



CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	22.15	24
132322	132229	QPSK	1	0	1	24	2	0	22.3	24
132597	132504	QPSK	1	0	1	24	2	0	22.14	24

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	22.18	24
132322	132124	QPSK	1	0	1	99	2	0	22.36	24
132572	132374	QPSK	1	0	1	99	2	0	22.2	24

CA_38C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	0	0	0	1	0	22.17	24
37901	38099	QPSK	1	0	0	0	1	0	22.12	24
38150	37952	QPSK	1	0	1	99	2	0	22.39	24

CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	21.82	22
40185	39987	QPSK	1	0	0	0	2	0	21.78	22
40620	40422	QPSK	1	0	0	0	2	0	21.06	22
41055	40857	QPSK	1	0	0	0	2	0	21.32	22
41490	41292	QPSK	1	0	0	0	2	0	21.05	22

CA_41C HPUE										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	24.01	25
40185	39987	QPSK	1	0	0	0	1	0	23.44	25
40620	40422	QPSK	1	0	0	0	1	0	23.18	25
41055	40857	QPSK	1	0	0	0	1	0	23.22	25
41490	41292	QPSK	1	0	0	0	1	0	23.53	25

CA_48C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	0	0	0	1	0	19.1	21
55830	55632	QPSK	1	0	1	99	2	0	19.32	21
56150	55952	QPSK	1	0	1	99	2	0	19.4	21
56640	56442	QPSK	1	0	1	99	2	0	19.65	21



<MIMO 2>

CA_7C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	0	0	0	1	0	22.1	24
21100	20902	QPSK	1	0	1	99	2	0	22.1	24
21350	21152	QPSK	1	0	1	99	2	0	22.15	24

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	23.54	24
132322	132229	QPSK	1	0	1	24	2	0	23.69	24
132597	132504	QPSK	1	0	1	24	2	0	23.75	24

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	22.01	24
132322	132124	QPSK	1	0	1	99	2	0	22.32	24
132572	132374	QPSK	1	0	1	99	2	0	22.31	24

CA_38C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	0	0	0	1	0	23.14	24
37901	38099	QPSK	1	0	0	0	1	0	22.79	24
38150	37952	QPSK	1	0	1	99	2	0	23.34	24

CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	22.1	24
40185	39987	QPSK	1	0	0	0	1	0	22.06	24
40620	40422	QPSK	1	0	0	0	1	0	22.15	24
41055	40857	QPSK	1	0	0	0	1	0	22.04	24
41490	41292	QPSK	1	0	0	0	1	0	22.08	24

CA_41C HPUE										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	25.81	27
40185	39987	QPSK	1	0	0	0	1	0	26.05	27
40620	40422	QPSK	1	0	0	0	1	0	26.22	27
41055	40857	QPSK	1	0	0	0	1	0	26.31	27
41490	41292	QPSK	1	0	0	0	1	0	26.47	27



CA_48C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	0	0	0	1	0	21.85	22
55830	55632	QPSK	1	0	1	99	2	0	21.74	22
56150	55952	QPSK	1	0	1	99	2	0	21.66	22
56640	56442	QPSK	1	0	1	99	2	0	21.8	22

<Reduced Power Mode>

<Main>

CA_5B										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	0	0	0	1	0	21.21	22.5
20575	20476	QPSK	1	0	1	49	2	0	21.43	22.5
20600	20501	QPSK	1	0	1	49	2	0	21.3	22.5

CA_7C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	0	0	0	1	0	15.63	16
21100	20902	QPSK	1	0	1	99	2	0	15.56	16
21350	21152	QPSK	1	0	1	99	2	0	15.85	16

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	17.11	18
132322	132229	QPSK	1	0	1	24	2	0	17.23	18
132597	132504	QPSK	1	0	1	24	2	0	17.24	18

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	17.11	18
132322	132124	QPSK	1	0	1	99	2	0	17.03	18
132572	132374	QPSK	1	0	1	99	2	0	17.2	18

CA_38C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	0	0	0	1	0	16.17	17
37901	38099	QPSK	1	0	0	0	1	0	16.02	17
38150	37952	QPSK	1	0	1	99	2	0	15.98	17



CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	15.12	17
40185	39987	QPSK	1	0	0	0	1	0	15.23	17
40620	40422	QPSK	1	0	0	0	1	0	15.06	17
41055	40857	QPSK	1	0	0	0	1	0	15.27	17
41490	41292	QPSK	1	0	0	0	1	0	15.32	17

CA_41C HPUE										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	14.98	17
40185	39987	QPSK	1	0	0	0	1	0	15.01	17
40620	40422	QPSK	1	0	0	0	1	0	14.93	17
41055	40857	QPSK	1	0	0	0	1	0	15.02	17
41490	41292	QPSK	1	0	0	0	1	0	15.11	17

CA_48C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	0	0	0	1	0	18.25	20
55830	55632	QPSK	1	0	1	99	2	0	18.16	20
56150	55952	QPSK	1	0	1	99	2	0	18.24	20
56640	56442	QPSK	1	0	1	99	2	0	18.1	20

<MIMO 2>

CA_7C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	0	0	0	1	0	15.51	17.5
21100	20902	QPSK	1	0	1	99	2	0	15.73	17.5
21350	21152	QPSK	1	0	1	99	2	0	15.72	17.5

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	17.46	17.5
132322	132229	QPSK	1	0	1	24	2	0	17.5	17.5
132597	132504	QPSK	1	0	1	24	2	0	17.49	17.5

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	15.54	17.5
132322	132124	QPSK	1	0	1	99	2	0	16.09	17.5
132572	132374	QPSK	1	0	1	99	2	0	16	17.5



CA_38C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	0	0	0	1	0	16.59	17
37901	38099	QPSK	1	0	0	0	1	0	16.6	17
38150	37952	QPSK	1	0	1	99	2	0	16.68	17

CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	15.2	17
40185	39987	QPSK	1	0	0	0	1	0	15.45	17
40620	40422	QPSK	1	0	0	0	1	0	15.3	17
41055	40857	QPSK	1	0	0	0	1	0	15.23	17
41490	41292	QPSK	1	0	0	0	1	0	15.6	17

CA_41C HPUE										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	15.01	17
40185	39987	QPSK	1	0	0	0	1	0	15.08	17
40620	40422	QPSK	1	0	0	0	1	0	14.98	17
41055	40857	QPSK	1	0	0	0	1	0	14.97	17
41490	41292	QPSK	1	0	0	0	1	0	15.15	17

CA_48C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	0	0	0	1	0	19.08	20
55830	55632	QPSK	1	0	1	99	2	0	19.03	20
56150	55952	QPSK	1	0	1	99	2	0	18.89	20
56640	56442	QPSK	1	0	1	99	2	0	18.9	20



## 12. 5G NR Output Power (Unit: dBm)

### General Note:

1. The device support SCS 15KHz and 30KHz for NR FDD and TDD and have the same maximum power, in this report only select SCS 15KHz for NR FDD and SCS 30KHz for NR TDD power measurement, due to SCS 15KHz for FDD and SCS 30KHz for TDD have highest support bandwidth, and the NR SAR is < 1g SAR 1.45W/kg. Output power and SAR measurement for SCS30KHz for FDD and SCS15KHz for TDD shall be not necessary.
2. Referencing the procedure in KDB 941225, the test procedures are outlined as below
  - a. For DFT-OFDM output power measurement, full measurement was done for Pi/2 BPSK and QPSK and for the largest supported bandwidth, repeat test for 16QAM/64QAM/256QAM under 1RB 1Offset configuration. For smaller bandwidth, measure conducted power for Pi/2 BPSK and 1RB 1Offset configuration.
  - b. According to the tune-up, CP-OFDM output power is not ½ dB higher than DFT-OFDM mode, and the reported SAR of DFT-OFDM mode reported SAR is ≤ 1.45 W/kg, SAR test and thus conducted power for CP-OFDM mode is not required.
  - c. To start SAR test for the largest channel bandwidth for Pi/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for Pi/2 BPSK SAR testing using 1RB Pi/2 BPSK allocation procedure
  - d. For Pi/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
  - e. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not ½ dB higher than the same configuration in Pi/2 BPSK, also reported SAR for the Pi/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
  - f. Smaller bandwidth output power for each RB allocation configuration for this device is not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
  - g. The NR n5/41/66/71/77 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth.
  - h. The NR n2/38 SAR test was covered by NR n25/41; due to SAR test for overlapping NR bands can be reduced if the maximum power including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion and the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
3. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission. And only for TDD power class2 was performed using Factory Test Mode software to establish the connection and perform SAR with 50% transmission

**<3GPP 38.101 MPR for EN-DC>**

**Table 6.2.2-1 Maximum power reduction (MPR) for power class 3**

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
		$\leq 0.5^2$	$\leq 0.5^2$	0 <sup>2</sup>
	QPSK	$\leq 1$		0
	16 QAM	$\leq 2$		$\leq 1$
	256 QAM		$\leq 2.5$	
CP-OFDM	QPSK	$\leq 3$		$\leq 1.5$
	16 QAM	$\leq 3$		$\leq 2$
	64 QAM		$\leq 3.5$	
	256 QAM		$\leq 6.5$	
	NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability <i>powerBoosting-pi2BPSK</i> and if the IE <i>powerBoostPi2BPSK</i> is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0 dB MPR is 26 dBm.			
NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 with Pi/2 BPSK modulation and if the IE <i>powerBoostPi2BPSK</i> is set to 0 and if more than 40 % of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.				

**Table 6.2.2-2 Maximum power reduction (MPR) for power class 2**

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	$\leq 3.5$	$\leq 0.5$	0
	QPSK	$\leq 3.5$	$\leq 1$	0
	16 QAM	$\leq 3.5$	$\leq 2$	$\leq 1$
	64 QAM	$\leq 3.5$		$\leq 2.5$
	256 QAM		$\leq 4.5$	
CP-OFDM	QPSK	$\leq 3.5$	$\leq 3$	$\leq 1.5$
	16 QAM	$\leq 3.5$	$\leq 3$	$\leq 2$
	64 QAM		$\leq 3.5$	
	256 QAM		$\leq 6.5$	



**Default Power Mode**

**<n2\_Main>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376000	380000	Tune-up limit (dBm)
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	24.00	23.78	23.95	
20	PI/2 BPSK	1	53	23.85	23.91	23.86	24.0
20	PI/2 BPSK	1	104	23.83	23.82	23.89	
20	PI/2 BPSK	50	0	23.22	23.12	23.06	
20	PI/2 BPSK	50	28	23.93	23.89	23.91	24.0
20	PI/2 BPSK	50	56	23.46	23.48	23.54	23.5
20	PI/2 BPSK	100	0	23.56	23.46	23.46	
20	QPSK	1	1	23.65	23.64	23.65	
20	QPSK	1	53	23.89	23.83	23.76	24.0
20	QPSK	1	104	23.77	23.77	23.72	
20	QPSK	50	0	22.59	22.62	22.57	
20	QPSK	50	28	23.84	23.85	23.93	24.0
20	QPSK	50	56	23.01	22.96	23.06	23.0
20	QPSK	100	0	22.89	22.81	22.85	
20	16QAM	1	1	22.55	22.62	22.66	
20	64QAM	1	1	20.94	20.92	20.86	21.5
20	256QAM	1	1	19.18	19.28	19.20	19.5
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	23.72	23.75	23.73	
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	23.62	23.82	23.73	
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	23.82	23.77	23.65	





<n2 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376000	380000	Tune-up limit (dBm)
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	23.99	23.91	23.95	24.0
20	PI/2 BPSK	1	53	23.85	23.90	23.86	
20	PI/2 BPSK	1	104	23.83	23.82	23.89	
20	PI/2 BPSK	50	0	23.22	23.12	23.06	23.5
20	PI/2 BPSK	50	28	23.90	23.89	23.81	24.0
20	PI/2 BPSK	50	56	23.46	23.48	23.54	23.5
20	PI/2 BPSK	100	0	23.56	23.46	23.46	
20	QPSK	1	1	23.65	23.64	23.65	24.0
20	QPSK	1	53	23.89	23.83	23.76	
20	QPSK	1	104	23.77	23.77	23.72	
20	QPSK	50	0	22.59	22.62	22.57	23.0
20	QPSK	50	28	23.84	23.85	23.93	24.0
20	QPSK	50	56	23.01	22.96	23.06	23.0
20	QPSK	100	0	22.89	22.81	22.85	
20	16QAM	1	1	22.55	22.62	22.66	23.0
20	64QAM	1	1	20.94	20.92	20.86	21.5
20	256QAM	1	1	19.18	19.28	19.20	19.5
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	23.72	23.75	23.73	24.0
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	23.62	23.82	23.73	24.0
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	23.82	23.77	23.65	24.0



<n5 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				166800	167300	167800	Tune-up limit (dBm)
Frequency (MHz)				834	836.5	839	
20	PI/2 BPSK	1	1	24.44	24.56	24.64	25.0
20	PI/2 BPSK	1	53	24.57	24.55	24.55	
20	PI/2 BPSK	1	104	24.39	24.48	24.42	
20	PI/2 BPSK	50	0	24.53	24.52	24.59	25.0
20	PI/2 BPSK	50	28	24.52	24.51	24.54	25.0
20	PI/2 BPSK	50	56	24.42	24.45	24.52	25.0
20	PI/2 BPSK	100	0	24.47	24.48	24.56	
20	QPSK	1	1	24.32	24.42	24.33	25.0
20	QPSK	1	53	24.55	24.53	24.57	
20	QPSK	1	104	24.41	24.47	24.49	
20	QPSK	50	0	24.49	24.58	24.60	25.0
20	QPSK	50	28	24.59	24.52	24.54	25.0
20	QPSK	50	56	24.45	24.49	24.54	25.0
20	QPSK	100	0	24.55	24.51	24.54	
20	16QAM	1	1	24.41	24.32	24.28	25.0
20	64QAM	1	1	24.29	24.19	24.14	25.0
20	256QAM	1	1	24.45	24.39	24.33	25.0
Channel				166300	167300	168300	Tune-up limit (dBm)
Frequency (MHz)				831.5	836.5	841.5	
15	PI/2 BPSK	1	1	24.39	24.43	24.35	25.0
Channel				165800	167300	168800	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	PI/2 BPSK	1	1	24.39	24.52	24.29	25.0
Channel				165300	167300	169300	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	PI/2 BPSK	1	1	24.27	24.55	24.38	25.0



<n7 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				502000	507000	512000	Tune-up limit (dBm)
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	23.94	23.93	23.85	24.0
20	PI/2 BPSK	1	53	23.76	23.84	23.79	
20	PI/2 BPSK	1	104	23.90	23.82	23.74	
20	PI/2 BPSK	50	0	23.37	23.42	23.43	23.5
20	PI/2 BPSK	50	28	23.91	23.90	23.90	24.0
20	PI/2 BPSK	50	56	23.50	23.45	23.44	23.5
20	PI/2 BPSK	100	0	23.48	23.41	23.47	
20	QPSK	1	1	23.78	23.86	23.91	24.0
20	QPSK	1	53	23.82	23.82	23.89	
20	QPSK	1	104	23.76	23.80	23.85	
20	QPSK	50	0	22.95	22.94	22.96	23.0
20	QPSK	50	28	23.88	23.91	23.92	24.0
20	QPSK	50	56	22.93	22.95	22.96	23.0
20	QPSK	100	0	22.96	23.00	23.04	
20	16QAM	1	1	22.92	22.93	22.96	23.0
20	64QAM	1	1	21.05	21.10	21.03	21.5
20	256QAM	1	1	19.46	19.47	19.38	19.5
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	23.73	23.77	23.65	24.0
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	23.82	23.88	23.75	24.0
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	23.68	23.75	23.69	24.0



<n7 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				502000	507000	512000	Tune-up limit (dBm)
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	23.95	23.94	23.85	24.0
20	PI/2 BPSK	1	53	23.76	23.84	23.79	
20	PI/2 BPSK	1	104	23.90	23.82	23.74	
20	PI/2 BPSK	50	0	23.37	23.42	23.43	23.5
20	PI/2 BPSK	50	28	23.93	23.92	23.90	24.0
20	PI/2 BPSK	50	56	23.50	23.45	23.44	23.5
20	PI/2 BPSK	100	0	23.48	23.41	23.47	
20	QPSK	1	1	23.78	23.86	23.91	24.0
20	QPSK	1	53	23.82	23.82	23.89	
20	QPSK	1	104	23.76	23.80	23.85	
20	QPSK	50	0	22.95	22.94	22.96	23.0
20	QPSK	50	28	23.88	23.91	23.92	24.0
20	QPSK	50	56	22.93	22.95	22.96	23.0
20	QPSK	100	0	22.96	23.00	23.04	
20	16QAM	1	1	22.92	22.93	22.96	23.0
20	64QAM	1	1	21.05	21.10	21.03	21.5
20	256QAM	1	1	19.46	19.47	19.38	19.5
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	23.73	23.77	23.65	24.0
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	23.82	23.88	23.75	24.0
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	23.68	23.75	23.69	24.0



<n25 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376500	381000	Tune-up limit (dBm)
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	23.76	23.92	23.85	24.0
20	PI/2 BPSK	1	53	23.80	23.82	23.74	
20	PI/2 BPSK	1	104	23.87	23.79	23.78	
20	PI/2 BPSK	50	0	23.21	23.24	23.17	23.5
20	PI/2 BPSK	50	28	23.82	23.91	23.83	24.0
20	PI/2 BPSK	50	56	23.44	23.38	23.38	23.5
20	PI/2 BPSK	100	0	23.51	23.58	23.52	
20	QPSK	1	1	23.63	23.71	23.61	24.0
20	QPSK	1	53	23.90	23.88	23.82	
20	QPSK	1	104	23.69	23.79	23.72	
20	QPSK	50	0	22.72	22.73	22.74	23.0
20	QPSK	50	28	23.83	23.85	23.76	24.0
20	QPSK	50	56	22.98	22.93	22.90	23.0
20	QPSK	100	0	22.75	22.81	22.75	
20	16QAM	1	1	22.80	22.78	22.87	23.0
20	64QAM	1	1	20.88	20.97	21.07	21.5
20	256QAM	1	1	19.38	19.30	19.39	19.5
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	23.66	23.85	23.72	24.0
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	23.62	23.59	23.68	24.0
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	23.75	23.79	23.65	24.0



<n25 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376500	381000	Tune-up limit (dBm)
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	23.72	23.72	23.86	24.0
20	PI/2 BPSK	1	53	23.71	23.79	23.73	
20	PI/2 BPSK	1	104	23.84	23.71	23.70	
20	PI/2 BPSK	50	0	23.20	23.24	23.17	23.5
20	PI/2 BPSK	50	28	23.72	23.72	23.78	24.0
20	PI/2 BPSK	50	56	23.40	23.28	23.30	23.5
20	PI/2 BPSK	100	0	23.50	23.50	23.46	
20	QPSK	1	1	23.59	23.69	23.51	24.0
20	QPSK	1	53	23.85	23.81	23.81	
20	QPSK	1	104	23.60	23.72	23.69	
20	QPSK	50	0	22.69	22.70	22.69	23.0
20	QPSK	50	28	23.73	23.75	23.69	24.0
20	QPSK	50	56	22.98	22.93	22.84	23.0
20	QPSK	100	0	22.70	22.73	22.71	
20	16QAM	1	1	22.72	22.78	22.87	23.0
20	64QAM	1	1	20.80	20.95	21.01	21.5
20	256QAM	1	1	19.28	19.23	19.33	19.5
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	23.66	23.85	23.72	24.0
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	23.62	23.59	23.68	24.0
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	23.75	23.79	23.65	24.0



**<n30 Main>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					462000		Tune-up limit (dBm)
Frequency (MHz)					2310		
10	PI/2 BPSK	1	1		22.91		23.0
10	PI/2 BPSK	1	26		22.81		
10	PI/2 BPSK	1	50		22.90		
10	PI/2 BPSK	25	0		22.25		22.5
10	PI/2 BPSK	25	14		22.87		23.0
10	PI/2 BPSK	25	27		22.28		22.5
10	PI/2 BPSK	50	0		22.35		
10	QPSK	1	1		22.63		23.0
10	QPSK	1	26		22.88		
10	QPSK	1	50		22.85		
10	QPSK	25	0		21.72		22.0
10	QPSK	25	14		22.85		23.0
10	QPSK	25	27		21.84		22.0
10	QPSK	50	0		21.85		
10	16QAM	1	1		21.69		22.0
10	64QAM	1	1		19.94		20.5
10	256QAM	1	1		18.40		18.5
Channel				461500	462000	462500	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	PI/2 BPSK	1	1	22.65	22.75	22.73	23.0



<n30 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					462000		Tune-up limit (dBm)
Frequency (MHz)					2310		
10	PI/2 BPSK	1	1		23.61		24.0
10	PI/2 BPSK	1	26		23.51		
10	PI/2 BPSK	1	50		23.60		
10	PI/2 BPSK	25	0		22.95		23.5
10	PI/2 BPSK	25	14		23.57		24.0
10	PI/2 BPSK	25	27		22.98		23.5
10	PI/2 BPSK	50	0		23.05		
10	QPSK	1	1		23.33		24.0
10	QPSK	1	26		23.58		
10	QPSK	1	50		23.55		
10	QPSK	25	0		22.42		23.0
10	QPSK	25	14		23.55		24.0
10	QPSK	25	27		22.54		23.0
10	QPSK	50	0		22.55		
10	16QAM	1	1		22.39		23.0
10	64QAM	1	1		20.64		21.5
10	256QAM	1	1		19.10		19.5
Channel				461500	462000	462500	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	PI/2 BPSK	1	1	23.35	23.45	23.43	24.0





<n38 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				516000	519000	522000	Tune-up limit (dBm)
Frequency (MHz)				2580	2595	2610	
20	PI/2 BPSK	1	1	23.72	23.73	23.72	24.0
20	PI/2 BPSK	1	26	23.54	23.52	23.44	
20	PI/2 BPSK	1	49	23.40	23.41	23.33	
20	PI/2 BPSK	25	0	23.07	23.16	23.08	23.5
20	PI/2 BPSK	25	13	23.62	23.70	23.67	24.0
20	PI/2 BPSK	25	26	23.16	23.09	23.12	23.5
20	PI/2 BPSK	50	0	23.19	23.11	23.17	
20	QPSK	1	1	23.40	23.37	23.32	24.0
20	QPSK	1	26	23.54	23.51	23.61	
20	QPSK	1	49	23.40	23.42	23.47	
20	QPSK	25	0	22.59	22.67	22.65	23.0
20	QPSK	25	13	23.61	23.62	23.57	24.0
20	QPSK	25	26	22.53	22.56	22.55	23.0
20	QPSK	50	0	22.51	22.60	22.67	
20	16QAM	1	1	22.39	22.37	22.34	23.0
20	64QAM	1	1	20.57	20.57	20.62	21.5
20	256QAM	1	1	19.11	19.11	19.16	19.5
Channel				515502	519000	522498	Tune-up limit (dBm)
Frequency (MHz)				2577.51	2595	2612.49	
15	PI/2 BPSK	1	1	23.75	23.61	23.66	24.0
Channel				515004	519000	522996	Tune-up limit (dBm)
Frequency (MHz)				2575.02	2595	2614.98	
10	PI/2 BPSK	1	1	23.68	23.47	23.52	24.0
Channel				514500	519000	523500	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	PI/2 BPSK	1	1	23.58	23.49	23.50	24.0



