



REPORT No.: SZ24100297W01

TEST REPORT

APPLICANT : Sonim Technologies, Inc.

PRODUCT NAME : Mobile Hotspot

MODEL NAME : H500V

BRAND NAME : Sonim

FCC ID : WYPH500V

STANDARD(S) : 47 CFR Part 2
47 CFR Part 22
47 CFR Part 24
47 CFR Part 27
47 CFR Part 96

RECEIPT DATE : 2024-06-29

TEST DATE : 2024-07-15 to 2024-07-22

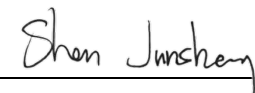
ISSUE DATE : 2024-12-13



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Change History		
Version	Date	Reason for change
1.0	2024-12-13	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Sonim Technologies, Inc.
Applicant Address:	4445 Eastgate Mall, Suite 200, San Diego, CA 92121, USA
Manufacturer:	Sonim Technologies, Inc.
Manufacturer Address:	4445 Eastgate Mall, Suite 200, San Diego, CA 92121, USA

1.2. Equipment Under Test (EUT) Description

Product Name:	Mobile Hotspot	
Hardware Version:	V2.0	
Software Version:	H50.0-01-5.4.0-15.18.00	
Sample No.:	14#	
Modulation Type:	DFT-s-OFDM	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM
	CP-OFDM	QPSK, 16QAM, 64QAM, 256QAM
Power Class:	PC2:	n77
	PC3:	n2, n5, n66, n77
EN-DC Band:	n2	DC_5A_n2A, DC_13A_n2A, DC_66A_n2A
	n5	DC_2A_n5A, DC_48A_n5A, DC_66A_n5A
	n66	DC_2A_n66A, DC_5A_n66A, DC_13A_n66A, DC_48A_n66A
	n77	DC_2A_n77A, DC_5A_n77A, DC_13A_n77A, DC_66A_n77A
Frequency Range:	n2	Tx: 1850MHz-1910MHz
		Rx: 1930MHz-1990MHz
	n5	Tx: 824MHz-849MHz
		Rx: 869MHz-894MHz
	n66	Tx: 2496MHz-2690MHz
		Rx: 2496MHz-2690MHz
	n77	Tx: 3450MHz-3550MHz
		Rx: 3450MHz-3550MHz
		Tx: 3700MHz-3980MHz

		Rx: 3700MHz-3980MHz
Channel Bandwidth	n2	5MHz, 10MHz, 15MHz, 20MHz
	n5	5MHz, 10MHz, 15MHz, 20MHz
	n66	5MHz, 10MHz, 15MHz, 20MHz, 30MHz
	n77	20MHz, 30MHz, 40MHz, 60MHz, 80MHz, 100MHz
Antenna Type:	PIFA Antenna	
Antenna Gain:	n2	ANT0: 2.40dBi, ANT1: 2.17dBi
	n5	ANT4: -1.14dBi
	n66	ANT0: 1.29dBi, ANT1: 1.93dBi
	n77	ANT2: 2.65dBi, ANT3: 2.31dBi
Accessory Information:	Battery	
	Brand Name:	sonim
	Model No.:	BAT-06000-01S
	Serial No.:	N/A
	Capacity:	6000mAh
	Rated Voltage:	3.85V
	Charge Limit:	4.4V
	Manufacturer:	Guangdong Fenghua New Energy Co.,Ltd.
	AC Adapter	
	Brand Name:	N/A
	Model No.:	1-CHUSQ302-097
	Serial No.:	N/A
	Rated Input:	100-240V~50/60HZ, 0.5A
	Rated Output:	5V=3000mA, 9V=2000mA, 12V=1500mA
	Manufacturer :	HUIZHOU PUAN ELEOTRONICS CO.,LTD
	USB Cable	
	Model No.:	USB TYPE A TO C 3.0 CABLE (1.0M)
	Manufacturer:	Dongguan GuoJun Plastic Electronics Co.,Ltd

Note 1: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

Note 2: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

Note 3: n77 supports both power class 2 and class 3. We have evaluated two power classes respectively by performing full test, for Conducted Output Power .we recorded the test result of two power classes separately, for other test items we only recorded the worst test result (Class 2) in this report.



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Note 4: In the same NR frequency band, the measured power in SA mode is higher than that in NSA mode, SA mode is selected to test all test cases.

Note 5: This test report is variant from the original report (Report No. : SZ24060210W02, FCC ID: WYPH500V), based on the similarity between before, only disable 5G NR SA functionality by software, and change the software version. No other changes, all RF parameters remain the same as before.



1.3. Maximum ERP/EIRP and Emission Designator

EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)

ERP (dBm) = EIRP (dBm) - 2.15

worst case:

B66_n2						
Bandwidth (MHz)	Modulation	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	Emission Designator
5	PI/2 BPSK	/	/	/	/	/
	QPSK	22.82	25.22	0.333	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
	CP-QPSK	/	/	/	/	/
10	PI/2 BPSK	/	/	/	/	/
	QPSK	22.84	25.24	0.334	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
	CP-QPSK	/	/	/	/	/
15	PI/2 BPSK	/	/	/	/	/
	QPSK	23.08	25.48	0.353	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
	CP-QPSK	/	/	/	/	/
20	PI/2 BPSK	23.15	25.55	0.359	/	/
	QPSK	23.20	25.60	0.363	/	/
	16QAM	22.18	24.58	0.287	/	/
	64QAM	20.55	22.95	0.197	/	/
	256QAM	18.89	21.29	0.135	/	/
	CP-QPSK	/	/	/	/	/



B66_n5						
Bandwidth (MHz)	Modulation	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	Emission Designator
5	PI/2 BPSK	/	/	/	/	/
	QPSK	22.94	19.65	0.092	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
	CP-QPSK	/	/	/	/	/
10	PI/2 BPSK	/	/	/	/	/
	QPSK	22.82	19.53	0.090	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
	CP-QPSK	/	/	/	/	/
15	PI/2 BPSK	/	/	/	/	/
	QPSK	23.03	19.75	0.094	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
	CP-QPSK	/	/	/	/	/
20	PI/2 BPSK	23.02	19.73	0.097	/	/
	QPSK	23.04	19.75	0.097	/	/
	16QAM	22.30	19.01	0.080	/	/
	64QAM	20.67	17.38	0.055	/	/
	256QAM	19.02	15.73	0.037	/	/
	CP-QPSK	/	/	/	/	/



B2_n66						
Bandwidth (MHz)	Modulation	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	Emission Designator
5	PI/2 BPSK	/	/	/	/	/
	QPSK	22.76	24.69	0.294	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
	CP-QPSK	/	/	/	/	/
10	PI/2 BPSK	/	/	/	/	/
	QPSK	22.75	24.68	0.294	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
	CP-QPSK	/	/	/	/	/
15	PI/2 BPSK	/	/	/	/	/
	QPSK	22.93	24.86	0.306	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
	CP-QPSK	/	/	/	/	/
20	PI/2 BPSK	/	/	/	/	/
	QPSK	23.03	24.96	0.313	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
	CP-QPSK	/	/	/	/	/
30	PI/2 BPSK	23.01	24.94	0.314	/	/
	QPSK	23.07	25.00	0.318	/	/
	16QAM	22.28	24.21	0.264	/	/
	64QAM	20.49	22.42	0.175	/	/
	256QAM	18.88	20.81	0.121	/	/
	CP-QPSK	/	/	/	/	/



B2_n77 (3450-3550MHz)						
Bandwidth (MHz)	Modulation	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	Emission Designator
20	PI/2 BPSK	/	/	/	/	/
	QPSK	23.96	26.61	0.458	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
30	PI/2 BPSK	/	/	/	/	/
	QPSK	24.06	26.71	0.469	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
40	PI/2 BPSK	/	/	/	/	/
	QPSK	24.05	26.70	0.468	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
60	PI/2 BPSK	/	/	/	/	/
	QPSK	23.76	26.41	0.438	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
80	PI/2 BPSK	/	/	/	/	/
	QPSK	23.55	26.20	0.417	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
100	PI/2 BPSK	23.59	26.24	0.421	/	/
	QPSK	24.08	26.73	0.471	/	/
	16QAM	23.57	26.22	0.419	/	/
	64QAM	23.56	26.21	0.418	/	/
	256QAM	21.94	24.59	0.288	/	/



B2_n77 (3700-3980MHz)						
Bandwidth (MHz)	Modulation	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	Emission Designator
20	PI/2 BPSK	/	/	/	/	/
	QPSK	23.09	25.74	0.375	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
30	PI/2 BPSK	/	/	/	/	/
	QPSK	23.09	25.74	0.375	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
40	PI/2 BPSK	/	/	/	/	/
	QPSK	23.10	25.75	0.376	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
60	PI/2 BPSK	/	/	/	/	/
	QPSK	22.72	25.37	0.344	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
80	PI/2 BPSK	/	/	/	/	/
	QPSK	22.68	25.33	0.341	/	/
	16QAM	/	/	/	/	/
	64QAM	/	/	/	/	/
	256QAM	/	/	/	/	/
100	PI/2 BPSK	23.03	25.68	0.370	/	/
	QPSK	23.11	25.76	0.377	/	/
	16QAM	22.74	25.39	0.346	/	/
	64QAM	22.84	25.49	0.354	/	/
	256QAM	21.05	23.70	0.234	/	/



1.4. Test Standards and Results

The objective of the report is to perform testing according to Part 2, Part 22, Part 24, Part 27 and Part 96 for the EUT FCC ID Certification:

No	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22	Public Mobile Services
3	47 CFR Part 24	Personal Communications Services
4	47 CFR Part 27	Miscellaneous Wireless Communications Services
5	47 CFR Part 96	CITIZENS BROADBAND RADIO SERVICE

n2			
Item	FCC Rule No.	Requirements	Result
Effective (Isotropic) Radiated Power Output Data	§2.1046, §24.232(c)	EIRP $\leq$ 2 W	PASS
Peak-Average Ratio	§24.232(d)	Limit $\leq$ 13 dB	PASS
Bandwidth	§2.1049	OBW: No limit EBW: No limit	PASS
Band Edges Compliance	§2.1051, §24.238(a)(b)	Refer to section 2.6	PASS
Spurious Emission at Antenna Terminals	§2.1051, §24.238(a)(b)	$\leq$ -13 dBm/1MHz	PASS
Field Strength of Spurious Radiation	§2.1053, §24.238(a)	$\leq$ -13 dBm/1MHz	PASS
Frequency Stability	§2.1055, §24.235	No limit	N/A

Remark: For the verdict, the “N/A” denotes “not applicable”, the “N/T” denotes “not tested”.

n5			
Item	FCC Rule No.	Requirements	Result
Effective (Isotropic) Radiated Power Output Data	§2.1046, §22.913(a)(5)	ERP $\leq$ 7W	PASS
Peak-Average Ratio	N/A	N/A	N/A



Bandwidth	§2.1049	OBW: No limit EBW: No limit	PASS
Band Edges Compliance	§2.1051, §22.917(a)(b)	Refer to section 2.6	PASS
Spurious Emission at Antenna Terminals	§2.1051, §22.917(a)	≤ -13 dBm/1MHz	PASS
Field Strength of Spurious Radiation	§2.1053, §22.917(a)	≤ -13 dBm/1MHz	PASS
Frequency Stability	§2.1055, §22.355	$\leq \pm 2.5$ ppm	PASS

Remark: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".

Remark: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".

n66			
Item	FCC Rule No.	Requirements	Result
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(d)(4)	EIRP ≤ 1 W	PASS
Peak-Average Ratio	§27.50(d) (5)	Limit ≤ 13 dB	PASS
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	PASS
Band Edges Compliance	§2.1051, §27.53(h)(1) §27.53(h)(3)(i)	Refer to section 2.6	PASS
Spurious Emission at Antenna Terminals	§2.1051, §27.53(h)(1)	≤ -13 dBm/1MHz	PASS
Field Strength of Spurious Radiation	§2.1053, §27.53(h)(1)	≤ -13 dBm/1MHz.	PASS
Frequency Stability	§2.1055, §27.54	No limit	N/A

Remark: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".

n77(3450~3550MHz)			
Item	FCC Rule No.	Requirements	Result



Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(K)(3)	EIRP $\leq$ 1W	PASS
Peak-Average Ratio	§27.50(K)(4)	$\leq$ 13 dB	PASS
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	PASS
Band Edges Compliance	§2.1051, §27.53(l)(2)	Refer to section 2.6	PASS
Spurious Emission at Antenna Terminals	§2.1051, §27.53(l)(2)	$\leq$ -13 dBm/1MHz	PASS
Field Strength of Spurious Radiation	§2.1053, §27.53(l)(2)	$\leq$ -13 dBm/1MHz.	PASS
Frequency Stability	§2.1055, §27.54	No limit	N/A

Remark: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".

n77(3700~3980MHz)			
Item	FCC Rule No.	Requirements	Result
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(j)(3)	EIRP $\leq$ 1W	PASS
Peak-Average Ratio	§27.50(j)(4)	$\leq$ 13 dB	PASS
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	PASS
Band Edges Compliance	§2.1051, §27.53(n)(2)	Refer to section 2.6	PASS
Spurious Emission at Antenna Terminals	§2.1051, §27.53(n)(2)	$\leq$ -13 dBm/1MHz	PASS
Field Strength of Spurious Radiation	§2.1053, §27.53(m)(4)	$\leq$ -13 dBm/1MHz.	PASS
Frequency Stability	§2.1055, §27.54	No limit	N/A

Remark: For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".



Test detailed items/section required by FCC rules and results are as below:

Test Item	Test Engineer	Result	Method Determination /Remark
Transmitter Conducted Output Power and ERP/EIRP	Gan Jing	PASS	Nodeviation
Occupied Bandwidth	Gan Jing	PASS	Nodeviation
Frequency Stability	Gan Jing	PASS	Nodeviation
Peak to Average Radio	Gan Jing	PASS	Nodeviation
Conducted Spurious Emissions	Gan Jing	PASS	Nodeviation
Band Edge	Gan Jing	PASS	Nodeviation
Radiated Spurious Emissions	Li Hanbin Gao Jianrou	PASS	Nodeviation
Note 1: The tests were performed according to the method of measurements prescribed in KDB971168 D01 v03 and ANSI/TIA-603-E-2016. Note 2: Additions to, deviation, or exclusions from the method shall be judged in the "method determination" column of add, deviate or exclude from the specific method shall be explained in the "Remark" of the above table. Note 3: The declared of product specification for EUT presented in the report are provided by manufacturer and the test laboratory is not responsible for the accuracy of the information. Note 4: When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% confidence intervals. Note 5: According to the measured power of all frequency bands, The frequency band with the highest power as worst case was selected for the same NR frequency band for testing.			

1.5. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 35
Relative Humidity (%):	30 - 60
Atmospheric Pressure (kPa):	86 - 106

2. Summary Test Results And Description

2.1. Transmitter Conducted Output Power

2.1.1. Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

According to FCC section 24.232 (c) for n2, the ERP of Mobile and portable stations are limited to 2 watts EIRP.

According to FCC section 22.913 (a)(5) for n5, the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC section 27.50 (d)(4) for n66, Fixed, mobile and portable (hand-held) stations in the 1710-1755MHz band are limited to 1wat E.I.R.P.

According to FCC section 27.50(j)(3) for n77(3700-3980MHz), n78(3700-3800MHz), mobile and portable stations are limited to 1 Watt EIRP. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

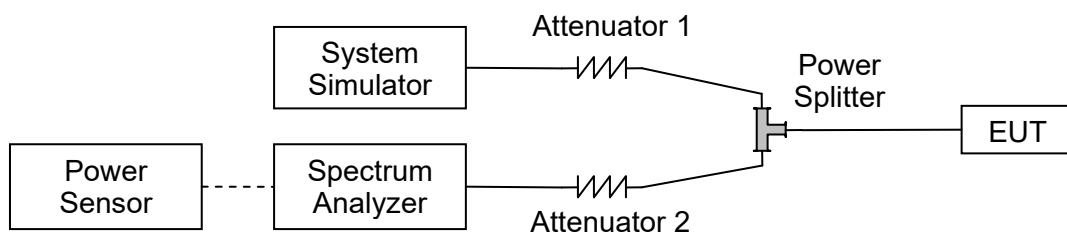
According to FCC section 27.50(k)(3) for n77, n78(3450-3550MHz), Mobile devices are limited to 1Watt (30 dBm) EIRP. Mobile devices operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

According to FCC section 27.50(k)(3) for n77, n78(3450-3550MHz), Mobile devices are limited to 1Watt (30 dBm) EIRP. Mobile devices operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

According to FCC section 96.41(b) for n48, the maximum effective isotropic radiated power (EIRP) and maximum Power Spectral Density (PSD) of any CBSD and End User Device must comply with the limits shown in the table as below. Paragraph

Device	Maximum EIRP (dBm/10 megahertz)	Maximum PSD (dBm/MHz)
End User Device	23	n/a
Category A CBSD	30	20
Category B CBSD ¹	47	37

2.1.2. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.1.3. Test procedure

KDB 971168 D01v03 Section 5.2 and ANSI/TIA-603-E-2016.

