



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

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

GSM 900 (GMSK) (Burst Average Power)			
Channel	Channel 975	Channel 62	Channel 124
Target (dBm)	32.0	32.0	32.0
Tolerance \pm (dB)	1.0	1.0	1.0
GSM 1800 (GMSK) (Burst Average Power)			
Channel	Channel 512	Channel 698	Channel 885
Target (dBm)	29.0	29.0	29.0
Tolerance \pm (dB)	1.0	1.0	1.0

GSM 900 GPRS (GMSK) (Burst Average Power)				
Channel		975	62	124
1 Txslot	Target (dBm)	29.5	29.5	29.5
	Tolerance \pm (dB)	1.0	1.0	1.0
2 Txslot	Target (dBm)	28.0	28.0	28.0
	Tolerance \pm (dB)	1.0	1.0	1.0
3 Txslot	Target (dBm)	25.5	25.5	25.5
	Tolerance \pm (dB)	1.0	1.0	1.0
4 Txslot	Target (dBm)	25.0	25.0	25.0
	Tolerance \pm (dB)	1.0	1.0	1.0
GSM 900 EGPRS (8PSK) (Burst Average Power)				
Channel		975	62	124
1 Txslot	Target (dBm)	25.5	25.5	25.5
	Tolerance \pm (dB)	1.0	1.0	1.0
2 Txslot	Target (dBm)	24.0	24.0	24.0
	Tolerance \pm (dB)	1.0	1.0	1.0





3 Txslot	Target (dBm)	21.5	21.5	21.5
	Tolerance \pm (dB)	1.0	1.0	1.0
4 Txslot	Target (dBm)	20.0	20.0	20.0
	Tolerance \pm (dB)	1.0	1.0	1.0
GSM 1800 GPRS (GMSK) (Burst Average Power)				
Channel		512	698	885
1 Txslot	Target (dBm)	27.5	27.5	27.5
	Tolerance \pm (dB)	1.0	1.0	1.0
2 Txslot	Target (dBm)	25.5	25.5	25.5
	Tolerance \pm (dB)	1.0	1.0	1.0
3 Txslot	Target (dBm)	23.0	23.0	23.0
	Tolerance \pm (dB)	1.0	1.0	1.0
4 Txslot	Target (dBm)	20.5	20.5	20.5
	Tolerance \pm (dB)	1.0	1.0	1.0
GSM 1800 EDGE (8PSK) (Burst Average Power)				
Channel		512	698	885
1 Txslot	Target (dBm)	25.5	25.5	25.5
	Tolerance \pm (dB)	1.0	1.0	1.0
2 Txslot	Target (dBm)	23.0	23.0	23.0
	Tolerance \pm (dB)	1.0	1.0	1.0
3 Txslot	Target (dBm)	20.5	20.5	20.5
	Tolerance \pm (dB)	1.0	1.0	1.0
4 Txslot	Target (dBm)	20.0	20.0	20.0
	Tolerance \pm (dB)	1.0	1.0	1.0

UMTS

UMTS Band VIII			
Channel	Channel 2712	Channel 2788	Channel 2863
Target (dBm)	22.5	22.5	22.5
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band VIII HSDPA(sub-test 1)			
Channel	Channel 2712	Channel 2788	Channel 2863
Target (dBm)	22.5	22.5	22.5
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band VIII HSDPA(sub-test 2)			
Channel	Channel 2712	Channel 2788	Channel 2863
Target (dBm)	22.5	22.5	22.5
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band VIII HSDPA(sub-test 3)			
Channel	Channel 2712	Channel 2788	Channel 2863





