



FCC RADIO TEST REPORT

FCC ID : PU5-TP00139AS
Equipment : Notebook Computer
Brand Name : Lenovo
Model Name : TP00139A
Applicant : Wistron Corporation
21F, No. 88, Sec. 1, Hsin Tai Wu Rd., Hsichih Dist,
New Taipei City 221, Taiwan
Manufacturer : Lenovo PC HK Limited.
23/F, Lincoln House, Taikoo Place, 979 King's Road,
Quarry Bay, Hong Kong, China
Standard : FCC 47 CFR Part 2, 22(H), 24(E), 27

Equipment: Foxconn T99W175 tested inside of Lenovo Notebook Computer.

The product was received on Dec. 29, 2021 and testing was performed from Jan. 06, 2022 to Feb. 09, 2022. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The test results in this partial report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. Wensan Laboratory

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History of this test report

Report No.	Version	Description	Issued Date
FG1D1645-01C	01	Initial issue of report	Feb. 22, 2022

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
	§22.913 (a)(2)	Effective Radiated Power (n5)	Pass	
	§27.50 (c)(10)	Effective Radiated Power (n12) (n71)		
	§24.232 (c) §27.50 (h)(2)	Equivalent Isotropic Radiated Power (n2) (n25) (n7) (n38) (n41)		
	§27.50 (d)(4)	Equivalent Isotropic Radiated Power (n66)		
-	§24.232 (d) §27.50 (d)(5)	Peak-to-Average Ratio	-	See Note
-	§2.1049	Occupied Bandwidth	-	See Note
-	§2.1051 §22.917 (a) §24.238 (a) §27.53 (g) §27.53 (h)	Conducted Band Edge Measurement (n2) (n5) (n12) (n66) (n71)(n25)	-	See Note
	§2.1051 §27.53 (m)(4)	Conducted Band Edge Measurement (n7) (n38) (n41)		
-	§2.1051 §22.917 (a) §24.238 (a) §27.53 (g) §27.53 (h)	Conducted Spurious Emission (n2) (n5) (n12) (n66) (n71)(n25)	-	See Note
	§2.1051 §27.53 (m)(4)	Conducted Spurious Emission (n7) (n38) (n41)		
-	§2.1055 §22.355 §24.235 §27.54	Frequency Stability Temperature & Voltage	-	See Note

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
4.2	§2.1053 §22.917 (a) §24.238 (a) §27.53 (g) §27.53 (h)	Radiated Spurious Emission (n2) (n5) (n12) (n25) (n66) (n71)	Pass	Under limit 16.13 dB at 10368.000 MHz
	§2.1051 §27.53 (m)(4)	Radiated Spurious Emission (n7) (n38) (n41)		

Note: The module (Model: T99W175) makes no difference after verifying output power, this report reuses test data from the module report.

Declaration of Conformity:

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
- The measurement uncertainty please refer to this report "Uncertainty of Evaluation".

Comments and Explanations:

The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Sheng Kuo

Report Producer: Tina Chuang

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Notebook Computer
Brand Name	Lenovo
Model Name	TP00139A
FCC ID	PU5-TP00139AS
Sample 1	EUT with AWAN Antenna
Sample 2	EUT with LUXSHARE-ICT Antenna
EUT supports Radios application	WCDMA/HSPA/LTE/5G NR/GNSS WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80/VHT160 WLAN 11ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer.
2. Equipment: Foxconn T99W175 tested inside of Lenovo Notebook Computer.

WWAN Antenna Information				
Main Antenna	Manufacturer	AWAN	Peak gain (dBi)	5G NR n2: 0.18 5G NR n5: 0.04 5G NR n7: 1.12 5G NR n12: -1.87 5G NR n25: 0.19 5G NR n38: 1.12 5G NR n41: 1.40 5G NR n66: 0.45 5G NR n71: -1.66
	Part number	SA30Y56103AA	Type	PIFA
	Manufacturer	LUXSHARE-ICT	Peak gain (dBi)	5G NR n2: 0.8 5G NR n5: -2.3 5G NR n7: 1.9 5G NR n12: -0.7 5G NR n25: 0.9 5G NR n38: 1.9 5G NR n41: 1.9 5G NR n66: 1.9 5G NR n71: -1.8
	Part number	SA30Y56102AA	Type	PIFA
MIMO 2 Antenna	Manufacturer	AWAN	Peak gain (dBi)	5G NR n2: -0.31 5G NR n7: 1.95 5G NR n25: -0.31 5G NR n38: 1.91 5G NR n41: 1.93 5G NR n66: -0.42
	Part number	SA30Y56105AA	Type	PIFA
	Manufacturer	LUXSHARE-ICT	Peak gain (dBi)	5G NR n2: 1.7 5G NR n7: 0.4 5G NR n25: 1.7 5G NR n38: 0.4 5G NR n41: 0.4 5G NR n66: 1.0
	Part number	SA30Y56104AA	Type	PIFA

Remark: The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

1.2 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx Frequency	5G NR n2: 1852.5 MHz ~ 1907.5 MHz 5G NR n5: 826.5 MHz ~ 846.5 MHz 5G NR n7: 2502.5 MHz ~ 2567.5 MHz 5G NR n12: 701.5 MHz ~ 713.5 MHz 5G NR n25: 1852.5 MHz ~ 1912.5 MHz 5G NR n38: 2575 MHz ~ 2615 MHz 5G NR n41: 2501.01 MHz ~ 2685 MHz 5G NR n66: 1712.5 MHz ~ 1777.5 MHz 5G NR n71: 665.5 MHz ~ 695.5 MHz
Rx Frequency	5G NR n2: 1932.5 MHz ~ 1987.5 MHz 5G NR n5: 871.5 MHz ~ 891.5 MHz 5G NR n7: 2622.5 MHz ~ 2687.5 MHz 5G NR n12: 731.5 MHz ~ 743.5 MHz 5G NR n25: 1932.5 MHz ~ 1992.5 MHz 5G NR n38: 2575 MHz ~ 2615 MHz 5G NR n41: 2501.01 MHz ~ 2685 MHz 5G NR n66: 2112.5 MHz ~ 2197.5 MHz 5G NR n71: 619.5 MHz ~ 649.5 MHz
Bandwidth	5G NR n2: 5MHz / 10MHz / 15MHz / 20MHz 5G NR n5: 5MHz / 10MHz / 15MHz / 20MHz 5G NR n7: 5MHz / 10MHz / 15MHz / 20MHz 5G NR n12: 5MHz / 10MHz / 15MHz 5G NR n25: 5MHz / 10MHz / 15MHz / 20MHz 5G NR n38: 20MHz 5G NR n41: 20MHz / 40MHz / 50MHz / 60MHz / 80MHz / 90MHz / 100MHz 5G NR n66: 5MHz / 10MHz / 15MHz / 20MHz 5G NR n71: 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	5G NR n2: 23.29 dBm 5G NR n5: 23.26 dBm 5G NR n7: 23.19 dBm 5G NR n12: 23.29 dBm 5G NR n25: 23.41 dBm 5G NR n38: 23.19 dBm 5G NR n41: 24.39 dBm 5G NR n66: 23.39 dBm 5G NR n71: 23.18 dBm
Type of Modulation	PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

1.3 Modification of EUT

No modifications are made to the EUT during all test items.

1.4 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333
Test Site No.	Sporton Site No.
	TH03-HY (TAF Code: 1190)
Test Engineer	Sherry Wu
Temperature	20.1~23.5°C
Relative Humidity	39.9~60.9%
Remark	The Conducted test item subcontracted to Sporton International Inc. EMC & Wireless Communications Laboratory

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010
Test Site No.	Sporton Site No.
	03CH12-HY
Test Engineer	Jack Cheng, Lance Chiang, Chuan Chu
Temperature	21.6~26.2°C
Relative Humidity	56~68%

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190 and TW3786

1.5 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ ANSI C63.26-2015
- ♦ ANSI / TIA-603-E
- ♦ FCC 47 CFR Part 2, 22(H), 24(E), 27
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. The TAF code is not including all the FCC KDB listed without accreditation.



2 Test Configuration of Equipment Under Test

2.1 Test Mode

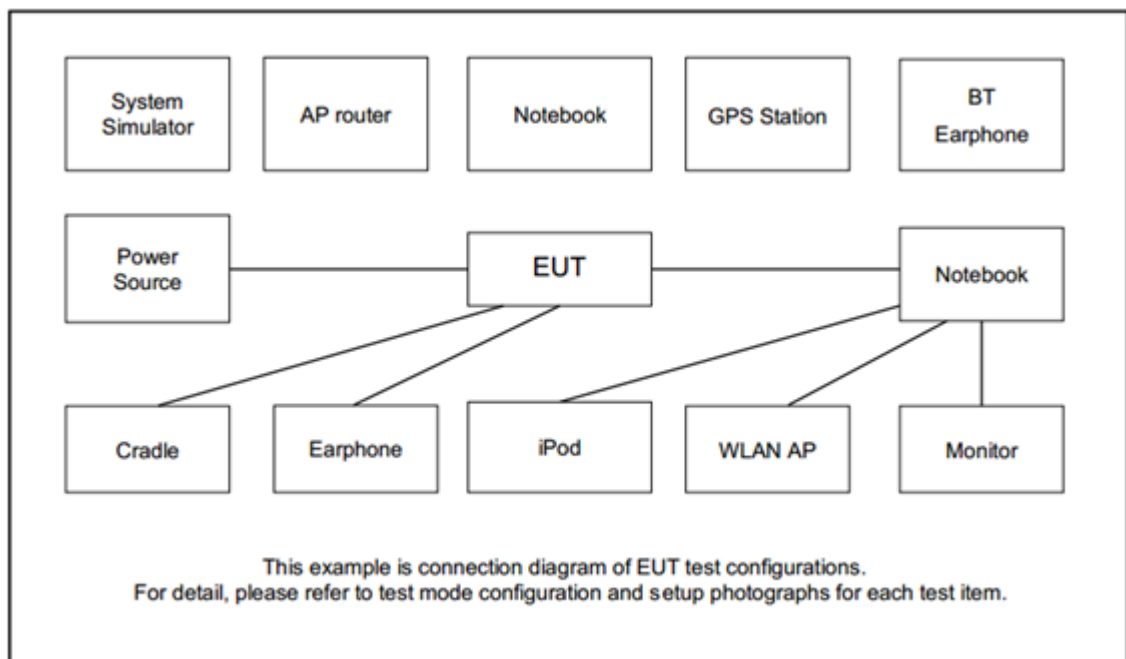
Antenna port conducted and radiated test items listed below are performed according to KDB 971168

D01 Power Meas. License Digital Systems v03r01 with maximum output power.