2.1.4. Conducted Output Power



B5_n2						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				372000	376000	380000
Frequency (MHz)				1860	1880	1900
20	DFT-s-OFDM PI/2 BPSK	1	1	22.91	22.88	22.64
20		1	53	22.92	22.78	22.79
20		1	104	22.93	22.65	22.71
20		50	1	22.44	22.37	22.17
20		50	25	22.99	22.85	22.65
20		50	50	22.40	22.29	22.23
20		100	0	22.48	22.33	22.13
20	DFT-s-OFDM QPSK	1	1	23.06	23.02	22.82
20		1	53	22.88	22.80	22.78
20		1	104	23.04	22.62	22.67
20		50	1	22.00	21.86	21.62
20		50	25	22.97	22.83	22.65
20		50	50	21.95	21.78	21.71
20		100	0	21.94	21.87	21.67
20	DFT-s-OFDM 16QAM	1	1	22.01	21.98	21.77
20	DFT-s-OFDM 64QAM	1	1	20.44	20.40	20.15
20	DFT-s-OFDM 256QAM	1	1	18.69	18.64	18.44
20	CP-OFDM QPSK	1	1	21.46	21.46	21.24
20	CP-OFDM 16QAM	1	1	20.86	20.87	20.60
20	CP-OFDM 64QAM	1	1	19.61	19.60	19.32
20	CP-OFDM 256QAM	1	1	16.72	16.67	16.45
Channel				371500	376000	380500
Frequency (MHz)				1857.5	1880	1902.5
15	DFT-s-OFDM QPSK	1	1	22.91	22.82	22.58
Channel				371000	376000	381000
Frequency (MHz)				1855	1880	1905
10	DFT-s-OFDM QPSK	1	1	22.69	22.77	22.52
Channel				370500	376000	381500
Frequency (MHz)				1852.5	1880	1907.5
5	DFT-s-OFDM QPSK	1	1	22.70	22.59	22.48



B13_n2						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				372000	376000	380000
Frequency (MHz)				1860	1880	1900
20	DFT-s-OFDM PI/2 BPSK	1	1	22.97	22.93	22.66
20		1	53	22.93	22.82	22.61
20		1	104	22.93	22.65	22.76
20		50	1	22.48	22.43	22.16
20		50	25	23.01	22.88	22.71
20		50	50	22.46	22.29	22.24
20		100	0	22.46	22.37	22.13
20	DFT-s-OFDM QPSK	1	1	22.96	22.93	22.63
20		1	53	23.06	22.97	22.70
20		1	104	23.04	22.73	22.76
20		50	1	21.98	21.89	21.70
20		50	25	22.99	22.87	22.67
20		50	50	21.97	21.80	21.73
20		100	0	22.00	21.86	21.69
20	DFT-s-OFDM 16QAM	1	1	21.95	22.04	21.81
20	DFT-s-OFDM 64QAM	1	1	20.38	20.44	20.20
20	DFT-s-OFDM 256QAM	1	1	18.63	18.69	18.45
20	CP-OFDM QPSK	1	1	21.42	21.49	21.34
20	CP-OFDM 16QAM	1	1	20.84	20.88	20.58
20	CP-OFDM 64QAM	1	1	19.50	19.57	19.34
20	CP-OFDM 256QAM	1	1	16.66	16.67	16.44
Channel				371500	376000	380500
Frequency (MHz)				1857.5	1880	1902.5
15	DFT-s-OFDM QPSK	1	1	22.94	22.99	22.58
Channel				371000	376000	381000
Frequency (MHz)				1855	1880	1905
10	DFT-s-OFDM QPSK	1	1	22.88	22.86	22.55
Channel				370500	376000	381500
Frequency (MHz)				1852.5	1880	1907.5
5	DFT-s-OFDM QPSK	1	1	22.70	22.68	22.56



B66_n2						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				372000	376000	380000
Frequency (MHz)				1860	1880	1900
20	DFT-s-OFDM PI/2 BPSK	1	1	22.95	23.10	22.80
20		1	53	22.92	22.64	22.65
20		1	104	23.15	22.76	22.93
20		50	1	22.40	22.39	22.32
20		50	25	22.96	22.72	22.70
20		50	50	22.67	22.17	22.22
20		100	0	22.49	22.28	22.31
20	DFT-s-OFDM QPSK	1	1	23.20	23.07	22.83
20		1	53	23.01	22.82	22.73
20		1	104	22.90	22.74	22.89
20		50	1	21.86	21.94	21.83
20		50	25	22.89	22.73	22.76
20		50	50	22.10	21.64	21.76
20		100	0	21.98	21.84	21.79
20	DFT-s-OFDM 16QAM	1	1	22.05	22.18	21.85
20	DFT-s-OFDM 64QAM	1	1	20.43	20.55	20.24
20	DFT-s-OFDM 256QAM	1	1	18.76	18.89	18.60
20	CP-OFDM QPSK	1	1	21.45	21.66	21.38
20	CP-OFDM 16QAM	1	1	20.90	21.03	20.75
20	CP-OFDM 64QAM	1	1	19.67	19.77	19.51
20	CP-OFDM 256QAM	1	1	16.82	16.93	16.64
Channel				371500	376000	380500
Frequency (MHz)				1857.5	1880	1902.5
15	DFT-s-OFDM QPSK	1	1	23.08	22.93	22.79
Channel				371000	376000	381000
Frequency (MHz)				1855	1880	1905
10	DFT-s-OFDM QPSK	1	1	22.84	22.82	22.49
Channel				370500	376000	381500
Frequency (MHz)				1852.5	1880	1907.5
5	DFT-s-OFDM QPSK	1	1	22.82	22.57	22.52



B2_n5 (PC3)						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				166800	167300	167800
Frequency (MHz)				834	836.5	839
20	DFT-s-OFDM PI/2 BPSK	1	1	22.96	22.96	22.98
20		1	53	22.93	23.01	23.00
20		1	104	22.94	22.86	22.78
20		50	1	22.82	22.79	22.75
20		50	25	22.99	23.01	23.02
20		50	50	22.81	22.71	22.73
20		100	0	22.86	22.85	22.86
20	DFT-s-OFDM QPSK	1	1	23.01	23.03	22.99
20		1	53	22.98	23.00	22.98
20		1	104	22.95	22.84	22.32
20		50	1	22.37	22.29	22.31
20		50	25	23.00	23.01	23.02
20		50	50	22.30	22.28	22.26
20		100	0	22.39	22.36	22.34
20	DFT-s-OFDM 16QAM	1	1	22.21	22.29	22.31
20	DFT-s-OFDM 64QAM	1	1	20.59	20.60	20.69
20	DFT-s-OFDM 256QAM	1	1	18.93	18.94	19.03
20	CP-OFDM QPSK	1	1	21.74	21.63	21.78
20	CP-OFDM 16QAM	1	1	21.07	21.10	21.17
20	CP-OFDM 64QAM	1	1	19.86	19.82	19.88
20	CP-OFDM 256QAM	1	1	17.00	17.00	17.11
Channel				166300	167300	168300
Frequency (MHz)				831.5	836.5	841.5
15	DFT-s-OFDM QPSK	1	1	22.96	23.01	22.98
Channel				165800	167300	168800
Frequency (MHz)				829	836.5	844
10	DFT-s-OFDM QPSK	1	1	22.75	22.78	22.88
Channel				165300	167300	169300
Frequency (MHz)				826.5	836.5	846.5
5	DFT-s-OFDM QPSK	1	1	22.83	22.90	22.94



B48_n5						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				166800	167300	167800
Frequency (MHz)				834	836.5	839
20	DFT-s-OFDM PI/2 BPSK	1	1	22.89	22.88	22.97
20		1	53	22.97	22.97	22.90
20		1	104	22.85	22.78	22.71
20		50	1	22.71	22.70	22.75
20		50	25	22.95	23.01	23.00
20		50	50	22.72	22.69	22.66
20		100	0	22.77	22.77	22.78
20	DFT-s-OFDM QPSK	1	1	23.01	23.03	23.00
20		1	53	22.95	22.96	22.98
20		1	104	22.82	22.81	22.55
20		50	1	22.26	22.22	22.28
20		50	25	22.98	23.01	22.99
20		50	50	22.21	22.18	22.18
20		100	0	22.31	22.28	22.29
20	DFT-s-OFDM 16QAM	1	1	22.13	22.23	22.25
20	DFT-s-OFDM 64QAM	1	1	20.53	20.61	20.62
20	DFT-s-OFDM 256QAM	1	1	18.89	18.99	18.95
20	CP-OFDM QPSK	1	1	21.60	21.68	21.72
20	CP-OFDM 16QAM	1	1	21.02	21.08	21.06
20	CP-OFDM 64QAM	1	1	19.74	19.84	19.80
20	CP-OFDM 256QAM	1	1	16.93	17.00	17.00
Channel				166300	167300	168300
Frequency (MHz)				831.5	836.5	841.5
15	DFT-s-OFDM QPSK	1	1	22.99	22.96	23.02
Channel				165800	167300	168800
Frequency (MHz)				829	836.5	844
10	DFT-s-OFDM QPSK	1	1	22.70	22.72	22.84
Channel				165300	167300	169300
Frequency (MHz)				826.5	836.5	846.5
5	DFT-s-OFDM QPSK	1	1	22.76	22.83	22.78



B66_n5						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				166800	167300	167800
Frequency (MHz)				834	836.5	839
20	DFT-s-OFDM PI/2 BPSK	1	1	22.96	22.95	23.01
20		1	53	22.97	22.99	23.02
20		1	104	22.94	22.89	22.86
20		50	1	22.85	22.81	22.83
20		50	25	23.01	22.99	23.02
20		50	50	22.86	22.79	22.91
20		100	0	22.82	22.90	22.90
20	DFT-s-OFDM QPSK	1	1	22.94	22.96	23.02
20		1	53	23.01	23.04	23.02
20		1	104	22.97	23.01	22.23
20		50	1	22.43	22.39	22.34
20		50	25	23.02	22.97	23.01
20		50	50	22.36	22.29	22.43
20		100	0	22.33	22.41	22.42
20	DFT-s-OFDM 16QAM	1	1	22.30	22.26	22.28
20	DFT-s-OFDM 64QAM	1	1	20.67	20.67	20.63
20	DFT-s-OFDM 256QAM	1	1	19.02	19.00	19.00
20	CP-OFDM QPSK	1	1	21.83	21.74	21.72
20	CP-OFDM 16QAM	1	1	21.12	21.09	21.09
20	CP-OFDM 64QAM	1	1	19.89	19.91	19.86
20	CP-OFDM 256QAM	1	1	17.08	17.04	17.04
Channel				166300	167300	168300
Frequency (MHz)				831.5	836.5	841.5
15	DFT-s-OFDM QPSK	1	1	22.95	23.03	23.01
Channel				165800	167300	168800
Frequency (MHz)				829	836.5	844
10	DFT-s-OFDM QPSK	1	1	22.77	22.81	22.82
Channel				165300	167300	169300
Frequency (MHz)				826.5	836.5	846.5
5	DFT-s-OFDM QPSK	1	1	22.84	22.94	22.88



B2_n66 (PC3)						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				345000	349000	353000
Frequency (MHz)				1725	1745	1765
30	DFT-s-OFDM PI/2 BPSK	1	1	22.77	23.01	22.75
30		1	80	22.87	22.67	22.81
30		1	158	22.90	22.96	23.01
30		80	1	22.44	22.55	22.52
30		80	40	22.97	22.88	22.88
30		80	80	22.71	22.39	22.51
30		160	0	22.56	22.53	22.54
30	DFT-s-OFDM QPSK	1	1	22.96	23.07	22.76
30		1	80	22.88	22.73	22.88
30		1	158	23.01	22.94	23.02
30		80	1	21.93	22.02	22.03
30		80	40	22.96	22.90	22.90
30		80	80	22.17	21.92	21.94
30		160	0	22.08	22.07	22.06
30	DFT-s-OFDM 16QAM	1	1	21.85	22.28	21.78
30	DFT-s-OFDM 64QAM	1	1	20.20	20.49	20.13
30	DFT-s-OFDM 256QAM	1	1	18.70	18.88	18.55
30	CP-OFDM QPSK	1	1	21.34	21.50	21.17
30	CP-OFDM 16QAM	1	1	20.73	20.89	20.64
30	CP-OFDM 64QAM	1	1	19.51	19.68	19.39
30	CP-OFDM 256QAM	1	1	16.73	17.05	16.74
Channel				344000	349000	354000
Frequency (MHz)				1720	1745	1770
20	DFT-s-OFDM QPSK	1	1	22.94	23.03	23.00
Channel				343500	349000	354500
Frequency (MHz)				1717.5	1745	1772.5
15	DFT-s-OFDM QPSK	1	1	22.79	22.93	22.64
Channel				343000	349000	355000
Frequency (MHz)				1715	1745	1775
10	DFT-s-OFDM QPSK	1	1	22.29	22.75	22.41
Channel				342500	349000	355500
Frequency (MHz)				1712.5	1745	1777.5
5	DFT-s-OFDM QPSK	1	1	22.76	22.56	22.65



B5_n66 (PC3)						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				345000	349000	353000
Frequency (MHz)				1725	1745	1765
30	DFT-s-OFDM PI/2 BPSK	1	1	22.73	22.76	22.61
30		1	80	22.70	22.57	22.62
30		1	158	22.62	22.57	22.58
30		80	1	22.30	22.28	22.13
30		80	40	22.89	22.70	22.69
30		80	80	22.39	22.27	22.25
30		160	0	22.41	22.21	22.26
30	DFT-s-OFDM QPSK	1	1	22.73	22.90	22.79
30		1	80	22.78	22.75	22.60
30		1	158	22.64	22.59	22.70
30		80	1	21.83	21.75	21.62
30		80	40	22.87	22.70	22.68
30		80	80	21.88	21.74	21.70
30		160	0	21.82	21.74	21.74
30	DFT-s-OFDM 16QAM	1	1	21.89	21.82	21.73
30	DFT-s-OFDM 64QAM	1	1	20.27	20.33	20.11
30	DFT-s-OFDM 256QAM	1	1	18.54	18.52	18.39
30	CP-OFDM QPSK	1	1	21.35	21.26	21.12
30	CP-OFDM 16QAM	1	1	20.64	20.64	20.52
30	CP-OFDM 64QAM	1	1	19.36	19.39	19.27
30	CP-OFDM 256QAM	1	1	16.55	16.35	16.43
Channel				344000	349000	354000
Frequency (MHz)				1720	1745	1770
20	DFT-s-OFDM QPSK	1	1	22.71	22.12	22.05
Channel				343500	349000	354500
Frequency (MHz)				1717.5	1745	1772.5
15	DFT-s-OFDM QPSK	1	1	22.87	22.27	22.26
Channel				343000	349000	355000
Frequency (MHz)				1715	1745	1775
10	DFT-s-OFDM QPSK	1	1	22.52	22.45	22.41
Channel				342500	349000	355500
Frequency (MHz)				1712.5	1745	1777.5
5	DFT-s-OFDM QPSK	1	1	22.49	22.45	22.36



B13_n66 (PC3)						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				345000	349000	353000
Frequency (MHz)				1725	1745	1765
30	DFT-s-OFDM PI/2 BPSK	1	1	22.81	22.64	22.53
30		1	80	22.70	22.65	22.47
30		1	158	22.69	22.47	22.47
30		80	1	22.35	22.21	22.05
30		80	40	22.80	22.57	22.56
30		80	80	22.39	22.12	22.09
30		160	0	22.31	22.12	22.10
30	DFT-s-OFDM QPSK	1	1	22.73	22.74	22.60
30		1	80	22.79	22.82	22.74
30		1	158	22.66	22.43	22.35
30		80	1	21.76	21.68	21.54
30		80	40	22.81	22.60	22.51
30		80	80	22.70	21.64	21.60
30		160	0	21.88	21.63	21.54
30	DFT-s-OFDM 16QAM	1	1	21.79	21.75	21.58
30	DFT-s-OFDM 64QAM	1	1	20.15	20.10	19.95
30	DFT-s-OFDM 256QAM	1	1	18.47	18.48	18.32
30	CP-OFDM QPSK	1	1	21.19	21.19	20.94
30	CP-OFDM 16QAM	1	1	20.57	20.55	20.43
30	CP-OFDM 64QAM	1	1	19.28	19.31	19.18
30	CP-OFDM 256QAM	1	1	16.45	16.44	16.31
Channel				344000	349000	354000
Frequency (MHz)				1720	1745	1770
20	DFT-s-OFDM QPSK	1	1	22.27	22.84	22.62
Channel				343500	349000	354500
Frequency (MHz)				1717.5	1745	1772.5
15	DFT-s-OFDM QPSK	1	1	22.44	22.60	22.44
Channel				343000	349000	355000
Frequency (MHz)				1715	1745	1775
10	DFT-s-OFDM QPSK	1	1	22.69	22.49	22.40
Channel				342500	349000	355500
Frequency (MHz)				1712.5	1745	1777.5
5	DFT-s-OFDM QPSK	1	1	22.48	22.48	22.48



