



RF EXPOSURE EVALUATION REPORT

APPLICANT : ZTE Corporation
PRODUCT NAME : WLAN Router
MODEL NAME : MC7010CA
BRAND NAME : ZTE
FCC ID : SRQ-MC7010CA
STANDARD(S) : 47CFR 2.1091
KDB 447498
RECEIPT DATE : 2021-01-15
TEST DATE : 2021-01-30 to 2021-02-05
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Change History		
Version	Date	Reason for Change
1.0	2021-03-03	First edition



1. Technical Information

Note: Provide by applicant.

1.1 Applicant and Manufacturer Information

Applicant:	ZTE Corporation
Applicant Address:	ZTE Plaza, Keji Road South, Shenzhen, China.
Manufacturer:	ZTE Corporation
Manufacturer Address:	ZTE Plaza, Keji Road South, Shenzhen, China.

1.2 Equipment under Test (EUT) Description

Product Name:	WLAN Router
Hardware Version:	MC7010CAHW1.0
Software Version:	MC7010CAV1.1
Frequency Bands:	WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 29: 717 MHz ~ 728 MHz (RX Only) LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n71: 663 MHz ~ 698 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Modulation Mode:	WCDMA: QPSK, 16QAM LTE: QPSK, 16QAM, 64QAM 5G NR: CP-OFDM/DFT-s-OFDM, PI/2 BPSK QPSK, 16QAM, 64QAM, 256QAM Bluetooth : GFSK(1Mbps)
EN-DC Combination:	DC_2A_n66A, DC_5A_n66A, DC_7A_n66A, DC_12A_n66A,



	DC_13A_n66A, DC_30A_n66A, DC_2A_n71A, DC_7A_n71A, DC_66A_n71A
Antenna Type:	Fixed Internal Antenna
Antenna Gain:	WCDMA Band II/IV: 1.7 dBi WCDMA Band V: 0.8 dBi LTE Band 5/12/13/26/29: 1.0 dBi LTE Band 2/4/7/25/30/66: 1.7 dBi 5G NR n66: 1.8 dBi 5G NR n71: 0.6 dBi

Note:

When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% risk level.



1.3 Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title	Method determination /Remark
1	47 CFR§2.1091	Radio Frequency Radiation Exposure Assessment: mobile devices	No deviation
2	KDB 447498 D01v06	General RF Exposure Guidance	No deviation
Note 1: The test item is not applicable. 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.			



2. Device Category and RF Exposure Limit

Per user manual, Based on 47CFR 2.1091, this device belongs to mobile device category with General Population/Uncontrolled exposure.

Mobile Devices:

47CFR 2.1091(b)

For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. In this context, the term "fixed location" means that the device is physically secured at one location and is not able to be easily moved to another location. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 centimeter separation requirement.

General Population/Uncontrolled Exposure:

The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity. Warning labels placed on low-power consumer devices such as cellular telephones are not considered sufficient to allow the device to be considered under the occupational/controlled category, and the general population/uncontrolled exposure limits apply to these devices.

Table 1—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz* = Plane-wave equivalent power density



3. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
R&S	Network Emulator	CMW500	124534	2020.04.01	2021.03.31
Anritsu	Network Emulator	MT8820C	6262148249	2020.01.13	2021.01.12
Anritsu	Network Emulator	MT8821C	6262094360	2020.07.27	2021.07.26
Anritsu	Network Emulator	MT8000A	6262012906	2020.06.08	2021.06.07

Note:

The EUT was connected to Base Station Anritsu MT8820C referred to the Setup Configuration. For the maximum power, it was established between EUT and Base Station with following setting:

1. For WCDMA testing, Power Ctrl Mode = All Up bits, and the transmitted maximum output power was recorded.
2. For LTE & NR testing, the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and different configurations which are requested to be reported to FCC.



4. RF Output Power

<WCDMA Band II>

Band		WCDMA Band II			Tune-up Limit (dBm)
TX Channel		9262	9400	9538	
Rx Channel		9662	9800	9938	
Frequency (MHz)		1852.4	1880	1907.6	
3GPP Rel 99	RMC 12.2Kbps	23.09	23.14	23.31	24.00
3GPP Rel 6	HSDPA Subtest-1	22.41	22.51	22.48	23.00
3GPP Rel 6	HSDPA Subtest-2	22.45	22.46	22.39	23.00
3GPP Rel 6	HSDPA Subtest-3	21.86	21.96	21.86	22.50
3GPP Rel 6	HSDPA Subtest-4	21.83	21.90	21.83	22.50
3GPP Rel 6	HSUPA Subtest-1	22.44	22.44	22.40	23.00
3GPP Rel 6	HSUPA Subtest-2	22.01	22.00	21.99	22.50
3GPP Rel 6	HSUPA Subtest-3	22.32	22.38	22.40	23.00
3GPP Rel 6	HSUPA Subtest-4	22.35	22.40	22.42	23.00
3GPP Rel 6	HSUPA Subtest-5	22.29	22.41	22.36	23.00
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	22.38	22.43	22.42	23.00

<WCDMA Band IV>

Band		WCDMA Band IV			Tune-up Limit (dBm)
TX Channel		1312	1413	1513	
Rx Channel		1537	1638	1738	
Frequency (MHz)		1712.4	1732.6	1752.6	
3GPP Rel 99	RMC 12.2Kbps	22.91	23.33	23.31	24.00
3GPP Rel 6	HSDPA Subtest-1	22.18	22.26	22.28	23.00
3GPP Rel 6	HSDPA Subtest-2	22.14	22.08	22.27	23.00
3GPP Rel 6	HSDPA Subtest-3	21.60	21.65	21.62	22.50
3GPP Rel 6	HSDPA Subtest-4	21.60	21.67	21.51	22.50
3GPP Rel 6	HSUPA Subtest-1	22.19	22.20	22.19	23.00
3GPP Rel 6	HSUPA Subtest-2	21.64	21.72	21.68	22.50
3GPP Rel 6	HSUPA Subtest-3	22.08	22.00	22.20	23.00
3GPP Rel 6	HSUPA Subtest-4	22.12	22.21	22.22	23.00
3GPP Rel 6	HSUPA Subtest-5	22.08	22.11	22.20	23.00
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	22.16	22.18	22.22	23.00



<WCDMA Band V>

Band		WCDMA Band V			Tune-up Limit (dBm)
TX Channel		4132	4182	4233	
Rx Channel		4357	4407	4458	
Frequency (MHz)		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	23.51	23.44	23.42	24.00
3GPP Rel 6	HSDPA Subtest-1	22.66	22.65	22.57	23.00
3GPP Rel 6	HSDPA Subtest-2	22.62	22.52	22.57	23.00
3GPP Rel 6	HSDPA Subtest-3	21.93	22.02	22.08	22.50
3GPP Rel 6	HSDPA Subtest-4	22.06	22.11	22.07	23.00
3GPP Rel 6	HSUPA Subtest-1	22.62	22.58	22.64	23.00
3GPP Rel 6	HSUPA Subtest-2	22.04	22.07	22.09	23.00
3GPP Rel 6	HSUPA Subtest-3	22.61	22.57	22.58	23.00
3GPP Rel 6	HSUPA Subtest-4	22.63	22.57	22.59	23.00
3GPP Rel 6	HSUPA Subtest-5	22.50	22.57	22.51	23.00
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	22.62	22.58	22.60	23.00

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	23.12	23.17	23.18	24
20	QPSK	1	49	23.27	23.11	23.22	
20	QPSK	1	99	23.14	23.12	22.91	
20	QPSK	50	0	22.34	22.05	22.01	23
20	QPSK	50	24	22.11	22.05	22.01	
20	QPSK	50	50	22.09	22.08	22.08	
20	QPSK	100	0	22.06	22.06	22.09	
20	16QAM	1	0	22.29	22.23	22.29	23
20	16QAM	1	49	22.22	22.22	22.53	
20	16QAM	1	99	22.42	22.17	22.50	
20	16QAM	50	0	22.12	22.25	22.12	23
20	16QAM	50	24	22.12	22.42	22.23	
20	16QAM	50	50	22.34	22.34	22.24	
20	16QAM	100	0	22.12	22.24	22.23	
20	64QAM	1	0	21.22	21.41	21.32	22
20	64QAM	1	49	21.22	21.22	21.19	



20	64QAM	1	99	21.24	21.17	21.25	
20	64QAM	50	0	21.22	21.01	21.06	22
20	64QAM	50	24	21.13	21.04	21.02	
20	64QAM	50	50	21.06	21.12	21.18	
20	64QAM	100	0	21.09	21.05	21.01	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	23.03	23.01	22.90	24
15	QPSK	1	37	22.91	22.98	22.88	
15	QPSK	1	74	23.06	22.90	23.06	
15	QPSK	36	0	22.03	22.21	22.29	23
15	QPSK	36	20	22.13	22.06	22.15	
15	QPSK	36	39	22.14	22.04	22.02	
15	QPSK	75	0	22.16	22.23	22.04	
15	16QAM	1	0	22.61	22.51	22.39	23
15	16QAM	1	37	22.21	22.46	22.57	
15	16QAM	1	74	22.19	22.56	22.67	
15	16QAM	36	0	22.34	22.28	22.24	23
15	16QAM	36	20	22.39	22.20	22.30	
15	16QAM	36	39	22.33	22.31	22.31	
15	16QAM	75	0	22.36	22.25	22.32	
15	64QAM	1	0	21.17	21.27	21.29	22
15	64QAM	1	37	21.26	21.33	21.41	
15	64QAM	1	74	21.08	21.27	21.22	
15	64QAM	36	0	21.12	21.03	21.08	22
15	64QAM	36	20	21.10	21.05	20.96	
15	64QAM	36	39	21.07	21.14	21.12	
15	64QAM	75	0	21.12	21.06	20.93	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	23.27	23.00	22.98	24
10	QPSK	1	25	23.13	22.92	23.19	
10	QPSK	1	49	22.98	22.92	22.94	
10	QPSK	25	0	22.16	22.03	22.04	23
10	QPSK	25	12	22.07	22.02	22.03	
10	QPSK	25	25	22.23	22.06	22.16	



10	QPSK	50	0	22.19	22.04	22.06	
10	16QAM	1	0	22.12	22.43	22.11	23
10	16QAM	1	25	22.14	21.95	21.96	
10	16QAM	1	49	22.40	22.49	22.46	
10	16QAM	25	0	22.37	22.27	22.31	23
10	16QAM	25	12	22.30	22.27	22.32	
10	16QAM	25	25	22.40	22.33	22.40	
10	16QAM	50	0	22.24	22.18	22.27	
10	64QAM	1	0	21.12	21.12	21.21	22
10	64QAM	1	25	21.27	21.26	21.11	
10	64QAM	1	49	21.12	21.25	21.30	
10	64QAM	25	0	21.17	21.04	20.99	22
10	64QAM	25	12	21.08	21.13	21.05	
10	64QAM	25	25	21.10	21.03	21.19	
10	64QAM	50	0	21.12	21.06	21.08	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	23.05	22.95	23.08	24
5	QPSK	1	12	23.00	22.85	22.89	
5	QPSK	1	24	23.10	22.96	22.95	
5	QPSK	12	0	22.00	22.02	22.00	23
5	QPSK	12	7	22.18	22.09	22.19	
5	QPSK	12	13	22.14	22.12	22.13	
5	QPSK	25	0	22.17	22.26	22.09	
5	16QAM	1	0	22.22	22.74	22.31	23
5	16QAM	1	12	22.51	22.61	22.28	
5	16QAM	1	24	22.40	22.15	22.19	
5	16QAM	12	0	22.40	22.35	22.33	23
5	16QAM	12	7	22.56	22.35	22.42	
5	16QAM	12	13	22.35	22.34	22.45	
5	16QAM	25	0	22.49	22.37	22.42	
5	64QAM	1	0	21.73	21.47	21.26	22
5	64QAM	1	12	21.31	21.15	21.22	
5	64QAM	1	24	21.36	21.24	21.05	
5	64QAM	12	0	21.13	21.28	21.06	22
5	64QAM	12	7	21.13	21.22	21.03	
5	64QAM	12	13	21.13	21.18	21.21	



5	64QAM	25	0	21.13	21.01	21.10	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	22.88	22.93	23.15	24
3	QPSK	1	8	22.97	22.91	22.93	
3	QPSK	1	14	22.93	22.89	22.91	
3	QPSK	8	0	22.08	22.24	22.00	23
3	QPSK	8	4	22.14	22.22	22.04	
3	QPSK	8	7	22.09	22.12	22.10	
3	QPSK	15	0	22.12	22.15	22.03	23
3	16QAM	1	0	22.37	22.36	22.39	
3	16QAM	1	8	22.47	22.33	22.21	
3	16QAM	1	14	22.14	22.12	22.24	23
3	16QAM	8	0	22.38	22.20	22.26	
3	16QAM	8	4	22.34	22.32	22.29	
3	16QAM	8	7	22.20	22.31	22.33	22
3	16QAM	15	0	22.32	22.19	22.19	
3	64QAM	1	0	22.55	22.22	22.19	
3	64QAM	1	8	22.46	22.25	22.20	21
3	64QAM	1	14	22.25	22.12	22.32	
3	64QAM	8	0	21.18	21.10	20.93	
3	64QAM	8	4	21.14	21.07	20.98	21
3	64QAM	8	7	21.07	21.12	21.05	
3	64QAM	15	0	21.23	21.04	21.09	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	22.97	22.91	22.94	24
1.4	QPSK	1	3	23.01	23.03	22.88	
1.4	QPSK	1	5	23.01	22.98	23.01	
1.4	QPSK	3	0	22.98	22.69	22.62	23
1.4	QPSK	3	1	22.75	22.99	22.65	
1.4	QPSK	3	3	22.86	22.88	22.69	
1.4	QPSK	6	0	22.00	22.06	22.02	23
1.4	16QAM	1	0	22.21	22.65	22.43	
1.4	16QAM	1	3	22.38	22.24	22.24	
1.4	16QAM	1	5	22.22	22.24	22.12	



1.4	16QAM	3	0	22.31	22.19	22.23	
1.4	16QAM	3	1	22.32	22.13	22.28	
1.4	16QAM	3	3	22.24	22.32	22.24	
1.4	16QAM	6	0	22.32	22.09	22.14	23
1.4	64QAM	1	0	21.36	21.53	21.09	22
1.4	64QAM	1	3	21.22	21.42	21.29	
1.4	64QAM	1	5	21.04	21.19	21.15	
1.4	64QAM	3	0	21.14	20.89	21.08	
1.4	64QAM	3	1	21.01	21.06	21.06	
1.4	64QAM	3	3	21.15	21.06	21.08	
1.4	64QAM	6	0	21.05	21.08	21.10	22

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	22.74	22.96	22.86	23.5
20	QPSK	1	49	22.74	22.67	22.74	
20	QPSK	1	99	22.82	22.64	22.63	
20	QPSK	50	0	21.60	21.70	21.61	22.5
20	QPSK	50	24	21.59	21.57	21.41	
20	QPSK	50	50	21.52	21.51	21.47	
20	QPSK	100	0	21.62	21.48	21.45	
20	16QAM	1	0	21.75	22.21	21.97	22.5
20	16QAM	1	49	21.97	21.93	21.64	
20	16QAM	1	99	21.98	21.73	21.39	
20	16QAM	50	0	21.66	21.65	21.57	22.5
20	16QAM	50	24	21.58	21.59	21.54	
20	16QAM	50	50	21.52	21.51	21.39	
20	16QAM	100	0	21.61	21.50	21.47	
20	64QAM	1	0	20.88	20.95	20.76	21.5
20	64QAM	1	49	20.48	20.51	20.41	
20	64QAM	1	99	20.61	20.69	20.76	
20	64QAM	50	0	20.66	20.70	20.59	21.5
20	64QAM	50	24	20.61	20.60	20.37	
20	64QAM	50	50	20.49	20.56	20.39	
20	64QAM	100	0	20.64	20.62	20.47	



Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	22.87	22.79	22.85	23.5
15	QPSK	1	37	22.55	22.84	22.72	
15	QPSK	1	74	22.77	22.73	22.67	
15	QPSK	36	0	21.71	21.91	21.83	22.5
15	QPSK	36	20	21.83	21.82	21.81	
15	QPSK	36	39	21.84	21.78	21.71	
15	QPSK	75	0	21.78	21.73	21.74	
15	16QAM	1	0	21.26	21.33	21.09	22.5
15	16QAM	1	37	21.09	21.32	21.26	
15	16QAM	1	74	21.11	21.23	21.21	
15	16QAM	36	0	21.87	21.86	21.82	22.5
15	16QAM	36	20	21.86	21.84	21.90	
15	16QAM	36	39	21.56	21.83	21.72	
15	16QAM	75	0	21.90	21.83	21.76	
15	64QAM	1	0	20.53	20.75	20.73	21.5
15	64QAM	1	37	20.50	20.50	20.38	
15	64QAM	1	74	20.37	20.66	20.52	
15	64QAM	36	0	20.85	20.97	20.83	21.5
15	64QAM	36	20	20.80	20.89	20.85	
15	64QAM	36	39	20.82	20.83	20.73	
15	64QAM	75	0	20.90	20.75	20.78	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	22.77	22.87	22.83	23.5
10	QPSK	1	25	22.69	22.68	22.54	
10	QPSK	1	49	22.75	22.60	22.60	
10	QPSK	25	0	21.86	21.85	21.83	22.5
10	QPSK	25	12	21.78	21.84	21.85	
10	QPSK	25	25	21.78	21.88	21.74	
10	QPSK	50	0	21.84	21.81	21.72	
10	16QAM	1	0	21.23	21.59	21.62	22.5
10	16QAM	1	25	21.42	21.24	21.21	
10	16QAM	1	49	21.45	21.52	21.21	
10	16QAM	25	0	21.76	21.62	21.22	22.5



10	16QAM	25	12	21.84	21.76	21.83	
10	16QAM	25	25	21.79	21.93	21.73	
10	16QAM	50	0	21.85	21.80	21.81	
10	64QAM	1	0	20.52	20.62	20.35	21.5
10	64QAM	1	25	20.44	20.22	20.61	
10	64QAM	1	49	20.59	20.34	20.62	
10	64QAM	25	0	20.83	20.95	20.79	21.5
10	64QAM	25	12	20.82	20.86	20.84	
10	64QAM	25	25	20.81	20.79	20.73	
10	64QAM	50	0	20.91	20.83	20.69	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	22.90	22.81	22.81	23.5
5	QPSK	1	12	22.58	22.65	22.64	
5	QPSK	1	24	22.64	22.72	22.53	
5	QPSK	12	0	21.83	21.86	21.89	22.5
5	QPSK	12	7	21.81	21.81	21.81	
5	QPSK	12	13	21.73	21.85	21.72	
5	QPSK	25	0	21.86	21.83	21.69	
5	16QAM	1	0	21.34	21.49	21.24	22.5
5	16QAM	1	12	21.33	21.43	21.06	
5	16QAM	1	24	21.16	21.15	20.80	
5	16QAM	12	0	21.90	21.94	21.85	22.5
5	16QAM	12	7	21.88	21.71	21.91	
5	16QAM	12	13	21.73	21.88	21.81	
5	16QAM	25	0	21.90	21.81	21.77	
5	64QAM	1	0	20.68	20.68	20.69	21.5
5	64QAM	1	12	20.78	20.64	20.66	
5	64QAM	1	24	20.78	20.66	20.76	
5	64QAM	12	0	20.87	20.81	20.83	21.5
5	64QAM	12	7	20.83	20.72	20.82	
5	64QAM	12	13	20.68	20.85	20.74	
5	64QAM	25	0	20.75	20.81	20.80	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	22.83	22.79	22.92	23.5



3	QPSK	1	8	22.70	22.55	22.64	22.5
3	QPSK	1	14	22.78	22.73	22.56	
3	QPSK	8	0	21.74	21.87	21.91	
3	QPSK	8	4	21.81	21.80	21.80	
3	QPSK	8	7	21.83	21.75	21.74	
3	QPSK	15	0	21.79	21.78	21.84	22.5
3	16QAM	1	0	21.45	21.31	21.40	
3	16QAM	1	8	21.23	21.24	21.33	
3	16QAM	1	14	21.07	21.15	20.99	
3	16QAM	8	0	21.79	21.96	21.77	
3	16QAM	8	4	21.91	21.83	21.85	22.5
3	16QAM	8	7	21.82	21.80	21.79	
3	16QAM	15	0	21.92	21.91	21.75	
3	64QAM	1	0	22.15	22.20	21.55	
3	64QAM	1	8	21.41	21.91	21.25	
3	64QAM	1	14	21.89	21.86	21.21	20.5
3	64QAM	8	0	20.84	20.93	20.87	
3	64QAM	8	4	20.85	20.91	20.89	
3	64QAM	8	7	20.69	20.74	20.86	
3	64QAM	15	0	20.82	20.84	20.77	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	22.94	22.78	22.86	23.5
1.4	QPSK	1	3	22.49	22.69	22.64	
1.4	QPSK	1	5	22.79	22.63	22.59	
1.4	QPSK	3	0	22.31	22.36	22.34	
1.4	QPSK	3	1	22.40	22.34	22.33	
1.4	QPSK	3	3	22.21	22.38	22.10	
1.4	QPSK	6	0	21.78	21.87	21.74	22.5
1.4	16QAM	1	0	21.29	21.29	21.45	22.5
1.4	16QAM	1	3	21.11	21.12	21.13	
1.4	16QAM	1	5	21.22	21.28	21.19	
1.4	16QAM	3	0	21.82	21.92	21.85	
1.4	16QAM	3	1	21.86	21.89	21.87	
1.4	16QAM	3	3	21.79	21.81	21.80	
1.4	16QAM	6	0	21.82	21.84	21.69	21.5
1.4	64QAM	1	0	20.29	20.66	20.67	21.5



1.4	64QAM	1	3	20.55	20.67	20.66	
1.4	64QAM	1	5	20.66	20.56	20.67	
1.4	64QAM	3	0	20.62	20.89	20.82	
1.4	64QAM	3	1	20.87	20.88	20.90	
1.4	64QAM	3	3	20.81	20.71	20.75	
1.4	64QAM	6	0	20.85	20.74	20.87	21.5

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				20450	20525	20600	
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	22.90	23.07	23.04	23.5
10	QPSK	1	25	22.86	22.94	22.87	
10	QPSK	1	49	22.84	23.00	22.98	
10	QPSK	25	0	21.84	21.93	21.86	22.5
10	QPSK	25	12	21.85	21.90	21.90	
10	QPSK	25	25	21.90	21.86	21.92	
10	QPSK	50	0	21.83	21.92	21.88	
10	16QAM	1	0	21.89	21.89	21.91	22.5
10	16QAM	1	25	21.73	22.03	21.99	
10	16QAM	1	49	21.98	21.83	22.23	
10	16QAM	25	0	21.91	21.88	21.86	22.5
10	16QAM	25	12	21.87	21.92	21.93	
10	16QAM	25	25	21.95	21.92	21.99	
10	16QAM	50	0	21.98	21.99	21.86	
10	64QAM	1	0	20.93	21.12	20.86	21.5
10	64QAM	1	25	20.88	21.06	20.97	
10	64QAM	1	49	20.83	21.16	21.16	
10	64QAM	25	0	20.93	20.85	20.90	21.5
10	64QAM	25	12	20.96	20.90	20.95	
10	64QAM	25	25	20.95	20.96	20.90	
10	64QAM	50	0	20.95	20.92	20.93	
Channel				20425	20525	20625	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	22.62	22.61	22.71	23.5
5	QPSK	1	12	22.73	22.83	22.71	



5	QPSK	1	24	22.62	22.70	22.62	
5	QPSK	12	0	21.88	21.89	21.85	22.5
5	QPSK	12	7	21.84	21.96	21.89	
5	QPSK	12	13	21.75	21.88	21.84	
5	QPSK	25	0	21.81	21.90	21.88	
5	16QAM	1	0	22.29	22.22	22.21	22.5
5	16QAM	1	12	21.98	21.94	22.01	
5	16QAM	1	24	21.93	22.01	21.80	
5	16QAM	12	0	21.83	21.82	21.37	22.5
5	16QAM	12	7	21.45	21.41	21.40	
5	16QAM	12	13	21.40	21.36	21.35	
5	16QAM	25	0	21.36	21.29	21.33	
5	64QAM	1	0	20.87	20.92	20.92	21.5
5	64QAM	1	12	20.90	20.95	20.99	
5	64QAM	1	24	20.57	20.70	20.67	
5	64QAM	12	0	20.87	20.91	20.92	21.5
5	64QAM	12	7	20.90	20.88	20.89	
5	64QAM	12	13	20.83	20.61	20.83	
5	64QAM	25	0	20.84	20.84	20.81	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	22.81	22.59	22.71	23.5
3	QPSK	1	8	22.74	22.95	22.78	
3	QPSK	1	14	22.93	22.80	22.80	
3	QPSK	8	0	21.87	21.82	21.84	22.5
3	QPSK	8	4	21.93	21.87	21.88	
3	QPSK	8	7	21.93	21.87	21.83	
3	QPSK	15	0	21.85	21.93	21.86	
3	16QAM	1	0	22.01	21.92	21.86	22.5
3	16QAM	1	8	22.05	21.99	21.95	
3	16QAM	1	14	21.98	21.95	21.83	
3	16QAM	8	0	21.41	21.54	21.46	22.5
3	16QAM	8	4	21.48	21.45	21.51	
3	16QAM	8	7	21.38	21.43	21.46	
3	16QAM	15	0	21.41	21.45	21.40	
3	64QAM	1	0	20.94	20.87	20.90	21.5
3	64QAM	1	8	20.67	20.62	20.95	



3	64QAM	1	14	20.97	20.53	20.97	
3	64QAM	8	0	20.89	20.91	20.75	21.5
3	64QAM	8	4	20.99	20.89	20.89	
3	64QAM	8	7	21.09	20.98	20.84	
3	64QAM	15	0	20.94	20.94	20.92	
Channel				20407	20525	20643	Tune-up limit (dBm)
Frequency (MHz)				824.7	836.5	848.3	
1.4	QPSK	1	0	22.66	22.68	22.64	23.5
1.4	QPSK	1	3	22.76	22.74	22.73	
1.4	QPSK	1	5	22.73	22.71	22.69	
1.4	QPSK	3	0	22.72	22.72	22.68	
1.4	QPSK	3	1	22.76	22.73	22.71	
1.4	QPSK	3	3	22.78	22.82	22.71	
1.4	QPSK	6	0	21.81	21.79	21.78	22.5
1.4	16QAM	1	0	21.84	21.84	21.78	22.5
1.4	16QAM	1	3	21.80	22.00	21.98	
1.4	16QAM	1	5	21.68	21.88	21.56	
1.4	16QAM	3	0	21.70	21.75	21.72	
1.4	16QAM	3	1	21.88	21.70	21.75	
1.4	16QAM	3	3	21.90	21.87	21.61	
1.4	16QAM	6	0	21.91	21.84	21.79	22.5
1.4	64QAM	1	0	20.79	20.71	20.74	21.5
1.4	64QAM	1	3	20.81	21.02	20.90	
1.4	64QAM	1	5	20.79	21.14	20.73	
1.4	64QAM	3	0	20.82	20.88	20.89	
1.4	64QAM	3	1	20.91	20.88	20.62	
1.4	64QAM	3	3	20.83	20.97	20.74	
1.4	64QAM	6	0	20.88	20.91	20.80	21.5



<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				20850	21100	21350	24
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	23.22	23.42	23.39	24
20	QPSK	1	49	23.16	23.35	23.34	
20	QPSK	1	99	23.24	23.26	23.39	
20	QPSK	50	0	22.34	22.59	22.38	23
20	QPSK	50	24	22.44	22.34	22.50	
20	QPSK	50	50	22.45	22.47	22.45	
20	QPSK	100	0	22.35	22.34	22.52	
20	16QAM	1	0	22.43	22.62	22.60	23
20	16QAM	1	49	22.70	22.82	22.75	
20	16QAM	1	99	22.56	22.67	22.72	
20	16QAM	50	0	22.41	22.39	22.34	23
20	16QAM	50	24	22.46	22.41	22.52	
20	16QAM	50	50	22.47	22.37	22.52	
20	16QAM	100	0	22.45	22.41	22.50	
20	64QAM	1	0	21.56	21.77	21.64	22
20	64QAM	1	49	21.48	21.63	21.42	
20	64QAM	1	99	21.56	21.54	21.74	
20	64QAM	50	0	21.35	21.37	21.45	22
20	64QAM	50	24	21.42	21.29	21.51	
20	64QAM	50	50	21.53	21.47	21.46	
20	64QAM	100	0	21.48	21.42	21.46	
Channel				20825	21100	21375	24
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	23.18	23.24	23.36	24
15	QPSK	1	37	23.22	23.21	23.28	
15	QPSK	1	74	23.23	23.34	23.38	
15	QPSK	36	0	22.25	22.28	22.32	23
15	QPSK	36	20	22.37	22.46	22.38	
15	QPSK	36	39	22.36	22.45	22.36	
15	QPSK	75	0	22.39	22.52	22.66	
15	16QAM	1	0	22.45	22.43	22.76	23
15	16QAM	1	37	22.55	22.56	22.63	



15	16QAM	1	74	22.33	22.57	22.58	
15	16QAM	36	0	22.39	22.29	22.36	23
15	16QAM	36	20	22.37	22.45	22.49	
15	16QAM	36	39	22.39	22.36	22.40	
15	16QAM	75	0	22.38	22.37	22.35	
15	64QAM	1	0	21.66	21.29	21.47	22
15	64QAM	1	37	21.51	21.40	21.52	
15	64QAM	1	74	21.77	21.63	21.64	
15	64QAM	36	0	21.35	21.44	21.37	22
15	64QAM	36	20	21.46	21.41	21.46	
15	64QAM	36	39	21.40	21.45	21.42	
15	64QAM	75	0	21.49	21.34	21.41	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	23.20	23.22	23.30	24
10	QPSK	1	25	23.28	23.32	23.29	
10	QPSK	1	49	23.40	23.34	23.35	
10	QPSK	25	0	22.32	22.32	22.34	23
10	QPSK	25	12	22.42	22.50	22.46	
10	QPSK	25	25	22.47	22.47	22.46	
10	QPSK	50	0	22.32	22.43	22.27	
10	16QAM	1	0	22.86	22.36	23.00	23
10	16QAM	1	25	22.44	22.76	22.83	
10	16QAM	1	49	22.77	22.88	22.29	
10	16QAM	25	0	22.41	22.21	22.35	23
10	16QAM	25	12	22.39	22.44	22.42	
10	16QAM	25	25	22.43	22.56	22.43	
10	16QAM	50	0	22.30	22.34	22.39	
10	64QAM	1	0	21.71	21.42	21.51	22
10	64QAM	1	25	21.40	21.45	21.59	
10	64QAM	1	49	21.30	21.58	21.82	
10	64QAM	25	0	21.36	21.37	21.27	22
10	64QAM	25	12	21.37	21.42	21.49	
10	64QAM	25	25	21.40	21.42	21.45	
10	64QAM	50	0	21.48	21.35	21.33	
Channel				20775	21100	21425	Tune-up limit
Frequency (MHz)				2502.5	2535	2567.5	



							(dBm)
5	QPSK	1	0	23.22	23.28	23.25	24
5	QPSK	1	12	23.32	23.35	23.34	
5	QPSK	1	24	23.33	23.37	23.34	
5	QPSK	12	0	22.31	22.39	22.31	23
5	QPSK	12	7	22.43	22.40	22.44	
5	QPSK	12	13	22.45	22.45	22.43	
5	QPSK	25	0	22.44	22.26	22.37	
5	16QAM	1	0	22.29	22.31	22.92	23
5	16QAM	1	12	22.27	22.91	22.59	
5	16QAM	1	24	22.44	22.49	22.92	
5	16QAM	12	0	22.22	22.22	22.42	23
5	16QAM	12	7	22.44	22.44	22.47	
5	16QAM	12	13	22.48	22.39	22.44	
5	16QAM	25	0	22.45	22.35	22.31	
5	64QAM	1	0	21.54	21.44	21.51	22
5	64QAM	1	12	21.50	21.42	21.48	
5	64QAM	1	24	21.51	21.25	21.29	
5	64QAM	12	0	21.32	21.40	21.35	22
5	64QAM	12	7	21.42	21.40	21.47	
5	64QAM	12	13	21.42	21.43	21.49	
5	64QAM	25	0	21.37	21.40	21.44	

