



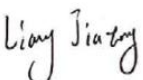
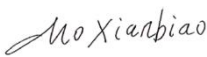
No.:
FCCSZ2025-0023-RF

RF Test Report

FCC ID : 2ATXY-230XX
NAME OF SAMPLE : FlashLink NOW
APPLICANT : DeltaTrak Inc.
CLASSIFICATION OF TEST : N/A

CVC Testing Technology (Shenzhen) Co., Ltd.



Applicant	Name: DeltaTrak Inc. Address: 1236 Docker Drive, Modesto, CA 95351 US		
Manufacturer	Name: Gold Step International Ltd Address: Room 714-715, 7/F.,Wing Hing Industrial Building,83-93 Chai Wan Kok Street,Tsuen Wan, N.T., Hong Kong		
Equipment Under Test	Product Name: FlashLink NOW Model/Type: 23000 Additional Model:23002 Brand Name:DeltaTrak Serial NO.: N/A Sample NO.: 3-1		
Date of Receipt.	2025-02-28	Date of Testing	2025-02-28 ~ 2025-03-11
Test Specification		Test Result	
FCC 47 CFR Part 2,22,24,27 ANSI C63.26-2015		PASS	
Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. Seal of CVC Issue Date: 2025-03-11		
Compiled by:  <u>Liang Jiatong</u> Name Signature	Reviewed by:  <u>Mo Xianbiao</u> Name Signature	Approved by:  <u>Dong Sanbi</u> Name Signature	
Other Aspects: NONE.			
Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested			

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCCSZ2025-0023-RF	Original release	2025-03-12



1 SUMMARY OF TEST RESULTS

1.1 LTE BAND 2/GSM1900

FCC PART SECTION	TEST TYPE AND LIMIT	LIMIT	Report Section	RESULT
§2.1046	Conducted power output	---	Annex A of FCCSZ2025-0023-RF-A1&A2&A2	Report Only
§24.232(c)	Equivalent Isotropic Radiated Power	EIRP < 2Watt	Annex A of FCCSZ2025-0023-RF-A1&A2&A2	PASS
§2.1049	Occupied Bandwidth	---	Annex C of FCCSZ2025-0023-RF-A1&A2&A2	Report Only
---	Peak-to-Average Power Ratio	<13 dB	Annex B of FCCSZ2025-0023-RF-A1&A2&A2	PASS
§2.1055 24.235	Frequency Stability	Within authorized bands of operation/frequency block.	Annex F of FCCSZ2025-0023-RF-A1&A2&A2	PASS
§2.1051 §24.238(a)	Band Edge Compliance	< 43+10log10(P[Watts])	Annex D of FCCSZ2025-0023-RF-A1&A2&A2	PASS
§2.1051 §24.238(a)	Conducted Spurious Emission	< 43+10log10(P[Watts])	Annex E of FCCSZ2025-0023-RF-A1&A2&A2	PASS
§2.1051 §24.238(a)	Radiates Spurious Emission	< 43+10log10(P[Watts])	See section 3.1	PASS



1.2 LTE BAND 4

FCC PART SECTION	TEST TYPE AND LIMIT	LIMIT	Report Section	RESULT
§2.1046	Conducted power output	---	Annex A of FCCSZ2025-0023-RF-A1&A2	Report Only
§27.50(d)(4)	Equivalent Isotropic Radiated Power	EIRP < 1Watt	Annex A of FCCSZ2025-0023-RF-A1&A2	PASS
§2.1049	Occupied Bandwidth	---	Annex C of FCCSZ2025-0023-RF-A1&A2	Report Only
---	Peak-to-Average Power Ratio	<13 dB	Annex B of FCCSZ2025-0023-RF-A1&A2	PASS
§2.1055 §27.54	Frequency Stability	Within authorized bands of operation/frequency block.	Annex F of FCCSZ2025-0023-RF-A1&A2	PASS
§2.1051 §27.53(h)	Band Edge Compliance	< 43+10log10(P[Watts])	Annex D of FCCSZ2025-0023-RF-A1&A2	PASS
§2.1051 §27.53(h)	Conducted Spurious Emission	< 43+10log10(P[Watts])	Annex E of FCCSZ2025-0023-RF-A1&A2	PASS
§2.1051 §27.53(h)	Radiates Spurious Emission	< 43+10log10(P[Watts])	See section 3.1	PASS

1.3 GSM850

FCC PART SECTION	TEST TYPE AND LIMIT	LIMIT	Report Section	RESULT
§2.1046	Conducted power output	---	Annex A of FCCSZ2025-0023-RF-A1&A2	Report Only
§22.913(a)(5)	Equivalent Radiated Power	EIRP < 7Watt	Annex A of FCCSZ2025-0023-RF-A1&A2	PASS
§2.1049	Occupied Bandwidth	---	Annex C of FCCSZ2025-0023-RF-A1&A2	Report Only
---	Peak-to-Average Power Ratio	<13 dB	Annex B of FCCSZ2025-0023-RF-A1&A2	PASS
§2.1055 §22.355	Frequency Stability	< 2.5 ppm	Annex F of FCCSZ2025-0023-RF-A1&A2	PASS
§2.1051 §22.917	Band Edge Compliance	< 43+10log10(P[Watts])	Annex D of FCCSZ2025-0023-RF-A1&A2	PASS
§2.1051 §22.917	Conducted Spurious Emission	< 43+10log10(P[Watts])	Annex E of FCCSZ2025-0023-RF-A1&A2	PASS
§2.1051 §22.917	Radiates Spurious Emission	< 43+10log10(P[Watts])	See section 3.1	PASS



2 GENERAL INFORMATION

2.1 GENERAL PRODUCT INFORMATION

PRODUCT	FlashLink NOW			
BRAND	DeltaTrak			
TEST MODEL	230XX(note5)			
POWER SUPPLY	DC 4.5V from battery (non-rechargeable) DC 3.6V from battery (rechargeable)			
MODULATION TYPE	GSM	GMSK		
	LTE	QPSK, 16QAM		
OPERATING FREQUENCY And MAXIMUM OUTPUT POWER	Band	TX(MHz)	RX(MHz)	Maximum Output Power to Antenna (dBm)
	GSM850	824~849	869~894	31.64
	GSM1900	1850~1910	1930 ~ 1990	29.69
	LTE B2	1850 ~ 1910	1930 ~ 1990	25.08
	LTE B4	1710 ~ 1755	2110 ~ 2155	25.49
ANTENNA TYPE(Note 4)	See section 2.2			
I/O PORTS	Refer to user' s manual			
CABLE SUPPLIED	N/A			

Note:

1. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. Please refer to the EUT photo document (Reference No.: FCCSZ2025-0023-EUT) for detailed product photo.
4. Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, CVC is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
5. "X " is wildcard."X" is a single a number from 1 to 9, representing different versions.



