measurement	+/-	0.97	dB
ERP/ EIRP measurement	+/-	2.16	dB
	+/-	2.16	dB
Emission Bandwidth	+/-	1.38	Hz
Out of Band Emissions at Antenna Terminals and Band Edge	+/-	0.77	dB
Peak to Average Ratio	+/-	0.97	dB
Frequency Stability vs. Temperature	+/-	1.48	Hz
Frequency Stability vs. Voltage	+/-	1.48	Hz
Temperature	+/-	0.6	°C
Humidity	+/-	3	%
DC / AC Power Source	+/-	1	%

Radiated Spurious Emission Measurement Uncertainty				
Polarization: Vertical	**+/-**	**1.89**	**dB**	9kHz~30MHz
	+/-	**4.1**	**dB**	30MHz - 1000MHz
	+/-	**3.37**	**dB**	1GHz - 18GHz
	+/-	**3.83**	**dB**	18GHz - 40GHz
Polarization: Horizontal	**+/-**	**1.89**	**dB**	9kHz~30MHz
	+/-	**4.1**	**dB**	30MHz - 1000MHz
	+/-	**3.37**	**dB**	1GHz - 18GHz
	+/-	**3.83**	**dB**	18GHz - 40GHz
Radiated Spurious Emission	**+/-**	**2**	**dB**	33GHz-50GHz
	+/-	**1.59**	**dB**	50GHz-60GHz
	+/-	**1.71**	**dB**	60GHz-90GHz
	+/-	**1.64**	**dB**	90GHz-140GHz
	+/-	**3.84**	**dB**	140GHz-220GHz

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

6 MEASUREMENT EQUIPMENT USED

6.1 Conducted Measurement

Conducted Emission Test Site: Conducted E					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
Attenuator	Marvelous	MVE2213-10	RF06	11/14/2024	11/13/2025
DC Block	PASTERNACK	PE8210	RF157	11/14/2024	11/13/2025
DC Power Supply	Gwinstek	SPD-3606	GEV923152	05/21/2025	05/20/2026
Radio Communication Analyer	Anritsu	MT8820C	6201465316	07/12/2024	07/11/2025
Coaxial Cables	Woken	00100A1F1A185C	RF86	11/14/2024	11/13/2025
Coaxial Cables	Woken	00100A1F2A196C	RF93	11/14/2024	11/13/2025
Splitter	Woken	DOM35LW1A2	RF255	11/14/2024	11/13/2025
Temperature Chamber	Haich	HC-TOPH-30-CHP	QHC20230320-100-2	08/23/2024	08/22/2025
Spectrum Analyzer	KEYSIGHT	N9010A	MY57120200	04/02/2025	04/01/2026
Test Software	SGS Taiwan	Radio Test Software	Ver.21	N.C.R	N.C.R

6.2 Radiated Measurement

Radiated Emission Test Site: SAC C					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
3m Site NSA	SGS	966 chamber C	N/A	03/02/2025	03/01/2026
Attenuator	Woken	WATT-218FS-10	RF17	11/14/2024	11/13/2025
Broadband Antenna	SCHWARZBECK	VULB 9168	9168-300	11/06/2024	11/05/2025
Coaxial Cable	EMCI+Huber Suhner	RG 214/U+EMC104-SM-SM-6000+EMC105-SM-SM-12000+15	W13.01+150813+2310002+15	11/14/2024	11/13/2025
EMI Test Receiver	R&S	ESU 40	100363	05/06/2025	05/05/2026
Highpass Filter	R&S	F13 HPF 3GHz	RF167	11/14/2024	11/13/2025
Horn Antenna	Schwarzbeck	BBHA9120D	1187	02/05/2025	02/04/2026
Horn Antenna	Schwarzbeck	BBHA9170	184	12/20/2024	12/19/2025
Lowpass Filter	Woken	EWT-56-0019	RF163	11/14/2024	11/13/2025
Notch Filter	Woken	EWT-54-0037	RF197	11/14/2024	11/13/2025
Pre-Amplifier	EMC Instruments	EMC118A45SE	980789	11/14/2024	11/13/2025
Pre-Amplifier	EMC Instruments	EMC184045SEE	980881	11/14/2024	11/13/2025
Pre-Amplifier	EMC Instruments	EMC330	980091	11/14/2024	11/13/2025
Spectrum Analyzer	KEYSIGHT	N9010B	MY63440390	02/13/2025	02/12/2026
Test Software	audix	e3	E3 20923 SGS Ver.9 (C)	N.C.R	N.C.R

NOTE: *N.C.R refers to Not Calibrated Required.*

7 STANDARD APPLICABLE

7.1 Maximum Output Power

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals.

