



Radio Test Report

Report No.:STS2508211W07

Issued for

SHENZHEN YUNJI INTELLIGENT TECHNOLOGY CO.,LTD
A2 2F BUILDING ENET NEW INDUSTRIAL PARK, DAFU
INDUSTRIAL ZONE, GUANLAN, LONGHUA, SHENZHEN,
China.

Product Name: Smart Phone

Brand Name: OUKITEL

Model Name: WP62

Series Model(s): WP62 S, WP62 Pro, WP62 Ultra,
WP62 E, WP62 Plus, WP62 MAX

FCC ID: 2ANMU-WP62

Test Standards: 47 CFR Part 2, 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 YUNJI INTELLIGENT TECHNOLOGY CO.,LTD
A2 2F BUILDING ENET NEW INDUSTRIAL PARK, DAFU
Address.....: INDUSTRIAL ZONE, GUANLAN, LONGHUA, SHENZHEN,
China.
Manufacturer's Name.....: SHENZHEN YUNJI INTELLIGENT TECHNOLOGY CO.,LTD
202, Building A2, Silicon Valley Power Intelligent Terminal
Address.....: Industrial Park, No. 20, Dafu Industrial Zone, Kukeng Community,
Guanlan Street, Longhua District, Shenzhen, China

Product Description

Product Name: Smart Phone
Brand Name: OUKITEL
Model Name.....: WP62
Series Model: WP62 S, WP62 Pro, WP62 Ultra, WP62 E, WP62 Plus,
WP62 MAX
Test Standards.....: 47 CFR Part 2, 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.
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.

Date of Test.....:

Date of receipt of test item: 29 Aug. 2025
Date (s) of performance of tests : 29 Aug. 2025 ~ 21 Sept. 2025
Date of Issue: 21 Sept. 2025
Test Result: Pass

Testing Engineer :

(Lenon Hou)

Technical Manager :

(Skylar Li)

Authorized Signatory :

(Bovey Yang)





Table of Contents	Page
1 SUMMARY OF TEST RESULTS	5
2. GENERAL INFORMATION	8
3. CONDUCTED OUTPUT POWER	15
4. PEAK-TO-AVERAGE RATIO	16
5. RADIATED POWER AND EFFECTIVE ISOTROPIC RADIATED POWER	17
6. OCCUPIED BANDWIDTH	22
7. CONDUCTED BAND EDGE	23
8. CONDUCTED SPURIOUS EMISSION	25
9. RADIATED SPURIOUS EMISSION	26
10. FREQUENCY STABILITY	36
APPENDIX-PHOTOS OF TEST SETUP	40



Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	21 Sept. 2025	STS2508211W07	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	n5	ERP < 7 Watt	PASS
	27.50(k)	n78 3450-3550MHz	EIRP < 1Watt	
	27.50(j)	n78 3700-3800MHz		
Peak-to-Average Ratio	22.913(d)	n5	< 13 dB	PASS
	27.50(k)	n78 3450-3550MHz		
	27.50(j)	n78 3700-3800MHz		
Occupied Bandwidth	2.1049	/	Reporting Only	PASS
Frequency Stability	2.1055	/	< 2.5 ppm	PASS
	22.355	n5		
	27.54	n78		
Spurious Emission at Antenna Terminals	2.1051	/	< 43+10log10(P[Watts])	PASS
	22.917	n5	< -13dBm/MHz	
	27.50(n)	n78 3450-3550MHz		
	27.50(i)	n78 3700-3800MHz		
Band Edge	2.1051	/	Please refer to standard	PASS
	22.917	n5		
	27.50(n)	n78 3450-3550MHz		
	27.50(i)	n78 3700-3800MHz		
Field Strength of	2.1053	/	< 43+10log10(P[Watts])	PASS



Spurious Radiation	22.917	n5		
	27.50(n)	n78 3450-3550MHz	< -13dBm/MHz	
	27.50(i)	n78 3700-3800MHz		



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 reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	RF output power, conducted	$\pm 0.755\text{dB}$
2	Unwanted Emissions, conducted	$\pm 2.874\text{dB}$
3	All emissions, radiated 9K-30MHz	$\pm 3.80\text{dB}$
4	All emissions, radiated 30M-1GHz	$\pm 4.18\text{dB}$
5	All emissions, radiated 1G-6GHz	$\pm 4.90\text{dB}$
6	All emissions, radiated >6G	$\pm 5.24\text{dB}$
7	Conducted Emission (9KHz-150KHz)	$\pm 2.19\text{dB}$
8	Conducted Emission (150KHz-30MHz)	$\pm 2.53\text{dB}$
9	Occupied Channel Bandwidth	$\pm 3.5\%$
10	Power Spectral Density, conducted	$\pm 1.245\text{dB}$
11	Duty Cycle	$\pm 3.2\%$



2. GENERAL INFORMATION

2.1 TECHNICAL SPECIFICATIONS AND REGULATIONS

2.1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Name	Smart Phone
Brand Name	OUKITEK
Model Name	WP62
Series Model(s)	WP62 S, WP62 Pro, WP62 Ultra, WP62 E, WP62 Plus, WP62 MAX
Model Difference	Only different in model name
Frequency Bands	SA: n5 NSA:B5+n78
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	n5: -0.87 dBi n78: 0.5 dBi
Extreme Vol. Limits	DC 3.48V ~ DC 4.26V (Normal: DC 3.87V)
Extreme Temp. Tolerance	-20℃~50℃
Power Rating	Input: DC9V3A
Adapter	Model: HJ-PD33W-US Input: 100-240V~50/60Hz 0.8A Output: 5.0V---3.0A OR 9.0V---3.0A OR 12.0V---2.75A 33.0W MAX
Battery	Model: WP55 Rated Voltage:3.87V Charge Limit Voltage:4.45V Capacity: 11000 mAh
Hardware version number	J612_9621MB__D4FUV1.1
Software version number	OUKITEK_WP58 Pro_EEA_V01_20250730

Note: The antenna information refer the manufacturer provide report, applicable only to the tested sa-mple identified in the report.



2.1.2 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

Product Specification Subjective To This Standard	
Tx Frequency	SA n5: 824~849MHz ENDC 5A_N78A: 3450-3550 MHz 3700-3800 MHz
Rx Frequency	n5: 869~894MHz ENDC 5A_N78A: 3450-3550 MHz 3700-3800 MHz
Bandwidth	n5: 5M/10M/15M/20M ENDC 5A_N78A-SCS 15kHz: 10M/50M/100M ENDC 5A_N78A-SCS 30kHz: 10M/50M/100M
Subcarrier Spacing	SA n5: 15KHz ENDC 5A_N78A: 30KHz
Type of Modulation	DFT-s-OFDM: PI/2 BPSK、QPSK、16QAM、64QAM、256QAM CP-OFDM:QPSK、16QAM、64QAM、256QAM

Note: n78 only Support ENDC 5A_N78A mode.



