

Report No.: SUCR250400034208

Rev.: 02

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## **TEST REPORT**

**Application No.:** SUCR2504000342WM

Applicant: FCNT LLC.

Sanki Yamato Bldg. 3F, 7-10-1, Chuorinkan, Yamato-shi, Kanagawa, 242-**Address of Applicant:** 

0007, Japan

Manufacturer: FCNT LLC.

Sanki Yamato Bldg. 3F, 7-10-1, Chuorinkan, Yamato-shi, Kanagawa, 242-Address of Manufacturer:

0007, Japan

Mobile Cellular Phone **EUT Description:** Model No.: 

Please refer to section 2.4 of this report which indicates which model was

actually tested and which were electrically identical.

Trade Mark: FCNT LLC.

FCC ID: 2BEPUFMP203 Standards: 47 CFR Part 2 47 CFR Part 22

47 CFR Part 24 47 CFR Part 27

**Date of Receipt:** April 18, 2025

**Date of Test:** April 25, 2025 to May 11, 2025

Date of Issue: June 6, 2025

Test Result: PASS \*

In the configuration tested, the EUT detailed in this report complied with the standards specified above.

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## Version

Revision Record					
Version	Description	Date	Remark		
01	Original	May 26, 2025	/		
02	Revise the comments raised by TCB	June 6, 2025	/		

Authorized for issue by:		
Tested By	Nature Shen / Project Manager	
	Cloud Peng	
Approved By	Cloud Peng/Technical Manager	



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# 1 Test Summary

## 1.1 GSM850/UMTS Band 5/LTE Band 5

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §22.913(a)(5)	ERP≤7W	Section 1 of Appendix B	Pass
Peak-Average Ratio	§22.913(d)	Limit≤13 dB	Section 4 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 3 of Appendix B	Pass
Band Edges Compliance	§2.1051, §22.917(a)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §22.917(a)	FCC: ≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	Section 5 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §22.917(a)	FCC: ≤ -13 dBm/100 kHz.	Section 6 of Appendix B	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d) (2) §22.355	±2.5ppm.	Section 2 of Appendix B	Pass



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## 1.2 GSM 1900/UMTS Band 2 /LTE Band 2

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §24.232(c)	EIRP ≤ 2 W	Section 1 of Appendix B	Pass
Peak-Average Ratio	§24.232(d)	Limit≤13 dB	Section 4 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 3 of Appendix B	Pass
Band Edges Compliance	§2.1051, §24.238(a)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §24.238(a)	≤ -13 dBm/1 MHz, from 9 kHz to 10 <sup>th</sup> harmonics but outside authorized operating frequency ranges.	Section 5 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §24.238(a)	≤ -13 dBm/1 MHz.	Section 6 of Appendix B	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d) (2) §24.235	Within authorized bands of operation/frequency block.	Section 2 of Appendix B	Pass



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## 1.3 LTE Band 4

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(d)(4)	EIRP ≤ 1 W	Section 1 of Appendix B	Pass
Peak-Average Ratio	§27.50(d)(5)	Limit≤13 dB	Section 4 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 3 of Appendix B	Pass
Band Edges Compliance	§2.1051, §27.53(h)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(h)	≤ -13 dBm/1 MHz, from 9 kHz to 10 <sup>th</sup> harmonics but outside authorized operating frequency ranges.	Section 5 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(h)	≤ -13 dBm/1 MHz.	Section 6 of Appendix B	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(2) §27.54	Within authorized bands of operation/frequency block.	Section 2 of Appendix B	Pass



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## 1.4 LTE Band 38/41/ CA\_41C

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(h)(2)	EIRP ≤ 2W	Section 1 of Appendix B	Pass
Peak-Average Ratio		≤13 dB	Section 4 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 3 of Appendix B	Pass
Band Edges Compliance	§2.1051, §27.53(m)(4)	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.	Section 5 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(m)	Channel Edge  -25dBm/ 1 MHz 1 MHz 1 MHz 9 kHz 95 MHz × MHz 10 <sup>th</sup> harmonics X=Max {6MHz, EBW}	Section 5 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(m)	Channel Edge  -25dBm/ 1 MHz 1 MHz 1 MHz 9 kHz 95 MHz XMHz 10th harmonics X=Max {6MHz, EBW}	Section 6 of Appendix B	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d) (2) §27.54	Within authorized bands of operation/frequency block.	Section 2 of Appendix B	Pass



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### 1.5 LTE Band 12

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046 §27.50(c)(10)	ERP≤3W.	Section 1 of Appendix B	Pass
Peak-Average Ratio		Limit≤13 dB	Section 4 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 3 of Appendix B	Pass
Band Edges Compliance	§2.1051, §27.53(g)	≤ 43+10log10(P[Watts])	Section 5 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(g)	≤ 43+10log10(P[Watts])	Section 5 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(g)	FCC: ≤ -13 dBm/100 kHz.	Section 6 of Appendix B	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(2) §27.54	Within authorized bands of operation/frequency block.	Section 2 of Appendix B	Pass



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## 1.6 LTE Band 42/LTE CA\_42C

### 3450-3550MHz:

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(k)(3)	EIRP ≤ 30dBm	Section 1 of Appendix B	Pass
Peak-Average Ratio	§27.50(k)(4)	Limit≤13 dB	Section 4 of Appendix B	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 3 of Appendix B	Pass
Band Edges Compliance	§2.1051, §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.	Section 5 of Appendix B	Pass
Spurious Emission at Antenna Terminals	§2.1051, §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.	Section 5 of Appendix B	Pass
Field Strength of Spurious Radiation	§2.1053, §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.	Section 6 of Appendix B	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(2) §27.54	Within authorized bands of operation/ frequency block.	Section 2 of Appendix B	Pass



