



Radio Test Report

Report No.: STS2510013W02

Issued for

Shenzhen Yibetong Technology Co., Ltd.

Room 9A1, Building 3, Metropolitan Sunshine Garden No.
6017, Shennan Road, Tian'an Community, Shatou Street,
Futian District Shenzhen CHINA

Product Name: Tablet PC

Brand Name: Nexall

Model Name: N90

Series Model(s): N/A

FCC ID: 2BSN6-N90

Test Standards: 47 CFR Part 2, 22H, 24E, 27

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Shenzhen STS Test Services Co., Ltd.

**TEST REPORT**

Applicant's Name: Shenzhen Yibetong Technology Co., Ltd.
Address: Room 9A1, Building 3, Metropolitan Sunshine Garden No. 6017,
Shennan Road, Tian'an Community, Shatou Street, Futian District
Shenzhen CHINA
Manufacturer's Name: Shenzhen Yibetong Technology Co., Ltd.
Address: Room 9A1, Building 3, Metropolitan Sunshine Garden No. 6017,
Shennan Road, Tian'an Community, Shatou Street, Futian District
Shenzhen CHINA

Product Description

Product Name: Tablet PC
Brand Name: Nexall
Model Name: N90
Series Model(s): N/A

Test Standards.....: 47 CFR Part 2, 22H, 24E, 27
Test Procedure: KDB 971168 D01 v03r01, ANSI C63.26(2015)

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test.....:

Date of receipt of test item: 10 Oct. 2025
Date (s) of performance of tests : 10 Oct. 2025~22 Oct. 2025
Date of Issue: 22 Oct. 2025
Test Result: Pass

Testing Engineer :

(Lenon Hou)

Technical Manager :

(Skylar Li)

Authorized Signatory :

(Bovey Yang)





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**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	22 Oct. 2025	STS2510013W02	ALL	Initial Issue



1 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

The radiated emission testing was performed according to the procedures of KDB 971168 D01 v03r01 and ANSI C63.26(2015)

Test Description	FCC Rules	Band	Test Limit	Test Result
Conducted Output Power	2.1046	/	Reporting Only	PASS
Transmitter Radiated Power	22.913	GSM850	ERP < 7 Watt	PASS
	24.232(c)	GSM1900	EIRP < 2Watt	
	27.50(h)	B41	EIRP < 2Watt	
Peak-to-Average Ratio	22.913(d)	GSM850	< 13 dB	PASS
	24.232(d)	GSM1900		
	27.50	B41		
Occupied Bandwidth	2.1049	/	Reporting Only	PASS
Frequency Stability	2.1055	/	< 2.5 ppm	PASS
	22.355	GSM850		
	24.235	GSM1900		
	27.54	B41		
Spurious Emission at Antenna Terminals	2.1051	/	< 43+10log10(P[Watts])	PASS
	22.917	GSM850		
	24.238(a)	GSM1900	< 55+10log10(P[Watts])	
	27.53(m)	B41		
Band Edge	2.1051	/	Please refer to standard	PASS
	22.917	GSM850		
	24.238(a)	GSM1900		
	27.53(m)	B41		
Field Strength of	2.1053	/	< 43+10log10(P[Watts])	PASS



Spurious Radiation	22.917	GSM850		
	24.238(a)	GSM1900		
	27.53(m)	B41	< 55+10log10(P[Watts])	



1.1 INTRODUCTION

TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : 101, Building B, Zhuoke Science Park, No.190 Chongqing Road, ZhanChengShequ, Fuhai Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95% level of confidence. The measurement data shown herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

No.	Item	Uncertainty
1	RF output power, conducted	$\pm 0.751\text{dB}$
2	Unwanted Emissions, conducted	$\pm 2.888\text{dB}$
3	All emissions, radiated 9K-30MHz	$\pm 2.48\text{dB}$
4	All emissions, radiated 30M-1GHz	$\pm 2.52\text{dB}$
5	All emissions, radiated 1G-18GHz	$\pm 3.48\text{dB}$
6	All emissions, radiated >18GHz	$\pm 4.18\text{dB}$
7	Conducted Emission (9KHz-150KHz)	$\pm 2.48\text{dB}$
8	Conducted Emission (150KHz-30MHz)	$\pm 2.52\text{dB}$
9	Occupied Channel Bandwidth	$\pm 3.6\%$
10	Power Spectral Density, conducted	$\pm 1.214\text{dB}$
11	Duty Cycle	$\pm 3.2\%$



2 PRODUCT INFORMATION

Product Name	Tablet PC
Brand Name	Nexall
Model Name	N90
Series Model(s)	N/A
Model Difference	N/A
Tx Frequency:	GSM850: 824-849 MHz GSM1900: 1850-1910 MHz LTE Band 41: 2535-2655M
Rx Frequency:	GSM850: 869-894 MHz GSM1900: 1930-1990 MHz LTE Band 41: 2535-2655M
Max RF Output Power:	GSM850:26.34dBm, PCS1900:30.65dBm LTE B41:23.02dBm,
Modulation Characteristics:	GMSK for GSM/GPRS; GMSK and 8PSK for EDGE LTE: QPSK /16QAM
SIM Card:	SIM 1 and SIM 2 is a chipset unit and tested as single chipset, SIM 1 is used to tested
Antenna:	PIFA
Antenna gain:	GSM 850:-4.5 dBi GSM 1900:1.3 dBi LTE B41:-2.8 dBi
GPRS/EDGE Class:	Multi-Class12
Extreme Vol. Limits:	DC 3.465V ~ DC 4.235V (Normal: DC 3.85V)
Extreme Temp. Tolerance:	0°C~40°C
Power Rating	Input: 9.0V-2.0A 18.0W
Adapter	Model: QZ-0180AAA00 Input: 100-240V~50/60Hz 0.5A Output: 5.0V-3.0A 15.0W or 9.0V-2.0A 18.0W or 12.0V-1.5A 18.0W
Battery	Model: U3067133PHVUTL Rated Voltage: 3.85V Charge Limit Voltage: 4.4V Capacity: 9000mAh
Hardware version number:	S866T-T616-V2.0
Software version number:	N/A
** Note: The High Voltage DC 4.235V and Low Voltage DC 3.465V was declared by manufacturer, The EUT couldn't be operate normally with higher or lower voltage, the antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.	



Test channel list					
GSM850	Frequency(MHz)	Channel	GSM1900	Frequency(MHz)	Channel
L	824.2	128	L	1850.2	512
M	836.6	190	M	1880	661
H	848.8	251	H	1909.8	810

Test channel list			
Band41 2535-2655	2.5GHz	Frequency(MHz)	Channel
L	5	2537.5	40065
	10	2540	40090
	15	2542.5	40115
	20	2545	40140
M	5/10/15/20	2595	40640
H	5	2652.5	41215
	10	2650	41190
	15	2647.5	41165
	20	2645	41140

EMISSION DESIGNATOR

Mode	Emission Designator (99%OBW)
GSM850	246KGXW
GPRS850	247KGXW
EGPRS850	238KG7W
GSM1900	247KGXW
GPRS1900	246KGXW
EGPRS1900	248KG7W

LTE Band 41 BW(MHz)	Emission Designator (99%OBW)QPSK	Emission Designator (99%OBW)16QAM
5	4M50G7D	4M52W7D
10	8M99G7D	9M01W7D
15	13M5G7D	13M5W7D
20	18M0G7D	18M0W7D



3 TEST CONFIGURATION OF EQUIPMENT UNDER TEST

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 and ANSI C63.26 2015 Power Meas. License Digital Systems with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated as following frequency range:

1. 30 MHz to 10th harmonic for GSM850.
2. 30 MHz to 10th harmonic for GSM1900

All modes and data rates and positions were investigated.