Target (dBm)	22.5	22.5	22.5
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band VIII HSDPA(sub-test 4)			
Channel	Channel 2712	Channel 2788	Channel 2863
Target (dBm)	22.5	22.5	22.5
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band VIII HSUPA(sub-test 1)			
Channel	Channel 2712	Channel 2788	Channel 2863
Target (dBm)	22.5	22.5	22.5
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band VIII HSUPA(sub-test 2)			
Channel	Channel 2712	Channel 2788	Channel 2863
Target (dBm)	22.5	22.5	22.5
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band VIII HSUPA(sub-test 3)			
Channel	Channel 2712	Channel 2788	Channel 2863
Target (dBm)	22.5	22.5	22.5
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band VIII HSUPA(sub-test 4)			
Channel	Channel 2712	Channel 2788	Channel 2863
Target (dBm)	22.5	22.5	22.5
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band VIII HSUPA(sub-test 5)			
Channel	Channel 2712	Channel 2788	Channel 2863
Target (dBm)	22.5	22.5	22.5
Tolerance \pm (dB)	1.0	1.0	1.0

UMTS Band I			
Channel	Channel 9612	Channel 9750	Channel 9888
Target (dBm)	23.0	23.0	23.0
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band I HSDPA(sub-test 1)			
Channel	Channel 9612	Channel 9750	Channel 9888
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band I HSDPA(sub-test 2)			
Channel	Channel 9612	Channel 9750	Channel 9888
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0





UMTS Band I HSDPA(sub-test 3)			
Channel	Channel 9612	Channel 9750	Channel 9888
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band I HSDPA(sub-test 4)			
Channel	Channel 9612	Channel 9750	Channel 9888
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band I HSUPA(sub-test 1)			
Channel	Channel 9612	Channel 9750	Channel 9888
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band I HSUPA(sub-test 2)			
Channel	Channel 9612	Channel 9750	Channel 9888
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band I HSUPA(sub-test 3)			
Channel	Channel 9612	Channel 9750	Channel 9888
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band I HSUPA(sub-test 4)			
Channel	Channel 9612	Channel 9750	Channel 9888
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
UMTS Band I HSUPA(sub-test 5)			
Channel	Channel 9612	Channel 9750	Channel 9888
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0

LTE Band 1

BW:5MHz [<RB=1>]			
Channel	Channel 18100	Channel 18300	Channel 18500
	QPSK	QPSK	QPSK
Target (dBm)	20.5	20.5	20.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:5MHz [<RB=8>, <RB=24>]			
Channel	Channel 18100	Channel 18300	Channel 18500
	QPSK	QPSK	QPSK
Target (dBm)	20.5	20.5	20.5
Tolerance \pm (dB)	1.0	1.0	1.0





BW:20MHz [<RB=1>]			
Channel	Channel 18100	Channel 18300	Channel 18500
	QPSK	QPSK	QPSK
Target (dBm)	20.5	20.5	20.5
Tolerance ±(dB)	1.0	1.0	1.0
BW:20MHz [<RB=18>, <RB=99>]			
Channel	Channel 18100	Channel 18300	Channel 18500
	QPSK	QPSK	QPSK
Target (dBm)	20.5	20.5	20.5
Tolerance ±(dB)	1.0	1.0	1.0

LTE Band 3

BW:1.4MHz [<RB=1>]			
Channel	Channel 19300	Channel 19575	Channel 19850
	QPSK	QPSK	QPSK
Target (dBm)	21.0	21.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:1.4MHz [<RB=5>]			
Channel	Channel 19300	Channel 19575	Channel 19850
	QPSK	QPSK	QPSK
Target (dBm)	21.0	21.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:5MHz [<RB=1>]			
Channel	Channel 19300	Channel 19575	Channel 19850
	QPSK	QPSK	QPSK
Target (dBm)	21.0	21.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:5MHz [<RB=8>, <RB=24>]			
Channel	Channel 19300	Channel 19575	Channel 19850
	QPSK	QPSK	QPSK
Target (dBm)	21.0	21.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:20MHz [<RB=1>]			
Channel	Channel 19300	Channel 19575	Channel 19850
	QPSK	QPSK	QPSK
Target (dBm)	21.0	21.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:20MHz [<RB=18>, <RB=99>]			
Channel	Channel 19300	Channel 19575	Channel 19850
	QPSK	QPSK	QPSK