2.2 ANTENNA TYPE AND GAIN

ANTENNA TYPE	Band	TX(MHz)	RX(MHz)	Antenna Type	Antenna Port	Antenna Gain
	GSM850	824~849	869~894	FPC Antenna	1	2.68
	GSM1900	1850~1910	1930 ~ 1990	FPC Antenna	1	1.16
	LTE B2	1850 ~ 1910	1930 ~ 1990	FPC Antenna	1	1.16
	LTE B4	1710 ~ 1755	2110 ~ 2155	FPC Antenna	1	2.00



2.3 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports.

EUT CONFIGURE MODE	DESCRIPTION
-	EUT + with GSM or LTE link

Test modes are chosen as the worst case configuration below for GSM

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
-	RF power output	128 to 251	128,190,251	GSM850
-		512 to 810	512,661,810	GSM1900
-	Equivalent Radiated Power	128 to 251	128,190,251	GSM850
-	Equivalent Isotropic Radiated Power	512 to 810	512,661,810	GSM1900
-	Frequency Stability	128 to 251	128,190,251	GSM850
-		512 to 810	512,661,810	GSM1900
-	Occupied Bandwidth	128 to 251	128,190,251	GSM850
-		512 to 810	512,661,810	GSM1900
-	Band Edge Compliance	128 to 251	128,251	GSM850
-		512 to 810	512,810	GSM1900
-	Conducted Spurious Emission	128 to 251	128,190,251	GSM850
-		512 to 810	512,661,810	GSM1900
-	Radiates Spurious Emission	128 to 251	128,190,251	GSM850
-		512 to 810	512,661,810	GSM1900
-	Peak-to-Average Power Ratio	128 to 251	128,190,251	GSM850
-		512 to 810	512,661,810	GSM1900



Test modes are chosen as the worst case configuration below for LTE

Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPS K	16 QAM	64 QAM	1%	50%	100%	L	M	H
RF power output	2	O	O	O	O	O	O	O	O	-	O	O	O	O	O	O
	4	O	O	O	O	O	O	O	O	-	O	O	O	O	O	O
Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPS K	16 QAM	64 QAM	1%	50%	100%	L	M	H
ERP/ EIRP (Note3)	2	O	O	O	O	O	O	O	O	-	O	O	O	O	O	O
	4	O	O	O	O	O	O	O	O	-	O	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. 3. Only the worst case was shown in test report															

Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPS K	16 QAM	64 QAM	1%	50%	100%	L	M	H
Occupied Bandwidth	2	O	O	O	O	O	O	O	O	-	-	-	O	O	O	O
	4	O	O	O	O	O	O	O	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. 3. Only the worst case was shown in test report															

Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPS K	16 QAM	64 QAM	1%	50%	100%	L	M	H
Band Edge Compliance	2	O	O	O	O	O	O	O	-	-	O	-	O	O	-	O
	4	O	O	O	O	O	O	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. 3. Only the worst case was shown in test report															



Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPS K	16 QAM	64 QAM	1%	50%	100%	L	M	H
Peak-to-Average Power Ratio	2	O	O	O	O	O	O	O	O	-	O	-	O	O	O	O
	4	O	O	O	O	O	O	O	O	-	O	-	O	O	O	O
Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPS K	16 QAM	64 QAM	1%	50%	100%	L	M	H
Frequency Stability	2	-	-	-	-	-	O	O	-	-	-	-	O	O	O	O
	4	-	-	-	-	-	O	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. 3. Only the worst case was shown in test report															



Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPS K	16 QAM	64 QAM	1%	50%	100%	L	M	H
Conducted Spurious Emission	2	O	O	O	O	O	O	O	-	-	O	-	-	O	O	O
	4	O	O	O	O	O	O	O	-	-	O	-	-	O	O	O
Test items	LTE	Bandwidth (MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPS K	16 QAM	64 QAM	1%	50%	100%	L	M	H
Radiates Spurious Emission (Note3)	2	O	O	O	O	O	O	O	-	-	O	-	-	O	O	O
	4	O	O	O	O	O	O	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. 3. Only the worst case was shown in test report															



TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RF power output	25.3deg. C, 57%RH	DC 3.7V From Battery	Liu Yuan
Effective Radiated Power	25.3deg. C, 57%RH	DC 3.7V From Battery	Liu Yuan
Equivalent Isotropic Radiated Power	25.3deg. C, 57%RH	DC 3.7V From Battery	Liu Yuan
Frequency Stability	25.3deg. C, 57%RH	DC 3.7V From Battery	Liu Yuan
Occupied Bandwidth	25.3deg. C, 57%RH	DC 3.7V From Battery	Liu Yuan
Band Edge Compliance	25.3deg. C, 57%RH	DC 3.7V From Battery	Liu Yuan
Conducted Spurious Emission	25.3deg. C, 57%RH	DC 3.7V From Battery	Liu Yuan
Radiates Spurious Emission	24.6deg. C, 53%RH	DC 3.7V From Battery	Liu Yuan
Peak-to-Average Power Ratio	25.3deg. C, 57%RH	DC 3.7V From Battery	Liu Yuan



2.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC 47 CFR PART 2

FCC 47 CFR PART 22,24,27

KDB 971168 D01 POWER MEAS LICENSE DIGITAL SYSTEMS V03R01

ANSI/TIA-603-E

ANSI C63.26-2015

ANSI C63.4-2014

Note: All test items have been performed and recorded as per the above standards

2.5 DESCRIPTION OF SUPPORT UNITS

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

Support Equipment							
NO	Description	Brand	Model No.	Serial Number	Supplied by		
1	Notebook	HP	HP ProBook 440 GB Notebook PC	N/A	Lab		
Support Cable							
NO	Description	Quantity (Number)	Length (cm)	Detachable (Yes/ No)	Shielded (Yes/ No)	Cores (Number)	Supplied by
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A



