

Tune up procedure

The output power setting of EUT is set in the factory and followed the max average level in below. There is no tune up procedure except factory default setting.

Connectivity:

RF:

GSM

<u>Technology/Band</u>	<u>Mode</u>	<u>Target Power and Tolerance (dBm)</u>
GSM 850/900	GSM (GMSK)	32.5±1dBm
	GPRS (GMSK, 1Tx-slot)	32.5±1dBm
	GPRS (GMSK, 2Tx-slot)	31.5±2dBm
	GPRS (GMSK, 3Tx-slot)	29.5±2dBm
	GPRS (GMSK, 4Tx-slot)	28.5±2dBm
	EDGE (8PSK, 1Tx-slot)	26±2 dBm
	EDGE (8PSK, 2Tx-slot)	25±2 dBm
	EDGE (8PSK, 3Tx-slot)	23±2 dBm
	EDGE (8PSK, 4Tx-slot)	22±3 dBm
GSM 1900	GSM (GMSK)	29.5±1 dBm
	GPRS (GMSK, 1Tx-slot)	29.5±1 dBm
	GPRS (GMSK, 2Tx-slot)	28.5±2dBm
	GPRS (GMSK, 3Tx-slot)	26.5±2dBm
	GPRS (GMSK, 4Tx-slot)	25.5±2dBm
	EDGE (8PSK, 1Tx-slot)	25.5±2dBm
	EDGE (8PSK, 2Tx-slot)	24±2dBm
	EDGE (8PSK, 3Tx-slot)	22±2dBm
	EDGE (8PSK, 4Tx-slot)	21±3dBm

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WCDMA

WCDMA B1	23.5dBm $\pm$ 1dB
HSDPA	23dBm $\pm$ 1.5dB
HSUPA	23dBm $\pm$ 1.5dB
WCDMA B2	23.5dBm $\pm$ 1dB
HSDPA	23dBm $\pm$ 1.5dB
HSUPA	23dBm $\pm$ 1.5dB
WCDMA B4	23.5dBm $\pm$ 1dB
HSDPA	23dBm $\pm$ 1.5dB
HSUPA	23dBm $\pm$ 1.5dB
WCDMA B5	23.5dBm $\pm$ 1dB
HSDPA	23dBm $\pm$ 1.5dB
HSUPA	23dBm $\pm$ 1.5dB
WCDMA B8	23.5dBm $\pm$ 1dB
HSDPA	23dBm $\pm$ 1.5dB
HSUPA	23dBm $\pm$ 1.5dB

LTE

LTE B2				LTE B4			
1.4MHz	QPSK	1 RB	23dBm $\pm$ 1dB	1.4MHz	QPSK	1 RB	23dBm $\pm$ 1dB
		50% RB	23dBm $\pm$ 1dB			50% RB	23dBm $\pm$ 1dB
		100% RB	22dBm $\pm$ 1dB			100% RB	22dBm $\pm$ 1dB
	16QAM	1 RB	22dBm $\pm$ 1dB		16QAM	1 RB	22dBm $\pm$ 1dB
		50% RB	22dBm $\pm$ 1dB			50% RB	22dBm $\pm$ 1dB
		100% RB	21dBm $\pm$ 1dB			100% RB	21dBm $\pm$ 1dB
3MHz	QPSK	1 RB	23dBm $\pm$ 1dB	3MHz	QPSK	1 RB	23dBm $\pm$ 1dB
		50% RB	22dBm $\pm$ 1dB			50% RB	22dBm $\pm$ 1dB
		100% RB	22dBm $\pm$ 1dB			100% RB	22dBm $\pm$ 1dB
	16QAM	1 RB	22dBm $\pm$ 1dB		16QAM	1 RB	22dBm $\pm$ 1dB
		50% RB	21dBm $\pm$ 1dB			50% RB	21dBm $\pm$ 1dB
		100% RB	21dBm $\pm$ 1dB			100% RB	21dBm $\pm$ 1dB
5MHz	QPSK	1 RB	23dBm $\pm$ 1dB	5MHz	QPSK	1 RB	23dBm $\pm$ 1dB
		50% RB	22dBm $\pm$ 1dB			50% RB	22dBm $\pm$ 1dB
		100% RB	22dBm $\pm$ 1dB			100% RB	22dBm $\pm$ 1dB
	16QAM	1 RB	22dBm $\pm$ 1dB		16QAM	1 RB	22dBm $\pm$ 1dB
		50% RB	21dBm $\pm$ 1dB			50% RB	21dBm $\pm$ 1dB
		100% RB	21dBm $\pm$ 1dB			100% RB	21dBm $\pm$ 1dB
10MHz	QPSK	1 RB	23dBm $\pm$ 1dB	10MHz	QPSK	1 RB	23dBm $\pm$ 1dB
		50% RB	22dBm $\pm$ 1dB			50% RB	22dBm $\pm$ 1dB

