

Tune Up Procedure

Tune-up procedure

GSM/WCDMA LTE/NR TEST

Measurement Procedure:

GSM/WCDMA LTE/NR

1.Connect EUT with CMU200(E5515C)/CMW500, through RF cable. Make a call from CMU200(E5515C)/CMW500;

2.Measure the Output Power Average value;

3.Remarks: All Output Power are tested in Average Value specification.

For WIFI/BT

1: Connect to Power meter (NRVD) through RF cable and let the EUT Continuously transmit

2: Measure the Output Power Average value

Manufacturing tolerance

GSM

GSM900	Conducted Power (dBm)			Tune Up (dBm)
	Channel 124 (914.80MHz)	Channel 63 (902.60MHz)	Channel 975 (880.20MHz)	
	32.45	32.54	32.43	
DCS1800	Conducted Power (dBm)			Tune Up (dBm)
	Channel 885 (1784.80MHz)	Channel 698 (1747.40MHz)	Channel 512 (1710.20MHz)	
	29.50	29.55	29.50	

The conducted power measurement results for GPRS

GPRS 900 (GMSK)	Measured Power (dBm)			Tune Up (dBm)	Calculation (dB)	Averaged Power (dBm)			Tune Up (dBm)
	880.2 MHz	902.6 MHz	914.8 MHz			880.2 MHz	902.6 MHz	914.8 MHz	
1 Txslot	29.93	29.93	30.01	30.50	-9.03	20.90	20.90	20.98	21.00
2 Txslot	28.45	28.46	28.49	28.50	-6.02	22.43	22.44	22.47	22.50
3 Txslot	26.28	26.10	26.16	26.50	-4.26	22.02	21.84	21.90	22.50
4 Txslot	25.49	25.51	25.39	26.00	-3.01	22.48	22.50	22.38	23.00
GPRS 1800 (GMSK)	Measured Power (dBm)			Tune Up (dBm)	Calculation (dB)	Averaged Power (dBm)			Tune Up (dBm)
	1710.2 MHz	1747.4 MHz	1784.8 MHz			1710.2 MHz	1747.4 MHz	1784.8 MHz	
1 Txslot	28.20	28.35	28.27	28.50	-9.03	19.17	19.32	19.24	19.50
2 Txslot	26.33	26.25	26.20	26.50	-6.02	20.31	20.23	20.18	20.50
3 Txslot	23.66	23.58	23.58	24.00	-4.26	19.40	19.32	19.32	19.50
4 Txslot	21.08	21.11	21.07	21.50	-3.01	18.07	18.10	18.06	18.50

The conducted power measurement results for EGPRS

EGPRS 900 (GMSK)	Measured Power (dBm)			Tune Up (dBm)	Calculatio n (dB)	Averaged Power (dBm)			Tune Up (dBm)
	880.2 MHz	902.6 MHz	914.8 MHz			880.2 MHz	902.6 MHz	914.8 MHz	
1 Txslot	26.28	26.22	26.22	26.50	-9.03	17.25	17.19	17.19	17.50
2 Txslot	25.53	25.45	25.39	26.00	-6.02	19.51	19.43	19.37	20.00
3 Txslot	22.42	22.42	22.48	22.50	-4.26	18.16	18.16	18.22	18.50
4 Txslot	20.85	20.83	20.82	21.00	-3.01	17.84	17.82	17.81	18.00
EGPRS 1800 (GMSK)	Measured Power (dBm)			Tune Up (dBm)	Calculatio n (dB)	Averaged Power (dBm)			Tune Up (dBm)
	1710. 2 MHz	1747. 4 MHz	1784. 8 MHz			1710. 2 MHz	1747. 4 MHz	1784. 8 MHz	
1 Txslot	26.31	26.29	26.40	26.50	-9.03	17.28	17.26	17.37	17.50
2 Txslot	23.70	23.60	23.55	24.00	-6.02	17.68	17.58	17.53	18.00
3 Txslot	20.93	21.06	21.10	21.50	-4.26	16.67	16.80	16.84	17.00
4 Txslot	20.57	20.41	20.52	21.00	-3.01	17.56	17.40	17.51	18.00