B48_n66 (PC3)						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				345000	349000	353000
Frequency (MHz)				1725	1745	1765
30	DFT-s-OFDM PI/2 BPSK	1	1	22.52	22.30	22.30
30		1	80	22.61	22.24	22.27
30		1	158	22.53	22.17	22.13
30		80	1	22.25	21.69	21.59
30		80	40	22.69	22.23	22.17
30		80	80	22.19	21.57	21.65
30		160	0	22.25	21.68	21.58
30	DFT-s-OFDM QPSK	1	1	22.70	22.41	22.41
30		1	80	22.61	22.28	22.31
30		1	158	22.52	22.16	22.33
30		80	1	21.70	21.21	21.08
30		80	40	22.66	22.27	22.14
30		80	80	21.70	21.12	21.12
30		160	0	21.75	21.17	21.02
30	DFT-s-OFDM 16QAM	1	1	21.65	21.41	21.33
30	DFT-s-OFDM 64QAM	1	1	20.06	19.77	19.72
30	DFT-s-OFDM 256QAM	1	1	18.35	17.52	17.48
30	CP-OFDM QPSK	1	1	21.03	20.83	20.73
30	CP-OFDM 16QAM	1	1	20.42	20.17	20.10
30	CP-OFDM 64QAM	1	1	19.21	18.94	18.85
30	CP-OFDM 256QAM	1	1	16.36	15.48	15.50
Channel				344000	349000	354000
Frequency (MHz)				1720	1745	1770
20	DFT-s-OFDM QPSK	1	1	22.69	22.49	22.34
Channel				343500	349000	354500
Frequency (MHz)				1717.5	1745	1772.5
15	DFT-s-OFDM QPSK	1	1	22.50	22.41	22.29
Channel				343000	349000	355000
Frequency (MHz)				1715	1745	1775
10	DFT-s-OFDM QPSK	1	1	22.36	22.31	22.29
Channel				342500	349000	355500
Frequency (MHz)				1712.5	1745	1777.5
5	DFT-s-OFDM QPSK	1	1	22.36	22.32	22.23



B2_n77(3450-3550MHz) (PC3)						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				/	633334	/
Frequency (MHz)				/	3500.01	/
100	DFT-s-OFDM PI/2 BPSK	1	1	/	23.59	/
100		1	136	/	23.04	/
100		1	271	/	22.66	/
100		135	1	/	23.39	/
100		135	67	/	23.15	/
100		135	136	/	22.65	/
100		270	0	/	23.14	/
100		1	1	/	24.08	/
100	DFT-s-OFDM QPSK	1	136	/	23.07	/
100		1	271	/	22.63	/
100		135	1	/	23.34	/
100		135	67	/	23.16	/
100		135	136	/	22.59	/
100		270	0	/	23.13	/
100	DFT-s-OFDM 16QAM	1	1	/	23.57	/
100	DFT-s-OFDM 64QAM	1	1	/	23.56	/
100	DFT-s-OFDM 256QAM	1	1	/	21.94	/
100	CP-OFDM QPSK	1	1	/	23.55	/
100	CP-OFDM 16QAM	1	1	/	23.70	/
100	CP-OFDM 64QAM	1	1	/	23.21	/
100	CP-OFDM 256QAM	1	1	/	20.00	/
Channel				632668	633334	634000
Frequency (MHz)				3490.02	3500.01	3510
80	DFT-s-OFDM QPSK	1	1	23.55	23.51	23.35
Channel				632000	633334	634666
Frequency (MHz)				3480	3500.01	3519.99
60	DFT-s-OFDM QPSK	1	1	23.76	23.56	23.44
Channel				631334	633334	635332
Frequency (MHz)				3470.01	3500.01	3529.98
40	DFT-s-OFDM QPSK	1	1	24.05	23.89	23.37
Channel				631000	633334	635666
Frequency (MHz)				3465	3500.01	3534.99
30	DFT-s-OFDM QPSK	1	1	24.06	23.71	23.02
Channel				630668	633334	636000
Frequency (MHz)				3460.02	3500.01	3540
20	DFT-s-OFDM QPSK	1	1	23.96	23.58	22.85



B5_n77(3450-3550MHz) (PC3)						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				/	633334	/
Frequency (MHz)				/	3500.01	/
100	DFT-s-OFDM PI/2 BPSK	1	1	/	22.98	/
100		1	136	/	22.64	/
100		1	271	/	22.29	/
100		135	1	/	22.70	/
100		135	67	/	22.73	/
100		135	136	/	22.18	/
100		270	0	/	22.70	/
100	DFT-s-OFDM QPSK	1	1	/	23.45	/
100		1	136	/	22.61	/
100		1	271	/	22.26	/
100		135	1	/	22.77	/
100		135	67	/	22.68	/
100		135	136	/	22.09	/
100		270	0	/	22.67	/
100	DFT-s-OFDM 16QAM	1	1	/	22.96	/
100	DFT-s-OFDM 64QAM	1	1	/	22.98	/
100	DFT-s-OFDM 256QAM	1	1	/	21.27	/
100	CP-OFDM QPSK	1	1	/	23.00	/
100	CP-OFDM 16QAM	1	1	/	23.13	/
100	CP-OFDM 64QAM	1	1	/	22.52	/
100	CP-OFDM 256QAM	1	1	/	19.39	/
Channel				632668	633334	634000
Frequency (MHz)				3490.02	3500.01	3510
80	DFT-s-OFDM QPSK	1	1	22.98	22.93	22.82
Channel				632000	633334	634666
Frequency (MHz)				3480	3500.01	3519.99
60	DFT-s-OFDM QPSK	1	1	23.13	23.04	22.88
Channel				631334	633334	635332
Frequency (MHz)				3470.01	3500.01	3529.98
40	DFT-s-OFDM QPSK	1	1	22.96	23.26	22.95
Channel				631000	633334	635666
Frequency (MHz)				3465	3500.01	3534.99
30	DFT-s-OFDM QPSK	1	1	23.34	23.14	22.69
Channel				630668	633334	636000
Frequency (MHz)				3460.02	3500.01	3540
20	DFT-s-OFDM QPSK	1	1	23.24	23.14	22.55



B13_n77(3450-3550MHz) (PC3)						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				/	633334	/
Frequency (MHz)				/	3500.01	/
100	DFT-s-OFDM PI/2 BPSK	1	1	/	23.02	/
100		1	136	/	22.63	/
100		1	271	/	22.25	/
100		135	1	/	22.83	/
100		135	67	/	22.70	/
100		135	136	/	22.20	/
100		270	0	/	22.70	/
100	DFT-s-OFDM QPSK	1	1	/	23.40	/
100		1	136	/	22.67	/
100		1	271	/	22.26	/
100		135	1	/	22.79	/
100		135	67	/	22.75	/
100		135	136	/	22.22	/
100		270	0	/	22.63	/
100	DFT-s-OFDM 16QAM	1	1	/	22.93	/
100	DFT-s-OFDM 64QAM	1	1	/	22.98	/
100	DFT-s-OFDM 256QAM	1	1	/	21.27	/
100	CP-OFDM QPSK	1	1	/	22.94	/
100	CP-OFDM 16QAM	1	1	/	23.06	/
100	CP-OFDM 64QAM	1	1	/	22.54	/
100	CP-OFDM 256QAM	1	1	/	19.43	/
Channel				632668	633334	634000
Frequency (MHz)				3490.02	3500.01	3510
80	DFT-s-OFDM QPSK	1	1	22.99	22.98	22.82
Channel				632000	633334	634666
Frequency (MHz)				3480	3500.01	3519.99
60	DFT-s-OFDM QPSK	1	1	23.18	22.97	22.90
Channel				631334	633334	635332
Frequency (MHz)				3470.01	3500.01	3529.98
40	DFT-s-OFDM QPSK	1	1	23.34	23.28	22.97
Channel				631000	633334	635666
Frequency (MHz)				3465	3500.01	3534.99
30	DFT-s-OFDM QPSK	1	1	23.38	23.28	22.64
Channel				630668	633334	636000
Frequency (MHz)				3460.02	3500.01	3540
20	DFT-s-OFDM QPSK	1	1	23.29	23.13	22.51



B66_n77(3450-3550MHz) (PC3)						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				/	633334	/
Frequency (MHz)				/	3500.01	/
100	DFT-s-OFDM PI/2 BPSK	1	1	/	23.60	/
100		1	136	/	23.11	/
100		1	271	/	22.58	/
100		135	1	/	23.40	/
100		135	67	/	23.17	/
100		135	136	/	22.63	/
100		270	0	/	23.14	/
100		1	1	/	24.04	/
100	DFT-s-OFDM QPSK	1	136	/	23.14	/
100		1	271	/	22.66	/
100		135	1	/	23.36	/
100		135	67	/	23.16	/
100		135	136	/	22.63	/
100		270	0	/	23.13	/
100	DFT-s-OFDM 16QAM	1	1	/	23.60	/
100	DFT-s-OFDM 64QAM	1	1	/	23.70	/
100	DFT-s-OFDM 256QAM	1	1	/	21.99	/
100	CP-OFDM QPSK	1	1	/	23.55	/
100	CP-OFDM 16QAM	1	1	/	23.79	/
100	CP-OFDM 64QAM	1	1	/	23.18	/
100	CP-OFDM 256QAM	1	1	/	20.06	/
Channel				632668	633334	634000
Frequency (MHz)				3490.02	3500.01	3510
80	DFT-s-OFDM QPSK	1	1	23.54	23.50	23.40
Channel				632000	633334	634666
Frequency (MHz)				3480	3500.01	3519.99
60	DFT-s-OFDM QPSK	1	1	23.73	23.54	23.46
Channel				631334	633334	635332
Frequency (MHz)				3470.01	3500.01	3529.98
40	DFT-s-OFDM QPSK	1	1	24.01	23.92	22.69
Channel				631000	633334	635666
Frequency (MHz)				3465	3500.01	3534.99
30	DFT-s-OFDM QPSK	1	1	24.03	23.71	23.06
Channel				630668	633334	636000
Frequency (MHz)				3460.02	3500.01	3540
20	DFT-s-OFDM QPSK	1	1	23.98	23.58	22.81



B2_n77(3700-3980MHz) (PC3)						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				650000	656000	662000
Frequency (MHz)				3750	3840	3930
100	DFT-s-OFDM PI/2 BPSK	1	1	22.70	22.64	22.58
100		1	136	22.72	22.92	22.17
100		1	271	22.67	22.51	23.03
100		135	1	23.03	22.60	22.36
100		135	67	22.79	22.93	22.28
100		135	136	22.53	22.48	22.60
100		270	0	22.71	22.91	22.44
100	DFT-s-OFDM QPSK	1	1	22.65	22.54	22.53
100		1	136	22.73	22.85	22.14
100		1	271	22.70	22.52	23.01
100		135	1	23.11	22.57	22.36
100		135	67	22.76	22.93	22.22
100		135	136	22.47	22.49	22.52
100		270	0	22.77	22.91	22.44
100	DFT-s-OFDM 16QAM	1	1	22.74	22.61	22.55
100	DFT-s-OFDM 64QAM	1	1	22.84	22.83	22.76
100	DFT-s-OFDM 256QAM	1	1	21.05	20.90	20.93
100	CP-OFDM QPSK	1	1	22.68	22.60	22.56
100	CP-OFDM 16QAM	1	1	22.84	22.81	22.68
100	CP-OFDM 64QAM	1	1	22.33	22.18	22.18
100	CP-OFDM 256QAM	1	1	19.10	19.09	18.95
Channel				649334	656000	662666
Frequency (MHz)				3740.01	3840	3939.99
80	DFT-s-OFDM QPSK	1	1	22.68	22.58	22.33
Channel				648668	656000	663332
Frequency (MHz)				3730.02	3840	3949.98
60	DFT-s-OFDM QPSK	1	1	22.72	22.70	22.11
Channel				648000	656000	664000
Frequency (MHz)				3720	3840	3960
40	DFT-s-OFDM QPSK	1	1	22.73	23.10	22.66
Channel				647668	656000	664332
Frequency (MHz)				3715.02	3840	3964.98
30	DFT-s-OFDM QPSK	1	1	22.68	23.09	22.78
Channel				647334	656000	664666
Frequency (MHz)				3710.01	3840	3969.99
20	DFT-s-OFDM QPSK	1	1	23.00	23.09	22.85



B5_n77(3650-3700MHz) (PC3)						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				644668	645000	645334
Frequency (MHz)				3670.02	3675	3680.01
40	DFT-s-OFDM PI/2 BPSK	1	1	22.15	22.10	22.28
40		1	53	22.47	22.51	21.74
40		1	104	22.46	22.17	22.29
40		50	1	22.58	22.19	21.99
40		50	25	22.49	22.53	21.85
40		50	50	22.29	22.09	21.99
40		100	0	22.44	22.51	22.01
40	DFT-s-OFDM QPSK	1	1	22.10	22.10	22.28
40		1	53	22.42	22.45	21.72
40		1	104	22.43	22.12	22.31
40		50	1	22.70	22.18	21.93
40		50	25	22.48	22.44	21.83
40		50	50	22.30	22.13	22.02
40		100	0	22.39	22.40	22.03
40	DFT-s-OFDM 16QAM	1	1	22.15	22.16	22.31
40	DFT-s-OFDM 64QAM	1	1	22.17	22.30	22.45
40	DFT-s-OFDM 256QAM	1	1	20.53	20.50	20.64
40	CP-OFDM QPSK	1	1	22.12	22.21	22.29
40	CP-OFDM 16QAM	1	1	22.27	22.30	22.47
40	CP-OFDM 64QAM	1	1	21.81	21.78	21.97
40	CP-OFDM 256QAM	1	1	18.52	18.55	18.74
Channel				644334	645000	645666
Frequency (MHz)				3665.01	3675	3684.99
30	DFT-s-OFDM QPSK	1	1	22.13	22.24	21.96
Channel				644000	645000	646000
Frequency (MHz)				3660	3675	3690
20	DFT-s-OFDM QPSK	1	1	22.16	22.35	21.82



B13_n77(3700-3980MHz) (PC3)						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				650000	656000	662000
Frequency (MHz)				3750	3840	3930
100	DFT-s-OFDM PI/2 BPSK	1	1	22.11	22.13	22.29
100		1	136	22.46	22.44	21.74
100		1	271	22.47	22.18	22.30
100		135	1	22.59	22.19	21.98
100		135	67	22.50	22.47	21.86
100		135	136	22.34	22.12	22.01
100		270	0	22.47	22.42	22.04
100	DFT-s-OFDM QPSK	1	1	22.15	22.14	22.27
100		1	136	22.74	22.46	21.73
100		1	271	22.49	22.12	22.30
100		135	1	22.26	22.15	21.94
100		135	67	22.49	22.50	21.87
100		135	136	22.31	22.14	22.01
100		270	0	22.44	22.50	22.01
100	DFT-s-OFDM 16QAM	1	1	22.09	22.15	22.35
100	DFT-s-OFDM 64QAM	1	1	22.26	22.30	22.44
100	DFT-s-OFDM 256QAM	1	1	20.48	20.52	20.69
100	CP-OFDM QPSK	1	1	22.16	22.24	22.38
100	CP-OFDM 16QAM	1	1	22.24	22.31	22.49
100	CP-OFDM 64QAM	1	1	21.73	21.80	21.94
100	CP-OFDM 256QAM	1	1	18.56	18.58	18.69
Channel				649334	656000	662666
Frequency (MHz)				3740.01	3840	3939.99
80	DFT-s-OFDM QPSK	1	1	22.18	22.25	21.97
Channel				648668	656000	663332
Frequency (MHz)				3730.02	3840	3949.98
60	DFT-s-OFDM QPSK	1	1	22.19	22.31	21.85
Channel				648000	656000	664000
Frequency (MHz)				3720	3840	3960
40	DFT-s-OFDM QPSK	1	1	22.67	22.71	22.26
Channel				647668	656000	664332
Frequency (MHz)				3715.02	3840	3964.98
30	DFT-s-OFDM QPSK	1	1	22.53	22.65	22.42
Channel				647334	656000	664666
Frequency (MHz)				3710.01	3840	3969.99
20	DFT-s-OFDM QPSK	1	1	22.37	22.69	22.49