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

	TEST MODES	
	RADIATED TCS	CONDUCTED TCS
BAND		
GSM 850	GSM LINK GPRS/EDGE CLASS 12 LINK	GSM LINK GPRS/EDGE CLASS 12 LINK
GSM 1900	GSM LINK GPRS/EDGE CLASS 12 LINK	GSM LINK GPRS/EDGE CLASS 12 LINK



LTE:

ITEMS	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max. Output Power	41			v	v	v	v	v	v	v	v	v	v	v	v
Peak&Avera Ratio	41			v	v	v	v	v	v	v			v	v	v
26dB&99% Bandwidth	41			v	v	v	v	v	v			v	v	v	v
Conducted Band Edge	41			v	v	v	v	v	v			v	v		v
Conducted Spurious Emission	41			v	v	v	v	v	v	v		v	v	v	v
Frequency Stability	41				v			v				v		v	
E.R.P.& E.I.R.P.	41			v	v	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	41			v	v	v	v	v		v			v	v	v

**4 MEASUREMENT INSTRUMENTS**

RF Radiation Test Equipment					
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
Temperature & Humidity	SW-108	SuWei	N/A	2025.02.24	2026.02.23
Wireless Communications Test Set	R&S	CMW 500	117239	2025.09.26	2026.09.25
Pre-Amplifier(0.1M-3GHz)	EM	EM330	060665	2025.02.22	2026.02.21
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2025.09.25	2026.09.24
Pre-Amplifier(18G-40GHz)	SKET	LNPA 1840-50	SK2018101801	2025.02.22	2026.02.21
Positioning Controller	MF	MF-7802	MF-780208587	N/A	N/A
Signal Analyzer	R&S	FSV 40-N	101823	2025.09.26	2026.09.25
Switch Control Box	N/A	N/A	N/A	N/A	N/A
Filter Box	BALUN Technology	SU319E	BL-SZ1530051	N/A	N/A
Video Controller	SKET	FCS C-3	N/A	N/A	N/A
Bilog Antenna	TESEQ	CBL6111D	34678	2025.09.27	2027.09.26
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	2025.09.27	2027.09.26
Horn Antenna	A-INFOMW	LB-180400-KF	J211020657	2025.09.27	2027.09.26
Antenna Mast	MF	MFA-440H	N/A	N/A	N/A
Turn Table	MF	N/A	N/A	N/A	N/A
AC Power Source	APC	KDF-11010G	F214050035	N/A	N/A
DC Power Supply	Zhaoxin	RXN 605D	20R605D11010081	2025.09.22	2026.09.21
Test SW	EMC Test Software	25.5 en			
	EZ-EMC	Ver.STSLAB-03A1 RE			
RF Connected Test Equipment					
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
Temperature & Humidity	SW-108	SuWei	N/A	2025.02.24	2026.02.23
Wireless Communications Test Set	R&S	CMW 500	131428	2025.02.22	2026.02.21
Signal Analyzer	Agilent	N9020A	MY52440124	2025.02.22	2026.02.21
RF Automatic Test System	Maiwei	MW200-SFCB	N/A	N/A	N/A
Temperature & Humidity Test Chamber	Safety test	AG80L	171200018	2025.02.22	2026.02.21
Programmable Power Supply	Agilent	E3642A	MY40002025	2025.09.26	2026.09.25
POWER DIVIDER	eastsheep	PD-0.5/0.6-2S	N/A	2025.02.25	2026.02.24
Test SW	MTS 8200	2.0.0.0			

5 TEST ITEMS

5.1 CONDUCTED OUTPUT POWER&TRANSMITTER RADIATED POWER

TEST OVERVIEW

CONDUCTED OUTPUT POWER:

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

TRANSMITTER RADIATED POWER (EIRP/ERP)

Determining ERP and/or EIRP from conducted RF output power measurements according to ANSI C63.26 2015 Section 5.2.5.5.

In many cases, RF output power limits are specified in terms of the ERP or the EIRP. Typically, ERP is specified when the operating frequency is less than or equal to 1 GHz and EIRP is specified when the operating frequency is greater than 1 GHz. Both are defined as the product of the power supplied to the antenna and its gain (relative to a dipole antenna in the case of ERP, and relative to an isotropic antenna in the case of EIRP); however, when working in decibels (i.e., logarithmic scale), the ERP and EIRP represent the sum of the transmit antenna gain (in dBd or dBi, respectively) and the conducted RF output power (expressed in dB relative to watts or milliwatts). The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation (1) as follows:

$$(1) \text{ ERP or EIRP} = P_{\text{Meas}} + GT$$

$$\text{ERP} = \text{EIRP} - 2.15$$

where

ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas} , e.g., dBm or dBW)

P_{Meas} measured transmitter output power or PSD, in dBm or dBW

GT gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

For devices utilizing multiple antennas, see 6.4 for guidance with respect to determining the effective array transmit antenna gain term to be used in the above equation.

The following equations demonstrate the mathematical relationship between ERP and EIRP:

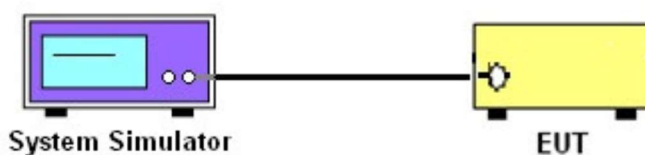
a) $\text{ERP} = \text{EIRP} - 2.15$, where ERP and EIRP are expressed in consistent units.

b) $\text{EIRP} = \text{ERP} + 2.15$, where ERP and EIRP are expressed in consistent units.

TEST PROCEDURES

1. The transmitter output port was connected to the system simulator.
2. Set eut at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

TEST SETUP



TEST RESULT

GSM 850							
Mode	Frequency (MHz)	Conduction AVG Power(dBm)	Ant Gain (dBi)	ERP (dBm)	ERP Limit (W)	ERP Limit (dBm)	Conclusion
GSM (GMSK,1-Slot)	824.2	32.86	-4.50	26.21	7.00	38.45	PASS
	836.6	32.99	-4.50	26.34	7.00	38.45	PASS
	848.8	32.92	-4.50	26.27	7.00	38.45	PASS
GPRS (GMSK,1-Slot)	824.2	32.85	-4.50	26.20	7.00	38.45	PASS
	836.6	32.99	-4.50	26.34	7.00	38.45	PASS
	848.8	32.92	-4.50	26.27	7.00	38.45	PASS
GPRS (GMSK,2-Slot)	824.2	30.83	-4.50	24.18	7.00	38.45	PASS
	836.6	31.00	-4.50	24.35	7.00	38.45	PASS
	848.8	31.08	-4.50	24.43	7.00	38.45	PASS
GPRS (GMSK,3-Slot)	824.2	29.03	-4.50	22.38	7.00	38.45	PASS
	836.6	29.21	-4.50	22.56	7.00	38.45	PASS
	848.8	29.28	-4.50	22.63	7.00	38.45	PASS
GPRS (GMSK,4-Slot)	824.2	27.01	-4.50	20.36	7.00	38.45	PASS
	836.6	27.18	-4.50	20.53	7.00	38.45	PASS
	848.8	27.31	-4.50	20.66	7.00	38.45	PASS
EGPRS (8PSK,1-Slot)	824.2	26.10	-4.50	19.45	7.00	38.45	PASS
	836.6	26.30	-4.50	19.65	7.00	38.45	PASS
	848.8	25.67	-4.50	19.02	7.00	38.45	PASS
EGPRS (8PSK,2-Slot)	824.2	24.86	-4.50	18.21	7.00	38.45	PASS
	836.6	25.53	-4.50	18.88	7.00	38.45	PASS
	848.8	24.96	-4.50	18.31	7.00	38.45	PASS
EGPRS (8PSK,3-Slot)	824.2	22.53	-4.50	15.88	7.00	38.45	PASS
	836.6	22.67	-4.50	16.02	7.00	38.45	PASS
	848.8	23.03	-4.50	16.38	7.00	38.45	PASS
EGPRS (8PSK,4-Slot)	824.2	20.63	-4.50	13.98	7.00	38.45	PASS
	836.6	19.94	-4.50	13.29	7.00	38.45	PASS
	848.8	20.29	-4.50	13.64	7.00	38.45	PASS