<n38 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				516000	519000	522000	Tune-up limit (dBm)
Frequency (MHz)				2580	2595	2610	
20	PI/2 BPSK	1	1	22.72	22.73	22.72	24.0
20	PI/2 BPSK	1	26	22.54	22.52	22.44	
20	PI/2 BPSK	1	49	22.40	22.41	22.33	
20	PI/2 BPSK	25	0	22.07	22.16	22.08	23.5
20	PI/2 BPSK	25	13	22.72	22.73	22.67	24.0
20	PI/2 BPSK	25	26	22.16	22.09	22.12	23.5
20	PI/2 BPSK	50	0	22.19	22.11	22.17	
20	QPSK	1	1	22.40	22.37	22.32	24.0
20	QPSK	1	26	22.54	22.51	22.61	
20	QPSK	1	49	22.40	22.42	22.47	
20	QPSK	25	0	21.59	21.67	21.65	23.0
20	QPSK	25	13	22.61	22.62	22.57	24.0
20	QPSK	25	26	21.53	21.56	21.55	23.0
20	QPSK	50	0	21.51	21.60	21.67	
20	16QAM	1	1	21.39	21.37	21.34	23.0
20	64QAM	1	1	20.57	20.57	20.62	21.5
20	256QAM	1	1	19.11	19.11	19.16	19.5
Channel				515502	519000	522498	Tune-up limit (dBm)
Frequency (MHz)				2577.51	2595	2612.49	
15	PI/2 BPSK	1	1	22.75	22.61	22.66	24.0
Channel				515004	519000	522996	Tune-up limit (dBm)
Frequency (MHz)				2575.02	2595	2614.98	
10	PI/2 BPSK	1	1	22.68	22.47	22.52	24.0
Channel				514500	519000	523500	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	PI/2 BPSK	1	1	22.65	22.41	22.53	24.0



<n41 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	24.0
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	23.96	23.54	22.87	24.0
100	PI/2 BPSK	1	137	23.50	23.07	23.55	
100	PI/2 BPSK	1	271	22.09	22.49	22.08	
100	PI/2 BPSK	135	0	23.87	23.28	23.85	24.0
100	PI/2 BPSK	135	69	23.73	22.85	23.35	24.0
100	PI/2 BPSK	135	138	22.82	22.84	22.65	24.0
100	PI/2 BPSK	270	0	23.64	22.71	22.65	
100	QPSK	1	1	23.77	23.19	22.23	24.0
100	QPSK	1	137	23.36	23.02	23.46	
100	QPSK	1	271	22.07	22.99	22.06	
100	QPSK	135	0	23.83	23.04	23.36	23.0
100	QPSK	135	69	23.69	22.77	23.50	24.0
100	QPSK	135	138	23.06	22.71	23.49	23.0
100	QPSK	270	0	22.40	22.71	22.50	
100	16QAM	1	1	23.64	23.14	23.18	23.0
100	64QAM	1	1	22.98	22.39	22.57	23.0
100	256QAM	1	1	21.89	20.84	20.72	22.0
Channel				507204	518598	529998	24.0
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	23.94	23.56	22.92	24.0
80	PI/2 BPSK	1	109	23.52	23.06	23.54	
80	PI/2 BPSK	1	215	22.11	22.52	22.10	
80	PI/2 BPSK	108	0	23.90	23.26	23.86	24.0
80	PI/2 BPSK	108	55	23.75	22.91	23.37	24.0
80	PI/2 BPSK	108	109	22.74	22.85	22.64	24.0
80	PI/2 BPSK	216	0	23.65	22.73	22.55	
80	QPSK	1	1	23.79	23.25	22.30	24.0
80	QPSK	1	109	23.42	23.04	23.48	
80	QPSK	1	215	22.16	22.95	22.10	
80	QPSK	108	0	23.85	23.06	23.38	23.0
80	QPSK	108	55	23.71	22.79	23.52	24.0
80	QPSK	108	109	23.02	22.75	23.56	23.0
80	QPSK	216	0	22.42	22.73	22.52	
80	16QAM	1	1	23.65	23.22	23.20	23.0
80	64QAM	1	1	23.00	22.41	22.60	23.0
80	256QAM	1	1	21.92	20.86	20.74	22.0
Channel				504204	518598	532998	24.0
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	23.77	23.48	22.81	24.0
Channel				503202	518598	534000	24.0
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	23.89	23.45	22.91	24.0
Channel				500700	518598	536496	24.0
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	23.75	23.35	22.75	24.0
Channel				500202	518598	537000	24.0
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	23.74	23.44	22.83	24.0



<n41 Aux>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	16.0
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	15.46	15.48	15.27	16.0
100	PI/2 BPSK	1	137	15.16	15.22	15.36	
100	PI/2 BPSK	1	271	15.11	15.30	15.40	
100	PI/2 BPSK	135	0	15.20	15.42	15.08	16.0
100	PI/2 BPSK	135	69	15.12	15.00	14.92	16.0
100	PI/2 BPSK	135	138	15.38	15.39	15.28	16.0
100	PI/2 BPSK	270	0	15.19	15.25	15.35	
100	QPSK	1	1	14.87	14.99	15.00	
100	QPSK	1	137	14.91	15.15	15.06	16.0
100	QPSK	1	271	15.30	15.42	15.40	
100	QPSK	135	0	15.32	15.32	15.24	
100	QPSK	135	69	15.32	15.28	15.21	16.0
100	QPSK	135	138	15.40	15.44	15.32	15.0
100	QPSK	270	0	15.26	15.38	15.27	
100	16QAM	1	1	15.28	15.31	15.21	
100	64QAM	1	1	15.31	15.32	15.41	16.0
100	256QAM	1	1	15.29	15.32	15.27	16.0
Channel				507204	518598	529998	16.0
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	15.44	15.50	15.32	16.0
80	PI/2 BPSK	1	109	15.18	15.21	15.35	
80	PI/2 BPSK	1	215	15.13	15.33	15.42	
80	PI/2 BPSK	108	0	15.23	15.40	15.09	16.0
80	PI/2 BPSK	108	55	15.14	15.06	14.94	16.0
80	PI/2 BPSK	108	109	15.30	15.40	15.27	16.0
80	PI/2 BPSK	216	0	15.20	15.27	15.25	
80	QPSK	1	1	14.89	15.05	15.07	
80	QPSK	1	109	14.97	15.17	15.08	16.0
80	QPSK	1	215	15.39	15.38	15.44	
80	QPSK	108	0	15.34	15.34	15.26	
80	QPSK	108	55	15.34	15.30	15.23	16.0
80	QPSK	108	109	15.36	15.48	15.39	15.0
80	QPSK	216	0	15.28	15.40	15.29	
80	16QAM	1	1	15.29	15.39	15.23	
80	64QAM	1	1	15.33	15.34	15.44	16.0
80	256QAM	1	1	15.32	15.34	15.29	16.0
Channel				504204	518598	532998	16.0
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	15.39	15.33	15.42	16.0
Channel				503202	518598	534000	16.0
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	15.37	15.39	15.39	16.0
Channel				500700	518598	536496	16.0
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	15.32	15.29	15.43	16.0
Channel				500202	518598	537000	16.0
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	15.29	15.41	15.32	16.0



<n41 MIMO 1>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	17.57	17.59	17.38	18.0
100	PI/2 BPSK	1	137	17.27	17.33	17.47	
100	PI/2 BPSK	1	271	17.22	17.41	17.51	
100	PI/2 BPSK	135	0	17.31	17.53	17.19	18.0
100	PI/2 BPSK	135	69	17.23	17.11	17.03	18.0
100	PI/2 BPSK	135	138	17.49	17.50	17.39	18.0
100	PI/2 BPSK	270	0	17.30	17.36	17.46	
100	QPSK	1	1	16.98	17.10	17.11	18.0
100	QPSK	1	137	17.02	17.26	17.17	
100	QPSK	1	271	17.41	17.53	17.51	
100	QPSK	135	0	17.43	17.43	17.35	17.0
100	QPSK	135	69	17.43	17.39	17.32	18.0
100	QPSK	135	138	17.51	17.55	17.43	17.0
100	QPSK	270	0	17.37	17.49	17.38	
100	16QAM	1	1	17.39	17.42	17.32	18.0
100	64QAM	1	1	17.42	17.43	17.52	18.0
100	256QAM	1	1	17.40	17.43	17.38	18.0
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	17.55	17.61	17.43	18.0
80	PI/2 BPSK	1	109	17.29	17.32	17.46	
80	PI/2 BPSK	1	215	17.24	17.44	17.53	
80	PI/2 BPSK	108	0	17.34	17.51	17.20	18.0
80	PI/2 BPSK	108	55	17.25	17.17	17.05	18.0
80	PI/2 BPSK	108	109	17.41	17.51	17.38	18.0
80	PI/2 BPSK	216	0	17.31	17.38	17.36	
80	QPSK	1	1	17.00	17.16	17.18	18.0
80	QPSK	1	109	17.08	17.28	17.19	
80	QPSK	1	215	17.50	17.49	17.55	
80	QPSK	108	0	17.45	17.45	17.37	17.0
80	QPSK	108	55	17.45	17.41	17.34	18.0
80	QPSK	108	109	17.47	17.59	17.50	17.0
80	QPSK	216	0	17.39	17.51	17.40	
80	16QAM	1	1	17.40	17.50	17.34	18.0
80	64QAM	1	1	17.44	17.45	17.55	18.0
80	256QAM	1	1	17.43	17.45	17.40	18.0
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	17.39	17.37	17.45	18.0
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	17.39	17.32	17.42	18.0
Channel				500700	518598	536496	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	17.32	17.49	17.38	18.0
Channel				500202	518598	537000	Tune-up limit (dBm)
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	17.29	17.39	17.42	18.0



<n41 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	24.0
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	23.57	23.89	23.85	24.0
100	PI/2 BPSK	1	137	23.78	23.82	23.83	
100	PI/2 BPSK	1	271	23.55	23.51	23.58	
100	PI/2 BPSK	135	0	23.74	23.90	23.86	24.0
100	PI/2 BPSK	135	69	23.64	23.66	23.72	24.0
100	PI/2 BPSK	135	138	23.70	23.73	23.78	24.0
100	PI/2 BPSK	270	0	23.64	23.68	23.81	
100	QPSK	1	1	22.98	23.04	22.96	24.0
100	QPSK	1	137	23.65	23.63	23.58	
100	QPSK	1	271	23.26	23.33	23.19	
100	QPSK	135	0	23.83	23.81	23.80	23.0
100	QPSK	135	69	23.71	23.73	23.66	24.0
100	QPSK	135	138	23.79	23.78	23.72	23.0
100	QPSK	270	0	23.67	23.68	23.74	
100	16QAM	1	1	22.88	22.86	22.89	23.0
100	64QAM	1	1	22.88	22.86	22.94	23.0
100	256QAM	1	1	21.78	21.74	21.73	22.0
Channel				507204	518598	529998	24.0
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	23.55	23.91	23.90	24.0
80	PI/2 BPSK	1	109	23.80	23.81	23.82	
80	PI/2 BPSK	1	215	23.57	23.54	23.60	
80	PI/2 BPSK	108	0	23.77	23.88	23.87	24.0
80	PI/2 BPSK	108	55	23.66	23.72	23.74	24.0
80	PI/2 BPSK	108	109	23.62	23.74	23.77	24.0
80	PI/2 BPSK	216	0	23.65	23.70	23.71	
80	QPSK	1	1	23.00	23.10	23.03	24.0
80	QPSK	1	109	23.71	23.65	23.60	
80	QPSK	1	215	23.35	23.29	23.23	
80	QPSK	108	0	23.85	23.83	23.82	23.0
80	QPSK	108	55	23.73	23.75	23.68	24.0
80	QPSK	108	109	23.75	23.82	23.79	23.0
80	QPSK	216	0	23.69	23.70	23.76	
80	16QAM	1	1	22.89	22.94	22.91	23.0
80	64QAM	1	1	22.90	22.88	22.97	23.0
80	256QAM	1	1	21.81	21.76	21.75	22.0
Channel				504204	518598	532998	24.0
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	23.57	23.46	23.44	24.0
Channel				503202	518598	534000	24.0
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	23.48	23.41	23.50	24.0
Channel				500700	518598	536496	24.0
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	23.39	23.42	23.45	24.0
Channel				500202	518598	537000	24.0
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	23.42	23.35	23.59	24.0



<n41 HPUE Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
100	PI/2 BPSK	1	1	23.92	23.18	23.11	25.0
100	PI/2 BPSK	1	137	23.93	23.28	23.24	
100	PI/2 BPSK	1	271	24.40	24.00	23.93	
100	PI/2 BPSK	135	0	23.22	23.17	23.09	24.5
100	PI/2 BPSK	135	69	23.49	23.30	23.30	25.0
100	PI/2 BPSK	135	138	24.20	24.06	24.02	24.5
100	PI/2 BPSK	270	0	23.90	23.68	23.75	
100	QPSK	1	1	23.40	23.09	23.03	25.0
100	QPSK	1	137	23.36	23.16	23.08	
100	QPSK	1	271	24.12	23.87	23.48	
100	QPSK	135	0	23.30	22.88	22.70	24.0
100	QPSK	135	69	23.60	23.39	23.23	25.0
100	QPSK	135	138	24.04	23.91	23.65	24.0
100	QPSK	270	0	23.63	23.46	23.33	
100	16QAM	1	1	22.61	22.27	22.29	24.0
100	64QAM	1	1	21.55	21.31	21.12	22.5
100	256QAM	1	1	19.69	19.46	19.40	20.5
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	23.90	23.20	23.16	25.0
80	PI/2 BPSK	1	109	23.95	23.27	23.23	
80	PI/2 BPSK	1	215	24.42	24.03	23.95	
80	PI/2 BPSK	108	0	23.25	23.15	23.10	24.5
80	PI/2 BPSK	108	55	23.51	23.36	23.32	25.0
80	PI/2 BPSK	108	109	24.12	24.07	24.01	24.5
80	PI/2 BPSK	216	0	23.91	23.70	23.65	
80	QPSK	1	1	23.42	23.15	23.10	25.0
80	QPSK	1	109	23.42	23.18	23.10	
80	QPSK	1	215	24.21	23.83	23.52	
80	QPSK	108	0	23.32	22.90	22.72	24.0
80	QPSK	108	55	23.62	23.41	23.25	25.0
80	QPSK	108	109	24.00	23.95	23.72	24.0
80	QPSK	216	0	23.65	23.48	23.35	
80	16QAM	1	1	22.62	22.35	22.31	24.0
80	64QAM	1	1	21.57	21.33	21.15	22.5
80	256QAM	1	1	19.72	19.48	19.42	20.5
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	23.82	23.17	23.13	25.0
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	23.89	23.15	23.08	25.0
Channel				500700	518598	536496	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	23.76	23.02	23.02	25.0
Channel				500202	518598	537000	Tune-up limit (dBm)
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	23.75	23.10	23.11	25.0



<n41 HPUE MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	27.0
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	25.49	25.60	25.36	27.0
100	PI/2 BPSK	1	137	25.30	25.43	25.35	
100	PI/2 BPSK	1	271	25.36	25.27	25.30	
100	PI/2 BPSK	135	0	25.40	25.54	25.41	26.5
100	PI/2 BPSK	135	69	25.48	25.36	25.42	27.0
100	PI/2 BPSK	135	138	25.34	25.31	25.27	26.5
100	PI/2 BPSK	270	0	25.42	25.47	25.51	
100	QPSK	1	1	25.16	25.07	25.10	27.0
100	QPSK	1	137	25.40	25.40	25.40	
100	QPSK	1	271	25.21	25.34	25.17	
100	QPSK	135	0	25.53	25.50	25.45	26.0
100	QPSK	135	69	25.33	25.42	25.34	27.0
100	QPSK	135	138	25.47	25.29	25.17	26.0
100	QPSK	270	0	25.39	25.42	25.49	
100	16QAM	1	1	25.08	25.04	25.07	26.0
100	64QAM	1	1	23.32	23.35	23.26	24.5
100	256QAM	1	1	21.93	21.84	21.89	22.5
Channel				507204	518598	529998	27.0
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	25.47	25.62	25.41	27.0
80	PI/2 BPSK	1	109	25.32	25.42	25.34	
80	PI/2 BPSK	1	215	25.38	25.30	25.32	
80	PI/2 BPSK	108	0	25.43	25.52	25.42	26.5
80	PI/2 BPSK	108	55	25.50	25.42	25.44	27.0
80	PI/2 BPSK	108	109	25.26	25.32	25.26	26.5
80	PI/2 BPSK	216	0	25.43	25.49	25.41	
80	QPSK	1	1	25.18	25.13	25.17	27.0
80	QPSK	1	109	25.46	25.42	25.42	
80	QPSK	1	215	25.30	25.30	25.21	
80	QPSK	108	0	25.55	25.52	25.47	26.0
80	QPSK	108	55	25.35	25.44	25.36	27.0
80	QPSK	108	109	25.43	25.33	25.24	26.0
80	QPSK	216	0	25.41	25.44	25.51	
80	16QAM	1	1	25.09	25.12	25.09	26.0
80	64QAM	1	1	23.34	23.37	23.29	24.5
80	256QAM	1	1	21.96	21.86	21.91	22.5
Channel				504204	518598	532998	27.0
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	25.37	25.39	25.41	27.0
Channel				503202	518598	534000	27.0
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	25.42	25.38	25.33	27.0
Channel				500700	518598	536496	27.0
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	25.41	25.33	25.40	27.0
Channel				500202	518598	537000	27.0
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	25.39	25.39	25.34	27.0





<n66 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				346000	349000	352000	Tune-up limit (dBm)
Frequency (MHz)				1730	1745	1760	
40	PI/2 BPSK	1	1	23.72	23.84	23.70	
40	PI/2 BPSK	1	108	23.54	23.63	23.62	24.0
40	PI/2 BPSK	1	214	23.31	23.41	23.31	23.5
40	PI/2 BPSK	108	0	23.38	23.35	23.27	
40	PI/2 BPSK	108	54	23.77	23.83	23.75	24.0
40	PI/2 BPSK	108	108	23.30	23.38	23.40	23.5
40	PI/2 BPSK	216	0	23.23	23.28	23.18	
40	QPSK	1	1	23.30	23.36	23.45	24.0
40	QPSK	1	108	23.77	23.82	23.77	
40	QPSK	1	214	23.51	23.49	23.49	
40	QPSK	108	0	22.76	22.75	22.82	23.0
40	QPSK	108	54	23.78	23.82	23.81	24.0
40	QPSK	108	108	22.94	22.86	22.81	23.0
40	QPSK	216	0	22.88	22.88	22.90	
40	16QAM	1	1	22.38	22.36	22.46	23.0
40	64QAM	1	1	20.56	20.61	20.65	21.5
40	256QAM	1	1	19.07	19.14	19.17	19.5
Channel				344000	349000	354000	Tune-up limit (dBm)
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	23.65	23.72	23.60	
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	23.59	23.62	23.55	
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	23.72	23.55	23.49	
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	23.42	23.59	23.62	



<n66 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				346000	349000	352000	Tune-up limit (dBm)
Frequency (MHz)				1730	1745	1760	
40	PI/2 BPSK	1	1	23.72	23.82	23.70	24.0
40	PI/2 BPSK	1	108	23.54	23.63	23.62	
40	PI/2 BPSK	1	214	23.31	23.41	23.31	
40	PI/2 BPSK	108	0	23.38	23.35	23.27	23.5
40	PI/2 BPSK	108	54	23.67	23.73	23.65	24.0
40	PI/2 BPSK	108	108	23.30	23.38	23.40	23.5
40	PI/2 BPSK	216	0	23.23	23.28	23.18	
40	QPSK	1	1	23.30	23.36	23.45	24.0
40	QPSK	1	108	23.67	23.72	23.67	
40	QPSK	1	214	23.51	23.49	23.49	
40	QPSK	108	0	22.76	22.75	22.82	23.0
40	QPSK	108	54	23.68	23.72	23.71	24.0
40	QPSK	108	108	22.94	22.86	22.81	23.0
40	QPSK	216	0	22.88	22.88	22.90	
40	16QAM	1	1	22.38	22.36	22.46	23.0
40	64QAM	1	1	20.56	20.61	20.65	21.5
40	256QAM	1	1	19.07	19.14	19.17	19.5
Channel				344000	349000	354000	Tune-up limit (dBm)
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	23.65	23.72	23.60	24.0
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	23.59	23.62	23.55	24.0
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	23.72	23.55	23.49	24.0
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	23.42	23.59	23.62	24.0



<n71 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				134600	136100	137600	Tune-up limit (dBm)
Frequency (MHz)				673	680.5	688	
20	PI/2 BPSK	1	1	24.63	24.93	24.87	25.0
20	PI/2 BPSK	1	53	24.84	24.86	24.83	
20	PI/2 BPSK	1	104	24.63	24.69	24.67	
20	PI/2 BPSK	50	0	24.87	24.91	24.86	25.0
20	PI/2 BPSK	50	28	24.78	24.80	24.77	25.0
20	PI/2 BPSK	50	56	24.89	24.85	24.86	25.0
20	PI/2 BPSK	100	0	24.89	24.88	24.88	
20	QPSK	1	1	24.58	24.66	24.57	25.0
20	QPSK	1	53	24.79	24.90	24.89	
20	QPSK	1	104	24.65	24.66	24.65	
20	QPSK	50	0	24.87	24.81	24.74	25.0
20	QPSK	50	28	24.77	24.87	24.82	25.0
20	QPSK	50	56	24.83	24.89	24.85	25.0
20	QPSK	100	0	24.91	24.87	24.76	
20	16QAM	1	1	24.70	24.63	24.63	25.0
20	64QAM	1	1	23.00	22.93	22.93	23.5
20	256QAM	1	1	21.38	21.28	21.20	21.5
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	PI/2 BPSK	1	1	24.55	24.73	24.75	25.0
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	PI/2 BPSK	1	1	24.57	24.65	24.66	25.0
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	PI/2 BPSK	1	1	24.62	24.57	24.42	25.0



<n77 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	22.65	22.98	23.21	24.0
100	PI/2 BPSK	1	137	23.55	23.75	24.00	
100	PI/2 BPSK	1	271	23.28	23.48	23.62	
100	PI/2 BPSK	135	0	23.71	23.81	22.45	24.0
100	PI/2 BPSK	135	69	23.59	23.88	23.90	24.0
100	PI/2 BPSK	135	138	23.72	23.85	23.81	24.0
100	PI/2 BPSK	270	0	23.47	23.77	23.85	
100	QPSK	1	1	22.72	23.00	23.35	24.0
100	QPSK	1	137	23.49	23.72	23.89	
100	QPSK	1	271	23.16	23.55	23.72	
100	QPSK	135	0	23.77	23.92	23.99	23.0
100	QPSK	135	69	23.59	23.85	23.98	24.0
100	QPSK	135	138	23.47	23.74	23.89	23.0
100	QPSK	270	0	23.31	23.56	23.75	
100	16QAM	1	1	22.56	23.00	23.32	23.0
100	64QAM	1	1	21.32	21.50	21.50	21.5
100	256QAM	1	1	19.25	19.50	19.50	19.5
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	23.42	23.52	23.42	24.0
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	23.42	23.59	23.72	24.0
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	23.35	23.42	23.65	24.0
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	23.45	23.51	23.59	24.0
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	23.32	23.47	23.59	24.0
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	23.47	23.61	23.49	24.0
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	23.48	23.47	23.52	24.0