B66_n77(3700-3980MHz) (PC3)						
BW [MHz]	Modulation	RB num	RB start	Low Channel	Middle Channel	High Channel
Channel				650000	656000	662000
Frequency (MHz)				3750	3840	3930
100	DFT-s-OFDM PI/2 BPSK	1	1	22.67	22.63	22.57
100		1	136	22.72	22.87	22.18
100		1	271	22.70	22.52	22.98
100		135	1	23.03	22.57	22.37
100		135	67	22.80	22.93	22.26
100		135	136	22.57	22.48	22.59
100		270	0	22.74	22.90	22.44
100	DFT-s-OFDM QPSK	1	1	23.29	23.10	23.19
100		1	136	22.69	22.83	22.10
100		1	271	22.66	22.49	23.02
100		135	1	22.82	22.57	22.30
100		135	67	22.79	22.91	22.22
100		135	136	22.58	22.48	22.58
100		270	0	22.76	22.89	22.40
100	DFT-s-OFDM 16QAM	1	1	22.79	22.62	22.55
100	DFT-s-OFDM 64QAM	1	1	22.84	22.78	22.77
100	DFT-s-OFDM 256QAM	1	1	21.06	21.03	20.94
100	CP-OFDM QPSK	1	1	22.68	22.57	22.58
100	CP-OFDM 16QAM	1	1	22.87	22.73	22.73
100	CP-OFDM 64QAM	1	1	22.33	22.18	22.25
100	CP-OFDM 256QAM	1	1	19.08	19.04	18.98
Channel				649334	656000	662666
Frequency (MHz)				3740.01	3840	3939.99
80	DFT-s-OFDM QPSK	1	1	22.68	22.58	22.35
Channel				648668	656000	663332
Frequency (MHz)				3730.02	3840	3949.98
60	DFT-s-OFDM QPSK	1	1	22.74	22.70	21.63
Channel				648000	656000	664000
Frequency (MHz)				3720	3840	3960
40	DFT-s-OFDM QPSK	1	1	23.24	23.08	22.67
Channel				647668	656000	664332
Frequency (MHz)				3715.02	3840	3964.98
30	DFT-s-OFDM QPSK	1	1	23.12	23.06	22.76
Channel				647334	656000	664666
Frequency (MHz)				3710.01	3840	3969.99
20	DFT-s-OFDM QPSK	1	1	22.97	23.06	22.86



Effective Radiated Power and Effective Isotropic Radiated Power:

worst case:

B66_n2 (PC3)									
BW [M Hz]	Modulation	R B Si ze	RB Off set	Low Channel /dBm	Low Channel /Watt	Middle Channel /dBm	Middle Channel /Watt	High Channel /dBm	High Channel /Watt
Channel				374000	374000	376000	376000	378000	378000
Frequency (MHz)				1870.00	1870.00	1880.00	1880.00	1890.00	1890.00
20	DFT-s-OFDM PI/2 BPSK	1	1	25.35	0.343	25.50	0.355	25.20	0.331
20		1	53	25.32	0.340	25.04	0.319	25.05	0.320
20		1	104	25.55	0.359	25.16	0.328	25.33	0.341
20		50	1	24.80	0.302	24.79	0.301	24.72	0.296
20		50	25	25.36	0.344	25.12	0.325	25.10	0.324
20		50	50	25.07	0.321	24.57	0.286	24.62	0.290
20		100	0	24.89	0.308	24.68	0.294	24.71	0.296
20	DFT-s-OFDM QPSK	1	1	25.60	0.363	25.47	0.352	25.23	0.333
20		1	53	25.41	0.348	25.22	0.333	25.13	0.326
20		1	104	25.30	0.339	25.14	0.327	25.29	0.338
20		50	1	24.26	0.267	24.34	0.272	24.23	0.265
20		50	25	25.29	0.338	25.13	0.326	25.16	0.328
20		50	50	24.50	0.282	24.04	0.254	24.16	0.261
20		100	0	24.38	0.274	24.24	0.265	24.19	0.262
20	DFT-s-OFDM 16QAM	1	1	24.45	0.279	24.58	0.287	24.25	0.266
20	DFT-s-OFDM 64QAM	1	1	22.83	0.192	22.95	0.197	22.64	0.184
20	DFT-s-OFDM 256QAM	1	1	21.16	0.131	21.29	0.135	21.00	0.126
20	CP-OFDM QPSK	1	1	23.85	0.243	24.06	0.255	23.78	0.239
20	CP-OFDM 16QAM	1	1	23.30	0.214	23.43	0.220	23.15	0.207
20	CP-OFDM 64QAM	1	1	22.07	0.161	22.17	0.165	21.91	0.155
20	CP-OFDM 256QAM	1	1	19.22	0.084	19.33	0.086	19.04	0.080
Channel				371500	371500	376000	376000	380500	380500
Frequency (MHz)				1857.50	1857.50	1880.00	1880.00	1902.50	1902.50
15	DFT-s-OFDM QPSK	1	1	25.48	0.353	25.33	0.341	25.19	0.330
Channel				371000	371000	376000	376000	381000	381000
Frequency (MHz)				1855.00	1855.00	1880.00	1880.00	1905.00	1905.00



10	DFT-s-OFDM QPSK	1	1	25.24	0.334	25.22	0.333	24.89	0.308
Channel				370500	370500	376000	376000	381500	381500
Frequency (MHz)				1852.50	1852.50	1880.00	1880.00	1907.50	1907.50
5	DFT-s-OFDM QPSK	1	1	25.22	0.333	24.97	0.314	24.92	0.310

B66_n5 (PC3)									
BW [MHz]	Modulation	RB Size	RB Offset	Low Channel /dBm	Low Channel /Watt	Middle Channel /dBm	Middle Channel /Watt	High Channel /dBm	High Channel /Watt
Channel				166800	166800	167300	167300	167800	167800
Frequency (MHz)				834.00	834.00	836.50	836.50	839.00	839.00
20	DFT-s-OFDM PI/2 BPSK	1	1	19.67	0.093	19.66	0.092	19.72	0.094
20		1	53	19.77	0.095	19.79	0.095	19.78	0.095
20		1	104	19.79	0.095	19.76	0.095	19.57	0.091
20		50	1	19.56	0.090	19.52	0.090	19.54	0.090
20		50	25	19.82	0.096	19.78	0.095	19.85	0.097
20		50	50	19.57	0.091	19.50	0.089	19.62	0.092
20		100	0	19.53	0.090	19.61	0.091	19.61	0.091
20	DFT-s-OFDM QPSK	1	1	19.65	0.092	19.67	0.093	19.80	0.095
20		1	53	19.78	0.095	19.86	0.097	19.78	0.095
20		1	104	19.68	0.093	19.79	0.095	18.94	0.078
20		50	1	19.14	0.082	19.10	0.081	19.05	0.080
20		50	25	19.85	0.097	19.78	0.095	19.85	0.097
20		50	50	19.07	0.081	19.00	0.079	19.14	0.082
20		100	0	19.04	0.080	19.12	0.082	19.13	0.082
20	DFT-s-OFDM 16QAM	1	1	19.01	0.080	18.97	0.079	18.99	0.079
20	DFT-s-OFDM 64QAM	1	1	17.38	0.055	17.38	0.055	17.34	0.054
20	DFT-s-OFDM 256QAM	1	1	15.73	0.037	15.71	0.037	15.71	0.037
20	CP-OFDM QPSK	1	1	18.54	0.071	18.45	0.070	18.43	0.070
20	CP-OFDM 16QAM	1	1	17.83	0.061	17.80	0.060	17.80	0.060
20	CP-OFDM 64QAM	1	1	16.60	0.046	16.62	0.046	16.57	0.045
20	CP-OFDM 256QAM	1	1	13.79	0.024	13.75	0.024	13.75	0.024
Channel				166300	166300	167300	167300	168300	168300
Frequency (MHz)				831.50	831.50	836.50	836.50	841.50	841.50



15	DFT-s-OFDM QPSK	1	1	19.66	0.092	19.75	0.094	19.72	0.094
Channel				165800	165800	167300	167300	168800	168800
Frequency (MHz)				829.00	829.00	836.50	836.50	844.00	844.00
10	DFT-s-OFDM QPSK	1	1	19.48	0.089	19.52	0.090	19.53	0.090
Channel				165300	165300	167300	167300	169300	169300
Frequency (MHz)				826.50	826.50	836.50	836.50	846.50	846.50
5	DFT-s-OFDM QPSK	1	1	19.55	0.090	19.65	0.092	19.59	0.091

B2_n66 (PC3)									
BW [M Hz]	Modulation	R B Si ze	RB Off set	Low Channel /dBm	Low Channel /Watt	Middle Channel /dBm	Middle Channel /Watt	High Channel /dBm	High Channel /Watt
Channel				346000	346000	349000	349000	352000	352000
Frequency (MHz)				1730.00	1730.00	1745.00	1745.00	1760.00	1760.00
30	DFT-s-OFDM PI/2 BPSK	1	1	24.70	0.295	24.97	0.314	24.68	0.294
30		1	80	24.80	0.302	24.60	0.288	24.74	0.298
30		1	158	24.83	0.304	24.89	0.308	24.94	0.312
30		80	1	24.37	0.274	24.48	0.281	24.45	0.279
30		80	40	24.90	0.309	24.81	0.303	24.81	0.303
30		80	80	24.64	0.291	24.32	0.270	24.44	0.278
30		160	0	24.49	0.281	24.46	0.279	24.47	0.280
30	DFT-s-OFDM QPSK	1	1	24.89	0.308	25.03	0.318	24.69	0.294
30		1	80	24.81	0.303	24.66	0.292	24.81	0.303
30		1	158	24.97	0.314	24.87	0.307	25.02	0.318
30		80	1	23.86	0.243	23.95	0.248	23.96	0.249
30		80	40	24.89	0.308	24.83	0.304	24.83	0.304
30		80	80	24.10	0.257	23.85	0.243	23.87	0.244
30		160	0	24.01	0.252	24.00	0.251	23.99	0.251
30	DFT-s-OFDM 16QAM	1	1	23.78	0.239	24.21	0.264	23.71	0.235
30	DFT-s-OFDM 64QAM	1	1	22.13	0.163	22.42	0.175	22.06	0.161
30	DFT-s-OFDM 256QAM	1	1	20.63	0.116	20.81	0.121	20.48	0.112
30	CP-OFDM QPSK	1	1	23.27	0.212	23.43	0.220	23.10	0.204
30	CP-OFDM 16QAM	1	1	22.66	0.185	22.82	0.191	22.57	0.181
30	CP-OFDM 64QAM	1	1	21.44	0.139	21.61	0.145	21.32	0.136



30	CP-OFDM 256QAM	1	1	18.66	0.073	18.98	0.079	18.67	0.074
Channel				344000	344000	349000	349000	354000	354000
Frequency (MHz)				1720.00	1720.00	1745.00	1745.00	1770.00	1770.00
20	DFT-s-OFDM QPSK	1	1	24.87	0.307	24.96	0.313	24.93	0.311
Channel				343500	343500	349000	349000	354500	354500
Frequency (MHz)				1717.50	1717.50	1745.00	1745.00	1772.50	1772.50
15	DFT-s-OFDM QPSK	1	1	24.72	0.296	24.86	0.306	24.57	0.286
Channel				343000	343000	349000	349000	355000	355000
Frequency (MHz)				1715.00	1715.00	1745.00	1745.00	1775.00	1775.00
10	DFT-s-OFDM QPSK	1	1	24.22	0.264	24.68	0.294	24.34	0.272
Channel				342500	342500	349000	349000	355500	355500
Frequency (MHz)				1712.50	1712.50	1745.00	1745.00	1777.50	1777.50
5	DFT-s-OFDM QPSK	1	1	24.69	0.294	24.49	0.281	24.58	0.287

B2_n77(3450-3550MHz) (PC2)									
BW [M Hz]	Modulation	R B Si ze	RB Off set	Low Channel /dBm	Low Channel /Watt	Middle Channel /dBm	Middle Channel /Watt	High Channel /dBm	High Channel /Watt
Channel				/	/	633334	633334	/	/
Frequency (MHz)				/	/	3500.01	3500.01	/	/
10 0	DFT-s-OFDM PI/2 BPSK	1	1	/	/	26.24	0.421	/	/
10 0		1	136	/	/	25.69	0.371	/	/
10 0		1	271	/	/	25.31	0.340	/	/
10 0		13 5	1	/	/	26.04	0.402	/	/
10 0		13 5	67	/	/	25.80	0.380	/	/
10 0		13 5	136	/	/	25.30	0.339	/	/
10 0		27 0	0	/	/	25.79	0.379	/	/
10 0	DFT-s-OFDM QPSK	1	1	/	/	26.73	0.471	/	/
10 0		1	136	/	/	25.72	0.373	/	/
10 0		1	271	/	/	25.28	0.337	/	/



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10		13	1	/	/	25.99	0.397	/	/
0		5							
10		13	67	/	/	25.81	0.381	/	/
0		5							
10		13	136	/	/	25.24	0.334	/	/
0		5							
10		27	0	/	/	25.78	0.378	/	/
0		0							
10	DFT-s-OFDM	1	1	/	/	26.22	0.419	/	/
0	16QAM								
10	DFT-s-OFDM	1	1	/	/	26.21	0.418	/	/
0	64QAM								
10	DFT-s-OFDM	1	1	/	/	24.59	0.288	/	/
0	256QAM								
10	CP-OFDM	1	1	/	/	26.20	0.417	/	/
0	QPSK								
10	CP-OFDM	1	1	/	/	26.35	0.432	/	/
0	16QAM								
10	CP-OFDM	1	1	/	/	25.86	0.385	/	/
0	64QAM								
10	CP-OFDM	1	1	/	/	22.65	0.184	/	/
0	256QAM								
Channel				632668	632668	633334	633334	634000	634000
Frequency (MHz)				3490.02	3490.02	3500.01	3500.01	3510.00	3510.00
80	DFT-s-OFDM	1	1	26.20	0.417	26.16	0.413	26.00	0.398
	QPSK								
Channel				632000	632000	633334	633334	634666	634666
Frequency (MHz)				3480.00	3480.00	3500.01	3500.01	3519.99	3519.99
60	DFT-s-OFDM	1	1	26.41	0.438	26.21	0.418	26.09	0.406
	QPSK								
Channel				631334	631334	633334	633334	635332	635332
Frequency (MHz)				3470.01	3470.01	3500.01	3500.01	3529.98	3529.98
40	DFT-s-OFDM	1	1	26.70	0.468	26.54	0.451	26.02	0.400
	QPSK								
Channel				631000	631000	633334	633334	635666	635666
Frequency (MHz)				3465.00	3465.00	3500.01	3500.01	3534.99	3534.99
30	DFT-s-OFDM	1	1	26.71	0.469	26.36	0.433	25.67	0.369
	QPSK								
Channel				630668	630668	633334	633334	636000	636000
Frequency (MHz)				3460.02	3460.02	3500.01	3500.01	3540.00	3540.00
20	DFT-s-OFDM	1	1	26.61	0.458	26.23	0.420	25.50	0.355
	QPSK								

B2_n77(3700-3980MHz) (PC2)

BW [MHz]	Modulation	R B Si	RB Off set	Low Channel /dBm	Low Channel /Watt	Middle Channel /dBm	Middle Channel /Watt	High Channel /dBm	High Channel /Watt
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		ze							
Channel				650000	650000	656000	656000	662000	662000
Frequency (MHz)				3750.00	3750.00	3840.00	3840.00	3930.00	3930.00
100	DFT-s-OFDM PI/2 BPSK	1	1	25.35	0.343	25.29	0.338	25.23	0.333
100		1	136	25.37	0.344	25.57	0.361	24.82	0.303
100		1	271	25.32	0.340	25.16	0.328	25.68	0.370
100		13 5	1	25.68	0.370	25.25	0.335	25.01	0.317
100		13 5	67	25.44	0.350	25.58	0.361	24.93	0.311
100		13 5	136	25.18	0.330	25.13	0.326	25.25	0.335
100		27 0	0	25.36	0.344	25.56	0.360	25.09	0.323
100	DFT-s-OFDM QPSK	1	1	25.30	0.339	25.19	0.330	25.18	0.330
100		1	136	25.38	0.345	25.50	0.355	24.79	0.301
100		1	271	25.35	0.343	25.17	0.329	25.66	0.368
100		13 5	1	25.76	0.377	25.22	0.333	25.01	0.317
100		13 5	67	25.41	0.348	25.58	0.361	24.87	0.307
100		13 5	136	25.12	0.325	25.14	0.327	25.17	0.329
100		27 0	0	25.42	0.348	25.56	0.360	25.09	0.323
100	DFT-s-OFDM 16QAM	1	1	25.39	0.346	25.26	0.336	25.20	0.331
100	DFT-s-OFDM 64QAM	1	1	25.49	0.354	25.48	0.353	25.41	0.348
100	DFT-s-OFDM 256QAM	1	1	23.70	0.234	23.55	0.226	23.58	0.228
100	CP-OFDM QPSK	1	1	25.33	0.341	25.25	0.335	25.21	0.332
100	CP-OFDM 16QAM	1	1	25.49	0.354	25.46	0.352	25.33	0.341
100	CP-OFDM 64QAM	1	1	24.98	0.315	24.83	0.304	24.83	0.304
100	CP-OFDM 256QAM	1	1	21.75	0.150	21.74	0.149	21.60	0.145
Channel				649334	649334	656000	656000	662666	662666
Frequency (MHz)				3740.01	3740.01	3840.00	3840.00	3939.99	3939.99
80	DFT-s-OFDM QPSK	1	1	25.33	0.341	25.23	0.333	24.98	0.315
Channel				648668	648668	656000	656000	663332	663332
Frequency (MHz)				3730.02	3730.02	3840.00	3840.00	3949.98	3949.98
60	DFT-s-OFDM QPSK	1	1	25.37	0.344	25.35	0.343	24.76	0.299
Channel				648000	648000	656000	656000	664000	664000



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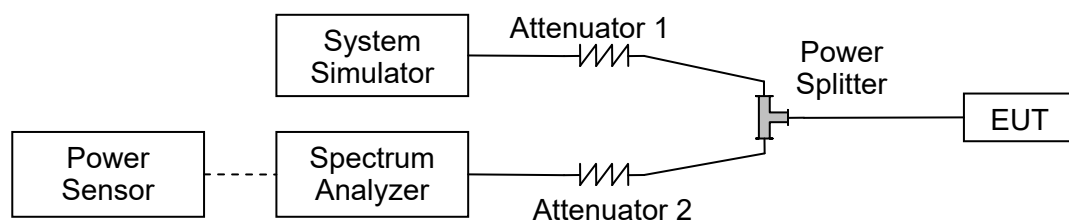
Frequency (MHz)				3720.00	3720.00	3840.00	3840.00	3960.00	3960.00
40	DFT-s-OFDM QPSK	1	1	25.38	0.345	25.75	0.376	25.31	0.340
Channel				647668	647668	656000	656000	664332	664332
Frequency (MHz)				3715.02	3715.02	3840.00	3840.00	3964.98	3964.98
30	DFT-s-OFDM QPSK	1	1	25.33	0.341	25.74	0.375	25.43	0.349
Channel				647334	647334	656000	656000	664666	664666
Frequency (MHz)				3710.01	3710.01	3840.00	3840.00	3969.99	3969.99
20	DFT-s-OFDM QPSK	1	1	25.65	0.367	25.74	0.375	25.50	0.355

2.2. Occupied Bandwidth

2.2.1. Requirement

According to FCC section 2.1049, the occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission. Occupied bandwidth is also known as the 99% emission bandwidth.