PCS 1900							
Mode	Frequency (MHz)	Conduction AVG Power(dBm)	Ant Gain (dBi)	EIRP (dBm)	EIRP Limit (W)	EIRP Limit (dBm)	Conclusion
GSM (GMSK,1-Slot)	1850.2	29.22	1.30	30.52	2.00	33.01	PASS
	1880.0	29.35	1.30	30.65	2.00	33.01	PASS
	1909.8	29.22	1.30	30.52	2.00	33.01	PASS
GPRS (GMSK,1-Slot)	1850.2	29.21	1.30	30.51	2.00	33.01	PASS
	1880.0	29.34	1.30	30.64	2.00	33.01	PASS
	1909.8	29.24	1.30	30.54	2.00	33.01	PASS
GPRS (GMSK,2-Slot)	1850.2	27.24	1.30	28.54	2.00	33.01	PASS
	1880.0	27.22	1.30	28.52	2.00	33.01	PASS
	1909.8	26.91	1.30	28.21	2.00	33.01	PASS
GPRS (GMSK,3-Slot)	1850.2	25.73	1.30	27.03	2.00	33.01	PASS
	1880.0	25.74	1.30	27.04	2.00	33.01	PASS
	1909.8	25.46	1.30	26.76	2.00	33.01	PASS
GPRS (GMSK,4-Slot)	1850.2	23.67	1.30	24.97	2.00	33.01	PASS
	1880.0	23.68	1.30	24.98	2.00	33.01	PASS
	1909.8	23.45	1.30	24.75	2.00	33.01	PASS
EGPRS (8PSK,1-Slot)	1850.2	25.52	1.30	26.82	2.00	33.01	PASS
	1880.0	25.65	1.30	26.95	2.00	33.01	PASS
	1909.8	26.04	1.30	27.34	2.00	33.01	PASS
EGPRS (8PSK,2-Slot)	1850.2	24.06	1.30	25.36	2.00	33.01	PASS
	1880.0	24.19	1.30	25.49	2.00	33.01	PASS
	1909.8	23.52	1.30	24.82	2.00	33.01	PASS
EGPRS (8PSK,3-Slot)	1850.2	22.15	1.30	23.45	2.00	33.01	PASS
	1880.0	21.79	1.30	23.09	2.00	33.01	PASS
	1909.8	21.72	1.30	23.02	2.00	33.01	PASS
EGPRS (8PSK,4-Slot)	1850.2	19.74	1.30	21.04	2.00	33.01	PASS
	1880.0	20.20	1.30	21.50	2.00	33.01	PASS
	1909.8	19.56	1.30	20.86	2.00	33.01	PASS



Radiated Power (EIRP) for LTE Band 41 /5M										
BW (MHz)	UL Channel	RB Size	RB offset	Modulation	Conduction AVG Power(dBm)	Ant Gain (dBi)	EIRP (dBm)	EIRP Limit(W)	EIRP Limit(dBm)	Verdict
5	Lowest	1	0	QPSK	22.69	-2.8	19.89	2.00	33.01	PASS
		1	12		22.79	-2.8	19.99	2.00	33.01	PASS
		1	24		22.84	-2.8	20.04	2.00	33.01	PASS
		12	0		21.83	-2.8	19.03	2.00	33.01	PASS
		12	6		21.76	-2.8	18.96	2.00	33.01	PASS
		12	11		21.83	-2.8	19.03	2.00	33.01	PASS
		25	0		21.80	-2.8	19.00	2.00	33.01	PASS
		1	0	16QAM	22.20	-2.8	19.40	2.00	33.01	PASS
		1	12		22.31	-2.8	19.51	2.00	33.01	PASS
		1	24		22.35	-2.8	19.55	2.00	33.01	PASS
		12	0		20.90	-2.8	18.10	2.00	33.01	PASS
		12	6		20.91	-2.8	18.11	2.00	33.01	PASS
		12	11		20.86	-2.8	18.06	2.00	33.01	PASS
		25	0		20.97	-2.8	18.17	2.00	33.01	PASS
	Middle	1	0	QPSK	22.56	-2.8	19.76	2.00	33.01	PASS
		1	12		22.67	-2.8	19.87	2.00	33.01	PASS
		1	24		22.61	-2.8	19.81	2.00	33.01	PASS
		12	0		21.59	-2.8	18.79	2.00	33.01	PASS
		12	6		21.62	-2.8	18.82	2.00	33.01	PASS
		12	11		21.55	-2.8	18.75	2.00	33.01	PASS
		25	0		21.59	-2.8	18.79	2.00	33.01	PASS
		1	0	16QAM	22.13	-2.8	19.33	2.00	33.01	PASS
		1	12		22.16	-2.8	19.36	2.00	33.01	PASS
		1	24		22.20	-2.8	19.40	2.00	33.01	PASS
		12	0		20.46	-2.8	17.66	2.00	33.01	PASS
		12	6		20.43	-2.8	17.63	2.00	33.01	PASS
		12	11		20.40	-2.8	17.60	2.00	33.01	PASS
		25	0		20.76	-2.8	17.96	2.00	33.01	PASS
	Highest	1	0	QPSK	22.79	-2.8	19.99	2.00	33.01	PASS
		1	12		22.77	-2.8	19.97	2.00	33.01	PASS
		1	24		22.73	-2.8	19.93	2.00	33.01	PASS
		12	0		21.69	-2.8	18.89	2.00	33.01	PASS
		12	6		21.76	-2.8	18.96	2.00	33.01	PASS
		12	11		21.63	-2.8	18.83	2.00	33.01	PASS
		25	0		21.72	-2.8	18.92	2.00	33.01	PASS
		1	0	16QAM	22.32	-2.8	19.52	2.00	33.01	PASS
		1	12		21.84	-2.8	19.04	2.00	33.01	PASS
		1	24		22.31	-2.8	19.51	2.00	33.01	PASS
		12	0		20.79	-2.8	17.99	2.00	33.01	PASS
		12	6		20.81	-2.8	18.01	2.00	33.01	PASS
		12	11		20.78	-2.8	17.98	2.00	33.01	PASS
		25	0		20.66	-2.8	17.86	2.00	33.01	PASS



Radiated Power (EIRP) for LTE Band 41 /10M										
BW (MHz)	UL Channel	RB Size	RB offset	Modulation	Conduction AVG Power(dBm)	Ant Gain (dBi)	EIRP (dBm)	EIRP Limit(W)	EIRP Limit(dBm)	Verdict
10	Lowest	1	0	QPSK	22.81	-2.8	20.01	2.00	33.01	PASS
		1	24		22.81	-2.8	20.01	2.00	33.01	PASS
		1	49		22.91	-2.8	20.11	2.00	33.01	PASS
		25	0		21.86	-2.8	19.06	2.00	33.01	PASS
		25	12		21.85	-2.8	19.05	2.00	33.01	PASS
		25	24		21.97	-2.8	19.17	2.00	33.01	PASS
		50	0		21.58	-2.8	18.78	2.00	33.01	PASS
		1	0	16QAM	22.72	-2.8	19.92	2.00	33.01	PASS
		1	24		22.66	-2.8	19.86	2.00	33.01	PASS
		1	49		22.70	-2.8	19.90	2.00	33.01	PASS
		25	0		20.92	-2.8	18.12	2.00	33.01	PASS
		25	12		21.06	-2.8	18.26	2.00	33.01	PASS
		25	24		21.03	-2.8	18.23	2.00	33.01	PASS
		50	0		20.58	-2.8	17.78	2.00	33.01	PASS
	Middle	1	0	QPSK	22.58	-2.8	19.78	2.00	33.01	PASS
		1	24		22.65	-2.8	19.85	2.00	33.01	PASS
		1	49		22.68	-2.8	19.88	2.00	33.01	PASS
		25	0		21.62	-2.8	18.82	2.00	33.01	PASS
		25	12		21.62	-2.8	18.82	2.00	33.01	PASS
		25	24		21.61	-2.8	18.81	2.00	33.01	PASS
		50	0		21.22	-2.8	18.42	2.00	33.01	PASS
		1	0	16QAM	22.12	-2.8	19.32	2.00	33.01	PASS
		1	24		22.05	-2.8	19.25	2.00	33.01	PASS
		1	49		22.05	-2.8	19.25	2.00	33.01	PASS
		25	0		20.79	-2.8	17.99	2.00	33.01	PASS
		25	12		20.80	-2.8	18.00	2.00	33.01	PASS
		25	24		20.88	-2.8	18.08	2.00	33.01	PASS
	Highest	50	0		20.40	-2.8	17.60	2.00	33.01	PASS
		1	0	QPSK	22.70	-2.8	19.90	2.00	33.01	PASS
		1	24		22.86	-2.8	20.06	2.00	33.01	PASS
		1	49		22.84	-2.8	20.04	2.00	33.01	PASS
		25	0		21.78	-2.8	18.98	2.00	33.01	PASS
		25	12		21.76	-2.8	18.96	2.00	33.01	PASS
		25	24		21.81	-2.8	19.01	2.00	33.01	PASS
		50	0		21.45	-2.8	18.65	2.00	33.01	PASS
		1	0	16QAM	22.71	-2.8	19.91	2.00	33.01	PASS
		1	24		22.51	-2.8	19.71	2.00	33.01	PASS
		1	49		22.54	-2.8	19.74	2.00	33.01	PASS
		25	0		21.14	-2.8	18.34	2.00	33.01	PASS
		25	12		21.04	-2.8	18.24	2.00	33.01	PASS
		25	24		21.00	-2.8	18.20	2.00	33.01	PASS
		50	0		20.48	-2.8	17.68	2.00	33.01	PASS