<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				23060	23095	23130	24
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	23.12	23.22	23.14	
10	QPSK	1	25	23.16	23.02	23.18	23
10	QPSK	1	49	23.16	23.11	23.12	
10	QPSK	25	0	22.42	22.52	22.09	
10	QPSK	25	12	22.15	22.06	22.18	
10	QPSK	25	25	22.05	22.18	22.09	23
10	QPSK	50	0	22.26	22.04	22.02	
10	16QAM	1	0	22.29	22.60	22.46	
10	16QAM	1	25	22.64	22.51	22.20	23
10	16QAM	1	49	22.34	22.29	22.48	



10	16QAM	25	0	22.11	22.26	22.01	23
10	16QAM	25	12	22.29	22.07	22.14	
10	16QAM	25	25	22.24	22.26	22.17	
10	16QAM	50	0	22.03	22.16	22.11	
10	64QAM	1	0	21.34	21.25	21.06	22
10	64QAM	1	25	21.22	21.24	21.16	
10	64QAM	1	49	21.21	21.22	21.49	
10	64QAM	25	0	21.03	21.22	21.13	22
10	64QAM	25	12	21.23	21.15	21.22	
10	64QAM	25	25	21.29	21.19	21.06	
10	64QAM	50	0	21.22	21.15	21.11	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	23.12	22.94	22.93	24
5	QPSK	1	12	22.84	23.05	22.94	
5	QPSK	1	24	23.05	23.03	23.05	
5	QPSK	12	0	22.18	22.12	22.12	23
5	QPSK	12	7	22.10	22.17	22.12	
5	QPSK	12	13	22.13	22.15	22.12	
5	QPSK	25	0	22.21	22.07	22.01	
5	16QAM	1	0	22.33	22.41	22.20	23
5	16QAM	1	12	22.17	22.19	22.33	
5	16QAM	1	24	22.33	22.57	22.47	
5	16QAM	12	0	22.21	22.10	22.11	23
5	16QAM	12	7	22.14	22.09	22.22	
5	16QAM	12	13	22.03	22.19	22.07	
5	16QAM	25	0	22.27	22.12	22.03	
5	64QAM	1	0	21.62	21.60	21.05	22
5	64QAM	1	12	21.26	21.70	21.39	
5	64QAM	1	24	21.25	21.20	21.12	
5	64QAM	12	0	21.14	21.10	21.06	22
5	64QAM	12	7	21.10	21.14	21.05	
5	64QAM	12	13	21.08	21.15	21.03	
5	64QAM	25	0	21.20	21.17	21.03	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	



3	QPSK	1	0	22.97	23.00	22.89	24
3	QPSK	1	8	23.15	23.20	23.08	
3	QPSK	1	14	23.09	23.07	22.97	
3	QPSK	8	0	22.22	22.18	22.08	23
3	QPSK	8	4	22.18	22.12	22.07	
3	QPSK	8	7	22.18	22.18	21.99	
3	QPSK	15	0	22.13	22.06	21.99	
3	16QAM	1	0	22.05	22.62	21.94	23
3	16QAM	1	8	22.51	22.15	22.49	
3	16QAM	1	14	22.66	22.20	22.12	
3	16QAM	8	0	22.27	22.24	22.14	23
3	16QAM	8	4	22.22	22.20	22.08	
3	16QAM	8	7	22.13	22.22	22.07	
3	16QAM	15	0	22.15	22.19	22.11	
3	64QAM	1	0	21.22	21.53	21.30	22
3	64QAM	1	8	21.46	21.19	21.38	
3	64QAM	1	14	21.27	21.49	21.25	
3	64QAM	8	0	21.09	21.19	21.03	22
3	64QAM	8	4	21.07	21.13	21.03	
3	64QAM	8	7	21.12	21.16	20.94	
3	64QAM	15	0	21.17	21.05	21.04	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	23.00	23.09	23.02	24
1.4	QPSK	1	3	23.10	23.01	22.95	
1.4	QPSK	1	5	22.89	22.93	22.84	
1.4	QPSK	3	0	22.18	22.08	22.02	
1.4	QPSK	3	1	22.15	22.13	22.01	
1.4	QPSK	3	3	22.12	22.15	22.05	
1.4	QPSK	6	0	22.10	22.12	22.02	23
1.4	16QAM	1	0	22.26	22.59	22.13	23
1.4	16QAM	1	3	22.23	22.09	22.14	
1.4	16QAM	1	5	22.53	22.24	22.12	
1.4	16QAM	3	0	22.31	22.10	22.10	
1.4	16QAM	3	1	22.10	22.20	22.08	
1.4	16QAM	3	3	22.13	22.07	22.01	
1.4	16QAM	6	0	22.15	22.18	22.04	23



1.4	64QAM	1	0	21.32	21.23	21.43	22
1.4	64QAM	1	3	21.50	21.49	21.44	
1.4	64QAM	1	5	21.25	21.02	21.10	
1.4	64QAM	3	0	21.27	21.17	21.00	
1.4	64QAM	3	1	21.18	21.06	21.00	
1.4	64QAM	3	3	21.14	21.14	21.07	
1.4	64QAM	6	0	21.13	21.15	21.24	22

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Middle Channel			Tune-up limit (dBm)
Channel				23230			
Frequency (MHz)				782			
10	QPSK	1	0	23.15			24
10	QPSK	1	25	22.92			
10	QPSK	1	49	22.95			
10	QPSK	25	0	22.42			23
10	QPSK	25	12	22.08			
10	QPSK	25	25	22.03			
10	QPSK	50	0	22.16			
10	16QAM	1	0	22.21			23
10	16QAM	1	25	22.57			
10	16QAM	1	49	22.39			
10	16QAM	25	0	22.26			23
10	16QAM	25	12	22.35			
10	16QAM	25	25	22.24			
10	16QAM	50	0	22.25			
10	64QAM	1	0	21.62			22
10	64QAM	1	25	21.55			
10	64QAM	1	49	21.58			
10	64QAM	25	0	21.62			22
10	64QAM	25	12	21.75			
10	64QAM	25	25	21.62			
10	64QAM	50	0	21.37			
Channel				23205	23230	23255	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	QPSK	1	0	23.08	23.04	23.02	24



5	QPSK	1	12	22.98	23.09	22.93	
5	QPSK	1	24	22.98	22.93	22.93	
5	QPSK	12	0	22.08	22.13	21.99	
5	QPSK	12	7	22.15	22.16	22.08	23
5	QPSK	12	13	22.20	22.04	21.99	
5	QPSK	25	0	22.11	22.07	21.99	
5	16QAM	1	0	22.40	22.33	22.09	23
5	16QAM	1	12	22.10	22.32	22.08	
5	16QAM	1	24	21.97	22.32	22.15	
5	16QAM	12	0	22.06	22.15	22.14	23
5	16QAM	12	7	22.13	22.16	21.98	
5	16QAM	12	13	22.13	22.04	22.09	
5	16QAM	25	0	22.14	22.19	22.14	22
5	64QAM	1	0	21.21	21.09	21.20	
5	64QAM	1	12	21.09	21.03	21.17	
5	64QAM	1	24	21.23	21.07	21.01	22
5	64QAM	12	0	20.95	21.09	21.22	
5	64QAM	12	7	20.99	21.15	21.08	
5	64QAM	12	13	21.17	21.12	21.12	22
5	64QAM	25	0	21.18	21.25	21.22	

<LTE Band 17>

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	23.03	23.16	22.81	24
10	QPSK	1	25	23.02	22.93	23.02	
10	QPSK	1	49	22.99	22.83	22.99	
10	QPSK	25	0	22.25	22.33	22.13	23
10	QPSK	25	12	22.17	22.16	22.22	
10	QPSK	25	25	22.23	22.10	22.18	
10	QPSK	50	0	22.21	22.23	22.23	23
10	16QAM	1	0	22.11	22.19	22.13	
10	16QAM	1	25	22.23	22.23	22.23	
10	16QAM	1	49	22.47	22.49	22.15	23
10	16QAM	25	0	22.23	21.93	22.27	
10	16QAM	25	12	21.83	22.14	21.98	



10	16QAM	25	25	21.97	22.14	21.85	
10	16QAM	50	0	21.94	21.97	22.00	
10	64QAM	1	0	21.64	21.33	21.59	
10	64QAM	1	25	21.62	21.29	21.29	22
10	64QAM	1	49	21.52	21.25	21.33	
10	64QAM	25	0	21.29	21.29	21.29	
10	64QAM	25	12	21.17	21.25	21.21	22
10	64QAM	25	25	21.29	20.99	21.33	
10	64QAM	50	0	21.03	21.20	21.04	
Channel				23755	23790	23825	Tune-up limit (dBm)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	22.57	22.74	22.76	24
5	QPSK	1	12	23.01	23.05	23.05	
5	QPSK	1	24	22.89	22.83	22.85	
5	QPSK	12	0	22.00	21.97	22.01	23
5	QPSK	12	7	22.11	22.15	22.16	
5	QPSK	12	13	22.08	22.10	22.07	
5	QPSK	25	0	22.09	21.98	22.02	
5	16QAM	1	0	22.00	21.93	22.13	23
5	16QAM	1	12	22.05	21.97	22.03	
5	16QAM	1	24	22.03	21.94	22.02	
5	16QAM	12	0	21.96	22.01	21.99	23
5	16QAM	12	7	22.11	22.01	22.13	
5	16QAM	12	13	22.07	22.06	22.06	
5	16QAM	25	0	22.08	22.02	22.06	
5	64QAM	1	0	21.13	21.24	21.07	22
5	64QAM	1	12	21.12	21.23	21.08	
5	64QAM	1	24	21.13	21.13	21.13	
5	64QAM	12	0	21.23	21.00	21.01	22
5	64QAM	12	7	21.10	21.03	21.17	
5	64QAM	12	13	21.08	21.10	21.03	
5	64QAM	25	0	21.04	21.08	21.09	



<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				26140	26365	26590	24
Frequency (MHz)				1860	1882.5	1905	
20	QPSK	1	0	22.79	23.16	23.02	24
20	QPSK	1	49	22.72	22.68	22.75	
20	QPSK	1	99	22.82	22.78	22.55	
20	QPSK	50	0	22.07	22.15	22.09	23
20	QPSK	50	24	22.04	21.96	21.94	
20	QPSK	50	50	22.03	21.90	21.90	
20	QPSK	100	0	21.82	21.93	21.92	
20	16QAM	1	0	22.02	22.05	22.04	23
20	16QAM	1	49	22.01	21.97	21.85	
20	16QAM	1	99	21.97	22.27	21.91	
20	16QAM	50	0	20.93	21.08	20.97	22
20	16QAM	50	24	21.06	21.03	21.06	
20	16QAM	50	50	21.13	21.16	20.93	
20	16QAM	100	0	20.91	20.93	20.92	
20	64QAM	1	0	21.15	21.23	21.05	22
20	64QAM	1	49	21.03	21.05	21.04	
20	64QAM	1	99	21.13	21.02	21.07	
20	64QAM	50	0	21.33	20.95	21.06	22
20	64QAM	50	24	21.13	20.88	20.92	
20	64QAM	50	50	20.91	20.94	20.95	
20	64QAM	100	0	20.93	21.01	21.06	
Channel				26115	26365	26615	24
Frequency (MHz)				1857.5	1882.5	1907.5	
15	QPSK	1	0	22.47	22.63	22.68	24
15	QPSK	1	37	22.63	22.72	22.68	
15	QPSK	1	74	22.67	22.72	22.77	
15	QPSK	36	0	21.98	22.10	22.13	23
15	QPSK	36	20	22.04	22.16	22.20	
15	QPSK	36	39	22.00	22.10	22.14	
15	QPSK	75	0	21.97	22.03	22.04	
15	16QAM	1	0	21.95	22.12	22.19	23
15	16QAM	1	37	22.10	22.15	22.26	



15	16QAM	1	74	22.12	22.13	22.21	
15	16QAM	36	0	21.11	21.17	21.05	22
15	16QAM	36	20	21.12	21.22	21.17	
15	16QAM	36	39	20.98	21.09	21.18	
15	16QAM	75	0	21.07	21.14	21.12	
15	64QAM	1	0	20.80	21.13	20.82	22
15	64QAM	1	37	20.87	21.04	20.87	
15	64QAM	1	74	21.40	21.01	20.83	
15	64QAM	36	0	20.80	20.93	21.17	22
15	64QAM	36	20	21.01	21.16	21.09	
15	64QAM	36	39	21.06	21.12	20.78	
15	64QAM	75	0	21.06	20.98	21.15	
Channel				26090	26365	26640	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	QPSK	1	0	22.48	22.64	22.69	24
10	QPSK	1	25	22.64	22.73	22.69	
10	QPSK	1	49	22.68	22.73	22.78	
10	QPSK	25	0	21.99	22.11	22.14	23
10	QPSK	25	12	22.05	22.17	22.21	
10	QPSK	25	25	22.01	22.11	22.15	
10	QPSK	50	0	21.67	21.73	21.74	
10	16QAM	1	0	21.86	22.13	22.20	23
10	16QAM	1	25	22.11	22.16	22.27	
10	16QAM	1	49	22.13	22.14	22.22	
10	16QAM	25	0	21.12	21.18	21.06	22
10	16QAM	25	12	21.13	21.23	21.18	
10	16QAM	25	25	20.99	21.10	21.19	
10	16QAM	50	0	21.08	21.15	21.13	
10	64QAM	1	0	21.39	21.36	21.48	22
10	64QAM	1	25	21.40	21.47	21.47	
10	64QAM	1	49	21.47	21.41	21.40	
10	64QAM	25	0	21.38	21.06	21.18	22
10	64QAM	25	12	21.02	21.17	21.10	
10	64QAM	25	25	21.07	21.13	21.17	
10	64QAM	50	0	21.07	20.99	21.16	
Channel				26065	26365	26665	Tune-up limit
Frequency (MHz)				1852.5	1882.5	1912.5	



							(dBm)
5	QPSK	1	0	22.78	22.90	22.90	24
5	QPSK	1	12	22.86	22.59	22.79	
5	QPSK	1	24	22.62	22.80	22.83	
5	QPSK	12	0	21.84	21.92	22.01	23
5	QPSK	12	7	21.91	21.90	21.99	
5	QPSK	12	13	21.83	21.99	21.97	
5	QPSK	25	0	21.90	21.87	21.97	
5	16QAM	1	0	21.97	22.33	22.12	23
5	16QAM	1	12	22.03	22.18	22.06	
5	16QAM	1	24	22.13	21.95	21.96	
5	16QAM	12	0	21.56	21.53	21.46	22
5	16QAM	12	7	21.57	21.46	21.58	
5	16QAM	12	13	21.54	21.53	21.57	
5	16QAM	25	0	20.91	20.95	20.97	
5	64QAM	1	0	21.17	21.15	21.07	22
5	64QAM	1	12	21.13	21.03	21.16	
5	64QAM	1	24	21.14	21.13	21.13	
5	64QAM	12	0	20.96	21.02	21.09	22
5	64QAM	12	7	21.13	20.92	21.02	
5	64QAM	12	13	20.92	21.03	20.93	
5	64QAM	25	0	20.83	20.94	20.94	
Channel				26055	26365	26675	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1882.5	1913.5	
3	QPSK	1	0	22.92	22.84	22.95	24
3	QPSK	1	8	23.01	22.98	22.98	
3	QPSK	1	14	23.07	23.02	22.92	
3	QPSK	8	0	21.98	22.01	22.01	23
3	QPSK	8	4	22.13	22.12	22.16	
3	QPSK	8	7	22.12	22.14	22.04	
3	QPSK	15	0	22.06	22.08	22.00	
3	16QAM	1	0	21.93	22.00	22.15	23
3	16QAM	1	8	22.13	22.13	22.05	
3	16QAM	1	14	22.08	22.16	22.16	
3	16QAM	8	0	21.84	21.87	21.94	22
3	16QAM	8	4	22.03	22.05	21.97	
3	16QAM	8	7	21.98	21.97	22.02	