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		24.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		22.93		24.0
100	PI/2 BPSK	1	137		23.96		
100	PI/2 BPSK	1	271		23.47		
100	PI/2 BPSK	135	0		23.87		23.5
100	PI/2 BPSK	135	69		23.94		24.0
100	PI/2 BPSK	135	138		23.84		23.5
100	PI/2 BPSK	270	0		23.67		
100	QPSK	1	1		22.95		24.0
100	QPSK	1	137		23.66		
100	QPSK	1	271		23.53		
100	QPSK	135	0		23.89		23.0
100	QPSK	135	69		23.78		24.0
100	QPSK	135	138		23.72		23.0
100	QPSK	270	0		23.49		
100	16QAM	1	1		22.97		23.0
100	64QAM	1	1		21.50		21.5
100	256QAM	1	1		19.43		19.5
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	23.10	23.42	23.61	24.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	23.18	23.30	23.48	24.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	23.20	23.25	23.52	24.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	23.28	23.19	23.49	24.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	23.20	23.29	23.62	24.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	23.18	23.25	23.51	24.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	23.25	23.10	23.49	24.0



<n77\_Aux>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	17.77	17.89	17.84	18.0
100	PI/2 BPSK	1	137	17.72	17.69	17.78	
100	PI/2 BPSK	1	271	17.69	17.71	17.82	
100	PI/2 BPSK	135	0	17.71	17.82	17.73	18.0
100	PI/2 BPSK	135	69	17.69	17.64	17.74	18.0
100	PI/2 BPSK	135	138	17.76	17.64	17.69	18.0
100	PI/2 BPSK	270	0	17.67	17.74	17.70	
100	QPSK	1	1	17.67	17.70	17.85	18.0
100	QPSK	1	137	17.67	17.67	17.78	
100	QPSK	1	271	17.72	17.72	17.76	
100	QPSK	135	0	17.66	17.68	17.80	17.0
100	QPSK	135	69	17.71	17.65	17.82	18.0
100	QPSK	135	138	17.68	17.62	17.71	17.0
100	QPSK	270	0	17.69	17.71	17.79	
100	16QAM	1	1	17.62	17.76	17.76	18.0
100	64QAM	1	1	17.65	17.70	17.81	18.0
100	256QAM	1	1	17.71	17.67	17.76	18.0
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	17.62	17.66	17.72	18.0
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	17.73	17.71	17.62	18.0
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	17.59	17.68	17.62	18.0
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	17.62	17.68	17.63	18.0
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	17.63	17.58	17.57	18.0
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	17.55	17.62	17.67	18.0
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	17.51	17.62	17.69	18.0



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		18.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		17.57		18.0
100	PI/2 BPSK	1	137		17.46		
100	PI/2 BPSK	1	271		17.49		
100	PI/2 BPSK	135	0		17.47		18.0
100	PI/2 BPSK	135	69		17.44		18.0
100	PI/2 BPSK	135	138		17.39		18.0
100	PI/2 BPSK	270	0		17.46		
100	QPSK	1	1		17.52		
100	QPSK	1	137		17.45		18.0
100	QPSK	1	271		17.48		
100	QPSK	135	0		17.51		
100	QPSK	135	69		17.44		18.0
100	QPSK	135	138		17.44		17.0
100	QPSK	270	0		17.55		
100	16QAM	1	1		17.47		
100	64QAM	1	1		17.43		18.0
100	256QAM	1	1		17.34		18.0
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	17.53	17.66	17.58	18.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	17.62	17.54	17.63	18.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	17.75	17.73	17.72	18.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	17.77	17.65	17.64	18.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	17.42	17.57	17.73	18.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	17.62	17.69	17.65	18.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	17.59	17.63	17.62	18.0



<n77\_MIMO 1>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	18.77	18.89	18.84	19.0
100	PI/2 BPSK	1	137	18.72	18.69	18.78	
100	PI/2 BPSK	1	271	18.69	18.71	18.82	
100	PI/2 BPSK	135	0	18.71	18.82	18.73	19.0
100	PI/2 BPSK	135	69	18.69	18.64	18.74	19.0
100	PI/2 BPSK	135	138	18.76	18.64	18.69	19.0
100	PI/2 BPSK	270	0	18.67	18.74	18.70	
100	QPSK	1	1	18.67	18.70	18.85	19.0
100	QPSK	1	137	18.67	18.67	18.78	
100	QPSK	1	271	18.72	18.72	18.76	
100	QPSK	135	0	18.66	18.68	18.80	18.0
100	QPSK	135	69	18.71	18.65	18.82	19.0
100	QPSK	135	138	18.68	18.62	18.71	18.0
100	QPSK	270	0	18.69	18.71	18.79	
100	16QAM	1	1	18.62	18.76	18.76	19.0
100	64QAM	1	1	18.65	18.70	18.81	19.0
100	256QAM	1	1	18.71	18.67	18.76	19.0
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	18.62	18.66	18.72	19.0
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	18.72	18.73	18.62	19.0
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	18.69	18.68	18.59	19.0
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	18.57	18.72	18.69	19.0
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	18.37	18.55	18.42	19.0
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	18.41	18.57	18.38	19.0
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	18.49	18.62	18.49	19.0





BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		19.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		18.73		19.0
100	PI/2 BPSK	1	137		18.62		
100	PI/2 BPSK	1	271		18.65		
100	PI/2 BPSK	135	0		18.63		19.0
100	PI/2 BPSK	135	69		18.60		19.0
100	PI/2 BPSK	135	138		18.55		19.0
100	PI/2 BPSK	270	0		18.62		
100	QPSK	1	1		18.68		19.0
100	QPSK	1	137		18.61		
100	QPSK	1	271		18.64		
100	QPSK	135	0		18.67		18.0
100	QPSK	135	69		18.60		19.0
100	QPSK	135	138		18.60		18.0
100	QPSK	270	0		18.71		
100	16QAM	1	1		18.63		19.0
100	64QAM	1	1		18.59		19.0
100	256QAM	1	1		18.50		19.0
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	18.69	18.66	18.59	19.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	18.75	18.62	18.73	19.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	18.68	18.57	18.69	19.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	18.75	18.68	18.73	19.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	18.55	18.75	18.82	19.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	18.62	18.69	18.75	19.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	18.59	18.73	18.63	19.0



<n77 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	23.40	23.85	23.30	24.0
100	PI/2 BPSK	1	137	23.23	23.26	23.18	
100	PI/2 BPSK	1	271	23.18	23.21	23.24	
100	PI/2 BPSK	135	0	22.42	22.45	22.45	23.5
100	PI/2 BPSK	135	69	23.25	23.26	23.24	24.0
100	PI/2 BPSK	135	138	22.41	22.37	22.34	23.5
100	PI/2 BPSK	270	0	22.56	22.61	22.49	
100	QPSK	1	1	23.34	23.29	23.35	24.0
100	QPSK	1	137	23.25	23.18	23.17	
100	QPSK	1	271	23.35	23.27	23.18	
100	QPSK	135	0	22.71	22.73	22.65	23.0
100	QPSK	135	69	23.30	23.26	23.20	24.0
100	QPSK	135	138	22.64	22.73	22.74	23.0
100	QPSK	270	0	22.60	22.69	22.77	
100	16QAM	1	1	22.56	22.55	22.48	23.0
100	64QAM	1	1	21.45	21.42	21.35	21.5
100	256QAM	1	1	19.34	19.33	19.37	19.5
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	23.42	23.52	23.42	24.0
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	23.42	23.59	23.72	24.0
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	23.35	23.42	23.65	24.0
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	23.45	23.51	23.59	24.0
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	23.32	23.47	23.59	24.0
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	23.47	23.61	23.49	24.0
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	23.48	23.47	23.52	24.0



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		24.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		23.36		24.0
100	PI/2 BPSK	1	137		23.19		
100	PI/2 BPSK	1	271		23.15		
100	PI/2 BPSK	135	0		22.43		23.5
100	PI/2 BPSK	135	69		23.16		24.0
100	PI/2 BPSK	135	138		22.28		23.5
100	PI/2 BPSK	270	0		22.43		
100	QPSK	1	1		23.22		
100	QPSK	1	137		23.15		24.0
100	QPSK	1	271		23.24		
100	QPSK	135	0		22.72		
100	QPSK	135	69		23.22		24.0
100	QPSK	135	138		22.64		23.0
100	QPSK	270	0		22.62		
100	16QAM	1	1		22.45		
100	64QAM	1	1		21.32		21.5
100	256QAM	1	1		19.30		19.5
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	23.27	23.29	23.25	24.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	23.18	23.21	23.19	24.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	23.20	23.19	23.20	24.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	23.28	23.31	23.23	24.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	23.20	23.29	23.25	24.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	23.18	23.17	23.20	24.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	23.25	23.30	23.19	24.0



<n77 HPUE Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	24.85	25.14	25.20	26.5
100	PI/2 BPSK	1	137	25.37	25.79	25.42	
100	PI/2 BPSK	1	271	24.92	25.24	25.32	
100	PI/2 BPSK	135	0	25.32	25.62	25.71	26.0
100	PI/2 BPSK	135	69	25.42	25.70	25.62	26.5
100	PI/2 BPSK	135	138	25.46	25.75	25.62	26.0
100	PI/2 BPSK	270	0	25.22	25.55	25.62	
100	QPSK	1	1	24.82	25.07	25.13	26.5
100	QPSK	1	137	25.41	25.58	25.62	
100	QPSK	1	271	24.85	25.12	25.22	
100	QPSK	135	0	25.13	25.51	25.62	25.5
100	QPSK	135	69	25.22	25.61	25.72	26.5
100	QPSK	135	138	25.27	25.64	25.73	25.5
100	QPSK	270	0	25.19	25.57	25.63	
100	16QAM	1	1	24.85	24.94	25.12	25.5
100	64QAM	1	1	24.92	24.95	25.22	25.5
100	256QAM	1	1	24.95	24.98	25.21	25.5
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	24.82	25.16	25.22	26.5
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	24.69	25.22	25.13	26.5
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	24.71	25.23	25.22	26.5
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	24.82	25.32	25.42	26.5
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	24.75	25.41	25.32	26.5
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	24.82	25.32	25.26	26.5
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	24.75	25.26	25.30	26.5



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		Tune-up limit (dBm)
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		25.49		26.5
100	PI/2 BPSK	1	137		26.01		
100	PI/2 BPSK	1	271		25.55		
100	PI/2 BPSK	135	0		25.92		26.0
100	PI/2 BPSK	135	69		25.91		26.5
100	PI/2 BPSK	135	138		25.89		26.0
100	PI/2 BPSK	270	0		25.86		
100	QPSK	1	1		25.45		26.5
100	QPSK	1	137		25.83		
100	QPSK	1	271		25.51		
100	QPSK	135	0		25.88		25.5
100	QPSK	135	69		25.95		26.5
100	QPSK	135	138		25.90		25.5
100	QPSK	270	0		25.89		
100	16QAM	1	1		24.89		25.5
100	64QAM	1	1		24.76		25.5
100	256QAM	1	1		24.81		25.5
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	24.77	25.36	25.26	26.5
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	24.85	25.32	25.22	26.5
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	24.75	25.35	25.23	26.5
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	24.82	25.32	25.21	26.5
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	24.75	25.27	25.17	26.5
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	24.69	25.21	25.20	26.5
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	24.59	25.16	25.19	26.5



<n77 HPUE MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	25.34	25.45	25.31	27.0
100	PI/2 BPSK	1	137	25.24	25.37	25.28	
100	PI/2 BPSK	1	271	25.34	25.26	25.23	
100	PI/2 BPSK	135	0	25.26	25.36	25.20	26.5
100	PI/2 BPSK	135	69	25.30	25.31	25.29	27.0
100	PI/2 BPSK	135	138	25.25	25.30	25.25	26.5
100	PI/2 BPSK	270	0	25.16	25.31	25.30	
100	QPSK	1	1	25.14	25.13	25.11	27.0
100	QPSK	1	137	25.15	25.28	25.20	
100	QPSK	1	271	25.28	25.23	25.17	
100	QPSK	135	0	25.28	25.27	2.52	26.0
100	QPSK	135	69	25.32	25.34	25.30	27.0
100	QPSK	135	138	25.11	25.30	25.22	26.0
100	QPSK	270	0	25.14	25.35	25.23	
100	16QAM	1	1	25.01	25.05	25.05	26.0
100	64QAM	1	1	23.33	23.32	23.27	24.5
100	256QAM	1	1	21.93	21.83	21.86	22.5
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	25.24	25.37	25.28	27.0
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	25.33	25.42	25.23	27.0
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	25.34	25.45	25.27	27.0
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	25.26	25.39	25.31	27.0
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	25.32	25.41	25.29	27.0
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	25.29	25.40	25.23	27.0
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	25.30	25.39	25.30	27.0



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		27.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		25.39		27.0
100	PI/2 BPSK	1	137		25.32		
100	PI/2 BPSK	1	271		25.30		
100	PI/2 BPSK	135	0		25.38		26.5
100	PI/2 BPSK	135	69		25.32		27.0
100	PI/2 BPSK	135	138		25.21		26.5
100	PI/2 BPSK	270	0		25.33		
100	QPSK	1	1		25.29		27.0
100	QPSK	1	137		25.33		
100	QPSK	1	271		25.16		
100	QPSK	135	0		25.32		26.0
100	QPSK	135	69		25.38		27.0
100	QPSK	135	138		25.29		26.0
100	QPSK	270	0		25.33		
100	16QAM	1	1		25.33		26.0
100	64QAM	1	1		23.28		24.5
100	256QAM	1	1		21.67		22.5
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	25.26	25.34	25.21	27.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	25.32	25.32	25.16	27.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	25.24	25.27	25.15	27.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	25.28	25.29	25.11	27.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	25.23	25.35	25.17	27.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	25.28	25.29	25.11	27.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	25.25	25.32	25.19	27.0



<n78 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		24.0
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		23.53		24.0
100	PI/2 BPSK	1	137		24.00		
100	PI/2 BPSK	1	271		23.82		
100	PI/2 BPSK	135	0		23.83		24.0
100	PI/2 BPSK	135	69		23.95		24.0
100	PI/2 BPSK	135	138		23.90		24.0
100	PI/2 BPSK	270	0		23.79		
100	QPSK	1	1		23.55		24.0
100	QPSK	1	137		23.91		
100	QPSK	1	271		23.88		
100	QPSK	135	0		23.84		24.0
100	QPSK	135	69		23.74		24.0
100	QPSK	135	138		23.52		24.0
100	QPSK	270	0		23.76		
100	16QAM	1	1		23.00		24.0
100	64QAM	1	1		22.43		23.5
100	256QAM	1	1		21.27		21.5
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	23.49	23.52	23.57	24.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	23.41	23.45	23.59	24.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	23.51	23.49	23.61	24.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	23.35	23.51	23.52	24.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	23.42	23.43	23.51	24.0
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	23.35	23.37	23.38	24.0
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	23.39	23.42	23.42	24.0





BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		24.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		23.98		24.0
100	PI/2 BPSK	1	137		23.66		
100	PI/2 BPSK	1	271		23.61		
100	PI/2 BPSK	135	0		23.49		23.5
100	PI/2 BPSK	135	69		23.96		24.0
100	PI/2 BPSK	135	138		23.88		23.5
100	PI/2 BPSK	270	0		23.93		
100	QPSK	1	1		23.32		24.0
100	QPSK	1	137		23.94		
100	QPSK	1	271		23.85		
100	QPSK	135	0		23.77		23.0
100	QPSK	135	69		23.66		24.0
100	QPSK	135	138		23.43		23.0
100	QPSK	270	0		23.91		
100	16QAM	1	1		22.95		23.0
100	64QAM	1	1		22.36		21.5
100	256QAM	1	1		21.19		19.5
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	23.35	23.48	23.62	24.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	23.41	23.52	23.48	24.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	23.45	23.59	23.52	24.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	23.39	23.51	23.49	24.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	23.27	23.62	23.52	24.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	23.31	23.59	23.49	24.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	23.42	23.62	23.42	24.0



<n78 Aux>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		18.0
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		17.37		18.0
100	PI/2 BPSK	1	137		17.32		
100	PI/2 BPSK	1	271		17.29		
100	PI/2 BPSK	135	0		17.31		18.0
100	PI/2 BPSK	135	69		17.29		18.0
100	PI/2 BPSK	135	138		17.36		18.0
100	PI/2 BPSK	270	0		17.27		
100	QPSK	1	1		17.27		
100	QPSK	1	137		17.27		18.0
100	QPSK	1	271		17.32		
100	QPSK	135	0		17.26		
100	QPSK	135	69		17.31		18.0
100	QPSK	135	138		17.28		18.0
100	QPSK	270	0		17.29		
100	16QAM	1	1		17.22		
100	64QAM	1	1		17.25		18.0
100	256QAM	1	1		17.31		18.0
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	17.18	17.32	17.29	18.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	17.22	17.24	17.35	18.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	17.32	17.26	17.27	18.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	17.41	17.52	17.35	18.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	17.32	17.42	17.45	18.0
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	17.62	17.57	17.44	18.0
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	17.58	17.42	17.31	18.0



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		18.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		17.41		18.0
100	PI/2 BPSK	1	137		17.38		
100	PI/2 BPSK	1	271		17.35		
100	PI/2 BPSK	135	0		17.33		18.0
100	PI/2 BPSK	135	69		17.31		18.0
100	PI/2 BPSK	135	138		17.26		18.0
100	PI/2 BPSK	270	0		17.30		
100	QPSK	1	1		17.39		18.0
100	QPSK	1	137		17.30		
100	QPSK	1	271		17.31		
100	QPSK	135	0		17.40		17.0
100	QPSK	135	69		17.40		18.0
100	QPSK	135	138		17.22		17.0
100	QPSK	270	0		17.31		
100	16QAM	1	1		17.29		18.0
100	64QAM	1	1		17.36		18.0
100	256QAM	1	1		17.34		18.0
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	17.25	17.39	17.38	18.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	17.26	17.35	17.31	18.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	17.21	17.26	17.29	18.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	17.16	17.29	17.26	18.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	17.22	17.31	17.35	18.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	17.38	17.41	17.42	18.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	17.36	17.37	17.30	18.0



<n78 MIMO 1>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		19.0
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		18.72		19.0
100	PI/2 BPSK	1	137		18.65		
100	PI/2 BPSK	1	271		18.61		
100	PI/2 BPSK	135	0		18.71		19.0
100	PI/2 BPSK	135	69		18.61		19.0
100	PI/2 BPSK	135	138		18.66		19.0
100	PI/2 BPSK	270	0		18.60		
100	QPSK	1	1		18.67		19.0
100	QPSK	1	137		18.60		
100	QPSK	1	271		18.67		
100	QPSK	135	0		18.64		19.0
100	QPSK	135	69		18.63		19.0
100	QPSK	135	138		18.65		19.0
100	QPSK	270	0		18.60		
100	16QAM	1	1		18.56		19.0
100	64QAM	1	1		18.60		19.0
100	256QAM	1	1		18.68		19.0
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	18.49	18.52	18.57	19.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	18.41	18.45	18.59	19.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	18.51	18.49	18.61	19.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	18.44	18.59	18.57	19.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	18.42	18.57	18.62	19.0
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	18.57	18.63	18.55	19.0
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	18.62	18.42	18.49	19.0



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		19.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		18.81		19.0
100	PI/2 BPSK	1	137		18.60		
100	PI/2 BPSK	1	271		18.70		
100	PI/2 BPSK	135	0		18.74		19.0
100	PI/2 BPSK	135	69		18.63		19.0
100	PI/2 BPSK	135	138		18.62		19.0
100	PI/2 BPSK	270	0		18.67		
100	QPSK	1	1		18.70		19.0
100	QPSK	1	137		18.62		
100	QPSK	1	271		18.64		
100	QPSK	135	0		18.61		18.0
100	QPSK	135	69		18.65		19.0
100	QPSK	135	138		18.58		18.0
100	QPSK	270	0		18.66		
100	16QAM	1	1		18.71		19.0
100	64QAM	1	1		18.65		19.0
100	256QAM	1	1		18.67		19.0
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	18.37	18.45	18.49	19.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	18.35	18.42	18.39	19.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	18.42	18.53	18.51	19.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	18.39	18.57	18.53	19.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	18.57	18.55	18.54	19.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	18.52	18.53	18.54	19.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	18.49	18.47	18.43	19.0



<n78 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		Tune-up limit (dBm)
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		23.86		24.0
100	PI/2 BPSK	1	137		23.66		
100	PI/2 BPSK	1	271		23.68		
100	PI/2 BPSK	135	0		23.50		24.0
100	PI/2 BPSK	135	69		23.80		24.0
100	PI/2 BPSK	135	138		23.81		24.0
100	PI/2 BPSK	270	0		23.79		
100	QPSK	1	1		23.36		24.0
100	QPSK	1	137		23.80		
100	QPSK	1	271		23.82		
100	QPSK	135	0		23.84		24.0
100	QPSK	135	69		23.74		24.0
100	QPSK	135	138		23.52		24.0
100	QPSK	270	0		23.76		
100	16QAM	1	1		23.00		24.0
100	64QAM	1	1		22.43		23.5
100	256QAM	1	1		21.27		21.5
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	23.49	23.52	23.57	24.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	23.41	23.45	23.59	24.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	23.51	23.49	23.61	24.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	23.35	23.51	23.52	24.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	23.42	23.43	23.51	24.0
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	23.35	23.37	23.38	24.0
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	23.39	23.42	23.42	24.0



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		24.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		23.98		24.0
100	PI/2 BPSK	1	137		23.66		
100	PI/2 BPSK	1	271		23.61		
100	PI/2 BPSK	135	0		23.49		23.5
100	PI/2 BPSK	135	69		23.96		24.0
100	PI/2 BPSK	135	138		23.88		23.5
100	PI/2 BPSK	270	0		23.93		
100	QPSK	1	1		23.32		24.0
100	QPSK	1	137		23.94		
100	QPSK	1	271		23.85		
100	QPSK	135	0		23.77		23.0
100	QPSK	135	69		23.66		24.0
100	QPSK	135	138		23.43		23.0
100	QPSK	270	0		23.91		
100	16QAM	1	1		22.95		23.0
100	64QAM	1	1		22.36		21.5
100	256QAM	1	1		21.19		19.5
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	23.35	23.48	23.62	24.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	23.41	23.52	23.48	24.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	23.45	23.59	23.52	24.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	23.39	23.51	23.49	24.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	23.27	23.62	23.52	24.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	23.31	23.59	23.49	24.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	23.42	23.62	23.42	24.0



<n78 HPUE Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		Tune-up limit (dBm)
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		24.95		26.5
100	PI/2 BPSK	1	137		24.66		
100	PI/2 BPSK	1	271		24.10		
100	PI/2 BPSK	135	0		24.39		26.0
100	PI/2 BPSK	135	69		24.85		26.5
100	PI/2 BPSK	135	138		24.35		26.0
100	PI/2 BPSK	270	0		24.38		
100	QPSK	1	1		24.90		26.5
100	QPSK	1	137		24.68		
100	QPSK	1	271		24.05		
100	QPSK	135	0		23.92		25.5
100	QPSK	135	69		24.81		26.5
100	QPSK	135	138		23.88		25.5
100	QPSK	270	0		23.89		
100	16QAM	1	1		24.20		25.5
100	64QAM	1	1		22.71		24.0
100	256QAM	1	1		20.76		22.0
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	24.69	24.75	24.91	26.5
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	24.59	24.85	24.91	26.5
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	24.72	24.82	24.78	26.5
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	24.82	24.81	24.82	26.5
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	24.42	24.82	24.73	26.5
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	24.57	24.73	24.69	26.5
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	24.62	24.82	24.72	26.5





BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		26.5
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		25.02		26.5
100	PI/2 BPSK	1	137		25.65		
100	PI/2 BPSK	1	271		25.37		
100	PI/2 BPSK	135	0		25.52		26.0
100	PI/2 BPSK	135	69		25.58		26.5
100	PI/2 BPSK	135	138		25.44		26.0
100	PI/2 BPSK	270	0		25.48		
100	QPSK	1	1		24.94		26.5
100	QPSK	1	137		25.34		
100	QPSK	1	271		25.31		
100	QPSK	135	0		25.28		25.5
100	QPSK	135	69		25.49		26.5
100	QPSK	135	138		25.37		25.5
100	QPSK	270	0		25.33		
100	16QAM	1	1		24.31		25.5
100	64QAM	1	1		22.84		24.0
100	256QAM	1	1		20.85		22.0
Channel				632668	633332	634000	26.5
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	25.20	25.18	25.22	26.5
Channel				632000	633332	634666	26.5
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	25.19	24.89	25.09	26.5
Channel				631668	633332	635000	26.5
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	25.20	24.92	25.01	26.5
Channel				631334	633332	635332	26.5
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	25.11	24.85	25.04	26.5
Channel				630668	633332	636000	26.5
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	25.13	24.72	25.01	26.5
Channel				630500	633332	636166	26.5
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	25.12	24.85	25.06	26.5
Channel				630334	633332	636332	26.5
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	25.20	24.77	25.04	26.5



<n78 HPUE MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		27.0
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		25.56		27.0
100	PI/2 BPSK	1	137		25.52		
100	PI/2 BPSK	1	271		25.39		
100	PI/2 BPSK	135	0		25.48		26.5
100	PI/2 BPSK	135	69		25.43		27.0
100	PI/2 BPSK	135	138		25.46		26.5
100	PI/2 BPSK	270	0		25.47		
100	QPSK	1	1		25.29		27.0
100	QPSK	1	137		25.34		
100	QPSK	1	271		25.35		
100	QPSK	135	0		25.34		26.0
100	QPSK	135	69		25.36		27.0
100	QPSK	135	138		25.44		26.0
100	QPSK	270	0		25.46		
100	16QAM	1	1		25.22		26.0
100	64QAM	1	1		23.44		24.5
100	256QAM	1	1		21.98		22.5
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	25.39	25.47	25.45	27.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	25.38	25.47	25.47	27.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	25.42	25.53	25.40	27.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	25.45	25.53	25.44	27.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	25.38	25.47	25.49	27.0
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	25.47	25.48	25.41	27.0
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	25.47	25.47	25.40	27.0



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		27.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		25.74		26.5
100	PI/2 BPSK	1	137		25.72		
100	PI/2 BPSK	1	271		25.60		
100	PI/2 BPSK	135	0		25.71		27.0
100	PI/2 BPSK	135	69		25.60		26.5
100	PI/2 BPSK	135	138		25.69		
100	PI/2 BPSK	270	0		25.66		
100	QPSK	1	1		25.49		27.0
100	QPSK	1	137		25.55		
100	QPSK	1	271		25.51		
100	QPSK	135	0		25.50		26.0
100	QPSK	135	69		25.56		27.0
100	QPSK	135	138		25.59		26.0
100	QPSK	270	0		25.61		
100	16QAM	1	1		25.44		
100	64QAM	1	1		23.67		24.5
100	256QAM	1	1		22.13		22.5
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	25.64	25.64	25.57	27.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	25.64	25.65	25.55	27.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	25.58	25.67	25.61	27.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	25.60	25.67	25.65	27.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	25.59	25.71	25.65	27.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	25.59	25.71	25.65	27.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	25.59	25.67	25.61	27.0



**Reduced Power Mode**

**<n2 Main>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376000	380000	
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	18.16	18.15	18.29	19.0
20	PI/2 BPSK	1	53	18.14	18.09	18.24	
20	PI/2 BPSK	1	104	18.13	18.06	18.20	
20	PI/2 BPSK	50	0	18.08	18.14	18.28	19.0
20	PI/2 BPSK	50	28	18.14	18.15	18.20	19.0
20	PI/2 BPSK	50	56	18.12	18.05	18.26	19.0
20	PI/2 BPSK	100	0	18.14	18.07	18.23	
20	QPSK	1	1	18.12	18.07	18.22	19.0
20	QPSK	1	53	18.10	18.10	18.23	
20	QPSK	1	104	18.13	18.11	18.19	
20	QPSK	50	0	18.08	18.08	18.22	19.0
20	QPSK	50	28	18.10	18.08	18.28	19.0
20	QPSK	50	56	18.10	18.10	18.26	19.0
20	QPSK	100	0	18.07	18.08	18.23	
20	16QAM	1	1	18.06	18.15	18.26	19.0
20	64QAM	1	1	18.08	18.15	18.21	19.0
20	256QAM	1	1	18.16	18.10	18.25	19.0
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	18.15	18.10	18.26	19.0
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	18.16	18.11	18.21	19.0
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	18.14	18.11	18.22	19.0



<n2 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376000	380000	19.0
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	18.16	18.15	18.29	19.0
20	PI/2 BPSK	1	53	18.14	18.09	18.24	
20	PI/2 BPSK	1	104	18.13	18.06	18.20	
20	PI/2 BPSK	50	0	18.08	18.14	18.28	19.0
20	PI/2 BPSK	50	28	18.14	18.15	18.20	19.0
20	PI/2 BPSK	50	56	18.12	18.05	18.26	19.0
20	PI/2 BPSK	100	0	18.14	18.07	18.23	
20	QPSK	1	1	18.12	18.07	18.22	19.0
20	QPSK	1	53	18.10	18.10	18.23	
20	QPSK	1	104	18.13	18.11	18.19	
20	QPSK	50	0	18.08	18.08	18.22	19.0
20	QPSK	50	28	18.10	18.08	18.28	19.0
20	QPSK	50	56	18.10	18.10	18.26	19.0
20	QPSK	100	0	18.07	18.08	18.23	
20	16QAM	1	1	18.06	18.15	18.26	19.0
20	64QAM	1	1	18.08	18.15	18.21	19.0
20	256QAM	1	1	18.16	18.10	18.25	19.0
Channel				371500	376000	380500	19.0
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	18.15	18.10	18.26	19.0
Channel				371000	376000	381000	19.0
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	18.16	18.11	18.21	19.0
Channel				370500	376000	381500	19.0
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	18.14	18.11	18.22	19.0



<n5 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				166800	167300	167800	Tune-up limit (dBm)
Frequency (MHz)				834	836.5	839	
20	PI/2 BPSK	1	1	21.30	21.33	21.25	22.5
20	PI/2 BPSK	1	53	21.20	21.15	21.20	
20	PI/2 BPSK	1	104	21.25	21.17	21.09	
20	PI/2 BPSK	50	0	21.23	21.32	21.08	22.5
20	PI/2 BPSK	50	28	21.27	21.21	21.12	22.5
20	PI/2 BPSK	50	56	21.14	21.23	21.07	22.5
20	PI/2 BPSK	100	0	21.17	21.23	21.19	
20	QPSK	1	1	21.15	21.06	21.19	22.5
20	QPSK	1	53	21.17	21.17	21.00	
20	QPSK	1	104	21.20	21.27	21.02	
20	QPSK	50	0	21.17	21.19	21.06	22.5
20	QPSK	50	28	21.04	21.23	21.07	22.5
20	QPSK	50	56	21.15	21.15	21.11	22.5
20	QPSK	100	0	21.12	21.07	21.19	
20	16QAM	1	1	21.20	21.14	21.09	22.5
20	64QAM	1	1	21.21	21.19	21.00	22.5
20	256QAM	1	1	21.21	21.16	21.07	20.5
Channel				166300	167300	168300	Tune-up limit (dBm)
Frequency (MHz)				831.5	836.5	841.5	
15	PI/2 BPSK	1	1	21.28	21.30	21.26	22.5
Channel				165800	167300	168800	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	PI/2 BPSK	1	1	21.25	21.29	21.20	22.5
Channel				165300	167300	169300	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	PI/2 BPSK	1	1	21.25	21.28	21.23	22.5



<n7 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				502000	507000	512000	Tune-up limit (dBm)
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	15.83	15.93	15.91	16.5
20	PI/2 BPSK	1	53	15.71	15.76	15.72	
20	PI/2 BPSK	1	104	15.63	15.84	15.86	
20	PI/2 BPSK	50	0	15.77	15.86	15.78	16.5
20	PI/2 BPSK	50	28	15.72	15.74	15.72	16.5
20	PI/2 BPSK	50	56	15.67	15.84	15.71	16.5
20	PI/2 BPSK	100	0	15.79	15.83	15.81	
20	QPSK	1	1	15.71	15.76	15.72	16.5
20	QPSK	1	53	15.83	15.82	15.71	
20	QPSK	1	104	15.75	15.84	15.83	
20	QPSK	50	0	15.69	15.67	15.70	16.5
20	QPSK	50	28	15.63	15.76	15.86	16.5
20	QPSK	50	56	15.71	15.83	15.75	16.5
20	QPSK	100	0	15.62	15.71	15.70	
20	16QAM	1	1	15.65	15.84	15.65	16.5
20	64QAM	1	1	15.71	15.76	15.76	16.5
20	256QAM	1	1	15.68	15.75	15.72	16.5
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	15.73	15.93	15.84	16.5
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	15.57	15.74	15.81	16.5
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	15.65	15.67	15.72	16.5



<n7 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				502000	507000	512000	Tune-up limit (dBm)
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	16.83	16.93	16.91	18.0
20	PI/2 BPSK	1	53	16.71	16.76	16.72	
20	PI/2 BPSK	1	104	16.63	16.84	16.86	
20	PI/2 BPSK	50	0	16.77	16.86	16.78	18.0
20	PI/2 BPSK	50	28	16.72	16.74	16.72	18.0
20	PI/2 BPSK	50	56	16.67	16.84	16.71	18.0
20	PI/2 BPSK	100	0	16.79	16.83	16.81	
20	QPSK	1	1	16.71	16.76	16.72	18.0
20	QPSK	1	53	16.83	16.82	16.71	
20	QPSK	1	104	16.75	16.84	16.83	
20	QPSK	50	0	16.69	16.67	16.70	18.0
20	QPSK	50	28	16.63	16.76	16.86	18.0
20	QPSK	50	56	16.71	16.83	16.75	18.0
20	QPSK	100	0	16.62	16.71	16.70	
20	16QAM	1	1	16.65	16.84	16.65	18.0
20	64QAM	1	1	16.71	16.76	16.76	18.0
20	256QAM	1	1	16.68	16.75	16.72	18.0
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	16.73	16.93	16.84	18.0
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	16.57	16.74	16.81	18.0
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	16.65	16.67	16.72	18.0





<n25 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376500	381000	Tune-up limit (dBm)
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	18.12	18.13	18.15	19.0
20	PI/2 BPSK	1	53	18.00	18.11	18.10	
20	PI/2 BPSK	1	104	18.06	18.07	18.13	
20	PI/2 BPSK	50	0	18.09	18.11	18.12	19.0
20	PI/2 BPSK	50	28	17.98	18.06	18.03	19.0
20	PI/2 BPSK	50	56	18.07	17.97	18.07	19.0
20	PI/2 BPSK	100	0	17.97	18.02	18.05	
20	QPSK	1	1	17.91	17.95	18.00	19.0
20	QPSK	1	53	17.95	18.00	18.04	
20	QPSK	1	104	18.05	17.95	18.09	
20	QPSK	50	0	17.94	17.88	17.84	19.0
20	QPSK	50	28	17.93	17.80	18.04	19.0
20	QPSK	50	56	17.93	17.92	17.84	19.0
20	QPSK	100	0	17.85	17.84	17.81	
20	16QAM	1	1	17.93	17.98	17.88	19.0
20	64QAM	1	1	17.94	17.93	18.04	19.0
20	256QAM	1	1	17.85	17.77	17.83	19.0
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	18.09	17.96	18.11	19.0
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	18.03	18.07	18.15	19.0
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	18.03	18.05	18.02	19.0



<n25 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376500	381000	Tune-up limit (dBm)
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	18.12	18.13	18.15	19.0
20	PI/2 BPSK	1	53	18.00	18.11	18.10	
20	PI/2 BPSK	1	104	18.06	18.07	18.13	
20	PI/2 BPSK	50	0	18.09	18.11	18.12	19.0
20	PI/2 BPSK	50	28	17.98	18.06	18.03	19.0
20	PI/2 BPSK	50	56	18.07	17.97	18.07	19.0
20	PI/2 BPSK	100	0	17.97	18.02	18.05	
20	QPSK	1	1	17.91	17.95	18.00	19.0
20	QPSK	1	53	17.95	18.00	18.04	
20	QPSK	1	104	18.05	17.95	18.09	
20	QPSK	50	0	17.94	17.88	17.84	19.0
20	QPSK	50	28	17.93	17.80	18.04	19.0
20	QPSK	50	56	17.93	17.92	17.84	19.0
20	QPSK	100	0	17.85	17.84	17.81	
20	16QAM	1	1	17.93	17.98	17.88	19.0
20	64QAM	1	1	17.94	17.93	18.04	19.0
20	256QAM	1	1	17.85	17.77	17.83	19.0
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	18.09	17.96	18.11	19.0
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	18.03	18.07	18.15	19.0
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	18.03	18.05	18.02	19.0



<n30 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					462000		18.0
Frequency (MHz)					2310		
10	PI/2 BPSK	1	1		17.81		18.0
10	PI/2 BPSK	1	26		17.66		
10	PI/2 BPSK	1	50		17.73		
10	PI/2 BPSK	25	0		17.71		18.0
10	PI/2 BPSK	25	14		17.62		18.0
10	PI/2 BPSK	25	27		17.64		18.0
10	PI/2 BPSK	50	0		17.70		
10	QPSK	1	1		17.64		18.0
10	QPSK	1	26		17.65		
10	QPSK	1	50		17.66		
10	QPSK	25	0		17.64		18.0
10	QPSK	25	14		17.58		18.0
10	QPSK	25	27		17.60		18.0
10	QPSK	50	0		17.55		
10	16QAM	1	1		17.65		18.0
10	64QAM	1	1		17.73		18.0
10	256QAM	1	1		17.67		18.0
Channel				461500	462000	462500	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	PI/2 BPSK	1	1	17.74	17.79	17.65	18.0

<n30 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					462000		19.0
Frequency (MHz)					2310		
10	PI/2 BPSK	1	1		17.81		19.0
10	PI/2 BPSK	1	26		17.66		
10	PI/2 BPSK	1	50		17.73		
10	PI/2 BPSK	25	0		17.71		19.0
10	PI/2 BPSK	25	14		17.62		19.0
10	PI/2 BPSK	25	27		17.64		19.0
10	PI/2 BPSK	50	0		17.70		
10	QPSK	1	1		17.64		19.0
10	QPSK	1	26		17.65		
10	QPSK	1	50		17.66		
10	QPSK	25	0		17.64		19.0
10	QPSK	25	14		17.58		19.0
10	QPSK	25	27		17.60		19.0
10	QPSK	50	0		17.55		
10	16QAM	1	1		17.65		19.0
10	64QAM	1	1		17.73		19.0
10	256QAM	1	1		17.67		19.0
Channel				461500	462000	462500	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	PI/2 BPSK	1	1	17.74	17.79	17.65	19.0



<n38 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				516000	519000	522000	Tune-up limit (dBm)
Frequency (MHz)				2580	2595	2610	
20	PI/2 BPSK	1	1	14.99	15.10	15.06	15.5
20	PI/2 BPSK	1	26	14.89	15.00	14.96	
20	PI/2 BPSK	1	49	15.00	15.06	15.02	
20	PI/2 BPSK	25	0	14.91	15.04	15.00	15.5
20	PI/2 BPSK	25	13	14.97	15.04	14.92	15.5
20	PI/2 BPSK	25	26	14.90	15.06	14.86	15.5
20	PI/2 BPSK	50	0	14.98	15.02	15.02	
20	QPSK	1	1	14.80	14.96	14.98	15.5
20	QPSK	1	26	14.95	15.03	14.95	
20	QPSK	1	49	14.97	14.91	15.04	
20	QPSK	25	0	14.90	14.87	15.06	15.5
20	QPSK	25	13	14.91	14.94	14.86	15.5
20	QPSK	25	26	14.90	15.00	15.01	15.5
20	QPSK	50	0	14.94	14.96	15.01	
20	16QAM	1	1	14.86	15.04	14.87	15.5
20	64QAM	1	1	14.93	14.99	15.01	15.5
20	256QAM	1	1	14.84	14.95	14.85	15.5
Channel				515502	519000	522498	Tune-up limit (dBm)
Frequency (MHz)				2577.51	2595	2612.49	
15	PI/2 BPSK	1	1	15.13	15.12	15.19	15.5
Channel				515004	519000	522996	Tune-up limit (dBm)
Frequency (MHz)				2575.02	2595	2614.98	
10	PI/2 BPSK	1	1	15.06	15.09	15.13	15.5
Channel				514500	519000	523500	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	PI/2 BPSK	1	1	15.16	15.10	15.11	15.5



<n38 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				516000	519000	522000	Tune-up limit (dBm)
Frequency (MHz)				2580	2595	2610	
20	PI/2 BPSK	1	1	15.03	15.11	15.09	15.5
20	PI/2 BPSK	1	26	14.98	15.05	14.97	
20	PI/2 BPSK	1	49	15.02	15.08	15.02	
20	PI/2 BPSK	25	0	14.93	15.08	15.04	15.5
20	PI/2 BPSK	25	13	14.97	15.06	14.98	15.5
20	PI/2 BPSK	25	26	15.00	15.06	14.95	15.5
20	PI/2 BPSK	50	0	15.01	15.05	15.03	
20	QPSK	1	1	14.88	15.06	14.98	15.5
20	QPSK	1	26	15.03	15.05	14.98	
20	QPSK	1	49	15.04	15.00	15.06	
20	QPSK	25	0	14.97	14.92	15.09	15.5
20	QPSK	25	13	14.97	14.99	14.96	15.5
20	QPSK	25	26	14.91	15.07	15.01	15.5
20	QPSK	50	0	15.00	14.97	15.07	
20	16QAM	1	1	14.92	15.05	14.94	15.5
20	64QAM	1	1	14.97	14.99	15.06	15.5
20	256QAM	1	1	14.94	15.01	14.95	15.5
Channel				515502	519000	522498	Tune-up limit (dBm)
Frequency (MHz)				2577.51	2595	2612.49	
15	PI/2 BPSK	1	1	15.00	15.09	15.05	15.5
Channel				515004	519000	522996	Tune-up limit (dBm)
Frequency (MHz)				2575.02	2595	2614.98	
10	PI/2 BPSK	1	1	15.03	15.02	15.00	15.5
Channel				514500	519000	523500	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	PI/2 BPSK	1	1	15.01	15.05	14.99	15.5



<n41 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	15.5
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	15.12	15.28	15.06	15.5
100	PI/2 BPSK	1	137	14.96	14.94	15.05	
100	PI/2 BPSK	1	271	14.94	15.06	15.18	
100	PI/2 BPSK	135	0	15.01	15.27	14.87	15.5
100	PI/2 BPSK	135	69	14.80	14.73	14.77	15.5
100	PI/2 BPSK	135	138	15.22	15.14	15.02	15.5
100	PI/2 BPSK	270	0	15.06	15.00	15.19	
100	QPSK	1	1	14.60	14.68	14.79	
100	QPSK	1	137	14.71	14.93	14.67	15.5
100	QPSK	1	271	15.02	15.10	15.12	
100	QPSK	135	0	15.05	15.05	14.99	
100	QPSK	135	69	15.18	15.03	14.96	15.5
100	QPSK	135	138	15.11	15.10	15.02	15.5
100	QPSK	270	0	15.07	15.02	14.99	
100	16QAM	1	1	15.13	15.09	15.01	
100	64QAM	1	1	15.15	14.97	15.09	15.5
100	256QAM	1	1	15.01	15.10	15.04	15.5
Channel				507204	518598	529998	15.5
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	15.10	15.30	15.11	15.5
80	PI/2 BPSK	1	109	14.98	14.93	15.04	
80	PI/2 BPSK	1	215	14.96	15.09	15.20	
80	PI/2 BPSK	108	0	15.04	15.25	14.88	15.5
80	PI/2 BPSK	108	55	14.82	14.79	14.79	15.5
80	PI/2 BPSK	108	109	15.14	15.15	15.01	15.5
80	PI/2 BPSK	216	0	15.07	15.02	15.09	
80	QPSK	1	1	14.62	14.74	14.86	
80	QPSK	1	109	14.77	14.95	14.69	15.5
80	QPSK	1	215	15.11	15.06	15.16	
80	QPSK	108	0	15.07	15.07	15.01	
80	QPSK	108	55	15.20	15.05	14.98	15.5
80	QPSK	108	109	15.25	15.14	15.09	15.5
80	QPSK	216	0	15.09	15.04	15.01	
80	16QAM	1	1	15.14	15.17	15.03	
80	64QAM	1	1	15.17	14.99	15.12	15.5
80	256QAM	1	1	15.04	15.12	15.06	15.5
Channel				504204	518598	532998	15.5
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	14.98	14.98	15.05	15.5
Channel				503202	518598	534000	15.5
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	14.93	14.81	14.69	15.5
Channel				500700	518598	536496	15.5
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	14.91	14.92	14.92	15.5
Channel				500202	518598	537000	15.5
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	14.85	0.00	14.96	15.5



<n41 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	15.5
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	15.46	15.48	15.37	15.5
100	PI/2 BPSK	1	137	15.21	15.30	15.38	
100	PI/2 BPSK	1	271	15.21	15.31	15.41	
100	PI/2 BPSK	135	0	15.23	15.41	15.18	15.5
100	PI/2 BPSK	135	69	15.20	15.01	14.97	15.5
100	PI/2 BPSK	135	138	15.43	15.46	15.37	15.5
100	PI/2 BPSK	270	0	15.28	15.34	15.40	
100	QPSK	1	1	14.95	15.02	15.03	
100	QPSK	1	137	15.00	15.17	15.07	15.5
100	QPSK	1	271	15.36	15.43	15.46	
100	QPSK	135	0	15.32	15.38	15.25	
100	QPSK	135	69	15.42	15.37	15.29	15.5
100	QPSK	135	138	15.40	15.45	15.42	15.5
100	QPSK	270	0	15.29	15.39	15.36	
100	16QAM	1	1	15.37	15.39	15.29	
100	64QAM	1	1	15.36	15.34	15.42	15.5
100	256QAM	1	1	15.31	15.35	15.36	15.5
Channel				507204	518598	529998	15.5
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	15.44	15.50	15.42	15.5
80	PI/2 BPSK	1	109	15.23	15.29	15.37	
80	PI/2 BPSK	1	215	15.23	15.34	15.43	
80	PI/2 BPSK	108	0	15.26	15.49	15.19	15.5
80	PI/2 BPSK	108	55	15.22	15.07	14.99	15.5
80	PI/2 BPSK	108	109	15.40	15.47	15.36	15.5
80	PI/2 BPSK	216	0	15.29	15.36	15.30	
80	QPSK	1	1	14.97	15.08	15.10	
80	QPSK	1	109	15.06	15.19	15.09	15.5
80	QPSK	1	215	15.45	15.39	15.50	
80	QPSK	108	0	15.34	15.40	15.27	
80	QPSK	108	55	15.44	15.39	15.31	15.5
80	QPSK	108	109	15.46	15.49	15.49	15.5
80	QPSK	216	0	15.31	15.41	15.38	
80	16QAM	1	1	15.38	15.47	15.31	
80	64QAM	1	1	15.38	15.36	15.45	15.5
80	256QAM	1	1	15.34	15.37	15.38	15.5
Channel				504204	518598	532998	15.5
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	15.01	15.00	15.10	15.5
Channel				503202	518598	534000	15.5
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	15.07	15.05	15.07	15.5
Channel				500700	518598	536496	15.5
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	15.06	15.01	15.03	15.5
Channel				500202	518598	537000	15.5
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	14.99	15.08	15.02	15.5