Radiated Power (EIRP) for LTE Band 41 /15M										
BW (MHz)	UL Channel	RB Size	RB offset	Modulation	Conduction AVG Power(dBm)	Ant Gain (dBi)	EIRP (dBm)	EIRP Limit(W)	EIRP Limit(dBm)	Verdict
15	Lowest	1	0	QPSK	22.85	-2.8	20.05	2.00	33.01	PASS
		1	37		22.90	-2.8	20.10	2.00	33.01	PASS
		1	74		22.88	-2.8	20.08	2.00	33.01	PASS
		36	0		21.78	-2.8	18.98	2.00	33.01	PASS
		36	18		21.88	-2.8	19.08	2.00	33.01	PASS
		36	39		21.95	-2.8	19.15	2.00	33.01	PASS
		75	0		21.49	-2.8	18.69	2.00	33.01	PASS
		1	0	16QAM	22.64	-2.8	19.84	2.00	33.01	PASS
		1	37		22.72	-2.8	19.92	2.00	33.01	PASS
		1	74		22.72	-2.8	19.92	2.00	33.01	PASS
		36	0		20.93	-2.8	18.13	2.00	33.01	PASS
		36	18		20.88	-2.8	18.08	2.00	33.01	PASS
		36	39		20.94	-2.8	18.14	2.00	33.01	PASS
		75	0		20.60	-2.8	17.80	2.00	33.01	PASS
	Middle	1	0	QPSK	22.59	-2.8	19.79	2.00	33.01	PASS
		1	37		22.65	-2.8	19.85	2.00	33.01	PASS
		1	74		22.62	-2.8	19.82	2.00	33.01	PASS
		36	0		21.58	-2.8	18.78	2.00	33.01	PASS
		36	18		21.50	-2.8	18.70	2.00	33.01	PASS
		36	39		21.53	-2.8	18.73	2.00	33.01	PASS
		75	0		21.13	-2.8	18.33	2.00	33.01	PASS
		1	0	16QAM	22.04	-2.8	19.24	2.00	33.01	PASS
		1	37		21.95	-2.8	19.15	2.00	33.01	PASS
		1	74		21.94	-2.8	19.14	2.00	33.01	PASS
		36	0		20.65	-2.8	17.85	2.00	33.01	PASS
		36	18		20.70	-2.8	17.90	2.00	33.01	PASS
		36	39		20.78	-2.8	17.98	2.00	33.01	PASS
		75	0		20.40	-2.8	17.60	2.00	33.01	PASS
	Highest	1	0	QPSK	22.91	-2.8	20.11	2.00	33.01	PASS
		1	37		22.81	-2.8	20.01	2.00	33.01	PASS
		1	74		22.90	-2.8	20.10	2.00	33.01	PASS
		36	0		21.93	-2.8	19.13	2.00	33.01	PASS
		36	18		21.82	-2.8	19.02	2.00	33.01	PASS
		36	39		21.77	-2.8	18.97	2.00	33.01	PASS
		75	0		21.47	-2.8	18.67	2.00	33.01	PASS
		1	0	16QAM	22.67	-2.8	19.87	2.00	33.01	PASS
		1	37		22.39	-2.8	19.59	2.00	33.01	PASS
		1	74		22.24	-2.8	19.44	2.00	33.01	PASS
		36	0		21.09	-2.8	18.29	2.00	33.01	PASS
		36	18		21.08	-2.8	18.28	2.00	33.01	PASS
		36	39		20.97	-2.8	18.17	2.00	33.01	PASS
		75	0		20.71	-2.8	17.91	2.00	33.01	PASS



Radiated Power (EIRP) for LTE Band 41 /20M										
BW (MHz)	UL Channel	RB Size	RB offset	Modulation	Conduction AVG Power(dBm)	Ant Gain (dBi)	EIRP (dBm)	EIRP Limit(W)	EIRP Limit(dBm)	Verdict
20	Lowest	1	0	QPSK	22.92	-2.8	20.12	2.00	33.01	PASS
		1	49		23.02	-2.8	20.22	2.00	33.01	PASS
		1	99		22.91	-2.8	20.11	2.00	33.01	PASS
		50	0		21.85	-2.8	19.05	2.00	33.01	PASS
		50	24		21.90	-2.8	19.10	2.00	33.01	PASS
		50	49		21.97	-2.8	19.17	2.00	33.01	PASS
		100	0		21.62	-2.8	18.82	2.00	33.01	PASS
		1	0	16QAM	22.48	-2.8	19.68	2.00	33.01	PASS
		1	49		22.67	-2.8	19.87	2.00	33.01	PASS
		1	99		22.62	-2.8	19.82	2.00	33.01	PASS
		50	0		21.06	-2.8	18.26	2.00	33.01	PASS
		50	24		21.12	-2.8	18.32	2.00	33.01	PASS
		50	49		21.21	-2.8	18.41	2.00	33.01	PASS
		100	0		21.09	-2.8	18.29	2.00	33.01	PASS
	Middle	1	0	QPSK	22.58	-2.8	19.78	2.00	33.01	PASS
		1	49		22.56	-2.8	19.76	2.00	33.01	PASS
		1	99		22.59	-2.8	19.79	2.00	33.01	PASS
		50	0		21.57	-2.8	18.77	2.00	33.01	PASS
		50	24		21.64	-2.8	18.84	2.00	33.01	PASS
		50	49		21.58	-2.8	18.78	2.00	33.01	PASS
		100	0		21.09	-2.8	18.29	2.00	33.01	PASS
		1	0	16QAM	22.18	-2.8	19.38	2.00	33.01	PASS
		1	49		22.24	-2.8	19.44	2.00	33.01	PASS
		1	99		22.16	-2.8	19.36	2.00	33.01	PASS
		50	0		20.71	-2.8	17.91	2.00	33.01	PASS
		50	24		20.76	-2.8	17.96	2.00	33.01	PASS
		50	49		20.75	-2.8	17.95	2.00	33.01	PASS
		100	0		20.76	-2.8	17.96	2.00	33.01	PASS
	Highest	1	0	QPSK	22.89	-2.8	20.09	2.00	33.01	PASS
		1	49		22.92	-2.8	20.12	2.00	33.01	PASS
		1	99		22.92	-2.8	20.12	2.00	33.01	PASS
		50	0		21.93	-2.8	19.13	2.00	33.01	PASS
		50	24		21.97	-2.8	19.17	2.00	33.01	PASS
		50	49		21.91	-2.8	19.11	2.00	33.01	PASS
		100	0		21.55	-2.8	18.75	2.00	33.01	PASS
		1	0	16QAM	22.99	-2.8	20.19	2.00	33.01	PASS
		1	49		22.93	-2.8	20.13	2.00	33.01	PASS
		1	99		22.55	-2.8	19.75	2.00	33.01	PASS
		50	0		21.19	-2.8	18.39	2.00	33.01	PASS
		50	24		21.09	-2.8	18.29	2.00	33.01	PASS
		50	49		21.07	-2.8	18.27	2.00	33.01	PASS
		100	0		21.11	-2.8	18.31	2.00	33.01	PASS

5.2 PEAK TO AVERAGE RATIO

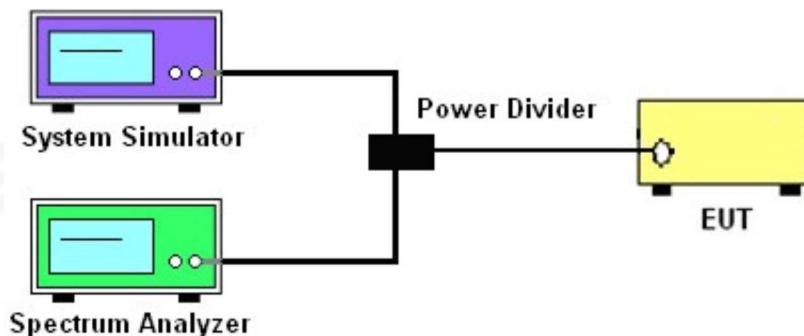
TEST OVERVIEW

According to §24.232(d), power measurements for transmissions by stations authorized under this section may be made either in accordance with a commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 db.