Test channel list							
n5 15kHz	800MHz	Frequen cy(MHz)	Channel	/	/	/	/
L	5M	826.5	165300	/	/	/	/
	10M	829	165800		/	/	/
	15M	831.5	166300		/	/	/
	20M	834	166800		/	/	/
M	5/10/15/20M	836.5	167300	/	/	/	/
H	5M	846.5	169300	/	/	/	/
	10M	844	168800		/	/	/
	15M	841.5	168300		/	/	/
	20M	839	167800		/	/	/
n78(3450-3550) 30k	3.5GHz	Frequen cy(MHz)	Channel	n78(3700- 3800) 30k	3.5GHz	Frequen cy(MHz)	Channel
L	10M	3455.01	630334	L	10M	3705	647000
	15M	3457.5	630500		15M	3707.52	647168
	20M	3460.02	630668		20M	3710.01	647334
	30M	3465	631000		30M	3715.02	647668
	40M	3470.01	631334		40M	3720	648000
	50M	3475.02	631668		50M	3725.01	648334
	60M	3480	632000		60M	3730.02	648668
	80M	3490.02	632668		80M	3740.01	649334
	90M	3495	633000		90M	3745.02	649668
	100M	3500.01	633334		100M	3750	650000
M	10/15/20/30/ 40/50/60/80/ 90/100M	3500.01	633334	M	10/15/20/ 30/40/50/ 60/80/90/ 100M	3750	650000
H	10M	3544.98	636332	H	10M	3795	653000
	15M	3542.49	636166		15M	3792.48	652832
	20M	3540	636000		20M	3789.99	652666
	30M	3534.99	635666		30M	3784.98	652332
	40M	3529.98	635332		40M	3780	652000
	50M	3525	635000		50M	3774.99	651666
	60M	3519.99	634666		60M	3769.98	651332
	80M	3510	634000		80M	3759.99	650666
	90M	3504.99	633666		90M	3754.98	650332
	100M	3499.98	633332		100M	3750	650000



2.1.3 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for filing to comply with the 47 CFR Part 2, 24, 27.

2.1.4 SPECIAL ACCESSORIES

The battery and the charger, earphone supplied by the applicant were used as accessories and being tested with eut intended for fcc grant together.

2.1.5 EUT CONFIGURATION

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

2.1.6 EUT EXERCISE

The Transmitter was operated in the maximum output power mode through Communication Tester. The TX frequency was fixed which was for the purpose of the measurements.



2.1.7 CONFIGURATION OF EUT SYSTEM

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

EUT

Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	Length	Note
N/A	N/A	N/A	N/A	N/A

Note:

- (1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (2) “YES” is means “with core”; “NO” is means “without core”.



2.1.8 MEASUREMENT INSTRUMENTS

The radiated emission testing was performed according to the procedures of ANSI C63.26 2015 and FCC CFR 47 rules of 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057.



2.1.9 MEASUREMENT RESULTS EXPLANATION EXAMPLE

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF Cable Loss + Attenuator Factor.

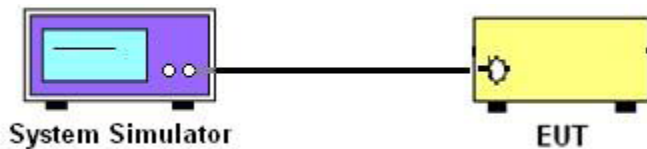
3. CONDUCTED OUTPUT POWER

3.1 DESCRIPTION OF THE CONDUCTED OUTPUT POWER MEASUREMENT

3.1.1 MEASUREMENT METHOD

A system simulator was used to establish communication with the eut. Its parameters were set to force the eut transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported. Configuration follows KDB 971168 D01 v03r01.

3.1.2 TEST SETUP



3.1.3 TEST PROCEDURES

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

3.1.4 TEST RESULTS

Note: The test data please reference to 5.1.2 in this report.

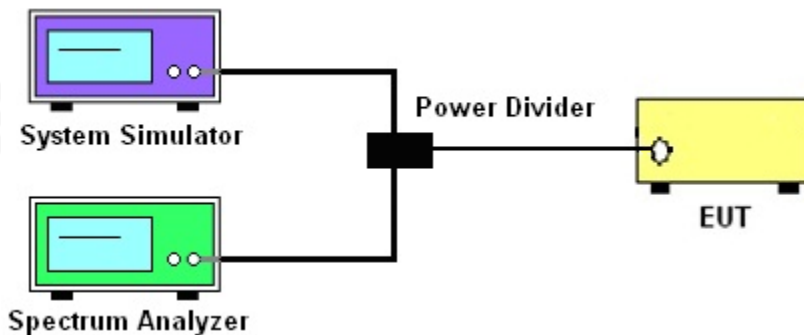
4. PEAK-TO-AVERAGE RATIO

4.1 DESCRIPTION OF THE CONDUCTED OUTPUT POWER MEASUREMENT

4.1.1 MEASUREMENT METHOD

Use one of the procedures presented in 4.1.3 to measure the total peak power and record as PPK. Use one of the applicable procedures presented 4.1.3 to measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:
 $PAPR (dB) = PPK (dBm) - PAvg (dBm)$.

4.1.2 TEST SETUP



4.1.3 TEST PROCEDURES

1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.7 and ANSI C63.26 2015 Section 5.2.6.
2. The EUT was connected to spectrum and system simulator via a power divider
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Set the test probe and measure the peak and average power of the spectrum analyzer
5. Record the deviation as Peak to Average Ratio.

4.1.4 TEST RESULTS

Note: The test data please reference to attachment “STS2508211W07_Appendix SA” and “STS2508211W07_Appendix NSA”.



5. RADIATED POWER AND EFFECTIVE ISOTROPIC RADIATED POWER

5.1 DESCRIPTION OF THE ERP/EIRP MEASUREMENT

5.1.1 MEASUREMENT METHOD

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.