2.2.2. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.2.3. Test procedure

KDB 971168 D01v03 Section 4.1 and ANSI/TIA-603-E-2016.

2.2.4. Test Result

Note: The test results please refer to the test report (Report No.: SZ24060210W02).

2.3. Frequency Stability

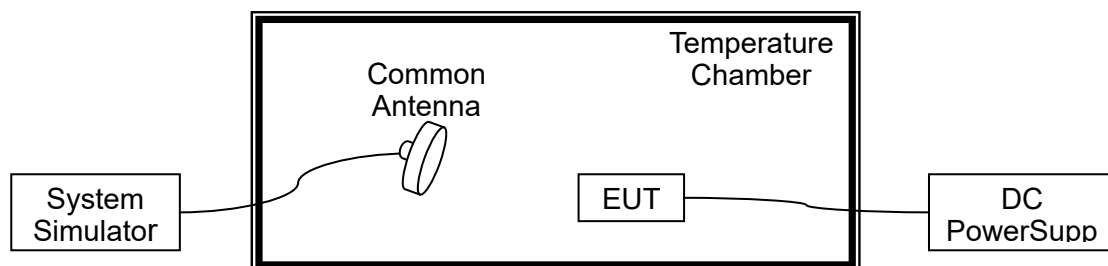
2.3.1. Requirement

According to FCC section 2.1055, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

- (a) The temperature is varied from -30°C to $+50^{\circ}\text{C}$ at intervals of not more than 10°C .
- (b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

Note: The operating temperature of EUT is from -20°C to 55°C , which are specified by the applicant.

2.3.2. Test Description



The EUT which is powered by the DC Power Supply directly is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power. A call is established between the EUT and the SS via a Common Antenna.

2.3.3. Test procedure

KDB 971168 D01v03 Section 9.0 and ANSI/TIA-603-E-2016.

2.3.4. Test Result

The nominal, highest and lowest extreme voltages are separately 3.85VDC, 4.2VDC and 3.4VDC, which are specified by the applicant; the normal temperature here used is 20°C .

Note: The test results please refer to the test report (Report No.: SZ24060210W02).

2.4. Peak to Average Ratio

2.4.1. Requirement

According to FCC section 24.232(d) for n2, in measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

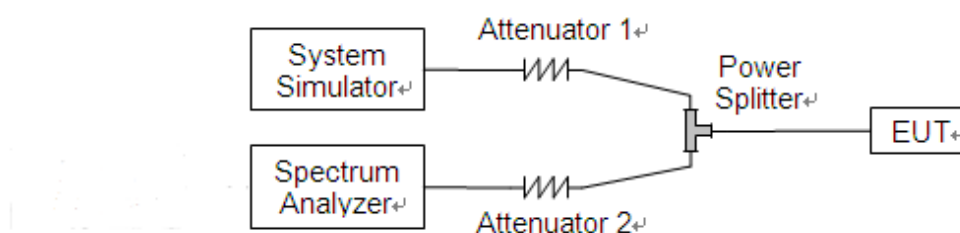
According to FCC section 27.50(d)(5) for n66, in measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

According to FCC section 96.41(g) for n48, the peak-to-average power ratio (PAPR) of any CBSD transmitter output power must not exceed 13 dB. PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities or another Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

According to FCC section 27.50(j)(4) and 25.50(k)(4) for n77, in measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

2.4.2. Test Description

Test Set:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.



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2.4.3. Test procedure

KDB 971168 D01v03 Section 5.7 and ANSI/TIA-603-E-2016.

2.4.4. Test Result

Record the maximum PAPR level associated with a probability of 0.1%.

Note: The test results please refer to the test report (Report No.: SZ24060210W02).

2.5. Conducted Spurious Emissions

2.5.1. Requirement

According to FCC section 2.1051, section 22.917(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. This calculated to be -13dBm.

According to FCC section 24.238(a) for n2, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

Additional to FCC section 22.917(a) for n5, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. This calculated to be -13dBm.

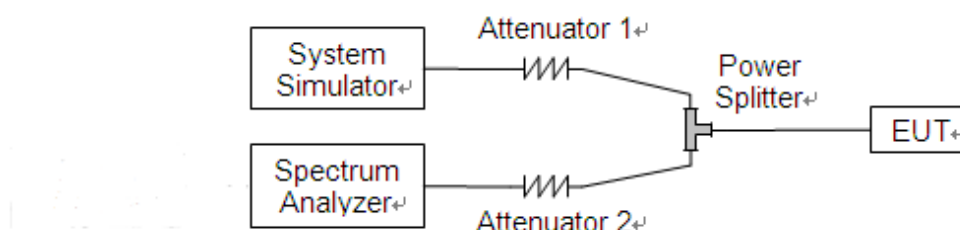
According to FCC section 96.41(e) for n48, the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

According to FCC section 27.53(h) for n66, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

According to FCC section 27.53(l)(2) for n77, for mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

According to FCC section 27.53(n)(2) for n77, for mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

2.5.2. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with



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Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.5.3. Test procedure

KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.

2.5.4. Test Result

Note: The test results please refer to the test report (Report No.: SZ24060210W02).

2.6. Band Edge

2.6.1. Requirement

n2,

According to FCC section 24.238(a), for operations in the 1850–1910MHz bands, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dBm a 1MHz bandwidth. However, in the 1 MHz 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.

n5,

According to FCC section 22.917(a), for operations in the 824–849MHz bands, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dBm a 100kHz bandwidth. However, in the 1 MHz 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.

n48

Part 96.41(e)(1)(i)

For channel and frequency assignments made by the SAS to CBSDs, the conducted power of any CBSD emission outside the fundamental emission bandwidth as specified in paragraph (e)(3) of this section (whether the emission is inside or outside of the authorized band) shall not exceed -13 dBm/MHz within 0-10 megahertz above the upper SAS-assigned channel edge and within 0-10 megahertz below the lower SAS-assigned channel edge. At all frequencies greater than 10 megahertz above the upper SAS assigned channel edge and less than 10 MHz below the lower SAS assigned channel edge, the conducted power of any CBSD emission shall not exceed -25 dBm/MHz.

Part 96.41(e)(1)(ii)

For channel and frequency assignments made by a CBSD to End User Devices, the conducted power of any End User Device emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed -13 dBm/MHz within 0 to B megahertz (where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B megahertz below the lower CBSD-assigned channel edge. At all frequencies greater than B megahertz above the upper CBSD assigned channel edge and less than B megahertz below the lower CBSD-assigned channel edge, the conducted power of any End User Device emission shall not exceed -25 dBm/MHz.



Part 96.41(e)(2)

For CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.

n66

According to FCC section 27.53(h), for operations in the 1710–1755 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dBm 1 MHz bandwidth. However, in the 1 MHz 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.

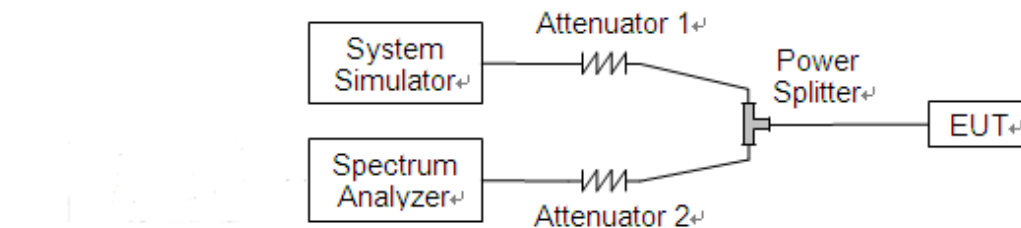
n77 (3700-3980 MHz)

According to FCC section 27.53(l) (2) for, for mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1-megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

n77 (3450-3550 MHz)

According to FCC section 27.53(n) (2) for, for mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz 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, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

2.6.2. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50 Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.6.3. Test procedure

KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.

2.6.4. Test Result

The center frequency of spectrum is the band edge frequency and span is 2MHz, Record the max trace into the test report.

Note: The test results please refer to the test report (Report No.: SZ24060210W02).



2.7. Radiated Spurious Emissions

2.7.1. Requirement

According to FCC section 24.238(a) for n2, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

Additional to FCC section 22.917(a) for n5, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. This calculated to be -13dBm.

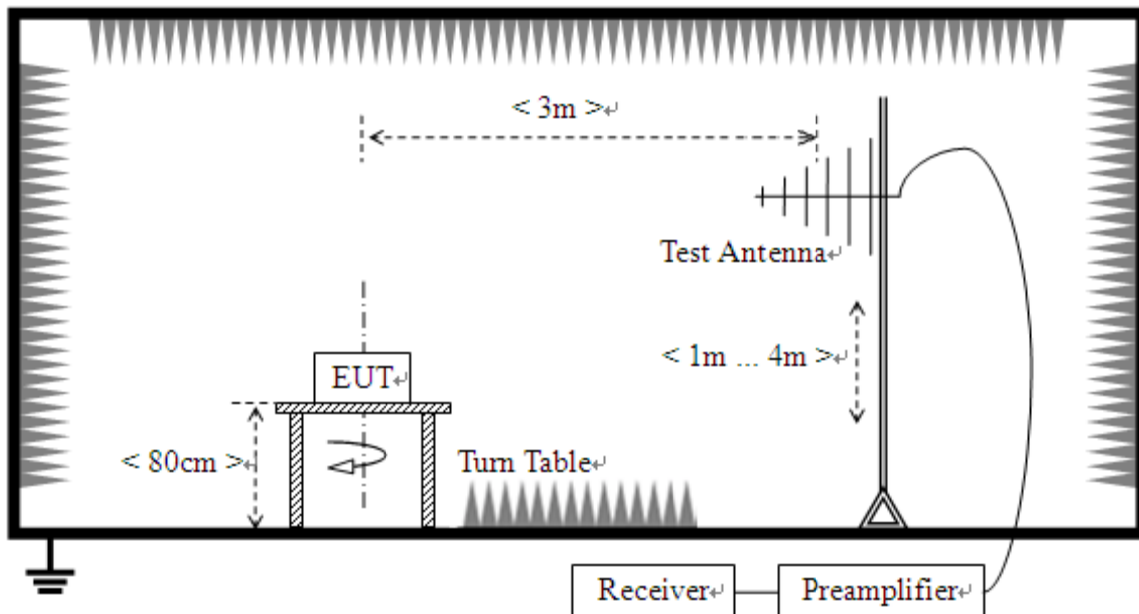
According to FCC section 27.53(h) for n66, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

According to FCC section 96.41(e) for n48, the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

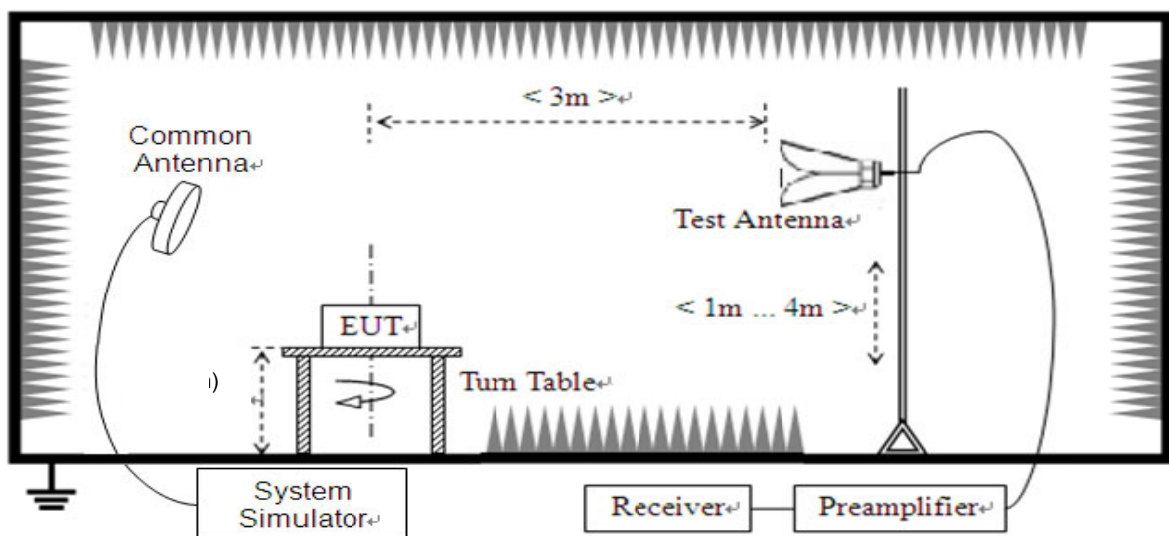
According to FCC section 27.53(l)(2) for n77, for mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

According to FCC section 27.53(n)(2) for n77, for mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

2.7.2. Test Description



(For the test frequency from 30MHz to 1GHz)



(For the test frequency above 1GHz)

The EUT is located in a 3m Full-Anechoic Chamber, the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading.

A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power, and only the test result of the maximum output power was recorded.



In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground and the Turn Table is actuated to turn from 0° to 360° to determine the maximum value of the radiated power. The emission levels at both horizontal and vertical polarizations should be tested. The Filters consists of Notch Filters and High Pass Filter.

Note: When doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

2.7.3. Test procedure

KDB 971168 D01v03 Section 5.8 and ANSI/TIA-603-E-2016.

2.7.4. Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. Test Antenna height is varied from 1m to 4m above the ground, and the Turn Table is actuated to turn from 0° to 360°, both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The substitution corrections are obtained as described below:

$$A_{\text{SUBST}} = P_{\text{SUBST_TX}} - P_{\text{SUBST_RX}} - L_{\text{SUBST_CABLES}} + G_{\text{SUBST_TX_ANT}}$$

$$A_{\text{TOT}} = L_{\text{CABLES}} + A_{\text{SUBST}}$$

Where A_{SUBST} is the final substitution correction including receive antenna gain.

$P_{\text{SUBST_TX}}$ is signal generator level,

$P_{\text{SUBST_RX}}$ is receiver level,

$L_{\text{SUBST_CABLES}}$ is cable losses including TX cable,

$G_{\text{SUBST_TX_ANT}}$ is substitution antenna gain.

A_{TOT} is total correction factor including cable loss and substitution correction

During the test, the data of A_{TOT} was added in the Test Spectrum Analyze, so Spectrum Analyze reading is the final values which contain the data of A_{TOT} .

Note1: The power of the EUT transmitting frequency should be ignored.

Note2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

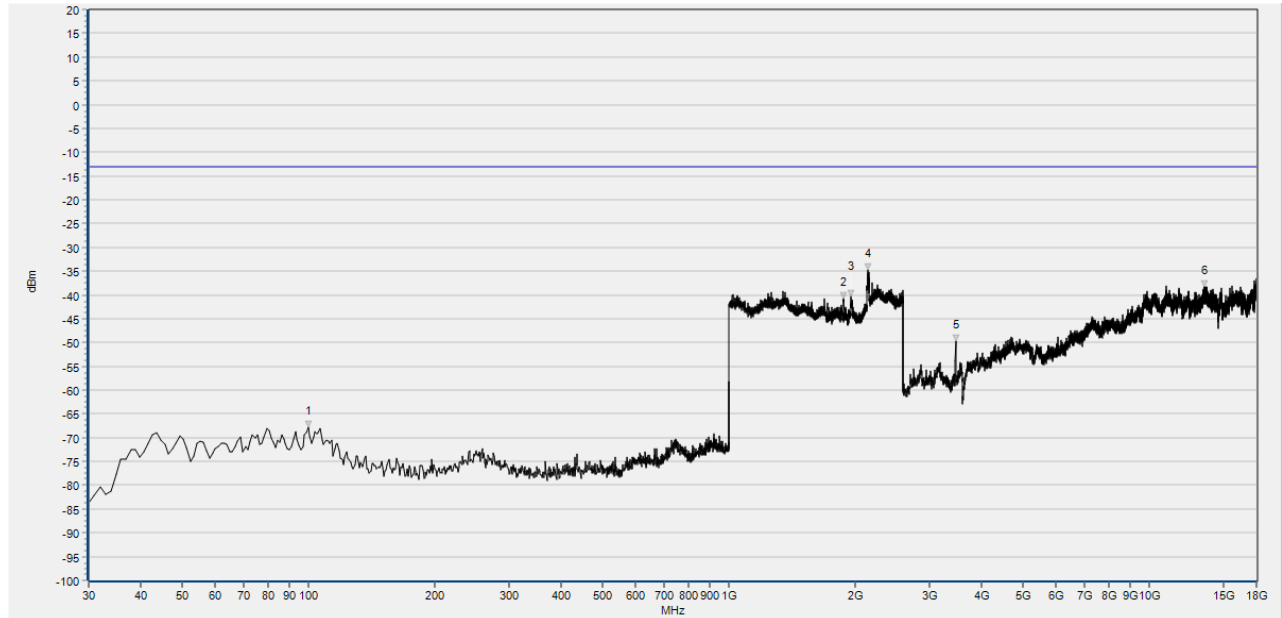


REPORT No.: SZ24100297W01

Note3: All bandwidth and modulation were considered and evaluated respectively by performing full test for each band; only the worst cases (Max Bandwidth and QPSK mode) were recorded in this test report.