Test Items	NR Band	Bandwidth (MHz)							Modulation					RB #			Test Channel		
		5	10	15	20	30	40	50	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	n2	v	v	v	v	-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n5	v	v	v	v	-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n7	v	v	v	v	-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n12	v	v	v	-	-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n25	v	v	v	v	-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n38	-	-	-	v	-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n66	v	v	v	v	-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n71	v	v	v	v	-	-	-	v	v	v	v	v	v	v	v	v	v	v
E.R.P / E.I.R.P	n2	v	v	v	v	-	-	-	v	v	v	v	v	Max. Power					
	n5	v	v	v	v	-	-	-	v	v	v	v	v						
	n7	v	v	v	v	-	-	-	v	v	v	v	v						
	n12	v	v	v	-	-	-	-	v	v	v	v	v						
	n25	v	v	v	v	-	-	-	v	v	v	v	v						
	n38	-	-	-	v	-	-	-	v	v	v	v	v						
	n66	v	v	v	v	-	-	-	v	v	v	v	v						
Radiated Spurious Emission	n71	v	v	v	v	-	-	-	v	v	v	v	v						
	n2				v	-	-	-	v					v			v	v	v
	n5				v	-	-	-	v					v			v	v	v
	n7				v	-	-	-	v					v			v	v	v
	n12			v	-	-	-	-	v					v			v	v	v
	n25				v	-	-	-	v					v			v	v	v
	n38	-	-	-	v	-	-	-	v					v			v	v	v
	n66				v	-	-	-	v					v			v	v	v
Remark	n71				v	-	-	-	v					v			v	v	v
	1. The mark "v" means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. Test combination is EN-DC 5A-n7A, EN-DC 48A-n5A, EN-DC 12A-n25A, EN-DC 20A-n38A, EN-DC 48A-n66A, EN-DC 71A-n66A, EN-DC 66A-n71A, EN-DC 2A-n12A. 5. All the radiated test cases were performed with Adapter (ADLX45YLC3D) and Battery1.																		

Test Items	NR Band	Bandwidth (MHz)										Modulation					RB #			Test Channel		
		10	15	20	30	40	50	60	80	90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	n41	-	-	v	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
E.R.P / E.I.R.P	n41	-	-	v	-	v	v	v	v	v	v	v	v	v	v	v	Max. Power					
Radiated Spurious Emission	n41	-	-	v	-							v					v			v	v	v
Remark	1. The mark “v” means that this configuration is chosen for testing 2. The mark “-” means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. Test combination is EN-DC 66A-n41A. 5. All the radiated test cases were performed with Adapter (ADLX45YLC3D) and Battery1.																					

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A

2.4 Frequency List of Low/Middle/High Channels

5G NR n2 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	372000	376000	380000
	Frequency	1860	1880	1900
15	Channel	371500	376000	380500
	Frequency	1857.5	1880	1902.5
10	Channel	371000	376000	381000
	Frequency	1855	1880	1905
5	Channel	370500	376000	381500
	Frequency	1852.5	1880	1907.5

5G NR n5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	166800	167300	167800
	Frequency	834	836.5	839
15	Channel	166300	167300	168300
	Frequency	831.5	836.5	841.5
10	Channel	165800	167300	168800
	Frequency	829	836.5	844
5	Channel	165300	167300	169300
	Frequency	826.5	836.5	846.5

5G NR Band n7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	502000	507000	512000
	Frequency	2510	2535	2560
15	Channel	501500	507000	512500
	Frequency	2507.5	2535	2562.5
10	Channel	501000	507000	513000
	Frequency	2505	2535	2565
5	Channel	500500	507000	513500
	Frequency	2502.5	2535	2567.5

5G NR Band n12 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
15	Channel	141300	141500	141700
	Frequency	706.5	707.5	708.5
10	Channel	140800	141500	142200
	Frequency	704	707.5	711
5	Channel	140300	141500	142700
	Frequency	701.5	707.5	713.5

5G NR Band n25 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	372000	376500	381000
	Frequency	1860	1882.5	1905
15	Channel	371500	376500	381500
	Frequency	1857.5	1882.5	1907.5
10	Channel	371000	376500	382000
	Frequency	1855	1882.5	1910
5	Channel	370500	376500	382500
	Frequency	1852.5	1882.5	1912.5

5G NR Band n38 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	516000	519000	522000
	Frequency	2580	2595	2610

5G NR n41 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	509202	518598	528000
	Frequency	2546.01	2592.99	2640
90	Channel	508200	518598	528996
	Frequency	2541	2592.99	2644.98
80	Channel	507204	518598	529998
	Frequency	2536.02	2592.99	2649.99
60	Channel	505200	518598	531996
	Frequency	2526	2592.99	2659.98
50	Channel	504204	518598	532998
	Frequency	2521.02	2592.99	2664.99
40	Channel	503202	518598	534000
	Frequency	2516.01	2592.99	2670
20	Channel	501204	518598	535998
	Frequency	2506.02	2592.99	2679.99

5G NR n66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	344000	349000	354000
	Frequency	1720	1745	1770
15	Channel	343500	349000	354500
	Frequency	1717.5	1745	1772.5
10	Channel	343000	349000	355000
	Frequency	1715	1745	1775
5	Channel	342500	349000	355500
	Frequency	1712.5	1745	1777.5



5G NR n71 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	134600	136100	137600
	Frequency	673	680.5	688
15	Channel	134100	136100	138100
	Frequency	670.5	680.5	690.5
10	Channel	133600	136100	138600
	Frequency	668	680.5	693
5	Channel	133100	136100	139100
	Frequency	665.5	680.5	695.5

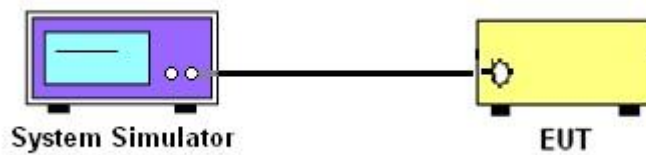
3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.1.1 Test Setup

3.1.2 Conducted Output Power



3.1.3 Test Result of Conducted Test

Please refer to Appendix A.

3.2 Conducted Output Power and ERP/EIRP

3.2.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

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.

The ERP of mobile transmitters must not exceed 7 Watts for 5G NR n5

The ERP of mobile transmitters must not exceed 3 Watts for 5G NR n12 and n71

The EIRP of mobile transmitters must not exceed 2 Watts for 5G NR n2 and n25 and n7 and n38 and n41

The EIRP of mobile transmitters must not exceed 1 Watts for 5G NR n66

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.2.2 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.

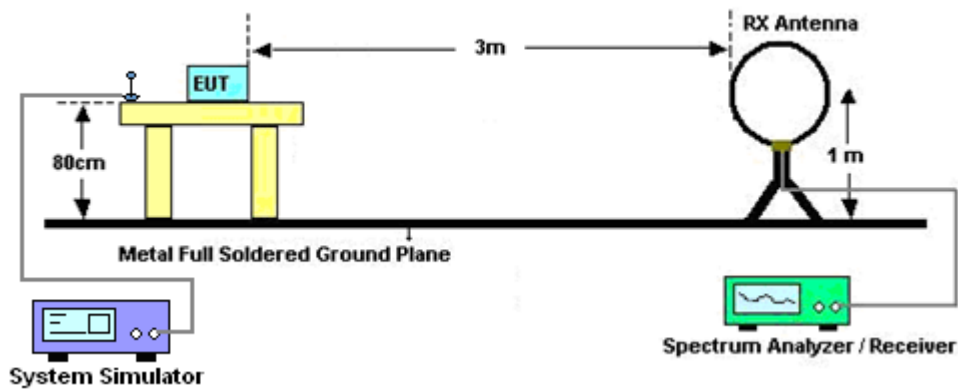
4 Radiated Test Items

4.1 Measuring Instruments

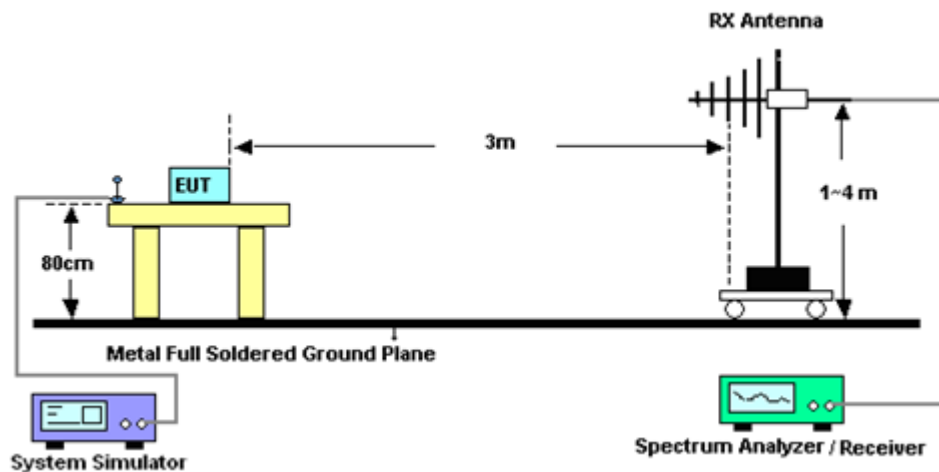
See list of measuring instruments of this test report.