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	16QAM	100% RB	22dBm $\pm$ 1dB		16QAM	100% RB	22dBm $\pm$ 1dB
		1 RB	22dBm $\pm$ 1dB			1 RB	22dBm $\pm$ 1dB
		50% RB	21dBm $\pm$ 1dB			50% RB	21dBm $\pm$ 1dB
		100% RB	21dBm $\pm$ 1dB			100% RB	21dBm $\pm$ 1dB
15MHz	QPSK	1 RB	23dBm $\pm$ 1dB	15MHz	QPSK	1 RB	23dBm $\pm$ 1dB
		50% RB	22dBm $\pm$ 1dB			50% RB	22dBm $\pm$ 1dB
		100% RB	22dBm $\pm$ 1dB			100% RB	22dBm $\pm$ 1dB
	16QAM	1 RB	22dBm $\pm$ 1dB		16QAM	1 RB	22dBm $\pm$ 1dB
		50% RB	21dBm $\pm$ 1dB			50% RB	21dBm $\pm$ 1dB
		100% RB	21dBm $\pm$ 1dB			100% RB	21dBm $\pm$ 1dB
20MHz	QPSK	1 RB	23dBm $\pm$ 1dB	20MHz	QPSK	1 RB	23dBm $\pm$ 1dB
		50% RB	22dBm $\pm$ 1dB			50% RB	22dBm $\pm$ 1dB
		100% RB	22dBm $\pm$ 1dB			100% RB	22dBm $\pm$ 1dB
	16QAM	1 RB	22dBm $\pm$ 1dB		16QAM	1 RB	22dBm $\pm$ 1dB
		50% RB	21dBm $\pm$ 1dB			50% RB	21dBm $\pm$ 1dB
		100% RB	21dBm $\pm$ 1dB			100% RB	21dBm $\pm$ 1dB