The conducted power measurement results for WCDMA

Item	band	FDD Band VIII result (dBm)			Tune Up (dBm)	FDD Band I result (dBm)			Tune Up (dBm)
		Test Channel				Test Channel			
	sub-test	2712	2788	2836		9612	9750	9888	
5.2(WCDMA)	\	23.38	23.46	23.48	23.50	23.46	23.43	23.45	23.50
5.2AA (HSDPA)	1	22.23	22.25	22.25	22.50	22.87	22.95	22.91	23.00
	2	22.05	22.10	22.18	22.50	22.56	22.86	22.87	23.00
	3	21.87	21.99	21.96	22.00	22.48	22.62	22.85	23.00
	4	21.75	21.99	21.59	22.00	22.38	22.22	22.63	23.00
5.2B (HSUPA)	1	22.08	22.11	22.11	22.50	22.35	22.28	22.29	22.50
	2	21.79	21.91	21.90	22.00	22.40	22.09	22.00	22.50
	3	21.61	21.95	21.99	22.00	22.43	22.17	22.06	22.50
	4	21.69	21.65	21.85	22.00	22.35	21.90	21.86	22.50
	5	21.48	21.43	21.78	22.00	22.23	21.88	21.86	22.50

The Conducted Power Measurement Result for LTE Band					
Test Result for LTE Band 1					
Channel Bandwidth	Channel	RB Allocation		Average Power (dBm, QPSK)	Tune Up (dBm)
		RB Size	RB Offset		
5MHz	Low Range	1	1RB#0	22.42	23.00
			8RB#0	22.27	23.00
	Mid Range	1	1RB#0	22.45	23.00
			8RB#0	22.53	23.00
	High Range	1	1RB#24	22.22	23.00
			8RB#17	22.27	23.00
20MHz	Low Range	1	1RB#0	22.27	23.00
			18RB#0	21.93	22.00
	Mid Range	1	1RB#0	22.16	23.00
			18RB#0	22.24	23.00
	High Range	1	1RB#99	22.33	23.00
			18RB#82	22.26	23.00

LTE-BAND3

The Conducted Power Measurement Result for LTE Band					
Test Result for LTE Band 3					
Channel Bandwidth	Channel	RB Allocation		Average Power (dBm, QPSK)	Tune Up (dBm)
		RB Size	RB Offset		
1.4MHz	Low Range	1	1RB#0	22.10	23.00
	Mid Range	1	1RB#0	21.90	22.00
	High Range	1	1RB#0	21.71	22.00
			5RB#0	21.90	22.00
5MHz	Low Range	1	1RB#0	22.09	23.00
			1RB#24	22.20	23.00
	Mid Range	1	1RB#0	22.19	23.00
			1RB#24	22.02	23.00
	High Range	1	1RB#0	21.97	22.00
			1RB#24	21.79	22.00
20MHz	Low Range	1	8RB#0	21.88	22.00
			1RB#0	22.14	23.00
			1RB#99	22.42	23.00

	Mid Range	1	1RB#0	22.36	23.00
			1RB#99	22.24	23.00
	High Range	1	1RB#0	22.19	23.00
			1RB#99	22.03	23.00
			18RB#0	22.15	23.00

LTE-BAND7

The Conducted Power Measurement Result for LTE Band					
Test Result for LTE Band 7					
Channel Bandwidth	Channel	RB Allocation		Average Power (dBm, QPSK)	Tune Up (dBm)
		RB Size	RB Offset		
5MHz	Low Range	1	1RB#0	21.52	22.00
			1RB#24	21.46	22.00
	Mid Range	1	1RB#0	21.24	22.00
			1RB#24	21.32	22.00
	High Range	1	1RB#0	21.51	22.00
			1RB#24	21.45	22.00
			8RB#0	21.56	22.00
20MHz	Low Range	1	1RB#0	21.34	22.00
			1RB#99	21.62	22.00
	Mid Range	1	1RB#0	21.50	22.00
			1RB#99	21.29	22.00
	High Range	1	1RB#0	21.61	22.00
			1RB#99	21.60	22.00
			18RB#0	21.57	22.00