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### 2 General Information

### 2.1 Details of Client

Applicant:	FCNT LLC.
Address of Applicant:	Sanki Yamato Bldg. 3F, 7-10-1, Chuorinkan, Yamato-shi, Kanagawa, 242-0007, Japan
Manufacturer:	FCNT LLC.
Address of Manufacturer:	Sanki Yamato Bldg. 3F, 7-10-1, Chuorinkan, Yamato-shi, Kanagawa, 242-0007, Japan

#### 2.2 Test Location

Company:	SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.	
Address:	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone	
Post code:	215000	
Test engineer:	Tizzy Song, Levi Li	

### 2.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### • A2LA (Certificate No. 6336.01)

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

#### • Innovation, Science and Economic Development Canada

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

#### • FCC -Designation Number: CN1312

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an

accredited testing laboratory. Designation Number: CN1312.

Test Firm Registration Number: 717327



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## 2.4 General Description of EUT

<u> </u>			
Mobile Cellular Phone			
M08, F-51F			
FCNT LLC.			
DVT2			
V2VH35.58-5			
RF Conducted	354977560034184/3549	77560034192	
RSE	354977560034887		
Class 2: LTE Band 41;			
IFA Antenna			
GSM850: -4.0dBi	(Ant0); GSM1900:	-2.4dBi (Ant0);	
WCDMA Band V: -4.0dBi	(Ant0);		
		-1.0dBi (Ant1); -2.5dBi (Ant2);	
		2: -3.5dBi (Ant0); -4.5dBi (Ant1)	
IIIE Band 38:	· // IIIE Band 4	1: -1.0dBi (Ant1); -1.1dBi (Ant2);	
Note: The antenna gain are derived from the gain information report provided by the manufacturer.			
0.8dB(Below 1GHz)	I.0dB(1.0~2.4GHz)	1.2dB(2.4~3.4GHz)	
1.5dB(Above 3.4GHz)			
	M08, F-51F  FCNT LLC.  DVT2  V2VH35.58-5  RF Conducted  RSE  Class 2: LTE Band 41;  IFA Antenna  GSM850: -4.0dBi  WCDMA Band V: -4.0dBi  LTE Band 2: -0.5dBi -2.4dBi  LTE Band 5: -3.9dBi  LTE Band 38: -2.2dBi -2.2dBi -1.5dBi -1.3dBi  Note: The antenna gain are derived manufacturer.  0.8dB(Below 1GHz)	M08, F-51F  FCNT LLC.  DVT2  V2VH35.58-5  RF Conducted 354977560034184/3549  RSE 354977560034887  Class 2: LTE Band 41;  IFA Antenna  GSM850: -4.0dBi (Ant0); GSM1900:  WCDMA Band V: -4.0dBi (Ant0);  LTE Band 2: -0.5dBi (Ant1); LTE Band 4: -2.4dBi (Ant2);  LTE Band 5: -4.0dBi (Ant0); LTE Band 4: -3.9dBi (Ant1); LTE Band 1: -2.2dBi (Ant1); LTE Band 4: -1.5dBi (Ant2);  LTE Band 42: -1.5dBi (Ant2); LTE Band 4: -1.3dBi (Ant7);  Note: The antenna gain are derived from the gain information manufacturer.  0.8dB(Below 1GHz) 1.0dB(1.0~2.4GHz)	

#### Note

- 1. Conduction Power & EIRP of all antennas are tested, and only the worst data is presented
- 2. 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 , SGS is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
- 3. The two models named M08, F-51F are the same product except that their model names are different for different market segments.



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Accessories Information								
	Brand Name	Motorola (AOHAI)	Model Name	MC-901				
AC Adapter	Power Rating		I/P: 100 - 240 Vac, 2000 mA, O/P: 5/9/15/20/5-15/5-20 Vdc, 3000/3000/4500/3000~6000/3000~4500 mA					
	Power Cord	0 meter, non-shielded cable, with w/o ferrite core						
Detter	Brand Name	ATL	Model Name	SA18E67963				
Battery	Power Rating	3.91Vdc, 5000 mAh	<u>Type</u>	Li-ion				
LICD Cable 4	Brand Name	Saibao	Model Name	SC18D71644				
USB Cable 1	Signal Line	1 meter, shielded cable, w/o ferrite core						
USB Cable 2	Brand Name	Luxshare	Model Name	SC18E08104				
USB Cable 2	Signal Line	1 meter, shielded cable, w/o ferrite core						

## 2.5 Test Mode

Test Mode	Test Modes Description			
GSM/TM1	GSM system, GSM/GPRS, GMSK modulation			
GSM/TM2	GSM system, EGPRS, 8PSK modulation			
UMTS/TM1	UMTS system, WCDMA, QPSK modulation			
LTE/TM1	LTE system, QPSK modulation			
LTE/TM2	LTE system, 16QAM modulation			
LTE/TM3 LTE system, 64QAM modulation				
LTE/TM4	LTE system, 256QAM modulation			
Remark: The test mode	e(s) are selected according to relevant radio technology specifications.			