5.1.2 TEST RESULTS

SA:
n5

Radiated Power (ERP) for NR n5 / SCS 15KHz										
BW (MHz)	UL Channel	RB Size	RB offset	Modulation	Conduction AVG Power(dBm)	Ant Gain (dBi)	ERP(dBm)	ERP Limit(W)	ERP Limit(dBm)	Verdict
5	Lowest	1	1	DFT_BPSK	23.94	-0.87	20.92	7.00	38.45	PASS
		25	0	DFT_QPSK	23.09	-0.87	20.07	7.00	38.45	PASS
		12	6		24.13	-0.87	21.11	7.00	38.45	PASS
		1	1		24.05	-0.87	21.03	7.00	38.45	PASS
		1	23		24.13	-0.87	21.11	7.00	38.45	PASS
		1	1	DFT_QAM16	23.17	-0.87	20.15	7.00	38.45	PASS
		1	1	DFT_QAM64	21.87	-0.87	18.85	7.00	38.45	PASS
		1	1	DFT_QAM256	19.64	-0.87	16.62	7.00	38.45	PASS
	Middle	1	1	CP_QPSK	22.44	-0.87	19.42	7.00	38.45	PASS
		1	1	DFT_BPSK	24.08	-0.87	21.06	7.00	38.45	PASS
		25	0	DFT_QPSK	23.14	-0.87	20.12	7.00	38.45	PASS
		12	6		24.14	-0.87	21.12	7.00	38.45	PASS
		1	1		24.1	-0.87	21.08	7.00	38.45	PASS
		1	23		24.06	-0.87	21.04	7.00	38.45	PASS
		1	1	DFT_QAM16	23.18	-0.87	20.16	7.00	38.45	PASS
		1	1	DFT_QAM64	21.84	-0.87	18.82	7.00	38.45	PASS
	Highest	1	1	DFT_QAM256	19.52	-0.87	16.50	7.00	38.45	PASS
		1	1	CP_QPSK	22.55	-0.87	19.53	7.00	38.45	PASS
		1	1	DFT_BPSK	23.7	-0.87	20.68	7.00	38.45	PASS
		25	0	DFT_QPSK	22.7	-0.87	19.68	7.00	38.45	PASS
		12	6		23.99	-0.87	20.97	7.00	38.45	PASS
		1	1		23.96	-0.87	20.94	7.00	38.45	PASS
		1	23		24.09	-0.87	21.07	7.00	38.45	PASS
		1	1	DFT_QAM16	23.13	-0.87	20.11	7.00	38.45	PASS
10	Lowest	1	1	DFT_BPSK	23.61	-0.87	20.59	7.00	38.45	PASS
		50	0	DFT_QPSK	22.73	-0.87	19.71	7.00	38.45	PASS
		25	12		23.8	-0.87	20.78	7.00	38.45	PASS
		1	1		23.75	-0.87	20.73	7.00	38.45	PASS
		1	50		23.59	-0.87	20.57	7.00	38.45	PASS
		1	1	DFT_QAM16	22.67	-0.87	19.65	7.00	38.45	PASS
		1	1	DFT_QAM64	21.14	-0.87	18.12	7.00	38.45	PASS
		1	1	DFT_QAM256	18.96	-0.87	15.94	7.00	38.45	PASS
	Middle	1	1	CP_QPSK	22.11	-0.87	19.09	7.00	38.45	PASS
		1	1	DFT_BPSK	23.57	-0.87	20.55	7.00	38.45	PASS
		50	0	DFT_QPSK	22.64	-0.87	19.62	7.00	38.45	PASS
		25	12		23.8	-0.87	20.78	7.00	38.45	PASS
		1	1		23.6	-0.87	20.58	7.00	38.45	PASS
		1	50		23.71	-0.87	20.69	7.00	38.45	PASS
		1	1	DFT_QAM16	22.88	-0.87	19.86	7.00	38.45	PASS
		1	1	DFT_QAM64	21.17	-0.87	18.15	7.00	38.45	PASS
	Highest	1	1	DFT_QAM256	18.91	-0.87	15.89	7.00	38.45	PASS
		1	1	CP_QPSK	21.83	-0.87	18.81	7.00	38.45	PASS
		1	1	DFT_BPSK	23.53	-0.87	20.51	7.00	38.45	PASS
		50	0	DFT_QPSK	22.67	-0.87	19.65	7.00	38.45	PASS
		25	12		23.8	-0.87	20.78	7.00	38.45	PASS
		1	1		23.61	-0.87	20.59	7.00	38.45	PASS
		1	50		23.79	-0.87	20.77	7.00	38.45	PASS
		1	1	DFT_QAM16	22.72	-0.87	19.70	7.00	38.45	PASS
15	Lowest	1	1	DFT_QAM64	21.49	-0.87	18.47	7.00	38.45	PASS
		1	1	DFT_QAM256	18.93	-0.87	15.91	7.00	38.45	PASS
		1	1	CP_QPSK	22.07	-0.87	19.05	7.00	38.45	PASS
		1	1	DFT_BPSK	23.65	-0.87	20.63	7.00	38.45	PASS
		75	0	DFT_QPSK	22.98	-0.87	19.96	7.00	38.45	PASS
		36	18		23.79	-0.87	20.77	7.00	38.45	PASS
		1	1		23.65	-0.87	20.63	7.00	38.45	PASS
		1	77		23.82	-0.87	20.80	7.00	38.45	PASS



	Middle	1	1	DFT_BPSK	23.57	-0.87	20.55	7.00	38.45	PASS
		75	0	DFT_QPSK	22.75	-0.87	19.73	7.00	38.45	PASS
		36	18		23.82	-0.87	20.80	7.00	38.45	PASS
		1	1		23.62	-0.87	20.60	7.00	38.45	PASS
		1	77		23.62	-0.87	20.60	7.00	38.45	PASS
		1	1	DFT_QAM16	22.63	-0.87	19.61	7.00	38.45	PASS
		1	1	DFT_QAM64	21.21	-0.87	18.19	7.00	38.45	PASS
		1	1	DFT_QAM256	19.02	-0.87	16.00	7.00	38.45	PASS
		1	1	CP_QPSK	21.94	-0.87	18.92	7.00	38.45	PASS
	Highest	1	1	DFT_BPSK	23.58	-0.87	20.56	7.00	38.45	PASS
		75	0	DFT_QPSK	22.9	-0.87	19.88	7.00	38.45	PASS
		36	18		23.91	-0.87	20.89	7.00	38.45	PASS
		1	1		23.78	-0.87	20.76	7.00	38.45	PASS
		1	77		23.78	-0.87	20.76	7.00	38.45	PASS
		1	1	DFT_QAM16	22.73	-0.87	19.71	7.00	38.45	PASS
		1	1	DFT_QAM64	21.37	-0.87	18.35	7.00	38.45	PASS
		1	1	DFT_QAM256	19.1	-0.87	16.08	7.00	38.45	PASS
		1	1	CP_QPSK	22.2	-0.87	19.18	7.00	38.45	PASS
20	Lowest	1	1	DFT_BPSK	23.55	-0.87	20.53	7.00	38.45	PASS
		100	0	DFT_QPSK	22.66	-0.87	19.64	7.00	38.45	PASS
		50	25		23.82	-0.87	20.80	7.00	38.45	PASS
		1	1		23.66	-0.87	20.64	7.00	38.45	PASS
		1	104		23.73	-0.87	20.71	7.00	38.45	PASS
		1	1	DFT_QAM16	22.67	-0.87	19.65	7.00	38.45	PASS
		1	1	DFT_QAM64	21.37	-0.87	18.35	7.00	38.45	PASS
		1	1	DFT_QAM256	19.11	-0.87	16.09	7.00	38.45	PASS
		1	1	CP_QPSK	22.12	-0.87	19.10	7.00	38.45	PASS
	Middle	1	1	DFT_BPSK	23.59	-0.87	20.57	7.00	38.45	PASS
		100	0	DFT_QPSK	22.62	-0.87	19.60	7.00	38.45	PASS
		50	25		23.79	-0.87	20.77	7.00	38.45	PASS
		1	1		23.59	-0.87	20.57	7.00	38.45	PASS
		1	104		23.6	-0.87	20.58	7.00	38.45	PASS
		1	1	DFT_QAM16	22.62	-0.87	19.60	7.00	38.45	PASS
		1	1	DFT_QAM64	21.41	-0.87	18.39	7.00	38.45	PASS
		1	1	DFT_QAM256	19.02	-0.87	16.00	7.00	38.45	PASS
		1	1	CP_QPSK	22.01	-0.87	18.99	7.00	38.45	PASS
	Highest	1	1	DFT_BPSK	23.54	-0.87	20.52	7.00	38.45	PASS
		100	0	DFT_QPSK	22.8	-0.87	19.78	7.00	38.45	PASS
		50	25		23.92	-0.87	20.90	7.00	38.45	PASS
		1	1		23.68	-0.87	20.66	7.00	38.45	PASS
		1	104		23.76	-0.87	20.74	7.00	38.45	PASS
		1	1	DFT_QAM16	22.62	-0.87	19.60	7.00	38.45	PASS
		1	1	DFT_QAM64	21.17	-0.87	18.15	7.00	38.45	PASS
		1	1	DFT_QAM256	18.85	-0.87	15.83	7.00	38.45	PASS
		1	1	CP_QPSK	21.93	-0.87	18.91	7.00	38.45	PASS