LTE-BAND8

The Conducted Power Measurement Result for LTE Band					
Test Result for LTE Band 8					
Channel Bandwidth	Channel	RB Allocation		Average Power (dBm, QPSK)	Tune Up (dBm)
		RB Size	RB Offset		
1.4MHz	Low Range	1	1RB#0	24.01	25.00
	Mid Range	1	1RB#0	23.61	24.00
	High Range	1	1RB#0	23.52	24.00
			5RB#0	23.63	24.00

5MHz	Low Range	1	1RB#0	23.84	24.00
			1RB#24	23.76	24.00
	Mid Range	1	1RB#0	23.51	24.00
			1RB#24	23.58	24.00
	High Range	1	1RB#0	23.51	24.00
			1RB#24	23.54	24.00
			8RB#0	23.66	24.00
10MHz	Low Range	1	1RB#0	23.82	24.00
			1RB#49	23.67	24.00
	Mid Range	1	1RB#0	23.54	24.00
			1RB#49	23.56	24.00
	High Range	1	1RB#0	23.66	24.00
			1RB#49	23.50	24.00
			12RB#0	23.57	24.00

LTE-BAND20

The Conducted Power Measurement Result for LTE Band					
Test Result for LTE Band 20					
Channel Bandwidth	Channel	RB Allocation		Average Power (dBm, QPSK)	Tune Up (dBm)
		RB Size	RB Offset		
5MHz	Low Range	1	1RB#0	24.28	25.00
			1RB#24	24.13	25.00
	Mid Range	1	1RB#0	23.77	24.00
			1RB#24	23.80	24.00
	High Range	1	1RB#0	24.04	25.00
			1RB#24	23.98	24.00
			8RB#0	23.97	24.00
20MHz	Low Range	1	1RB#0	24.29	25.00
			1RB#99	23.97	24.00
	Mid Range	1	1RB#0	24.04	25.00
			1RB#99	23.87	24.00
	High Range	1	1RB#0	24.16	25.00
			1RB#99	24.00	25.00
			18RB#0	24.03	25.00

LTE-BAND38

The Conducted Power Measurement Result for LTE Band					
Test Result for LTE Band 38					
Channel Bandwidth	Channel	RB Allocation		Average Power (dBm, QPSK)	Tune Up (dBm)
		RB Size	RB Offset		
5MHz	Low Range	1	1RB#0	21.69	22.00
			8RB#0	21.75	22.00
	Mid Range	1	1RB#0	22.15	23.00
			8RB#0	22.19	23.00
	High Range	1	1RB#24	21.38	22.00
			8RB#17	21.46	22.00
20MHz	Low Range	1	1RB#0	21.61	22.00
			18RB#0	21.66	22.00
	Mid Range	1	1RB#0	21.98	22.00
			18RB#0	22.02	23.00
	High Range	1	1RB#99	21.44	22.00
			18RB#82	21.43	22.00

LTE-BAND40

The Conducted Power Measurement Result for LTE Band					
Test Result for LTE Band 40					
Channel Bandwidth	Channel	RB Allocation		Average Power (dBm, QPSK)	Tune Up (dBm)
		RB Size	RB Offset		
5MHz	Low Range	1	1RB#0	21.21	22.00
			8RB#0	21.33	22.00
	Mid Range	1	1RB#0	21.14	22.00
			8RB#0	21.07	22.00
	High Range	1	1RB#24	21.24	22.00
			8RB#17	21.22	22.00
20MHz	Low Range	1	1RB#0	21.04	22.00
			18RB#0	21.17	22.00
	Mid Range	1	1RB#0	21.51	22.00
			18RB#0	21.11	22.00
	High Range	1	1RB#99	20.95	21.00
			18RB#82	21.21	22.00