Target (dBm)	21.0	21.0	21.0
Tolerance \pm (dB)	1.0	1.0	1.0

LTE Band 7

BW:5MHz [<RB=1>]			
Channel	Channel 20850	Channel 21100	Channel 21350
	QPSK	QPSK	QPSK
Target (dBm)	20.5	20.5	20.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:5MHz [<RB=8>, <RB=24>]			
Channel	Channel 20850	Channel 21100	Channel 21350
	QPSK	QPSK	QPSK
Target (dBm)	20.5	20.5	20.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:20MHz [<RB=1>]			
Channel	Channel 20850	Channel 21100	Channel 21350
	QPSK	QPSK	QPSK
Target (dBm)	20.5	20.5	20.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:20MHz [<RB=18>, <RB=99>]			
Channel	Channel 20850	Channel 21100	Channel 21350
	QPSK	QPSK	QPSK
Target (dBm)	20.5	20.5	20.5
Tolerance \pm (dB)	1.0	1.0	1.0

LTE Band 8

BW:1.4MHz [<RB=1>]			
Channel	Channel 21500	Channel 21625	Channel 21750
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
BW:1.4MHz [<RB=5>]			
Channel	Channel 21500	Channel 21625	Channel 21750
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
BW:5MHz [<RB=1>]			
Channel	Channel 21500	Channel 21625	Channel 21750
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0





Tolerance \pm (dB)	1.0	1.0	1.0
BW:5MHz [$<RB=8>$, $<RB=24>$]			
Channel	Channel 21500	Channel 21625	Channel 21750
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
BW:10MHz [$<RB=1>$]			
Channel	Channel 21500	Channel 21625	Channel 21750
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
BW:10MHz [$<RB=12>$, $<RB=49>$]			
Channel	Channel 21500	Channel 21625	Channel 21750
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0

LTE Band 20

BW:5MHz [$<RB=1>$]			
Channel	Channel 24250	Channel 24300	Channel 24400
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
BW:5MHz [$<RB=12>$, $<RB=25>$]			
Channel	Channel 24250	Channel 24300	Channel 24400
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
BW:20MHz [$<RB=1>$]			
Channel	Channel 24250	Channel 24300	Channel 24400
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
BW:20MHz [$<RB=50>$, $<RB=100>$]			
Channel	Channel 24250	Channel 24300	Channel 24400
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0

LTE Band 28



BW:3MHz [<RB=1>]			
Channel	Channel 37850	Channel 38000	Channel 38150
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:3MHz [<RB=4>]			
Channel	Channel 37850	Channel 38000	Channel 38150
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:5MHz [<RB=1>]			
Channel	Channel 37850	Channel 38000	Channel 38150
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:5MHz [<RB=4>, <RB=8>]			
Channel	Channel 37850	Channel 38000	Channel 38150
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:20MHz [<RB=1>]			
Channel	Channel 37850	Channel 38000	Channel 38150
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:20MHz [<RB=18>, <RB=99>]			
Channel	Channel 37850	Channel 38000	Channel 38150
	QPSK	QPSK	QPSK
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0

LTE Band 38

BW:5MHz [<RB=1>]			
Channel	Channel 37850	Channel 38000	Channel 38150
	QPSK	QPSK	QPSK
Target (dBm)	20.5	20.5	20.5
Tolerance ±(dB)	1.0	1.0	1.0
BW:5MHz [<RB=8>, <RB=24>]			
Channel	Channel 37850	Channel 38000	Channel 38150
	QPSK	QPSK	QPSK





Target (dBm)	20.5	20.5	20.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:20MHz [$<RB=1>$]			
Channel	Channel 37850	Channel 38000	Channel 38150
	QPSK	QPSK	QPSK
Target (dBm)	20.5	20.5	20.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:20MHz [$<RB=18>$, $<RB=99>$]			
Channel	Channel 37850	Channel 38000	Channel 38150
	QPSK	QPSK	QPSK
Target (dBm)	20.5	20.5	20.5
Tolerance \pm (dB)	1.0	1.0	1.0