3	16QAM	15	0	21.87	21.98	21.91	
3	64QAM	1	0	21.11	21.13	21.08	22
3	64QAM	1	8	21.04	21.25	21.15	
3	64QAM	1	14	21.17	21.15	21.27	
3	64QAM	8	0	20.94	21.03	21.13	22
3	64QAM	8	4	21.08	21.13	21.10	
3	64QAM	8	7	21.17	21.04	20.97	
3	64QAM	15	0	21.05	21.07	20.88	
Channel				26047	26365	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1882.5	1914.3	
1.4	QPSK	1	0	23.03	23.07	22.90	24
1.4	QPSK	1	3	22.91	23.02	22.90	
1.4	QPSK	1	5	22.90	22.72	22.83	
1.4	QPSK	3	0	22.07	22.09	22.09	
1.4	QPSK	3	1	22.04	22.14	22.01	
1.4	QPSK	3	3	22.19	22.01	22.10	
1.4	QPSK	6	0	22.09	22.11	22.08	23
1.4	16QAM	1	0	22.05	22.16	22.21	23
1.4	16QAM	1	3	22.05	22.00	22.11	
1.4	16QAM	1	5	22.09	22.06	22.12	
1.4	16QAM	3	0	22.22	22.08	22.13	
1.4	16QAM	3	1	22.12	22.18	22.12	
1.4	16QAM	3	3	21.98	22.22	22.19	
1.4	16QAM	6	0	21.62	21.55	21.22	22
1.4	64QAM	1	0	21.07	21.06	21.17	22
1.4	64QAM	1	3	21.15	21.17	21.25	
1.4	64QAM	1	5	21.07	21.25	21.13	
1.4	64QAM	3	0	21.11	21.15	21.06	
1.4	64QAM	3	1	21.18	21.02	21.14	
1.4	64QAM	3	3	21.13	21.05	21.13	
1.4	64QAM	6	0	21.10	21.15	21.03	22



<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				26765	26865	26965	23.5
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	22.74	22.66	22.64	23.5
15	QPSK	1	37	22.67	22.58	22.66	
15	QPSK	1	74	22.70	22.58	22.55	
15	QPSK	36	0	22.72	22.65	22.58	23.5
15	QPSK	36	20	22.60	22.60	22.64	
15	QPSK	36	39	22.68	22.56	22.68	
15	QPSK	75	0	22.56	22.43	22.42	22.5
15	16QAM	1	0	21.61	21.61	21.72	
15	16QAM	1	37	21.68	21.68	21.59	
15	16QAM	1	74	21.61	21.81	21.72	22.5
15	16QAM	36	0	21.80	21.26	21.56	
15	16QAM	36	20	21.72	21.66	21.61	
15	16QAM	36	39	21.71	21.66	21.55	21.5
15	16QAM	75	0	21.62	21.55	21.55	
15	64QAM	1	0	20.80	20.62	20.64	
15	64QAM	1	37	20.74	20.77	20.83	21.5
15	64QAM	1	74	20.42	20.64	20.63	
15	64QAM	36	0	20.72	20.79	20.73	21.5
15	64QAM	36	20	20.55	20.72	20.60	
15	64QAM	36	39	20.62	20.75	20.70	
15	64QAM	75	0	20.53	20.63	20.66	21.5
Channel				26740	26865	26990	
Frequency (MHz)				819	831.5	844	23.5
10	QPSK	1	0	22.46	22.44	22.53	
10	QPSK	1	25	22.63	22.45	22.65	23.5
10	QPSK	1	49	22.55	22.48	22.71	
10	QPSK	25	0	22.05	22.07	22.00	
10	QPSK	25	12	22.22	22.14	22.11	23.5
10	QPSK	25	25	22.10	22.07	22.02	
10	QPSK	50	0	22.09	22.13	22.02	
10	16QAM	1	0	21.66	21.58	21.82	22.5
10	16QAM	1	25	21.68	21.62	21.72	



10	16QAM	1	49	21.66	21.72	21.77	
10	16QAM	25	0	21.40	21.11	21.03	22.5
10	16QAM	25	12	21.08	21.28	21.42	
10	16QAM	25	25	21.16	21.29	21.40	
10	16QAM	50	0	21.30	21.23	21.38	
10	64QAM	1	0	20.77	20.57	20.81	21.5
10	64QAM	1	25	20.75	20.84	20.66	
10	64QAM	1	49	20.64	20.51	20.56	
10	64QAM	25	0	20.74	20.66	20.43	21.5
10	64QAM	25	12	20.54	20.71	20.65	
10	64QAM	25	25	20.49	20.79	20.77	
10	64QAM	50	0	20.63	20.91	20.66	
Channel				26715	26865	27015	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	QPSK	1	0	22.69	22.61	22.59	23.5
5	QPSK	1	12	22.62	22.53	22.61	
5	QPSK	1	24	22.65	22.53	22.50	
5	QPSK	12	0	22.63	22.60	22.53	23.5
5	QPSK	12	7	22.55	22.55	22.59	
5	QPSK	12	13	22.63	22.51	22.63	
5	QPSK	25	0	22.42	22.51	22.46	
5	16QAM	1	0	21.55	21.55	21.66	22.5
5	16QAM	1	12	21.62	21.62	21.53	
5	16QAM	1	24	21.55	21.75	21.66	
5	16QAM	12	0	21.74	21.97	21.78	22.5
5	16QAM	12	7	21.66	21.81	21.55	
5	16QAM	12	13	21.65	21.93	21.77	
5	16QAM	25	0	21.52	21.65	21.49	
5	64QAM	1	0	20.72	20.54	20.52	21.5
5	64QAM	1	12	20.66	20.69	20.75	
5	64QAM	1	24	20.81	20.56	20.55	
5	64QAM	12	0	20.64	20.71	20.65	21.5
5	64QAM	12	7	20.76	20.64	20.52	
5	64QAM	12	13	20.85	20.67	20.62	
5	64QAM	25	0	20.93	20.55	20.58	
Channel				26705	26865	27025	Tune-up limit
Frequency (MHz)				815.5	831.5	847.5	



							(dBm)
3	QPSK	1	0	22.40	22.66	22.54	23.5
3	QPSK	1	8	22.45	22.60	22.53	
3	QPSK	1	14	22.73	22.57	22.52	
3	QPSK	8	0	22.16	22.42	22.30	23.5
3	QPSK	8	4	22.00	22.12	22.26	
3	QPSK	8	7	22.22	22.25	22.11	
3	QPSK	15	0	22.19	22.30	22.23	
3	16QAM	1	0	21.55	21.91	21.53	22.5
3	16QAM	1	8	21.66	21.59	21.55	
3	16QAM	1	14	21.86	21.52	21.62	
3	16QAM	8	0	21.25	21.16	21.09	22.5
3	16QAM	8	4	21.21	21.22	21.14	
3	16QAM	8	7	21.24	21.26	21.05	
3	16QAM	15	0	21.26	21.22	21.24	
3	64QAM	1	0	20.55	20.55	20.64	21.5
3	64QAM	1	8	20.51	20.59	20.56	
3	64QAM	1	14	20.62	20.54	20.72	
3	64QAM	8	0	20.65	20.69	20.76	21.5
3	64QAM	8	4	20.62	20.68	20.77	
3	64QAM	8	7	20.66	20.66	20.78	
3	64QAM	15	0	20.72	20.75	20.52	
Channel				26697	26865	27033	Tune-up limit (dBm)
Frequency (MHz)				814.7	831.5	848.3	
1.4	QPSK	1	0	22.61	22.65	22.41	23.5
1.4	QPSK	1	3	22.61	22.41	22.63	
1.4	QPSK	1	5	22.47	22.49	22.61	
1.4	QPSK	3	0	22.10	22.18	22.19	
1.4	QPSK	3	1	22.17	22.01	21.98	
1.4	QPSK	3	3	22.14	22.10	22.09	
1.4	QPSK	6	0	22.58	22.25	22.52	23.5
1.4	16QAM	1	0	22.22	22.14	22.07	22.5
1.4	16QAM	1	3	22.22	22.15	22.24	
1.4	16QAM	1	5	22.23	22.26	22.34	
1.4	16QAM	3	0	22.37	22.13	22.05	
1.4	16QAM	3	1	22.19	22.08	22.08	
1.4	16QAM	3	3	22.18	22.07	22.15	



1.4	16QAM	6	0	22.18	22.16	22.22	22.5
1.4	64QAM	1	0	20.95	20.83	20.86	21.5
1.4	64QAM	1	3	20.73	20.71	20.63	
1.4	64QAM	1	5	20.60	20.58	20.58	
1.4	64QAM	3	0	20.93	20.60	20.74	
1.4	64QAM	3	1	20.86	20.76	20.67	
1.4	64QAM	3	3	20.74	20.65	20.73	
1.4	64QAM	6	0	20.86	20.78	20.76	21.5

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Middle Channel			Tune-up limit (dBm)
Channel				27710			
Frequency (MHz)				2310			
10	QPSK	1	0	23.24			24
10	QPSK	1	25	23.22			
10	QPSK	1	49	23.14			
10	QPSK	25	0	22.60			23
10	QPSK	25	12	22.55			
10	QPSK	25	25	22.49			
10	QPSK	50	0	22.52			
10	16QAM	1	0	22.36			23
10	16QAM	1	25	22.42			
10	16QAM	1	49	22.36			
10	16QAM	25	0	22.24			23
10	16QAM	25	12	22.25			
10	16QAM	25	25	22.26			
10	16QAM	50	0	22.34			
10	64QAM	1	0	21.26			22
10	64QAM	1	25	21.24			
10	64QAM	1	49	21.26			
10	64QAM	25	0	21.22			22
10	64QAM	25	12	21.34			
10	64QAM	25	25	21.42			
10	64QAM	50	0	21.22			
Channel				27685	27710	27735	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	



5	QPSK	1	0	23.14	23.15	23.04	24
5	QPSK	1	12	23.07	23.16	23.08	
5	QPSK	1	24	23.13	23.08	23.22	
5	QPSK	12	0	22.29	22.32	22.23	23
5	QPSK	12	7	22.27	22.34	22.25	
5	QPSK	12	13	22.23	22.23	22.25	
5	QPSK	25	0	22.22	22.19	22.21	
5	16QAM	1	0	22.48	22.37	22.37	23
5	16QAM	1	12	22.41	22.46	22.38	
5	16QAM	1	24	22.41	22.40	22.54	
5	16QAM	12	0	22.18	22.21	22.12	23
5	16QAM	12	7	22.17	22.23	22.15	
5	16QAM	12	13	22.14	22.12	22.24	
5	16QAM	25	0	22.12	22.13	22.24	
5	64QAM	1	0	21.71	21.75	21.75	22
5	64QAM	1	12	21.77	21.71	21.73	
5	64QAM	1	24	21.56	21.77	21.62	
5	64QAM	12	0	21.30	21.34	21.24	22
5	64QAM	12	7	21.37	21.36	21.28	
5	64QAM	12	13	21.36	21.24	21.27	
5	64QAM	25	0	21.26	21.23	21.35	

<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				132072	132322	132572	23.5
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	22.71	23.06	23.03	
20	QPSK	1	49	22.73	22.70	22.78	23
20	QPSK	1	99	22.64	22.80	22.57	
20	QPSK	50	0	22.06	22.18	22.02	
20	QPSK	50	24	22.16	21.98	21.96	
20	QPSK	50	50	22.06	21.92	21.92	23
20	QPSK	100	0	21.84	21.95	21.94	
20	16QAM	1	0	22.04	22.07	22.06	
20	16QAM	1	49	22.03	21.99	21.87	23
20	16QAM	1	99	21.99	22.29	21.93	
20	16QAM	50	0	21.25	21.22	21.24	22



20	16QAM	50	24	21.18	21.05	21.26	
20	16QAM	50	50	21.27	21.28	21.16	
20	16QAM	100	0	21.16	21.10	21.28	
20	64QAM	1	0	21.29	21.33	21.20	22
20	64QAM	1	49	21.16	21.16	21.16	
20	64QAM	1	99	21.16	21.30	21.36	
20	64QAM	50	0	20.91	20.97	20.97	21.5
20	64QAM	50	24	20.89	20.90	20.94	
20	64QAM	50	50	20.93	20.96	20.97	
20	64QAM	100	0	20.95	21.03	21.08	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	22.80	22.92	22.92	23.5
15	QPSK	1	37	22.88	22.61	22.81	
15	QPSK	1	74	22.64	22.82	22.85	
15	QPSK	36	0	21.86	21.94	22.03	23
15	QPSK	36	20	21.93	21.92	22.01	
15	QPSK	36	39	21.85	22.01	21.99	
15	QPSK	75	0	21.92	21.89	21.99	
15	16QAM	1	0	21.99	22.35	22.14	23
15	16QAM	1	37	21.88	22.20	22.08	
15	16QAM	1	74	21.76	21.97	22.38	
15	16QAM	36	0	20.89	21.01	21.06	22
15	16QAM	36	20	20.84	20.95	21.04	
15	16QAM	36	39	20.94	21.06	20.96	
15	16QAM	75	0	20.93	20.97	20.99	
15	64QAM	1	0	21.16	21.26	21.19	22
15	64QAM	1	37	21.36	21.46	21.28	
15	64QAM	1	74	21.16	21.38	21.20	
15	64QAM	36	0	21.10	21.29	21.16	21.5
15	64QAM	36	20	20.94	21.05	20.95	
15	64QAM	36	39	20.85	20.96	20.96	
15	64QAM	75	0	20.78	20.92	20.91	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	22.46	22.60	22.70	23.5



10	QPSK	1	25	22.76	22.70	22.95	
10	QPSK	1	49	22.73	22.74	22.86	
10	QPSK	25	0	21.65	21.76	21.76	
10	QPSK	25	12	21.76	21.84	21.84	23
10	QPSK	25	25	21.83	21.90	21.93	
10	QPSK	50	0	21.71	21.81	21.84	
10	16QAM	1	0	22.19	21.90	22.02	23
10	16QAM	1	25	21.83	22.17	21.96	
10	16QAM	1	49	21.93	21.77	21.66	
10	16QAM	25	0	21.46	21.46	21.60	22
10	16QAM	25	12	21.47	21.28	21.06	
10	16QAM	25	25	21.56	21.20	20.94	
10	16QAM	50	0	21.46	21.27	21.06	
10	64QAM	1	0	21.26	21.20	21.06	22
10	64QAM	1	25	21.33	21.27	21.16	
10	64QAM	1	49	21.47	21.57	21.46	
10	64QAM	25	0	20.75	20.65	20.75	21.5
10	64QAM	25	12	20.83	20.82	20.85	
10	64QAM	25	25	20.83	20.78	20.76	
10	64QAM	50	0	20.73	20.88	20.83	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	22.46	22.60	22.70	23.5
5	QPSK	1	12	22.76	22.70	22.95	
5	QPSK	1	24	22.73	22.74	22.86	
5	QPSK	12	0	21.65	21.76	21.76	23
5	QPSK	12	7	21.76	21.84	21.84	
5	QPSK	12	13	21.83	21.90	21.93	
5	QPSK	25	0	21.71	21.81	21.84	
5	16QAM	1	0	21.83	21.56	21.80	23
5	16QAM	1	12	21.89	21.82	21.96	
5	16QAM	1	24	21.89	21.77	22.06	
5	16QAM	12	0	21.49	21.06	21.16	22
5	16QAM	12	7	21.10	21.08	21.07	
5	16QAM	12	13	21.06	21.13	21.17	
5	16QAM	25	0	21.03	21.06	21.06	
5	64QAM	1	0	21.06	21.05	21.16	22



5	64QAM	1	12	20.96	21.03	21.00	
5	64QAM	1	24	21.00	20.86	20.93	
5	64QAM	12	0	20.75	20.65	20.75	
5	64QAM	12	7	20.83	20.82	20.85	21.5
5	64QAM	12	13	20.83	20.78	20.76	
5	64QAM	25	0	20.73	20.88	20.83	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	22.53	22.21	22.23	23.5
3	QPSK	1	8	22.64	22.25	22.39	
3	QPSK	1	14	22.46	22.33	22.26	
3	QPSK	8	0	21.38	21.32	21.32	23
3	QPSK	8	4	21.43	21.27	21.39	
3	QPSK	8	7	21.45	21.28	21.45	
3	QPSK	15	0	21.46	21.28	21.38	
3	16QAM	1	0	21.88	21.83	21.91	23
3	16QAM	1	8	21.72	21.52	21.60	
3	16QAM	1	14	21.79	21.47	21.59	
3	16QAM	8	0	21.51	21.38	21.41	22
3	16QAM	8	4	21.54	21.38	21.51	
3	16QAM	8	7	21.47	21.52	21.64	
3	16QAM	15	0	21.51	21.44	21.32	
3	64QAM	1	0	21.55	21.50	21.40	22
3	64QAM	1	8	21.57	21.42	21.54	
3	64QAM	1	14	21.67	21.43	21.39	
3	64QAM	8	0	20.45	20.36	20.41	21.5
3	64QAM	8	4	20.50	20.40	20.44	
3	64QAM	8	7	20.51	20.42	20.55	
3	64QAM	15	0	20.49	20.42	20.47	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	22.55	22.50	22.60	23.5
1.4	QPSK	1	3	22.47	22.37	22.52	
1.4	QPSK	1	5	22.63	22.46	22.55	
1.4	QPSK	3	0	22.17	22.16	21.97	
1.4	QPSK	3	1	22.18	22.24	22.04	