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### 2.6 Test Environment

Environment Parameter		101 kPa Selected Values During Tests			
Relative Humidity		44-46 % RH Ambient			
Value		Temperature(°C)	Voltage(V)		
NTNV		22~23	3.91		
LTLV		-10	3.6		
LTHV		-10	4.5		
HTLV	HTLV		3.6		
HTHV		55	4.5		
Remark:					
NV: Normal Voltage LV: Low		Extreme Test Voltage	HV: High Extreme Test Voltage		
NT: Normal Temperature	LT: Low	Extreme Test Temperature	HT: High Extreme Test Temperature		

## 2.7 Description of Support Units

The EUT has been tested as an independent unit.



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## 2.8 Technical Specification

Characteristics	Description						
Radio System Type	⊠ GSM	⊠ UMTS	□ LTE				
	Band		TX		RX	RX	
	GSM850		824 to 849 MHz		869 to 89	869 to 894 MHz	
	GSM1900		1850 to 19	10 MHz	1930 to 1	1990 MHz	
	UMTS Band V		824 to 849	MHz	869 to 89	94 MHz	
	LTE Band 2		1850 to 19	10 MHz	1930 to	1990 MHz	
Supported Frequency Range	LTE Band 4		1710 to 17	55 MHz	2110 to 2	2155 MHz	
	LTE Band 5		824 to 849	MHz	869 to 89	94 MHz	
	LTE Band 12		699 to 716	MHz	729 to 74	46 MHz	
	LTE Band 38		2570 to 26	20 MHz	2570 to 2	2620 MHz	
	LTE Band 41		2496 to 26	90MHz	2496 to 2	2690MHz	
	LTE Band 42		3450 to 35	50 MHz	3450 to 3	3550 MHz	
	LTE CA_41C		2496 to 26	90MHz	2496 to 2	2690MHz	
	LTE CA_42C		3450 to 3550 MHz		3450 to 3	3450 to 3550 MHz	
	GSM system:		⊠0.2 MHz				
	UMTS system:		⊠5 MHz				
	LTE Band 2		⊠1.4 MHz	⊠3 MHz	⊠5 MHz	⊠10 MHz	
			⊠15 MHz	⊠20 MHz			
	LTE Band 4		⊠1.4 MHz	⊠3 MHz	⊠5 MHz	⊠10 MHz	
			⊠15 MHz	⊠20 MHz			
	LTE Band 5		⊠1.4 MHz	⊠3 MHz	⊠5 MHz	⊠10 MHz	
	LTE Band 12		⊠1.4 MHz	⊠3 MHz	⊠5 MHz	⊠10 MHz	
	LTE Band 38		⊠5 MHz	⊠10 MHz	⊠15 MHz	⊠20 MHz	
	LTE Band 41		⊠5 MHz	⊠10 MHz	⊠15 MHz	⊠20 MHz	
Supported Channel Bandwidth	LTE Band 42		⊠5 MHz	⊠10 MHz	⊠15 MHz	⊠20 MHz	
			⊠5MHz+20MHz		⊠10MHz+15MHz		
			⊠10MHz+	20MHz	⊠15MHz+15MHz		
	LTE Band CA_	_41C	⊠15MHz+	10MHz	⊠20MHz+	5MHz	
			⊠20MHz+	10MHz	⊠20MHz+15MHz		
			⊠15MHz+20MHz		⊠20MHz+	20MHz	
			⊠5MHz+20		⊠20MHz+	10MHz	
	LTE Band CA_	42C	⊠10MHz+20MHz		⊠20MHz+	15MHz	
	2.2 Dana 0/1_		⊠15MHz+20MHz ⊠20MHz+20MHz			20MHz	
			⊠20MHz+	5MHz			
	Note2: WCDMA	A supports H	SUPA, HSD	PA, DC-HSD	PA,HSPA+,	but only the	



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	worst case was tested and the data displayed in this report.
Characteristics	Description



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## 2.9 Test Frequencies

Test Mode	TX / RX	RF Channel				
rest widde	17/17	Low (L)	Middle (M)	High (H)		
	TX	Channel 128	Channel 190	Channel 251		
GSM850	17	824.2MHz	836.6 MHz	848.8 MHz		
	RX	Channel 128	Channel 190	Channel 251		
	KΛ	869.2 MHz	881.6 MHz	893.8 MHz		

Test Mode	TX / RX	RF Channel			
1 63t Mode	IA/IX	Low (L)	Middle (M)	High (H)	
	TX	Channel 512	Channel 661	Channel 810	
GSM1900	17	1850.2MHz	1880.0 MHz	1909.8 MHz	
	DV	Channel 512	Channel 661	Channel 810	
	RX	1930.2 MHz	1960.0 MHz	1989.8 MHz	

Test Mode	TX / RX	RF Channel				
1 est Mode	IA/NA	Low (L)	Middle (M)	High (H)		
	TX	Channel 4132	Channel 4182	Channel 4233		
WCDMA Band V	1.	826.4MHz	836.4 MHz	846.6 MHz		
WCDIVIA Band V	DV	Channel 4357	Channel 4407	Channel 4458		
	RX	871.4 MHz	881.4 MHz	891.6 MHz		