2.6 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial Number	Cal. interval	Cal. Due
Antenna Port Conducted Test					
Signal&Spectrum Analyzer	Rohde&Schwarz	FSV 3044	104408	1 year	2025.5.21
#4Shielding room	MORI	443	N/A	3 year	2026.5.16
Wideband radio communication tester	Rohde&Schwarz	CMW 500	168588	1 year	2025.5.25
Analog signal Generator(100kHz~12.75GHz)	Rohde&Schwarz	SMB 100A	181882	1 year	2025.5.21
Vector signal Generator(8kHz~6GHz)	Rohde&Schwarz	SMBV 100B	101846	1 year	2025.5.21
DC power supply	Rohde&Schwarz	HMC8041-G	101203	1 year	2025.5.21
RF control unit(2/3/4/5G)	Tonscend	JS0806-1	CS0300027	1 year	2025.5.21
Automatic filter bank(2/3/4G)	Tonscend	JS0806-F	CS0300028	1 year	2025.5.21
Automatic filter bank(5G)	Tonscend	JS0806-F-5G NR	N/A	1 year	2025.5.21
Temperature and humidity meter	UNI-T	A10T	C193561464	1 year	2025.5.21
Radio Communication Analyzer	Anritsu	MT8821C	6272374548	1 year	2026.3.09
Constant temperature humidity chamber	TEELONG	TL-HW-225B	20220518-01	1 year	2025.5.25
Radio Communication Test Station	Anritsu	MT8000A	6272354169	1 year	2026.3.09

Radiated Spurious Emission Test - 3M Chamber					
Equipment	Manufacturer	Model No.	Serial Number	Cal. interval	Cal. Due
Signal&Spectrum Analyzer	Rohde&Schwarz	FSV 40	101898	1 year	2025.5.21
EMI Test Receiver	Rohde&Schwarz	ESR3	102693	1 year	2025.5.25
Antenna(30MHz~1001MHz)	SCHWARZBECK	VULB 9168	01133	1 year	2026.4.21
Horn antenna(1GHz-18GHz)	ETS	3117	227611	1 year	2025.3.25
Horn antenna(18GHz-40GHz)	QMS	QMS-00880	22051	1 year	2025.3.25
3m anechoic chamber	MORI	966	CS0300011	3 year	2026.5.18
Filter group(RSE-BT/WiFi)	Rohde&Schwarz	WiFi /BT Variant 1	100820	1 year	2025.4.28
Filter group(RSE-Cellular)	Rohde&Schwarz	Cellular Variant 1	100768	1 year	2025.4.28
Preamplifier(1GHz-18GHz)	Rohde&Schwarz	SCU-18F	100799	1 year	2025.4.28
Preamplifier(1GHz-18GHz)	Rohde&Schwarz	SCU-18F	100801	1 year	2025.4.28
Preamplifier(18Gz-40GHz)	Rohde&Schwarz	SCU-40A	101209	1 year	2025.4.28
#2 control room	MORI	433	CS0300028	3 year	2026.5.16
Temperature and humidity meter	/	C193561517	C193561517	1 year	2025.4.28



2.7 LIST OF TEST SOFTWARE

Antenna Port Conducted Test			
Software Name	Manufacturer	Version	Test item
JS1120 RF Test System	Tonscend	3.1.46	Antenna Port Conducted Test

Radiated Spurious Emission Test - 3M Chamber			
Software Name	Manufacturer	Version	Test item
JS36-RSE	Tonscend	5.0.0	Radiated Spurious Emission Test

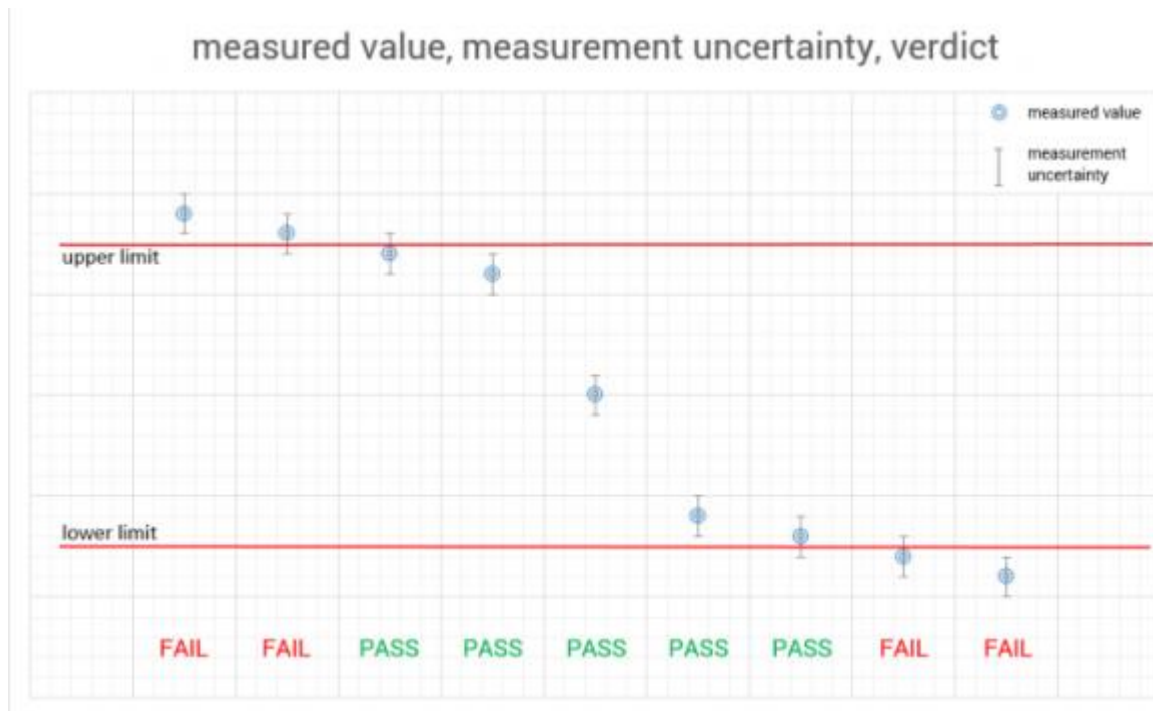
2.8 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

No.	Item	Measurement Uncertainty
1	Occupied Channel Bandwidth	± 1.86 %
2	RF output power, conducted	± 0.9 dB
3	Power Spectral Density, conducted	± 0.8 dB
4	Conducted emission test	± 2.7 dB
5	Radiated emission 9kHz-30MHz	± 5.6 dB
	Radiated emission 30MHz-1GHz	± 4.6 dB
	Radiated emission 1GHz-18GHz	± 4.4 dB
	Radiated emission 18GHz-40GHz	± 5.1 dB
6	Temperature	± 0.73 °C
7	Humidity	± 3.90 %
8	Supply voltages	± 0.37 %
9	Time	± 0.27 %
Remark: 95% Confidence Levels, k=2.		