TEST PROCEDURES

1. The testing follows FCC KDB 971168 v03r01 section.
2. The eut was connected to the peak and av system simulator& spectrum analyzer.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Set the test probe and measure average power of the spectrum analysis,

TEST SETUP



TEST RESULT

Note: The test data please reference to attachment “STS2510013W02_Appendix GSM” and “STS2510013W02_Appendix LTE”.

5.3 OCCUPIED BANDWIDTH

TEST OVERVIEW

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.

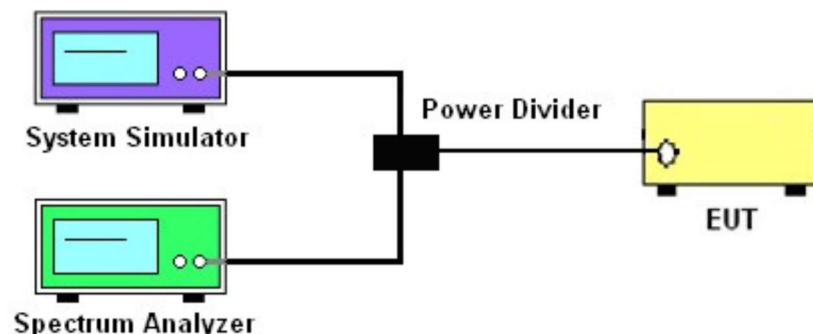
The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

All modes of operation were investigated and the worst case configuration results are reported in this section.

TEST PROCEDURE

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
3. $VBW \geq 3 \times RBW$
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

TEST SETUP



TEST RESULT

Note: The test data please reference to attachment “STS2510013W02_Appendix GSM” and “STS2510013W02_Appendix LTE”.

5.4 FREQUENCY STABILITY

TEST OVERVIEW

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26 2015.

The frequency stability of the transmitter is measured by:

- a.) Temperature: The temperature is varied from -30°C to $+50^{\circ}\text{C}$ 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.

For Part 22, the frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency. For Part 24 the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

TEST PROCEDURE

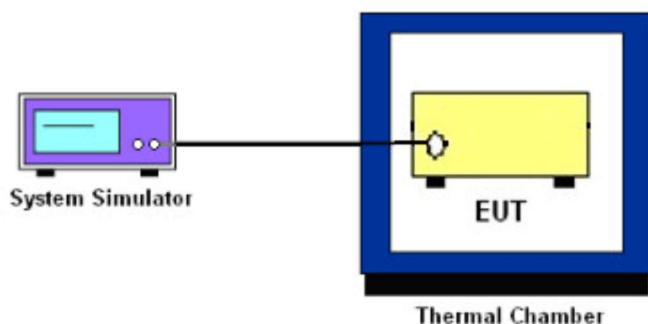
Temperature Variation

1. The testing follows FCC KDB 971168 D01 section 9.0
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C steps up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

Voltage Variation

1. The testing follows FCC KDB 971168 D01 Section 9.0.
2. The EUT was placed in a temperature chamber at $25 \pm 5^{\circ}\text{C}$ and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
4. The variation in frequency was measured for the worst case.

TEST SETUP



TEST RESULT

GSM 850 /836.6MHz					
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50	Normal Voltage	13.39	0.016	2.5ppm	PASS
40		17.89	0.021		
30		25.47	0.030		
20		18.82	0.022		
10		12.27	0.015		
0		26.79	0.032		
-10		14.09	0.017		
-20		12.16	0.015		
-30		18.63	0.022		
20	Maximum Voltage	35.14	0.042		
20	BEP	11.99	0.014		

GPRS 850 /836.6MHz					
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50	Normal Voltage	16.30	0.019	2.5ppm	PASS
40		13.63	0.016		
30		15.67	0.019		
20		17.17	0.021		
10		24.65	0.029		
0		26.26	0.031		
-10		13.28	0.016		
-20		33.56	0.040		
-30		31.47	0.038		
20	Maximum Voltage	14.60	0.017		
20	BEP	36.30	0.043		

EGPRS 850 /836.6MHz					
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50	Normal Voltage	34.51	0.041	2.5ppm	PASS
40		28.06	0.034		
30		23.93	0.029		
20		34.73	0.042		
10		22.59	0.027		
0		22.88	0.027		
-10		22.57	0.027		
-20		34.87	0.042		
-30		14.23	0.017		
20	Maximum Voltage	28.70	0.034		
20	BEP	11.50	0.014		



GSM 1900 / 1880MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	33.15	0.018	Within Authorized Band	PASS
40		15.25	0.008		
30		35.93	0.019		
20		27.77	0.015		
10		31.71	0.017		
0		25.29	0.013		
-10		26.03	0.014		
-20		25.32	0.013		
-30		12.06	0.006		
20	Maximum Voltage	12.99	0.007		
20	BEP	25.81	0.014		

GPRS 1900 / 1880MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	26.81	0.014	Within Authorized Band	PASS
40		14.05	0.007		
30		13.67	0.007		
20		20.65	0.011		
10		21.51	0.011		
0		28.39	0.015		
-10		21.32	0.011		
-20		20.02	0.011		
-30		17.44	0.009		
20	Maximum Voltage	19.80	0.011		
20	BEP	27.37	0.015		

EGPRS 1900 / 1880MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	34.98	0.019	Within Authorized Band	PASS
40		24.77	0.013		
30		17.25	0.009		
20		31.35	0.017		
10		32.97	0.018		
0		17.91	0.010		
-10		30.90	0.016		
-20		24.05	0.013		
-30		13.78	0.007		
20	Maximum Voltage	27.05	0.014		
20	BEP	15.68	0.008		



LTE Band 41 (QPSK) / 2595MHz / BW10M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	28.12	0.011	2.5ppm	PASS
40		35.77	0.014		
30		35.39	0.014		
20		11.53	0.004		
10		33.95	0.013		
0		20.11	0.008		
-10		14.76	0.006		
-20		22.51	0.009		
-30		35.76	0.014		
20	Maximum Voltage	36.19	0.014		
20	BEP	30.12	0.012		

LTE Band 41 (QPSK) / 2595MHz / BW20M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	17.60	0.007	2.5ppm	PASS
40		30.95	0.012		
30		15.69	0.006		
20		32.25	0.012		
10		33.20	0.013		
0		23.18	0.009		
-10		34.31	0.013		
-20		32.92	0.013		
-30		27.24	0.010		
20	Maximum Voltage	21.66	0.008		
20	BEP	32.17	0.012		

5.5 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

TEST OVERVIEW

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For GSM 850/GSM 1900:

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $55 + 10 \log (P)$ dB.

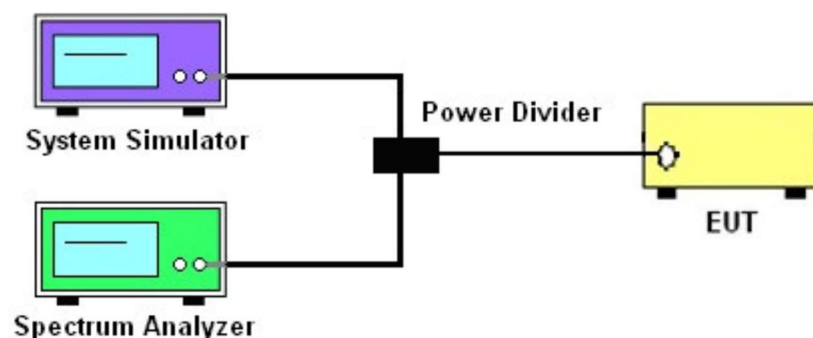
For Band 41:

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

TEST PROCEDURE

1. The testing FCC KDB 971168 D01 v03r01 Section 6.0. and ANSI C63.26-2015-Section 5.7.
2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. The limit line is derived from $43 + 10 \log (P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10 \log (P)] \text{ (dB)}$
 $= [30 + 10 \log (P)] \text{ (dBm)} - [43 + 10 \log (P)] \text{ (dB)}$
 $= -13 \text{ dBm}.$

TEST SETUP



TEST RESULT

Note: The test data please reference to attachment “STS2510013W02_Appendix GSM” and “STS2510013W02_Appendix LTE”.