NR1

Band	Bandwidth	SCS	Channel	TestID	TestConfig	Value	Tune Up (dBm)
n1	5MHz	15kHz	422500	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	20.75	21.00
n1	5MHz	15kHz	422500	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	20.77	21.00
n1	5MHz	15kHz	422500	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	20.71	21.00
n1	5MHz	15kHz	422500	4	DFT-s-OFDM QPSK^Inner_Full:PC3	20.77	21.00
n1	5MHz	15kHz	422500	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	20.79	21.00
n1	5MHz	15kHz	422500	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	20.72	21.00
n1	5MHz	15kHz	428000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.14	22.00
n1	5MHz	15kHz	428000	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.00	22.00
n1	5MHz	15kHz	428000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.09	22.00
n1	5MHz	15kHz	428000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.16	22.00
n1	5MHz	15kHz	428000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.12	22.00
n1	5MHz	15kHz	428000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.12	22.00
n1	5MHz	15kHz	433500	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.21	22.00
n1	5MHz	15kHz	433500	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.18	22.00
n1	5MHz	15kHz	433500	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.21	22.00
n1	5MHz	15kHz	433500	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.22	22.00
n1	5MHz	15kHz	433500	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.19	22.00
n1	5MHz	15kHz	433500	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.19	22.00
n1	25MHz	15kHz	424500	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.36	22.00



n1	25MHz	15kHz	424500	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.15	22.00
n1	25MHz	15kHz	424500	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	20.99	21.00
n1	25MHz	15kHz	424500	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.39	22.00
n1	25MHz	15kHz	424500	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.18	22.00
n1	25MHz	15kHz	424500	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.04	22.00
n1	25MHz	15kHz	428000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.42	22.00
n1	25MHz	15kHz	428000	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.10	22.00
n1	25MHz	15kHz	428000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.05	22.00
n1	25MHz	15kHz	428000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.44	22.00
n1	25MHz	15kHz	428000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.18	22.00
n1	25MHz	15kHz	428000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.14	22.00
n1	25MHz	15kHz	431500	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.36	22.00
n1	25MHz	15kHz	431500	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.16	22.00
n1	25MHz	15kHz	431500	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.17	22.00
n1	25MHz	15kHz	431500	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.47	22.00
n1	25MHz	15kHz	431500	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.17	22.00
n1	25MHz	15kHz	431500	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.24	22.00
n1	50MHz	15kHz	427000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.46	22.00
n1	50MHz	15kHz	427000	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.24	22.00
n1	50MHz	15kHz	427000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.23	22.00
n1	50MHz	15kHz	427000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.43	22.00
n1	50MHz	15kHz	427000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.26	22.00

n1	50MHz	15kHz	427000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.29	22.00
n1	50MHz	15kHz	428000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.47	22.00
n1	50MHz	15kHz	428000	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.14	22.00
n1	50MHz	15kHz	428000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.28	22.00
n1	50MHz	15kHz	428000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.48	22.00
n1	50MHz	15kHz	428000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.25	22.00
n1	50MHz	15kHz	428000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.30	22.00
n1	50MHz	15kHz	429000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.44	22.00
n1	50MHz	15kHz	429000	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.09	22.00
n1	50MHz	15kHz	429000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.32	22.00
n1	50MHz	15kHz	429000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.46	22.00
n1	50MHz	15kHz	429000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.22	22.00
n1	50MHz	15kHz	429000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.34	22.00