Only the measured values related to their corresponding limits will be used to decide whether the equipment under test meets the requirements of the test standards listed.

The measurement uncertainty is mentioned in this test report, but is not taken into account - neither to the limits nor to the measurement results. Measurement results with a smaller margin to the corresponding limits than the measurement uncertainty have a potential risk of more than 5% that the decision might be wrong.





2.9 TEST LOCATION

The tests and measurements refer to this report were performed by EMC testing Lab of CVC Testing Technology (Shenzhen) Co., Ltd.

Lab Address: No. 1301-14&16, Guanguang Road, Xinlan Community, Guanlan Subdistrict, Longhua District, Shenzhen, Guangdong, China

Post Code: 518110 Tel: 0755-23763060-8805
Fax: 0755-23763060 E-mail: sz-kf@cvc.org.cn
FCC(Test firm designation number: CN1363)
IC(Test firm CAB identifier number: CN0137)
CNAS(Test firm designation number: L16091)



3 TEST TYPES AND RESULTS

3.1 RADIATED EMISSION MEASUREMENT

3.6.1 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G
- c. $EIRP(dBm) = S.G.POWER - TX \text{ cable loss} + \text{Antenna gain}.$
- d. $E.R.P(dBm) = E.I.P.R - 2.15dBi.$

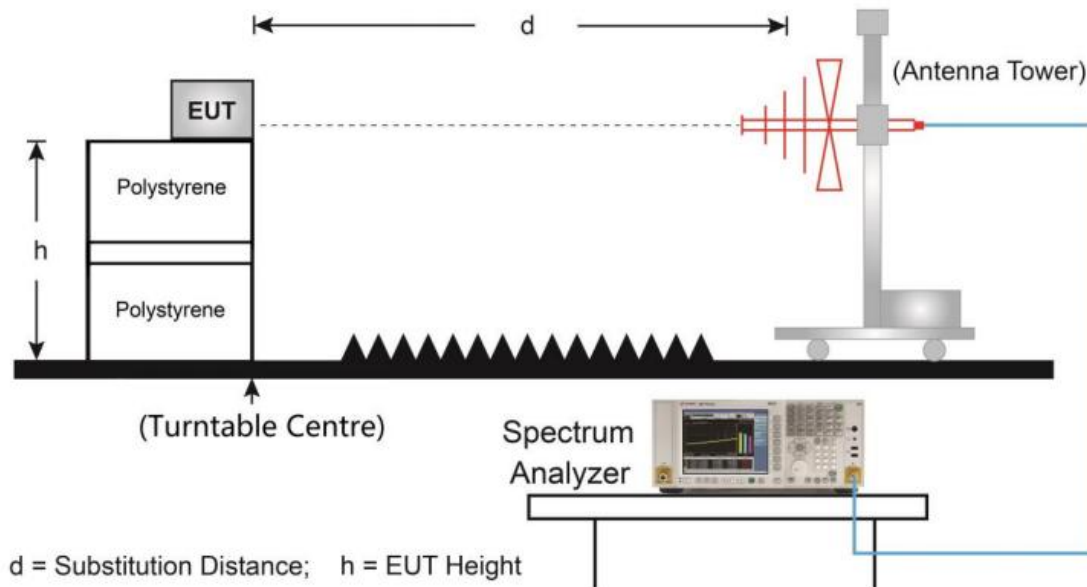
NOTE:

- 1.The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
- 2.Only the worst case was shown in test report

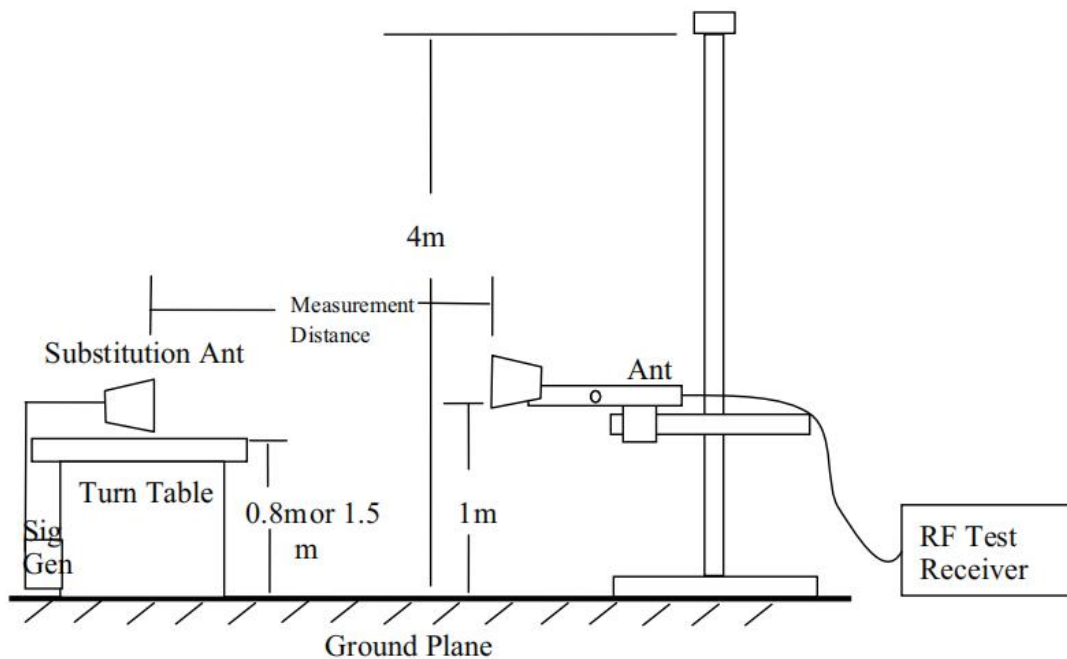
3.6.2 TEST SETUP

Below 1GHz

Test Setup setp 1:

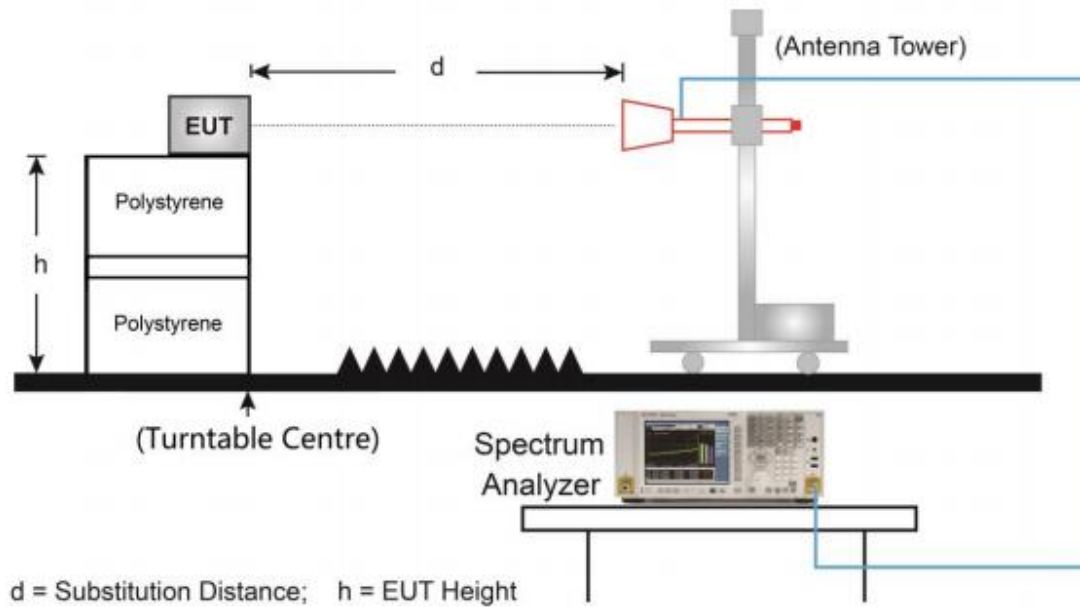


Test Setup setp 2:

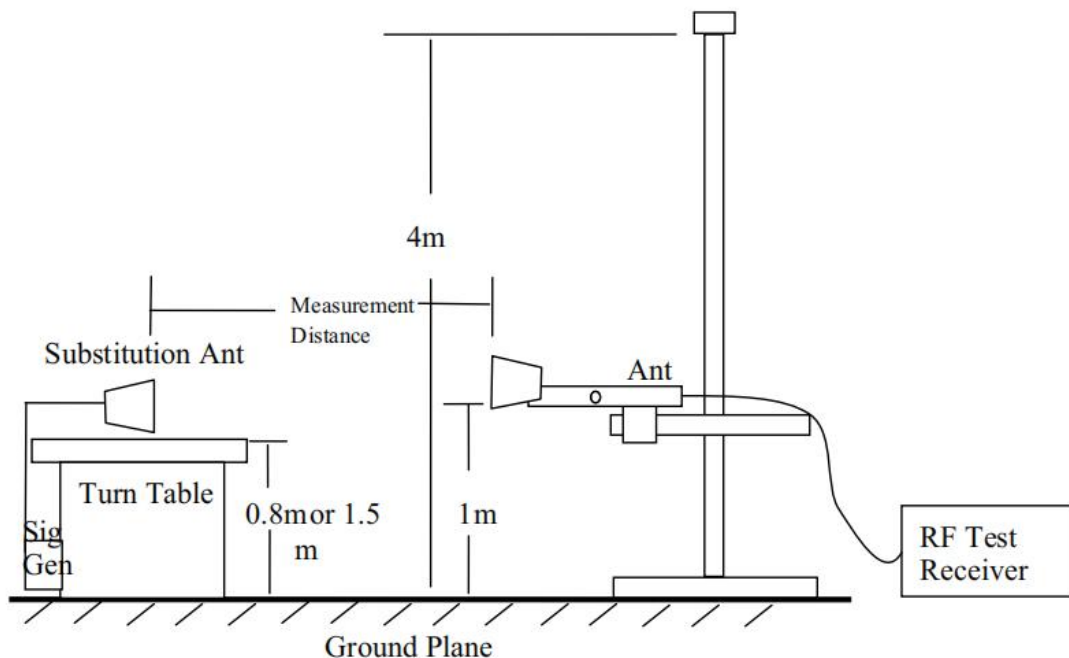


Above 1GHz

Test Setup setp 1:



Test Setup setp 2:



Note: Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

For the actual test configuration, please refer to the attached file (Test Setup Photo).



3.6.3 TEST RESULTS - GSM

Test Mode		GSM850-CH128					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	55.6826	-100.61	-73.22	-13.00	60.22	27.39	298
2	158.7339	-100.06	-74.61	-13.00	61.61	25.45	115
3	607.3227	-98.81	-65.16	-13.00	52.16	33.65	115
4	2245.2691	-68.86	-59.64	-13.00	46.64	9.22	54
5	4788.5777	-70.35	-53.16	-13.00	40.16	17.19	176
6	5999.3799	-73.05	-52.53	-13.00	39.53	20.52	54
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	38.7744	-99.51	-72.27	-13.00	59.27	27.24	11
2	159.0485	-99.56	-73.19	-13.00	60.19	26.37	192
3	638.8604	-98.41	-65.32	-13.00	52.32	33.09	192
4	2636.3873	-68.77	-59.36	-13.00	46.36	9.41	252
5	4013.6227	-69.54	-55.49	-13.00	42.49	14.05	192
6	6109.6419	-72.48	-51.73	-13.00	38.73	20.75	71



Test Mode		GSM850-CH190					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	38.7749	-100.77	-74.07	-13.00	61.07	26.70	0
2	160.6601	-100.63	-75.23	-13.00	62.23	25.40	358
3	455.4745	-99.23	-69.34	-13.00	56.34	29.89	238
4	1719.964	-70.22	-62.67	-13.00	49.67	7.55	0
5	3358.2917	-69.60	-57.30	-13.00	44.30	12.30	0
6	5780.9362	-72.82	-52.82	-13.00	39.82	20.00	54
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	51.5616	-99.02	-71.37	-13.00	58.37	27.65	132
2	150.274	-98.98	-73.19	-13.00	60.19	25.79	11
3	268.6219	-97.65	-72.27	-13.00	59.27	25.38	132
4	3131.5263	-71.15	-56.86	-13.00	43.86	14.29	192
5	5354.4509	-70.65	-52.22	-13.00	39.22	18.43	71
6	15401.6468	-85.72	-56.29	-13.00	43.29	29.43	48