5.6 BAND EDGE

TEST OVERVIEW

1. §22.917(a)

For operations in the 824 – 849 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

2. §24.238 (a)

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 1MHz bandwidth. 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

3. §27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

4. §27.53(m)(4)

For operations in the 2500 MHz ~ 2570 MHz band this section, 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 than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

5. §27.53 (g)

For operations in the 698 -746 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 100 kHz bandwidth. 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.

TEST PROCEDURE

1. The testing FCC KDB 971168 D01 v03r01 Section 6.0 and ANSI C63.26-2015-Section 5.7
2. Start and stop frequency were set such that the band edge would be placed in the center of the Plot.
3. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
4. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
5. The band edges of low and high channels for the highest RF powers were measured.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

7. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)

$$= P(W) - [43 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$$

$$= -13\text{dBm}.$$

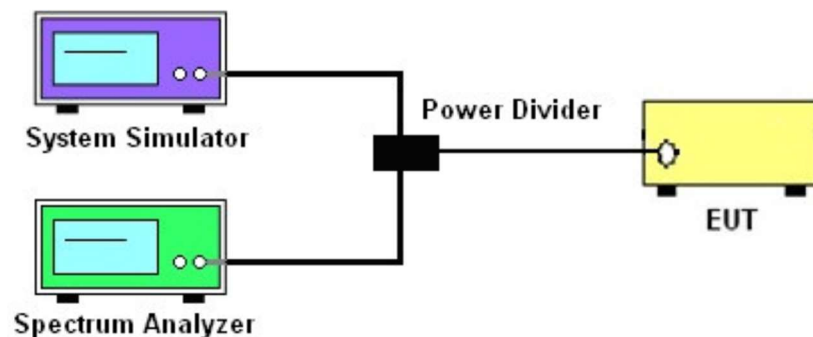
Band 41:

$$= P(W) - [55 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [55 + 10\log(P)] \text{ (dB)}$$

$$= -25\text{dBm}.$$

TEST SETUP



TEST RESULT

Note: The test data please reference to attachment “STS2510013W02_Appendix GSM” and “STS2510013W02_Appendix LTE”.



5.7 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

TEST OVERVIEW

Radiated spurious emissions measurements are performed using the substitution method described in ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized horn antennas. All measurements are performed as peak measurements while the EUT is operating at maximum power and at the appropriate frequencies.

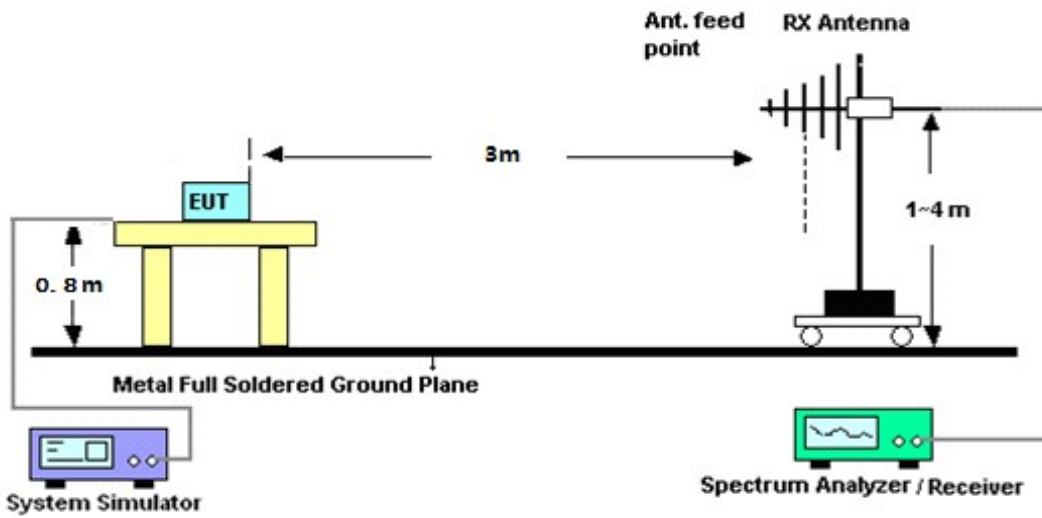
It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

TEST PROCEDURE

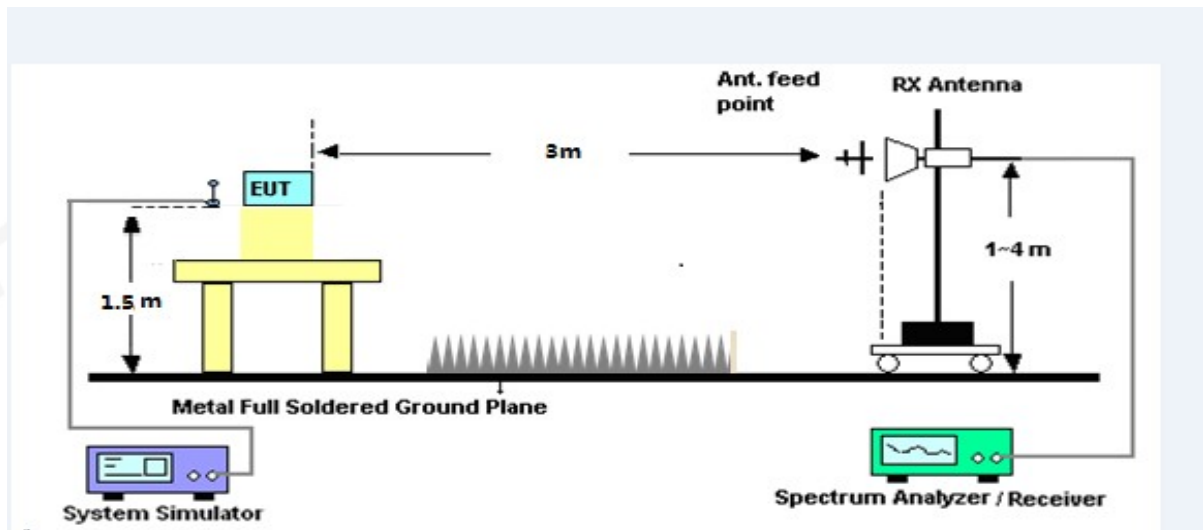
1. The testing FCC KDB 971168 D01 Section 5.8 and ANSI C63.26-2015-Section 5.5.
2. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
3. VBW $\geq 3 \times$ RBW
4. Span = 1.5 times the OBW
5. No. of sweep points $> 2 \times$ span/RBW
6. Detector = Peak
7. Trace mode = max hold
8. The trace was allowed to stabilize
9. Effective Isotropic Spurious Radiation was measured by substitution method according to TIA/EIA-603-D. The EUT was replaced by the substitution antenna at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna.
 $P_{Mea} = S.G \text{ Level} + \text{Ant-Cable loss}$; $\text{Margin} = P_{Mea} - \text{Limit}$.

TEST SETUP

For radiated test from 30MHz to 1GHz



For radiated test from above 1GHz



**TEST RESULT**

Note: (1) Spurious emissions which are attenuated by more than 20dB below the permissible value for frequency below 1000MHz.

(2) Above 3.5GHz amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value

(3) Test is divided into three directions, X/Y/Z. X pattern for the worst.