4.1.1 Test Setup

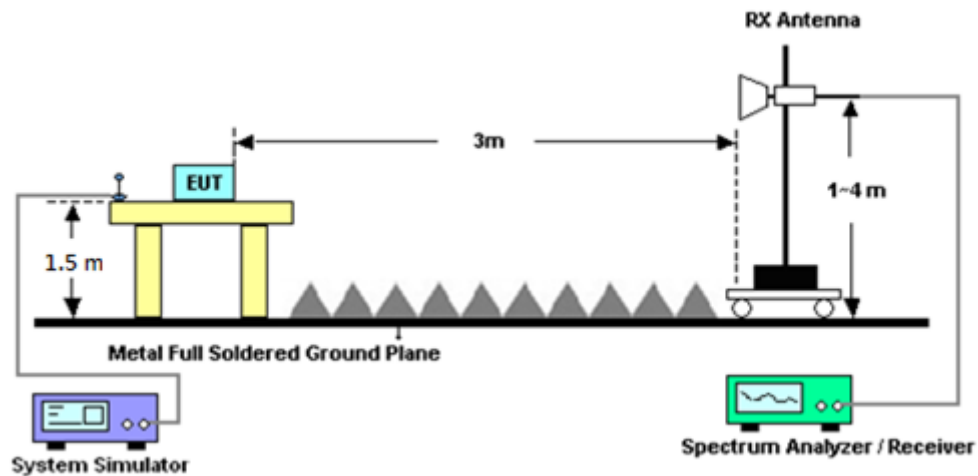
For radiated test below 30MHz



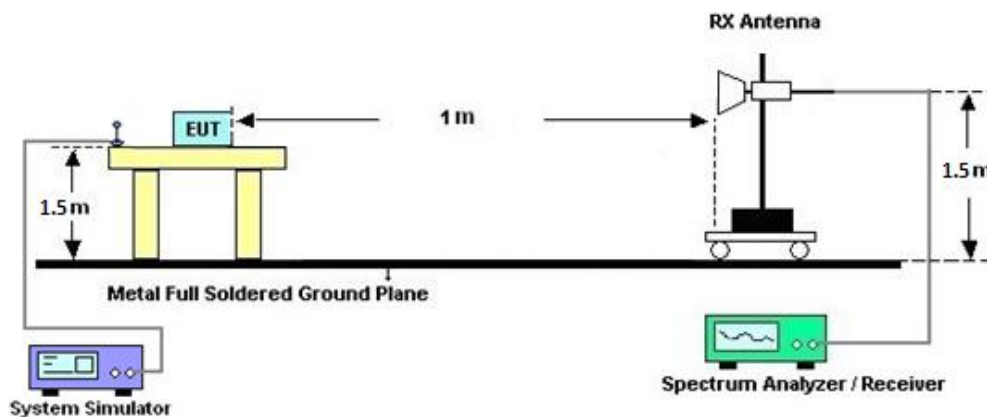
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



4.1.2 Test Result of Radiated Test

Please refer to Appendix B.

Note:

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

4.2 Radiated Spurious Emission Measurement

4.2.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E. 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 5G NR n7, n38, n41

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.

4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

1. The EUT was placed on a turntable 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. 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.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. 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)

For 5G NR n7, n38, n41

The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)

EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain

ERP (dBm) = EIRP - 2.15



5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 07, 2021	Jan. 27, 2022~ Feb. 05, 2022	Sep. 06, 2022	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	37059 & 01	30MHz~1GHz	Oct. 09, 2021	Jan. 27, 2022~ Feb. 05, 2022	Oct. 08, 2022	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & N-6-06	35414 & AT-N0602	30MHz~1GHz	Oct. 09, 2021	Jan. 27, 2022~ Feb. 05, 2022	Oct. 08, 2022	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1326	1GHz~18GHz	Oct. 25, 2021	Jan. 27, 2022~ Feb. 05, 2022	Oct. 24, 2022	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1212	1GHz~18GHz	May 18, 2021	Jan. 27, 2022~ Feb. 05, 2022	May 17, 2022	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA91702 51	18GHz~40GHz	Nov. 30, 2021	Jan. 27, 2022~ Feb. 05, 2022	Nov. 29, 2022	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA91705 76	18GHz~40GHz	May 21, 2021	Jan. 27, 2022~ Feb. 05, 2022	May 20, 2022	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 24, 2021	Jan. 27, 2022~ Feb. 05, 2022	Mar. 23, 2022	Radiation (03CH12-HY)
Preamplifier	Aglient	8449B	3008A02375	1GHz~26.5GHz	May 25, 2021	Jan. 27, 2022~ Feb. 05, 2022	May 24, 2022	Radiation (03CH12-HY)
Preamplifier	E-INSTRUME NT TECH LTD.	ERA-100M-18 G-56-01-A70	EC1900270	1GHz-18GHz	Dec. 27, 2021	Jan. 27, 2022~ Feb. 05, 2022	Dec. 26, 2022	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	Jun. 22, 2021	Jan. 27, 2022~ Feb. 05, 2022	Jun. 21, 2022	Radiation (03CH12-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz~44GHz	Oct. 15, 2021	Jan. 27, 2022~ Feb. 05, 2022	Oct. 14, 2022	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Feb. 22, 2021	Jan. 27, 2022~ Feb. 05, 2022	Feb. 21, 2022	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30MHz~40GHz	Feb. 22, 2021	Jan. 27, 2022~ Feb. 05, 2022	Feb. 21, 2022	Radiation (03CH12-HY)
Filter	Wainwright	WLKS1200-12 SS	SN2	1.2GHz Low Pass Filter	Mar. 17, 2021	Jan. 27, 2022~ Feb. 05, 2022	Mar. 16, 2022	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-1080 -1200-15000-6 OSS	SN1	1.2GHz High Pass Filter	Mar. 17, 2021	Jan. 27, 2022~ Feb. 05, 2022	Mar. 16, 2022	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-2700 -3000-18000-6 OST	SN2	3GHz High Pass Filter	Jul. 12, 2021	Jan. 27, 2022~ Feb. 05, 2022	Jul. 11, 2022	Radiation (03CH12-HY)
Hygrometer	TECEPEL	DTM-303B	TP140349	N/A	Sep. 30, 2021	Jan. 27, 2022~ Feb. 05, 2022	Sep. 29, 2022	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Jan. 27, 2022~ Feb. 05, 2022	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Jan. 27, 2022~ Feb. 05, 2022	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Jan. 27, 2022~ Feb. 05, 2022	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Jan. 27, 2022~ Feb. 05, 2022	N/A	Radiation (03CH12-HY)
Base Station (Measure)	Anritsu	MT8821C	6261849015	LTE	Oct. 06, 2021	Jan. 06, 2022~ Feb. 09, 2022	Oct. 05, 2022	Conducted (TH03-HY)
Base Station (Measure)	Anritsu	MT8000A	6261940327	FR1	Oct. 29, 2021	Jan. 06, 2022~ Feb. 09, 2022	Oct. 28, 2022	Conducted (TH03-HY)



6 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	3.10 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	3.39 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.34 dB
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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power) and ERP/EIRP

NR n2 Maximum Average Power [dBm] (GT - LC = 0.8 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
5	1	1	PI/2 BPSK	23.08	23.02	22.79	23.97	0.2495		
5	1	23		23.11	23.10	23.12				
5	12	6		23.17	23.08	23.13				
5	1	0		22.68	22.55	22.67				
5	1	24		22.62	22.64	22.60				
5	25	0		22.66	22.63	22.66				
5	1	1	QPSK	22.97	22.96	23.00				
5	1	23		23.01	23.17	23.11				
5	12	6		23.10	23.05	23.06				
5	1	0		22.10	22.04	22.11				
5	1	24		22.10	22.13	22.12				
5	25	0		22.18	22.13	22.19				
5	1	1	16-QAM	22.00	22.06	22.15	22.95	0.1972		
5	1	1	64-QAM	20.69	20.64	20.61				
5	1	1	256-QAM	18.77	18.80	18.63				
Limit	EIRP < 2W			Result			Pass			

NR n2 Maximum Average Power [dBm] (GT - LC = 0.8 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
10	1	1	PI/2 BPSK	23.18	22.86	22.76	23.98	0.2500		
10	1	50		23.09	23.11	22.88				
10	25	12		23.13	23.10	23.17				
10	1	0		22.79	22.58	22.50				
10	1	51		22.72	22.50	22.18				
10	50	0		22.68	22.62	22.36				
10	1	1	QPSK	23.07	22.96	22.70				
10	1	50		23.00	23.02	22.50				
10	25	12		23.06	23.10	23.10				
10	1	0		22.17	22.01	22.20				
10	1	51		22.10	22.20	22.11				
10	50	0		22.17	22.21	22.23				
10	1	1	16-QAM	22.21	22.06	21.71	23.01	0.2000		
10	1	1	64-QAM	20.62	20.54	20.62				
10	1	1	256-QAM	18.80	18.69	18.59				
Limit	EIRP < 2W			Result			Pass			



NR n2 Maximum Average Power [dBm] (GT - LC = 0.8 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
15	1	1	PI/2 BPSK	23.26	23.17	23.13	24.09	0.2564		
15	1	77		23.20	23.29	23.10				
15	36	18		23.19	23.16	23.08				
15	1	0		22.83	22.71	22.32				
15	1	78		22.83	22.90	22.65				
15	75	0		22.76	22.76	22.71				
15	1	1	QPSK	23.21	23.00	22.83				
15	1	77		23.20	23.27	22.74				
15	36	18		23.17	23.15	23.09				
15	1	0		22.27	22.10	22.22				
15	1	78		22.20	22.26	21.93				
15	75	0		22.31	22.28	22.21				
15	1	1	16-QAM	22.30	22.23	21.97	23.10	0.2042		
15	1	1	64-QAM	20.88	20.73	20.83				
15	1	1	256-QAM	18.92	18.77	18.80				
Limit	EIRP < 2W			Result			Pass			

NR n2 Maximum Average Power [dBm] (GT - LC = 0.8 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
20	1	1	PI/2 BPSK	23.20	23.17	23.17	24.03	0.2529		
20	1	104		23.16	23.10	22.64				
20	50	25		23.00	23.23	23.17				
20	1	0		21.65	21.50	22.66				
20	1	105		22.77	21.98	22.05				
20	100	0		22.50	22.53	22.70				
20	1	1	QPSK	22.93	23.10	23.21				
20	1	104		22.80	23.20	22.89				
20	50	25		23.17	23.20	23.16				
20	1	0		22.59	22.10	22.31				
20	1	105		22.20	22.29	22.06				
20	100	0		22.29	22.23	22.26				
20	1	1	16-QAM	22.26	22.03	22.41	23.21	0.2094		
20	1	1	64-QAM	20.80	20.67	20.80				
20	1	1	256-QAM	18.80	18.67	18.86				
Limit	EIRP < 2W			Result			Pass			



NR n5 Maximum Average Power [dBm] (GT - LC = 0.04 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP(W)		
5	1	1	PI/2 BPSK	23.23	22.96	22.92	21.15	0.1303		
5	1	23		23.17	22.90	22.76				
5	12	6		23.19	23.04	22.86				
5	1	0		22.84	22.56	22.40				
5	1	24		22.62	22.38	22.20				
5	25	0		22.66	22.47	22.24				
5	1	1	QPSK	23.26	22.99	22.90				
5	1	23		23.08	22.82	22.70				
5	12	6		23.19	22.99	22.79				
5	1	0		22.26	21.99	21.83				
5	1	24		22.02	21.81	21.62				
5	25	0		22.22	21.99	21.78				
5	1	1	16-QAM	22.29	21.99	21.87	20.18	0.1042		
5	1	1	64-QAM	20.60	20.40	20.40				
5	1	1	256-QAM	18.87	18.61	18.41				
Limit	ERP < 7W			Result			Pass			