7.1.1 ERP/EIRP LIMIT

According to FCC §2.1046

FCC 22.913(a)

(5) mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

FCC 24.232(c)

Mobile and portable stations are limited to 2 W EIRP.

FCC 27.50(c)

(10) Portable stations (hand-held devices) are limited to 3 watts ERP.

FCC 27.50(d)

(4) Mobile, and portable (hand-held) stations operating in the 1710-1755 MHz, 1695-1710 MHz and 1755-1780 MHz bands are limited to 1W EIRP.

FCC 27, 50(h)

(2) Mobile and other user stations transmitting in the BRS and EBS bands are limited to 2 W EIRP.

7.2 Occupied Bandwidth Measurement

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power.

7.3 Out Of Band Emission At Antenna Terminals

FCC §22.917(a), §24.238(a), §27.53(h)

Out of band emissions.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.

FCC §27.53(g)

Compliance for operations in the 600 MHz, 698-746 MHz, 746-758 MHz and the 776-788 MHz band 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.

(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;

FCC §27.53(h)(1)

(h) *AWS emission limits*—(1) *General protection levels.* Except as otherwise specified below, 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 $\log_{10}$ (P) dB.

FCC §27.53(m) (4) (6)

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 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 that 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.

Measurement procedure. Compliance with these rules is based on the use of measurement nstrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). 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. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

7.4 Field Strength Of Spurious Radiation Measurement

According to FCC §2.1053,

FCC §22.917(a), §24.238(a), §27.53(h)

Out of band emissions.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.

FCC §27.53(g)

Compliance for operations in the 600 MHz, 698-746 MHz, 746-758 MHz and the 776-788 MHz band 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.

(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;

FCC §27.53(h)(1)

(h) *AWS emission limits*—(1) *General protection levels.* Except as otherwise specified below, 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 $\log_{10}$ (P) dB.

FCC §27.53(m) (4) (6)

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 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 that 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.

Measurement procedure. Compliance with these rules is based on the use of measurement nstrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). 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. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

7.5 Frequency Stability Measurement

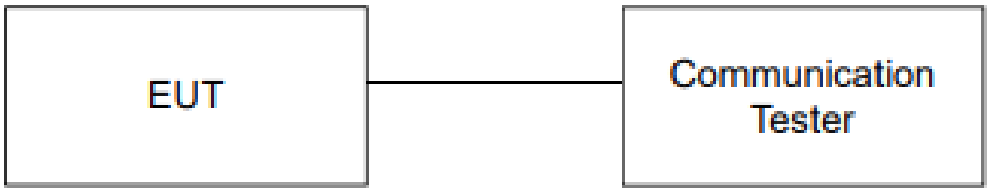
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

7.6 Peak to Average Ratio

The peak-to-average ratio (PAR) of the transmission may not exceed 13dB.