1.4	QPSK	3	3	22.01	21.92	22.06	
1.4	QPSK	6	0	22.57	22.49	22.59	23
1.4	16QAM	1	0	22.16	22.14	22.18	23
1.4	16QAM	1	3	22.15	22.12	22.10	
1.4	16QAM	1	5	22.10	22.20	22.16	
1.4	16QAM	3	0	22.16	22.06	22.10	
1.4	16QAM	3	1	22.07	22.09	22.10	
1.4	16QAM	3	3	22.14	22.06	22.13	
1.4	16QAM	6	0	21.70	21.62	21.61	22
1.4	64QAM	1	0	21.52	21.65	21.25	22
1.4	64QAM	1	3	21.62	21.22	21.22	
1.4	64QAM	1	5	21.63	21.35	21.24	
1.4	64QAM	3	0	21.72	21.66	21.69	
1.4	64QAM	3	1	21.71	21.53	21.78	
1.4	64QAM	3	3	21.61	21.64	21.72	
1.4	64QAM	6	0	20.75	20.56	20.63	21.5

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BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				372000	376500	381000	23.5
Frequency (MHz)				1720	1745	1770	
20	DFT-s-OFDM PI/2 BPSK	1	1	22.23	22.84	22.94	
20		1	104	22.68	23.39	23.42	22.5
20		50	25	22.72	23.05	23.40	
20	DFT-s-OFDM QPSK	1	1	22.12	22.76	22.84	23.5
20		1	104	22.53	23.17	23.39	
20		50	25	22.72	23.26	23.24	
20	DFT-s-OFDM 16QAM	1	1	22.36	22.71	23.04	22.5
20		1	104	22.72	23.21	23.40	
20		50	25	22.70	22.91	23.22	
20	DFT-s-OFDM 64QAM	1	1	20.64	21.03	21.34	22.5
20		1	104	22.72	21.65	21.85	
20		50	25	21.21	21.48	21.80	
20	DFT-s-OFDM 256QAM	1	1	18.30	18.51	19.04	22.5
20		1	104	18.75	19.08	19.53	
20		50	25	19.10	19.44	19.73	



Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	DFT-s-OFDM PI/2 BPSK	1	1	22.20	22.77	23.06	23.5
15		1	77	22.58	23.35	23.49	
15		36	18	22.49	22.57	22.74	
15	DFT-s-OFDM QPSK	1	1	22.05	22.78	22.84	23.5
15		1	77	22.74	23.32	23.33	
15		36	18	22.57	23.11	23.36	
15	DFT-s-OFDM 16QAM	1	1	22.29	22.83	23.11	22.5
15		1	77	22.81	23.33	23.46	
15		36	18	22.56	22.98	23.34	
15	DFT-s-OFDM 64QAM	1	1	20.59	21.23	21.48	22.5
15		1	77	21.06	21.63	21.84	
15		36	18	21.05	21.48	21.88	
15	DFT-s-OFDM 256QAM	1	1	18.31	18.79	19.15	22.5
15		1	77	18.83	19.32	19.55	
15		36	18	18.96	19.39	19.75	
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	DFT-s-OFDM PI/2 BPSK	1	1	22.19	22.75	23.30	23.5
10		1	50	22.69	23.25	23.31	
10		25	12	22.48	23.12	23.75	
10	DFT-s-OFDM QPSK	1	1	22.20	22.84	23.28	23.5
10		1	50	22.63	23.27	23.25	
10		25	12	22.49	23.01	23.56	
10	DFT-s-OFDM 16QAM	1	1	22.22	22.91	23.37	22.5
10		1	50	22.75	23.27	23.24	
10		25	12	22.39	22.97	23.44	
10	DFT-s-OFDM 64QAM	1	1	20.60	21.25	21.56	21.5
10		1	50	21.09	21.57	21.77	
10		25	12	20.92	21.45	21.98	
10	DFT-s-OFDM 256QAM	1	1	18.32	18.89	19.41	21.5
10		1	50	18.79	19.35	19.53	
10		25	12	18.92	19.47	19.99	
Channel				370500	376500	382500	Tune-up limit
Frequency (MHz)				1712.5	1745	1777.5	



							(dBm)
5	DFT-s-OFDM PI/2 BPSK	1	1	22.21	22.87	23.58	23.5
5		1	23	22.40	23.16	23.39	
5		12	6	22.38	23.14	23.62	
5	DFT-s-OFDM QPSK	1	1	22.06	22.85	23.50	23.5
5		1	23	22.25	23.04	23.19	
5		12	6	22.29	23.02	23.51	
5	DFT-s-OFDM 16QAM	1	1	22.32	23.00	23.56	22.5
5		1	23	22.40	23.18	23.33	
5		12	6	22.14	23.05	23.38	
5	DFT-s-OFDM 64QAM	1	1	20.59	21.31	21.92	21.5
5		1	23	20.82	21.52	21.80	
5		12	6	20.85	21.58	22.09	
5	DFT-s-OFDM 256QAM	1	1	18.27	19.05	19.46	21.5
5		1	23	18.49	19.19	19.34	
5		12	6	18.72	19.50	20.00	

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				372000	376500	381000	
Frequency (MHz)				1720	1745	1770	
20	CP-OFDM QPSK	1	1	21.79	22.11	22.81	23.5
20		1	104	22.39	22.92	23.10	
20		53	26	22.18	22.62	22.73	
20	CP-OFDM 16QAM	1	1	21.30	21.60	22.00	23.5
20		1	104	21.69	22.30	22.38	
20		53	26	21.61	22.05	22.25	
20	CP-OFDM 64QAM	1	1	19.59	20.20	20.59	23.5
20		1	104	20.01	20.46	20.84	
20		53	26	20.14	20.60	20.80	
20	CP-OFDM 256QAM	1	1	16.38	16.74	17.18	21
20		1	104	16.70	17.36	17.48	
20		53	26	17.16	17.47	17.71	
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	CP-OFDM	1	1	21.60	22.20	22.71	23.5



15	QPSK	1	77	22.01	22.79	22.86	
15		39	191	20.37	20.97	21.23	22.5
15	CP-OFDM 16QAM	1	1	21.28	21.82	22.05	22.5
15		1	77	21.62	22.31	22.37	
15		39	191	20.39	20.88	21.23	22.5
15	CP-OFDM 64QAM	1	1	19.59	20.05	20.36	22
15		1	77	20.02	20.56	20.83	
15		39	191	19.81	20.32	20.73	22
15	CP-OFDM 256QAM	1	1	16.35	16.86	17.13	21.5
15		1	77	16.75	17.40	17.48	
15		39	191	16.82	17.31	17.69	20
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	CP-OFDM QPSK	1	1	21.70	22.48	22.94	23.5
10		1	50	22.34	22.75	22.74	
10		26	13	21.98	22.50	22.99	22.5
10	CP-OFDM 16QAM	1	1	21.32	21.81	22.27	22.5
10		1	50	21.78	22.29	22.49	
10		26	13	21.52	22.05	22.52	22.5
10	CP-OFDM 64QAM	1	1	19.63	20.24	20.72	22.5
10		1	50	20.18	20.71	20.87	
10		26	13	19.96	20.54	20.90	22
10	CP-OFDM 256QAM	1	1	16.40	17.02	17.33	20
10		1	50	16.89	17.40	17.52	
10		26	13	16.87	17.49	17.95	19
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	CP-OFDM QPSK	1	1	21.60	22.32	23.22	23.5
5		1	23	21.79	22.84	22.99	
5		13	6	21.69	22.68	22.87	22.5
5	CP-OFDM 16QAM	1	1	21.17	22.13	22.52	22
5		1	23	21.34	22.14	22.30	
5		13	6	21.21	21.88	22.34	22
5	CP-OFDM 64QAM	1	1	19.60	20.47	20.90	21.5
5		1	23	19.75	20.74	20.74	
5		13	6	19.82	20.58	20.88	21



5	CP-OFDM 256QAM	1	1	16.34	17.04	17.61	19.5
5		1	23	16.52	17.10	17.39	
5		13	6	16.83	17.49	17.95	

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BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				372000	376500	381000	
Frequency (MHz)				1720	1745	1770	
20	DFT-s-OFDM PI/2 BPSK	1	1	22.99	22.79	23.25	25
20		1	104	22.95	23.23	23.06	
20		50	25	22.74	23.11	23.16	
20	DFT-s-OFDM QPSK	1	1	22.94	22.89	23.24	24
20		1	104	22.81	23.18	23.12	
20		50	25	22.89	23.12	23.24	
20	DFT-s-OFDM 16QAM	1	1	22.98	22.93	23.31	24
20		1	104	22.85	23.33	23.16	
20		50	25	22.82	23.17	23.21	
20	DFT-s-OFDM 64QAM	1	1	21.35	21.26	21.57	23
20		1	104	21.33	21.76	21.51	
20		50	25	21.40	21.60	21.77	
20	DFT-s-OFDM 256QAM	1	1	19.00	19.05	19.43	22
20		1	104	18.76	19.41	19.28	
20		50	25	19.21	19.57	19.65	
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	DFT-s-OFDM PI/2 BPSK	1	1	23.00	23.07	23.17	25
15		1	77	22.95	23.33	23.05	
15		36	18	22.85	23.13	23.11	
15	DFT-s-OFDM QPSK	1	1	22.84	22.92	23.08	25
15		1	77	22.74	23.28	23.06	
15		36	18	22.92	23.05	23.09	
15	DFT-s-OFDM 16QAM	1	1	23.02	22.97	23.24	24
15		1	77	22.88	23.25	23.11	
15		36	18	22.81	23.07	23.13	
15	DFT-s-OFDM	1	1	21.36	21.39	21.57	24



15	64QAM	1	77	21.15	21.64	21.51	
15		36	18	21.40	21.65	21.70	22
15	DFT-s-OFDM 256QAM	1	1	18.99	19.14	19.39	20
15		1	77	18.98	19.45	19.26	
15		36	18	19.30	19.49	19.58	21
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	DFT-s-OFDM PI/2 BPSK	1	1	22.78	22.80	22.95	25
10		1	50	22.76	23.03	22.90	
10		25	12	22.86	23.03	23.06	24
10	DFT-s-OFDM QPSK	1	1	22.78	22.86	22.89	25
10		1	50	22.78	22.96	22.84	
10		25	12	22.82	23.05	23.08	24
10	DFT-s-OFDM 16QAM	1	1	22.88	23.01	23.12	24
10		1	50	22.91	23.22	23.04	
10		25	12	22.86	22.91	23.07	23
10	DFT-s-OFDM 64QAM	1	1	21.22	21.36	21.41	24
10		1	50	21.19	21.50	21.41	
10		25	12	21.30	21.42	21.46	22
10	DFT-s-OFDM 256QAM	1	1	19.00	19.07	19.19	20
10		1	50	18.93	19.27	19.03	
10		25	12	19.34	19.46	19.49	20
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	DFT-s-OFDM PI/2 BPSK	1	1	22.75	22.94	22.89	25
5		1	23	22.80	22.91	22.97	
5		12	6	22.90	23.01	23.08	24
5	DFT-s-OFDM QPSK	1	1	22.79	22.83	22.85	25
5		1	23	22.80	23.00	22.94	
5		12	6	22.83	23.00	23.00	24
5	DFT-s-OFDM 16QAM	1	1	22.83	22.99	23.08	24
5		1	23	22.82	23.07	22.94	
5		12	6	22.76	22.88	22.83	24
5	DFT-s-OFDM 64QAM	1	1	21.19	21.25	21.35	23
5		1	23	21.25	21.52	21.34	
5		12	6	21.45	21.57	21.61	22



5	DFT-s-OFDM 256QAM	1	1	18.96	19.13	19.16	21
5		1	23	18.96	19.17	22.38	
5		12	6	19.35	19.51	19.45	20

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				372000	376500	381000	
Frequency (MHz)				1720	1745	1770	
20	CP-OFDM QPSK	1	1	22.54	22.58	23.03	25
20		1	104	22.49	22.73	22.45	
20		53	26	22.31	22.55	22.72	24
20	CP-OFDM 16QAM	1	1	22.01	21.78	22.25	24
20		1	104	21.87	22.28	21.90	
20		53	26	21.80	22.08	22.20	23
20	CP-OFDM 64QAM	1	1	20.43	20.38	20.62	23
20		1	104	20.28	20.80	20.60	
20		53	26	20.36	20.63	20.76	22
20	CP-OFDM 256QAM	1	1	17.13	17.09	17.46	20
20		1	104	17.01	17.37	17.22	
20		53	26	17.31	17.59	17.63	20
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	CP-OFDM QPSK	1	1	22.39	22.35	22.81	25
15		1	77	22.11	22.78	22.44	
15		39	19	20.96	21.05	21.22	24
15	CP-OFDM 16QAM	1	1	22.02	22.05	22.30	24
15		1	77	21.72	22.19	21.87	
15		39	19	20.97	21.08	21.23	23
15	CP-OFDM 64QAM	1	1	20.35	20.36	20.55	23
15		1	77	20.24	20.74	20.38	
15		39	19	20.42	20.59	20.65	22
15	CP-OFDM 256QAM	1	1	17.13	17.12	17.35	19
15		1	77	435000.00	17.39	17.31	
15		39	19	17.37	17.50	17.66	19
Channel				371000	376500	382000	Tune-up limit
Frequency (MHz)				1715	1745	1775	



							(dBm)
10	CP-OFDM QPSK	1	1	22.29	22.56	22.70	25
10		1	50	22.40	22.75	22.34	
10		26	13	22.39	22.60	22.52	24
10	CP-OFDM 16QAM	1	1	21.91	21.96	22.12	24
10		1	50	21.80	22.06	21.96	
10		26	13	21.83	22.02	22.05	23
10	CP-OFDM 64QAM	1	1	20.30	20.35	20.58	22
10		1	50	20.26	20.52	20.49	
10		26	13	20.37	20.53	20.54	22
10	CP-OFDM 256QAM	1	1	16.98	17.02	17.22	19
10		1	50	16.96	17.35	17.16	
10		26	13	17.34	17.51	17.47	19
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	CP-OFDM QPSK	1	1	22.54	22.63	22.60	25
5		1	23	22.40	22.38	22.53	
5		13	6	22.29	22.44	22.38	24
5	CP-OFDM 16QAM	1	1	21.99	22.04	22.08	24
5		1	23	21.71	21.97	21.92	
5		13	6	21.78	21.89	21.93	23
5	CP-OFDM 64QAM	1	1	20.29	20.30	20.43	23
5		1	23	20.15	20.33	20.29	
5		13	6	20.40	20.60	20.53	21
5	CP-OFDM 256QAM	1	1	16.96	17.13	17.21	19
5		1	23	16.98	17.14	17.07	
5		13	6	17.41	17.54	17.50	19



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BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				372000	376500	381000	
Frequency (MHz)				1720	1745	1770	
20	DFT-s-OFDM PI/2 BPSK	1	1	22.99	22.84	23.21	25
20		1	104	22.95	23.41	23.06	
20		50	25	22.72	23.06	23.18	
20	DFT-s-OFDM QPSK	1	1	22.96	22.75	23.13	25
20		1	104	22.89	23.25	22.96	
20		50	25	22.90	23.15	23.19	
20	DFT-s-OFDM 16QAM	1	1	23.04	22.93	23.38	24
20		1	104	23.01	23.30	23.14	
20		50	25	22.87	23.12	23.18	
20	DFT-s-OFDM 64QAM	1	1	21.41	21.25	21.68	23
20		1	104	21.33	21.73	21.54	
20		50	25	21.33	21.69	21.72	
20	DFT-s-OFDM 256QAM	1	1	19.19	19.03	19.42	20
20		1	104	18.97	19.42	19.25	
20		50	25	19.31	19.55	19.69	
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	DFT-s-OFDM PI/2 BPSK	1	1	22.99	22.95	23.14	25
15		1	77	22.83	23.32	23.18	
15		36	18	22.92	23.13	23.07	
15	DFT-s-OFDM QPSK	1	1	22.99	22.86	23.12	25
15		1	77	22.83	23.26	23.10	
15		36	18	22.89	23.10	23.21	
15	DFT-s-OFDM 16QAM	1	1	22.92	23.04	23.26	24
15		1	77	22.89	23.31	23.11	
15		36	18	22.90	23.13	23.12	
15	DFT-s-OFDM 64QAM	1	1	21.33	21.43	21.64	23
15		1	77	21.23	21.73	21.51	
15		36	18	21.45	21.59	21.65	
15	DFT-s-OFDM 256QAM	1	1	18.94	19.12	19.35	19
15		1	77	18.79	19.42	19.30	