NR n5 Maximum Average Power [dBm] (GT - LC = 0.04 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP(W)		
10	1	1	PI/2 BPSK	23.10	22.96	22.67	20.99	0.1256		
10	1	50		22.87	22.78	22.70				
10	25	12		23.07	22.94	22.67				
10	1	0		22.70	22.50	22.29				
10	1	51		22.47	22.38	22.17				
10	50	0		22.59	22.50	22.07				
10	1	1	QPSK	23.03	22.87	22.61				
10	1	50		22.80	22.72	22.56				
10	25	12		23.04	22.87	22.60				
10	1	0		22.13	21.96	21.64				
10	1	51		21.91	21.83	21.70				
10	50	0		22.12	21.91	21.73				
10	1	1	16-QAM	22.10	22.01	21.73	19.99	0.0998		
10	1	1	64-QAM	20.61	20.43	20.30				
10	1	1	256-QAM	18.70	18.50	18.37				
Limit	ERP < 7W			Result			Pass			



NR n5 Maximum Average Power [dBm] (GT - LC = 0.04 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP(W)		
15	1	1	PI/2 BPSK	23.17	23.10	23.07	21.06	0.1276		
15	1	77		23.02	22.94	22.80				
15	36	18		23.08	23.02	22.92				
15	1	0		22.70	22.56	22.40				
15	1	78		22.49	22.40	22.21				
15	75	0		22.63	22.50	22.38				
15	1	1	QPSK	23.17	23.16	23.03				
15	1	77		22.96	22.90	22.77				
15	36	18		23.04	23.05	22.87				
15	1	0		22.18	22.04	21.88				
15	1	78		21.90	21.83	21.77				
15	75	0		22.16	22.04	21.88				
15	1	1	16-QAM	22.23	22.13	21.98	20.12	0.1028		
15	1	1	64-QAM	20.78	20.59	20.63				
15	1	1	256-QAM	18.74	18.70	18.60				
Limit	ERP < 7W			Result			Pass			

NR n5 Maximum Average Power [dBm] (GT - LC = 0.04 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP(W)		
20	1	1	PI/2 BPSK	23.16	23.19	23.08	21.08	0.1282		
20	1	104		22.90	22.92	22.30				
20	50	25		23.10	23.13	23.01				
20	1	0		22.67	22.55	22.54				
20	1	105		22.39	22.40	21.57				
20	100	0		22.52	22.53	22.49				
20	1	1	QPSK	23.13	23.07	22.98				
20	1	104		23.11	22.49	21.87				
20	50	25		23.10	23.06	22.98				
20	1	0		22.12	22.08	22.02				
20	1	105		21.76	21.81	21.74				
20	100	0		22.07	22.03	21.96				
20	1	1	16-QAM	22.10	22.07	22.05	19.99	0.0998		
20	1	1	64-QAM	20.53	20.52	20.60				
20	1	1	256-QAM	18.65	18.47	18.71				
Limit	ERP < 7W			Result			Pass			



NR n7 Maximum Average Power [dBm] (GT - LC = 2.5 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
5	1	1	PI/2 BPSK	22.81	22.95	22.98	25.59	0.3622		
5	1	23		22.82	23.09	23.00				
5	12	6		22.84	22.99	23.02				
5	1	0		22.39	22.56	22.52				
5	1	24		22.34	22.65	22.58				
5	25	0		22.39	22.68	22.74				
5	1	1	QPSK	22.72	22.90	22.92				
5	1	23		22.67	23.03	22.95				
5	12	6		22.79	22.99	22.99				
5	1	0		21.87	21.95	22.02				
5	1	24		21.82	22.08	22.06				
5	25	0		21.99	22.19	22.06				
5	1	1	16-QAM	21.86	21.99	21.20	24.49	0.2812		
5	1	1	64-QAM	20.39	20.61	20.56				
5	1	1	256-QAM	18.49	18.84	18.69				
Limit	EIRP < 2W			Result			Pass			

NR n7 Maximum Average Power [dBm] (GT - LC = 2.5 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
10	1	1	PI/2 BPSK	22.69	23.00	22.95	25.60	0.3631		
10	1	50		22.67	22.96	22.99				
10	25	12		22.82	23.10	23.05				
10	1	0		22.34	22.59	22.56				
10	1	51		22.33	22.59	22.50				
10	50	0		22.32	22.63	22.58				
10	1	1	QPSK	22.72	22.95	22.90				
10	1	50		22.66	22.95	22.96				
10	25	12		22.75	23.08	23.06				
10	1	0		21.75	22.02	22.08				
10	1	51		21.75	22.03	22.06				
10	50	0		21.86	22.19	22.04				
10	1	1	16-QAM	21.79	22.08	22.05	25.38	0.3451		
10	1	1	64-QAM	20.39	20.49	20.50				
10	1	1	256-QAM	18.39	18.66	22.88				
Limit	EIRP < 2W			Result			Pass			



NR n7 Maximum Average Power [dBm] (GT - LC = 2.5 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
15	1	1	PI/2 BPSK	22.90	23.12	23.18	25.68	0.3698		
15	1	77		22.99	23.15	23.16				
15	36	18		22.84	23.17	23.10				
15	1	0		22.48	22.65	22.77				
15	1	78		22.56	22.70	22.75				
15	75	0		22.41	22.68	22.26				
15	1	1	QPSK	22.80	23.09	23.17				
15	1	77		22.86	23.15	23.15				
15	36	18		22.85	23.09	23.12				
15	1	0		21.93	22.15	22.20				
15	1	78		21.89	22.14	22.19				
15	75	0		21.99	22.18	22.26				
15	1	1	16-QAM	22.00	22.29	22.29	24.79	0.3013		
15	1	1	64-QAM	20.56	20.78	20.68				
15	1	1	256-QAM	18.55	18.66	18.79				
Limit	EIRP < 2W			Result			Pass			

NR n7 Maximum Average Power [dBm] (GT - LC = 2.5 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
20	1	1	PI/2 BPSK	22.92	23.08	23.11	25.69	0.3707		
20	1	104		23.00	23.12	23.11				
20	50	25		22.97	23.19	23.16				
20	1	0		22.49	22.69	22.70				
20	1	105		22.66	22.72	22.73				
20	100	0		22.45	22.70	22.73				
20	1	1	QPSK	22.85	23.02	23.07				
20	1	104		22.99	23.05	23.16				
20	50	25		22.90	23.15	23.16				
20	1	0		22.00	22.18	22.16				
20	1	105		22.09	22.17	22.27				
20	100	0		21.99	22.18	22.16				
20	1	1	16-QAM	21.96	22.17	22.19	24.69	0.2944		
20	1	1	64-QAM	20.52	20.74	20.78				
20	1	1	256-QAM	18.46	18.78	18.67				
Limit	EIRP < 2W			Result			Pass			



NR n12 Maximum Average Power [dBm] (GT - LC = -0.7 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP(W)		
5	1	1	PI/2 BPSK	23.24	23.17	23.08	20.43	0.1104		
5	1	23		23.02	23.08	22.88				
5	12	6		23.15	23.14	22.97				
5	1	0		22.78	22.69	22.58				
5	1	24		22.55	22.55	22.42				
5	25	0		22.64	22.69	22.53				
5	1	1	QPSK	23.21	23.01	23.04				
5	1	23		22.95	23.04	22.82				
5	12	6		23.08	23.13	22.97				
5	1	0		22.34	22.23	22.20				
5	1	24		22.15	22.13	22.03				
5	25	0		23.28	22.25	22.09				
5	1	1	16-QAM	22.35	22.28	22.18	19.50	0.0891		
5	1	1	64-QAM	20.86	20.81	20.84				
5	1	1	256-QAM	18.84	18.76	18.74				
Limit	ERP < 3W			Result			Pass			

NR n12 Maximum Average Power [dBm] (GT - LC = -0.7 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP(W)		
10	1	1	PI/2 BPSK	23.04	23.08	22.98	20.33	0.1079		
10	1	50		23.05	23.04	22.93				
10	25	12		23.11	23.17	23.13				
10	1	0		22.71	22.65	22.58				
10	1	51		22.65	22.54	22.48				
10	50	0		22.62	22.74	22.62				
10	1	1	QPSK	23.02	23.04	22.92				
10	1	50		23.01	22.96	22.88				
10	25	12		23.08	23.18	23.10				
10	1	0		22.21	22.24	22.12				
10	1	51		22.06	22.13	22.05				
10	50	0		22.25	22.23	22.15				
10	1	1	16-QAM	22.15	22.13	22.32	19.47	0.0885		
10	1	1	64-QAM	20.71	20.72	20.75				
10	1	1	256-QAM	18.82	18.87	18.76				
Limit	ERP < 3W			Result			Pass			



NR n12 Maximum Average Power [dBm] (GT - LC = -0.7 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP(W)		
15	1	1	PI/2 BPSK	23.28	23.29	23.28	20.44	0.1107		
15	1	77		23.13	23.12	23.07				
15	36	18		23.24	23.21	23.16				
15	1	0		22.86	22.90	22.87				
15	1	78		22.64	22.61	22.58				
15	75	0		22.76	22.72	22.71				
15	1	1	QPSK	23.28	23.24	23.21				
15	1	77		23.01	23.01	22.98				
15	36	18		23.21	23.18	23.14				
15	1	0		22.35	22.35	22.32				
15	1	78		22.21	22.15	22.11				
15	75	0		22.41	22.38	22.37				
15	1	1	16-QAM	22.42	22.32	22.35	19.57	0.0906		
15	1	1	64-QAM	20.96	20.85	20.84				
15	1	1	256-QAM	19.05	18.87	18.95				
Limit	ERP < 3W			Result			Pass			

NR n25 Maximum Average Power [dBm] (GT - LC = 1.7 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
5	1	1	PI/2 BPSK	23.12	23.25	23.32	25.02	0.3177		
5	1	23		23.18	23.28	23.12				
5	12	6		23.18	23.24	23.32				
5	1	0		22.70	22.76	22.72				
5	1	24		22.68	22.85	22.36				
5	25	0		22.74	22.81	22.86				
5	1	1	QPSK	23.15	23.17	23.21				
5	1	23		23.12	23.21	22.68				
5	12	6		23.18	23.23	23.18				
5	1	0		22.16	22.21	22.41				
5	1	24		22.19	22.29	21.92				
5	25	0		22.26	22.34	22.41				
5	1	1	16-QAM	22.21	22.15	22.32	24.02	0.2523		
5	1	1	64-QAM	20.71	20.79	20.82				
5	1	1	256-QAM	18.75	18.72	19.05				
Limit	EIRP < 2W			Result			Pass			