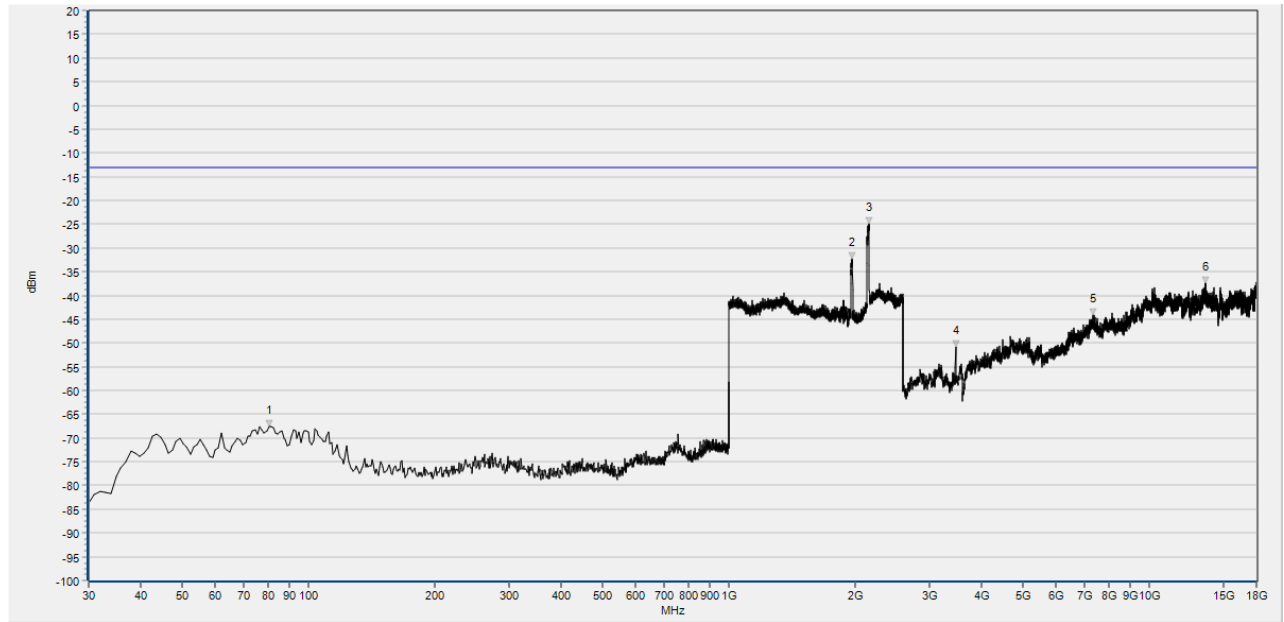


ANT0



Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	99.840	-67.87	-13.00	21.8	H	PASS
2	1875.230	-40.70	-13.00	165.2	H	NA
3	1952.061	-40.38	-13.00	127.4	H	NA
4	2146.699	-34.67	-13.00	127.4	H	NA
5	3462.557	-49.83	-13.00	268.6	H	PASS
6	13510.784	-38.35	-13.00	193.7	H	PASS

DC_2A_n66 349000 30MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 15kHz 30M-18G H

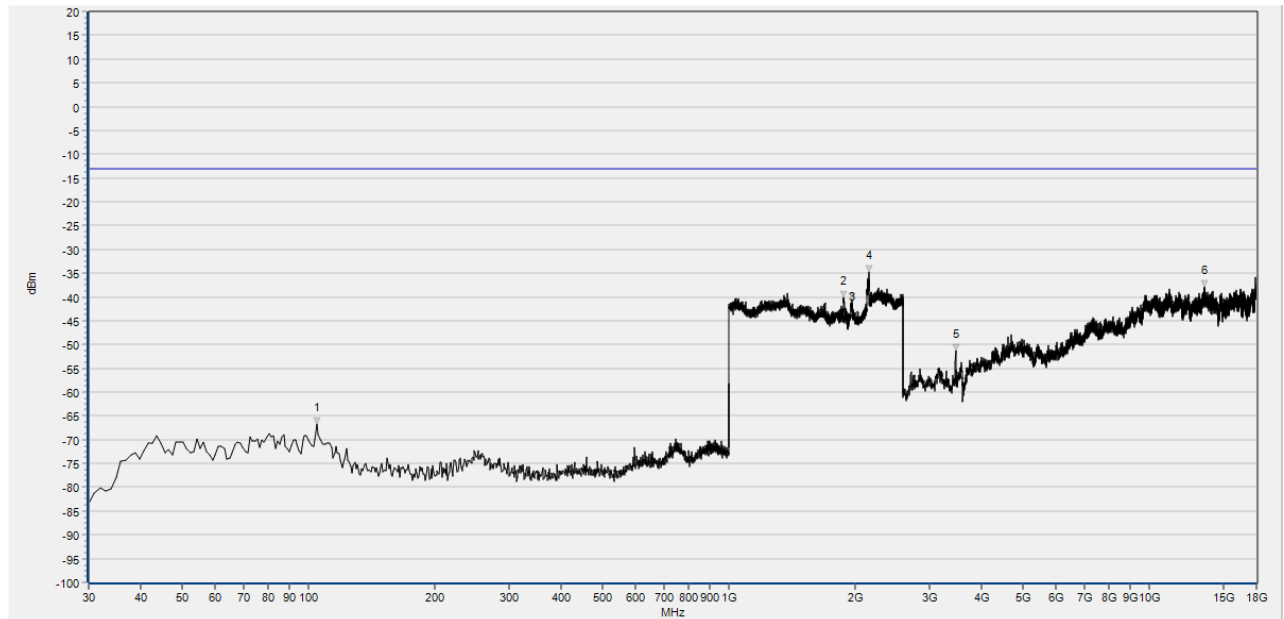


Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	80.440	-67.67	-13.00	194.5	V	PASS
2	1968.067	-32.22	-13.00	7.4	V	NA
3	2152.461	-24.97	-13.00	240.6	V	NA
4	3462.557	-50.85	-13.00	254.0	V	PASS
5	7344.063	-44.15	-13.00	124.3	V	PASS
6	13589.198	-37.35	-13.00	54.8	V	PASS

DC_2A_n66 349000 30MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 15kHz 30M-18G V

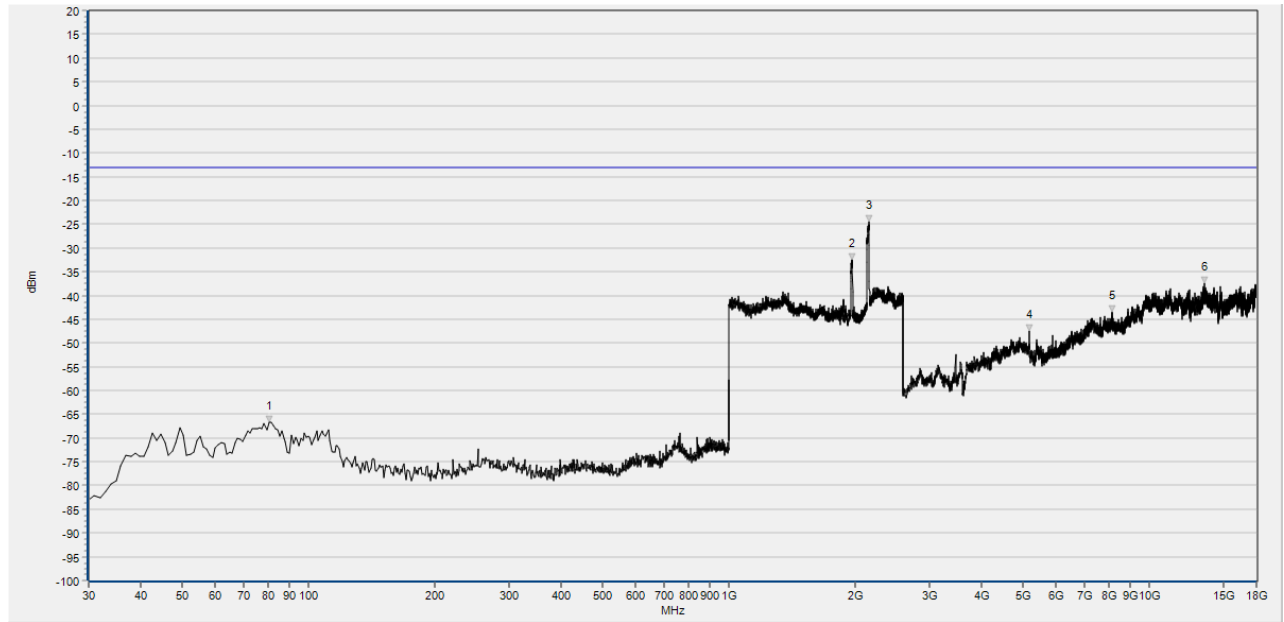


ANT1



Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	104.690	-66.68	-13.00	164.2	H	PASS
2	1876.511	-40.12	-13.00	257.6	H	NA
3	1966.787	-40.64	-13.00	125.2	H	NA
4	2149.900	-34.82	-13.00	163.4	H	NA
5	3462.557	-51.23	-13.00	17.8	H	PASS
6	13499.582	-37.98	-13.00	143.6	H	PASS

DC_2A_n66 349000 30MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 15kHz 30M-18G H

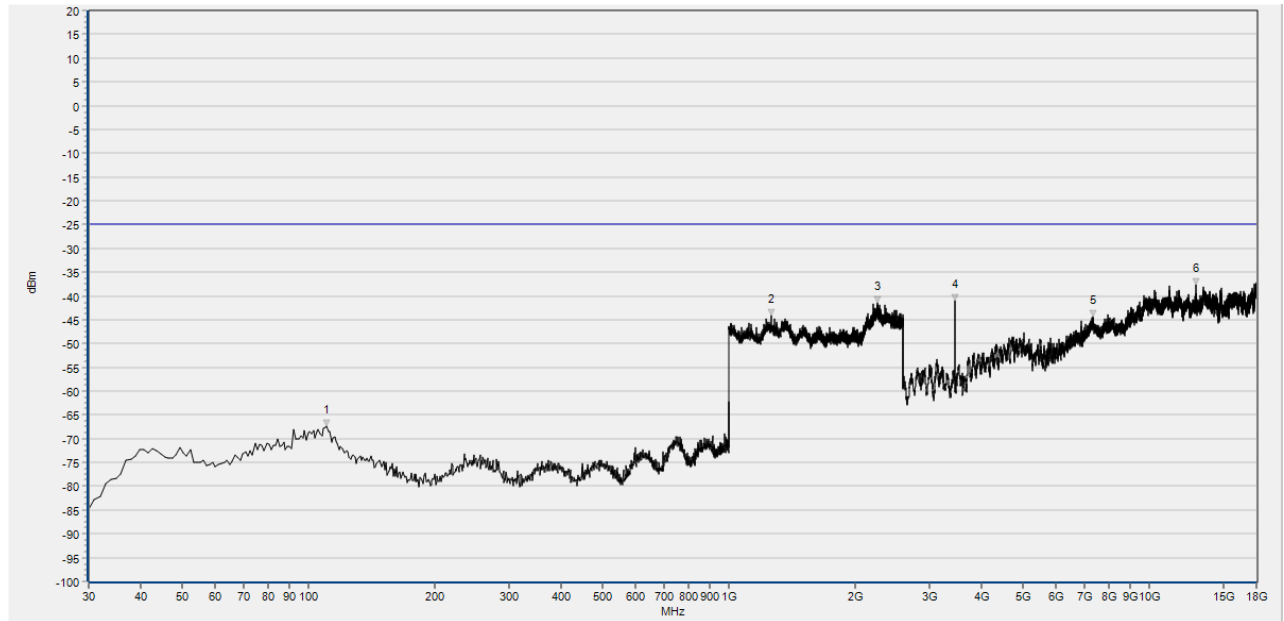


Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	80.440	-66.76	-13.00	315.2	V	PASS
2	1962.305	-32.54	-13.00	7.4	V	NA
3	2153.741	-24.50	-13.00	66.4	V	NA
4	5193.272	-47.41	-13.00	51.2	V	PASS
5	8170.213	-43.49	-13.00	157.9	V	PASS
6	13561.193	-37.44	-13.00	123.8	V	PASS

DC_2A_n66 349000 30MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 15kHz 30M-18G V



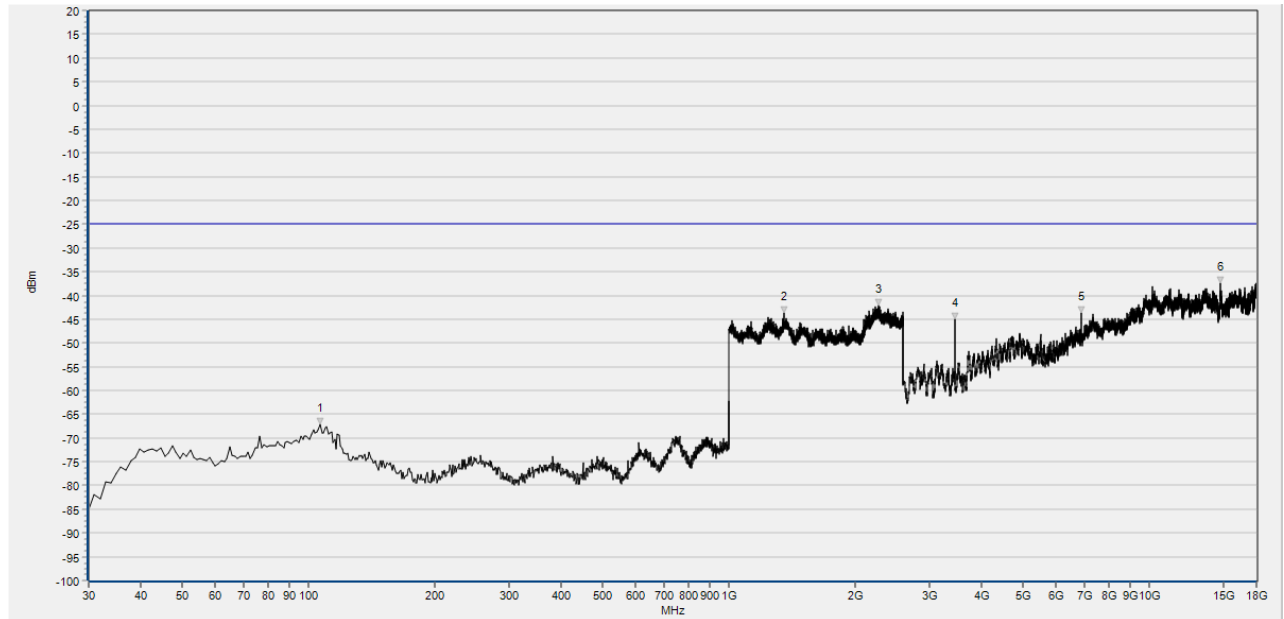
ANT2



Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	110.510	-67.39	-25.00	102.5	H	PASS
2	1262.505	-44.08	-25.00	263.4	H	PASS
3	2254.902	-41.50	-25.00	317.7	H	PASS
4	3451.355	-40.91	-25.00	300.3	H	NA
5	7346.863	-44.40	-25.00	45.1	H	PASS
6	12919.876	-37.55	-25.00	53.8	H	PASS

DC_2A_n77 633334 100MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 30kHz 30M-18G