NSA:

EN-DC_n78(3450-3550MHz)SCS=30KHz

Radiated Power (EIRP) for DC_5A_n78A / SCS 30KHz											
Band	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
Band5	5	Lowest	1	Low	QPSK	25.94	-0.87	25.07	/	/	PASS
n78	10	Lowest	1	0	DFT QPSK	24.11	0.5	24.61	/	/	PASS
sum	/	/	/	/	/	28.13	/	27.86	1.00	30.00	PASS
Band5	5	Middle	8	Low	QPSK	26	-0.87	25.13	/	/	PASS
n78	10	Middle	12	6	DFT QPSK	23.71	0.5	24.21	/	/	PASS
sum	/	/	/	/	/	28.01	/	27.70	1.00	30.00	PASS
Band5	5	Middle	8	Low	QPSK	25.97	-0.87	25.10	/	/	PASS
n78	10	Middle	12	6	DFT QPSK	23.77	0.5	24.27	/	/	PASS
sum	/	/	/	/	/	28.01	/	27.72	1.00	30.00	PASS
Band5	5	Highest	1	High	QPSK	26.06	-0.87	25.19	/	/	PASS
n78	10	Highest	1	22	DFT QPSK	23.93	0.5	24.43	/	/	PASS
sum	/	/	/	/	/	28.13	/	27.84	1.00	30.00	PASS
Band5	5	Highest	8	High	QPSK	25.83	-0.87	24.96	/	/	PASS
n78	10	Highest	12	6	DFT QPSK	23.94	0.5	24.44	/	/	PASS
sum	/	/	/	/	/	27.99	/	27.72	1.00	30.00	PASS
Band5	5	Highest	1	High	QPSK	26.02	-0.87	25.15	/	/	PASS
n78	10	Highest	1	22	DFT QPSK	23.94	0.5	24.44	/	/	PASS
sum	/	/	/	/	/	28.11	/	27.82	1.00	30.00	PASS
Band5	5	Highest	8	High	QPSK	25.85	-0.87	24.98	/	/	PASS
n78	10	Highest	12	6	DFT QPSK	23.96	0.5	24.46	/	/	PASS
sum	/	/	/	/	/	28.01	/	27.74	1.00	30.00	PASS
Band5	5	Lowest	1	Low	QPSK	26.03	-0.87	25.16	/	/	PASS
n78	10	Lowest	1	0	DFT QPSK	23.01	0.5	23.51	/	/	PASS
sum	/	/	/	/	/	27.78	/	27.42	1.00	30.00	PASS
Band5	5	Middle	18	Low	QPSK	25.98	-0.87	25.11	/	/	PASS
n78	10	Highest	135	67	DFT QPSK	22.77	0.5	23.27	/	/	PASS
sum	/	/	/	/	/	27.67	/	27.30	1.00	30.00	PASS
Band5	5	Middle	18	Low	QPSK	25.93	-0.87	25.06	/	/	PASS
n78	10	Highest	135	67	DFT QPSK	23.78	0.5	24.28	/	/	PASS
sum	/	/	/	/	/	27.99	/	27.70	1.00	30.00	PASS
Band5	5	Highest	1	High	QPSK	26.01	-0.87	25.14	/	/	PASS
n78	10	Highest	1	272	DFT QPSK	22.7	0.5	23.20	/	/	PASS
sum	/	/	/	/	/	27.67	/	27.29	1.00	30.00	PASS
Band5	5	Highest	18	High	QPSK	25.87	-0.87	25.00	/	/	PASS
n78	10	Highest	135	67	DFT QPSK	23.83	0.5	24.33	/	/	PASS
sum	/	/	/	/	/	27.97	/	27.69	1.00	30.00	PASS



EN-DC_n78(3700-3800MHz)SCS=30KHz

Radiated Power (EIRP) for DC_5A_n78A / SCS 30KHz											
Bnad	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
Band5	5	Lowest	1	Low	QPSK	26.02	-0.87	25.15	/	/	PASS
n78	10	Lowest	1	0	DFT_BPSK	24.53	0.5	25.03	/	/	PASS
sum	/	/	/	/	/	28.34	/	28.10	1.00	30.00	PASS
Band5	5	Middle	8	Low	QPSK	25.98	-0.87	25.11	/	/	PASS
n78	10	Middle	12	6	DFT_BPSK	24.71	0.5	25.21	/	/	PASS
sum	/	/	/	/	/	28.4	/	28.17	1.00	30.00	PASS
Band5	5	Middle	8	Low	QPSK	25.98	-0.87	25.11	/	/	PASS
n78	10	Middle	12	6	DFT_QPSK	24.72	0.5	25.22	/	/	PASS
sum	/	/	/	/	/	28.4	/	28.18	1.00	30.00	PASS
Band5	5	Highest	1	High	QPSK	26.01	-0.87	25.14	/	/	PASS
n78	10	Highest	1	22	DFT_BPSK	24.53	0.5	25.03	/	/	PASS
sum	/	/	/	/	/	28.34	/	28.10	1.00	30.00	PASS
Band5	5	Highest	8	High	QPSK	25.8	-0.87	24.93	/	/	PASS
n78	10	Highest	12	6	DFT_BPSK	24.66	0.5	25.16	/	/	PASS
sum	/	/	/	/	/	28.27	/	28.06	1.00	30.00	PASS
Band5	5	Highest	1	High	QPSK	26	-0.87	25.13	/	/	PASS
n78	10	Highest	1	22	DFT_QPSK	24.48	0.5	24.98	/	/	PASS
sum	/	/	/	/	/	28.31	/	28.07	1.00	30.00	PASS
Band5	5	Highest	8	High	QPSK	25.86	-0.87	24.99	/	/	PASS
n78	10	Highest	12	6	DFT_QPSK	24.65	0.5	25.15	/	/	PASS
sum	/	/	/	/	/	28.3	/	28.08	1.00	30.00	PASS
Band5	5	Lowest	1	Low	QPSK	26.02	-0.87	25.15	/	/	PASS
n78	10	Middle	1	0	DFT_BPSK	23.44	0.5	23.94	/	/	PASS
sum	/	/	/	/	/	27.92	/	27.60	1.00	30.00	PASS

6. OCCUPIED BANDWIDTH

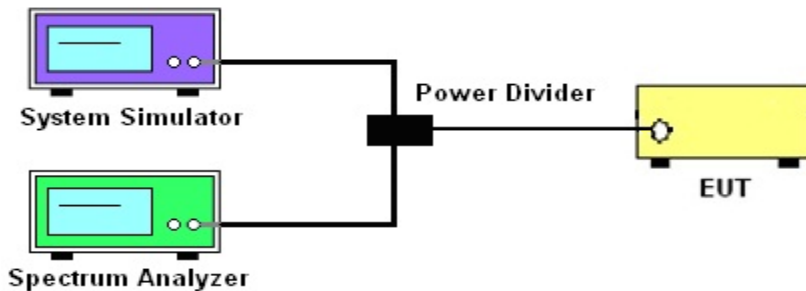
6.1 DESCRIPTION OF OCCUPIED BANDWIDTH MEASUREMENT

6.1.1 MEASUREMENT METHOD

1. The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

2. 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.