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Toot Mode	Bandwidth	TV / DV	RF Channel		
Test Mode	Danawiain	TX / RX	Low (L)	Middle (M)	High (H)
			Channel 18607	Channel 18900	Channel 19193
		TX	1850.7 MHz	1880 MHz	1909.3 MHz
	1.4MHz	DV	Channel 607	Channel 900	Channel 1193
		RX	1930.7 MHz	1960 MHz	1989.3 MHz
		<del>-</del> `.	Channel 18615	Channel 18900	Channel 19185
		TX	1851.5 MHz	1880 MHz	1908.5 MHz
	3MHz	RX	Channel 615	Channel 900	Channel 1185
		NΛ	1931.5 MHz	1960 MHz	1988.5 MHz
	5MHz	TX	Channel 18625	Channel 18900	Channel 19175
			1852.5 MHz	1880 MHz	1907.5 MHz
		RX	Channel 625	Channel 900	Channel1175
LTE Band 2			1932.5 MHz	1960 MHz	1987.5 MHz
LIE Dallu Z	10MHz		Channel 18650	Channel 18900	Channel 19150
		TX	1855 MHz	1880 MHz	1905 MHz
		RX	Channel 650	Channel 900	Channel 1150
			1935 MHz	1960 MHz	1985 MHz
			Channel 18675	Channel 18900	Channel 19125
		TX	1857.5 MHz	1880 MHz	1902.5 MHz
	15MHz	RX	Channel 675	Channel 900	Channel 1125
		KΛ	1937.5 MHz	1960 MHz	1982.5 MHz
			Channel 18700	Channel 18900	Channel 19100
		TX	1860 MHz	1880 MHz	1900 MHz
	20MHz	RX	Channel 700	Channel 900	Channel 1100
		Γ.Λ	1940 MHz	1960 MHz	1980 MHz



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Toot Made	Bandwidth	th TX / RX		RF Channel	
Test Mode	Danawiain		Low (L)	Middle (M)	High (H)
			Channel 19957	Channel 20175	Channel 20393
		TX	1710.7 MHz	1732.5 MHz	1754.3 MHz
	1.4MHz	RX	Channel 1957	Channel 2175	Channel 2393
		NΛ	2110.7 MHz	2132.5MHz	2154.3 MHz
			Channel 19965	Channel 20175	Channel 20385
		TX	1711.5 MHz	1732.5 MHz	1753.5 MHz
	3MHz	RX	Channel 1965	Channel 2175	Channel 2385
		NΛ	2111.5 MHz	2132.5MHz	2153.5 MHz
	5MHz		Channel 19975	Channel 20175	Channel 20375
		TX	1712.5 MHz	1732.5 MHz	1752.5 MHz
		RX	Channel 1975	Channel 2175	Channel 2425
LTE Band 4			2112.5 MHz	2132.5MHz	2157.5 MHz
LTE Danu 4	10MHz	TX	Channel 20000	Channel 20175	Channel 20350
			1715 MHz	1732.5 MHz	1750 MHz
		RX	Channel 2000	Channel 2175	Channel 2350
			2115 MHz	2132.5MHz	2150 MHz
			Channel 20025	Channel 20175	Channel 20325
		TX	1717.5 MHz	1732.5 MHz	1747.5 MHz
	15MHz	RX	Channel 2025	Channel 2175	Channel 2325
		1070	2117.5 MHz	2132.5MHz	2147.5 MHz
			Channel 20050	Channel 20175	Channel 20300
		TX	1720 MHz	1732.5 MHz	1745 MHz
	20MHz	RX	Channel 2050	Channel 2175	Channel 2300
		Γ.Λ	2120 MHz	2132.5MHz	2145 MHz

Toot Mode	Bandwidth	TX / RX	RF Channel			
Test Mode	Danuwidin	IA/KA	Low (L)	Middle (M)	High (H)	
			Channel 20407	Channel 20525	Channel 20643	
		TX	824.7 MHz	836.5 MHz	848.3 MHz	
	1.4MHz	RX	Channel 2407	Channel 2525	Channel 2643	
		KΛ	869.7 MHz	881.5 MHz	893.3 MHz	
			Channel 20415	Channel 20525	Channel 20635	
		TX	825.5 MHz	836.5 MHz	847.5 MHz	
	3MHz	RX	Channel 2415	Channel 2525	Channel 2635	
1.75 5 1.5			870.5 MHz	881.5 MHz	892.5 MHz	
LTE Band 5	5MHz	TX	Channel 20425	Channel 20525	Channel 20625	
			826.5 MHz	836.5 MHz	846.5 MHz	
		RX	Channel 2425	Channel 2525	Channel 2625	
		KΛ	871.5 MHz	881.5 MHz	891.5 MHz	
			Channel 20450	Channel 20525	Channel 20600	
		TX	829 MHz	836.5 MHz	844 MHz	
	10MHz	RX	Channel 2450	Channel 2525	Channel 2600	
		NΛ	874 MHz	881.5 MHz	889 MHz	



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Toot Made	Dondwidth	TX / RX		RF Channel	
Test Mode	Bandwidth	IX/IX	Low (L)	Middle (M)	High (H)
		TX	Channel 23017	Channel 23095	Channel 23173
			699.7 MHz	707.5 MHz	715.3 MHz
	1.4MHz	RX	Channel 5017	Channel 5095	Channel 5173
		NA	729.7 MHz	737.5 MHz	745.3 MHz
			Channel 23025	Channel 23095	Channel 23165
	3MHz	TX	700.5 MHz	707.5 MHz	714.5 MHz
		RX	Channel 5025	Channel 5095	Channel 5165
LTE Day 140			730.5 MHz	737.5 MHz	744.5 MHz
LTE Band 12	5MHz	TX	Channel 23035	Channel 23095	Channel 23155
			701.5 MHz	707.5 MHz	713.5 MHz
		RX	Channel 5035	Channel 5095	Channel 5155
			731.5 MHz	737.5 MHz	743.5 MHz
			Channel 23060	Channel 23095	Channel 23130
		TX	704 MHz	707.5 MHz	711 MHz
	10MHz	RX	Channel 5060	Channel 5095	Channel 5130
		NΛ	734 MHz	737.5 MHz	741 MHz