NR3

Band	Bandwidth	SCS	Channel	TestID	TestConfig	Value	Tune Up (dBm)
n3	5MHz	15kHz	361500	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.13	22.00
n3	5MHz	15kHz	361500	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.10	22.00
n3	5MHz	15kHz	361500	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.06	22.00
n3	5MHz	15kHz	361500	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.17	22.00
n3	5MHz	15kHz	361500	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.15	22.00
n3	5MHz	15kHz	361500	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.10	22.00
n3	5MHz	15kHz	368500	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.35	22.00
n3	5MHz	15kHz	368500	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.34	22.00
n3	5MHz	15kHz	368500	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.25	22.00
n3	5MHz	15kHz	368500	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.38	22.00
n3	5MHz	15kHz	368500	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.33	22.00
n3	5MHz	15kHz	368500	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.28	22.00
n3	5MHz	15kHz	375500	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.37	22.00
n3	5MHz	15kHz	375500	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.35	22.00
n3	5MHz	15kHz	375500	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.26	22.00
n3	5MHz	15kHz	375500	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.42	22.00
n3	5MHz	15kHz	375500	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.32	22.00
n3	5MHz	15kHz	375500	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.33	22.00
n3	20MHz	15kHz	363000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.72	22.00
n3	20MHz	15kHz	363000	2	DFT-s-OFDM PI/2	21.60	22.00

					BPSK^Inner_1RB_Left:PC3		
n3	20MHz	15kHz	363000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.53	22.00
n3	20MHz	15kHz	363000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.67	22.00
n3	20MHz	15kHz	363000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.54	22.00
n3	20MHz	15kHz	363000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.52	22.00
n3	20MHz	15kHz	368500	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.66	22.00
n3	20MHz	15kHz	368500	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.52	22.00
n3	20MHz	15kHz	368500	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.44	22.00
n3	20MHz	15kHz	368500	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.69	22.00
n3	20MHz	15kHz	368500	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.55	22.00
n3	20MHz	15kHz	368500	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.50	22.00
n3	20MHz	15kHz	374000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.62	22.00
n3	20MHz	15kHz	374000	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.45	22.00
n3	20MHz	15kHz	374000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.48	22.00
n3	20MHz	15kHz	374000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.67	22.00
n3	20MHz	15kHz	374000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.51	22.00
n3	20MHz	15kHz	374000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.51	22.00
n3	40MHz	15kHz	365000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.77	22.00
n3	40MHz	15kHz	365000	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.13	22.00
n3	40MHz	15kHz	365000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.06	22.00
n3	40MHz	15kHz	365000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.71	22.00
n3	40MHz	15kHz	365000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.15	22.00



n3	40MHz	15kHz	365000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.01	22.00
n3	40MHz	15kHz	368500	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.72	22.00
n3	40MHz	15kHz	368500	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.20	22.00
n3	40MHz	15kHz	368500	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	20.99	21.00
n3	40MHz	15kHz	368500	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.69	22.00
n3	40MHz	15kHz	368500	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.23	22.00
n3	40MHz	15kHz	368500	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.04	22.00
n3	40MHz	15kHz	372000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.66	22.00
n3	40MHz	15kHz	372000	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.11	22.00
n3	40MHz	15kHz	372000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.03	22.00
n3	40MHz	15kHz	372000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.65	22.00
n3	40MHz	15kHz	372000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.15	22.00
n3	40MHz	15kHz	372000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.01	22.00

NR7

Band	Bandwidth	SCS	Channel	TestID	TestConfig	Value	Tune Up (dBm)
n7	5MHz	15kHz	524500	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.06	22.00
n7	5MHz	15kHz	524500	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.10	22.00
n7	5MHz	15kHz	524500	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	20.94	21.00
n7	5MHz	15kHz	524500	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.08	22.00
n7	5MHz	15kHz	524500	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.08	22.00
n7	5MHz	15kHz	524500	6	DFT-s-OFDM	21.02	22.00