GSM 850: (30-9000)MHz							
The Worst Test Results Channel 128/824.2 MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1648.29	-41.26	9.40	4.75	-36.61	-13.00	-23.61	H
2472.61	-39.20	10.60	8.39	-36.99	-13.00	-23.99	H
3296.65	-31.34	12.00	11.79	-31.13	-13.00	-18.13	H
1648.29	-43.89	9.40	4.75	-39.24	-13.00	-26.24	V
2472.61	-44.56	10.60	8.39	-42.35	-13.00	-29.35	V
3296.65	-43.14	12.00	11.79	-42.93	-13.00	-29.93	V
The Worst Test Results Channel 190/836.6 MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1672.94	-40.59	9.50	4.76	-35.85	-13.00	-22.85	H
2509.86	-40.22	10.70	8.40	-37.92	-13.00	-24.92	H
3345.95	-31.88	12.20	11.80	-31.48	-13.00	-18.48	H
1672.94	-44.45	9.40	4.75	-39.80	-13.00	-26.80	V
2509.86	-45.29	10.60	8.39	-43.08	-13.00	-30.08	V
3345.95	-43.30	12.20	11.82	-42.92	-13.00	-29.92	V
The Worst Test Results Channel 251/848.8 MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1697.25	-40.58	9.60	4.77	-35.75	-13.00	-22.75	H
2546.55	-40.03	10.80	8.50	-37.73	-13.00	-24.73	H
3394.88	-31.06	12.50	11.90	-30.46	-13.00	-17.46	H
1697.25	-44.18	9.60	4.77	-39.35	-13.00	-26.35	V
2546.55	-45.10	10.80	8.50	-42.80	-13.00	-29.80	V
3394.88	-42.61	12.50	11.90	-42.01	-13.00	-29.01	V



GPRS 850: (30-9000)MHz							
The Worst Test Results Channel 128/824.2 MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1648.12	-40.80	9.40	4.75	-36.15	-13.00	-23.15	H
2472.62	-39.20	10.60	8.39	-36.99	-13.00	-23.99	H
3296.55	-31.16	12.00	11.79	-30.95	-13.00	-17.95	H
1648.12	-44.37	9.40	4.75	-39.72	-13.00	-26.72	V
2472.62	-45.38	10.60	8.39	-43.17	-13.00	-30.17	V
3296.55	-42.77	12.00	11.79	-42.56	-13.00	-29.56	V
The Worst Test Results Channel 190/836.6 MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1672.91	-40.32	9.50	4.76	-35.58	-13.00	-22.58	H
2509.43	-39.74	10.70	8.40	-37.44	-13.00	-24.44	H
3346.42	-31.88	12.20	11.80	-31.48	-13.00	-18.48	H
1672.91	-43.66	9.40	4.75	-39.01	-13.00	-26.01	V
2509.43	-44.96	10.60	8.39	-42.75	-13.00	-29.75	V
3346.42	-43.22	12.20	11.82	-42.84	-13.00	-29.84	V
The Worst Test Results Channel 251/848.8 MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1697.32	-41.62	9.60	4.77	-36.79	-13.00	-23.79	H
2546.20	-40.17	10.80	8.50	-37.87	-13.00	-24.87	H
3394.99	-32.07	12.50	11.90	-31.47	-13.00	-18.47	H
1697.32	-43.75	9.60	4.77	-38.92	-13.00	-25.92	V
2546.20	-45.03	10.80	8.50	-42.73	-13.00	-29.73	V
3394.99	-43.75	12.50	11.90	-43.15	-13.00	-30.15	V



EGPRS 850: (30-9000)MHz							
The Worst Test Results Channel 128/824.2 MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1648.22	-40.74	9.40	4.75	-36.09	-13.00	-23.09	H
2472.47	-40.58	10.60	8.39	-38.37	-13.00	-25.37	H
3296.53	-32.14	12.00	11.79	-31.93	-13.00	-18.93	H
1648.22	-43.50	9.40	4.75	-38.85	-13.00	-25.85	V
2472.47	-44.44	10.60	8.39	-42.23	-13.00	-29.23	V
3296.53	-43.64	12.00	11.79	-43.43	-13.00	-30.43	V
The Worst Test Results Channel 190/836.6 MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1673.03	-41.27	9.50	4.76	-36.53	-13.00	-23.53	H
2509.86	-39.81	10.70	8.40	-37.51	-13.00	-24.51	H
3346.10	-32.14	12.20	11.80	-31.74	-13.00	-18.74	H
1673.03	-44.56	9.40	4.75	-39.91	-13.00	-26.91	V
2509.86	-44.42	10.60	8.39	-42.21	-13.00	-29.21	V
3346.10	-43.68	12.20	11.82	-43.30	-13.00	-30.30	V
The Worst Test Results Channel 251/848.8 MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1697.31	-40.83	9.60	4.77	-36.00	-13.00	-23.00	H
2546.53	-40.11	10.80	8.50	-37.81	-13.00	-24.81	H
3394.86	-31.77	12.50	11.90	-31.17	-13.00	-18.17	H
1697.31	-43.15	9.60	4.77	-38.32	-13.00	-25.32	V
2546.53	-44.23	10.80	8.50	-41.93	-13.00	-28.93	V
3394.86	-43.56	12.50	11.90	-42.96	-13.00	-29.96	V



PCS 1900: (30-20000)MHz							
The Worst Test Results for Channel 512/1850.2MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3700.28	-33.45	12.60	12.93	-33.78	-13.00	-20.78	H
5550.52	-34.31	13.10	17.11	-38.32	-13.00	-25.32	H
7400.60	-32.62	11.50	22.20	-43.32	-13.00	-30.32	H
3700.28	-35.57	12.60	12.93	-35.90	-13.00	-22.90	V
5550.52	-33.84	13.10	17.11	-37.85	-13.00	-24.85	V
7400.60	-32.65	11.50	22.20	-43.35	-13.00	-30.35	V
The Worst Test Results for Channel 661/1880.0MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3759.91	-34.13	12.60	12.93	-34.46	-13.00	-21.46	H
5639.96	-35.46	13.10	17.11	-39.47	-13.00	-26.47	H
7519.91	-32.73	11.50	22.20	-43.43	-13.00	-30.43	H
3759.91	-35.44	12.60	12.93	-35.77	-13.00	-22.77	V
5639.96	-34.47	13.10	17.11	-38.48	-13.00	-25.48	V
7519.91	-31.86	11.50	22.20	-42.56	-13.00	-29.56	V
The Worst Test Results for Channel 810/1909.8MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3819.48	-34.14	12.60	12.93	-34.47	-13.00	-21.47	H
5729.27	-35.36	13.10	17.11	-39.37	-13.00	-26.37	H
7638.96	-32.88	11.50	22.20	-43.58	-13.00	-30.58	H
3819.48	-35.44	12.60	12.93	-35.77	-13.00	-22.77	V
5729.27	-34.35	13.10	17.11	-38.36	-13.00	-25.36	V
7638.96	-31.87	11.50	22.20	-42.57	-13.00	-29.57	V



GPRS1900: (30-20000)MHz							
The Worst Test Results for Channel 512/1850.2MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3700.13	-34.89	12.60	12.93	-35.22	-13.00	-22.22	H
5550.48	-34.22	13.10	17.11	-38.23	-13.00	-25.23	H
7400.68	-32.92	11.50	22.20	-43.62	-13.00	-30.62	H
3700.13	-34.67	12.60	12.93	-35.00	-13.00	-22.00	V
5550.48	-34.20	13.10	17.11	-38.21	-13.00	-25.21	V
7400.68	-32.78	11.50	22.20	-43.48	-13.00	-30.48	V
The Worst Test Results for Channel 661/1880.0MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3759.87	-33.63	12.60	12.93	-33.96	-13.00	-20.96	H
5640.09	-34.94	13.10	17.11	-38.95	-13.00	-25.95	H
7520.21	-33.29	11.50	22.20	-43.99	-13.00	-30.99	H
3759.87	-35.54	12.60	12.93	-35.87	-13.00	-22.87	V
5640.09	-34.34	13.10	17.11	-38.35	-13.00	-25.35	V
7520.21	-32.84	11.50	22.20	-43.54	-13.00	-30.54	V
The Worst Test Results for Channel 810/1909.8MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3819.29	-34.67	12.60	12.93	-35.00	-13.00	-22.00	H
5729.13	-34.88	13.10	17.11	-38.89	-13.00	-25.89	H
7639.18	-32.33	11.50	22.20	-43.03	-13.00	-30.03	H
3819.29	-35.24	12.60	12.93	-35.57	-13.00	-22.57	V
5729.13	-34.17	13.10	17.11	-38.18	-13.00	-25.18	V
7639.18	-33.17	11.50	22.20	-43.87	-13.00	-30.87	V