LTE Band 40

BW:5MHz [$<RB=1>$]			
Channel	Channel 38675	Channel 39150	Channel 39625
	QPSK	QPSK	QPSK
Target (dBm)	21.0	21.0	21.0
Tolerance \pm (dB)	1.0	1.0	1.0
BW:5MHz [$<RB=8>$, $<RB=24>$]			
Channel	Channel 38675	Channel 39150	Channel 39625
	QPSK	QPSK	QPSK
Target (dBm)	21.0	21.0	21.0
Tolerance \pm (dB)	1.0	1.0	1.0
BW:20MHz [$<RB=1>$]			
Channel	Channel 38675	Channel 39150	Channel 39625
	QPSK	QPSK	QPSK
Target (dBm)	21.0	21.0	21.0
Tolerance \pm (dB)	1.0	1.0	1.0
BW:20MHz [$<RB=18>$, $<RB=99>$]			
Channel	Channel 38675	Channel 39150	Channel 39625
	QPSK	QPSK	QPSK
Target (dBm)	21.0	21.0	21.0
Tolerance \pm (dB)	1.0	1.0	1.0

NR N1

BW:5MHz [$<RB=1>$]			
Channel	Channel 422500	Channel 428000	Channel 433500
Target (dBm)	20.5	20.5	20.5
Tolerance \pm (dB)	1.0	1.0	1.0





BW:25MHz [<RB=1>]			
Channel	Channel 424500	Channel 428000	Channel 433500
Target (dBm)	20.5	20.5	20.5
Tolerance ±(dB)	1.0	1.0	1.0
BW:50MHz [<RB=1>]			
Channel	Channel 427000	Channel 428000	Channel 429000
Target (dBm)	20.5	20.5	20.5
Tolerance ±(dB)	1.0	1.0	1.0

NR N3

BW:5MHz [<RB=1>]			
Channel	Channel 361500	Channel 368500	Channel 375500
Target (dBm)	21.0	21.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:20MHz [<RB=1>]			
Channel	Channel 363000	Channel 368500	Channel 374000
Target (dBm)	21.0	21.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:40MHz [<RB=1>]			
Channel	Channel 365000	Channel 368500	Channel 372000
Target (dBm)	21.0	21.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0

NR N7

BW:5MHz [<RB=1>]			
Channel	Channel 524500	Channel 531000	Channel 537500
Target (dBm)	20.5	20.5	20.5
Tolerance ±(dB)	1.0	1.0	1.0
BW:15MHz [<RB=1>]			
Channel	Channel 525500	Channel 531000	Channel 536500
Target (dBm)	20.5	20.5	20.5
Tolerance ±(dB)	1.0	1.0	1.0
BW:20MHz [<RB=1>]			
Channel	Channel 526000	Channel 531000	Channel 536000
Target (dBm)	20.5	20.5	20.5
Tolerance ±(dB)	1.0	1.0	1.0



**NR N8**

BW:5MHz [<RB=1>]			
Channel	Channel 185500	Channel 188500	Channel 191500
Target (dBm)	21.5	21.5	21.5
Tolerance ±(dB)	1.0	1.0	1.0
BW:15MHz [<RB=1>]			
Channel	Channel 186500	Channel 188500	Channel 190500
Target (dBm)	21.5	21.5	21.5
Tolerance ±(dB)	1.0	1.0	1.0
BW:20MHz [<RB=1>]			
Channel	Channel 187000	Channel 188500	Channel 190000
Target (dBm)	21.5	21.5	21.5
Tolerance ±(dB)	1.0	1.0	1.0

NR N20

BW:5MHz [<RB=1>]			
Channel	Channel 158700	Channel 161200	Channel 163700
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:15MHz [<RB=1>]			
Channel	Channel 159700	Channel 161200	Channel 162700
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:20MHz [<RB=1>]			
Channel	Channel 160200	Channel 161200	Channel 162200
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0

NR N28

BW:5MHz [<RB=1>]			
Channel	Channel 152100	Channel 156100	Channel 160100
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:15MHz [<RB=1>]			
Channel	Channel 153100	Channel 156100	Channel 159100
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0

NR N38

Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street,
Bao'an District, Shenzhen, Guangdong, China
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity



BW:5MHz [<RB=1>]			
Channel	Channel 514500	Channel 518500	Channel 523500
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:20MHz [<RB=1>]			
Channel	Channel 516000	Channel 519000	Channel 522000
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:40MHz [<RB=1>]			
Channel	Channel 518000	Channel 519000	Channel 520000
Target (dBm)	22.0	22.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0