Test Mode	Bandwidth	TX / RX	RF Channel				
rest Mode	Dariuwiuiri	17/87	Low (L)	Middle (M)	High (H)		
	ENALI-	TX/RX	Channel 37775	Channel38000	Channel 38225		
	5MHz	IA/NA	2572.5 MHz	2595 MHz	2617.5 MHz		
	10MHz	TX/RX	Channel 37800	Channel 37800 Channel 38000 Channel 3820	Channel 38200		
LTE Band 38	TUIVITZ	IA/NA	2575 MHz	2595 MHz	2615 MHz		
LIE Danu 30	15MHz	TX/RX	Channel 37825	Channel38000	Channel 38175		
	TOIVIEZ	IA/NA	2577.5 MHz	2595 MHz	Channel 38225 2617.5 MHz Channel 38200 2615 MHz		
	20MHz	TX/RX	Channel 37850	Channel38000	Channel 38150		
	ZUIVITZ	TA/IXA	2580 MHz	2595 MHz	2610 MHz		

Toot Mode	Pandwidth	TX / RX	RF Channel			
rest Mode	Test Mode Bandwidth		Low (L)	Middle (M)	High (H)	
			Channel 39675	Channel40620	Channel 41565	
	5MHz	TX / RX	2498.5 MHz	2593 MHz	2687.5 MHz	
			Channel 39700	Channel40620	Channel 41540	
LTE Band 41	10MHz	TX / RX	2501 MHz	2593 MHz	2685 MHz	
(2496-2690)			Channel 39725	Channel40620	Channel 41515	
(	15MHz	TX / RX	2503.5 MHz	2593 MHz	2682.5 MHz	
			Channel 39750	Channel40620	Channel 41490	
	20MHz	TX / RX	2506 MHz	2593 MHz	2680 MHz	



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Toot Mode	Dondwidth	TX / RX		RF Channel		
Test Mode	Bandwidth	IA/KA	Low (L)	Middle (M)	High (H)	
			Channel 42115	Channel 42590	Channel 43065	
		TX	3452.5 MHz	3500 MHz	3547.5 MHz	
	5MHz	RX	Channel 42115	Channel 42590	Channel 43065	
		KA	3452.5 MHz	3500 MHz	3547.5 MHz	
			Channel 42140	Channel 42590	Channel 43040	
		TX RX	3455 MHz	3500 MHz	3545 MHz	
	10MHz	DV	Channel 42140	Channel 42590	Channel 43040	
LTE Band 42		KA	3455 MHz	3500 MHz	Channel 43065 3547.5 MHz Channel 43065 3547.5 MHz Channel 43040 3545 MHz Channel 43040 3545 MHz Channel 43015 3542.5 MHz	
(3450-3550)			Channel 42165	Channel 42590	Channel 43015	
	451411	TX	3457.5 MHz	3500 MHz	3542.5 MHz	
	15MHz	DV	Channel 42165	Channel 42590	Channel 43065 3547.5 MHz Channel 43065 3547.5 MHz Channel 43040 3545 MHz Channel 43040 3545 MHz Channel 43015 3542.5 MHz Channel 43015 3542.5 MHz Channel 42990 3540 MHz Channel 42990	
		RX	3457.5 MHz	3500 MHz	3542.5 MHz	
			Channel 42190	Channel 42590	Channel 42990	
		TX	3460 MHz	3500 MHz	3540 MHz	
	20MHz	DV	Channel 42190	Channel 42590	Channel 42990	
		RX	3460 MHz	3500 MHz	3540 MHz	



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Table 4.3.1.2.9A-1: Test frequencies for CA\_41C

Range	CC- Combo / N <sub>RB_agg</sub> [RB]	ombo / N <sub>RB_agg</sub> CC1 [RB] Note1			CC2 Note1		
		BW		ful/DL	BW		<b>f</b> ul/DL
		[RB]	N <sub>UL/DL</sub>	[MHz]	[RB]	N <sub>UL/DL</sub>	[MHz]
Low	25+100	25	39683	2499.3	100	39800	2511
		100	39750	2506	25	39867	2517.7
	50+75	50	39703	2501.3	75	39823	2513.3
		75	39725	2503.5	50	39845	2515.5
	50+100	50	39705	2501.5	100	39849	2515.9
		100	39750	2506	50	39894	2520.4
	75+75	75	39725	2503.5	75	39875	2518.5
	75+100	75	39728	2503.8	100	39899	2520.9
		100	39750	2506	75	39921	2523.1
	100+100	100	39750	2506	100	39948	2525.8
Mid 25+100 50+75 50+100	25+100	25	40528	2583.8	100	40645	2595.5
		100	40595	2590.5	25	40712	2602.2
	50+75	50	40549	2585.9	75	40669	2597.9
		75	40571	2588.1	50	40691	2600.1
	50+100	50	40526	2583.6	100	40670	2598.0
		100	40571	2588.1	50	40715	2602.5
	75+75	75	40545	2585.5	75	40695	2600.5
75+10	75+100	75	40523	2583.3	100	40694	2600.4
		100	40546	2585.6	75	40717	2602.7
	100+100	100	40521	2583.1	100	40719	2602.9
High	25+100	25	41373	2668.3	100	41490	2680
		100	41440	2675	25	41557	2686.7
	50+75	50	41395	2670.5	75	41515	2682.5
		75	41417	2672.7	50	41537	2684.7
	50+100	50	41346	2665.6	100	41490	2680
		100	41391	2670.1	50	41535	2684.5
	75+75	75	41365	2667.5	75	41515	2682.5
	75+100	75	41319	2662.9	100	41490	2680
		100	41341	2665.1	75	41512	2682.2
	100+100	100	41292	2660.2	100	41490	2680