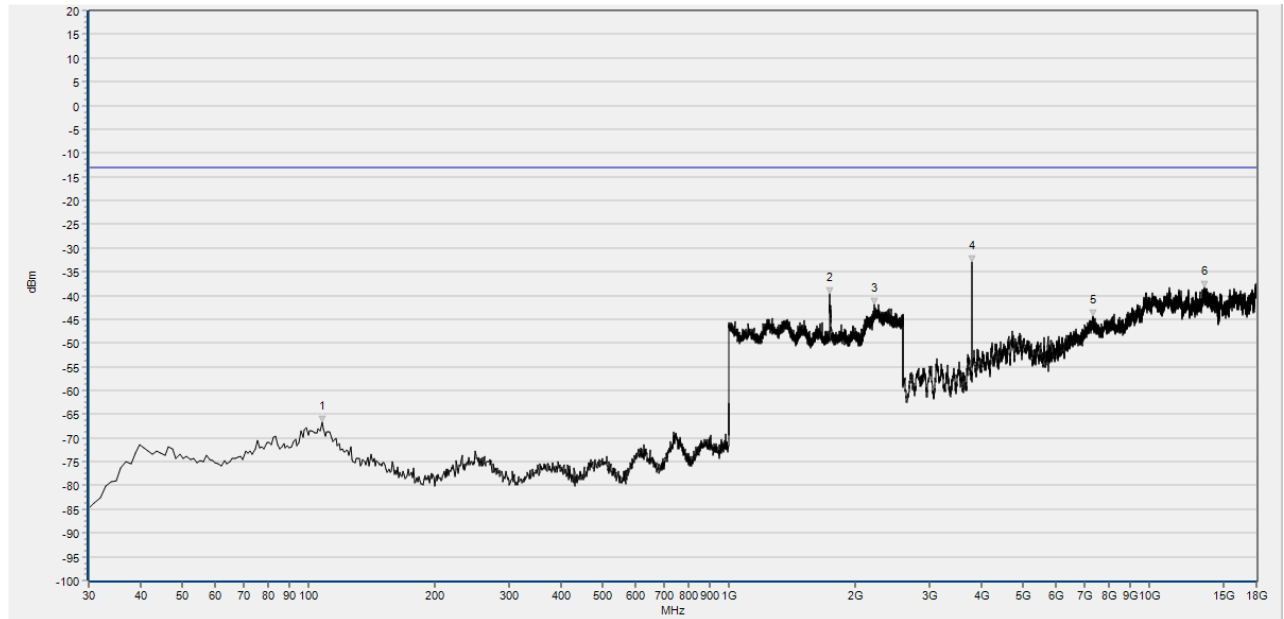
H



Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	106.630	-67.10	-25.00	161.3	V	PASS
2	1350.860	-43.70	-25.00	291.6	V	PASS
3	2266.427	-42.08	-25.00	139.8	V	PASS
4	3451.355	-45.09	-25.00	290.1	V	NA
5	6901.582	-43.58	-25.00	140.8	V	PASS
6	14773.813	-37.44	-25.00	281.4	V	PASS

DC_2A_n77 633334 100MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 30kHz 30M-18G

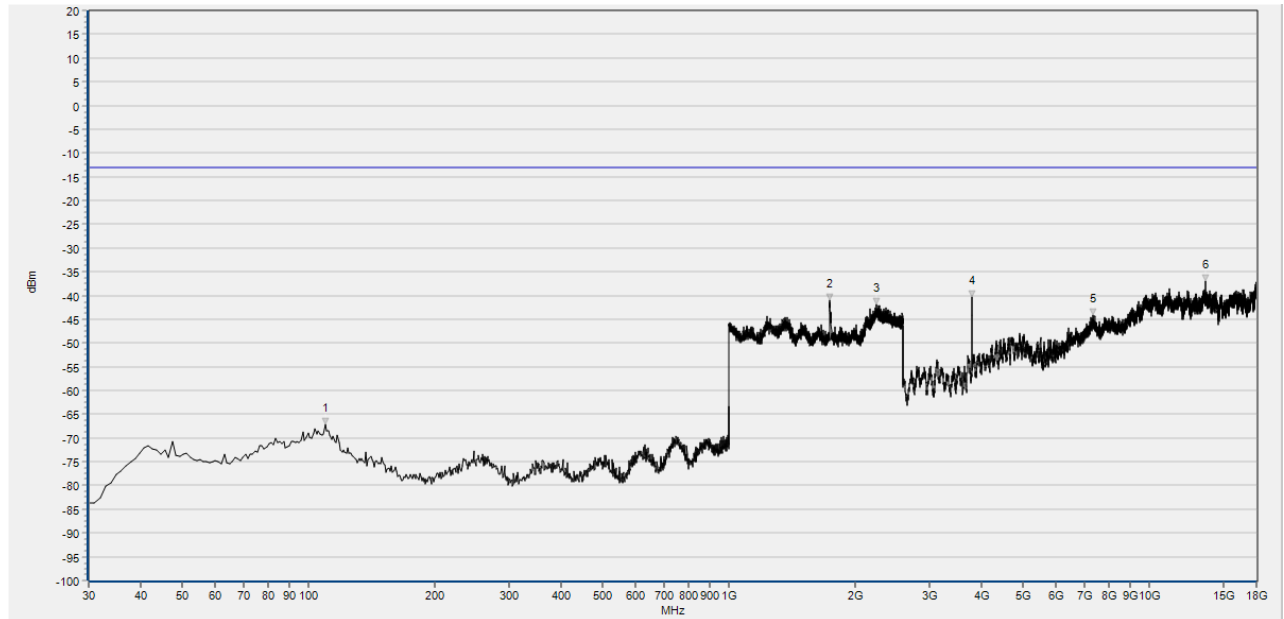
V



Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	107.600	-66.66	-13.00	253.3	H	PASS
2	1739.496	-39.66	-13.00	120.1	H	NA
3	2222.249	-41.87	-13.00	179.3	H	PASS
4	3790.216	-32.87	-13.00	299.0	H	NA
5	7332.861	-44.37	-13.00	220.9	H	PASS
6	13558.392	-38.36	-13.00	342.2	H	PASS

DC_66A_n77 656000 100MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 30kHz 30M-18G

H



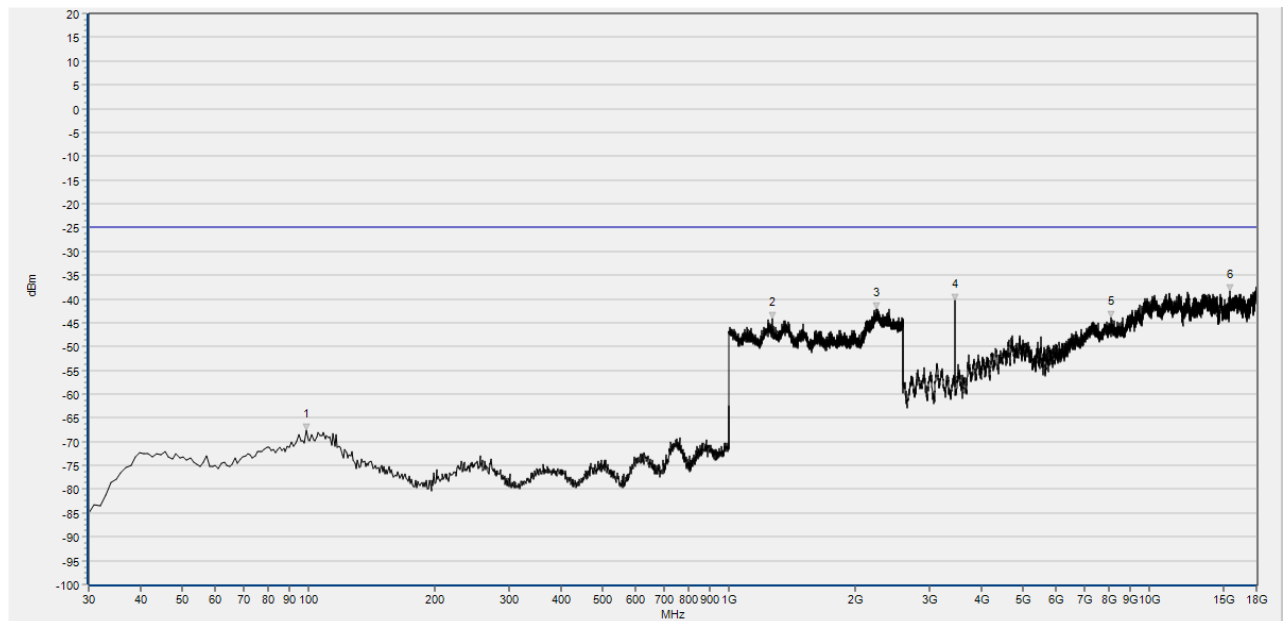
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	109.540	-67.16	-13.00	147.2	V	PASS
2	1736.295	-40.95	-13.00	82.0	V	NA
3	2244.018	-41.93	-13.00	17.9	V	PASS
4	3790.216	-40.35	-13.00	114.3	V	NA
5	7355.265	-44.24	-13.00	209.9	V	PASS
6	13580.797	-36.99	-13.00	340.3	V	PASS

DC_66A_n77 656000 100MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 30kHz 30M-18G

V



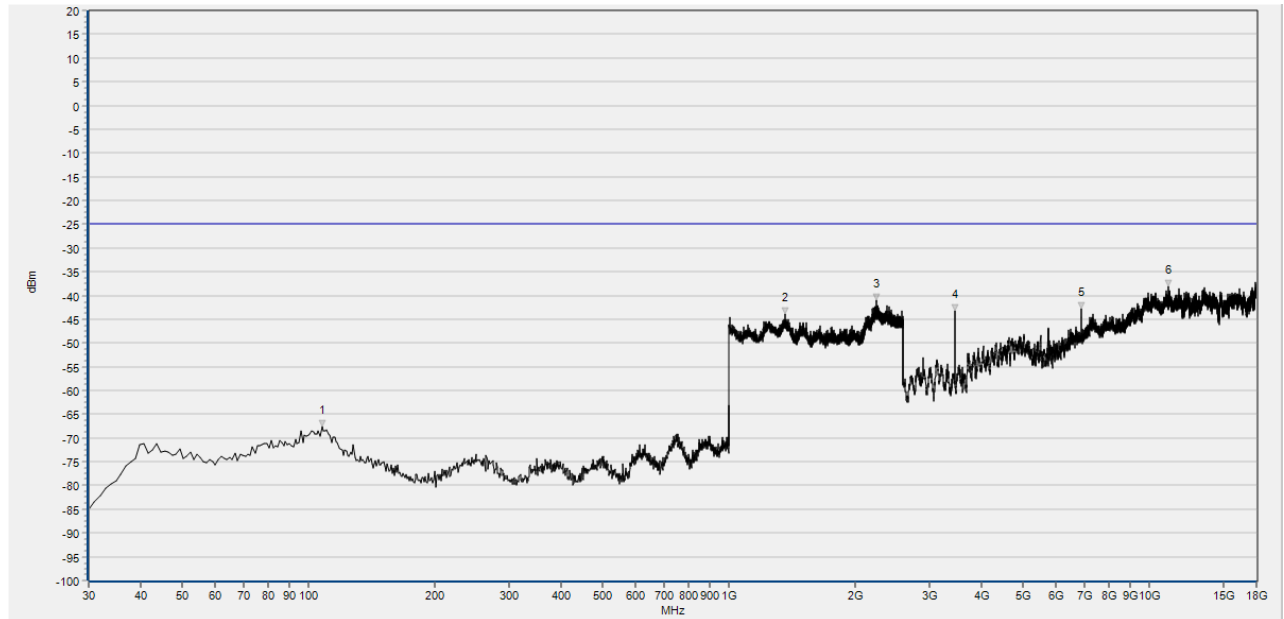
ANT3



Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	98.870	-67.61	-25.00	47.5	H	PASS
2	1268.267	-44.22	-25.00	232.3	H	PASS
3	2243.377	-42.18	-25.00	251.8	H	PASS
4	3451.355	-40.26	-25.00	315.3	H	NA
5	8128.205	-43.92	-25.00	245.3	H	PASS
6	15599.964	-38.31	-25.00	74.1	H	PASS

DC_2A_n77 633334 100MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 30kHz 30M-18G

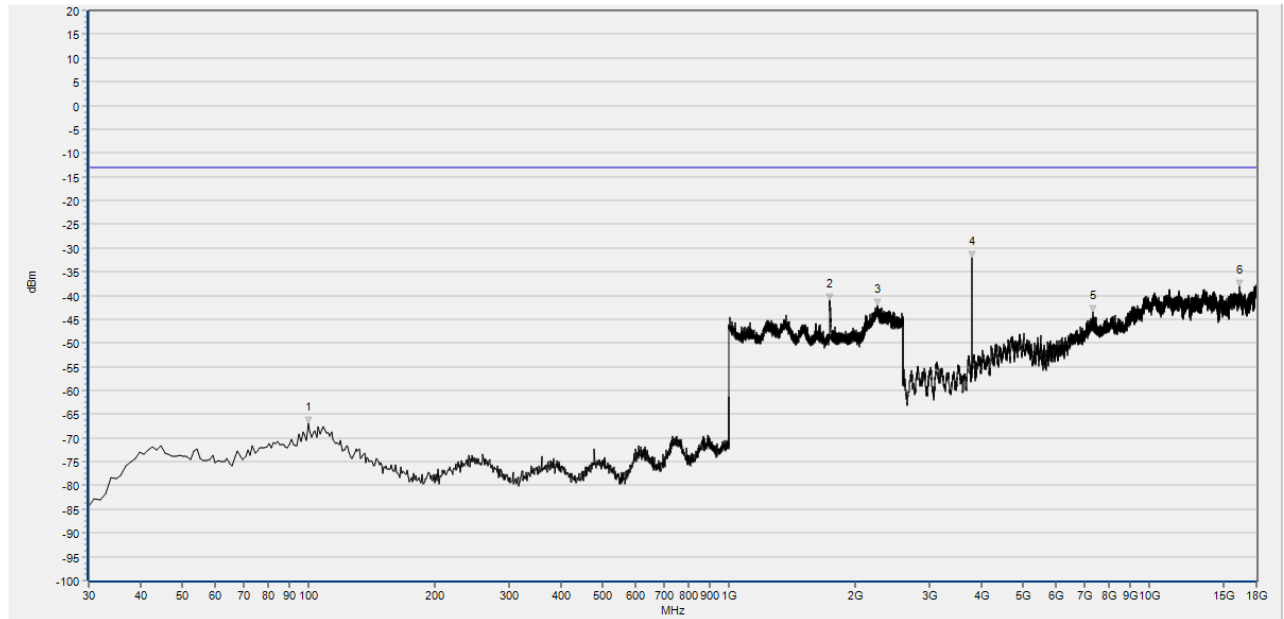
H



Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	107.600	-67.59	-25.00	233.7	V	PASS
2	1357.903	-43.94	-25.00	199.6	V	PASS
3	2249.140	-41.11	-25.00	16.0	V	PASS
4	3451.355	-43.20	-25.00	315.2	V	NA
5	6901.582	-42.87	-25.00	253.9	V	PASS
6	11091.144	-38.14	-25.00	209.9	V	PASS

DC_2A_n77 633334 100MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 30kHz 30M-18G

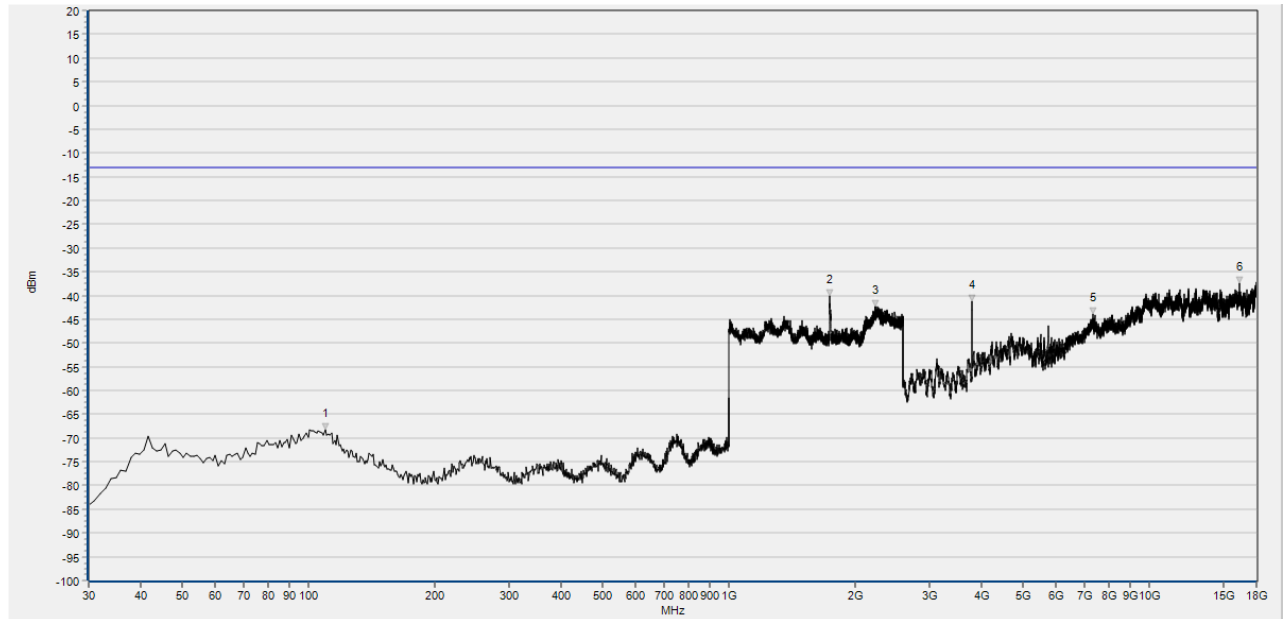
V



Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	99.840	-67.04	-13.00	323.2	H	PASS
2	1738.215	-40.93	-13.00	309.8	H	NA
3	2253.621	-42.09	-13.00	241.1	H	PASS
4	3790.216	-32.15	-13.00	332.0	H	NA
5	7349.664	-43.55	-13.00	44.7	H	PASS
6	16412.111	-38.03	-13.00	158.4	H	PASS