NR N40

BW:10MHz [<RB=1>]			
Channel	Channel 461000	Channel 470000	Channel 479000
Target (dBm)	21.0	21.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:20MHz [<RB=1>]			
Channel	Channel 462000	Channel 470000	Channel 478000
Target (dBm)	21.0	21.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:40MHz [<RB=1>]			
Channel	Channel 464000	Channel 470000	Channel 476000
Target (dBm)	21.0	21.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0

NR N78

BW:10MHz [<RB=1>]			
Channel	Channel 620334	Channel 636667	Channel 652999
Target (dBm)	23.0	23.0	23.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:50MHz [<RB=1>]			
Channel	Channel 621668	Channel 636667	Channel 651665
Target (dBm)	23.0	23.0	23.0
Tolerance ±(dB)	1.0	1.0	1.0
BW:100MHz [<RB=1>]			





Channel	Channel 623334	Channel 636667	Channel 649999
Target (dBm)	23.0	23.0	23.0
Tolerance \pm (dB)	1.0	1.0	1.0

ENDC-1A-N78A

BW:20MHz [$<RB=1>$]			
Channel	Channel 620668	Channel 636666	Channel 652666
Target (dBm)	21.5	21.5	21.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:60MHz [$<RB=1>$]			
Channel	Channel 622000	Channel 636666	Channel 651332
Target (dBm)	21.5	21.5	21.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:100MHz [$<RB=1>$]			
Channel	Channel 623334	Channel 636666	Channel 650000
Target (dBm)	21.5	21.5	21.5
Tolerance \pm (dB)	1.0	1.0	1.0

ENDC-1A-N78A

BW:20MHz [$<RB=1>$]			
Channel	Channel 620668	Channel 636666	Channel 652666
Target (dBm)	21.5	21.5	21.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:60MHz [$<RB=1>$]			
Channel	Channel 622000	Channel 636666	Channel 651332
Target (dBm)	21.5	21.5	21.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:100MHz [$<RB=1>$]			
Channel	Channel 623334	Channel 636666	Channel 650000
Target (dBm)	21.5	21.5	21.5
Tolerance \pm (dB)	1.0	1.0	1.0

ENDC-3A-N1A

BW:5MHz [$<RB=1>$]			
Channel	Channel 422500	Channel 428000	Channel 433500
Target (dBm)	21.5	21.5	21.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:25MHz [$<RB=1>$]			
Channel	Channel 424500	Channel 428000	Channel 431500





Target (dBm)	21.5	21.5	21.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:50MHz [$<RB=1>$]			
Channel	Channel 427000	Channel 428000	Channel 429000
Target (dBm)	21.5	21.5	21.5
Tolerance \pm (dB)	1.0	1.0	1.0

ENDC-8A-N3A

BW:5MHz [$<RB=1>$]			
Channel	Channel 361500	Channel 368500	Channel 375500
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
BW:20MHz [$<RB=1>$]			
Channel	Channel 363000	Channel 368500	Channel 374000
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0
BW:40MHz [$<RB=1>$]			
Channel	Channel 365000	Channel 368500	Channel 372000
Target (dBm)	22.0	22.0	22.0
Tolerance \pm (dB)	1.0	1.0	1.0

ENDC-8A-N78A

BW:10MHz [$<RB=1>$]			
Channel	Channel 620334	Channel 636666	Channel 653000
Target (dBm)	24.5	24.5	24.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:50MHz [$<RB=1>$]			
Channel	Channel 621668	Channel 636666	Channel 651666
Target (dBm)	24.5	24.5	24.5
Tolerance \pm (dB)	1.0	1.0	1.0
BW:100MHz [$<RB=1>$]			
Channel	Channel 623334	Channel 636666	Channel 650000
Target (dBm)	24.5	24.5	24.5
Tolerance \pm (dB)	1.0	1.0	1.0