15		36	18	19.35	19.54	19.68	19
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	DFT-s-OFDM PI/2 BPSK	1	1	22.83	23.02	23.10	23
10		1	50	22.72	23.10	23.07	
10		25	12	22.82	23.18	23.09	
10	DFT-s-OFDM QPSK	1	1	22.77	22.84	23.05	23
10		1	50	22.70	23.06	22.81	
10		25	12	22.88	23.05	23.09	
10	DFT-s-OFDM 16QAM	1	1	22.98	22.95	23.07	23
10		1	50	22.84	23.07	23.02	
10		25	12	22.81	22.97	22.94	
10	DFT-s-OFDM 64QAM	1	1	21.20	21.31	21.41	23
10		1	50	21.20	21.45	21.40	
10		25	12	21.31	21.48	21.47	
10	DFT-s-OFDM 256QAM	1	1	19.04	19.02	19.18	19
10		1	50	18.90	19.23	19.03	
10		25	12	19.27	19.51	19.51	
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	DFT-s-OFDM PI/2 BPSK	1	1	22.88	22.89	22.90	24
5		1	23	22.81	22.96	22.88	
5		12	6	22.82	23.03	23.13	
5	DFT-s-OFDM QPSK	1	1	22.81	22.85	22.93	23
5		1	23	22.71	22.92	22.81	
5		12	6	22.93	23.02	23.07	
5	DFT-s-OFDM 16QAM	1	1	22.93	23.01	23.05	22
5		1	23	22.84	23.08	23.01	
5		12	6	22.96	22.88	23.01	
5	DFT-s-OFDM 64QAM	1	1	21.21	21.37	21.39	22
5		1	23	21.29	21.50	21.40	
5		12	6	21.49	21.67	21.66	
5	DFT-s-OFDM 256QAM	1	1	19.07	19.00	19.20	19
5		1	23	19.05	19.10	19.04	
5		12	6	19.34	19.53	19.48	



BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				372000	376500	381000	
Frequency (MHz)				1720	1745	1770	
20	CP-OFDM QPSK	1	1	22.66	22.56	22.92	24.5
20		1	104	22.53	22.66	22.40	
20		53	26	22.27	22.60	22.67	
20	CP-OFDM 16QAM	1	1	22.14	21.88	22.29	23.5
20		1	104	21.98	22.22	21.80	
20		53	26	21.80	22.06	22.22	
20	CP-OFDM 64QAM	1	1	20.56	20.39	20.69	22.5
20		1	104	20.43	20.68	20.64	
20		53	26	20.34	20.63	20.71	
20	CP-OFDM 256QAM	1	1	17.22	17.02	17.39	20
20		1	104	16.99	17.40	17.25	
20		53	26	17.30	17.64	17.67	
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	CP-OFDM QPSK	1	1	22.53	22.58	22.63	24.5
15		1	77	22.33	22.59	22.32	
15		39	19	20.92	21.08	21.27	
15	CP-OFDM 16QAM	1	1	22.07	22.07	22.24	23.5
15		1	77	21.77	22.24	21.75	
15		39	19	21.04	21.10	21.29	
15	CP-OFDM 64QAM	1	1	20.41	20.39	20.60	21.5
15		1	77	20.21	20.66	20.48	
15		39	19	20.38	20.52	20.62	
15	CP-OFDM 256QAM	1	1	17.11	17.16	17.44	19.5
15		1	77	16.96	17.51	17.30	
15		39	19	17.43	17.53	17.65	
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	CP-OFDM QPSK	1	1	22.52	22.32	22.51	24.5
10		1	50	22.15	22.78	22.50	
10		26	13	22.30	22.57	22.63	



10	CP-OFDM 16QAM	1	1	21.95	21.91	22.24	23.5
10		1	50	21.85	22.20	21.93	
10		26	13	21.85	22.06	22.07	22.5
10	CP-OFDM 64QAM	1	1	20.34	20.39	20.60	22.5
10		1	50	20.20	20.59	20.52	
10		26	13	20.38	20.54	20.54	21.5
10	CP-OFDM 256QAM	1	1	17.00	16.95	17.19	19.5
10		1	50	16.97	17.26	17.13	
10		26	13	17.31	17.57	17.53	18.5
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	CP-OFDM QPSK	1	1	22.30	22.33	22.45	22.5
5		1	23	22.13	22.67	22.34	
5		13	6	22.32	22.46	22.49	
5	CP-OFDM 16QAM	1	1	22.01	22.03	22.04	22
5		1	23	21.76	21.97	21.93	
5		13	6	21.80	22.01	21.92	
5	CP-OFDM 64QAM	1	1	20.38	20.41	20.48	20.5
5		1	23	20.18	20.42	20.40	
5		13	6	20.33	20.53	20.62	
5	CP-OFDM 256QAM	1	1	16.99	17.18	17.19	18
5		1	23	16.92	17.19	17.06	
5		13	6	17.43	17.60	17.58	

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BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				372000	376500	381000	Tune-up limit (dBm)
Frequency (MHz)				1720	1745	1770	
20	DFT-s-OFDM PI/2 BPSK	1	1	22.90	22.94	22.95	24
20		1	104	22.82	23.15	22.72	
20		50	25	22.78	23.12	22.76	
20	DFT-s-OFDM QPSK	1	1	22.79	22.67	22.90	24
20		1	104	22.82	22.97	22.53	
20		50	25	22.86	22.99	22.78	
20	DFT-s-OFDM	1	1	23.01	22.87	23.03	24



20	16QAM	1	104	22.92	23.14	22.68	
20		50	25	22.77	22.96	22.76	23
20	DFT-s-OFDM 64QAM	1	1	21.28	21.12	21.33	24
20		1	104	21.24	21.39	21.09	
20		50	25	21.36	21.55	21.32	22
20	DFT-s-OFDM 256QAM	1	1	18.99	18.90	19.09	20
20		1	104	18.96	19.18	18.87	
20		50	25	19.24	19.43	19.29	20
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	DFT-s-OFDM PI/2 BPSK	1	1	22.94	22.78	22.79	24
15		1	77	22.87	23.12	22.66	
15		36	18	22.80	22.90	22.73	23
15	DFT-s-OFDM QPSK	1	1	22.74	22.90	22.81	24
15		1	77	22.68	23.06	22.70	
15		36	18	22.79	22.94	22.76	23
15	DFT-s-OFDM 16QAM	1	1	22.94	22.91	22.86	24
15		1	77	22.82	23.12	22.64	
15		36	18	22.80	22.87	22.75	23
15	DFT-s-OFDM 64QAM	1	1	21.26	21.20	21.26	24
15		1	77	21.11	21.48	21.10	
15		36	18	21.26	21.42	21.28	22
15	DFT-s-OFDM 256QAM	1	1	18.98	19.03	18.95	20
15		1	77	18.87	19.22	18.77	
15		36	18	19.26	19.33	19.15	20
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	DFT-s-OFDM PI/2 BPSK	1	1	22.69	22.81	22.66	24
10		1	50	22.62	22.91	22.52	
10		25	12	22.94	22.98	22.57	23
10	DFT-s-OFDM QPSK	1	1	22.70	22.71	22.60	24
10		1	50	22.53	22.84	22.35	
10		25	12	22.70	22.84	22.67	23
10	DFT-s-OFDM 16QAM	1	1	22.82	22.88	22.56	24
10		1	50	22.66	22.89	22.47	
10		25	12	22.71	22.83	22.54	23



10	DFT-s-OFDM 64QAM	1	1	21.13	21.15	20.97	24
10		1	50	21.01	21.17	20.85	
10		25	12	21.19	21.24	21.00	22
10	DFT-s-OFDM 256QAM	1	1	18.86	18.84	18.74	20
10		1	50	18.77	19.02	18.56	
10		25	12	19.20	19.26	19.04	20
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	DFT-s-OFDM PI/2 BPSK	1	1	22.61	22.74	22.35	24
5		1	23	22.61	22.79	22.31	
5		12	6	22.85	22.67	22.42	23
5	DFT-s-OFDM QPSK	1	1	22.71	22.68	22.44	24
5		1	23	22.50	22.72	22.30	
5		12	6	22.71	22.79	22.46	23
5	DFT-s-OFDM 16QAM	1	1	22.78	22.81	22.50	24
5		1	23	22.77	22.74	22.44	
5		12	6	22.78	22.62	22.43	23
5	DFT-s-OFDM 64QAM	1	1	21.05	21.06	20.80	24
5		1	23	21.11	21.15	20.87	
5		12	6	21.30	21.29	21.05	22
5	DFT-s-OFDM 256QAM	1	1	18.84	18.85	18.57	20
5		1	23	18.81	18.91	18.57	
5		12	6	19.18	19.25	18.97	20

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				372000	376500	381000	
Frequency (MHz)				1720	1745	1770	
20	CP-OFDM QPSK	1	1	22.52	22.23	22.70	23
20		1	104	22.18	22.59	22.02	
20		53	26	22.25	22.46	22.30	
20	CP-OFDM 16QAM	1	1	22.01	21.83	21.99	23
20		1	104	21.83	22.05	21.46	
20		53	26	21.81	21.92	21.76	
20	CP-OFDM 64QAM	1	1	20.28	20.37	20.38	22
20		1	104	20.14	20.56	20.18	



20		53	26	20.29	20.58	20.31	21
20	CP-OFDM 256QAM	1	1	17.05	16.95	17.06	18
20		1	104	16.94	17.16	16.80	
20		53	26	17.27	17.49	17.26	18
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	CP-OFDM QPSK	1	1	22.32	22.23	22.24	23
15		1	77	21.96	22.22	21.91	
15		39	191	20.83	20.93	20.85	22
15	CP-OFDM 16QAM	1	1	21.89	21.92	21.91	23
15		1	77	21.68	21.94	21.43	
15		39	191	20.94	21.01	20.79	22
15	CP-OFDM 64QAM	1	1	20.31	20.32	20.26	22
15		1	77	20.08	20.27	20.04	
15		39	191	20.38	20.43	20.23	21
15	CP-OFDM 256QAM	1	1	17.02	17.01	16.95	18
15		1	77	16.89	17.17	16.76	
15		39	191	17.25	17.37	17.26	18
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	CP-OFDM QPSK	1	1	22.19	22.18	22.29	23
10		1	50	22.31	22.54	21.84	
10		26	13	22.26	22.36	22.06	22
10	CP-OFDM 16QAM	1	1	21.79	21.80	21.71	23
10		1	50	21.65	21.84	21.54	
10		26	13	21.69	21.81	21.60	22
10	CP-OFDM 64QAM	1	1	20.28	20.21	20.13	22
10		1	50	20.12	20.33	19.93	
10		26	13	20.24	20.30	20.06	21
10	CP-OFDM 256QAM	1	1	16.93	16.95	16.81	18
10		1	50	16.83	17.01	16.73	
10		26	13	17.22	17.27	17.07	18
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	CP-OFDM	1	1	22.07	22.41	22.35	23



5	QPSK	1	23	21.70	22.07	21.99	
5		13	6	21.89	22.17	22.15	
5	CP-OFDM 16QAM	1	1	21.47	21.82	21.86	23
5		1	23	21.38	21.87	21.68	
5		13	6	21.32	21.71	21.60	
5	CP-OFDM 64QAM	1	1	19.98	20.18	20.16	22
5		1	23	19.73	20.21	20.01	
5		13	6	20.00	20.32	20.13	
5	CP-OFDM 256QAM	1	1	16.59	16.84	16.82	18
5		1	23	16.51	16.88	16.79	
5		13	6	16.98	17.38	17.23	

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BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				372000	376500	381000	
Frequency (MHz)				1720	1745	1770	
20	DFT-s-OFDM PI/2 BPSK	1	1	22.94	22.86	23.03	24
20		1	104	23.08	23.10	22.85	
20		50	25	23.02	23.09	23.06	23
20	DFT-s-OFDM QPSK	1	1	22.81	22.77	23.06	24
20		1	104	22.80	23.07	22.80	
20		50	25	22.80	23.07	22.96	23
20	DFT-s-OFDM 16QAM	1	1	22.92	22.91	23.12	24
20		1	104	22.96	23.27	22.94	
20		50	25	22.88	23.05	22.89	23
20	DFT-s-OFDM 64QAM	1	1	21.32	21.24	21.55	24
20		1	104	21.36	21.60	21.27	
20		50	25	21.30	21.62	21.44	23
20	DFT-s-OFDM 256QAM	1	1	19.06	19.03	19.19	20
20		1	104	19.06	19.33	18.97	
20		50	25	19.26	19.54	19.50	20
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	DFT-s-OFDM	1	1	22.96	22.84	23.03	24
15	PI/2 BPSK	1	77	22.88	23.13	22.84	



15		36	18	22.83	22.95	22.80	23
15	DFT-s-OFDM QPSK	1	1	22.72	22.82	22.75	24
15		1	77	22.63	22.92	22.78	
15		36	18	22.84	22.99	22.89	23
15	DFT-s-OFDM 16QAM	1	1	22.93	22.91	22.93	24
15		1	77	22.87	23.14	22.85	
15		36	18	22.84	22.96	22.90	23
15	DFT-s-OFDM 64QAM	1	1	21.27	21.32	21.33	24
15		1	77	21.12	21.45	21.19	
15		36	18	21.42	21.52	21.37	23
15	DFT-s-OFDM 256QAM	1	1	18.96	19.08	19.01	20
15		1	77	18.93	19.25	18.89	
15		36	18	19.23	19.46	19.25	20
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	DFT-s-OFDM PI/2 BPSK	1	1	22.88	22.79	22.60	24
10		1	50	22.76	23.05	22.51	
10		25	12	22.99	22.94	22.64	23
10	DFT-s-OFDM QPSK	1	1	22.69	22.64	22.66	24
10		1	50	22.66	22.77	22.55	
10		25	12	22.94	23.01	22.81	23
10	DFT-s-OFDM 16QAM	1	1	22.80	22.96	22.75	24
10		1	50	22.79	23.02	22.63	
10		25	12	22.78	22.85	22.75	23
10	DFT-s-OFDM 64QAM	1	1	21.11	21.24	21.07	24
10		1	50	21.05	21.39	20.95	
10		25	12	21.18	21.31	21.12	23
10	DFT-s-OFDM 256QAM	1	1	18.82	18.95	18.88	20
10		1	50	18.83	19.07	18.80	
10		25	12	19.16	19.38	19.11	20
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	DFT-s-OFDM PI/2 BPSK	1	1	22.83	22.72	22.75	24
5		1	23	22.71	22.98	22.75	
5		12	6	22.77	23.07	22.64	23
5	DFT-s-OFDM	1	1	22.75	22.74	22.57	24



5	QPSK	1	23	22.63	22.80	22.63	
5		12	6	22.75	22.97	22.70	23
5	DFT-s-OFDM 16QAM	1	1	22.92	22.86	22.88	24
5		1	23	22.80	22.93	22.73	
5		12	6	22.69	22.70	22.67	23
5	DFT-s-OFDM 64QAM	1	1	21.21	21.22	21.11	24
5		1	23	21.23	21.31	21.14	
5		12	6	21.44	21.47	21.29	23
5	DFT-s-OFDM 256QAM	1	1	18.96	18.94	18.88	20
5		1	23	18.90	19.12	18.82	
5		12	6	19.32	19.37	19.19	20