6.1.2 TEST SETUP



6.1.3 TEST PROCEDURES

1. The testing follows FCC KDB 971168 D01 v03r01 Section 4.2 and 4.3.
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Set the test probe and measure the Occupied Bandwidth of the spectrum analyzer.
5. Measure and record the Occupied Bandwidth from the Spectrum Analyzer.

6.1.4 MEASUREMENT RESULT

Note: The test data please reference to attachment "STS2508211W07_Appendix SA" and "STS2508211W07_Appendix NSA".



7. CONDUCTED BAND EDGE

7.1 DESCRIPTION OF CONDUCTED BAND EDGE MEASUREMENT

7.1.1 MEASUREMENT METHOD

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.

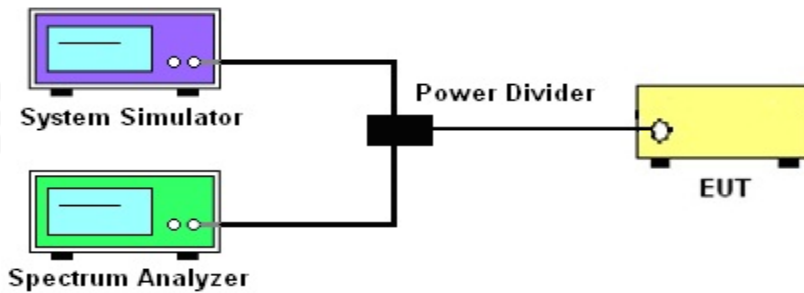
4. §27.53(m)(4)

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.

7.1.2 TEST SETUP



7.1.3 TEST PROCEDURES

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 spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured. Set RBW $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Set spectrum analyzer with RMS/AVG detector.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. 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 7:

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

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

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

7.1.4 MEASUREMENT RESULT

Note: The test data please reference to attachment “STS2508211W07_Appendix SA” and “STS2508211W07_Appendix NSA”.

8. CONDUCTED SPURIOUS EMISSION

8.1 DESCRIPTION OF CONDUCTED SPURIOUS EMISSION MEASUREMENT

8.1.1 MEASUREMENT METHOD

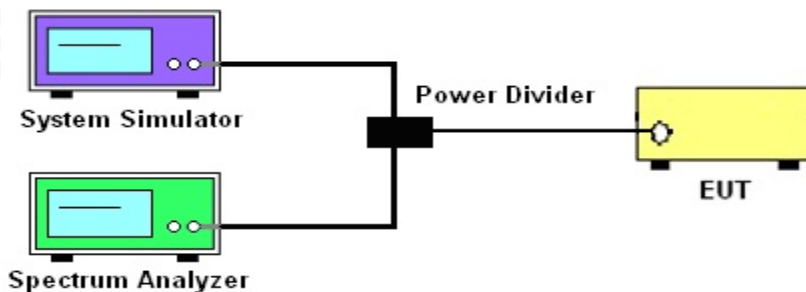
The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For Band 7:

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.

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

8.1.2 TEST SETUP



8.1.3 TEST PROCEDURES

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 spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement
4. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)} = [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$
For Band 7: $P(W) - [43 + 10\log(P)] \text{ (dB)} = -25\text{dBm}$

8.1.4 TEST RESULTS

Note: The test data please reference to attachment "STS2508211W07_Appendix SA" and "STS2508211W07_Appendix NSA".

9. RADIATED SPURIOUS EMISSION

9.1 DESCRIPTION OF RADIATED SPURIOUS EMISSION

9.1.1 MEASUREMENT METHOD

The radiated spurious emission was measured by substitution method according to ANSI C63.26 2015. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For Band 7 The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $55 + 10 \log (P)$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

9.1.2 TEST SETUP

The procedure of radiated spurious emissions is as follows:

a) Pre-calibration With pre-calibration method, the Radiated Spurious Emissions(RSE) is calculated as, $RSE = Rx \text{ (dBuV)} + CL \text{ (dB)} + SA \text{ (dB)} + Gain \text{ (dBi)} - 107 \text{ (dBuV to dBm)}$ The SA is calibrated using following setup.

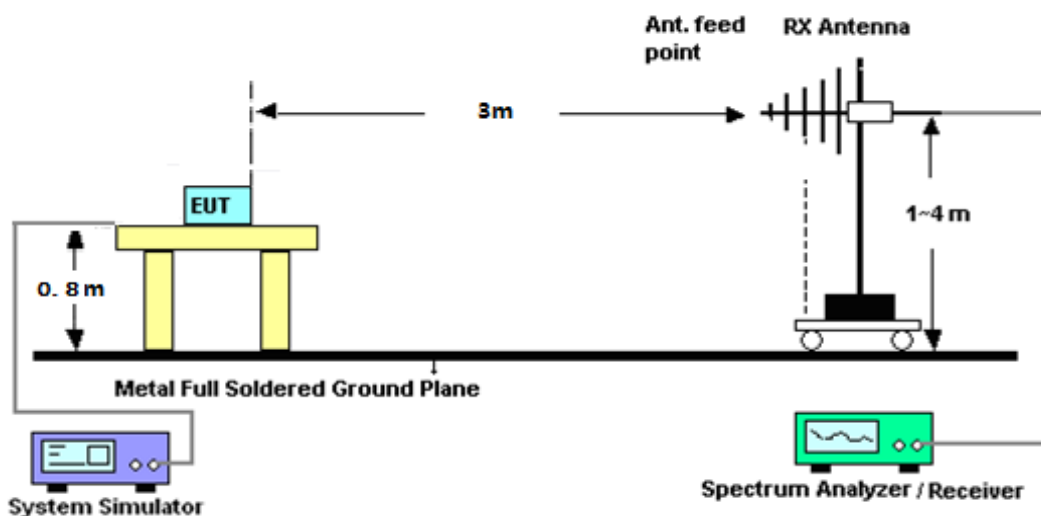
b) EUT was placed on 1.5 m non-conductive stand at a 3 m test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 m from the test item for emission measurements. The height of receiving antenna is 0.8m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the test item and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic measured with peak detector and 1MHz bandwidth.

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of any band into any of the other blocks.

