

Tune Up Procedure

Tune-up procedure

GSM/WCDMA TEST

Measurement Procedure:

GSM/ WCDMA

- 1.Connect EUT with CMU200(E5515C), through RF cable. Make a call from CMU200(E5515C);
- 2.Measure the Output Power Average value;
- 3.Remarks: All Output Power are tested in Average Value specification.

For 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 Speech

GSM 850 (GMSK) (Burst Average Power)			
Channel	Channel 251	Channel 190	Channel 128
Target (dBm)	32.0	32.0	32.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
GSM 1900 (GMSK) (Burst Average Power)			
Channel	Channel 810	Channel 661	Channel 512
Target (dBm)	29.0	29.0	29.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

GSM 850 GPRS (GMSK) (Burst Average Power)				
Channel		128	190	251
1 Txslot	Target (dBm)	32.0	32.0	32.0
	Tolerance $\pm$ (dB)	1.0	1.0	1.0
2 Txslot	Target (dBm)	31.0	31.0	31.0
	Tolerance $\pm$ (dB)	1.0	1.0	1.0
3 Txslot	Target (dBm)	29.0	29.0	29.0
	Tolerance $\pm$ (dB)	1.0	1.0	1.0
4 Txslot	Target (dBm)	28.0	29.0	29.0
	Tolerance $\pm$ (dB)	1.0	1.0	1.0
GSM 850 EDGE (8PSK) (Burst Average Power)				
Channel		128	190	251
1 Txslot	Target (dBm)	26.0	26.0	26.0
	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)	22.0	22.0	22.0
	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 1900 GPRS (GMSK) (Burst Average Power)				
Channel		512	661	810
1 Txslot	Target (dBm)	29.0	29.0	29.0
	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)	26.0	26.0	26.0
	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 1900 EDGE (8PSK) (Burst Average Power)				
Channel		512	661	810
1 Txslot	Target (dBm)	25.0	25.0	25.0
	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)	21.0	21.0	21.0
	Tolerance $\pm$ (dB)	1.0	1.0	1.0
4 Txslot	Target (dBm)	19.0	19.0	19.0
	Tolerance $\pm$ (dB)	1.0	1.0	1.0

UMTS

UMTS Band V			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSDPA(sub-test 1)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	21.0	21.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSDPA(sub-test 2)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	21.0	21.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSDPA(sub-test 3)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSDPA(sub-test 4)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

UMTS Band V HSUPA(sub-test 1)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	21.0	21.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSUPA(sub-test 2)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	19.0	19.0	19.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSUPA(sub-test 3)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	20.0	20.0	20.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSUPA(sub-test 4)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	19.0	19.0	19.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSUPA(sub-test 5)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	21.0	21.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

UMTS Band II			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	21.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSDPA(sub-test 1)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	20.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSDPA(sub-test 2)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	20.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSDPA(sub-test 3)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	20.0	21.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSDPA(sub-test 4)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	20.0	21.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSUPA(sub-test 1)			

Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	20.0	21.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSUPA(sub-test 2)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	18.0	20.0	19.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSUPA(sub-test 3)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	19.0	21.0	20.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSUPA(sub-test 4)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	18.0	20.0	19.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSUPA(sub-test 5)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	20.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

Bluetooth V2.1+EDR

GFSK (Average)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	4.0	4.0	4.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
8DPSK (Average)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	3.0	3.0	3.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
π/4DQPSK (Average)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	3.0	3.0	3.0
Tolerance $\pm$ (dB)	1.0	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