<n41 HPUE Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	18.33	18.42	18.29	18.5
100	PI/2 BPSK	1	137	18.26	18.35	18.35	
100	PI/2 BPSK	1	271	18.25	18.31	18.24	
100	PI/2 BPSK	135	0	18.22	18.42	18.31	18.5
100	PI/2 BPSK	135	69	18.23	18.16	18.32	18.5
100	PI/2 BPSK	135	138	18.27	18.27	18.24	18.5
100	PI/2 BPSK	270	0	18.18	18.32	18.39	
100	QPSK	1	1	18.25	18.16	18.25	
100	QPSK	1	137	18.08	18.25	18.19	18.5
100	QPSK	1	271	18.19	18.41	18.36	
100	QPSK	135	0	18.13	18.28	18.14	
100	QPSK	135	69	18.14	18.18	18.21	18.5
100	QPSK	135	138	18.20	18.24	18.16	18.5
100	QPSK	270	0	18.18	18.19	18.23	
100	16QAM	1	1	18.11	18.23	18.16	
100	64QAM	1	1	18.18	18.22	18.27	18.5
100	256QAM	1	1	18.03	18.22	18.16	18.5
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	18.31	18.44	18.34	18.5
80	PI/2 BPSK	1	109	18.28	18.34	18.34	
80	PI/2 BPSK	1	215	18.27	18.34	18.26	
80	PI/2 BPSK	108	0	18.25	18.40	18.32	18.5
80	PI/2 BPSK	108	55	18.25	18.22	18.34	18.5
80	PI/2 BPSK	108	109	18.19	18.28	18.23	18.5
80	PI/2 BPSK	216	0	18.19	18.34	18.29	
80	QPSK	1	1	18.27	18.22	18.32	
80	QPSK	1	109	18.14	18.27	18.21	18.5
80	QPSK	1	215	18.28	18.37	18.40	
80	QPSK	108	0	18.15	18.30	18.16	
80	QPSK	108	55	18.16	18.20	18.23	18.5
80	QPSK	108	109	18.16	18.28	18.23	18.5
80	QPSK	216	0	18.20	18.21	18.25	
80	16QAM	1	1	18.12	18.31	18.18	
80	64QAM	1	1	18.20	18.24	18.30	18.5
80	256QAM	1	1	18.06	18.24	18.18	18.5
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	18.37	18.40	18.37	18.5
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	18.30	18.43	18.28	18.5
Channel				500700	518598	536496	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	18.20	18.34	18.24	18.5
Channel				500202	518598	537000	Tune-up limit (dBm)
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	18.20	18.33	18.31	18.5





<n41 HPUE MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	18.5
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	18.02	18.05	17.94	18.5
100	PI/2 BPSK	1	137	17.93	18.05	18.00	
100	PI/2 BPSK	1	271	17.90	17.98	17.86	
100	PI/2 BPSK	135	0	17.82	18.04	17.91	18.5
100	PI/2 BPSK	135	69	17.83	17.76	17.94	18.5
100	PI/2 BPSK	135	138	17.87	17.91	17.87	18.5
100	PI/2 BPSK	270	0	17.88	18.01	18.06	
100	QPSK	1	1	17.88	17.83	17.91	
100	QPSK	1	137	17.74	17.91	17.79	18.5
100	QPSK	1	271	17.88	18.03	18.03	
100	QPSK	135	0	17.76	17.92	17.76	
100	QPSK	135	69	17.79	17.78	17.85	18.5
100	QPSK	135	138	17.82	17.88	17.83	18.5
100	QPSK	270	0	17.87	17.85	17.91	
100	16QAM	1	1	17.76	17.85	17.80	
100	64QAM	1	1	17.79	17.83	17.90	18.5
100	256QAM	1	1	17.72	17.88	17.82	18.5
Channel				507204	518598	529998	18.5
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	18.00	18.07	17.99	18.5
80	PI/2 BPSK	1	109	17.95	18.04	17.99	
80	PI/2 BPSK	1	215	17.92	18.01	17.88	
80	PI/2 BPSK	108	0	17.85	18.02	17.92	18.5
80	PI/2 BPSK	108	55	17.85	17.82	17.96	18.5
80	PI/2 BPSK	108	109	17.79	17.92	17.86	18.5
80	PI/2 BPSK	216	0	17.89	18.03	17.96	
80	QPSK	1	1	17.90	17.89	17.98	
80	QPSK	1	109	17.80	17.93	17.81	18.5
80	QPSK	1	215	17.97	17.99	18.07	
80	QPSK	108	0	17.78	17.94	17.78	
80	QPSK	108	55	17.81	17.80	17.87	18.5
80	QPSK	108	109	17.78	17.92	17.90	18.5
80	QPSK	216	0	17.89	17.87	17.93	
80	16QAM	1	1	17.77	17.93	17.82	
80	64QAM	1	1	17.81	17.85	17.93	18.5
80	256QAM	1	1	17.75	17.90	17.84	18.5
Channel				504204	518598	532998	18.5
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	17.98	18.00	17.94	18.5
Channel				503202	518598	534000	18.5
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	17.98	17.98	17.97	18.5
Channel				500700	518598	536496	18.5
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	17.86	17.92	17.84	18.5
Channel				500202	518598	537000	18.5
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	17.91	17.93	17.97	18.5



<n66 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				346000	349000	352000	20.0
Frequency (MHz)				1730	1745	1760	
40	PI/2 BPSK	1	1	19.80	19.91	19.89	
40	PI/2 BPSK	1	108	19.75	19.82	19.86	20.0
40	PI/2 BPSK	1	214	19.75	19.85	19.89	
40	PI/2 BPSK	108	0	19.77	19.86	19.83	
40	PI/2 BPSK	108	54	19.74	19.76	19.82	20.0
40	PI/2 BPSK	108	108	19.71	19.82	19.78	20.0
40	PI/2 BPSK	216	0	19.73	19.79	19.75	
40	QPSK	1	1	19.72	19.77	19.79	
40	QPSK	1	108	19.79	19.77	19.82	20.0
40	QPSK	1	214	19.78	19.88	19.82	
40	QPSK	108	0	19.71	19.77	19.77	
40	QPSK	108	54	19.77	19.87	19.79	20.0
40	QPSK	108	108	19.74	19.78	19.78	20.0
40	QPSK	216	0	19.71	19.76	19.83	
40	16QAM	1	1	19.76	19.83	19.78	
40	64QAM	1	1	19.77	19.82	19.86	20.0
40	256QAM	1	1	19.79	19.87	19.80	20.0
Channel				344000	349000	354000	20.0
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	19.75	19.85	19.83	
Channel				343500	349000	354500	20.0
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	19.73	19.87	19.83	
Channel				343000	349000	355000	20.0
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	19.75	19.81	19.83	
Channel				342500	349000	355500	20.0
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	19.79	19.85	19.84	



<n66 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				346000	349000	352000	Tune-up limit (dBm)
Frequency (MHz)				1730	1745	1760	
40	PI/2 BPSK	1	1	18.68	18.65	18.83	19.5
40	PI/2 BPSK	1	108	18.53	18.59	18.75	
40	PI/2 BPSK	1	214	18.45	18.64	18.76	
40	PI/2 BPSK	108	0	18.51	18.66	18.76	19.5
40	PI/2 BPSK	108	54	18.54	18.52	18.68	19.5
40	PI/2 BPSK	108	108	18.50	18.60	18.73	19.5
40	PI/2 BPSK	216	0	18.46	18.56	18.62	
40	QPSK	1	1	18.47	18.50	18.64	19.5
40	QPSK	1	108	18.56	18.51	18.68	
40	QPSK	1	214	18.50	18.61	18.77	
40	QPSK	108	0	18.45	18.52	18.69	19.5
40	QPSK	108	54	18.50	18.58	18.68	19.5
40	QPSK	108	108	18.47	18.58	18.71	19.5
40	QPSK	216	0	18.50	18.47	18.76	
40	16QAM	1	1	18.49	18.60	18.66	19.5
40	64QAM	1	1	18.48	18.59	18.76	19.5
40	256QAM	1	1	18.54	18.61	18.68	19.5
Channel				344000	349000	354000	Tune-up limit (dBm)
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	18.58	18.64	18.75	19.5
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	18.64	18.57	18.80	19.5
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	18.59	18.64	18.80	19.5
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	18.64	18.59	18.74	19.5



<n71 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				134600	136100	137600	Tune-up limit (dBm)
Frequency (MHz)				673	680.5	688	
20	PI/2 BPSK	1	1	23.45	23.79	23.62	24.5
20	PI/2 BPSK	1	53	23.42	23.66	23.47	
20	PI/2 BPSK	1	104	23.19	23.58	23.32	
20	PI/2 BPSK	50	0	23.41	23.69	23.50	24.5
20	PI/2 BPSK	50	28	23.34	23.64	23.37	24.5
20	PI/2 BPSK	50	56	23.38	23.65	23.48	24.5
20	PI/2 BPSK	100	0	23.47	23.59	23.53	
20	QPSK	1	1	23.08	23.53	23.19	24.5
20	QPSK	1	53	23.37	23.63	23.58	
20	QPSK	1	104	23.19	23.56	23.29	
20	QPSK	50	0	23.38	23.62	23.39	24.0
20	QPSK	50	28	23.29	23.75	23.42	24.5
20	QPSK	50	56	23.32	23.60	23.54	24.0
20	QPSK	100	0	23.35	23.77	23.42	
20	16QAM	1	1	22.96	22.86	22.83	24.0
20	64QAM	1	1	21.34	21.22	21.14	22.5
20	256QAM	1	1	19.86	19.77	19.80	20.5
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	PI/2 BPSK	1	1	23.40	23.77	23.53	24.5
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	PI/2 BPSK	1	1	23.45	23.75	23.62	24.5
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	PI/2 BPSK	1	1	23.37	23.74	23.58	24.5



<n77 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	14.33	14.45	14.40	14.5
100	PI/2 BPSK	1	137	14.28	14.25	14.34	
100	PI/2 BPSK	1	271	14.25	14.27	14.38	
100	PI/2 BPSK	135	0	14.27	14.38	14.29	14.5
100	PI/2 BPSK	135	69	14.25	14.20	14.30	14.5
100	PI/2 BPSK	135	138	14.32	14.20	14.25	14.5
100	PI/2 BPSK	270	0	14.23	14.30	14.26	
100	QPSK	1	1	14.23	14.26	14.41	14.5
100	QPSK	1	137	14.23	14.23	14.34	
100	QPSK	1	271	14.28	14.28	14.32	
100	QPSK	135	0	14.22	14.24	14.36	14.5
100	QPSK	135	69	14.27	14.21	14.38	14.5
100	QPSK	135	138	14.24	14.18	14.27	14.5
100	QPSK	270	0	14.25	14.27	14.35	
100	16QAM	1	1	14.18	14.32	14.32	14.5
100	64QAM	1	1	14.21	14.26	14.37	14.5
100	256QAM	1	1	14.27	14.23	14.32	14.5
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	14.21	14.32	14.25	14.5
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	14.16	14.33	14.27	14.5
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	14.23	14.22	14.31	14.5
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	14.18	14.31	14.32	14.5
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	14.24	14.29	14.28	14.5
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	14.24	14.26	14.30	14.5
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	14.17	14.18	14.21	14.5



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		14.5
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		14.31		14.5
100	PI/2 BPSK	1	137		14.28		
100	PI/2 BPSK	1	271		14.26		
100	PI/2 BPSK	135	0		14.28		14.5
100	PI/2 BPSK	135	69		14.16		14.5
100	PI/2 BPSK	135	138		14.18		14.5
100	PI/2 BPSK	270	0		14.20		
100	QPSK	1	1		14.25		
100	QPSK	1	137		14.21		14.5
100	QPSK	1	271		14.25		
100	QPSK	135	0		14.28		
100	QPSK	135	69		14.19		14.5
100	QPSK	135	138		14.24		14.5
100	QPSK	270	0		14.28		
100	16QAM	1	1		14.19		
100	64QAM	1	1		14.17		14.5
100	256QAM	1	1		14.09		14.5
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	14.17	14.22	14.14	14.5
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	14.13	14.20	14.16	14.5
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	14.22	14.17	14.16	14.5
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	14.17	14.20	14.17	14.5
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	14.20	14.25	14.12	14.5
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	14.15	14.19	14.19	14.5
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	14.22	14.12	14.22	14.5



<n77 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	16.66	16.78	16.73	17.0
100	PI/2 BPSK	1	137	16.61	16.58	16.67	
100	PI/2 BPSK	1	271	16.58	16.60	16.71	
100	PI/2 BPSK	135	0	16.60	16.71	16.62	17.0
100	PI/2 BPSK	135	69	16.58	16.53	16.63	17.0
100	PI/2 BPSK	135	138	16.65	16.53	16.58	17.0
100	PI/2 BPSK	270	0	16.56	16.63	16.59	
100	QPSK	1	1	16.56	16.59	16.74	17.0
100	QPSK	1	137	16.56	16.56	16.67	
100	QPSK	1	271	16.61	16.61	16.65	
100	QPSK	135	0	16.55	16.57	16.69	17.0
100	QPSK	135	69	16.60	16.54	16.71	17.0
100	QPSK	135	138	16.57	16.51	16.60	17.0
100	QPSK	270	0	16.58	16.60	16.68	
100	16QAM	1	1	16.51	16.65	16.65	17.0
100	64QAM	1	1	16.54	16.59	16.70	17.0
100	256QAM	1	1	16.60	16.56	16.65	17.0
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	16.79	16.67	16.59	17.0
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	16.96	16.73	16.88	17.0
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	16.82	16.83	16.81	17.0
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	16.85	16.80	16.91	17.0
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	16.73	16.82	16.92	17.0
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	16.84	16.93	16.92	17.0
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	16.79	16.92	16.90	17.0



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		17.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		16.64		17.0
100	PI/2 BPSK	1	137		16.61		
100	PI/2 BPSK	1	271		16.59		
100	PI/2 BPSK	135	0		16.61		17.0
100	PI/2 BPSK	135	69		16.49		17.0
100	PI/2 BPSK	135	138		16.51		17.0
100	PI/2 BPSK	270	0		16.53		
100	QPSK	1	1		16.58		17.0
100	QPSK	1	137		16.54		
100	QPSK	1	271		16.58		
100	QPSK	135	0		16.61		17.0
100	QPSK	135	69		16.52		17.0
100	QPSK	135	138		16.57		17.0
100	QPSK	270	0		16.61		
100	16QAM	1	1		16.52		17.0
100	64QAM	1	1		16.50		17.0
100	256QAM	1	1		16.42		17.0
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	16.60	16.55	16.47	17.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	16.46	16.53	16.68	17.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	16.67	16.74	16.49	17.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	16.40	16.53	16.60	17.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	16.53	16.58	16.55	17.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	16.48	16.59	16.53	17.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	16.67	16.54	16.55	17.0





<n77 HPUE Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	17.15	17.47	16.99	17.5
100	PI/2 BPSK	1	137	16.84	17.01	16.82	
100	PI/2 BPSK	1	271	16.88	16.91	16.95	
100	PI/2 BPSK	135	0	16.93	17.20	16.99	17.5
100	PI/2 BPSK	135	69	16.96	16.96	16.99	17.5
100	PI/2 BPSK	135	138	17.15	17.06	17.01	17.5
100	PI/2 BPSK	270	0	16.94	17.07	17.11	
100	QPSK	1	1	17.05	16.98	17.02	17.5
100	QPSK	1	137	16.97	16.85	16.83	
100	QPSK	1	271	17.01	17.02	16.93	
100	QPSK	135	0	16.89	16.82	16.97	17.5
100	QPSK	135	69	16.94	16.96	16.89	17.5
100	QPSK	135	138	17.28	17.50	17.36	17.5
100	QPSK	270	0	17.29	17.39	17.48	
100	16QAM	1	1	17.29	17.27	17.18	17.5
100	64QAM	1	1	16.52	16.48	16.47	17.5
100	256QAM	1	1	16.85	16.52	16.61	17.5
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	17.06	17.25	17.20	17.5
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	17.08	17.22	17.10	17.5
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	17.11	17.20	17.06	17.5
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	17.06	17.12	17.12	17.5
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	17.06	17.13	17.10	17.5
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	17.22	17.06	17.05	17.5
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	17.10	17.11	17.01	17.5



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		17.5
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		16.99		17.5
100	PI/2 BPSK	1	137		16.86		
100	PI/2 BPSK	1	271		16.87		
100	PI/2 BPSK	135	0		16.95		17.5
100	PI/2 BPSK	135	69		17.03		17.5
100	PI/2 BPSK	135	138		16.98		17.5
100	PI/2 BPSK	270	0		17.16		
100	QPSK	1	1		17.07		17.5
100	QPSK	1	137		16.87		
100	QPSK	1	271		16.88		
100	QPSK	135	0		16.93		17.5
100	QPSK	135	69		16.92		17.5
100	QPSK	135	138		17.38		17.5
100	QPSK	270	0		17.44		
100	16QAM	1	1		17.11		17.5
100	64QAM	1	1		16.50		17.5
100	256QAM	1	1		16.60		17.5
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	16.69	16.72	16.82	17.5
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	16.75	16.82	16.91	17.5
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	16.72	16.81	16.82	17.5
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	16.83	16.83	16.72	17.5
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	16.72	16.82	16.65	17.5
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	16.73	16.75	16.72	17.5
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	16.71	16.75	16.69	17.5



<n77 HPUE MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	19.75	20.00	19.59	20.0
100	PI/2 BPSK	1	137	19.44	19.61	19.42	
100	PI/2 BPSK	1	271	19.48	19.51	19.55	
100	PI/2 BPSK	135	0	19.53	19.80	19.59	20.0
100	PI/2 BPSK	135	69	19.56	19.56	19.59	20.0
100	PI/2 BPSK	135	138	19.75	19.66	19.61	20.0
100	PI/2 BPSK	270	0	19.54	19.67	19.71	
100	QPSK	1	1	19.65	19.58	19.62	20.0
100	QPSK	1	137	19.57	19.45	19.43	
100	QPSK	1	271	19.61	19.62	19.53	
100	QPSK	135	0	19.49	19.42	19.57	20.0
100	QPSK	135	69	19.54	19.56	19.49	20.0
100	QPSK	135	138	19.88	19.88	19.96	20.0
100	QPSK	270	0	19.89	19.99	20.08	
100	16QAM	1	1	19.89	19.87	19.78	20.0
100	64QAM	1	1	19.12	19.08	19.07	20.0
100	256QAM	1	1	19.45	19.12	19.21	20.0
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	19.62	19.80	19.52	20.0
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	19.71	19.90	19.74	20.0
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	19.88	19.85	19.71	20.0
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	19.68	19.67	19.69	20.0
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	19.55	19.77	19.61	20.0
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	19.62	19.63	19.74	20.0
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	19.67	19.92	19.71	20.0



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		20.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		19.72		20.0
100	PI/2 BPSK	1	137		19.46		
100	PI/2 BPSK	1	271		19.47		
100	PI/2 BPSK	135	0		19.55		20.0
100	PI/2 BPSK	135	69		19.63		20.0
100	PI/2 BPSK	135	138		19.58		20.0
100	PI/2 BPSK	270	0		19.76		
100	QPSK	1	1		19.67		20.0
100	QPSK	1	137		19.47		
100	QPSK	1	271		19.48		
100	QPSK	135	0		19.53		20.0
100	QPSK	135	69		19.52		20.0
100	QPSK	135	138		19.98		20.0
100	QPSK	270	0		19.22		
100	16QAM	1	1		19.71		20.0
100	64QAM	1	1		19.10		20.0
100	256QAM	1	1		19.20		20.0
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	19.54	19.62	19.54	20.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	19.43	19.35	19.22	20.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	19.49	19.37	19.27	20.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	19.52	19.32	19.25	20.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	19.45	19.36	19.22	20.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	19.39	19.35	19.21	20.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	19.42	19.36	19.27	20.0



<n78 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		14.5
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		14.37		14.5
100	PI/2 BPSK	1	137		14.27		
100	PI/2 BPSK	1	271		14.28		
100	PI/2 BPSK	135	0		14.18		14.5
100	PI/2 BPSK	135	69		14.16		14.5
100	PI/2 BPSK	135	138		14.11		14.5
100	PI/2 BPSK	270	0		14.09		
100	QPSK	1	1		14.11		14.5
100	QPSK	1	137		14.21		
100	QPSK	1	271		14.15		
100	QPSK	135	0		14.25		14.5
100	QPSK	135	69		14.26		14.5
100	QPSK	135	138		14.13		14.5
100	QPSK	270	0		14.23		
100	16QAM	1	1		14.27		14.5
100	64QAM	1	1		14.15		14.5
100	256QAM	1	1		14.17		14.5
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	14.08	14.19	14.03	14.5
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	14.04	14.14	14.01	14.5
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	14.13	14.12	14.08	14.5
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	14.03	14.16	14.05	14.5
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	14.11	14.20	14.00	14.5
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	14.03	14.11	14.09	14.5
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	14.05	14.21	14.03	14.5



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		14.5
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		14.28		14.5
100	PI/2 BPSK	1	137		14.27		
100	PI/2 BPSK	1	271		14.16		
100	PI/2 BPSK	135	0		14.20		14.5
100	PI/2 BPSK	135	69		14.08		14.5
100	PI/2 BPSK	135	138		14.18		14.5
100	PI/2 BPSK	270	0		14.14		
100	QPSK	1	1		14.25		14.5
100	QPSK	1	137		14.16		
100	QPSK	1	271		14.20		
100	QPSK	135	0		14.21		14.5
100	QPSK	135	69		14.15		14.5
100	QPSK	135	138		14.23		14.5
100	QPSK	270	0		14.26		
100	16QAM	1	1		14.09		14.5
100	64QAM	1	1		14.11		14.5
100	256QAM	1	1		14.09		14.5
Channel				632668	633332	634000	14.5
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	14.15	14.16	14.16	14.5
Channel				632000	633332	634666	14.5
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	14.11	14.17	14.15	14.5
Channel				631668	633332	635000	14.5
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	14.13	14.25	14.19	14.5
Channel				631334	633332	635332	14.5
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	14.12	14.21	14.20	14.5
Channel				630668	633332	636000	14.5
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	14.19	14.23	14.18	14.5
Channel				630500	633332	636166	14.5
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	14.18	14.16	14.16	14.5
Channel				630334	633332	636332	14.5
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	14.12	14.17	14.14	14.5



<n78 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		17.0
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		16.70		17.0
100	PI/2 BPSK	1	137		16.60		
100	PI/2 BPSK	1	271		16.61		
100	PI/2 BPSK	135	0		16.51		17.0
100	PI/2 BPSK	135	69		16.49		17.0
100	PI/2 BPSK	135	138		16.44		17.0
100	PI/2 BPSK	270	0		16.42		
100	QPSK	1	1		16.44		17.0
100	QPSK	1	137		16.54		
100	QPSK	1	271		16.48		
100	QPSK	135	0		16.58		17.0
100	QPSK	135	69		16.59		17.0
100	QPSK	135	138		16.46		17.0
100	QPSK	270	0		16.56		
100	16QAM	1	1		16.60		17.0
100	64QAM	1	1		16.48		17.0
100	256QAM	1	1		16.50		17.0
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	16.41	16.50	16.36	17.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	16.37	16.69	16.44	17.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	16.66	16.55	16.47	17.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	16.36	16.49	16.38	17.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	16.46	16.50	16.69	17.0
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	16.43	16.44	16.42	17.0
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	16.38	16.54	16.77	17.0