NR n25 Maximum Average Power [dBm] (GT - LC = 1.7 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
10	1	1	PI/2 BPSK	23.24	23.32	23.30	25.03	0.3184		
10	1	50		23.15	23.26	22.74				
10	25	12		23.25	23.23	23.30				
10	1	0		22.85	22.79	22.56				
10	1	51		22.85	22.88	22.32				
10	50	0		22.79	22.83	22.82				
10	1	1	QPSK	23.20	23.16	23.25				
10	1	50		23.12	23.18	22.86				
10	25	12		23.21	23.25	23.33				
10	1	0		22.35	22.26	22.45				
10	1	51		22.30	22.32	22.41				
10	50	0		22.33	22.32	22.54				
10	1	1	16-QAM	22.21	22.08	22.22	23.92	0.2466		
10	1	1	64-QAM	20.85	20.95	20.96				
10	1	1	256-QAM	18.84	18.75	18.75				
Limit	EIRP < 2W			Result			Pass			

NR n25 Maximum Average Power [dBm] (GT - LC = 1.7 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
15	1	1	PI/2 BPSK	23.35	23.28	23.40	25.10	0.3236		
15	1	77		23.28	23.36	23.13				
15	36	18		23.33	23.35	23.36				
15	1	0		22.95	22.85	22.95				
15	1	78		22.92	22.94	22.46				
15	75	0		22.87	22.92	22.96				
15	1	1	QPSK	23.32	23.35	23.36				
15	1	77		22.24	23.31	22.84				
15	36	18		23.30	23.33	23.40				
15	1	0		22.46	22.31	22.40				
15	1	78		22.35	22.39	22.47				
15	75	0		22.42	22.43	22.51				
15	1	1	16-QAM	22.45	22.41	22.47	24.17	0.2612		
15	1	1	64-QAM	20.95	20.85	21.03				
15	1	1	256-QAM	18.95	18.84	18.96				
Limit	EIRP < 2W			Result			Pass			



NR n25 Maximum Average Power [dBm] (GT - LC = 1.7 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
20	1	1	PI/2 BPSK	23.35	23.31	23.10	25.11	0.3243		
20	1	104		23.22	23.28	22.35				
20	50	25		23.31	23.37	23.41				
20	1	0		22.92	22.93	22.59				
20	1	105		22.68	22.85	21.60				
20	100	0		22.82	22.87	22.95				
20	1	1	QPSK	23.21	23.19	23.25				
20	1	104		23.14	23.15	22.65				
20	50	25		23.27	23.35	23.38				
20	1	0		22.38	22.32	22.54				
20	1	105		22.26	22.32	22.41				
20	100	0		22.34	22.41	22.57				
20	1	1	16-QAM	22.26	22.21	21.65	23.96	0.2489		
20	1	1	64-QAM	20.92	20.89	20.95				
20	1	1	256-QAM	18.95	18.85	18.98				
Limit	EIRP < 2W			Result			Pass			

NR n38 Maximum Average Power [dBm] (GT - LC = 1.91 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
20	1	1	PI/2 BPSK	23.10	23.19	23.13	25.10	0.3236		
20	1	49		22.91	22.99	22.96				
20	25	12		2.09	23.02	23.00				
20	1	0		22.79	22.68	22.76				
20	1	50		22.95	22.57	22.50				
20	50	0		22.66	22.68	22.60				
20	1	1	QPSK	23.09	23.07	23.07				
20	1	49		22.97	22.99	22.96				
20	25	12		23.07	23.05	22.93				
20	1	0		22.29	22.29	22.20				
20	1	50		22.09	22.00	22.02				
20	50	0		22.18	22.17	22.09				
20	1	1	16-QAM	22.29	22.25	22.20	24.20	0.2630		
20	1	1	64-QAM	20.73	20.80	20.66				
20	1	1	256-QAM	18.71	18.67	18.66				
Limit	EIRP < 2W			Result			Pass			



NR n41 Maximum Average Power [dBm] (GT - LC = 1.93 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
20	1	1	PI/2 BPSK	23.67	23.60	23.35	25.67	0.3690		
20	1	49		23.74	23.56	23.37				
20	25	12		23.65	23.62	23.25				
20	1	0		23.71	23.54	23.41				
20	1	50		23.71	23.51	23.25				
20	50	0		23.71	23.63	23.31				
20	1	1	QPSK	23.61	23.65	23.35				
20	1	49		23.70	23.52	23.27				
20	25	12		23.64	23.62	23.33				
20	1	0		23.62	23.51	23.24				
20	1	50		23.54	23.41	23.25				
20	50	0		23.71	23.52	23.21				
20	1	1	16-QAM	23.39	23.54	23.31	25.47	0.3524		
20	1	1	64-QAM	23.52	23.21	22.91				
20	1	1	256-QAM	20.54	20.68	20.25				
Limit	EIRP < 2W			Result			Pass			

NR n41 Maximum Average Power [dBm] (GT - LC = 1.93 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
40	1	1	PI/2 BPSK	24.05	23.85	23.82	26.32	0.4285		
40	1	104		24.39	23.76	23.44				
40	50	25		24.21	23.89	23.50				
40	1	0		24.02	23.84	23.81				
40	1	105		24.38	23.65	23.02				
40	100	0		24.17	23.80	23.52				
40	1	1	QPSK	24.06	23.81	23.78				
40	1	104		24.24	23.74	23.41				
40	50	25		24.15	23.88	23.45				
40	1	0		24.12	23.84	23.78				
40	1	105		23.50	23.75	23.38				
40	100	0		24.18	23.87	23.55				
40	1	1	16-QAM	24.03	23.75	23.56	25.96	0.3945		
40	1	1	64-QAM	23.98	23.74	23.12				
40	1	1	256-QAM	21.02	20.84	20.74				
Limit	EIRP < 2W			Result			Pass			



NR n41 Maximum Average Power [dBm] (GT - LC = 1.93 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
50	1	1	PI/2 BPSK	23.84	23.54	23.54	26.14	0.4111		
50	1	131		24.03	23.35	23.18				
50	64	32		24.06	23.74	23.31				
50	1	0		23.85	23.54	23.54				
50	1	132		24.12	23.32	23.22				
50	128	0		24.06	23.52	23.38				
50	1	1	QPSK	23.84	23.54	23.47				
50	1	131		24.21	23.36	23.21				
50	64	32		24.02	23.56	23.25				
50	1	0		23.85	23.54	23.54				
50	1	132		24.09	23.32	23.25				
50	128	0		24.07	23.54	23.41				
50	1	1	16-QAM	23.87	23.41	23.68	25.80	0.3802		
50	1	1	64-QAM	23.74	23.41	23.48				
50	1	1	256-QAM	20.74	20.31	20.41				
Limit	EIRP < 2W			Result			Pass			

NR n41 Maximum Average Power [dBm] (GT - LC = 1.93 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
60	1	1	PI/2 BPSK	23.75	23.52	23.21	25.94	0.3926		
60	1	160		23.96	23.21	23.09				
60	81	40		23.98	23.65	23.35				
60	1	0		23.84	23.51	23.21				
60	1	161		23.93	23.32	23.12				
60	162	0		24.01	23.52	23.25				
60	1	1	QPSK	23.71	23.42	23.21				
60	1	160		23.95	23.41	23.15				
60	81	40		23.95	23.65	23.38				
60	1	0		23.75	23.41	23.22				
60	1	161		23.95	23.36	23.07				
60	162	0		23.98	23.50	23.33				
60	1	1	16-QAM	23.77	23.35	23.54	25.70	0.3715		
60	1	1	64-QAM	23.65	23.29	23.09				
60	1	1	256-QAM	20.64	20.46	20.15				
Limit	EIRP < 2W			Result			Pass			



NR n41 Maximum Average Power [dBm] (GT - LC = 1.93 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
80	1	1	PI/2 BPSK	23.85	23.74	23.54	26.05	0.4027		
80	1	215		23.85	23.34	23.08				
80	108	54		24.12	23.65	23.36				
80	1	0		23.85	23.67	23.40				
80	1	216		23.80	23.32	23.14				
80	216	0		24.01	23.54	23.32				
80	1	1	QPSK	23.91	23.67	23.42				
80	1	215		23.85	23.27	23.06				
80	108	54		24.01	23.61	23.35				
80	1	0		23.85	23.71	23.47				
80	1	216		23.85	23.28	23.01				
80	216	0		24.01	23.65	23.35				
80	1	1	16-QAM	23.79	23.61	23.65	25.72	0.3733		
80	1	1	64-QAM	23.74	23.54	23.44				
80	1	1	256-QAM	20.75	20.78	20.36				
Limit	EIRP < 2W			Result			Pass			

NR n41 Maximum Average Power [dBm] (GT - LC = 1.93 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
90	1	1	PI/2 BPSK	23.78	23.85	23.71	26.14	0.4111		
90	1	243		24.06	23.42	23.15				
90	120	60		24.19	23.66	23.65				
90	1	0		23.96	23.74	23.58				
90	1	244		24.04	23.38	23.14				
90	243	0		24.12	23.61	23.48				
90	1	1	QPSK	23.94	23.79	23.64				
90	1	243		23.94	23.45	23.12				
90	120	60		24.21	23.65	23.54				
90	1	0		23.84	23.65	23.65				
90	1	244		23.95	23.38	22.68				
90	243	0		24.05	23.54	23.49				
90	1	1	16-QAM	24.01	23.75	23.74	25.94	0.3926		
90	1	1	64-QAM	23.62	23.38	23.52				
90	1	1	256-QAM	20.85	20.65	20.63				
Limit	EIRP < 2W			Result			Pass			



NR n41 Maximum Average Power [dBm] (GT - LC = 1.93 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
100	1	1	PI/2 BPSK	23.88	23.81	23.73	25.95	0.3936		
100	1	271		23.95	23.46	23.14				
100	135	67		24.01	23.62	23.42				
100	1	0		23.89	23.72	23.84				
100	1	272		23.85	23.45	23.09				
100	270	0		24.01	23.50	23.35				
100	1	1	QPSK	23.82	23.74	23.67				
100	1	271		23.95	23.45	23.11				
100	135	67		24.01	23.54	23.41				
100	1	0		23.95	23.84	23.84				
100	1	272		23.95	23.52	22.98				
100	270	0		24.02	23.52	23.35				
100	1	1	16-QAM	23.79	23.79	23.74	25.72	0.3733		
100	1	1	64-QAM	23.67	23.25	23.32				
100	1	1	256-QAM	20.75	20.76	20.45				
Limit	EIRP < 2W			Result			Pass			