					QPSK^Inner_1RB_Right:PC3		
n7	5MHz	15kHz	531000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	20.74	21.00
n7	5MHz	15kHz	531000	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	20.62	21.00
n7	5MHz	15kHz	531000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	20.68	21.00
n7	5MHz	15kHz	531000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	20.72	21.00
n7	5MHz	15kHz	531000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	20.69	21.00
n7	5MHz	15kHz	531000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	20.72	21.00
n7	5MHz	15kHz	537500	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.19	22.00
n7	5MHz	15kHz	537500	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	21.27	22.00
n7	5MHz	15kHz	537500	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.06	22.00
n7	5MHz	15kHz	537500	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.13	22.00
n7	5MHz	15kHz	537500	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	21.24	22.00
n7	5MHz	15kHz	537500	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.03	22.00
n7	25MHz	15kHz	526500	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	20.95	21.00
n7	25MHz	15kHz	526500	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	20.92	21.00
n7	25MHz	15kHz	526500	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	20.51	21.00
n7	25MHz	15kHz	526500	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.02	22.00
n7	25MHz	15kHz	526500	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	20.97	21.00
n7	25MHz	15kHz	526500	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	20.54	21.00
n7	25MHz	15kHz	531000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	20.84	21.00
n7	25MHz	15kHz	531000	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	20.37	21.00
n7	25MHz	15kHz	531000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	20.74	21.00



n7	25MHz	15kHz	531000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	20.83	21.00
n7	25MHz	15kHz	531000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	20.48	21.00
n7	25MHz	15kHz	531000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	20.78	21.00
n7	25MHz	15kHz	535500	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	21.16	22.00
n7	25MHz	15kHz	535500	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	20.65	21.00
n7	25MHz	15kHz	535500	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.22	22.00
n7	25MHz	15kHz	535500	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.19	22.00
n7	25MHz	15kHz	535500	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	20.67	21.00
n7	25MHz	15kHz	535500	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.28	22.00
n7	50MHz	15kHz	529000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	20.75	21.00
n7	50MHz	15kHz	529000	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	20.84	21.00
n7	50MHz	15kHz	529000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	20.83	21.00
n7	50MHz	15kHz	529000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	20.80	21.00
n7	50MHz	15kHz	529000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	20.87	21.00
n7	50MHz	15kHz	529000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	20.92	21.00
n7	50MHz	15kHz	531000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	20.81	21.00
n7	50MHz	15kHz	531000	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	20.59	21.00
n7	50MHz	15kHz	531000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	20.88	21.00
n7	50MHz	15kHz	531000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	20.84	21.00
n7	50MHz	15kHz	531000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	20.69	21.00
n7	50MHz	15kHz	531000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	20.95	21.00
n7	50MHz	15kHz	533000	1	DFT-s-OFDM PI/2 BPSK^Inner_Full:PC3	20.98	21.00

n7	50MHz	15kHz	533000	2	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Left:PC3	20.45	21.00
n7	50MHz	15kHz	533000	3	DFT-s-OFDM PI/2 BPSK^Inner_1RB_Right:PC3	21.28	22.00
n7	50MHz	15kHz	533000	4	DFT-s-OFDM QPSK^Inner_Full:PC3	21.03	22.00
n7	50MHz	15kHz	533000	5	DFT-s-OFDM QPSK^Inner_1RB_Left:PC3	20.46	21.00
n7	50MHz	15kHz	533000	6	DFT-s-OFDM QPSK^Inner_1RB_Right:PC3	21.31	22.00

The conducted power measurement results for WLAN 2.4G

Mode	Channel	Frequency (MHz)	Conducted Output Power	Tune Up (dBm)
			(dBm)	
802.11b	1	2412	13.62	14.00
	7	2442	12.92	13.00
	13	2472	12.38	13.00
802.11g	1	2412	12.41	13.00
	7	2442	11.71	12.00
	13	2472	11.93	12.00
802.11n(20MHz)	1	2412	12.26	13.00
	7	2442	11.60	12.00
	13	2472	12.06	13.00
802.11n(20MHz)	1	2412	10.36	11.00
	7	2442	9.79	10.00
	13	2472	9.70	10.00