Test Mode		GSM850-CH251					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	49.797	-100.39	-73.48	-13.00	60.48	26.91	0
2	147.8188	-100.01	-75.21	-13.00	62.21	24.80	298
3	335.5156	-99.15	-71.86	-13.00	58.86	27.29	115
4	1957.1314	-69.89	-61.74	-13.00	48.74	8.15	238
5	3127.3655	-71.17	-55.73	-13.00	42.73	15.44	298
6	4864.5129	-72.15	-54.23	-13.00	41.23	17.92	298
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	42.0381	-98.03	-71.94	-13.00	58.94	26.09	360
2	153.2167	-97.56	-72.82	-13.00	59.82	24.74	132
3	473.0557	-97.25	-66.87	-13.00	53.87	30.38	192
4	2558.3717	-68.77	-58.85	-13.00	45.85	9.92	312
5	3951.2102	-71.07	-56.21	-13.00	43.21	14.86	312
6	11683.1389	-82.98	-59.54	-13.00	46.54	23.44	235



Test Mode		GSM1900-CH512					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	41.9852	-100.00	-74.75	-13.00	61.75	25.25	298
2	150.173	-100.34	-75.37	-13.00	62.37	24.97	0
3	471.0981	-99.27	-69.29	-13.00	56.29	29.98	298
4	1042.5353	-98.04	-59.24	-13.00	46.24	38.80	116
5	4865.0165	-71.30	-53.22	-13.00	40.22	18.08	320
6	6158.0858	-71.70	-51.11	-13.00	38.11	20.59	259
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	49.1549	-100.33	-71.88	-13.00	58.88	28.45	193
2	149.531	-100.00	-74.20	-13.00	61.20	25.80	71
3	1092.4022	-98.05	-58.83	-13.00	45.83	39.22	131
4	6114.8515	-71.60	-50.91	-13.00	37.91	20.69	0
5	10744.1044	-83.05	-60.95	-13.00	47.95	22.10	319
6	16387.5788	-87.76	-53.44	-13.00	40.44	34.32	11



Test Mode		GSM1900-CH661					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	57.5018	-100.42	-72.63	-13.00	59.63	27.79	298
2	180.7781	-99.35	-74.59	-13.00	61.59	24.76	54
3	394.9065	-100.08	-71.11	-13.00	58.11	28.97	54
4	1098.3948	-98.90	-59.48	-13.00	46.48	39.42	116
5	4063.0363	-69.51	-54.96	-13.00	41.96	14.55	197
6	5842.5743	-70.48	-51.05	-13.00	38.05	19.43	11
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	61.4611	-99.78	-73.46	-13.00	60.46	26.32	71
2	153.9184	-99.67	-75.00	-13.00	62.00	24.67	131
3	484.0464	-99.69	-68.79	-13.00	55.79	30.90	193
4	2911.0622	-65.41	-55.33	-13.00	42.33	10.08	11
5	5436.3036	-71.47	-52.27	-13.00	39.27	19.20	112
6	10747.6148	-81.53	-59.41	-13.00	46.41	22.12	73



Test Mode		GSM1900-CH810					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	49.583	-101.37	-74.44	-13.00	61.44	26.93	358
2	184.6305	-99.08	-74.86	-13.00	61.86	24.22	116
3	819.739	-98.61	-62.75	-13.00	49.75	35.86	0
4	1087.2657	-98.65	-59.46	-13.00	46.46	39.19	298
5	3652.4752	-69.16	-54.86	-13.00	41.86	14.30	259
6	6218.4818	-70.53	-50.48	-13.00	37.48	20.05	259
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	50.5461	-100.06	-72.03	-13.00	59.03	28.03	253
2	157.5568	-100.69	-74.63	-13.00	61.63	26.06	131
3	617.4887	-100.08	-66.95	-13.00	53.95	33.13	253
4	987.2107	-97.94	-60.01	-13.00	47.01	37.93	313
5	2908.4017	-65.12	-55.04	-13.00	42.04	10.08	71
6	5436.3036	-71.47	-52.27	-13.00	39.27	19.20	112



3.6.4 TEST RESULTS - LTE

Test Mode		LTE B2-QPSK-5MHz-CH 18625-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	56.7527	-100.21	-73.13	-13.00	60.13	27.08	234
2	152.9553	-99.29	-74.39	-13.00	61.39	24.90	0
3	422.0872	-98.80	-70.05	-13.00	57.05	28.75	172
4	1075.2805	-97.41	-58.23	-13.00	45.23	39.18	172
5	3751.4851	-70.01	-55.57	-13.00	42.57	14.44	257
6	11225.0225	-83.29	-61.23	-13.00	48.23	22.06	49
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	64.9925	-97.39	-71.72	-13.00	58.72	25.67	131
2	425.2975	-99.45	-70.73	-13.00	57.73	28.72	191
3	3751.1551	-68.13	-54.39	-13.00	41.39	13.74	52
4	5626.7327	-69.26	-50.35	-13.00	37.35	18.91	52
5	7501.7102	-76.85	-58.69	-13.00	45.69	18.16	252
6	9377.4077	-78.33	-58.97	-13.00	45.97	19.36	252



Test Mode		LTE B2-QPSK-5MHz-CH 18900-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	46.5867	-100.11	-73.93	-13.00	60.93	26.18	297
2	64.5645	-100.19	-73.08	-13.00	60.08	27.11	297
3	165.3685	-100.22	-74.96	-13.00	61.96	25.26	0
4	1081.4871	-98.70	-59.48	-13.00	46.48	39.22	112
5	3596.0396	-69.04	-55.07	-13.00	42.07	13.97	319
6	12650.225	-82.79	-58.91	-13.00	45.91	23.88	233
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	157.3427	-99.99	-73.94	-13.00	60.94	26.05	71
2	238.4568	-98.82	-74.76	-13.00	61.76	24.06	251
3	966.0226	-98.32	-60.63	-13.00	47.63	37.69	251
4	3854.1254	-69.89	-55.55	-13.00	42.55	14.34	296
5	5623.4323	-70.23	-51.34	-13.00	38.34	18.89	357
6	7350.7651	-80.37	-61.56	-13.00	48.56	18.81	71