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		17.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		16.61		17.0
100	PI/2 BPSK	1	137		16.60		
100	PI/2 BPSK	1	271		16.49		
100	PI/2 BPSK	135	0		16.53		17.0
100	PI/2 BPSK	135	69		16.41		17.0
100	PI/2 BPSK	135	138		16.51		17.0
100	PI/2 BPSK	270	0		16.47		
100	QPSK	1	1		16.58		17.0
100	QPSK	1	137		16.49		
100	QPSK	1	271		16.53		
100	QPSK	135	0		16.54		17.0
100	QPSK	135	69		16.48		17.0
100	QPSK	135	138		16.56		17.0
100	QPSK	270	0		16.59		
100	16QAM	1	1		16.42		17.0
100	64QAM	1	1		16.44		17.0
100	256QAM	1	1		16.42		17.0
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	16.58	16.37	16.54	17.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	16.47	16.45	16.48	17.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	16.47	16.58	16.42	17.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	16.45	16.43	16.53	17.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	16.53	16.56	16.51	17.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	16.72	16.42	16.58	17.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	16.63	16.57	16.47	17.0





<n78 HPUE Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		17.5
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		17.12		17.5
100	PI/2 BPSK	1	137		16.97		
100	PI/2 BPSK	1	271		16.83		
100	PI/2 BPSK	135	0		16.85		17.5
100	PI/2 BPSK	135	69		16.93		17.5
100	PI/2 BPSK	135	138		16.89		17.5
100	PI/2 BPSK	270	0		16.79		
100	QPSK	1	1		16.99		17.5
100	QPSK	1	137		16.95		
100	QPSK	1	271		17.00		
100	QPSK	135	0		16.97		17.5
100	QPSK	135	69		17.02		17.5
100	QPSK	135	138		16.99		17.5
100	QPSK	270	0		16.95		
100	16QAM	1	1		16.93		17.5
100	64QAM	1	1		16.71		17.5
100	256QAM	1	1		16.87		17.5
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	17.06	17.11	16.92	17.5
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	16.99	16.82	16.89	17.5
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	16.85	16.79	16.92	17.5
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	16.82	16.82	16.91	17.5
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	16.83	16.77	16.85	17.5
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	16.79	16.72	16.82	17.5
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	16.78	16.71	16.79	17.5



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		17.5
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		17.09		17.5
100	PI/2 BPSK	1	137		17.00		
100	PI/2 BPSK	1	271		16.82		
100	PI/2 BPSK	135	0		16.86		17.5
100	PI/2 BPSK	135	69		16.98		17.5
100	PI/2 BPSK	135	138		16.92		17.5
100	PI/2 BPSK	270	0		16.75		
100	QPSK	1	1		16.99		17.5
100	QPSK	1	137		16.89		
100	QPSK	1	271		16.94		
100	QPSK	135	0		16.95		17.5
100	QPSK	135	69		16.94		17.5
100	QPSK	135	138		16.91		17.5
100	QPSK	270	0		16.98		
100	16QAM	1	1		16.87		17.5
100	64QAM	1	1		16.73		17.5
100	256QAM	1	1		16.86		17.5
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	16.89	16.85	16.92	17.5
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	16.91	16.75	16.85	17.5
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	16.85	16.82	16.91	17.5
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	16.91	16.89	16.91	17.5
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	16.85	16.78	16.88	17.5
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	16.79	16.82	16.91	17.5
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	16.83	16.91	16.83	17.5



<n78 HPUE MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		20.0
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		19.72		20.0
100	PI/2 BPSK	1	137		19.57		
100	PI/2 BPSK	1	271		19.43		
100	PI/2 BPSK	135	0		19.45		20.0
100	PI/2 BPSK	135	69		19.53		20.0
100	PI/2 BPSK	135	138		19.49		20.0
100	PI/2 BPSK	270	0		19.39		
100	QPSK	1	1		19.59		20.0
100	QPSK	1	137		19.55		
100	QPSK	1	271		19.60		
100	QPSK	135	0		19.57		20.0
100	QPSK	135	69		19.62		20.0
100	QPSK	135	138		19.59		20.0
100	QPSK	270	0		19.55		
100	16QAM	1	1		19.53		20.0
100	64QAM	1	1		19.31		20.0
100	256QAM	1	1		19.47		20.0
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	19.16	19.30	19.32	20.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	19.25	19.32	19.33	20.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	19.21	19.29	19.34	20.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	19.35	19.42	19.57	20.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	19.32	19.38	19.42	20.0
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	19.31	19.33	19.29	20.0
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	19.30	19.28	19.31	20.0



BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		20.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		19.69		20.0
100	PI/2 BPSK	1	137		19.60		
100	PI/2 BPSK	1	271		19.42		
100	PI/2 BPSK	135	0		19.46		20.0
100	PI/2 BPSK	135	69		19.58		20.0
100	PI/2 BPSK	135	138		19.52		20.0
100	PI/2 BPSK	270	0		19.35		
100	QPSK	1	1		19.59		20.0
100	QPSK	1	137		19.49		
100	QPSK	1	271		19.54		
100	QPSK	135	0		19.55		20.0
100	QPSK	135	69		19.54		20.0
100	QPSK	135	138		19.51		20.0
100	QPSK	270	0		19.58		
100	16QAM	1	1		19.47		20.0
100	64QAM	1	1		19.33		20.0
100	256QAM	1	1		19.46		20.0
Channel				632668	633332	634000	20.0
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	19.29	19.32	19.33	20.0
Channel				632000	633332	634666	20.0
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	19.25	19.28	19.42	20.0
Channel				631668	633332	635000	20.0
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	19.29	19.32	19.37	20.0
Channel				631334	633332	635332	20.0
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	19.22	19.30	19.38	20.0
Channel				630668	633332	636000	20.0
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	19.42	19.38	19.42	20.0
Channel				630500	633332	636166	20.0
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	19.39	19.35	19.35	20.0
Channel				630334	633332	636332	20.0
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	19.29	19.30	19.32	20.0

## 13. SAR Test Results

### General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
  - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
  - b. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)\*Tune-up Scaling Factor
  - c. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix  $63.3\%/62.9\% = 1.006$  is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)\* Tune-up Scaling Factor\* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
  - $\leq 0.8$  W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is  $\leq 100$  MHz
  - $\leq 0.6$  W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
  - $\leq 0.4$  W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is  $\geq 200$  MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is  $\geq 0.8$ W/kg.
4. For the exposure positions that proximity sensor power reduction is applied for SAR compliance, additional SAR testing with EUT transmitting full power in sensor trigger distance was performed according to section 4. The test results just verification the sensor trigger distance to meet KDB 616217 requirement, when in normal usage will not operate at trigger distance, therefore, these results were not using performed Sim-Tx analysis.

### UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is  $\leq 1/4$  dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than  $1/4$  dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

### LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is  $>$  not  $1/2$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is  $>$  not  $1/2$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4/B5/B12/B17/B26/B38/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 2/4/5/17/38 SAR test was covered by Band 25/66/26/12/41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
  - a. The maximum output power, including tolerance, for the smaller band is  $\leq$  the larger band to qualify for the SAR test exclusion.
  - b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

**5G NR Note:**

1. The device support SCS 15KHz and 30KHz for NR FDD and TDD and have the same maximum power, in this report only select SCS 15KHz for NR FDD and SCS 30KHz for NR TDD power measurement, due to SCS 15KHz for FDD and SCS 30KHz for TDD have highest support bandwidth, and the NR SAR is < 1g SAR 1.45W/kg. Output power and SAR measurement for SCS30KHz for FDD and SCS15KHz for TDD shall be not necessary.
2. Referencing the procedure in KDB 941225, the test procedures are outlined as below:
  - a. To start SAR test for the largest channel bandwidth for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for PI/2 BPSK SAR testing using 1RB PI/2 BPSK allocation procedure
  - b. For PI/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
  - c. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not  $\frac{1}{2}$  dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
  - d. Smaller bandwidth output power for each RB allocation configuration for this device is not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg, smaller bandwidth SAR testing is not required for this device
  - e. The NR n5/41/66/71/77 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth.
  - f. The NR n2/38 SAR test was covered by NR n25/41; due to SAR test for overlapping NR bands can be reduced if the maximum power including tolerance, for the smaller band is  $\leq$  the larger band to qualify for the SAR test exclusion and the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
  - g. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission. And only for TDD power class2 was performed using Factory Test Mode software to establish the connection and perform SAR with 50% transmission



13.1 Body SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II_Main	RMC 12.2Kbps	Bottom of Laptop	15mm	Amphenol	OFF	9400	1880	23.77	24.50	1.183	0.04	0.378	0.447
01	WCDMA II_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	9262	1852.4	15.70	16.50	1.202	0.11	0.884	1.063
	WCDMA II_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	9400	1880	15.63	16.50	1.222	-0.1	0.814	0.995
	WCDMA II_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	9538	1907.6	15.65	16.50	1.216	-0.13	0.792	0.963
	WCDMA II_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	9262	1852.4	15.70	16.50	1.202	-0.09	0.668	0.803
	WCDMA II_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	9400	1880	15.63	16.50	1.222	-0.08	0.647	0.791
	WCDMA II_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	9538	1907.6	15.65	16.50	1.216	0.05	0.607	0.738
	WCDMA II_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	15mm	Amphenol	OFF	9400	1880	23.71	24.00	1.069	0.06	0.215	0.230
	WCDMA II_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	9262	1852.4	15.76	16.50	1.186	-0.09	0.870	1.032
	WCDMA II_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	9400	1880	15.66	16.50	1.213	-0.15	0.850	1.031
	WCDMA II_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	9538	1907.6	15.65	16.50	1.216	0.03	0.829	1.008
	WCDMA II_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	9262	1852.4	15.76	16.50	1.186	-0.13	0.681	0.808
	WCDMA II_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	9400	1880	15.66	16.50	1.213	0.04	0.690	0.837
	WCDMA II_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	9538	1907.6	15.65	16.50	1.216	-0.07	0.655	0.797
	WCDMA IV_Main	RMC 12.2Kbps	Bottom of Laptop	15mm	Amphenol	OFF	1312	1712.4	23.88	24.50	1.153	-0.17	0.474	0.547
	WCDMA IV_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	1312	1712.4	16.40	17.50	1.288	-0.07	0.803	1.034
	WCDMA IV_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	1413	1732.6	16.31	17.50	1.315	0.01	0.823	1.082
02	WCDMA IV_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	1513	1752.6	16.33	17.50	1.309	0.1	0.900	1.178
	WCDMA IV_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	1312	1712.4	16.40	17.50	1.288	-0.11	0.736	0.948
	WCDMA IV_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	1413	1732.6	16.31	17.50	1.315	-0.09	0.781	1.027
	WCDMA IV_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	1513	1752.6	16.33	17.50	1.309	0.14	0.801	1.049
	WCDMA IV_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	15mm	Amphenol	OFF	1312	1712.4	23.85	24.00	1.035	0.09	0.315	0.326
	WCDMA IV_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	1312	1712.4	16.46	17.50	1.271	0.02	0.818	1.039
	WCDMA IV_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	1413	1732.6	16.38	17.50	1.294	-0.14	0.827	1.070
	WCDMA IV_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	1513	1752.6	16.40	17.50	1.288	0.09	0.854	1.100
	WCDMA IV_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	1312	1712.4	16.46	17.50	1.271	0	0.718	0.912
	WCDMA IV_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	1413	1732.6	16.38	17.50	1.294	0.03	0.773	1.000
	WCDMA IV_MIMO 2	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	1513	1752.6	16.40	17.50	1.288	-0.02	0.782	1.007
	WCDMA V_Main	RMC 12.2Kbps	Bottom of Laptop	15mm	Amphenol	OFF	4132	826.4	23.73	24.50	1.194	0.04	0.356	0.425
	WCDMA V_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	4132	826.4	20.59	21.50	1.233	0.05	0.796	0.982
	WCDMA V_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	4182	836.4	20.64	21.50	1.219	0.18	0.815	0.993
03	WCDMA V_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	Amphenol	ON	4233	846.6	20.63	21.50	1.222	0.1	0.828	1.012
	WCDMA V_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	4132	826.4	20.59	21.50	1.233	0.03	0.799	0.985
	WCDMA V_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	4182	836.4	20.64	21.50	1.219	-0.05	0.776	0.946
	WCDMA V_Main	RMC 12.2Kbps	Bottom of Laptop	0mm	NVC	ON	4233	846.6	20.63	21.50	1.222	-0.05	0.780	0.953



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7_Main	20M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	21350	2560	22.58	24.00	1.387	-0.13	0.436	0.605
	LTE Band 7_Main	20M	QPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	21350	2560	21.42	23.00	1.439	-0.03	0.355	0.511
04	LTE Band 7_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	21350	2560	15.92	16.00	1.019	0.13	1.120	1.141
	LTE Band 7_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	20850	2510	15.83	16.00	1.040	0.19	1.060	1.102
	LTE Band 7_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	21100	2535	15.88	16.00	1.028	-0.01	1.040	1.069
	LTE Band 7_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	21350	2560	15.81	16.00	1.045	0.16	1.030	1.076
	LTE Band 7_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	20850	2510	15.66	16.00	1.081	-0.15	0.984	1.064
	LTE Band 7_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	21100	2535	15.66	16.00	1.081	0.04	0.982	1.062
	LTE Band 7_Main	20M	QPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	21100	2535	15.56	16.00	1.107	0.01	0.996	1.102
	LTE Band 7C_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	21350	2560	15.85	16.00	1.035	0.05	0.973	1.007
	LTE Band 7C_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	20850	2510	15.63	16.00	1.089	0.01	0.962	1.048
	LTE Band 7C_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	21100	2535	15.56	16.00	1.107	-0.02	0.951	1.052
	LTE Band 7_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	21350	2560	15.92	16.00	1.019	-0.08	0.915	0.932
	LTE Band 7_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	20850	2510	15.83	16.00	1.040	-0.07	0.889	0.924
	LTE Band 7_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	21100	2535	15.88	16.00	1.028	0.19	0.929	0.955
	LTE Band 7_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	21350	2560	23.35	24.00	1.161	0.09	0.319	0.371
	LTE Band 7_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	21350	2560	22.08	23.00	1.236	0.01	0.245	0.303
	LTE Band 7_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	21350	2560	16.38	17.50	1.294	0.13	0.652	0.844
	LTE Band 7_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	20850	2510	16.27	17.50	1.327	0.01	0.672	0.892
	LTE Band 7_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	21100	2535	16.36	17.50	1.300	0.18	0.632	0.822
	LTE Band 7_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	21350	2560	16.12	17.50	1.374	0.16	0.622	0.855
	LTE Band 7_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	20850	2510	15.92	17.50	1.439	-0.15	0.610	0.878
	LTE Band 7_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	21100	2535	16.00	17.50	1.413	0.04	0.598	0.845
	LTE Band 7_MIMO 2	20M	QPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	21350	2560	16.10	17.50	1.380	0.01	0.633	0.874
	LTE Band 7C_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	21100	2535	15.73	17.50	1.503	0.03	0.564	0.848
	LTE Band 7C_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	20850	2510	15.51	17.50	1.581	0.04	0.553	0.874
	LTE Band 7C_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	21350	2560	15.72	17.50	1.507	0.09	0.561	0.845
	LTE Band 7_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	20850	2510	16.27	17.50	1.327	-0.11	0.643	0.854
	LTE Band 7_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	21350	2560	16.38	17.50	1.294	0.1	0.595	0.770
	LTE Band 7_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	21100	2535	16.36	17.50	1.300	0.02	0.613	0.797
	LTE Band 12_Main	10M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	23095	707.5	23.94	25.00	1.276	0.01	0.196	0.250
	LTE Band 12_Main	10M	QPSK	25	0	Bottom of Laptop	15mm	Amphenol	OFF	23095	707.5	22.55	24.00	1.396	-0.18	0.132	0.184
05	LTE Band 12_Main	10M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	23095	707.5	21.83	22.50	1.167	-0.02	0.888	1.036
	LTE Band 12_Main	10M	QPSK	25	0	Bottom of Laptop	0mm	Amphenol	ON	23095	707.5	21.74	22.50	1.191	0.15	0.832	0.991
	LTE Band 12_Main	10M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	23095	707.5	21.63	22.50	1.222	0.13	0.829	1.013
	LTE Band 12_Main	10M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	23095	707.5	21.83	22.50	1.167	-0.01	0.793	0.925
	LTE Band 13_Main	10M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	23230	782	24.15	25.00	1.216	0	0.341	0.415
	LTE Band 13_Main	10M	QPSK	25	0	Bottom of Laptop	15mm	Amphenol	OFF	23230	782	22.79	24.00	1.321	-0.12	0.316	0.418
06	LTE Band 13_Main	10M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	23230	782	21.46	22.00	1.132	-0.03	0.995	1.127
	LTE Band 13_Main	10M	QPSK	25	0	Bottom of Laptop	0mm	Amphenol	ON	23230	782	21.25	22.00	1.189	0.07	0.932	1.108
	LTE Band 13_Main	10M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	23230	782	21.19	22.00	1.205	0.14	0.924	1.113
	LTE Band 13_Main	10M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	23230	782	21.46	22.00	1.132	0.01	0.906	1.026
	LTE Band 14_Main	10M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	23330	793	24.08	25.00	1.236	-0.18	0.245	0.303
	LTE Band 14_Main	10M	QPSK	25	0	Bottom of Laptop	15mm	Amphenol	OFF	23330	793	22.78	24.00	1.324	0.03	0.197	0.261
07	LTE Band 14_Main	10M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	23330	793	21.34	22.00	1.164	-0.03	0.935	1.088
	LTE Band 14_Main	10M	QPSK	25	0	Bottom of Laptop	0mm	Amphenol	ON	23330	793	21.26	22.00	1.186	0.15	0.913	1.083
	LTE Band 14_Main	10M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	23330	793	21.21	22.00	1.199	-0.04	0.890	1.068
	LTE Band 14_Main	10M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	23330	793	21.34	22.00	1.164	-0.02	0.861	1.002





Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25_Main	20M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	26590	1905	22.96	24.00	1.271	0.08	0.204	0.259
	LTE Band 25_Main	20M	QPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	26590	1905	21.26	23.00	1.493	-0.12	0.165	0.246
	LTE Band 25_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	26590	1905	17.61	18.00	1.094	0.06	0.893	0.977
08	LTE Band 25_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	26340	1880	17.42	18.00	1.143	0.07	0.934	1.067
	LTE Band 25_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	26140	1860	17.52	18.00	1.117	0.15	0.916	1.023
	LTE Band 25_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	26590	1905	17.35	18.00	1.161	-0.12	0.851	0.988
	LTE Band 25_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	26340	1880	17.33	18.00	1.167	0.18	0.907	1.058
	LTE Band 25_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	26140	1860	17.21	18.00	1.199	0.16	0.872	1.046
	LTE Band 25_Main	20M	QPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	26590	1905	17.28	18.00	1.180	0	0.855	1.009
	LTE Band 25_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	26340	1880	17.42	18.00	1.143	0.01	0.813	0.929
	LTE Band 25_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	26590	1905	17.61	18.00	1.094	-0.09	0.765	0.837
	LTE Band 25_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	26140	1860	17.52	18.00	1.117	0.01	0.827	0.924
	LTE Band 25_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	26590	1905	22.80	24.00	1.318	-0.08	0.304	0.401
	LTE Band 25_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	26590	1905	21.63	23.00	1.371	-0.01	0.232	0.318
	LTE Band 25_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	26590	1905	16.88	18.00	1.294	-0.13	0.688	0.890
	LTE Band 25_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	26340	1880	16.86	18.00	1.300	-0.02	0.654	0.850
	LTE Band 25_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	26140	1860	16.77	18.00	1.327	0.1	0.712	0.945
	LTE Band 25_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	26590	1905	16.74	18.00	1.337	-0.12	0.706	0.944
	LTE Band 25_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	26340	1880	16.51	18.00	1.409	0.18	0.655	0.923
	LTE Band 25_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	26140	1860	16.43	18.00	1.435	0.16	0.644	0.924
	LTE Band 25_MIMO 2	20M	QPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	26590	1905	16.62	18.00	1.374	0	0.633	0.870
	LTE Band 25_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	26140	1860	16.77	18.00	1.327	0	0.722	0.958
	LTE Band 25_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	26590	1905	16.88	18.00	1.294	-0.11	0.742	0.960
	LTE Band 25_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	26340	1880	16.86	18.00	1.300	-0.05	0.753	0.979
	LTE Band 26_Main	15M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	26865	831.5	24.34	25.00	1.164	-0.08	0.243	0.283
	LTE Band 26_Main	15M	QPSK	36	0	Bottom of Laptop	15mm	Amphenol	OFF	26865	831.5	23.37	24.00	1.156	0.03	0.207	0.239
09	LTE Band 26_Main	15M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	26865	831.5	21.97	22.50	1.130	0.09	0.779	0.880
	LTE Band 26_Main	15M	QPSK	36	0	Bottom of Laptop	0mm	Amphenol	ON	26865	831.5	21.83	22.50	1.167	-0.05	0.725	0.846
	LTE Band 26_Main	15M	QPSK	75	0	Bottom of Laptop	0mm	Amphenol	ON	26865	831.5	21.80	22.50	1.175	0.15	0.733	0.861
	LTE Band 5B_Main	10M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	20575	841.50	21.43	22.50	1.279	0.05	0.662	0.847
	LTE Band 26_Main	15M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	26865	831.5	21.97	22.50	1.130	-0.14	0.753	0.851
	LTE Band 30_Main	10M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	27710	2310	21.79	23.00	1.321	-0.06	0.258	0.341
	LTE Band 30_Main	10M	QPSK	25	0	Bottom of Laptop	15mm	Amphenol	OFF	27710	2310	21.07	22.00	1.239	0.01	0.215	0.266
	LTE Band 30_Main	10M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	27710	2310	15.82	17.00	1.312	0.06	0.827	1.085
	LTE Band 30_Main	10M	QPSK	25	0	Bottom of Laptop	0mm	Amphenol	ON	27710	2310	15.72	17.00	1.343	0.16	0.774	1.039
	LTE Band 30_Main	10M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	27710	2310	15.58	17.00	1.387	-0.03	0.765	1.061
	LTE Band 30_Main	10M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	27710	2310	15.82	17.00	1.312	0.08	0.793	1.041
	LTE Band 30_MIMO 2	10M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	27710	2310	22.21	23.00	1.199	0.09	0.274	0.329
	LTE Band 30_MIMO 2	10M	QPSK	25	0	Bottom of Laptop	15mm	Amphenol	OFF	27710	2310	21.92	22.00	1.019	-0.04	0.250	0.255
	LTE Band 30_MIMO 2	10M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	27710	2310	15.38	16.00	1.153	-0.1	0.822	0.948
	LTE Band 30_MIMO 2	10M	QPSK	25	0	Bottom of Laptop	0mm	Amphenol	ON	27710	2310	15.14	16.00	1.219	0.16	0.859	1.047
10	LTE Band 30_MIMO 2	10M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	27710	2310	15.12	16.00	1.225	-0.09	0.950	1.163
	LTE Band 30_MIMO 2	10M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	27710	2310	15.12	16.00	1.225	-0.09	0.922	1.129