EGPRS 1900: (30-20000)MHz							
The Worst Test Results for Channel 512/1850.2MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3700.35	-34.73	12.60	12.93	-35.06	-13.00	-22.06	H
5550.18	-34.80	13.10	17.11	-38.81	-13.00	-25.81	H
7400.96	-32.66	11.50	22.20	-43.36	-13.00	-30.36	H
3700.35	-35.34	12.60	12.93	-35.67	-13.00	-22.67	V
5550.18	-34.87	13.10	17.11	-38.88	-13.00	-25.88	V
7400.96	-32.02	11.50	22.20	-42.72	-13.00	-29.72	V
The Worst Test Results for Channel 661/1880.0MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3760.16	-34.58	12.60	12.93	-34.91	-13.00	-21.91	H
5639.90	-34.87	13.10	17.11	-38.88	-13.00	-25.88	H
7520.15	-33.35	11.50	22.20	-44.05	-13.00	-31.05	H
3760.16	-34.54	12.60	12.93	-34.87	-13.00	-21.87	V
5639.90	-34.36	13.10	17.11	-38.37	-13.00	-25.37	V
7520.15	-31.71	11.50	22.20	-42.41	-13.00	-29.41	V
The Worst Test Results for Channel 810/1909.8MHz							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3819.49	-34.04	12.60	12.93	-34.37	-13.00	-21.37	H
5729.36	-35.09	13.10	17.11	-39.10	-13.00	-26.10	H
7639.11	-33.49	11.50	22.20	-44.19	-13.00	-31.19	H
3819.49	-35.06	12.60	12.93	-35.39	-13.00	-22.39	V
5729.36	-34.59	13.10	17.11	-38.60	-13.00	-25.60	V
7639.11	-32.98	11.50	22.20	-43.68	-13.00	-30.68	V



LTE Band 41 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5065.06	-34.75	12.66	15.86	-37.95	-25.00	-12.95	H
7597.46	-35.01	11.46	19.28	-42.83	-25.00	-17.83	H
10129.93	-33.05	12.79	23.19	-43.45	-25.00	-18.45	H
5065.06	-35.56	12.66	15.86	-38.76	-25.00	-13.76	V
7597.46	-34.01	11.46	19.28	-41.83	-25.00	-16.83	V
10129.93	-32.01	12.79	23.19	-42.41	-25.00	-17.41	V
LTE Band 41 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5189.78	-33.48	12.72	15.86	-36.62	-25.00	-11.62	H
7785.31	-34.23	11.46	19.28	-42.05	-25.00	-17.05	H
10379.93	-32.27	12.09	23.19	-43.37	-25.00	-18.37	H
5189.78	-34.90	12.72	15.86	-38.04	-25.00	-13.04	V
7785.31	-34.51	11.46	19.28	-42.33	-25.00	-17.33	V
10379.93	-32.51	12.09	23.19	-43.61	-25.00	-18.61	V
LTE Band 41 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5305.15	-34.43	12.76	15.86	-37.53	-25.00	-12.53	H
7957.48	-35.34	11.45	19.28	-43.17	-25.00	-18.17	H
10610.09	-32.91	12.28	23.19	-43.82	-25.00	-18.82	H
5305.15	-34.64	12.76	15.86	-37.74	-25.00	-12.74	V
7957.48	-34.60	11.45	19.28	-42.43	-25.00	-17.43	V
10610.09	-32.36	12.28	23.19	-43.27	-25.00	-18.27	V



LTE Band 41 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5059.92	-34.43	12.66	15.86	-37.63	-25.00	-12.63	H
7589.93	-34.44	11.46	19.28	-42.26	-25.00	-17.26	H
10119.89	-33.17	12.79	23.19	-43.57	-25.00	-18.57	H
5059.92	-35.49	12.66	15.86	-38.69	-25.00	-13.69	V
7589.93	-34.71	11.46	19.28	-42.53	-25.00	-17.53	V
10119.89	-32.23	12.79	23.19	-42.63	-25.00	-17.63	V
LTE Band 41 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5190.14	-34.32	12.72	15.86	-37.46	-25.00	-12.46	H
7785.25	-34.32	11.46	19.28	-42.14	-25.00	-17.14	H
10380.17	-32.76	12.09	23.19	-43.86	-25.00	-18.86	H
5190.14	-35.28	12.72	15.86	-38.42	-25.00	-13.42	V
7785.25	-34.48	11.46	19.28	-42.30	-25.00	-17.30	V
10380.17	-32.16	12.09	23.19	-43.26	-25.00	-18.26	V
LTE Band 41 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5300.02	-34.73	12.76	15.86	-37.83	-25.00	-12.83	H
7949.87	-34.89	11.45	19.28	-42.72	-25.00	-17.72	H
10599.83	-32.72	12.28	23.19	-43.63	-25.00	-18.63	H
5300.02	-35.14	12.76	15.86	-38.24	-25.00	-13.24	V
7949.87	-35.15	11.45	19.28	-42.98	-25.00	-17.98	V
10599.83	-32.98	12.28	23.19	-43.89	-25.00	-18.89	V



LTE Band 41 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5054.82	-34.06	12.66	15.86	-37.26	-25.00	-12.26	H
7582.62	-34.57	11.46	19.28	-42.39	-25.00	-17.39	H
10110.37	-32.71	12.79	23.19	-43.11	-25.00	-18.11	H
5054.82	-34.57	12.66	15.86	-37.77	-25.00	-12.77	V
7582.62	-34.82	11.46	19.28	-42.64	-25.00	-17.64	V
0	-31.99	12.79	23.19	-42.39	-25.00	-17.39	V
LTE Band 41 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5190.12	-33.47	12.72	15.86	-36.61	-25.00	-11.61	H
7785.11	-34.48	11.46	19.28	-42.30	-25.00	-17.30	H
10379.92	-32.71	12.09	23.19	-43.81	-25.00	-18.81	H
5190.12	-34.75	12.72	15.86	-37.89	-25.00	-12.89	V
7785.11	-34.65	11.46	19.28	-42.47	-25.00	-17.47	V
10379.92	-32.37	12.09	23.19	-43.47	-25.00	-18.47	V
LTE Band 41 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5297.94	-34.61	12.76	15.86	-37.71	-25.00	-12.71	H
7942.68	-35.31	11.45	19.28	-43.14	-25.00	-18.14	H
10589.81	-33.52	12.28	23.19	-44.43	-25.00	-19.43	H
5297.94	-35.98	12.76	15.86	-39.08	-25.00	-14.08	V
7942.68	-33.81	11.45	19.28	-41.64	-25.00	-16.64	V
10589.81	-32.39	12.28	23.19	-43.30	-25.00	-18.30	V



LTE Band 41 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5050.14	-34.52	12.66	15.86	-37.72	-25.00	-12.72	H
7575.23	-34.63	11.46	19.28	-42.45	-25.00	-17.45	H
10100.10	-32.26	12.79	23.19	-42.66	-25.00	-17.66	H
5050.14	-34.71	12.66	15.86	-37.91	-25.00	-12.91	V
7575.23	-33.82	11.46	19.28	-41.64	-25.00	-16.64	V
10100.10	-32.11	12.79	23.19	-42.51	-25.00	-17.51	V
LTE Band 41 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5189.97	-34.34	12.72	15.86	-37.48	-25.00	-12.48	H
7784.90	-34.43	11.46	19.28	-42.25	-25.00	-17.25	H
10380.34	-33.45	12.09	23.19	-44.55	-25.00	-19.55	H
5189.97	-35.98	12.72	15.86	-39.12	-25.00	-14.12	V
7784.90	-34.54	11.46	19.28	-42.36	-25.00	-17.36	V
10380.34	-33.02	12.09	23.19	-44.12	-25.00	-19.12	V
LTE Band 41 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5289.91	-34.05	12.76	15.86	-37.15	-25.00	-12.15	H
7934.97	-34.98	11.45	19.28	-42.81	-25.00	-17.81	H
10580.08	-32.67	12.28	23.19	-43.58	-25.00	-18.58	H
5289.91	-35.08	12.76	15.86	-38.18	-25.00	-13.18	V
7934.97	-34.49	11.45	19.28	-42.32	-25.00	-17.32	V
10580.08	-31.91	12.28	23.19	-42.82	-25.00	-17.82	V



APPENDIX-PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

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