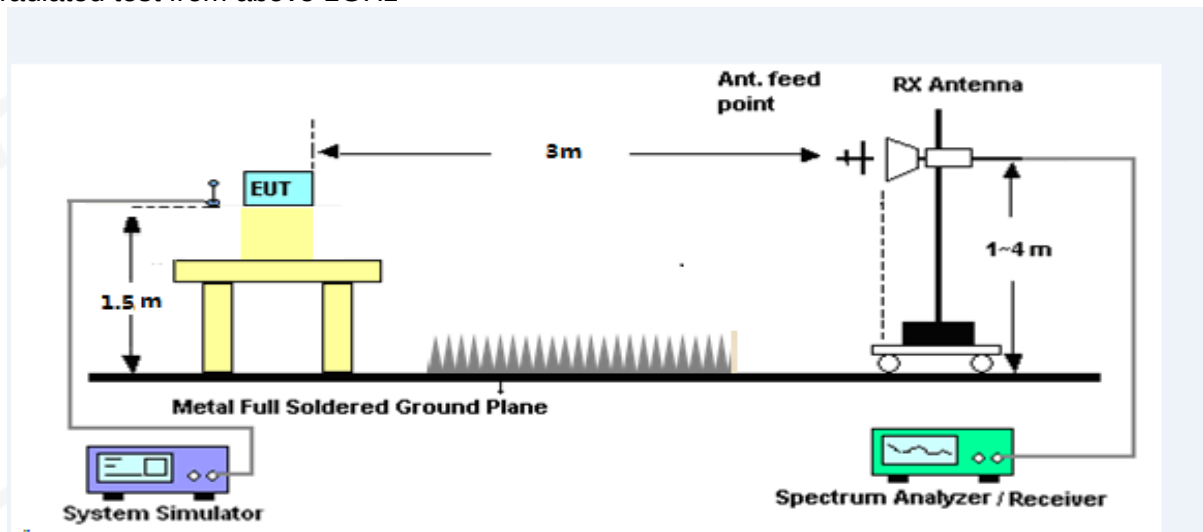
The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established and the ARpl is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss and the air loss. The measurement results are obtained as described below:

Power=PMea+ARpl

For radiated test from 30MHz to 1GHz



For radiated test from above 1GHz



9.1.3 TEST PROCEDURES

1. The testing FCC KDB 971168 D01 Section 7 and ANSI C63.26 2015 Section 5.5.
2. The EUT was placed on a rotatable wooden table with 1.5 meter above ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13\text{dBm}$

For Band 7:

The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= [30 + 10\log(P)]$ (dBm) - $[55 + 10\log(P)]$ (dB)
 $= -25\text{dBm}$

$P_{\text{Mea}} = S.G \text{ Level} + \text{Ant-Cable loss}$; $\text{Margin} = P_{\text{Mea}} - \text{Limit}$.



9.1.4 TEST RESULTS

SA:

N5

NR n5 / 5MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1652.74	-33.61	9.56	9.72	-33.77	-13.00	-20.77	H
2478.63	-34.48	10.50	10.86	-34.84	-13.00	-21.84	H
3305.55	-32.42	12.78	11.57	-31.21	-13.00	-18.21	H
1652.74	-34.85	9.56	9.72	-35.01	-13.00	-22.01	V
2478.63	-34.28	10.50	10.86	-34.64	-13.00	-21.64	V
3305.55	-32.23	12.78	11.57	-31.02	-13.00	-18.02	V
NR n5 / 5MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1672.44	-34.73	9.56	9.72	-34.89	-13.00	-21.89	H
2508.76	-34.87	10.50	10.86	-35.23	-13.00	-22.23	H
3345.19	-32.63	12.78	11.57	-31.42	-13.00	-18.42	H
1672.44	-35.71	9.56	9.72	-35.87	-13.00	-22.87	V
2508.76	-34.57	10.50	10.86	-34.93	-13.00	-21.93	V
3345.19	-32.99	12.78	11.57	-31.78	-13.00	-18.78	V
NR n5 / 5MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1692.17	-34.65	9.56	9.72	-34.81	-13.00	-21.81	H
2538.57	-34.21	10.50	10.86	-34.57	-13.00	-21.57	H
3385.65	-32.55	12.78	11.57	-31.34	-13.00	-18.34	H
1692.17	-35.95	9.56	9.72	-36.11	-13.00	-23.11	V
2538.57	-35.00	10.50	10.86	-35.36	-13.00	-22.36	V
3385.65	-32.48	12.78	11.57	-31.27	-13.00	-18.27	V



NR n5 / 10MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1657.65	-34.33	9.56	9.72	-34.49	-13.00	-21.49	H
2486.42	-34.38	10.50	10.86	-34.74	-13.00	-21.74	H
3315.26	-32.52	12.78	11.57	-31.31	-13.00	-18.31	H
1657.65	-35.14	9.56	9.72	-35.30	-13.00	-22.30	V
2486.42	-34.82	10.50	10.86	-35.18	-13.00	-22.18	V
3315.26	-32.56	12.78	11.57	-31.35	-13.00	-18.35	V
NR n5 / 10MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1672.59	-34.56	9.56	9.72	-34.72	-13.00	-21.72	H
2509.15	-34.48	10.50	10.86	-34.84	-13.00	-21.84	H
3345.26	-32.51	12.78	11.57	-31.30	-13.00	-18.30	H
1672.59	-35.24	9.56	9.72	-35.40	-13.00	-22.40	V
2509.15	-34.78	10.50	10.86	-35.14	-13.00	-22.14	V
3345.26	-32.10	12.78	11.57	-30.89	-13.00	-17.89	V
NR n5 / 10MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1687.39	-33.52	9.56	9.72	-33.68	-13.00	-20.68	H
2531.19	-35.16	10.50	10.86	-35.52	-13.00	-22.52	H
3375.43	-32.46	12.78	11.57	-31.25	-13.00	-18.25	H
1687.39	-35.92	9.56	9.72	-36.08	-13.00	-23.08	V
2531.19	-34.83	10.50	10.86	-35.19	-13.00	-22.19	V
3375.43	-32.96	12.78	11.57	-31.75	-13.00	-18.75	V



NR n5 / 15MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1663.71	-33.64	9.56	9.72	-33.80	-13.00	-20.80	H
2494.45	-35.30	10.50	10.86	-35.66	-13.00	-22.66	H
3326.66	-32.53	12.78	11.57	-31.32	-13.00	-18.32	H
1663.71	-35.03	9.56	9.72	-35.19	-13.00	-22.19	V
2494.45	-34.71	10.50	10.86	-35.07	-13.00	-22.07	V
3326.66	-32.84	12.78	11.57	-31.63	-13.00	-18.63	V
NR n5 / 15MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1672.50	-34.78	9.56	9.72	-34.94	-13.00	-21.94	H
2509.11	-34.02	10.50	10.86	-34.38	-13.00	-21.38	H
3345.78	-32.67	12.78	11.57	-31.46	-13.00	-18.46	H
1672.50	-35.53	9.56	9.72	-35.69	-13.00	-22.69	V
2509.11	-34.62	10.50	10.86	-34.98	-13.00	-21.98	V
3345.78	-33.00	12.78	11.57	-31.79	-13.00	-18.79	V
NR n5 / 15MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1682.83	-34.44	9.56	9.72	-34.60	-13.00	-21.60	H
2524.87	-34.33	10.50	10.86	-34.69	-13.00	-21.69	H
3365.79	-33.06	12.78	11.57	-31.85	-13.00	-18.85	H
1682.83	-34.54	9.56	9.72	-34.70	-13.00	-21.70	V
2524.87	-34.92	10.50	10.86	-35.28	-13.00	-22.28	V
3365.79	-31.98	12.78	11.57	-30.77	-13.00	-17.77	V