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 66_Main	20M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	132072	1720	22.75	24.00	1.334	-0.03	0.304	0.405
	LTE Band 66_Main	20M	QPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	132072	1720	21.12	23.00	1.542	0.05	0.249	0.384
	LTE Band 66_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132072	1720	17.51	18.00	1.119	-0.02	0.934	1.046
	LTE Band 66_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132322	1745	17.48	18.00	1.127	0.14	0.925	1.043
11	LTE Band 66_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132572	1770	17.39	18.00	1.151	-0.02	0.951	1.094
	LTE Band 66_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	132072	1720	17.41	18.00	1.146	0.13	0.919	1.053
	LTE Band 66_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	132322	1745	17.23	18.00	1.194	0.13	0.903	1.078
	LTE Band 66_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	132572	1770	17.31	18.00	1.172	0.01	0.930	1.090
	LTE Band 66_Main	20M	QPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	132072	1720	17.31	18.00	1.172	0.19	0.912	1.069
	LTE Band 66B_Main	15M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132597	1772.5	17.24	18.00	1.191	0.05	0.895	1.066
	LTE Band 66B_Main	15M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132047	1717.5	17.11	18.00	1.227	0.09	0.874	1.073
	LTE Band 66B_Main	15M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132322	1745	17.23	18.00	1.194	-0.15	0.881	1.052
	LTE Band 66C_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132572	1770	17.20	18.00	1.202	0.08	0.882	1.060
	LTE Band 66C_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132072	1720	17.11	18.00	1.227	0.06	0.851	1.045
	LTE Band 66C_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132322	1745	17.03	18.00	1.250	0.11	0.845	1.056
	LTE Band 66_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	132572	1770	17.39	18.00	1.151	0.07	0.912	1.050
	LTE Band 66_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	132072	1720	17.51	18.00	1.119	0.08	0.873	0.977
	LTE Band 66_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	132322	1745	17.48	18.00	1.127	0.11	0.894	1.008
	LTE Band 66_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	132072	1720	22.63	24.00	1.371	-0.02	0.314	0.430
	LTE Band 66_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	132072	1720	21.25	23.00	1.496	0.08	0.253	0.379
	LTE Band 66_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132072	1720	16.91	17.50	1.146	0.02	0.654	0.749
	LTE Band 66_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132322	1745	16.71	17.50	1.199	0.07	0.632	0.758
	LTE Band 66_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132572	1770	16.90	17.50	1.148	-0.02	0.614	0.705
	LTE Band 66_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	132072	1720	16.73	17.50	1.194	0.13	0.606	0.724
	LTE Band 66_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	132322	1745	16.55	17.50	1.245	0.13	0.642	0.799
	LTE Band 66_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	132572	1770	16.72	17.50	1.197	0.01	0.633	0.758
	LTE Band 66_MIMO 2	20M	QPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	132072	1720	16.66	17.50	1.213	0.19	0.672	0.815
	LTE Band 66B_MIMO 2	15M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132322	1745	17.50	17.50	1.000	0.03	0.772	0.772
	LTE Band 66C_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	132322	1745	16.09	17.50	1.384	0.07	0.571	0.790
	LTE Band 66_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	132072	1720	16.91	17.50	1.146	0.14	0.711	0.814
	LTE Band 66_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	132322	1745	16.71	17.50	1.199	-0.06	0.671	0.805
	LTE Band 66_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	132572	1770	16.71	17.50	1.199	-0.04	0.654	0.784
	LTE Band 71_Main	20M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	133322	683	24.27	25.00	1.183	0.05	0.116	0.137
	LTE Band 71_Main	20M	QPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	133322	683	22.41	24.00	1.442	0.09	0.099	0.143
12	LTE Band 71_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	133322	683	22.59	24.00	1.384	-0.09	0.789	1.092
	LTE Band 71_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	133322	683	22.45	24.00	1.429	-0.08	0.726	1.037
	LTE Band 71_Main	20M	QPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	133322	683	22.32	24.00	1.472	-0.18	0.714	1.051
	LTE Band 71_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	133322	683	22.59	24.00	1.384	-0.09	0.708	0.980



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 38_Main	20M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	38000	2595	23.08	24.00	1.236	62.9	1.006	0.17	0.099	0.123
	LTE Band 38_Main	20M	QPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	38000	2595	21.94	23.00	1.276	62.9	1.006	0.1	0.081	0.104
13	LTE Band 38_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	38000	2595	16.71	17.00	1.069	62.9	1.006	0.08	1.040	1.118
	LTE Band 38_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	38000	2595	16.59	17.00	1.099	62.9	1.006	0.03	0.754	0.834
	LTE Band 38_Main	20M	QPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	38000	2595	16.62	17.00	1.091	62.9	1.006	0.01	0.903	0.991
	LTE Band 38C_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	37901	2585.1	16.02	17.00	1.253	62.9	1.006	-0.05	0.408	0.514
	LTE Band 38_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	38000	2595	16.71	17.00	1.069	62.9	1.006	0.06	0.448	0.482
	LTE Band 41_Main	20M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	41055	2636.5	21.96	22.00	1.009	62.9	1.006	0.08	0.107	0.109
	LTE Band 41_Main	20M	QPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	41055	2636.5	20.96	21.00	1.009	62.9	1.006	0.05	0.086	0.087
14	LTE Band 41_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	40620	2593	16.48	17.00	1.127	62.9	1.006	0.02	1.030	1.168
	LTE Band 41_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	39750	2506	16.47	17.00	1.130	62.9	1.006	0.03	0.854	0.971
	LTE Band 41_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	40185	2549.5	16.43	17.00	1.140	762.9	1.006	-0.04	0.832	0.954
	LTE Band 41_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	41055	2636.5	16.46	17.00	1.132	62.9	1.006	0.17	0.912	1.039
	LTE Band 41_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	41490	2680	16.46	17.00	1.132	62.9	1.006	-0.04	0.833	0.949
	LTE Band 41_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	40620	2593	16.42	17.00	1.143	62.9	1.006	-0.15	0.765	0.880
	LTE Band 41_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	39750	2506	16.41	17.00	1.146	62.9	1.006	-0.16	0.844	0.973
	LTE Band 41_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	40185	2549.5	16.39	17.00	1.151	62.9	1.006	0.18	0.821	0.950
	LTE Band 41_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	41055	2636.5	16.37	17.00	1.156	62.9	1.006	-0.02	0.822	0.956
	LTE Band 41_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	41490	2680	16.41	17.00	1.146	62.9	1.006	-0.07	0.791	0.912
	LTE Band 41_Main	20M	QPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	40620	2593	16.35	17.00	1.161	62.9	1.006	0.09	0.921	1.076
	LTE Band 41_HPUE_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	40620	2593	16.45	17.00	1.135	42.9	1.009	-0.13	0.695	0.796
	LTE Band 41C_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	41490+41292	2680	15.32	17.00	1.472	62.9	1.006	-0.13	0.417	0.618
	LTE Band 41_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	40620	2593	16.48	17.00	1.127	62.9	1.006	0	0.451	0.511
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	40620	2593	22.89	24.00	1.291	62.9	1.006	0.09	0.206	0.268
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	40620	2593	21.47	23.00	1.422	62.9	1.006	0.12	0.173	0.248
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	40185	2549.5	16.66	17.00	1.081	62.9	1.006	0	0.872	0.949
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	39750	2506	16.65	17.00	1.084	62.9	1.006	0.04	0.931	1.015
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	40620	2593	16.54	17.00	1.112	62.9	1.006	0.08	0.869	0.972
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	41055	2636.5	16.59	17.00	1.099	62.9	1.006	-0.03	0.924	1.022
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	41490	2680	15.77	17.00	1.327	62.9	1.006	-0.09	0.867	1.158
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	40185	2549.5	16.55	17.00	1.109	62.9	1.006	0.18	0.853	0.952
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	39750	2506	16.53	17.00	1.114	62.9	1.006	-0.16	0.916	1.027
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	40620	2593	16.40	17.00	1.148	62.9	1.006	-0.15	0.812	0.938
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	41055	2636.5	16.22	17.00	1.197	62.9	1.006	-0.02	0.837	1.008
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	41490	2680	15.68	17.00	1.355	62.9	1.006	-0.07	0.827	1.127
	LTE Band 41_MIMO 2	20M	QPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	41085	2549.5	16.41	17.00	1.146	62.9	1.006	0.09	0.822	0.947
	LTE Band 41_HPUE_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	40620	2593	16.60	17.00	1.096	42.9	1.009	-0.11	0.711	0.787
	LTE Band 41C_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	41490	2680	15.60	17.00	1.380	62.9	1.006	0.02	0.808	1.122
	LTE Band 41C_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	39750	2506	15.20	17.00	1.514	62.9	1.006	0.02	0.742	1.130
	LTE Band 41C_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	40185	2549.5	15.45	17.00	1.429	62.9	1.006	0.09	0.733	1.054
	LTE Band 41C_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	40620	2593	15.30	17.00	1.479	62.9	1.006	-0.1	0.739	1.100
	LTE Band 41C_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	41055	2636.5	15.23	17.00	1.503	62.9	1.006	-0.07	0.742	1.122
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	41490	2680	15.77	17.00	1.327	62.9	1.006	0.19	0.794	1.060
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	39750	2506	16.65	17.00	1.084	62.9	1.006	0.15	0.840	0.916
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	40185	2549.5	16.66	17.00	1.081	62.9	1.006	0	0.811	0.882
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	40620	2593	16.54	17.00	1.112	62.9	1.006	-0.19	0.805	0.900
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	41055	2636.5	16.59	17.00	1.099	62.9	1.006	-0.07	0.820	0.907



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 48_Main	20M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	55830	3609	20.05	21.00	1.245	62.9	1.006	-0.12	0.146	0.183
	LTE Band 48_Main	20M	QPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	55830	3609	18.93	20.00	1.279	62.9	1.006	0.06	0.075	0.097
	LTE Band 48_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	55830	3609	19.58	20.00	1.102	62.9	1.006	0.13	0.922	1.022
15	LTE Band 48_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	55340	3560	19.53	20.00	1.114	62.9	1.006	0.15	1.050	1.177
	LTE Band 48_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	56150	3641	19.56	20.00	1.107	62.9	1.006	0.14	0.722	0.804
	LTE Band 48_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	56640	3690	19.21	20.00	1.199	62.9	1.006	0.13	0.822	0.992
	LTE Band 48_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	55830	3609	19.03	20.00	1.250	62.9	1.006	-0.06	0.829	1.043
	LTE Band 48_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	55340	3560	18.90	20.00	1.288	62.9	1.006	0.15	0.854	1.107
	LTE Band 48_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	56150	3641	18.97	20.00	1.268	62.9	1.006	0.14	0.892	1.138
	LTE Band 48_Main	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	56640	3690	18.72	20.00	1.343	62.9	1.006	0.06	0.816	1.102
	LTE Band 48_Main	20M	QPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	55830	3609	18.86	20.00	1.300	62.9	1.006	0.11	0.822	1.075
	LTE Band 48C_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	55340	3560	18.25	20.00	1.496	62.9	1.006	-0.19	0.633	0.953
	LTE Band 48C_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	55830	3609	18.16	20.00	1.528	62.9	1.006	0.04	0.602	0.925
	LTE Band 48C_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	56150	3641	18.24	20.00	1.500	62.9	1.006	0.13	0.610	0.920
	LTE Band 48C_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	56640	3690	18.10	20.00	1.549	62.9	1.006	0.02	0.595	0.927
	LTE Band 48_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	55830	3609	19.58	20.00	1.102	62.9	1.006	0.14	0.779	0.863
	LTE Band 48_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	55340	3560	19.53	20.00	1.114	62.9	1.006	0.13	0.768	0.861
	LTE Band 48_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	56150	3641	19.56	20.00	1.107	62.9	1.006	-0.16	0.803	0.894
	LTE Band 48_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	NVC	ON	56640	3690	19.21	20.00	1.199	62.9	1.006	-0.06	0.807	0.974
	LTE Band 48_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	15mm	Amphenol	OFF	55830	3609	21.15	22.00	1.216	62.9	1.006	0.02	0.135	0.165
	LTE Band 48_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	55830	3609	19.29	21.00	1.483	62.9	1.006	-0.01	0.088	0.131
	LTE Band 48_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	55830	3609	19.58	20.00	1.102	62.9	1.006	0.18	0.773	0.857
	LTE Band 48_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	55340	3560	19.53	20.00	1.114	62.9	1.006	-0.13	0.752	0.843
	LTE Band 48_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	56150	3641	19.56	20.00	1.107	62.9	1.006	0.18	0.715	0.796
	LTE Band 48_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	56640	3690	19.21	20.00	1.199	62.9	1.006	-0.11	0.715	0.863
	LTE Band 48_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	55830	3609	19.03	20.00	1.250	62.9	1.006	-0.06	0.693	0.872
	LTE Band 48_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	55340	3560	18.90	20.00	1.288	62.9	1.006	0.03	0.701	0.908
	LTE Band 48_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	56150	3641	18.97	20.00	1.268	62.9	1.006	0.04	0.664	0.847
	LTE Band 48_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	56640	3690	18.72	20.00	1.343	62.9	1.006	0.04	0.668	0.902
	LTE Band 48_MIMO 2	20M	QPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	55830	3609	18.86	20.00	1.300	62.9	1.006	0.18	0.648	0.848
	LTE Band 48C_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	55340	3560	19.08	20.00	1.236	62.9	1.006	0.04	0.720	0.895
	LTE Band 48C_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	55830	3609	19.03	20.00	1.250	62.9	1.006	0.06	0.701	0.882
	LTE Band 48C_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	56150	3641	18.89	20.00	1.291	62.9	1.006	0.14	0.684	0.888
	LTE Band 48C_MIMO 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	56640	3690	18.90	20.00	1.288	62.9	1.006	0.01	0.674	0.873
	LTE Band 48_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	NVC	ON	55340	3560	18.90	20.00	1.288	62.9	1.006	-0.08	0.752	0.975
	LTE Band 48_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	NVC	ON	55830	3609	19.03	20.00	1.250	62.9	1.006	-0.13	0.791	0.995
	LTE Band 48_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	NVC	ON	56150	3641	18.97	20.00	1.268	62.9	1.006	-0.18	0.693	0.884
	LTE Band 48_MIMO 2	20M	QPSK	50	0	Bottom of Laptop	0mm	NVC	ON	56640	3690	18.72	20.00	1.343	62.9	1.006	0.06	0.858	1.159



<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Cap (mm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n5_Main	20M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	167300	836.5	24.56	25.00	1.107	-0.11	0.227	0.251
	FR1 n5_Main	20M	BPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	167300	836.5	24.52	25.00	1.117	0.03	0.211	0.236
16	FR1 n5_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	167300	836.5	21.33	22.50	1.309	0.17	0.877	1.148
	FR1 n5_Main	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	167300	836.5	21.32	22.50	1.312	0.15	0.853	1.119
	FR1 n5_Main	20M	BPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	167300	836.5	21.23	22.50	1.340	0.06	0.843	1.129
	FR1 n5_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	167300	836.5	21.33	22.50	1.309	0.03	0.824	1.079
	FR1 n7_Main	20M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	502000	2510	23.94	24.00	1.014	0.05	0.300	0.304
	FR1 n7_Main	20M	BPSK	50	28	Bottom of Laptop	15mm	Amphenol	OFF	502000	2510	23.91	24.00	1.021	-0.08	0.298	0.304
	FR1 n7_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	507000	2535	15.93	16.50	1.140	-0.08	0.852	0.971
	FR1 n7_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	502000	2510	15.83	16.50	1.167	-0.05	0.866	1.010
17	FR1 n7_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	512000	2560	15.91	16.50	1.146	0.03	0.993	1.137
	FR1 n7_Main	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	507000	2535	15.86	16.50	1.159	0.05	0.843	0.977
	FR1 n7_Main	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	502000	2510	15.77	16.50	1.183	-0.02	0.860	1.017
	FR1 n7_Main	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	507000	2535	15.86	16.50	1.159	0.04	0.857	0.993
	FR1 n7_Main	20M	BPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	507000	2535	15.83	16.50	1.167	-0.09	0.875	1.021
	FR1 n7_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	512000	2560	15.91	16.50	1.146	-0.08	0.860	0.985
	FR1 n7_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	507000	2535	15.93	16.50	1.140	0.14	0.884	1.008
	FR1 n7_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	502000	2510	15.83	16.50	1.167	0.07	0.854	0.996
	FR1 n7_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	502000	2510	23.95	24.00	1.012	-0.09	0.202	0.204
	FR1 n7_MIMO 2	20M	BPSK	50	28	Bottom of Laptop	15mm	Amphenol	OFF	502000	2510	23.93	24.00	1.016	-0.05	0.195	0.198
	FR1 n7_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	507000	2535	16.93	18.00	1.279	0.16	0.736	0.942
	FR1 n7_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	502000	2510	16.83	18.00	1.309	0.01	0.738	0.966
	FR1 n7_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	512000	2560	16.91	18.00	1.285	0.03	0.797	1.024
	FR1 n7_MIMO 2	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	507000	2535	16.86	18.00	1.300	0.17	0.708	0.921
	FR1 n7_MIMO 2	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	502000	2510	16.77	18.00	1.327	0.13	0.681	0.904
	FR1 n7_MIMO 2	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	512000	2560	16.78	18.00	1.324	-0.09	0.671	0.889
	FR1 n7_MIMO 2	20M	BPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	507000	2535	16.83	18.00	1.309	0	0.718	0.940
	FR1 n7_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	512000	2560	16.91	18.00	1.285	-0.04	0.676	0.869
	FR1 n7_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	507000	2535	16.93	18.00	1.279	0.03	0.642	0.821
	FR1 n7_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	502000	2510	16.83	18.00	1.309	0.16	0.686	0.898
	FR1 n25_Main	20M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	376500	1882.5	23.92	24.00	1.019	0.06	0.215	0.219
	FR1 n25_Main	20M	BPSK	50	28	Bottom of Laptop	15mm	Amphenol	OFF	376500	1882.5	23.91	24.00	1.021	0.09	0.203	0.207
	FR1 n25_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	381000	1905	18.15	19.00	1.216	-0.04	0.782	0.951
	FR1 n25_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	372000	1860	18.12	19.00	1.225	0.08	0.824	1.009
	FR1 n25_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	376500	1882.5	18.13	19.00	1.222	-0.13	0.844	1.031
	FR1 n25_Main	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	381000	1905	18.12	19.00	1.225	0.11	0.814	0.997
	FR1 n25_Main	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	372000	1860	18.09	19.00	1.233	0.08	0.808	0.996
	FR1 n25_Main	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	376500	1882.5	18.11	19.00	1.227	-0.05	0.791	0.971
	FR1 n25_Main	20M	BPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	381000	1905	18.05	19.00	1.245	-0.01	0.803	0.999
	FR1 n25_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	376500	1882.5	18.13	19.00	1.222	0.01	0.570	0.696
	FR1 n25_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	381000	1905	23.86	24.00	1.033	0.01	0.369	0.381
	FR1 n25_MIMO 2	20M	BPSK	50	28	Bottom of Laptop	15mm	Amphenol	OFF	381000	1905	23.78	24.00	1.052	0.14	0.361	0.380
18	FR1 n25_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	381000	1905	18.15	19.00	1.216	-0.05	0.928	1.129
	FR1 n25_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	372000	1860	18.12	19.00	1.225	-0.08	0.842	1.031
	FR1 n25_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	376500	1882.5	18.13	19.00	1.222	0.06	0.911	1.113
	FR1 n25_MIMO 2	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	381000	1905	18.12	19.00	1.225	-0.12	0.854	1.046
	FR1 n25_MIMO 2	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	372000	1860	18.09	19.00	1.233	0.15	0.833	1.027
	FR1 n25_MIMO 2	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	376500	1882.5	18.11	19.00	1.227	0.14	0.872	1.070
	FR1 n25_MIMO 2	20M	BPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	381000	1905	18.05	19.00	1.245	-0.12	0.721	0.897
	FR1 n25_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	381000	1905	18.15	19.00	1.216	-0.13	0.724	0.881
	FR1 n25_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	372000	1860	18.12	19.00	1.225	0.15	0.812	0.994
	FR1 n25_MIMO 2	20M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	376500	1882.5	18.13	19.00	1.222	0.09	0.732	0.894



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Cap (mm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n30_Main	10M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	462000	2310	22.91	23.00	1.021	0.15	0.240	0.245
	FR1 n30_Main	10M	BPSK	25	14	Bottom of Laptop	15mm	Amphenol	OFF	462000	2310	22.87	23.00	1.030	0.06	0.231	0.238
	FR1 n30_Main	10M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	462000	2310	17.81	18.00	1.045	0.07	0.841	0.879
	FR1 n30_Main	10M	BPSK	25	0	Bottom of Laptop	0mm	Amphenol	ON	462000	2310	17.71	18.00	1.069	0.06	0.810	0.866
	FR1 n30_Main	10M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	462000	2310	17.70	18.00	1.072	-0.09	0.807	0.865
19	FR1 n30_Main	10M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	462000	2310	17.81	18.00	1.045	-0.02	0.982	1.026
	FR1 n30_MIMO 2	10M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	462000	2310	23.61	24.00	1.094	0.09	0.231	0.253
	FR1 n30_MIMO 2	10M	BPSK	25	14	Bottom of Laptop	15mm	Amphenol	OFF	462000	2310	23.57	24.00	1.104	0.02	0.229	0.253
	FR1 n30_MIMO 2	10M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	462000	2310	17.81	19.00	1.315	0.16	0.759	0.998
	FR1 n30_MIMO 2	10M	BPSK	25	0	Bottom of Laptop	0mm	Amphenol	ON	462000	2310	17.71	19.00	1.346	-0.14	0.734	0.988
	FR1 n30_MIMO 2	10M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	462000	2310	17.70	19.00	1.349	-0.03	0.723	0.975
	FR1 n30_MIMO 2	10M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	462000	2310	17.81	19.00	1.315	-0.1	0.711	0.935
	FR1 n66_Main	40M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	349000	1745	23.84	24.00	1.038	0.08	0.290	0.301
	FR1 n66_Main	40M	BPSK	108	54	Bottom of Laptop	15mm	Amphenol	OFF	349000	1745	23.83	24.00	1.040	0.02	0.284	0.295
	FR1 n66_Main	40M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	349000	1745	19.91	20.00	1.021	-0.14	1.100	1.123
	FR1 n66_Main	40M	BPSK	108	0	Bottom of Laptop	0mm	Amphenol	ON	349000	1745	19.86	20.00	1.033	0.03	1.060	1.095
	FR1 n66_Main	40M	BPSK	216	0	Bottom of Laptop	0mm	Amphenol	ON	349000	1745	19.79	20.00	1.050	0.09	1.050	1.102
20	FR1 n66_Main	40M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	349000	1745	19.91	20.00	1.021	0.03	1.130	1.154
	FR1 n66_MIMO 2	40M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	349000	1745	23.82	24.00	1.042	-0.06	0.300	0.313
	FR1 n66_MIMO 2	40M	BPSK	108	54	Bottom of Laptop	15mm	Amphenol	OFF	349000	1745	23.73	24.00	1.064	-0.08	0.295	0.314
	FR1 n66_MIMO 2	40M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	349000	1745	18.65	19.50	1.216	-0.05	0.917	1.115
	FR1 n66_MIMO 2	40M	BPSK	108	0	Bottom of Laptop	0mm	Amphenol	ON	349000	1745	18.66	19.50	1.213	0.08	0.884	1.073
	FR1 n66_MIMO 2	40M	BPSK	216	0	Bottom of Laptop	0mm	Amphenol	ON	349000	1745	18.56	19.50	1.242	-0.13	0.879	1.091
	FR1 n66_MIMO 2	40M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	349000	1745	18.65	19.50	1.216	-0.11	0.847	1.030
	FR1 n71_Main	20M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	136100	680.5	24.93	25.00	1.016	0.06	0.119	0.121
	FR1 n71_Main	20M	BPSK	50	0	Bottom of Laptop	15mm	Amphenol	OFF	136100	680.5	24.91	25.00	1.021	0.01	0.109	0.111
21	FR1 n71_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	136100	680.5	23.79	24.50	1.178	0.04	0.962	1.133
	FR1 n71_Main	20M	BPSK	50	0	Bottom of Laptop	0mm	Amphenol	ON	136100	680.5	23.69	24.50	1.205	0.07	0.915	1.103
	FR1 n71_Main	20M	BPSK	100	0	Bottom of Laptop	0mm	Amphenol	ON	136100	680.5	23.59	24.50	1.233	-0.15	0.912	1.125
	FR1 n71_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	136100	680.5	23.79	24.50	1.178	0.17	0.867	1.021