8 TEST SETUP

8.1 Maximum Output Power

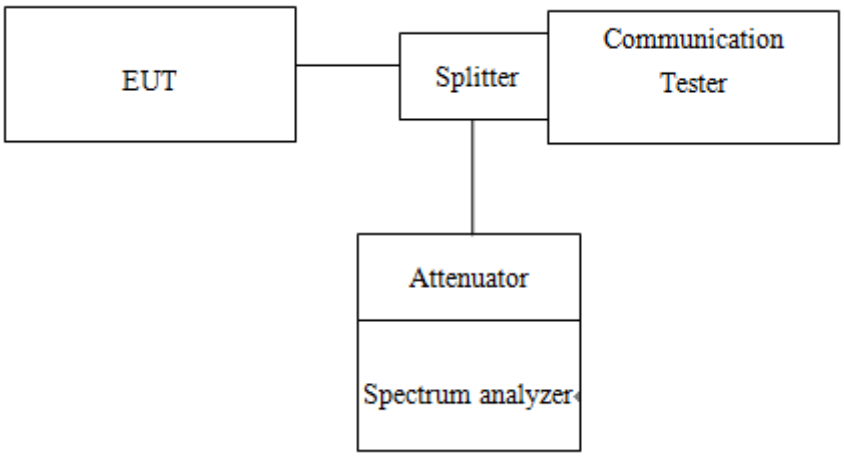


Note: *Measurement setup for testing on Antenna connector*

8.2 Occupied Bandwidth Measurement

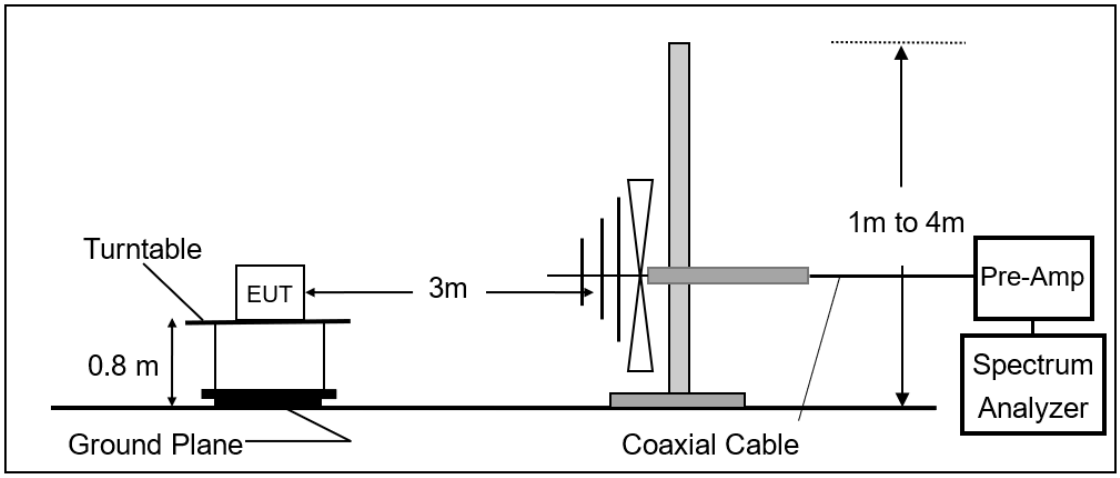
Note: *Measurement setup for testing on Antenna connector*

8.3 Out of Band Emission At Antenna Terminals

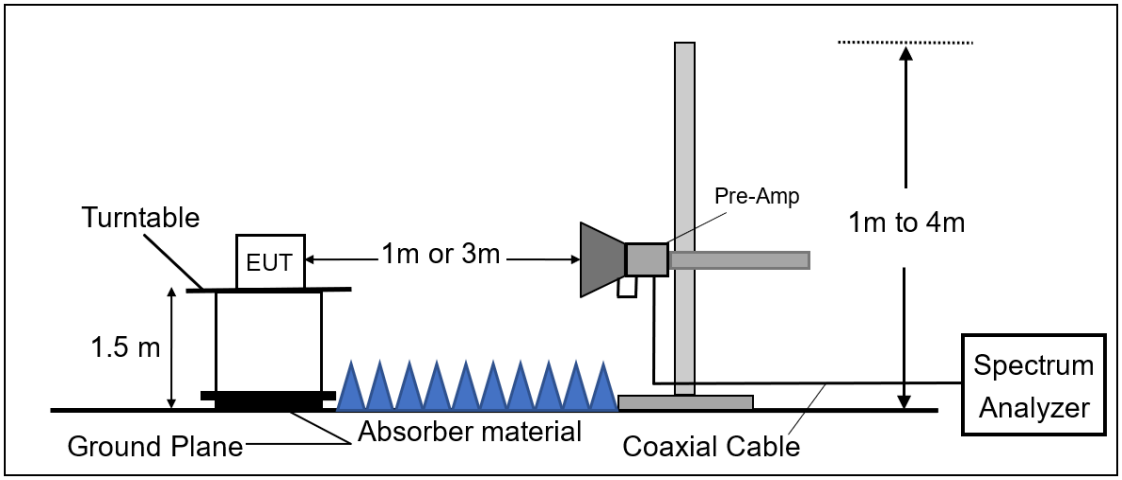


8.4 Field Strength of Spurious Radiation Measurement

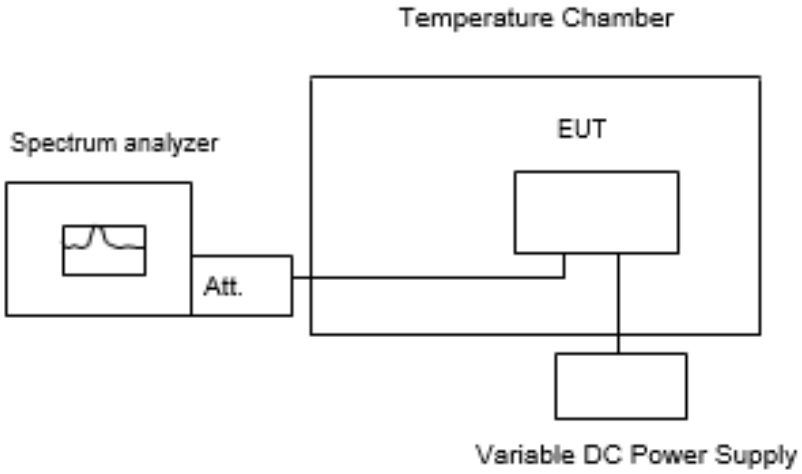
(A) Radiated Emission Test Set-Up, Frequency From 30MHz to 1000MHz.