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LTE CA 42C(3450-3550):

Range	CC- Combo /		CC1 Note1			CC2 Note1	
-	NRB_agg   [RB]	BW [RB]	<b>N</b> uL/DL	f <sub>UL/DL</sub> [MHz]	BW [RB]	<b>N</b> UL/DL	f <sub>UL/DL</sub> [MHz]
	25+100	25	42123	3453.3	100	42240	3465
	25+100	100	42190	3460	25	42307	3471.7
	50+100	50	42145	3455.5	100	42289	3469.9
Low	50+100	100	42190	3460	50	42334	3474.4
	75+100	75	42168	3457.8	100	42339	3474.9
	75+100	100	42190	3460	75	42361	3477.1
	100+100	100	42190	3460	100	42388	3479.8
25+ <sup>2</sup> Mid	25 , 100	25	42498	3490.8	100	42615	3502.5
	25+100	100	42565	3497.5	25	42682	3509.2
	50+100	50	42496	3490.6	100	42640	3505
	50+100	100	42541	3495.1	50	42685	3509.5
	75+100	75	42493	3490.3	100	42664	3507.4
	75+100	100	42516	3492.6	75	42687	3509.7
	100+100	100	42491	3490.1	100	42689	3509.9
	25+100	25	42873	3528.3	100	42990	3540
	25+100	100	42940	3535	25	43057	3546.7
	50+100	50	42846	3525.6	100	42990	3540
High	30+100	100	42891	3530.1	50	43035	3544.5
	75+100	75	42819	3522.9	100	42990	3540
	75+100	100	42841	3525.1	75	43012	3542.2
	100+100	100	42792	3520.2	100	42990	3540



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## 3 Main Test Instruments

RF Test Equipment							
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date		
Shielding Room	Brilliant-emc	N/A	SUWI-04-01-06	2022/11/9	2025/11/8		
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-07	2025/2/13	2026/2/12		
Signal Analyzer	ROHDE&SCHWARZ	FSV3030	SUWI-01-02-02	2025/1/20	2026/1/19		
Measurement Software	TST	TST-271-2.0	SUWI-03-55-01	NCR	NCR		
Measurement Software	Tonscend	J1120 RFAuto Test System	SUWI-02-03-01	NCR	NCR		
Wideband Radio Communication Tester	Anritsu	MT8821C	SUWI-01-26-03	2024/11/19	2025/11/18		
Wideband Radio Communication Tester	ROHDE&SCHWARZ	CMW500	SUWI-01-16-05	2025/1/20	2026/1/19		
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	2024/11/19	2025/11/18		
Wideband Radio Communication Test Ststion	Anritsu	MT8000A	SUWI-01-34-02	2024/11/19	2025/11/18		



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RSE Test Equipment						
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	
Semi-Anechoic Chamber	Brilliant-emc	N/A	SUWI-04-02-01	6/3/2023	6/2/2026	
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-05	2/13/2025	2/12/2026	
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	1/20/2025	1/19/2026	
Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-07	11/21/2024	11/20/2025	
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	1/15/2025	1/14/2026	
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	VULB 9163	SUWI-01-11-01	5/13/2023	5/12/2025	
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	BBHA 9120D	SUWI-01-11-02	5/13/2023	5/12/2025	
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	BBHA 9170	SUWI-01-11-03	5/12/2023	5/11/2025	
Active Loop Antenna	SCHWRZBECK MESS- ELEKTRONIK	FMZB 1519B	SUWI-01-21-01	5/13/2023	5/12/2025	
Amplifier	Tonscend	TAP9K3G32	SUWI-01-14-06	11/19/2024	11/24/2025	
Amplifier	Tonscend	TAP01018050	SUWI-01-14-04	11/19/2024	11/24/2025	
Amplifier	Tonscend	TAP30M7G30	SUWI-01-14-05	11/19/2024	11/24/2025	
Wideband Radio Communication Tester	Anritsu	MT8820C	SUWI-01-16-08	9/10/2024	9/9/2025	
Wideband Radio Communication Tester	Anritsu	MT8821C	SUWI-01-26-03	11/19/2024	11/18/2025	
Radio Communication Analyzer	StarPoint	SP9500E	SUWI-01-28-03	8/13/2024	8/12/2025	
Measurement Software	Tonscend	JS32-RE V4.0.0.0	SUWI-02-09-04	NCR	NCR	
Measurement Software	Tonscend	JS32-RSE 4.0.0.1	SUWI-02-09-06	NCR	NCR	

Remark: NCR=No Calibration Requirement.