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Cap (mm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n41_Main	80M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	518598	2592.99	23.56	24.00	1.107	0.02	0.688	0.761
	FR1 n41_Main	80M	BPSK	108	0	Bottom of Laptop	15mm	Amphenol	OFF	518598	2592.99	23.26	24.00	1.186	-0.08	0.592	0.702
	FR1 n41_Main	80M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	518598	2592.99	15.30	15.50	1.047	0.09	0.863	0.904
	FR1 n41_Main	80M	BPSK	108	0	Bottom of Laptop	0mm	Amphenol	ON	518598	2592.99	15.25	15.50	1.059	0.06	0.872	0.924
	FR1 n41_Main	80M	BPSK	216	0	Bottom of Laptop	0mm	Amphenol	ON	518598	2592.99	15.02	15.50	1.117	-0.08	0.907	1.013
	FR1 n41_HPUE_Main	80M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	518598	2592.99	18.44	18.50	1.014	0.07	0.902	0.915
	FR1 n41_Main	80M	BPSK	216	0	Bottom of Laptop	0mm	NVC	ON	518598	2592.99	15.02	15.50	1.117	-0.05	0.901	1.006
	FR1 n41_Main	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	518598	2592.99	15.28	15.50	1.052	-0.14	0.883	0.929
22	FR1 n41_MIMO 1	80M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	OFF	518598	2592.99	17.61	18.00	1.094	-0.14	1.090	1.192
	FR1 n41_MIMO 1	80M	BPSK	108	0	Bottom of Laptop	0mm	Amphenol	OFF	518598	2592.99	17.51	18.00	1.119	-0.16	1.010	1.131
	FR1 n41_MIMO 1	80M	BPSK	216	0	Bottom of Laptop	0mm	Amphenol	OFF	518598	2592.99	17.38	18.00	1.153	0.04	0.922	1.063
	FR1 n41_MIMO 1	80M	BPSK	1	1	Bottom of Laptop	0mm	NVC	OFF	518598	2592.99	17.61	18.00	1.094	0.18	0.759	0.830
	FR1 n41_MIMO 1	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	OFF	518598	2592.99	17.59	18.00	1.099	-0.03	0.994	1.092
	FR1 n41_MIMO 2	80M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	518598	2592.99	23.91	24.00	1.021	0.12	0.655	0.669
	FR1 n41_MIMO 2	80M	BPSK	108	0	Bottom of Laptop	15mm	Amphenol	OFF	518598	2592.99	23.88	24.00	1.028	-0.13	0.522	0.537
	FR1 n41_MIMO 2	80M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	518598	2592.99	15.50	15.50	1.000	0.06	1.020	1.020
	FR1 n41_MIMO 2	80M	BPSK	108	0	Bottom of Laptop	0mm	Amphenol	ON	518598	2592.99	15.49	15.50	1.002	0.12	0.992	0.994
	FR1 n41_MIMO 2	80M	BPSK	216	0	Bottom of Laptop	0mm	Amphenol	ON	518598	2592.99	15.36	15.50	1.033	0.11	0.984	1.016
	FR1 n41_HPUE_MIMO 2	80M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	518598	2592.99	18.07	18.50	1.104	0.07	0.890	0.983
	FR1 n41_MIMO 2	80M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	518598	2592.99	15.50	15.50	1.000	-0.19	0.873	0.873
	FR1 n41_MIMO 2	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	518598	2592.99	15.48	15.50	1.005	-0.01	0.998	1.003
	FR1 n41_Aux	80M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	OFF	518598	2592.99	15.50	16.00	1.122	-0.13	0.572	0.642
	FR1 n41_Aux	80M	BPSK	108	0	Bottom of Laptop	0mm	Amphenol	OFF	518598	2592.99	15.40	16.00	1.148	0.14	0.475	0.546
	FR1 n41_Aux	80M	BPSK	216	0	Bottom of Laptop	0mm	Amphenol	OFF	518598	2592.99	15.27	16.00	1.183	0.15	0.410	0.485
	FR1 n41_Aux	80M	BPSK	1	1	Bottom of Laptop	0mm	NVC	OFF	518598	2592.99	15.50	16.00	1.122	0.05	0.880	0.987
	FR1 n41_Aux	100M	BPSK	1	1	Bottom of Laptop	0mm	NVC	OFF	518598	2592.99	15.48	16.00	1.127	0.12	0.867	0.977



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n77_Main	100M	BPSK	1	137	Bottom of Laptop	15mm	Amphenol	OFF	656000	3840	23.75	24.00	1.059	0.06	0.621	0.658
	FR1 n77_Main	100M	BPSK	135	69	Bottom of Laptop	15mm	Amphenol	OFF	656000	3840	23.88	24.00	1.028	0.15	0.584	0.600
	FR1 n77_Main	100M	BPSK	1	137	Bottom of Laptop	15mm	Amphenol	OFF	633332	3499.98	23.96	24.00	1.009	-0.14	0.542	0.547
	FR1 n77_Main	100M	BPSK	135	69	Bottom of Laptop	15mm	Amphenol	OFF	633332	3499.98	23.94	24.00	1.014	0.03	0.491	0.498
	FR1 n77_Main	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	656000	3840	14.45	14.50	1.012	0.19	0.844	0.854
	FR1 n77_Main	100M	BPSK	135	0	Bottom of Laptop	0mm	Amphenol	ON	656000	3840	14.38	14.50	1.028	-0.12	0.755	0.776
	FR1 n77_Main	100M	BPSK	270	0	Bottom of Laptop	0mm	Amphenol	ON	656000	3840	14.30	14.50	1.047	0.16	0.732	0.766
	FR1 n77_HPUE_Main	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	656000	3840	17.47	17.50	1.007	-0.11	0.811	0.817
	FR1 n77_Main	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	633332	3499.98	14.31	14.50	1.045	-0.19	0.732	0.765
	FR1 n77_Main	100M	BPSK	135	0	Bottom of Laptop	0mm	Amphenol	ON	633332	3499.98	14.28	14.50	1.052	-0.17	0.706	0.743
	FR1 n77_Main	100M	BPSK	270	0	Bottom of Laptop	0mm	Amphenol	ON	633332	3499.98	14.20	14.50	1.072	0.12	0.711	0.762
	FR1 n77_HPUE_Main	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	633332	3499.98	16.99	17.50	1.125	0.11	0.698	0.785
	FR1 n77_Main	100M	BPSK	1	137	Bottom of Laptop	0mm	NVC	ON	656000	3840	14.30	14.50	1.047	0.16	0.516	0.540
	FR1 n77_MIMO 1	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	OFF	656000	3840	18.89	19.00	1.026	-0.12	0.665	0.682
	FR1 n77_MIMO 1	100M	BPSK	135	0	Bottom of Laptop	0mm	Amphenol	OFF	656000	3840	18.82	19.00	1.042	0.15	0.592	0.617
	FR1 n77_MIMO 1	100M	BPSK	270	0	Bottom of Laptop	0mm	Amphenol	OFF	656000	3840	18.74	19.00	1.062	0.04	0.612	0.650
23	FR1 n77_MIMO 1	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	OFF	633332	3499.98	18.73	19.00	1.064	0.19	1.030	1.096
	FR1 n77_MIMO 1	100M	BPSK	135	0	Bottom of Laptop	0mm	Amphenol	OFF	633332	3499.98	18.63	19.00	1.089	0.16	0.932	1.015
	FR1 n77_MIMO 1	100M	BPSK	270	0	Bottom of Laptop	0mm	Amphenol	OFF	633332	3499.98	18.62	19.00	1.091	0.12	0.942	1.028
	FR1 n77_MIMO 1	100M	BPSK	1	1	Bottom of Laptop	0mm	NVC	OFF	633332	3499.98	18.73	19.00	1.064	0.12	0.733	0.780
	FR1 n77_MIMO 2	100M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	656000	3840	23.85	24.00	1.035	0.08	0.422	0.437
	FR1 n77_MIMO 2	100M	BPSK	1	1	Bottom of Laptop	15mm	Amphenol	OFF	633332	3499.98	23.36	24.00	1.159	0.08	0.388	0.450
	FR1 n77_MIMO 2	100M	BPSK	135	69	Bottom of Laptop	15mm	Amphenol	OFF	656000	3840	23.26	24.00	1.186	0.13	0.416	0.493
	FR1 n77_MIMO 2	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	656000	3840	16.78	17.00	1.052	0.06	1.030	1.084
	FR1 n77_MIMO 2	100M	BPSK	135	0	Bottom of Laptop	0mm	Amphenol	ON	656000	3840	16.71	17.00	1.069	-0.12	0.963	1.029
	FR1 n77_MIMO 2	100M	BPSK	270	0	Bottom of Laptop	0mm	Amphenol	ON	656000	3840	16.63	17.00	1.089	-0.14	0.959	1.044
	FR1 n77_HPUE_MIMO 2	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	656000	3840	20.00	20.00	1.000	0.17	1.010	1.010
	FR1 n77_MIMO 2	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	633332	3499.98	16.64	17.00	1.086	-0.11	0.872	0.947
	FR1 n77_MIMO 2	100M	BPSK	135	0	Bottom of Laptop	0mm	Amphenol	ON	633332	3499.98	16.61	17.00	1.094	0.03	0.815	0.892
	FR1 n77_MIMO 2	100M	BPSK	270	0	Bottom of Laptop	0mm	Amphenol	ON	633332	3499.98	16.53	17.00	1.114	0.01	0.823	0.917
	FR1 n77_HPUE_MIMO 2	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	633332	3499.98	19.72	20.00	1.067	0.12	1.010	1.077
	FR1 n77_MIMO 2	100M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	656000	3840	16.78	17.00	1.052	0.03	0.722	0.760
	FR1 n77_Aux	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	OFF	656000	3840	17.89	18.00	1.026	-0.16	0.624	0.640
	FR1 n77_Aux	100M	BPSK	135	0	Bottom of Laptop	0mm	Amphenol	OFF	656000	3840	17.82	18.00	1.042	0.12	0.692	0.721
	FR1 n77_Aux	100M	BPSK	270	0	Bottom of Laptop	0mm	Amphenol	OFF	656000	3840	17.74	18.00	1.062	0.13	0.665	0.706
	FR1 n77_Aux	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	OFF	633332	3499.98	17.57	18.00	1.104	0.18	0.725	0.800
	FR1 n77_Aux	100M	BPSK	135	0	Bottom of Laptop	0mm	Amphenol	OFF	633332	3499.98	17.47	18.00	1.130	-0.04	0.692	0.782
	FR1 n77_Aux	100M	BPSK	270	0	Bottom of Laptop	0mm	Amphenol	OFF	633332	3499.98	17.46	18.00	1.132	0	0.665	0.753
	FR1 n77_Aux	100M	BPSK	1	1	Bottom of Laptop	0mm	NVC	OFF	633332	3499.98	17.57	18.00	1.104	-0.03	0.887	0.979





13.2 Repeated SAR Measurement

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	LTE Band 7_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	21350	2560	15.92	16.00	1.019	0.13	1.120	-	1.141
2nd	LTE Band 7_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	21350	2560	15.92	16.00	1.019	0.03	1.050	1.07	1.070
1st	LTE Band 13_Main	10M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	23230	782	21.46	22.00	1.132	-0.03	0.995	-	1.127
2nd	LTE Band 13_Main	10M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	23230	782	21.46	22.00	1.132	-0.09	0.981	1.01	1.111
1st	LTE Band 25_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	26340	1880	17.42	18.00	1.143	0.07	0.934	-	1.067
2nd	LTE Band 25_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	26340	1880	17.42	18.00	1.143	0.01	0.928	1.01	1.061
1st	LTE Band 48_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	55340	3560	19.53	20.00	1.114	0.15	1.050	-	1.177
2nd	LTE Band 48_Main	20M	QPSK	1	0	Bottom of Laptop	0mm	Amphenol	ON	55340	3560	19.53	20.00	1.114	0.05	1.010	1.04	1.132
1st	FR1 n5_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	167300	836.5	21.33	22.50	1.309	0.17	0.877	-	1.148
2nd	FR1 n5_Main	20M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	167300	836.5	21.33	22.50	1.309	0.01	0.861	1.02	1.127
1st	FR1 n30_Main	10M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	462000	2310	17.81	18.00	1.045	-0.02	0.982	-	1.026
2nd	FR1 n30_Main	10M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	462000	2310	17.81	18.00	1.045	-0.07	0.975	1.01	1.019
1st	FR1 n66_Main	40M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	349000	1745	19.91	20.00	1.021	0.03	1.130	-	1.154
2nd	FR1 n66_Main	40M	BPSK	1	1	Bottom of Laptop	0mm	NVC	ON	349000	1745	19.91	20.00	1.021	0.06	1.050	1.08	1.072
1st	FR1 n77_MIMO 2	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	656000	3840	16.78	17.00	1.052	0.06	1.030	-	1.084
2nd	FR1 n77_MIMO 2	100M	BPSK	1	1	Bottom of Laptop	0mm	Amphenol	ON	656000	3840	16.78	17.00	1.052	0.03	0.991	1.04	1.042

General Note:

- Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is  $\geq 0.8W/kg$ .
- Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is  $\leq 1.2$  and the measured SAR  $< 1.45W/kg$ , only one repeated measurement is required.
- The ratio is the difference in percentage between original and repeated *measured SAR*.
- All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.



13.3 LTE Band 41 Power Class 2 and Power Class 3 Linearity

This device support Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg, Separate SAR testing for Power Class 2 is not required Use PC3 power level and SAR to estimated PC2 SAR linearly, and check if the deviation from the measured PC2 SAR is <10%

<Main>

Table with 3 columns: Parameter, LTE Band 41 (Power Class 3), and LTE Band 41 (Power Class 2). Rows include Maximum Tune up Power (dBm), Reported 1g SAR (W/kg), Duty Cycle, Frame Averaged (mW), Linearity SAR(W/kg), and % deviation from expected linearity.

<MIMO 2>

Table with 3 columns: Parameter, LTE Band 41 (Power Class 3), and LTE Band 41 (Power Class 2). Rows include Maximum Tune up Power (dBm), Reported 1g SAR (W/kg), Duty Cycle, Frame Averaged (mW), Linearity SAR(W/kg), and % deviation from expected linearity.



**13.4 FR1 n41/n77 Power Class 2 and Power Class 3 Linearity**

This device support Power Class 2 and Power Class 3 operations for FR1 n41/n77. The highest available duty cycle for Power Class 2 operation is 50% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each FR1 configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg, Separate SAR testing for Power Class 2 is not required.

Use PC3 power level and SAR to estimated PC2 SAR linearly, and check if the deviation from the measured PC2 SAR is <10%

**<Main>**

	FR1 n41 (Power Class 3)	FR1 n41 (Power Class 2)
Maximum Tune up Power (dBm)	15.5	18.5
Reported 1g SAR (W/kg)	1.013	0.915
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	35.48	35.40
Linearity SAR(W/kg)	1.01	
% deviation from expected linearity		-9.46%

	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	14.5	17.5
Reported 1g SAR (W/kg)	0.854	0.817
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	28.18	28.12
Linearity SAR(W/kg)	0.85	
% deviation from expected linearity		-4.11%

**<MIMO 2>**

	FR1 n41 (Power Class 3)	FR1 n41 (Power Class 2)
Maximum Tune up Power (dBm)	15.5	18.5
Reported 1g SAR (W/kg)	1.02	0.983
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	35.48	35.40
Linearity SAR(W/kg)	1.02	
% deviation from expected linearity		-3.40%

	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	17	20
Reported 1g SAR (W/kg)	1.084	1.01
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	50.12	50.00
Linearity SAR(W/kg)	1.08	
% deviation from expected linearity		-6.61%

**14. Simultaneous Transmission Analysis**

NO.	Simultaneous Transmission Configurations	Body
1.	WWAN Main + WWAN MIMO 2 + 2.4GHz WLAN Main + 2.4GHz WLAN Aux	Yes
2.	WWAN Main + WWAN MIMO 2 + 2.4GHz WLAN Main + Bluetooth Aux	Yes
3.	WWAN Main + WWAN MIMO 2 + 5/6GHz WLAN Main + 5/6GHz WLAN Aux + Bluetooth Aux	Yes
4.	WWAN MIMO 1 + 2.4GHz WLAN Main + 2.4GHz WLAN Aux	Yes
5.	WWAN MIMO 1 + 2.4GHz WLAN Main + Bluetooth Aux	Yes
6.	WWAN MIMO 1 + 5/6GHz WLAN Main + 5/6GHz WLAN Aux + Bluetooth Aux	Yes
7.	WWAN Aux+ 2.4GHz WLAN Main + 2.4GHz WLAN Aux	Yes
8.	WWAN Aux + 2.4GHz WLAN Main + Bluetooth Aux	Yes
9.	WWAN Aux + 5/6GHz WLAN Main + 5/6GHz WLAN Aux + Bluetooth Aux	Yes

**General Note:**

1. The Intel AX211D2W WLAN/BT module is also integrated into Lenovo TP00129B host. The WLAN 2.4GHz/5GHz and Bluetooth SAR results are referenced from Intel SAR report, report number: 201120-03.TR10 (FCC ID: PD9AX211D2), WLAN 6GHz SAR refers new report No.:201120-03.TR50 (FCC ID: PD9AX211D2)
2. Referenced from FCC ID: PD9AX211D2, Report No.: 201120-03.TR10 and 201120-03.TR50, WLAN modular SAR tested at 8mm separation does not exceed 0.8 W/kg and integration into this host is qualified according to KDB 616217. WiFi/BT SAR of 1.6 W/kg was used conservatively for the purpose of simultaneous transmission analysis. For the WLAN main and WLAN Aux Sim-Tx analysis include in WLAN modular SAR report. In this report only assessment WWAN to each WLAN antenna.
3. The worst case SAR from each WWAN transmit antenna is used for Sim-Tx analysis. Therefore, the following summations represent the absolute worst cases for simultaneous transmission for this device and it is conservative.
4. The Sim-Tx analysis for EN-DC active is choose the worst case standalone SAR from the WWAN main and MIMO2 antenna within the exposure positions, regardless of whether the EN-DC combinations. Therefore, the following summations represent the absolute worst cases for simultaneous transmission for this device and it is conservative.
5. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
  - i) Scalar SAR summation < 1.6W/kg.
  - ii)  $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$ , and the peak separation distance is determined from the square root of  $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$ , where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
  - iii) If  $SPLSR \leq 0.04$ , simultaneously transmission SAR measurement is not necessary.
  - iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
  - v) The SPLSR calculated results please refer to section 14.2.



**14.1 Body Exposure Conditions**

**<WWAN Main + WWAN MIMO 2 + WLAN + Bluetooth>**

Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4 Summed 1g SAR (W/kg)	1+2+5 Summed 1g SAR (W/kg)	SPLSR	Case No
	Maximum WWAN Main Ant	Maximum WWAN MIMO 2 Ant	WLAN Main	WLAN Aux	Bluetooth Aux					
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)					
Bottom of Laptop at 0mm	1.178	1.163	1.600	1.600	1.600	3.941	3.941	3.941	0.02	Case 1

**<WWAN MIMO 1 + WLAN + Bluetooth>**

Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	SPLSR	Case No
	Maximum WWAN MIMO 1 Ant	WLAN Main	WLAN Aux	Bluetooth Aux					
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)					
Bottom of Laptop at 0mm	1.192	1.600	1.600	1.600	2.792	2.792	2.792	0.02	Case 2

**<WWAN Aux + WLAN + Bluetooth>**

Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	SPLSR	Case No
	Maximum WWAN Aux Ant	WLAN Main	WLAN Aux	Bluetooth Aux					
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)					
Bottom of Laptop at 0mm	0.987	1.600	1.600	1.600	2.587	2.587	2.587	0.02	Case 3

**14.2 SPLSR Evaluation and Analysis**

**General Note:**

1. According to antenna location of appendix D, the minimum distance between each WWAN/WLAN/BT transmit antenna are using for SPLSR analysis.
2. For SPLSR analysis is selected highest standalone SAR from each WWAN transmit antenna to be evaluated and it is conservative.
3.  $SPLSR = (SAR_1 + SAR_2)^{1.5} / (min. \text{ separation distance, mm})$ . If  $SPLSR \leq 0.04$ , simultaneously transmission SAR measurement is not necessary

	Band	Position	SAR (W/kg)	Gap	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)				
Case 1	Maximum WWAN Main Ant	Bottom of Laptop	1.178	0	227.5	2.34	0.02	Not required
	Maximum WWAN MIMO 2 Ant		1.163	0				
	Maximum WWAN Main Ant	Bottom of Laptop	1.178	0	216.3	2.78	0.02	Not required
	WLAN_Main		1.6	0				
	Maximum WWAN Main Ant	Bottom of Laptop	1.178	0	228.2	2.78	0.02	Not required
	WLAN_Aux		1.6	0				
	Maximum WWAN Main Ant	Bottom of Laptop	1.178	0	228.2	2.78	0.02	Not required
	Bluetooth_Aux		1.6	0				
	Maximum WWAN MIMO 2 Ant	Bottom of Laptop	1.163	0	251.6	2.76	0.02	Not required
	WLAN_Main		1.6	0				
	Maximum WWAN MIMO 2 Ant	Bottom of Laptop	1.163	0	208.6	2.76	0.02	Not required
	WLAN_Aux		1.6	0				
Maximum WWAN MIMO 2 Ant	Bottom of Laptop	1.163	0	208.6	2.76	0.02	Not required	
Bluetooth_Aux		1.6	0					
Case 2	Maximum WWAN MIMO 1 Ant	Bottom of Laptop	1.192	0	219.4	2.79	0.02	Not required
	WLAN_Main		1.6	0				
	Maximum WWAN MIMO 1 Ant	Bottom of Laptop	1.192	0	241.2	2.79	0.02	Not required
	WLAN_Aux		1.6	0				
	Maximum WWAN MIMO 1 Ant	Bottom of Laptop	1.192	0	241.2	2.79	0.02	Not required
	Bluetooth_Aux		1.6	0				
Case 3	Maximum WWAN Aux Ant	Bottom of Laptop	0.987	0	245.5	2.59	0.02	Not required
	WLAN_Main		1.6	0				
	Maximum WWAN Aux Ant	Bottom of Laptop	0.987	0	210.8	2.59	0.02	Not required
	WLAN_Aux		1.6	0				
	Maximum WWAN Aux Ant	Bottom of Laptop	0.987	0	210.8	2.59	0.02	Not required
	Bluetooth_Aux		1.6	0				

**Test Engineer :** Bevis Chang, Carter Jhuang and Mood Huang



## **15. Uncertainty Assessment**

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be  $\leq 30\%$ , for a confidence interval of  $k = 2$ . If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg. Therefore, the measurement uncertainty table is not required in this report.

### Declaration of Conformity:

The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.

### Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

## **16. References**

- [1] FCC 47 CFR Part 2 "Frequency Allocations and Radio Treaty Matters; General Rules and Regulations"
- [2] ANSI/IEEE Std. C95.1-1992, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz", September 1992
- [3] IEEE Std. 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [6] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [7] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [8] FCC KDB 941225 D05A v01r02, "Rel. 10 LTE SAR Test Guidance and KDB Inquiries", Oct 2015
- [9] FCC KDB 616217 D04 v01r02, "SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers", Oct 2015
- [10] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [11] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.