NR n66 Maximum Average Power [dBm] (GT - LC = 1.9 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
5	1	1	PI/2 BPSK	23.20	23.38	23.38	25.29	0.3378		
5	1	23		23.22	23.35	23.38				
5	12	6		23.22	23.28	23.38				
5	1	0		22.78	22.82	22.94				
5	1	24		22.79	22.86	23.04				
5	25	0		22.79	22.91	23.01				
5	1	1	QPSK	23.08	23.15	23.32				
5	1	23		23.11	23.35	23.39				
5	12	6		23.21	23.35	23.38				
5	1	0		22.22	22.16	22.45				
5	1	24		22.21	22.32	22.48				
5	25	0		22.28	22.45	22.52				
5	1	1	16-QAM	22.26	22.35	22.52	24.42	0.2767		
5	1	1	64-QAM	20.65	20.20	20.95				
5	1	1	256-QAM	18.85	19.01	19.22				
Limit	EIRP < 1W			Result			Pass			



NR n66 Maximum Average Power [dBm] (GT - LC = 1.9 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
10	1	1	PI/2 BPSK	23.26	23.32	23.38	25.28	0.3373		
10	1	50		23.19	23.38	23.38				
10	25	12		23.32	23.35	23.38				
10	1	0		22.94	22.82	22.01				
10	1	51		22.78	22.97	23.01				
10	50	0		22.88	22.92	23.08				
10	1	1	QPSK	23.14	23.25	23.38			24.35	0.2723
10	1	50		23.11	23.27	23.38				
10	25	12		23.28	23.25	23.38				
10	1	0		22.26	22.25	22.52				
10	1	51		22.24	22.35	22.58				
10	50	0		22.28	22.42	22.62				
10	1	1	16-QAM	22.18	22.32	22.45	24.35	0.2723		
10	1	1	64-QAM	20.75	20.95	20.98				
10	1	1	256-QAM	18.75	18.82	19.05				
Limit	EIRP < 1W			Result			Pass			

NR n66 Maximum Average Power [dBm] (GT - LC = 1.9 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
15	1	1	PI/2 BPSK	23.38	23.38	23.39	25.29	0.3381		
15	1	77		23.28	23.38	23.36				
15	36	18		23.24	23.37	23.38				
15	1	0		22.95	23.01	22.95				
15	1	78		22.82	22.93	22.92				
15	75	0		22.83	22.90	23.38				
15	1	1	QPSK	23.28	23.35	23.38				
15	1	77		23.24	23.28	23.25				
15	36	18		23.24	23.35	23.39				
15	1	0		22.42	22.48	22.45				
15	1	78		22.26	22.38	22.41				
15	75	0		23.35	22.45	22.52				
15	1	1	16-QAM	22.48	22.68	22.55	24.58	0.2871		
15	1	1	64-QAM	21.03	21.16	21.05				
15	1	1	256-QAM	18.95	19.05	19.11				
Limit	EIRP < 1W			Result			Pass			



NR n66 Maximum Average Power [dBm] (GT - LC = 1.9 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
20	1	1	PI/2 BPSK	23.28	23.38	23.35	25.28	0.3373		
20	1	104		23.18	23.36	23.38				
20	50	25		23.25	23.35	22.51				
20	1	0		22.95	23.01	22.98				
20	1	105		22.82	23.00	22.95				
20	100	0		22.89	22.90	22.95				
20	1	1	QPSK	23.32	23.34	23.32				
20	1	104		23.17	23.25	23.35				
20	50	25		23.25	23.35	23.38				
20	1	0		22.35	22.47	22.42				
20	1	105		22.26	22.38	22.45				
20	100	0		22.27	22.45	22.48				
20	1	1	16-QAM	22.54	22.53	22.50	24.44	0.2780		
20	1	1	64-QAM	20.95	21.11	20.98				
20	1	1	256-QAM	18.83	19.12	18.88				
Limit	EIRP < 1W			Result			Pass			

NR n71 Maximum Average Power [dBm] (GT - LC = -1.66 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP(W)		
5	1	1	PI/2 BPSK	23.07	22.85	21.89	19.26	0.0843		
5	1	23		22.94	22.78	22.58				
5	12	6		23.07	22.89	22.68				
5	1	0		22.69	22.41	22.39				
5	1	24		22.54	22.34	22.18				
5	25	0		22.61	22.40	22.18				
5	1	1	QPSK	23.05	22.78	22.78				
5	1	23		22.88	22.66	22.51				
5	12	6		23.04	22.84	22.65				
5	1	0		22.14	21.82	21.81				
5	1	24		22.02	21.74	21.59				
5	25	0		22.18	21.95	21.77				
5	1	1	16-QAM	22.15	22.28	21.91	18.47	0.0703		
5	1	1	64-QAM	20.56	20.41	20.34				
5	1	1	256-QAM	18.75	18.86	18.38				
Limit	ERP < 3W			Result			Pass			



NR n71 Maximum Average Power [dBm] (GT - LC = -1.66 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP(W)		
10	1	1	PI/2 BPSK	23.09	22.78	22.69	19.28	0.0847		
10	1	50		22.77	22.72	22.57				
10	25	12		22.97	22.78	22.07				
10	1	0		22.71	22.46	22.36				
10	1	51		22.49	22.40	22.17				
10	50	0		22.55	22.34	22.27				
10	1	1	QPSK	22.98	22.81	22.65				
10	1	50		22.79	22.77	22.48				
10	25	12		22.98	22.88	22.68				
10	1	0		22.18	21.94	21.76				
10	1	51		21.88	21.78	21.60				
10	50	0		22.09	21.89	21.74				
10	1	1	16-QAM	22.15	21.94	21.79	18.34	0.0682		
10	1	1	64-QAM	20.68	20.38	20.27				
10	1	1	256-QAM	18.51	18.40	18.27				
Limit	ERP < 3W			Result			Pass			

NR n71 Maximum Average Power [dBm] (GT - LC = -1.66 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP(W)		
15	1	1	PI/2 BPSK	23.18	22.94	22.91	19.37	0.0865		
15	1	77		22.88	22.87	22.59				
15	36	18		23.02	22.86	22.78				
15	1	0		22.76	22.54	22.46				
15	1	78		22.44	22.41	22.21				
15	75	0		22.58	22.40	22.29				
15	1	1	QPSK	23.07	22.88	22.74				
15	1	77		22.21	22.79	22.75				
15	36	18		23.01	22.85	22.74				
15	1	0		22.20	22.00	22.01				
15	1	78		22.20	21.84	21.59				
15	75	0		22.10	21.98	21.81				
15	1	1	16-QAM	22.26	22.05	22.88	19.07	0.0807		
15	1	1	64-QAM	20.68	20.55	20.49				
15	1	1	256-QAM	18.71	18.38	18.45				
Limit	ERP < 3W			Result			Pass			



NR n71 Maximum Average Power [dBm] (GT - LC = -1.66 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP(W)		
20	1	1	PI/2 BPSK	23.09	23.00	22.94	19.28	0.0847		
20	1	104		22.85	22.81	22.63				
20	50	25		22.95	22.98	22.85				
20	1	0		22.78	22.60	22.58				
20	1	105		22.48	22.38	22.27				
20	100	0		22.46	22.42	22.37				
20	1	1	QPSK	23.05	21.91	22.82				
20	1	104		22.78	22.67	22.54				
20	50	25		22.95	22.89	22.82				
20	1	0		22.25	22.04	21.95				
20	1	105		21.88	21.78	21.61				
20	100	0		21.98	21.96	21.91				
20	1	1	16-QAM	22.18	21.98	22.01	18.37	0.0687		
20	1	1	64-QAM	20.78	20.54	20.51				
20	1	1	256-QAM	18.92	18.48	18.48				
Limit	ERP < 3W			Result			Pass			



Appendix B. Test Results of Radiated Test

<Sample 1>

EN-DC 48A-n5A

EN-DC 48A-n5A / 10+20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1648	-41.56	-13	-28.56	-71.21	-47.15	0.92	8.66	H
	2472	-36.62	-13	-23.62	-70.62	-43.99	1.14	10.66	H
	3304	-35.75	-13	-22.75	-71.84	-44.30	1.32	12.03	H
									H
									H
	1648	-42.08	-13	-29.08	-71.21	-47.67	0.92	8.66	V
	2472	-36.70	-13	-23.70	-70.86	-44.07	1.14	10.66	V
	3304	-35.16	-13	-22.16	-71.71	-43.71	1.32	12.03	V
									V
									V
Middle	1656	-41.53	-13	-28.53	-71.21	-47.15	0.92	8.69	H
	2480	-36.97	-13	-23.97	-70.98	-44.35	1.15	10.67	H
	3312	-35.34	-13	-22.34	-71.41	-43.91	1.33	12.05	H
									H
									H
									H
									H
	1656	-42.05	-13	-29.05	-71.16	-47.67	0.92	8.69	V
	2480	-37.17	-13	-24.17	-71.36	-44.55	1.15	10.67	V
	3312	-34.87	-13	-21.87	-71.4	-43.44	1.33	12.05	V
									V
									V



Highest	1664	-41.51	-13	-28.51	-71.2	-47.16	0.93	8.72	H
	2490	-37.29	-13	-24.29	-71.31	-44.68	1.15	10.69	H
	3320	-35.47	-13	-22.47	-71.52	-44.06	1.33	12.07	H
									H
									H
	1664	-42.25	-13	-29.25	-71.36	-47.90	0.93	8.72	V
	2490	-37.03	-13	-24.03	-71.24	-44.42	1.15	10.69	V
	3320	-34.67	-13	-21.67	-71.18	-43.26	1.33	12.07	V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