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				372000	376500	381000	
Frequency (MHz)				1720	1745	1770	
20	CP-OFDM QPSK	1	1	22.63	22.29	22.81	23
20		1	104	22.31	22.61	22.16	
20		53	16	22.28	22.53	22.40	22
20	CP-OFDM 16QAM	1	1	22.05	22.05	22.04	23
20		1	104	21.95	22.11	21.64	
20		53	16	21.87	22.07	22.00	23
20	CP-OFDM 64QAM	1	1	20.49	20.43	20.52	21
20		1	104	20.26	20.77	20.27	
20		53	16	20.29	20.65	20.55	21
20	CP-OFDM 256QAM	1	1	17.18	17.09	17.22	18
20		1	104	17.09	17.27	17.01	
20		53	16	17.37	17.58	17.45	18
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	CP-OFDM QPSK	1	1	22.38	22.48	22.29	23
15		1	77	22.11	22.44	22.06	
15		39	191	20.92	21.00	20.94	22
15	CP-OFDM 16QAM	1	1	21.96	22.00	21.97	23
15		1	77	21.75	21.99	21.67	
15		39	191	20.95	21.03	20.98	23



15	CP-OFDM 64QAM	1	1	20.36	20.30	20.31	21
15		1	77	20.16	20.51	20.15	
15		39	191	20.36	20.46	20.30	
15	CP-OFDM 256QAM	1	1	17.01	17.10	17.02	18
15		1	77	16.96	17.21	16.87	
15		39	191	17.32	17.47	17.35	18
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	CP-OFDM QPSK	1	1	22.23	22.52	22.40	23
10		1	50	22.10	22.34	22.28	
10		26	13	22.35	22.47	22.21	22
10	CP-OFDM 16QAM	1	1	21.87	21.86	21.85	23
10		1	50	21.77	22.08	21.71	
10		26	13	21.71	21.94	21.74	23
10	CP-OFDM 64QAM	1	1	20.27	20.26	20.27	21
10		1	50	20.19	20.34	20.17	
10		26	13	20.33	20.43	20.23	21
10	CP-OFDM 256QAM	1	1	16.88	16.94	16.90	18
10		1	50	16.94	17.14	16.85	
10		26	13	17.18	17.40	17.17	18
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	CP-OFDM QPSK	1	1	22.26	22.42	22.08	23
5		1	23	22.49	22.21	22.34	
5		13	6	22.24	22.30	22.16	22
5	CP-OFDM 16QAM	1	1	21.96	21.82	21.74	23
5		1	23	21.68	21.99	21.62	
5		13	6	21.71	21.72	21.63	23
5	CP-OFDM 64QAM	1	1	20.25	20.29	20.22	21
5		1	23	20.13	20.22	20.10	
5		13	6	20.39	20.34	20.22	21
5	CP-OFDM 256QAM	1	1	16.90	16.92	16.97	18
5		1	23	16.86	16.97	16.83	
5		13	6	17.33	17.33	17.29	18



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BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				372000	376500	381000	
Frequency (MHz)				1720	1745	1770	
20	DFT-s-OFDM PI/2 BPSK	1	1	23.18	23.05	23.27	24
20		1	104	23.06	23.29	22.98	
20		50	25	22.94	23.20	22.99	23
20	DFT-s-OFDM QPSK	1	1	23.06	22.99	23.12	24
20		1	104	22.92	23.13	22.80	
20		50	25	22.94	23.18	23.07	23.5
20	DFT-s-OFDM 16QAM	1	1	23.09	23.03	23.16	24
20		1	104	22.97	23.25	23.01	
20		50	25	22.93	23.05	22.99	23
20	DFT-s-OFDM 64QAM	1	1	21.42	21.77	21.57	22
20		1	104	21.41	21.66	21.43	
20		50	25	21.46	21.65	21.52	22
20	DFT-s-OFDM 256QAM	1	1	19.15	19.09	19.30	20
20		1	104	19.09	19.41	19.09	
20		50	25	19.35	19.59	19.52	20
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	DFT-s-OFDM PI/2 BPSK	1	1	22.96	22.99	23.06	24
15		1	77	22.89	23.33	23.02	
15		36	18	23.01	23.24	22.95	23
15	DFT-s-OFDM QPSK	1	1	23.00	23.13	22.99	24
15		1	77	22.95	23.27	22.95	
15		36	18	22.97	23.14	22.97	23.5
15	DFT-s-OFDM 16QAM	1	1	23.04	22.98	23.06	24
15		1	77	23.01	23.22	22.95	
15		36	18	22.99	23.17	23.05	23
15	DFT-s-OFDM 64QAM	1	1	21.35	21.45	21.40	22
15		1	77	21.54	21.60	21.38	
15		36	18	21.49	21.64	21.46	22
15	DFT-s-OFDM 256QAM	1	1	19.14	19.18	19.29	20
15		1	77	19.02	19.42	19.06	



15		36	18	19.33	19.58	19.46	20
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	DFT-s-OFDM PI/2 BPSK	1	1	22.94	22.87	23.01	24
10		1	50	22.84	23.09	22.73	
10		25	12	23.11	23.04	22.91	
10	DFT-s-OFDM QPSK	1	1	22.87	22.79	22.89	24
10		1	50	22.77	23.07	22.66	
10		25	12	22.95	23.07	22.85	
10	DFT-s-OFDM 16QAM	1	1	22.90	22.94	22.93	24
10		1	50	22.92	23.21	22.76	
10		25	12	22.97	23.05	22.88	
10	DFT-s-OFDM 64QAM	1	1	21.30	21.32	21.25	22
10		1	50	21.21	21.49	21.26	
10		25	12	21.37	21.45	21.26	
10	DFT-s-OFDM 256QAM	1	1	19.05	19.10	19.06	20
10		1	50	18.99	19.19	18.91	
10		25	12	19.34	19.53	19.38	
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	DFT-s-OFDM PI/2 BPSK	1	1	22.89	22.88	22.73	24
5		1	23	22.79	22.98	22.67	
5		12	6	22.95	23.03	22.79	
5	DFT-s-OFDM QPSK	1	1	22.82	22.92	22.76	24
5		1	23	22.82	22.91	22.69	
5		12	6	22.89	23.07	22.82	
5	DFT-s-OFDM 16QAM	1	1	22.98	22.97	22.90	24
5		1	23	22.87	23.04	22.81	
5		12	6	22.97	22.93	22.86	
5	DFT-s-OFDM 64QAM	1	1	21.31	21.32	21.17	22
5		1	23	21.24	21.44	21.11	
5		12	6	21.58	21.61	21.40	
5	DFT-s-OFDM 256QAM	1	1	19.11	19.06	18.93	20
5		1	23	19.06	19.17	18.92	
5		12	6	19.35	19.47	19.30	



BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				372000	376500	381000	
Frequency (MHz)				1720	1745	1770	
20	CP-OFDM QPSK	1	1	22.74	22.44	22.66	24
20		1	104	22.40	22.90	22.33	
20		53	26	22.50	22.68	22.52	23
20	CP-OFDM 16QAM	1	1	22.10	22.03	22.17	23
20		1	104	22.02	22.32	21.95	
20		53	26	21.93	22.13	22.06	23
20	CP-OFDM 64QAM	1	1	20.57	20.37	20.70	21
20		1	104	20.54	20.68	20.30	
20		53	26	20.45	20.70	20.53	21
20	CP-OFDM 256QAM	1	1	17.23	17.14	17.32	18
20		1	104	17.17	17.35	17.11	
20		53	26	17.41	17.63	17.54	18
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	CP-OFDM QPSK	1	1	22.64	22.46	22.73	24
15		1	77	22.42	22.49	22.14	
15		39	191	20.99	21.16	21.07	23
15	CP-OFDM 16QAM	1	1	22.03	22.08	22.15	23
15		1	77	22.06	22.22	21.86	
15		39	191	21.06	21.19	21.12	23
15	CP-OFDM 64QAM	1	1	20.45	20.46	20.49	21
15		1	77	20.25	20.59	20.23	
15		39	191	20.42	20.58	20.54	21
15	CP-OFDM 256QAM	1	1	17.17	17.25	17.23	18
15		1	77	16.95	17.44	17.14	
15		39	191	17.50	17.56	17.54	18
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	CP-OFDM QPSK	1	1	22.57	22.61	22.28	24
10		1	50	22.47	22.78	22.21	
10		26	13	22.36	22.52	22.36	23



10	CP-OFDM 16QAM	1	1	22.11	22.03	22.02	23
10		1	50	21.83	22.10	21.83	
10		26	13	21.83	22.03	21.87	23
10	CP-OFDM 64QAM	1	1	20.38	20.38	20.37	21
10		1	50	20.34	20.58	20.22	
10		26	13	20.44	20.57	20.43	21
10	CP-OFDM 256QAM	1	1	17.15	17.13	17.11	18
10		1	50	17.02	17.24	17.04	
10		26	13	17.37	17.54	17.35	18
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	CP-OFDM QPSK	1	1	22.55	22.63	22.43	24
5		1	23	22.50	22.66	22.40	
5		13	6	22.35	22.49	22.24	23
5	CP-OFDM 16QAM	1	1	21.96	22.03	21.84	23
5		1	23	21.92	21.96	21.95	
5		13	6	21.83	21.97	21.77	23
5	CP-OFDM 64QAM	1	1	20.31	20.43	20.45	21
5		1	23	20.29	20.48	20.22	
5		13	6	20.45	20.51	20.25	21
5	CP-OFDM 256QAM	1	1	17.06	17.22	16.93	18
5		1	23	17.02	17.18	16.89	
5		13	6	17.54	17.55	17.38	18

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BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				134600	136100	137600	24.5
Frequency (MHz)				673	680.5	688	
20	DFT-s-OFDM PI/2 BPSK	1	1	23.92	23.80	23.84	24.5
20		1	104	23.59	23.44	23.34	
20		50	25	23.80	23.90	23.58	
20	DFT-s-OFDM QPSK	1	1	23.70	23.75	23.79	24.5
20		1	104	23.69	23.47	23.30	
20		50	25	23.88	23.74	23.75	
20	DFT-s-OFDM	1	1	23.94	23.75	23.81	24.5



20	16QAM	1	104	23.73	23.66	23.45	
20		50	25	23.86	23.68	23.72	24.5
20	DFT-s-OFDM 64QAM	1	1	22.24	22.11	22.14	23
20		1	104	21.99	22.00	21.78	
20		50	25	22.28	22.28	22.15	23
20	DFT-s-OFDM 256QAM	1	1	19.97	19.77	19.82	20
20		1	104	19.82	19.65	19.54	
20		50	25	20.21	20.11	20.07	21
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	DFT-s-OFDM PI/2 BPSK	1	1	24.01	23.69	23.31	24.5
15		1	77	23.71	23.77	23.60	
15		36	18	23.70	23.82	23.68	
15	DFT-s-OFDM QPSK	1	1	23.80	23.56	23.57	24.5
15		1	77	23.73	23.58	23.40	
15		36	18	23.78	23.75	23.60	
15	DFT-s-OFDM 16QAM	1	1	23.97	23.84	23.82	24.5
15		1	77	23.74	23.80	23.54	
15		36	18	23.81	23.77	23.67	
15	DFT-s-OFDM 64QAM	1	1	22.32	22.19	22.23	23
15		1	77	22.19	22.15	21.89	
15		36	18	22.34	22.31	22.23	
15	DFT-s-OFDM 256QAM	1	1	20.00	19.87	19.71	20
15		1	77	19.84	19.79	19.42	
15		36	18	20.21	20.16	20.09	
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	DFT-s-OFDM PI/2 BPSK	1	1	23.63	23.70	23.60	24.5
10		1	50	23.67	23.53	23.30	
10		25	12	23.73	23.64	23.78	
10	DFT-s-OFDM QPSK	1	1	23.56	23.55	23.62	24.5
10		1	50	23.60	23.43	23.50	
10		25	12	23.78	23.75	23.53	
10	DFT-s-OFDM 16QAM	1	1	23.77	23.64	23.56	24.5
10		1	50	23.60	23.54	23.35	
10		25	12	23.49	23.59	23.58	



10	DFT-s-OFDM 64QAM	1	1	22.09	21.97	22.27	23
10		1	50	21.95	22.00	22.07	
10		25	12	22.14	22.02	22.05	23
10	DFT-s-OFDM 256QAM	1	1	19.82	19.71	19.75	20
10		1	50	19.75	19.71	19.53	
10		25	12	20.15	20.03	19.98	21
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	DFT-s-OFDM PI/2 BPSK	1	1	23.75	23.69	23.55	24.5
5		1	23	23.65	23.55	23.28	
5		12	6	23.65	23.55	23.57	24.5
5	DFT-s-OFDM QPSK	1	1	23.73	23.63	23.49	24.5
5		1	23	23.67	23.53	23.30	
5		12	6	23.69	23.59	23.42	24.5
5	DFT-s-OFDM 16QAM	1	1	23.79	23.76	23.64	24.5
5		1	23	23.70	23.63	23.31	
5		12	6	23.83	23.51	23.37	24.5
5	DFT-s-OFDM 64QAM	1	1	22.11	22.16	21.94	23
5		1	23	22.10	21.92	21.77	
5		12	6	22.29	22.13	22.09	23
5	DFT-s-OFDM 256QAM	1	1	19.91	19.80	19.70	20
5		1	23	19.79	19.77	19.94	
5		12	6	20.23	20.11	19.42	21

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				134600	136100	137600	Tune-up limit (dBm)
Frequency (MHz)				673	680.5	688	
20	CP-OFDM QPSK	1	1	23.53	23.05	23.19	24
20		1	104	23.30	23.25	23.03	
20		53	26	23.32	23.13	23.20	
20	CP-OFDM 16QAM	1	1	22.89	22.46	22.78	23
20		1	104	22.63	22.63	22.32	
20		53	26	22.79	22.77	22.67	
20	CP-OFDM 64QAM	1	1	21.31	21.42	21.18	22
20		1	104	20.97	21.14	20.76	



20		53	26	21.33	21.32	21.18	22
20	CP-OFDM 256QAM	1	1	17.90	17.90	17.89	19
20		1	104	17.73	17.70	17.57	
20		53	26	18.26	18.20	18.10	19
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	CP-OFDM QPSK	1	1	23.35	23.19	23.42	24
15		1	77	23.26	23.27	23.02	
15		39	19	21.89	21.82	21.63	24
15	CP-OFDM 16QAM	1	1	22.89	22.94	22.67	23
15		1	77	22.63	22.49	22.17	
15		39	19	21.97	21.79	21.70	23
15	CP-OFDM 64QAM	1	1	21.32	21.27	21.06	22
15		1	77	21.05	20.99	20.72	
15		39	19	21.37	21.27	21.11	22
15	CP-OFDM 256QAM	1	1	18.07	17.85	17.90	19
15		1	77	17.93	17.75	17.53	
15		39	19	18.33	18.22	18.07	19
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	CP-OFDM QPSK	1	1	23.26	22.92	23.11	24
10		1	50	22.90	22.97	23.11	
10		26	13	22.95	22.96	23.04	24
10	CP-OFDM 16QAM	1	1	22.60	22.36	22.68	23
10		1	50	22.15	22.61	22.43	
10		26	13	22.36	22.50	22.52	23
10	CP-OFDM 64QAM	1	1	21.05	21.18	21.07	22
10		1	50	20.70	20.98	20.83	
10		26	13	20.88	21.14	21.00	22
10	CP-OFDM 256QAM	1	1	17.71	17.95	17.80	19
10		1	50	17.39	17.85	17.55	
10		26	13	17.95	18.15	17.98	19
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	CP-OFDM	1	1	23.04	23.44	23.26	24



5	QPSK	1	23	23.16	22.94	22.90	
5		13	6	23.05	23.06	22.95	24
5	CP-OFDM 16QAM	1	1	22.49	22.75	22.60	23
5		1	23	22.60	22.55	22.15	
5		13	6	22.59	22.49	22.36	23
5	CP-OFDM 64QAM	1	1	20.98	21.04	21.05	22
5		1	23	21.00	20.94	20.70	
5		13	6	21.20	21.10	20.88	22
5	CP-OFDM 256QAM	1	1	18.00	17.88	17.71	19
5		1	23	17.73	17.69	17.39	
5		13	6	18.23	18.07	17.95	19