NR n5 / 20MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1667.68	-33.82	9.56	9.72	-33.98	-13.00	-20.98	H
2501.91	-35.03	10.50	10.86	-35.39	-13.00	-22.39	H
3336.08	-32.76	12.78	11.57	-31.55	-13.00	-18.55	H
1667.68	-35.40	9.56	9.72	-35.56	-13.00	-22.56	V
2501.91	-34.23	10.50	10.86	-34.59	-13.00	-21.59	V
3336.08	-31.75	12.78	11.57	-30.54	-13.00	-17.54	V
NR n5 / 20MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1672.24	-34.28	9.56	9.72	-34.44	-13.00	-21.44	H
2509.00	-34.08	10.50	10.86	-34.44	-13.00	-21.44	H
3345.59	-33.08	12.78	11.57	-31.87	-13.00	-18.87	H
1672.24	-35.72	9.56	9.72	-35.88	-13.00	-22.88	V
2509.00	-34.56	10.50	10.86	-34.92	-13.00	-21.92	V
3345.59	-32.05	12.78	11.57	-30.84	-13.00	-17.84	V
NR n5 / 20MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1677.95	-34.03	9.56	9.72	-34.19	-13.00	-21.19	H
2516.94	-34.41	10.50	10.86	-34.77	-13.00	-21.77	H
3355.87	-32.84	12.78	11.57	-31.63	-13.00	-18.63	H
1677.95	-35.65	9.56	9.72	-35.81	-13.00	-22.81	V
2516.94	-34.80	10.50	10.86	-35.16	-13.00	-22.16	V
3355.87	-32.98	12.78	11.57	-31.77	-13.00	-18.77	V



NSA:

n78(3450-3550MHz)SCS=30KHz

DC_5A_n78A / 10MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
6910.33	-34.33	11.85	17.21	-39.69	-13.00	-26.69	H
10364.91	-32.76	12.06	22.59	-43.29	-13.00	-30.29	H
13820.21	-27.75	11.67	25.73	-41.81	-13.00	-28.81	H
6910.33	-33.70	11.85	17.21	-39.06	-13.00	-26.06	V
10364.91	-33.45	12.06	22.59	-43.98	-13.00	-30.98	V
13820.21	-27.64	11.67	25.31	-41.28	-13.00	-28.28	V
DC_5A_n78A / 10MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7000.17	-34.18	11.85	17.21	-39.54	-13.00	-26.54	H
10499.93	-32.00	12.06	22.59	-42.53	-13.00	-29.53	H
14000.10	-27.72	11.67	25.73	-41.78	-13.00	-28.78	H
7000.17	-34.13	11.85	17.21	-39.49	-13.00	-26.49	V
10499.93	-32.99	12.06	22.59	-43.52	-13.00	-30.52	V
14000.10	-27.85	11.67	25.31	-41.49	-13.00	-28.49	V
DC_5A_n78A / 10MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7090.02	-33.97	11.85	17.21	-39.33	-13.00	-26.33	H
10634.74	-32.58	12.06	22.59	-43.11	-13.00	-30.11	H
14179.81	-28.31	11.67	25.73	-42.37	-13.00	-29.37	H
7090.02	-34.05	11.85	17.21	-39.41	-13.00	-26.41	V
10634.74	-32.73	12.06	22.59	-43.26	-13.00	-30.26	V
14179.81	-28.30	11.67	25.31	-41.94	-13.00	-28.94	V



DC_5A_n78A / 50MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
6950.02	-34.20	11.85	17.21	-39.56	-13.00	-26.56	H
10425.18	-33.29	12.06	22.59	-43.82	-13.00	-30.82	H
13899.96	-27.72	11.67	25.73	-41.78	-13.00	-28.78	H
6950.02	-33.72	11.85	17.21	-39.08	-13.00	-26.08	V
10425.18	-32.90	12.06	22.59	-43.43	-13.00	-30.43	V
13899.96	-27.56	11.67	25.31	-41.20	-13.00	-28.20	V
DC_5A_n78A / 50MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7000.15	-34.08	11.85	17.21	-39.44	-13.00	-26.44	H
10500.10	-32.05	12.06	22.59	-42.58	-13.00	-29.58	H
14000.04	-27.93	11.67	25.73	-41.99	-13.00	-28.99	H
7000.15	-34.62	11.85	17.21	-39.98	-13.00	-26.98	V
10500.10	-32.04	12.06	22.59	-42.57	-13.00	-29.57	V
14000.04	-27.40	11.67	25.31	-41.04	-13.00	-28.04	V
DC_5A_n78A / 50MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7050.17	-34.46	11.85	17.21	-39.82	-13.00	-26.82	H
10575.02	-32.22	12.06	22.59	-42.75	-13.00	-29.75	H
14100.01	-27.85	11.67	25.73	-41.91	-13.00	-28.91	H
7050.17	-33.98	11.85	17.21	-39.34	-13.00	-26.34	V
10575.02	-32.09	12.06	22.59	-42.62	-13.00	-29.62	V
14100.01	-27.47	11.67	25.31	-41.11	-13.00	-28.11	V

DC_5A_n78A / 100MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7000.05	-33.75	11.85	17.21	-39.11	-13.00	-26.11	H
10499.71	-32.59	12.06	22.59	-43.12	-13.00	-30.12	H
13999.90	-28.37	11.67	25.73	-42.43	-13.00	-29.43	H
7000.05	-34.18	11.85	17.21	-39.54	-13.00	-26.54	V
10499.71	-32.09	12.06	22.59	-42.62	-13.00	-29.62	V
13999.90	-27.60	11.67	25.31	-41.24	-13.00	-28.24	V
DC_5A_n78A / 100MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
6999.81	-34.22	11.85	17.21	-39.58	-13.00	-26.58	H
10500.06	-32.20	12.06	22.59	-42.73	-13.00	-29.73	H
13999.83	-28.24	11.67	25.73	-42.30	-13.00	-29.30	H
6999.81	-34.57	11.85	17.21	-39.93	-13.00	-26.93	V
10500.06	-32.23	12.06	22.59	-42.76	-13.00	-29.76	V
13999.83	-28.01	11.67	25.31	-41.65	-13.00	-28.65	V



n78(3700-3800MHz)SCS=30KHz

DC_5A_n78A / 10MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7410.13	-33.64	11.71	17.95	-39.88	-13.00	-26.88	H
11115.00	-32.89	11.95	22.82	-43.76	-13.00	-30.76	H
14820.14	-28.56	13.68	26.27	-41.15	-13.00	-28.15	H
7410.13	-33.76	11.71	17.95	-40.00	-13.00	-27.00	V
11115.00	-33.43	11.95	22.82	-44.30	-13.00	-31.30	V
14820.14	-27.98	13.68	26.27	-40.57	-13.00	-27.57	V
DC_5A_n78A / 10MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7500.21	-34.60	11.71	17.95	-40.84	-13.00	-27.84	H
11249.94	-33.39	11.95	22.82	-44.26	-13.00	-31.26	H
15000.21	-27.93	13.68	26.27	-40.52	-13.00	-27.52	H
7500.21	-34.52	11.71	17.95	-40.76	-13.00	-27.76	V
11249.94	-32.36	11.95	22.82	-43.23	-13.00	-30.23	V
15000.21	-28.14	13.68	26.27	-40.73	-13.00	-27.73	V
DC_5A_n78A / 10MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7990.08	-34.64	11.71	17.95	-40.88	-13.00	-27.88	H
11384.97	-32.68	11.95	22.82	-43.55	-13.00	-30.55	H
15179.81	-27.65	13.68	26.27	-40.24	-13.00	-27.24	H
7990.08	-33.86	11.71	17.95	-40.10	-13.00	-27.10	V
11384.97	-32.76	11.95	22.82	-43.63	-13.00	-30.63	V
15179.81	-27.86	13.68	26.27	-40.45	-13.00	-27.45	V