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## 4 Measurement Uncertainty

For a 95% confidence level (k = 2), the measurement expanded uncertainties for defined systems, in

accordance with the recommendations of ISO 17025 as following:

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	±0.54dB
2	RF power density, conducted	±1.03dB
3	Spurious emissions, conducted	±0.54dB
4	Radio Frequency	1%
5	Duty Cycle	±0.37%
6	Occupied Bandwidth	1%
		± 3.13dB (9k -30MHz)
7	Radiated Emission	± 4.88dB (30M -1GHz)
/	Radiated Effission	± 4.75dB (1GHz to 18GHz)
		± 4.77dB (Above 18GHz)

#### Remark

The  $U_{lab}$  (lab Uncertainty) is less than  $U_{cispr/ETSI}$  (CISPR/ETSI Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;

- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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## 5 Description of Tests

## **5.1 Conducted Output Power**

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.2.1

The transmitter output was connected to a calibrated coaxial cable, attenuator and power meter, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The power output at the transmitter antenna port was determined by adding the value of the cable insertion loss to the power reading. The tests were performed at three frequencies (low channel, middle channel and high channel) and on the highest power levels, which can be setup on the transmitters.

Remark: Reference test setup 1



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### 5.2 Effective (Isotropic) Radiated Power of Transmitter

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.8.4

Calculate power in dBm by the following formula:

ERP (dBm) = Conducted Power (dBm) + antenna gain (dBd)

EIRP(dBm) = Conducted Power (dBm) + antenna gain (dBi)

EIRP=ERP+2.15dB



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### 5.3 Occupied Bandwidth

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 4.2 & 4.3

The occupied bandwidth, that 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 radiated by a given emission shall be measured. The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel, middle channel and high channel). The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1 percent of the selected span as is possible without being below 1 percent. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual. The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 percent of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded. The span between the two recorded frequencies is the occupied bandwidth.

#### Remark: Reference test setup 1

- The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = 1 5% of the expected OBW
- VBW ≥ 3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep = auto couple
- 7. The trace was allowed to stabilize
- 8. If necessary, steps 2 7 were repeated after changing the RBW such that it would be within
  - 1 5% of the 99% occupied bandwidth observed in Step 7



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### 5.4 Band Edge at Antenna Terminals

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 6.0

The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at two frequencies (low channel and high channel).in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of 100kHz or 1% of the emission bandwidth of the fundamental emission of the transmitter may be employed. The EUT emission bandwidth is measured as the width of the signal between two points, outside of which all emission are attenuated at least 26dB below the transmitter power. The video bandwidth of the spectrum analyzer was set at thrice the resolution bandwidth. Detector Mode was set to rms.

#### Remark: Reference test setup 1

- 1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
- 2. Span was set large enough so as to capture all out of band emissions near the band edge
- 3. RBW ≥ 1% of the emission bandwidth
- VBW > 3 x RBW
- Detector = RMS
- Number of sweep points ≥ 2 x Span/RBW
- 7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
- 8. Sweep time = auto couple
- 9. The trace was allowed to stabilize



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### 5.5 Spurious And Harmonic Emissions at Antenna Terminal

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 6.0

The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyzer, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel and high channel). The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz 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. 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 emission are attenuated at least 26 dB below the transmitter power.

#### Remark: Reference test setup 1

- 1. Start frequency was set to 9kHz and stop frequency was set to at least 10\* the fundamental frequency(Separated into at least two plots per channel)
- 2. Detector = RMS
- 3. Trace mode = trace average for continuous emissinos, max hold for pulse emissions
- 4. Sweep time = auto couple
- 5. The trace was allowed to stabilize
- 6. Please see test notes below for RBW and VBW settings



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### 5.6 Peak-Average Ratio

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.7.2

A peak to average ratio measurement is performed at the conducted port of the EUT. For WCDMA signals, the spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level. For GSM signals, an average and a peak trace are used on a spectrum analyzer to determine the largest deviation between the average and the peak power of the EUT in a bandwidth greater than the emission bandwidth. The traces are generated with the spectrum analyzer set to zero span mode.

#### Remark: Reference test setup 1

- 1. The signal analyzer's CCDF measurement profile is enabled
- 2. Frequency = carrier center frequency
- 3. Measurement BW > Emission bandwidth of signal
- 4. The signal analyzer was set to collect one million samples to generate the CCDF curve
- 5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power



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### 5.7 Field Strength of Spurious Radiation

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.8

#### Below 1GHz test procedure as below:

- 1). The EUT was powered ON and placed on a 80cm high table in the chamber. The antenna of the transmitter was extended to its maximum length.
- 2). The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.
- 3). Steps 1) and 2) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.
- 4). Test the EUT in the lowest channel, the middle channel, the Highest channel.
- 5). The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.
- 6). Repeat above procedures until all frequencies measured was complete.

E (dB $\mu$ V/m) = Measured amplitude level (dB $\mu$ V) + (Cable Loss (dB) + Antenna Factor (dB/m) – AMP(dB)) EIRP (dBm) = E (dB $\mu$ V/m) + 20 log D – 104.8; where D is the measurement distance in meters

#### Above 1GHz test procedure as below:

- Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber
- 2) Calculate power in dBm by the following formula:

E (dB $\mu$ V/m) = Measured amplitude level (dB $\mu$ V) + (Cable Loss (dB) + Antenna Factor (dB/m) – AMP(dB)) EIRP (dBm) = E (dB $\mu$ V/m) + 20 log D – 104.8; where D is the measurement distance in meters

- 3). Test the EUT in the lowest channel, the middle channel the Highest channel
- 4). The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.
- 5). Repeat above procedures until all frequencies measured was complete

Remark1: Reference test setup 2

Remark2: The emission below 18G were measured at a 3m test distance, while emissions above 18GHz were measured at a 1m test distance. At a measurement distance of 1 meter the limit line was increased by 20\*LOG(3/1) = 9.54 dB.