(B) Radiated Emission Test Set-Up, Frequency Above 1GHz.

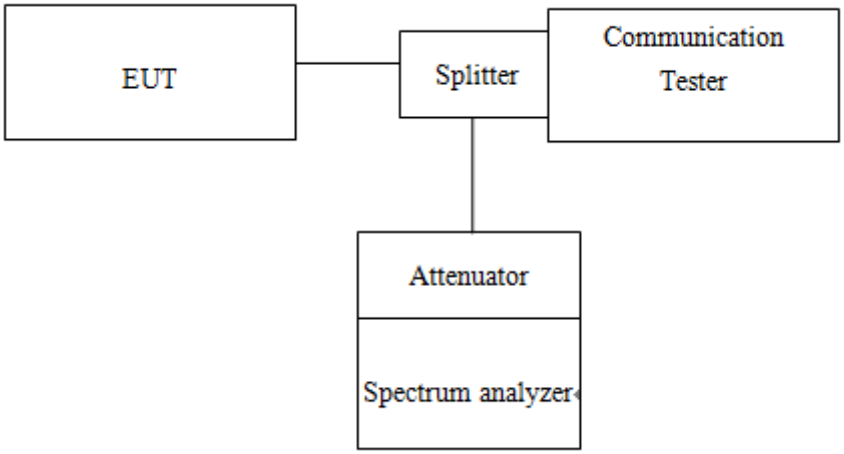


8.5 Frequency Stability Measurement



Note: *Measurement setup for testing on Antenna connector*

8.6 Peak To Average Ratio



9 TEST PROCEDURE

9.1 Maximum Output Power

9.1.1 Output Power Measurement Applicable Guideance

The transmitter output was connected to a communication tester. Transmitter output was read off the communication tester in dBm. The power output at the transmitter antenna port was determined by the communication tester reading.
KDB 971168 D01 Power Meas License Digital System as the supplemental test methodology to adjust the proper setting obtaining the measurement results.
All LTE bands conducted average power is obtained from the simulator telecommunication test set.

9.1.2 Determining ERP and/or EIRP from conducted RF output power measurements

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$,

$ERP = EIRP - 2.15$,

Where:

ERP or EIRP	= effective radiated power or equivalent isotropically radiated power (expressed in the same units as PT, typically dBW, dBm, or power spectral density (PSD)2), relative to either a dipole antenna (ERP) or an isotropic antenna (EIRP);
P_T	= transmitter output power, expressed in dBW, dBm, or PSD;
G_T	= gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
L_C	= signal attenuation in the connecting cable between the transmitter and antenna, in dB.

9.2 Occupied Bandwidth Measurement

99% &26dB Bandwidth with detector peak

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW= 3 times RBW, -26dBc display line was placed on the screen (or 26dB bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace. Then set RBW to 99% bandwidth, RBW= 1% ~ 5%, VBW ≥ 3 * RBW, with span > 2 * Signal BW, set % Power = 99%.

9.3 Out of Band Emission at Antenna Terminals

9.3.1 Conducted Emission

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

1. To connect Antenna Port of EUT to Spectrum.
2. Set RBW = 1MHz & VBW = 1MHz on Spectrum.
3. Allow trace to fully stabilize
4. Repeat above procedures until all default test channel measured were complete.

9.3.2 Band Edge

1. To connect Antenna Port of EUT to Spectrum.
2. The band edge of low and high channels for the highest RF powers was measured. Setting RBW ≥ 1% EBW.
3. Allow trace to fully stabilize
4. Repeat above procedures until all default test channel measured were complete.

9.4 Field Strength of Spurious Radiation Measurement

The EUT was placed on a non-conductive; the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

9.5 Frequency Stability Measurement

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to –30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Set chamber temperature to 20℃. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.
Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint as declared by the manufacturer, record the maximum frequency change.

9.6 Peak to Average Ratio

1. KDB 971168 D01 is employed as the following procedure is proper adjusted accordingly:
2. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth; & internal =1ms
3. Set the number of counts to a value that stabilizes the measured CCDF curve.

10 MEASUREMENT RESULTS

Please refer to the Annex A-Measurement Results.

~ End of Report ~