Test Mode		LTE B2-QPSK-5MHz-CH 19175-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	57.8228	-100.67	-73.38	-13.00	60.38	27.29	112
2	162.3722	-99.52	-74.08	-13.00	61.08	25.44	0
3	410.316	-99.10	-70.37	-13.00	57.37	28.73	52
4	1028.1958	-97.92	-59.22	-13.00	46.22	38.70	0
5	3746.5347	-69.54	-55.09	-13.00	42.09	14.45	360
6	12322.5923	-83.00	-59.70	-13.00	46.70	23.30	295
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	161.3021	-100.47	-74.40	-13.00	61.40	26.07	251
2	599.939	-99.74	-67.45	-13.00	54.45	32.29	131
3	1044.3544	-98.14	-59.55	-13.00	46.55	38.59	191
4	5113.5314	-71.28	-53.36	-13.00	40.36	17.92	0
5	6057.7558	-71.62	-51.10	-13.00	38.10	20.52	176
6	10061.9262	-82.07	-60.96	-13.00	47.96	21.11	314



Test Mode		LTE B4-QPSK-5MHz-CH 20375-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	34.4944	-96.25	-71.98	-13.00	58.98	24.27	360
2	164.0844	-99.97	-74.63	-13.00	61.63	25.34	260
3	730.5991	-99.49	-65.07	-13.00	52.07	34.42	360
4	1096.5757	-98.11	-58.74	-13.00	45.74	39.37	360
5	2996.1992	-65.55	-54.85	-13.00	41.85	10.70	20
6	5743.2343	-63.52	-43.89	-13.00	30.89	19.63	0
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	161.7302	-99.92	-73.94	-13.00	60.94	25.98	200
2	439.958	-96.89	-67.63	-13.00	54.63	29.26	80
3	639.961	-98.92	-65.55	-13.00	52.55	33.37	200
4	1074.9595	-98.22	-59.15	-13.00	46.15	39.07	320
5	3476.2376	-46.79	-33.84	-13.00	20.84	12.95	220
6	5783.4984	-58.36	-39.30	-13.00	26.30	19.06	0



Test Mode		LTE B4-QPSK-5MHz-CH 19975-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	61.7822	-100.87	-73.54	-13.00	60.54	27.33	80
2	395.6556	-99.91	-71.21	-13.00	58.21	28.70	320
3	1096.5757	-98.11	-58.74	-13.00	45.74	39.37	360
4	2180.176	-65.18	-55.95	-13.00	42.95	9.23	360
5	3545.8746	-69.05	-55.25	-13.00	42.25	13.80	40
6	5297.6898	-71.70	-53.31	-13.00	40.31	18.39	280
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	161.7302	-99.92	-73.94	-13.00	60.94	25.98	200
2	433.3233	-97.78	-68.75	-13.00	55.75	29.03	20
3	679.983	-99.47	-65.42	-13.00	52.42	34.05	200
4	992.5613	-98.35	-60.37	-13.00	47.37	37.98	20
5	3876.2376	-70.80	-56.27	-13.00	43.27	14.53	0
6	5486.1386	-70.88	-51.84	-13.00	38.84	19.04	100



Test Mode		LTE B4-QPSK-5MHz-CH 20175-1RB					
Horizontal							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	34.2804	-96.51	-72.26	-13.00	59.26	24.25	200
2	164.0844	-99.97	-74.63	-13.00	61.63	25.34	260
3	1096.5757	-98.11	-58.74	-13.00	45.74	39.37	360
4	3578.5479	-69.51	-55.60	-13.00	42.60	13.91	340
5	4622.4422	-70.06	-53.41	-13.00	40.41	16.65	280
6	6016.8317	-70.95	-51.25	-13.00	38.25	19.70	40
Vertical							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Angle [°]
1	49.69	-101.51	-73.32	-13.00	60.32	28.19	80
2	461.8952	-99.61	-69.51	-13.00	56.51	30.10	20
3	1074.9595	-98.22	-59.15	-13.00	46.15	39.07	320
4	2483.0966	-63.68	-54.71	-13.00	41.71	8.97	360
5	3946.8647	-71.02	-56.22	-13.00	43.22	14.80	40
6	5713.2013	-71.00	-51.90	-13.00	38.90	19.10	160



3.2 OUT POWER MEASUREMENT

3.1.1 TEST PROCEDURES

Subclause 5.6 of Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$EIRP = PT + GT - LC$, $ERP = EIRP - 2.15\text{dBi}$, where

PT = transmitter output power dBm;

GT = gain of the transmitting antenna dBi;

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

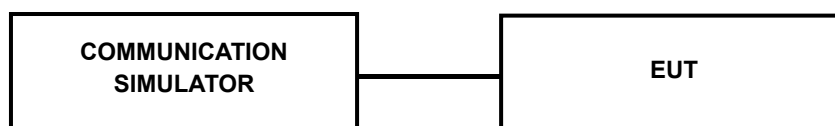
CONDUCTED POWER MEASUREMENT:

The EUT was set up for the maximum power with LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

3.1.2 TEST SETUP

EIRP / ERP Measurement:

CONDUCTED POWER MEASUREMENT:



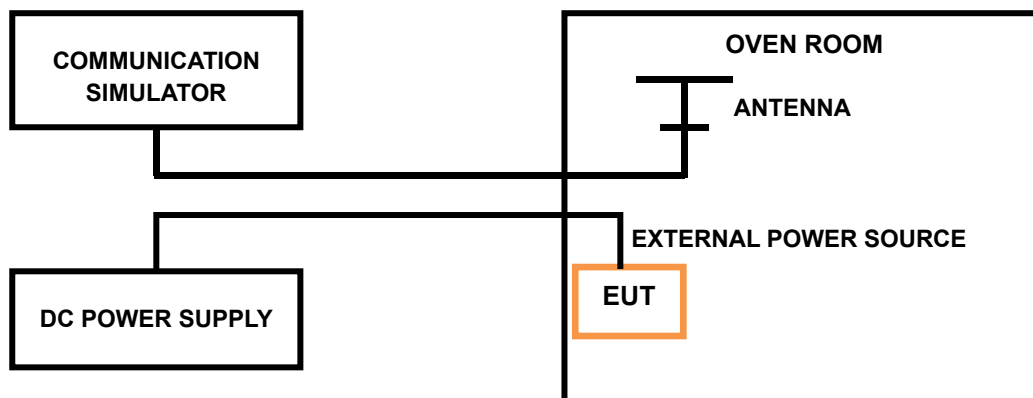
3.3 FREQUENCY STABILITY

3.2.1 TEST PROCEDURE

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

3.2.2 TEST SETUP

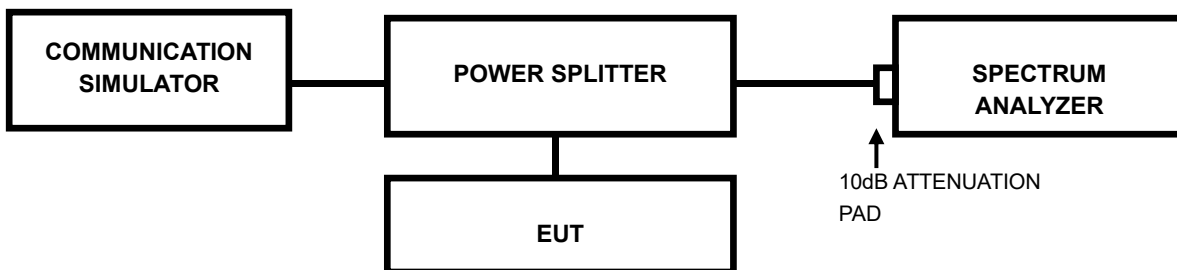


3.4 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 TEST PROCEDURES

The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

3.3.2 TEST SETUP

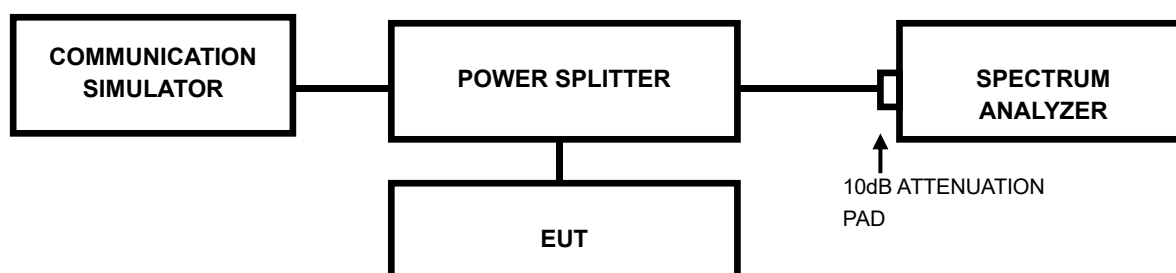


3.5 BAND EDGE MEASUREMENT

3.4.1 TEST PROCEDURES

- a. All measurements were done at low and high operational frequency range.
- b. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 30kHz and VBW of the spectrum is 100kHz. (LTE bandwidth 1.4MHz).
- c. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 30kHz and VBW of the spectrum is 100kHz. (LTE bandwidth 3MHz).
- d. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz. (LTE bandwidth 5MHz).
- e. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz. (LTE bandwidth 10MHz).
- f. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 200kHz and VBW of the spectrum is 600kHz. (LTE bandwidth 15MHz).
- g. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 300kHz and VBW of the spectrum is 1000kHz. (LTE bandwidth 20MHz).
- h. Set the spectrum with RMS detector.
- i. Record the AVG trace plot into the test report.

3.4.2 TEST SETUP

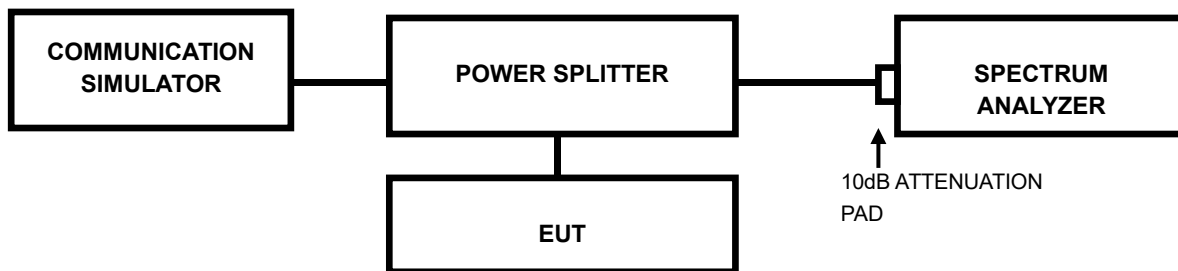


3.6 CONDUCTED SPURIOUS EMISSIONS

3.5.1 TEST PROCEDURE

- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. Measuring frequency range is from 30 MHz up to a frequency including its 10th harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.2 TEST SETUP



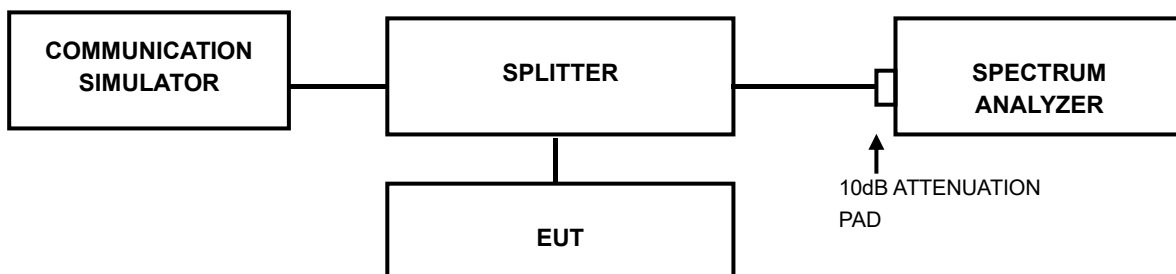


3.7 PEAK TO AVERAGE RATIO

3.7.1 TEST PROCEDURES

1. Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.7.2 TEST SETUP





4 PHOTOGRAPHS OF TEST SETUP

Please refer to the attached file (Test Setup Photo).



5 PHOTOGRAPHS OF THE EUT

Please refer to the attached file (External Photos report and Internal Photos).

----- End of the Report -----



Important

- (1) The test report is invalid without the official stamp of CVC;
- (2) Any part photocopies of the test report are forbidden without the written permission from CVC;
- (3) The test report is invalid without the signatures of Approval and Reviewer;
- (4) The test report is invalid if altered;
- (5) Objections to the test report must be submitted to CVC within 15 days.
- (6) Generally, commission test is responsible for the tested samples only.
- (7) As for the test result “-” or “N” means “not applicable”, “/” means “not test”, “P” means “pass” and “F” means “fail”

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