DC_66A_n77 656000 100MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 30kHz 30M-18G

H



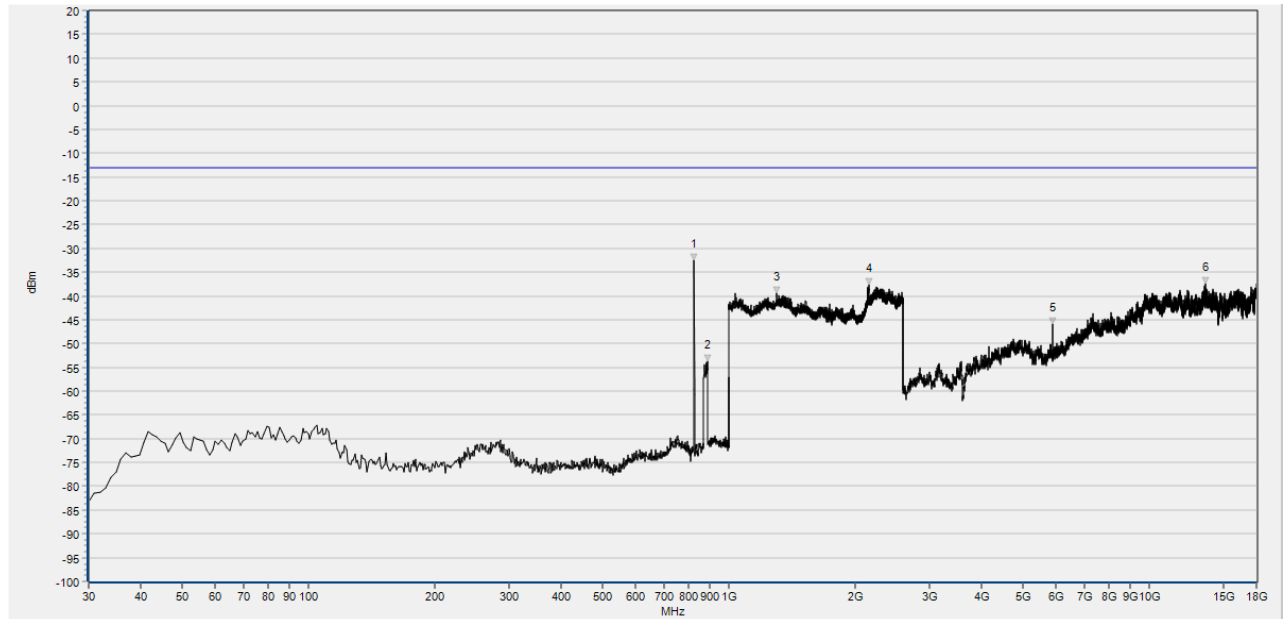
Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	109.540	-68.17	-13.00	138.0	V	PASS
2	1738.215	-40.16	-13.00	153.4	V	NA
3	2230.572	-42.34	-13.00	19.9	V	PASS
4	3790.216	-41.13	-13.00	307.4	V	NA
5	7363.666	-43.97	-13.00	316.0	V	PASS
6	16398.109	-37.46	-13.00	357.9	V	PASS

DC_66A_n77 656000 100MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 30kHz 30M-18G

V

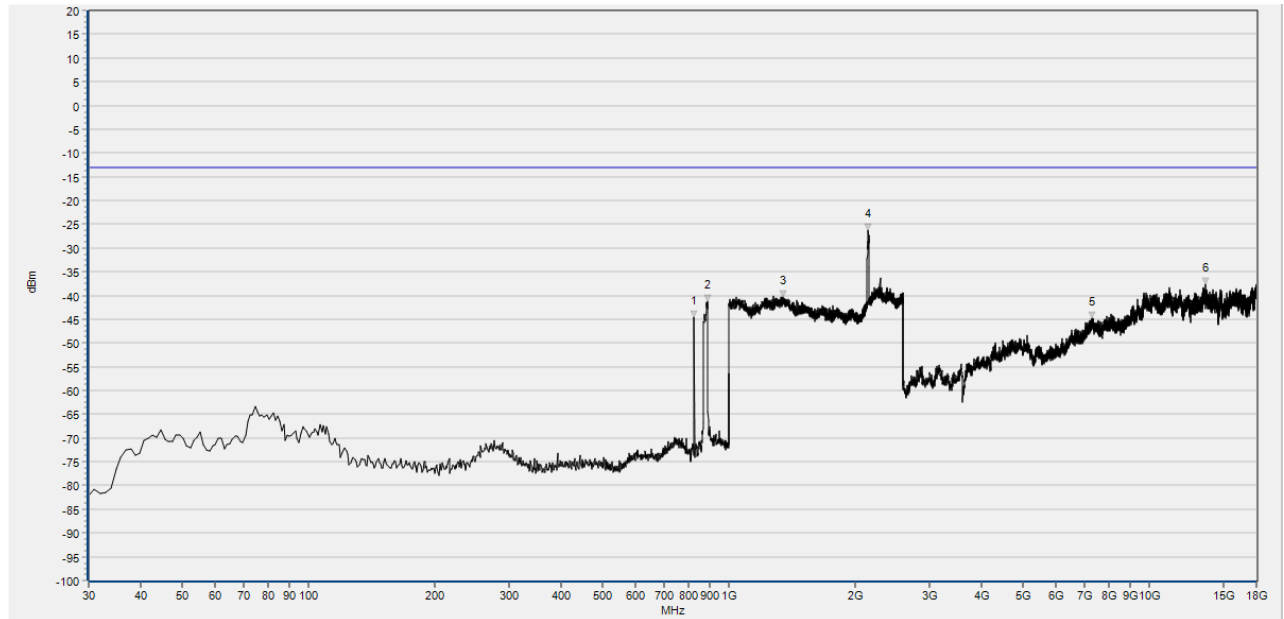


ANT4



Num	Freq(MHz)	PK	limit PK	Degree	Antenna	Verdict
1	827.340	-32.51	-13.00	119.5	H	NA
2	890.390	-53.74	-13.00	46.2	H	NA
3	1301.561	-39.33	-13.00	117.1	H	PASS
4	2151.180	-37.61	-13.00	154.2	H	NA
5	5899.000	-46.01	-13.00	349.8	H	PASS
6	13583.597	-37.38	-13.00	341.1	H	PASS

DC_66A_n5 167300 20MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 15kHz 30M-18G H



Num	Freq (MHz)	PK	limit PK	Degree	Antenna	Verdict
1	827.340	-44.51	-13.00	202.8	V	NA
2	889.420	-41.13	-13.00	257.9	V	NA
3	1342.537	-40.30	-13.00	99.0	V	PASS
4	2148.619	-26.34	-13.00	189.9	V	NA
5	7293.653	-44.91	-13.00	142.8	V	PASS
6	13591.999	-37.56	-13.00	263.9	V	PASS

DC_66A_n5 167300 20MHz DFT-S-OFDM QPSK RB Size-1 RB Offset-1 SCS 15kHz 30M-18G V



2.8. End User Device Additional Requirements (CBSD Protocol)

2.8.1.Requirement

According to FCC section Part 96.47,

- (a) End User Devices may operate only if they can positively receive and decode an authorization signal transmitted by a CBSD, including the frequencies and power limits for their operation. An End User Device must discontinue operations, change frequencies, or change its operational power level within 10 seconds of receiving instructions from its associated CBSD.
- (b) Any device operated at higher power than specified for End User Devices in Part 96.41 will be classified as, and subject to, the operational requirements of a CBSD.

2.8.2.Test Description

End user device additional requirements (CBSD Protocol) are tested per the test procedures listed below. During testing, the EUT is connected to a certified CBSD (Kingsignal LBS7320 FCC ID: P27-SCE5164-B48) as a companion device to show compliance with Part 96.47. End User Devices may operate only if they can positively receive and decode an authorization signal transmitted by a CBSD, including the frequencies and power limits for their operation. An End User Device must discontinue operations, change frequencies, or change its operational power level within 10 seconds of receiving instructions from its associated CBSD.

2.8.3.Test Procedure

KDB 940660 D01 Part 96 CBRS Eqpt v02.

2.8.4.Test Result

The EUT was connected via an RF cable to a certified CBSD and spectrum analyzer
Test Graph 1:

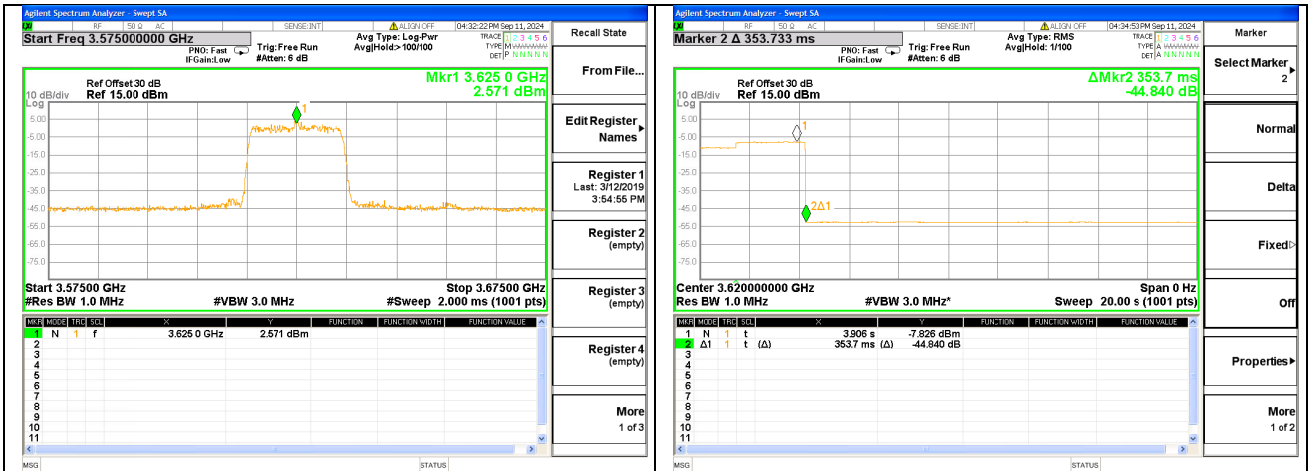
- a. Setup frequency with 3625MHz
- b. Check EUT Tx frequency.
- c. Disable AP service and check EUT stop transmission within 10s.

Test Graph 2:

- a. Setup frequency with 3690.00MHz
- b. Check EUT Tx frequency.
- c. Disable AP service and check EUT stop transmission within 10s



Test Graph 1

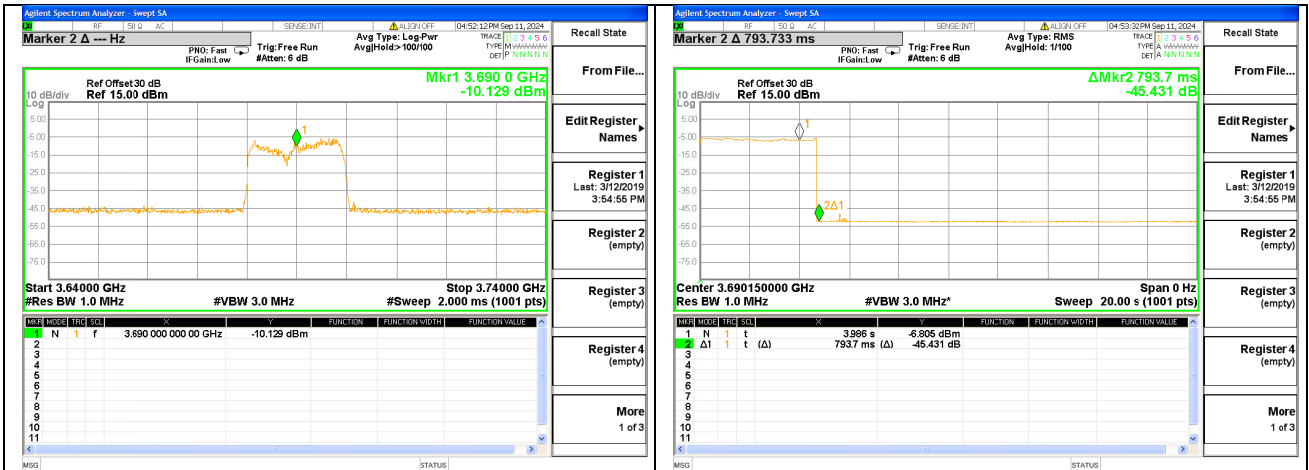


Note:

Marker 1: CBSD sends instructions to discontinue NR operations.

Marker 2: EUT discontinues operation

Test Graph 2



Note:

Marker 1: CBSD sends instructions to discontinue NR operations.

Marker 2: EUT discontinues operation



Annex A Test Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for test performed on the EUT as specified in CISPR 16-1-2:

Test items	Uncertainty
Output Power	± 2.22 dB
Bandwidth	$\pm 5\%$
Conducted Spurious Emission	± 2.77 dB
Band Edge	± 2.77 dB
Equivalent Isotropic Radiated Power	± 2.22 dB
Radiated Spurious Emissions	± 6 dB

This uncertainty represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$



Annex B Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Company Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013 and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.



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4. Test Equipment Utilized

4.1 Conducted Test Equipment

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Cal. Due
Power Splitter	NW521	1506A	Weinschel	N/A	N/A
Attenuator 1	(N/A.)	10dB	Resnet	N/A	N/A
Attenuator 2	(N/A.)	3dB	Resnet	N/A	N/A
EXA Signal Analyzer	MY54170556	N9030A	Keysight	2023.10.07	2024.10.06
System Simulator	6262012906	MT8000A	Anritsu	2023.06.27	2024.06.26
System Simulator	6261830572	MT8821C	Anritsu	2024.01.25	2025.01.24
System Simulator	MY58300665	E7515B	Anritsu	2023.10.07	2024.10.06
RF cable (30MHz-26GHz)	CB01	RF01	Morlab	N/A	N/A
Coaxial cable	CB02	RF02	Morlab	N/A	N/A
SMA connector	CN01	RF03	HUBER-SUHNER	N/A	N/A
Temperature Chamber	S02217710100089001	KMT-36LF1A0	KOME G	2023.09.19	2024.09.18
				2024.09.18	2025.09.17
Computer	T430i	Think Pad	Lenovo	N/A	N/A
Test system	N/A	WCS FCC V22.02.041801	CeSheng	N/A	N/A



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4.2 Radiated Test Equipment

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Loop Antenna	00131	FMZB 1519B	SCHWARZBECK	2023/10/10	2024/10/09
Bi-Log Antenna	9163-274	VULB 9163	SCHWARZBECK	2024/06/29	2025/06/28
Horn Antenna	9120D-963	BBHA 9120D	SCHWARZBECK	2024/06/03	2025/06/02
Horn Antenna	BBHA9170#773	BBHA9170	SCHWARZBECK	2024/06/22	2025/06/21
Signal Analyzer	MY56060145	N9020A	Agilent	2024/05/30	2025/5/29
6db Attenuator	E191001	BW-N6W5+	Mini-circuits	2023/09/19	2024/09/18
Preamplifier (2GHz-18GHz)	61171/61172	S020180L3203	LUCIX CORP.	2024/05/30	2025/05/29
Preamplifier (10MHz-6GHz)	46732	S10M100L3802	LUCIX CORP.	2024/05/30	2025/05/29
Preamplifier (18GHz-40GHz)	DS77209	DCLNA0118-40C-S	Decentest	2024/05/30	2025/05/29
System Simulator	152038	CMW500	R&S	2023/09/19	2024/09/18
System Simulator	MY48364176	8960-E5515C	Agilent	2024/01/24	2025/01/23
System Simulator	6262148249	MT8000A	anritsu	2024/06/30	2025/06/29
System Simulator	6261830572	MT8821C	anritsu	2024/01/25	2025/01/24
RF Coaxial Cable (DC-18GHz)	MRE001	PE330	Pasternack	2024/05/30	2025/05/29
RF Coaxial Cable (DC-18GHz)	MRE002	CLU18	Pasternack	2024/05/30	2025/05/29
RF Coaxial Cable (DC-18GHz)	MRE003	CLU18	Pasternack	2024/05/30	2025/05/29
RF Coaxial Cable (DC-40GHz)	22290045	QA360-40-KK-0.5	Qualwave	2024/07/03	2025/07/02
RF Coaxial Cable (DC-40GHz)	22290046	QA360-40-KKF-2	Qualwave	2024/07/03	2025/07/02
RF Coaxial Cable (DC-18GHz)	22120181	QA500-18-NN-5	Qualwave	2024/07/03	2025/07/02

____ END OF REPORT ____