#### Remark: Reference test setup 2

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & AMP. The basic equation with a sample calculation is as follows:

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier (dB)

Level = Reading Level + AF + Factor -95.26

Margin = Limit – Level

2) Scan from 9kHz to 40GHz, The disturbance between 9KHz to 30MHz and 18GHz to 40GHz was very low, and the harmonics were the highest point could be found when testing, so only the harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

3) All modes have been tested, but only the worst case data displayed in this report.



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### 5.8 Frequency Stability / Temperature Variation

Measurement Procedure:

Frequency stability testing is performed in accordance with the guidelines of FCC KDB 971168 D01 V03r01; Section 9

- . The frequency stability of the transmitter is measured by:
- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **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.

Specification – The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency.

#### **Time Period and Procedure:**

- 1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
- 2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
- 3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Remark: Reference test setup 3

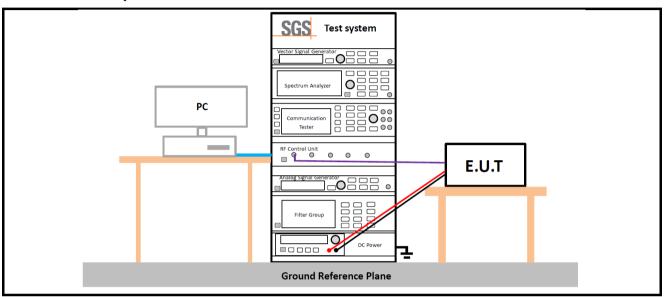


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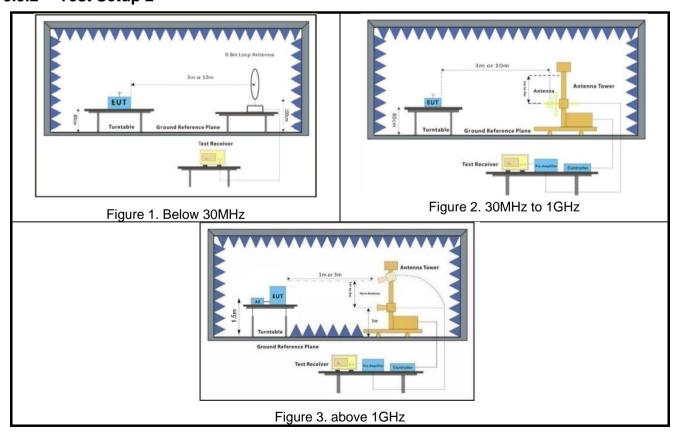
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### 5.9 Test Setups

### 5.9.1 Test Setup 1



## 5.9.2 Test Setup 2



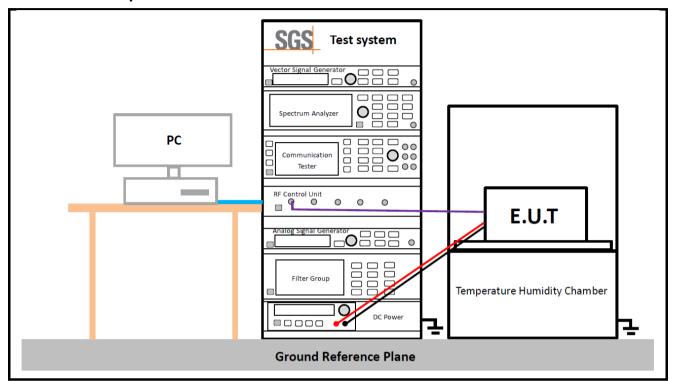


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### **5.9.3 Test Setup 3**





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## **5.10Test Conditions**

	Transmit Output Power Data - Average Power, Total
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 1
RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2; LTE/TM3; LTE/TM4
	Peak-to-Average Ratio
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 1
RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2; LTE/TM3; LTE/TM4
	Bandwidth - Occupied Bandwidth
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 1
RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2
	Bandwidth - Emission Bandwidth
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 1
RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2
	Band Edges Compliance
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 1
RF Channels (TX)	L, H (L= low channel, H= high channel)
Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1



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	Spurious Emission at Antenna Terminals					
Test Case	Test Conditions					
Test Environment	Ambient Climate & Rated Voltage					
Test Setup	Test Setup 1					
RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)					
Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1					
	Field Strength of Spurious Radiation					
Test Case	Test Conditions					
Test Environment	Ambient Climate & Rated Voltage					
Test Setup	Test Setup 2					
RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)					
Test Mode	GSM/TM1;UMTS/TM1; LTE/TM1 Remark: All bandwidth and modulation of GSM/ UMTS/LTE have been pre tested, and only the worst results are reflected in the report.					
	Frequency Stability					
Test Case	Test Conditions					
Took Carriage and out	(1) -30 °C to +50 °C with step 10 °C at Rated Voltage					
Test Environment	(2) VL, VN and VH of Rated Voltage at Ambient Climate.					
Test Setup	Test Setup 3					
RF Channels (TX)	M (M= middle channel)					
Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1					
I GSL WIOUE	The report only show the bandwidth with the worst case.					



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# 6 Appendixes

Appendix A.3	WWAN Setup Photos
Appendix B.1	GSM850
Appendix B.2	GSM1900
Appendix B.3	WCDMA Band V
Appendix B.4	LTE Band 2
Appendix B.5	LTE Band 4
Appendix B.6	LTE Band 5
Appendix B.7	LTE Band 12
Appendix B.8	LTE Band 38
Appendix B.9	LTE Band 41
Appendix B.10	LTE Band 42
Appendix B.11	LTE CA_41C
Appendix B.12	LTE CA_42C

---End of Report---