**EN-DC 12A-n25A**

EN-DC 12A-n25A / 10+20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3702	-52.16	-13	-39.16	-70.72	-63.37	1.41	12.62	H
	5556	-49.71	-13	-36.71	-72.6	-61.27	1.74	13.30	H
	7404	-45.56	-13	-32.56	-72.54	-54.88	1.94	11.25	H
									H
									H
									H
									H
	3702	-50.96	-13	-37.96	-69.67	-62.17	1.41	12.62	V
	5556	-50.05	-13	-37.05	-72.48	-61.61	1.74	13.30	V
	7404	-45.38	-13	-32.38	-72.21	-54.70	1.94	11.25	V
									V
									V
									V
									V
Middle	3744	-51.50	-13	-38.50	-70.16	-62.72	1.42	12.65	H
	5622	-48.42	-13	-35.42	-71.29	-59.98	1.74	13.30	H
	7495	-45.93	-13	-32.93	-72.52	-55.05	1.99	11.11	H
									H
									H
									H
									H
	3744	-51.96	-13	-38.96	-70.82	-63.18	1.42	12.65	V
	5622	-49.85	-13	-36.85	-72.36	-61.41	1.74	13.30	V
	7495	-45.98	-13	-32.98	-72.54	-55.10	1.99	11.11	V
									V
									V
									V
									V



Highest	3792	-52.67	-13	-39.67	-71.44	-63.91	1.44	12.68	H
	5688	-48.99	-13	-35.99	-72.17	-60.56	1.73	13.30	H
	7584	-46.57	-13	-33.57	-72.71	-55.69	2.00	11.12	H
									H
									H
									H
									H
	3792	-51.00	-13	-38.00	-70.03	-62.24	1.44	12.68	V
	5689	-49.42	-13	-36.42	-72.07	-60.99	1.73	13.30	V
	7584	-46.50	-13	-33.50	-72.6	-55.62	2.00	11.12	V
									V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

**EN-DC 48A-n66A**

EN-DC 48A-n66A / 10+20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3422	-54.11	-13	-41.11	-70.92	-65.08	1.35	12.31	H
	5133	-50.24	-13	-37.24	-71.81	-61.38	1.64	12.79	H
	6845	-46.62	-13	-33.62	-72.05	-57.00	1.74	12.12	H
									H
									H
									H
									H
	3422	-54.01	-13	-41.01	-71.26	-64.98	1.35	12.31	V
	5163	-50.25	-13	-37.25	-71.57	-61.43	1.65	12.83	V
	6845	-47.11	-13	-34.11	-72.13	-57.49	1.74	12.12	V
									V
									V
									V
									V
Middle	3472	-53.48	-13	-40.48	-70.87	-64.56	1.35	12.43	H
	5208	-49.90	-13	-36.90	-71.54	-61.13	1.66	12.89	H
	6945	-46.24	-13	-33.24	-72.17	-56.49	1.73	11.98	H
									H
									H
									H
									H
	3472	-53.47	-13	-40.47	-71.21	-64.55	1.35	12.43	V
	5208	-50.21	-13	-37.21	-71.68	-61.44	1.66	12.89	V
	6945	-46.70	-13	-33.70	-72.19	-56.95	1.73	11.98	V
									V
									V
									V
									V



Highest	3522	-53.06	-13	-40.06	-70.87	-64.21	1.37	12.51	H
	5283	-50.04	-13	-37.04	-71.97	-61.35	1.68	13.00	H
	7046	-45.37	-13	-32.37	-71.76	-55.45	1.74	11.83	H
									H
									H
									H
									H
	3522	-52.97	-13	-39.97	-71.06	-64.12	1.37	12.51	V
	5283	-50.35	-13	-37.35	-72.01	-61.66	1.68	13.00	V
	7046	-45.86	-13	-32.86	-71.8	-55.94	1.74	11.83	V
									V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

**EN-DC 66A-n71A**

EN-DC 66A-n71A/ 10+20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1328	-38.88	-13	-25.88	-69.5	-45.36	0.83	7.31	H
	1992	-38.99	-13	-25.99	-70.86	-47.92	1.04	9.97	H
	2656	-36.32	-13	-23.32	-70.59	-46.02	1.19	10.89	H
									H
									H
									H
									H
	1328	-39.89	-13	-26.89	-69.67	-46.37	0.83	7.31	V
	1992	-39.99	-13	-26.99	-70.89	-48.92	1.04	9.97	V
	2656	-36.52	-13	-23.52	-70.76	-46.22	1.19	10.89	V
									V
									V
									V
									V
Middle	1344	-39.20	-13	-26.20	-69.89	-45.75	0.83	7.38	H
	2016	-38.85	-13	-25.85	-71.04	-47.83	1.04	10.02	H
	2688	-36.26	-13	-23.26	-70.66	-45.99	1.20	10.93	H
									H
									H
									H
									H
	1344	-40.11	-13	-27.11	-69.87	-46.66	0.83	7.38	V
	2016	-40.17	-13	-27.17	-71.37	-49.15	1.04	10.02	V
	2688	-35.79	-13	-22.79	-70.15	-45.52	1.20	10.93	V
									V
									V
									V
									V



Highest	1360	-39.16	-13	-26.16	-69.92	-45.78	0.83	7.46	H
	2040	-38.26	-13	-25.26	-70.82	-47.27	1.05	10.06	H
	2720	-36.39	-13	-23.39	-70.91	-46.15	1.20	10.96	H
									H
									H
									H
									H
	1360	-40.02	-13	-27.02	-69.77	-46.64	0.83	7.46	V
	2037	-39.37	-13	-26.37	-70.91	-48.37	1.05	10.05	V
	2720	-35.98	-13	-22.98	-70.46	-45.74	1.20	10.96	V
									V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



<Sample 2>

EN-DC 48A-n5A

EN-DC 48A-n5A / 10+20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1648	-41.08	-13	-28.08	-70.73	-46.67	0.92	8.66	H
	2472	-36.58	-13	-23.58	-70.59	-43.95	1.14	10.66	H
	3304	-35.68	-13	-22.68	-71.76	-44.23	1.32	12.03	H
									H
									H
									H
									H
	1648	-41.65	-13	-28.65	-70.77	-47.24	0.92	8.66	V
	2472	-36.92	-13	-23.92	-71.08	-44.29	1.14	10.66	V
	3304	-35.05	-13	-22.05	-71.6	-43.60	1.32	12.03	V
									V
									V
									V
									V
Middle	1656	-41.35	-13	-28.35	-71.03	-46.97	0.92	8.69	H
	2480	-37.03	-13	-24.03	-71.03	-44.41	1.15	10.67	H
	3312	-35.40	-13	-22.40	-71.47	-43.97	1.33	12.05	H
									H
									H
									H
									H
	1656	-41.88	-13	-28.88	-70.99	-47.50	0.92	8.69	V
	2480	-36.92	-13	-23.92	-71.09	-44.30	1.15	10.67	V
	3312	-34.89	-13	-21.89	-71.42	-43.46	1.33	12.05	V
									V
									V
									V
									V
									V



Highest	1664	-41.41	-13	-28.41	-71.11	-47.06	0.93	8.72	H
	2490	-37.21	-13	-24.21	-71.23	-44.60	1.15	10.69	H
	3320	-35.00	-13	-22.00	-71.05	-43.59	1.33	12.07	H
									H
									H
									H
									H
	1664	-41.83	-13	-28.83	-70.94	-47.48	0.93	8.72	V
	2490	-36.81	-13	-23.81	-71.02	-44.20	1.15	10.69	V
	3320	-34.79	-13	-21.79	-71.3	-43.38	1.33	12.07	V
									V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

**EN-DC 12A-n25A**

EN-DC 12A-n25A / 10+20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3702	-52.72	-13	-39.72	-71.28	-63.93	1.41	12.62	H
	5556	-49.34	-13	-36.34	-72.23	-60.90	1.74	13.30	H
	7405	-45.42	-13	-32.42	-72.4	-54.73	1.94	11.25	H
									H
									H
									H
									H
	3702	-52.35	-13	-39.35	-71.06	-63.56	1.41	12.62	V
	5554	-49.79	-13	-36.79	-72.22	-61.35	1.74	13.30	V
	7405	-45.57	-13	-32.57	-72.4	-54.88	1.94	11.25	V
									V
									V
									V
									V
Middle	3744	-53.07	-13	-40.07	-71.73	-64.29	1.42	12.65	H
	5622	-49.05	-13	-36.05	-71.92	-60.61	1.74	13.30	H
	7495	-45.83	-13	-32.83	-72.42	-54.95	1.99	11.11	H
									H
									H
									H
									H
	3744	-52.67	-13	-39.67	-71.53	-63.89	1.42	12.65	V
	5622	-49.51	-13	-36.51	-72.02	-61.07	1.74	13.30	V
	7495	-45.36	-13	-32.36	-71.92	-54.48	1.99	11.11	V
									V
									V
									V
									V



Highest	3792	-52.45	-13	-39.45	-71.22	-63.69	1.44	12.68	H
	5688	-49.08	-13	-36.08	-72.26	-60.65	1.73	13.30	H
	7584	-46.49	-13	-33.49	-72.63	-55.61	2.00	11.12	H
									H
									H
									H
									H
	3792	-52.34	-13	-39.34	-71.37	-63.58	1.44	12.68	V
	5689	-48.62	-13	-35.62	-71.27	-60.19	1.73	13.30	V
	7584	-46.16	-13	-33.16	-72.26	-55.28	2.00	11.12	V
									V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

**EN-DC 5A-n7A**

EN-DC 5A-n7A / 10+20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	5002	-49.62	-25	-24.62	-71.13	-60.61	1.61	12.60	H
	7503	-45.30	-25	-20.30	-71.86	-54.41	1.99	11.10	H
	10005	-42.17	-25	-17.17	-71.12	-51.07	2.40	11.30	H
									H
									H
									H
									H
	5002	-50.15	-25	-25.15	-71.21	-61.14	1.61	12.60	V
	7503	-45.26	-25	-20.26	-71.79	-54.37	1.99	11.10	V
	10005	-41.54	-25	-16.54	-71.28	-50.44	2.40	11.30	V
									V
									V
									V
									V
Middle	5052	-49.56	-25	-24.56	-71.09	-60.61	1.62	12.67	H
	7578	-45.56	-25	-20.56	-71.73	-54.67	2.00	11.12	H
	10105	-41.78	-25	-16.78	-71.05	-50.60	2.40	11.22	H
									H
									H
									H
									H
	5052	-49.94	-25	-24.94	-71.1	-60.99	1.62	12.67	V
	7578	-45.77	-25	-20.77	-71.9	-54.88	2.00	11.12	V
	10105	-41.57	-25	-16.57	-71.41	-50.39	2.40	11.22	V
									V
									V
									V
									V



Highest	5102	-49.77	-25	-24.77	-71.33	-60.88	1.64	12.74	H
	7653	-45.52	-25	-20.52	-71.6	-54.64	2.01	11.13	H
	10205	-41.92	-25	-16.92	-71.5	-50.66	2.40	11.14	H
									H
									H
									H
									H
	5102	-49.92	-25	-24.92	-71.18	-61.03	1.64	12.74	V
	7653	-45.92	-25	-20.92	-71.88	-55.04	2.01	11.13	V
	10205	-41.61	-25	-16.61	-71.54	-50.35	2.40	11.14	V
									V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