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BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				134600	136100	137600	
Frequency (MHz)				673	680.5	688	
20	DFT-s-OFDM PI/2 BPSK	1	1	24.06	23.94	24.00	25
20		1	104	23.90	23.99	23.88	
20		50	25	23.92	23.99	24.05	25
20	DFT-s-OFDM QPSK	1	1	23.98	23.75	23.84	25
20		1	104	24.00	23.90	23.86	
20		50	25	23.92	24.05	24.06	25
20	DFT-s-OFDM 16QAM	1	1	24.05	23.89	24.05	25
20		1	104	24.01	24.03	23.91	
20		50	25	23.77	23.93	24.09	25
20	DFT-s-OFDM 64QAM	1	1	22.35	22.20	22.42	23
20		1	104	22.38	22.40	22.26	
20		50	25	22.30	22.49	22.58	23
20	DFT-s-OFDM 256QAM	1	1	20.04	19.88	20.02	21
20		1	104	20.16	20.06	19.92	
20		50	25	20.26	20.47	20.47	21
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	DFT-s-OFDM	1	1	24.07	23.78	23.95	25
15	PI/2 BPSK	1	77	23.96	23.89	23.76	



15		36	18	23.79	23.58	23.47	25
15	DFT-s-OFDM QPSK	1	1	23.91	23.81	23.99	25
15		1	77	23.88	23.99	23.87	
15		36	18	23.83	24.01	23.96	25
15	DFT-s-OFDM 16QAM	1	1	24.04	23.89	24.07	25
15		1	77	23.93	24.08	23.84	
15		36	18	23.86	23.99	24.01	25
15	DFT-s-OFDM 64QAM	1	1	22.37	22.15	22.34	23
15		1	77	22.20	22.39	22.43	
15		36	18	22.35	22.49	22.55	23
15	DFT-s-OFDM 256QAM	1	1	20.08	19.91	20.01	21
15		1	77	20.06	20.19	19.96	
15		36	18	20.26	20.40	20.43	21
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	DFT-s-OFDM PI/2 BPSK	1	1	23.87	23.70	24.04	25
10		1	50	23.57	24.07	23.79	
10		25	12	23.83	23.87	24.02	25
10	DFT-s-OFDM QPSK	1	1	23.78	23.72	23.97	25
10		1	50	23.58	23.82	23.74	
10		25	12	23.84	24.07	23.96	25
10	DFT-s-OFDM 16QAM	1	1	23.78	23.72	24.01	25
10		1	50	23.68	24.06	23.79	
10		25	12	23.73	23.95	23.85	25
10	DFT-s-OFDM 64QAM	1	1	22.22	22.08	22.29	23
10		1	50	22.03	22.40	22.08	
10		25	12	22.17	22.37	22.31	23
10	DFT-s-OFDM 256QAM	1	1	19.84	19.77	20.03	21
10		1	50	19.65	20.14	19.81	
10		25	12	20.23	20.41	20.32	21
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	DFT-s-OFDM PI/2 BPSK	1	1	23.86	23.87	24.13	25
5		1	23	23.76	23.72	23.72	
5		12	6	23.96	23.81	23.88	25
5	DFT-s-OFDM	1	1	23.62	23.77	23.88	25



5	QPSK	1	23	23.64	23.74	23.70	
5		12	6	23.82	23.91	23.85	25
5	DFT-s-OFDM 16QAM	1	1	23.87	23.89	23.94	25
5		1	23	23.69	23.88	23.80	
5		12	6	23.84	23.78	23.84	25
5	DFT-s-OFDM 64QAM	1	1	22.14	22.25	22.35	23
5		1	23	22.06	22.14	22.08	
5		12	6	22.29	22.47	22.47	23
5	DFT-s-OFDM 256QAM	1	1	19.96	19.98	20.02	21
5		1	23	19.82	19.94	19.83	
5		12	6	20.29	20.35	20.27	21

BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				134600	136100	137600	
Frequency (MHz)				673	680.5	688	
20	CP-OFDM QPSK	1	1	23.68	23.40	23.39	24
20		1	104	23.35	23.50	23.38	
20		53	26	23.34	23.44	23.46	24
20	CP-OFDM 16QAM	1	1	23.17	22.94	23.12	24
20		1	104	22.97	23.00	22.88	
20		53	26	22.88	22.96	23.00	24
20	CP-OFDM 64QAM	1	1	21.65	21.28	21.49	22
20		1	104	21.49	21.45	21.34	
20		53	26	21.41	21.45	21.51	22
20	CP-OFDM 256QAM	1	1	18.30	18.18	18.23	19
20		1	104	18.34	18.29	18.17	
20		53	26	18.55	18.69	18.64	19
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	CP-OFDM QPSK	1	1	23.46	23.23	23.33	24
15		1	77	23.48	23.66	23.11	
15		39	191	22.00	21.87	22.10	24
15	CP-OFDM 16QAM	1	1	23.06	22.91	23.03	24
15		1	77	22.79	22.84	22.63	
15		39	191	21.93	21.91	22.13	24



15	CP-OFDM 64QAM	1	1	21.46	21.27	21.39	22
15		1	77	21.26	21.31	21.15	
15		39	191	21.46	21.35	21.57	
15	CP-OFDM 256QAM	1	1	18.38	18.17	18.40	19
15		1	77	18.30	18.23	18.20	
15		39	191	18.61	18.60	18.58	
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	CP-OFDM QPSK	1	1	23.26	23.40	23.66	24
10		1	50	23.37	23.40	23.20	
10		26	13	23.33	23.46	23.38	
10	CP-OFDM 16QAM	1	1	22.79	22.78	23.02	24
10		1	50	22.74	23.09	22.83	
10		26	13	22.71	22.93	22.94	
10	CP-OFDM 64QAM	1	1	21.24	21.13	21.39	22
10		1	50	21.16	21.37	21.29	
10		26	13	21.29	21.44	21.38	
10	CP-OFDM 256QAM	1	1	18.18	17.96	18.30	19
10		1	50	18.05	18.22	124900.00	
10		26	13	18.36	18.56	18.59	
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	CP-OFDM QPSK	1	1	23.16	23.50	23.64	24
5		1	23	23.34	23.46	23.03	
5		13	6	23.18	23.36	23.21	
5	CP-OFDM 16QAM	1	1	22.75	22.91	22.92	24
5		1	23	22.85	22.63	22.53	
5		13	6	22.64	22.70	22.66	
5	CP-OFDM 64QAM	1	1	21.26	21.30	21.44	22
5		1	23	21.04	21.05	21.13	
5		13	6	21.26	21.38	21.33	
5	CP-OFDM 256QAM	1	1	18.16	18.19	18.25	19
5		1	23	17.94	18.13	18.04	
5		13	6	18.42	18.52	18.44	



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BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				134600	136100	137600	
Frequency (MHz)				673	680.5	688	
20	DFT-s-OFDM PI/2 BPSK	1	1	23.79	23.80	23.79	24.5
20		1	104	23.56	23.65	23.51	
20		50	25	23.80	23.73	23.78	
20	DFT-s-OFDM QPSK	1	1	23.77	23.78	23.83	24.5
20		1	104	23.67	23.61	23.46	
20		50	25	23.86	23.70	23.56	
20	DFT-s-OFDM 16QAM	1	1	23.96	23.75	23.91	24.5
20		1	104	23.77	23.56	23.47	
20		50	25	23.78	23.59	23.55	
20	DFT-s-OFDM 64QAM	1	1	22.25	22.51	22.25	23
20		1	104	22.01	22.39	21.79	
20		50	25	22.29	22.28	22.07	
20	DFT-s-OFDM 256QAM	1	1	19.92	19.74	19.89	20.5
20		1	104	19.77	19.71	19.50	
20		50	25	20.15	20.14	20.05	
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	DFT-s-OFDM PI/2 BPSK	1	1	23.85	23.84	23.77	24.5
15		1	77	23.84	23.60	23.40	
15		36	18	23.83	23.84	23.74	
15	DFT-s-OFDM QPSK	1	1	23.97	23.74	23.70	24.5
15		1	77	23.92	23.64	23.53	
15		36	18	23.82	23.75	23.63	
15	DFT-s-OFDM 16QAM	1	1	23.90	23.85	23.65	24.5
15		1	77	23.77	23.72	23.38	
15		36	18	23.89	23.86	23.70	
15	DFT-s-OFDM 64QAM	1	1	22.68	22.16	22.43	23
15		1	77	22.43	22.12	22.17	
15		36	18	22.31	22.39	22.13	
15	DFT-s-OFDM 256QAM	1	1	20.18	19.92	19.85	20.5
15		1	77	19.86	19.75	19.58	



15		36	18	20.23	20.22	20.11	20.5
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	DFT-s-OFDM PI/2 BPSK	1	1	23.76	23.73	23.75	24.5
10		1	50	23.69	23.65	23.41	
10		25	12	23.72	23.84	23.63	
10	DFT-s-OFDM QPSK	1	1	23.70	23.57	23.58	24.5
10		1	50	23.63	23.53	23.27	
10		25	12	23.75	23.76	23.66	
10	DFT-s-OFDM 16QAM	1	1	23.75	23.60	23.70	24.5
10		1	50	23.66	23.62	23.51	
10		25	12	23.56	23.56	23.50	
10	DFT-s-OFDM 64QAM	1	1	22.17	22.04	22.04	23
10		1	50	22.02	21.96	21.76	
10		25	12	22.10	22.09	22.00	
10	DFT-s-OFDM 256QAM	1	1	19.87	19.72	19.72	20.5
10		1	50	19.70	19.72	19.51	
10		25	12	20.18	20.06	20.21	
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	DFT-s-OFDM PI/2 BPSK	1	1	23.48	23.83	23.68	24.5
5		1	23	23.77	23.59	23.32	
5		12	6	23.74	23.67	23.41	
5	DFT-s-OFDM QPSK	1	1	23.70	23.60	23.45	24.5
5		1	23	23.74	23.61	23.38	
5		12	6	23.75	23.70	23.54	
5	DFT-s-OFDM 16QAM	1	1	23.85	23.83	23.63	24.5
5		1	23	23.68	23.61	23.32	
5		12	6	23.72	23.69	23.39	
5	DFT-s-OFDM 64QAM	1	1	22.15	22.19	21.96	23
5		1	23	22.12	22.05	21.79	
5		12	6	22.37	22.22	22.11	
5	DFT-s-OFDM 256QAM	1	1	19.80	19.86	19.71	20.5
5		1	23	19.66	19.74	19.44	
5		12	6	20.25	20.07	19.92	



BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				134600	136100	137600	24
Frequency (MHz)				673	680.5	688	
20	CP-OFDM QPSK	1	1	23.53	22.96	23.26	
20		1	104	23.10	23.09	22.80	
20		53	26	23.36	23.20	23.15	
20	CP-OFDM 16QAM	1	1	22.94	22.31	22.72	24
20		1	104	22.61	22.67	22.39	
20		53	26	22.80	22.73	22.73	
20	CP-OFDM 64QAM	1	1	21.30	21.34	21.04	22
20		1	104	20.98	21.05	20.81	
20		53	26	21.34	21.27	21.13	
20	CP-OFDM 256QAM	1	1	18.04	17.90	17.79	19
20		1	104	17.84	17.81	17.60	
20		53	26	18.28	18.19	18.02	
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	CP-OFDM QPSK	1	1	23.44	23.22	23.51	24
15		1	77	23.29	23.27	22.93	
15		39	191	21.90	21.80	21.70	
15	CP-OFDM 16QAM	1	1	22.94	22.93	22.72	24
15		1	77	22.62	22.56	22.25	
15		39	191	22.04	21.83	21.77	
15	CP-OFDM 64QAM	1	1	21.31	21.12	21.15	22
15		1	77	21.06	21.03	20.74	
15		39	191	21.39	21.32	21.09	
15	CP-OFDM 256QAM	1	1	18.14	17.92	17.87	19
15		1	77	17.88	17.80	17.59	
15		39	191	18.40	18.19	18.13	
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	CP-OFDM QPSK	1	1	22.97	23.36	23.34	24
10		1	50	23.33	23.07	23.11	
10		26	13	22.92	23.14	23.13	



10	CP-OFDM 16QAM	1	1	22.41	22.69	22.60	24
10		1	50	22.64	22.71	22.38	
10		26	13	22.47	22.66	22.50	23
10	CP-OFDM 64QAM	1	1	21.26	21.10	21.06	22
10		1	50	21.06	21.04	20.90	
10		26	13	21.12	21.17	21.08	22
10	CP-OFDM 256QAM	1	1	17.94	17.83	17.84	19
10		1	50	17.82	17.83	17.59	
10		26	13	18.22	18.08	18.02	19
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	CP-OFDM QPSK	1	1	22.96	23.11	23.26	24
5		1	23	23.04	22.96	22.95	
5		13	6	22.90	23.08	22.99	24
5	CP-OFDM 16QAM	1	1	22.42	22.78	22.65	24
5		1	23	22.49	22.51	22.16	
5		13	6	22.49	22.56	22.36	23
5	CP-OFDM 64QAM	1	1	21.05	21.11	21.00	22
5		1	23	21.02	20.98	20.69	
5		13	6	21.30	21.08	21.09	22
5	CP-OFDM 256QAM	1	1	18.04	17.87	17.72	19
5		1	23	17.75	17.77	17.50	
5		13	6	18.25	18.10	18.00	19

<Bluetooth>

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
LE	0	2402	5.75
	19	2440	5.95
	39	2480	5.82
Tune-up Limit (dBm)			6.50

Note:

The output power of Bluetooth is derived from the report SZ21010176W01.

5. RF Exposure Assessment

➤ Standalone Transmission Assessment

Bands	Frequency (MHz)	Tune-up Power(dBm)	Antenna Gain(dBi)	EIRP (mW)	Power Density (mW/cm ²)	Limit for MPE (mW/cm ²)
WCDMA Band II	1907.6	24	1.7	371.54	0.074	1.0
WCDMA Band IV	1752.6	24	1.7	371.54	0.074	1.0
WCDMA Band V	846.6	24	0.8	302.00	0.060	0.564
LTE Band 2	1900	24	1.7	371.54	0.074	1.0
LTE Band 4	1745	23.5	1.7	331.13	0.066	1.0
LTE Band 5	844	23.5	1.0	281.84	0.056	0.563
LTE Band 7	2560	24	1.7	371.54	0.074	1.0
LTE Band 12	711	24	1.0	316.23	0.063	0.474
LTE Band 13	782	24	1.0	316.23	0.063	0.521
LTE Band 17	711	24	1.0	316.23	0.063	0.474
LTE Band 25	1905	24	1.7	371.54	0.074	1.0
LTE Band 26	841.5	23.5	1.0	281.84	0.056	0.561
LTE Band 30	2310	24	1.7	371.54	0.074	1.0
LTE Band 66	1770	23.5	1.7	331.13	0.066	1.0
Bluetooth	2480	6.5	1.5	6.31	0.001	1.0

➤ EN-DC Transmission Assessment

Bands	Carrier for LTE		Carrier for NR		EN-DC (mW/cm ²)	Limit for MPE (mW/cm ²)
	Bands	PD(mW/cm ²)	Bands	PD(mW/cm ²)		
EN-DC_2A-n66A	2	0.074	n66	0.095	0.169	1.0
EN-DC_2A-n71A	2	0.074	n71	0.072	0.146	0.459

Note:

1. According to KDB 447498, SAR test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring assessment, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.
2. MPE calculate method

$$\text{Power Density} = \text{EIRP}/4\pi R^2$$

Where: EIRP = P+G

P = Output Power (dBm)

G = Antenna Gain (dBi)

R = Separation Distance (20cm)



3. For EN-DC, maximum permissive exposure would be evaluated separately.

➤ **Simultaneous Transmission Assessment**

Multi-Band Simultaneous Transmission Consideration

Simultaneous Transmission Consideration	Supported
WWAN (WCDMA/LTE/NR) + Bluetooth	Yes

1. This device contains transmitters that may be operated simultaneously, therefore simultaneous transmission analysis is required.
2. The worst condition for WWAN will be calculated the simultaneous transmission.

Formula: $\text{Result} = \text{Power density}_1 / \text{limit}_1 + \text{Power density}_2 / \text{limit}_2 \leq 1$.

Transmission Bands	Power Density/ SAR	Limit	Simultaneous Transmission Result	Pass or Fail
EN-DC_2A-n71A	0.146	0.459	0.319	Pass
Bluetooth	0.001	1.0		

➤ **Conclusion:**

According to 47 CFR §2.1091, this device complies with human exposure basic restrictions.



Annex A General Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Laboratory Address:	FL.1-3, 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. Morlab Laboratory
Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

The FCC designation number is CN1192, the test firm registration number is 226174.

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