DC_5A_n78A / 50MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7450.18	-33.55	11.71	17.95	-39.79	-13.00	-26.79	H
11174.87	-32.64	11.95	22.82	-43.51	-13.00	-30.51	H
14899.82	-27.42	13.68	26.27	-40.01	-13.00	-27.01	H
7450.18	-34.93	11.71	17.95	-41.17	-13.00	-28.17	V
11174.87	-32.91	11.95	22.82	-43.78	-13.00	-30.78	V
14899.82	-28.24	13.68	26.27	-40.83	-13.00	-27.83	V
DC_5A_n78A / 50MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7499.85	-33.97	11.71	17.95	-40.21	-13.00	-27.21	H
11250.06	-32.84	11.95	22.82	-43.71	-13.00	-30.71	H
15000.25	-27.76	13.68	26.27	-40.35	-13.00	-27.35	H
7499.85	-34.47	11.71	17.95	-40.71	-13.00	-27.71	V
11250.06	-32.76	11.95	22.82	-43.63	-13.00	-30.63	V
15000.25	-27.63	13.68	26.27	-40.22	-13.00	-27.22	V
DC_5A_n78A / 50MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7550.12	-34.35	11.71	17.95	-40.59	-13.00	-27.59	H
11324.79	-33.02	11.95	22.82	-43.89	-13.00	-30.89	H
15100.14	-28.53	13.68	26.27	-41.12	-13.00	-28.12	H
7550.12	-33.67	11.71	17.95	-39.91	-13.00	-26.91	V
11324.79	-32.35	11.95	22.82	-43.22	-13.00	-30.22	V
15100.14	-27.50	13.68	26.27	-40.09	-13.00	-27.09	V

DC_5A_n78A / 100MHz / QPSK / RB Size 1 Offset 1/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7499.91	-34.29	11.71	17.95	-40.53	-13.00	-27.53	H
11249.98	-32.78	11.95	22.82	-43.65	-13.00	-30.65	H
15000.25	-27.22	13.68	26.27	-39.81	-13.00	-26.81	H
7499.91	-34.93	11.71	17.95	-41.17	-13.00	-28.17	V
11249.98	-32.07	11.95	22.82	-42.94	-13.00	-29.94	V
15000.25	-27.42	13.68	26.27	-40.01	-13.00	-27.01	V

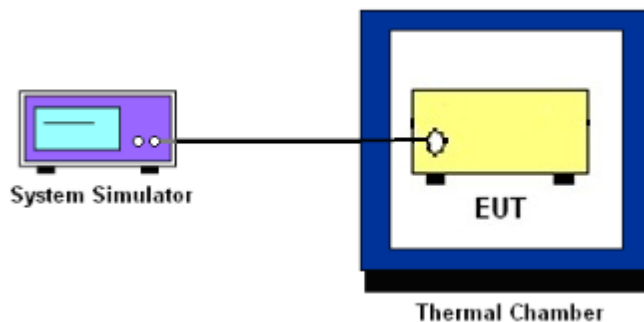
10. FREQUENCY STABILITY

10.1 DESCRIPTION OF FREQUENCY STABILITY MEASUREMENT

10.1.1 MEASUREMENT METHOD

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

10.1.2 TEST SETUP



10.1.3 TEST PROCEDURES FOR TEMPERATURE VARIATION

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. 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.
3. With power OFF, the temperature was raised in 10°C step 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.

10.1.4 TEST PROCEDURES FOR VOLTAGE VARIATION

1. The testing follows FCC KDB 971168 D01v01r03 Section 9.
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.



10.1.5 TEST RESULTS

SA:

n5

NR n5 (DFT_BPSK) / 836.5MHz / BW20M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	20.22	0.028	2.5ppm	PASS
40		17.01	0.024		
30		33.68	0.047		
20		22.84	0.032		
10		29.41	0.041		
0		20.63	0.029		
-10		22.57	0.003		
-20		35.38	0.050		
-30		22.28	0.031		
20	Maximum Voltage	32.55	0.046		
20	BEP	28.76	0.041		

NR n5 (DFT_QPSK) / 836.5MHz / BW20M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	17.47	0.025	2.5ppm	PASS
40		19.98	0.028		
30		13.39	0.019		
20		19.18	0.027		
10		22.59	0.032		
0		24.78	0.035		
-10		13.48	0.002		
-20		35.63	0.050		
-30		13.34	0.019		
20	Maximum Voltage	22.64	0.032		
20	BEP	35.38	0.050		



NSA:
n78(3450-3550MHz)SCS=30KHz

DC_5A_n78A (DFT_BPSK) /SCS 30KHz / 3499.98MHz / BW100M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	30.61	0.016	2.5ppm	PASS
40		17.28	0.009		
30		20.70	0.011		
20		21.69	0.012		
10		17.82	0.009		
0		28.84	0.015		
-10		33.11	0.018		
-20		26.16	0.014		
-30		17.77	0.009		
20	Maximum Voltage	12.07	0.006	2.5ppm	PASS
20	BEP	13.06	0.007		

DC_5A_n78A (DFT_QPSK) /SCS 30KHz / 3499.98MHz / BW100M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	34.72	0.018	2.5ppm	PASS
40		11.85	0.006		
30		18.71	0.010		
20		13.35	0.007		
10		22.24	0.012		
0		25.67	0.014		
-10		15.92	0.008		
-20		24.24	0.013		
-30		28.01	0.015		
20	Maximum Voltage	16.00	0.009	2.5ppm	PASS
20	BEP	17.34	0.009		



n78(3700-3800MHz)SCS=30KHz

DC_5A_n78A (DFT_BPSK) /SCS 30KHz / 3750MHz / BW100M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	36.02	0.019	2.5ppm	PASS
40		32.76	0.017		
30		13.00	0.007		
20		29.71	0.016		
10		22.99	0.012		
0		19.16	0.010		
-10		30.96	0.016		
-20		15.08	0.008		
-30		21.62	0.012		
20	Maximum Voltage	19.75	0.011	2.5ppm	PASS
20	BEP	15.54	0.008		

DC_5A_n78A (DFT_QPSK) /SCS 30KHz / 3750MHz / BW100M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	26.55	0.014	2.5ppm	PASS
40		23.56	0.013		
30		19.54	0.010		
20		15.12	0.008		
10		35.02	0.019		
0		35.01	0.019		
-10		23.66	0.013		
-20		22.82	0.012		
-30		13.55	0.007		
20	Maximum Voltage	32.98	0.018	2.5ppm	PASS
20	BEP	26.24	0.014		



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※※※※※