The conducted power measurement results for WLAN 5.2G

Mode	Channel	Frequency (MHz)	Conducted Output Power(dBm) ANT6	Tune Up (dBm)	Conducted Output Power(dBm) ANT7	Tune Up (dBm)
802.11a	36	5180	10.49	11.00	12.82	13.00
	40	5200	10.46	11.00	12.81	13.00
	48	5240	10.44	11.00	12.79	13.00
802.11n(20MHz)	36	5180	10.60	11.00	12.42	13.00
	40	5200	10.55	11.00	12.40	13.00
	48	5240	10.54	11.00	12.39	13.00
802.11ac(20MHz)	36	5180	10.49	11.00	12.67	13.00
	40	5200	10.48	11.00	12.65	13.00
	48	5240	10.46	11.00	12.64	13.00

802.11n(40MHz)	38	5190	10.88	11.00	12.73	13.00
	46	5230	10.86	11.00	12.70	13.00
802.11ac(40MHz)	38	5190	10.78	11.00	12.65	13.00
	46	5230	10.75	11.00	12.62	13.00
802.11ac(80MHz)	42	5210	11.33	12.00	13.21	14.00

The conducted power measurement results for WLAN 5.8G

Mode	Channel	Frequency (MHz)	Conducted Output Power(dBm) ANT6	Tune Up (dBm)	Conducted Output Power(dBm) ANT7	Tune Up (dBm)
802.11a	149	5745	9.52	10.00	11.72	12.00
	157	5785	9.49	10.00	11.69	12.00
	165	5825	9.47	10.00	11.68	12.00
802.11n(20MHz)	149	5745	9.58	10.00	11.72	12.00
	157	5785	9.56	10.00	11.71	12.00
	165	5825	9.54	10.00	11.69	12.00
802.11ac(20MHz)	149	5745	9.48	10.00	11.68	12.00
	157	5785	9.45	10.00	11.96	12.00
	165	5825	9.43	10.00	11.95	12.00
802.11n(40MHz)	151	5755	9.34	10.00	11.84	12.00
	159	5795	9.35	10.00	11.81	12.00
802.11ac(40MHz)	151	5755	9.62	10.00	11.92	12.00
	159	5795	9.61	10.00	11.89	12.00
802.11ac(80MHz)	155	5775	9.19	10.00	11.77	12.00

The conducted power measurement results for Bluetooth

Mode	Channel	Frequency (MHz)	Conducted Output Power	Tune Up (dBm)
			(dBm)	
BLE_1M	00	2402	-0.34	0.00
		2412	-0.18	0.00
	19	2440	-1.15	-1.00
	39	2480	-0.88	-0.50
BLE_2M	00	2402	-0.36	-0.50
	19	2440	-1.17	-1.00
	39	2480	-0.93	-0.50
GFSK	00	2402	1.48	1.50
	78	2480	1.71	2.00
$\pi/4$ -DQPSK	00	2402	-0.03	0.00
	78	2480	0.26	0.50
8DPSK	00	2402	0.63	1.00
	78	2480	1.56	2.00

Tune Up Procedure

1. RX Gain Calibration
 - a. Put DUT in test mode
 - b. Put DUT in BCH mode
 - c. Put DUT in selected channel band
 - d. Total gain chain calibration at center ARFCN
 - e. Frequency Ripple calibration
 - f. Complete RX_AGC Gain table

2. TX Power Calibration
 - a. Put DUT in test mode
 - b. Put DUT in BCH mode
 - c. Put DUT in selected channel band
 - d. Total gain chain calibration at center ARFCN
 - e. Frequency Ripple calibration
 - f. Complete TX_APC Gain table

3. AFC Calibration
 - a. Put DUT in test mode
 - b. Put DUT in selected channel mode
 - c. Calibration AFC at center ARFCN
 - d. Complete AFC result table