**EN-DC 20A-n38A**

EN-DC 20A-n38A / 10+20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	5142	-49.70	-25	-24.70	-71.29	-60.85	1.65	12.80	H
	7716	-45.43	-25	-20.43	-71.51	-54.55	2.02	11.14	H
	10287	-42.03	-25	-17.03	-71.87	-50.71	2.39	11.07	H
									H
									H
									H
									H
	5142	-50.19	-25	-25.19	-71.53	-61.34	1.65	12.80	V
	7716	-45.53	-25	-20.53	-71.42	-54.65	2.02	11.14	V
	10287	-41.97	-25	-16.97	-71.98	-50.65	2.39	11.07	V
									V
									V
									V
									V
Middle	5172	-50.27	-25	-25.27	-71.86	-61.46	1.65	12.84	H
	7758	-45.78	-25	-20.78	-71.88	-54.91	2.03	11.15	H
	10341	-41.78	-25	-16.78	-71.79	-50.41	2.39	11.03	H
									H
									H
									H
									H
	5172	-50.44	-25	-25.44	-71.83	-61.63	1.65	12.84	V
	7758	-46.09	-25	-21.09	-71.94	-55.22	2.03	11.15	V
	10341	-41.91	-25	-16.91	-71.97	-50.54	2.39	11.03	V
									V
									V
									V
									V



Highest	5202	-50.28	-25	-25.28	-71.9	-61.50	1.66	12.88	H
	7800	-45.80	-25	-20.80	-71.91	-54.93	2.03	11.16	H
	10404	-41.70	-25	-16.70	-71.9	-50.28	2.39	10.98	H
									H
									H
									H
									H
	5202	-50.35	-25	-25.35	-71.8	-61.57	1.66	12.88	V
	7800	-46.27	-25	-21.27	-72.08	-55.40	2.03	11.16	V
	10404	-41.74	-25	-16.74	-71.86	-50.32	2.39	10.98	V
									V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

**EN-DC 66A-n41A**

EN-DC 66A-n41A / 10+100MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	5004	-49.99	-25	-24.99	-71.5	-60.98	1.61	12.61	H
	7506	-45.15	-25	-20.15	-71.7	-54.26	1.99	11.10	H
	10008	-42.29	-25	-17.29	-71.25	-51.18	2.40	11.29	H
									H
									H
									H
									H
	5004	-50.16	-25	-25.16	-71.23	-61.15	1.61	12.61	V
	7506	-45.01	-25	-20.01	-71.54	-54.12	1.99	11.10	V
	10008	-41.30	-25	-16.30	-71.04	-50.19	2.40	11.29	V
									V
									V
									V
									V
Middle	5088	-49.89	-25	-24.89	-71.45	-60.98	1.63	12.72	H
	7632	-45.31	-25	-20.31	-71.38	-54.43	2.01	11.13	H
	10179	-41.65	-25	-16.65	-71.14	-50.41	2.40	11.16	H
									H
									H
									H
									H
	5088	-49.39	-25	-24.39	-70.62	-60.48	1.63	12.72	V
	7632	-45.78	-25	-20.78	-71.76	-54.90	2.01	11.13	V
	10179	-41.21	-25	-16.21	-71.11	-49.97	2.40	11.16	V
									V
									V
									V
									V



Highest	5184	-50.13	-25	-25.13	-71.72	-61.33	1.66	12.86	H
	7776	-45.26	-25	-20.26	-71.36	-54.39	2.03	11.16	H
	10368	-41.13	-25	-16.13	-71.21	-49.74	2.39	11.01	H
									H
									H
									H
									H
	5184	-50.36	-25	-25.36	-71.77	-61.56	1.66	12.86	V
	7776	-45.55	-25	-20.55	-71.38	-54.68	2.03	11.16	V
	10368	-41.47	-25	-16.47	-71.55	-50.08	2.39	11.01	V
									V
									V
									V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

**EN-DC 2A-n12A**

EN-DC 2A-n12A/ 10+15MHz / PI/2 BPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1400	-49.06	-13.00	-36.06	-69.99	-53.71	0.84	7.64	H
	2104	-47.37	-13.00	-34.37	-71.00	-54.30	1.06	10.15	H
	2800	-46.51	-13.00	-33.51	-71.35	-54.20	1.22	11.06	H
									H
									H
									H
									H
	1400	-50.14	-13.00	-37.14	-69.84	-54.79	0.84	7.64	V
	2104	-48.11	-13.00	-35.11	-70.63	-55.04	1.06	10.15	V
	2800	-46.68	-13.00	-33.68	-71.46	-54.37	1.22	11.06	V
									V
									V
									V
									V
Middle	1400	-49.36	-13.00	-36.36	-70.29	-54.01	0.84	7.64	H
	2104	-46.81	-13.00	-33.81	-70.44	-53.74	1.06	10.15	H
	2800	-46.58	-13.00	-33.58	-71.42	-54.27	1.22	11.06	H
									H
									H
									H
									H
	1400	-50.44	-13.00	-37.44	-70.14	-55.09	0.84	7.64	V
	2104	-48.23	-13.00	-35.23	-70.75	-55.16	1.06	10.15	V
	2800	-46.41	-13.00	-33.41	-71.19	-54.10	1.22	11.06	V
									V
									V
									V
									V



Highest	1400	-48.94	-13.00	-35.94	-69.87	-53.59	0.84	7.64	H
	2104	-47.19	-13.00	-34.19	-70.82	-54.12	1.06	10.15	H
	2808	-45.93	-13.00	-32.93	-70.81	-53.63	1.22	11.07	H
									H
									H
									H
									H
	1400	-50.14	-13.00	-37.14	-69.84	-54.79	0.84	7.64	V
	2104	-48.21	-13.00	-35.21	-70.73	-55.14	1.06	10.15	V
	2808	-46.14	-13.00	-33.14	-70.97	-53.84	1.22	11.07	V
									V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

**EN-DC 48A-n66A**

EN-DC 48A-n66A / 10+20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3422	-54.61	-13	-41.61	-71.43	-65.58	1.35	12.31	H
	5133	-49.11	-13	-36.11	-70.68	-60.25	1.64	12.79	H
	6845	-46.77	-13	-33.77	-72.2	-57.15	1.74	12.12	H
									H
									H
									H
									H
	3422	-53.99	-13	-40.99	-71.23	-64.96	1.35	12.31	V
	5163	-50.15	-13	-37.15	-71.47	-61.33	1.65	12.83	V
	6845	-47.17	-13	-34.17	-72.2	-57.55	1.74	12.12	V
									V
									V
									V
									V
Middle	3472	-53.95	-13	-40.95	-71.3	-65.03	1.35	12.43	H
	5208	-49.38	-13	-36.38	-71.02	-60.61	1.66	12.89	H
	6945	-45.84	-13	-32.84	-71.77	-56.09	1.73	11.98	H
									H
									H
									H
									H
	3472	-53.51	-13	-40.51	-71.24	-64.59	1.35	12.43	V
	5208	-49.75	-13	-36.75	-71.22	-60.98	1.66	12.89	V
	6945	-46.86	-13	-33.86	-72.33	-57.11	1.73	11.98	V
									V
									V
									V
									V



Highest	3522	-53.23	-13	-40.23	-71.04	-64.38	1.37	12.51	H
	5283	-50.12	-13	-37.12	-72.05	-61.43	1.68	13.00	H
	7046	-45.66	-13	-32.66	-72.05	-55.74	1.74	11.83	H
									H
									H
									H
									H
	3522	-52.95	-13	-39.95	-71.02	-64.10	1.37	12.51	V
	5283	-50.28	-13	-37.28	-71.94	-61.59	1.68	13.00	V
	7046	-46.18	-13	-33.18	-72.12	-56.26	1.74	11.83	V
									V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

EN-DC 71A-n66A

EN-DC 71A-n66A / 10+20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3472	-53.78	-13	-40.78	-71.14	-64.86	1.35	12.43	H
	5208	-50.19	-13	-37.19	-71.83	-61.42	1.66	12.89	H
	6945	-46.23	-13	-33.23	-72.16	-56.48	1.73	11.98	H
									H
									H
									H
									H
	3472	-52.10	-13	-39.10	-69.84	-63.18	1.35	12.43	V
	5208	-50.31	-13	-37.31	-71.78	-61.54	1.66	12.89	V
	6945	-46.86	-13	-33.86	-72.33	-57.11	1.73	11.98	V
									V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

**EN-DC 66A-n71A**

EN-DC 66A-n71A/ 10+20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1328	-39.29	-13	-26.29	-69.91	-45.77	0.83	7.31	H
	1992	-38.85	-13	-25.85	-70.71	-47.78	1.04	9.97	H
	2656	-36.75	-13	-23.75	-71.02	-46.45	1.19	10.89	H
									H
									H
									H
									H
	1328	-40.34	-13	-27.34	-70.12	-46.82	0.83	7.31	V
	1992	-39.68	-13	-26.68	-70.57	-48.61	1.04	9.97	V
	2656	-36.54	-13	-23.54	-70.78	-46.24	1.19	10.89	V
									V
									V
									V
									V
Middle	1344	-39.82	-13	-26.82	-70.51	-46.37	0.83	7.38	H
	2016	-38.95	-13	-25.95	-71.16	-47.93	1.04	10.02	H
	2688	-36.17	-13	-23.17	-70.57	-45.90	1.20	10.93	H
									H
									H
									H
									H
	1344	-40.80	-13	-27.80	-70.56	-47.35	0.83	7.38	V
	2016	-39.96	-13	-26.96	-71.17	-48.94	1.04	10.02	V
	2688	-36.75	-13	-23.75	-71.11	-46.48	1.20	10.93	V
									V
									V
									V
									V



Highest	1360	-39.64	-13	-26.64	-70.4	-46.26	0.83	7.46	H
	2040	-38.43	-13	-25.43	-71.03	-47.44	1.05	10.06	H
	2720	-36.61	-13	-23.61	-71.14	-46.37	1.20	10.96	H
									H
									H
									H
									H
	1360	-40.22	-13	-27.22	-69.97	-46.84	0.83	7.46	V
	2037	-39.31	-13	-26.31	-70.88	-48.31	1.05	10.05	V
	2720	-36.93	-13	-23.93	-71.41	-46.69	1.20	10.96	V
									V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.