CA-3C

BW:20MHz [$<RB=1>$]			
Channel	Channel 1300	Channel 1476	Channel 1652
Target (dBm)	21.5	21.5	21.5
Tolerance \pm (dB)	1.0	1.0	1.0



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

**CA-7C**

BW:20MHz [<RB=1>]			
Channel	Channel 2850	Channel 3001	Channel 3152
Target (dBm)	21.0	21.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0

CA-38C

BW:20MHz [<RB=1>]			
Channel	Channel 37850	Channel 37901	Channel 37952
Target (dBm)	20.5	20.5	20.5
Tolerance ±(dB)	1.0	1.0	1.0

CA-40C

BW:20MHz [<RB=1>]			
Channel	Channel 38750	Channel 39051	Channel 39352
Target (dBm)	20.0	20.0	20.0
Tolerance ±(dB)	1.0	1.0	1.0

WiFi 2.4G

802.11b (Average)			
Channel	Channel 1	Channel 7	Channel 13
Target (dBm)	16.0	13.5	12.5
Tolerance ±(dB)	1.0	1.0	1.0
802.11g (Average)			
Channel	Channel 1	Channel 7	Channel 13
Target (dBm)	13.0	9.0	8.5
Tolerance ±(dB)	1.0	1.0	1.0
802.11n HT20 (Average)			
Channel	Channel 1	Channel 7	Channel 13
Target (dBm)	11.5	8.0	8.0
Tolerance ±(dB)	1.0	1.0	1.0

WiFi 5.2G

802.11a (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	12.0	11.5	11.5
Tolerance ±(dB)	1.0	1.0	1.0
802.11n(20MHz) (Average)			
Channel	Channel 36	Channel 40	Channel 48





Target (dBm)	11.5	11.5	11.5
Tolerance \pm (dB)	1.0	1.0	1.0
802.11n(40MHz) (Average)			
Channel	Channel 38	Channel 46	
Target (dBm)	12.0	12.0	
Tolerance \pm (dB)	1.0	1.0	
802.11ac(20MHz) (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	12.0	11.5	11.5
Tolerance \pm (dB)	1.0	1.0	1.0
802.11ac(40MHz) (Average)			
Channel	Channel 38	Channel 46	
Target (dBm)	12.0	12.0	
Tolerance \pm (dB)	1.0	1.0	
802.11ac(80MHz) (Average)			
Channel	Channel 42		
Target (dBm)	12.5		
Tolerance \pm (dB)	1.0		

WiFi 5.8G

802.11a (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	11.5	11.5	11.5
Tolerance \pm (dB)	1.0	1.0	1.0
802.11n(20MHz) (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	12.0	12.0	12.0
Tolerance \pm (dB)	1.0	1.0	1.0
802.11n(40MHz) (Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	11.5	12.0	
Tolerance \pm (dB)	1.0	1.0	
802.11ac(20MHz) (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	12.0	12.0	12.0
Tolerance \pm (dB)	1.0	1.0	1.0
802.11ac(40MHz) (Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	12.0	12.0	
Tolerance \pm (dB)	1.0	1.0	





802.11ac(80MHz) (Average)	
Channel	Channel 155
Target (dBm)	12.0
Tolerance \pm (dB)	1.0

Bluetooth V5.2

BLE-GFSK (Average)1M			
Channel	Channel 0	Channel 19	Channel 39
Target (dBm)	-1.0	-2.0	-2.0
Tolerance \pm (dB)	1.0	1.0	1.0
BLE-GFSK (Average)2M			
Channel	Channel 0	Channel 19	Channel 39
Target (dBm)	-1.0	-2.0	-2.0
Tolerance \pm (dB)	1.0	1.0	1.0
GFSK (Average)			
Channel	Channel 0	Channel 78	
Target (dBm)	1.0	1.0	
Tolerance \pm (dB)	1.0	1.0	
π /4DQPSK (Average)			
Channel	Channel 0	Channel 78	
Target (dBm)	1.0	1.0	
Tolerance \pm (dB)	1.0	1.0	
8DPSK (Average)			
Channel	Channel 0	Channel 78	
Target (dBm)	1.0	1.0	
Tolerance \pm (dB)	1.0	1.0	

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