LTE B5				LTE B7			
1.4MHz	QPSK	1 RB	23dBm $\pm$ 1dB	5MHz	QPSK	1 RB	23dBm $\pm$ 1dB
		50% RB	23dBm $\pm$ 1dB			50% RB	22dBm $\pm$ 1dB
		100% RB	22dBm $\pm$ 1dB			100% RB	22dBm $\pm$ 1dB
	16QAM	1 RB	22dBm $\pm$ 1dB		16QAM	1 RB	22dBm $\pm$ 1dB
		50% RB	22dBm $\pm$ 1dB			50% RB	21dBm $\pm$ 1dB
		100% RB	21dBm $\pm$ 1dB			100% RB	21dBm $\pm$ 1dB
3MHz	QPSK	1 RB	23dBm $\pm$ 1dB	10MHz	QPSK	1 RB	23dBm $\pm$ 1dB
		50% RB	22dBm $\pm$ 1dB			50% RB	22dBm $\pm$ 1dB
		100% RB	22dBm $\pm$ 1dB			100% RB	22dBm $\pm$ 1dB
	16QAM	1 RB	22dBm $\pm$ 1dB		16QAM	1 RB	22dBm $\pm$ 1dB
		50% RB	21dBm $\pm$ 1dB			50% RB	21dBm $\pm$ 1dB
		100% RB	21dBm $\pm$ 1dB			100% RB	21dBm $\pm$ 1dB
5MHz	QPSK	1 RB	23dBm $\pm$ 1dB	15MHz	QPSK	1 RB	23dBm $\pm$ 1dB
		50% RB	22dBm $\pm$ 1dB			50% RB	22dBm $\pm$ 1dB
		100% RB	22dBm $\pm$ 1dB			100% RB	22dBm $\pm$ 1dB
	16QAM	1 RB	22dBm $\pm$ 1dB		16QAM	1 RB	22dBm $\pm$ 1dB
		50% RB	21dBm $\pm$ 1dB			50% RB	21dBm $\pm$ 1dB
		100% RB	21dBm $\pm$ 1dB			100% RB	21dBm $\pm$ 1dB
10MHz	QPSK	1 RB	23dBm $\pm$ 1dB	20MHz	QPSK	1 RB	23dBm $\pm$ 1dB
		50% RB	22dBm $\pm$ 1dB			50% RB	22dBm $\pm$ 1dB
		100% RB	22dBm $\pm$ 1dB			100% RB	22dBm $\pm$ 1dB
	16QAM	1 RB	22dBm $\pm$ 1dB		16QAM	1 RB	22dBm $\pm$ 1dB
		50% RB	21dBm $\pm$ 1dB			50% RB	21dBm $\pm$ 1dB

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		100% RB	21dBm±1dB			100% RB	21dBm±1dB
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LTE B12				LTE B17			
1.4MHz	QPSK	1 RB	23dBm±1dB	NA			
		50% RB	23dBm±1dB				
		100% RB	22dBm±1dB				
	16QAM	1 RB	22dBm±1dB				
		50% RB	22dBm±1dB				
		100% RB	21dBm±1dB				
3MHz	QPSK	1 RB	23dBm±1dB	NA			
		50% RB	22dBm±1dB				
		100% RB	22dBm±1dB				
	16QAM	1 RB	22dBm±1dB				
		50% RB	21dBm±1dB				
		100% RB	21dBm±1dB				
5MHz	QPSK	1 RB	23dBm±1dB	5MHz	QPSK	1 RB	23dBm±1dB
		50% RB	22dBm±1dB			50% RB	22dBm±1dB
		100% RB	22dBm±1dB			100% RB	22dBm±1dB
	16QAM	1 RB	22dBm±1dB		16QAM	1 RB	22dBm±1dB
		50% RB	21dBm±1dB			50% RB	21dBm±1dB
		100% RB	21dBm±1dB			100% RB	21dBm±1dB
10MHz	QPSK	1 RB	23dBm±1dB	10MHz	QPSK	1 RB	23dBm±1dB
		50% RB	22dBm±1dB			50% RB	22dBm±1dB
		100% RB	22dBm±1dB			100% RB	22dBm±1dB
	16QAM	1 RB	22dBm±1dB		16QAM	1 RB	22dBm±1dB
		50% RB	21dBm±1dB			50% RB	21dBm±1dB
		100% RB	21dBm±1dB			100% RB	21dBm±1dB

LTE B13				LTE B66			
NA				1.4MHz	QPSK	1 RB	23dBm±1dB
						50% RB	23dBm±1dB
						100% RB	22dBm±1dB
					16QAM	1 RB	22dBm±1dB
						50% RB	22dBm±1dB
						100% RB	21dBm±1dB
NA				3MHz	QPSK	1 RB	23dBm±1dB
						50% RB	22dBm±1dB
						100% RB	22dBm±1dB
					16QAM	1 RB	22dBm±1dB
						50% RB	21dBm±1dB
						100% RB	21dBm±1dB
5MHz	QPSK	1 RB	23dBm±1dB	5MHz	QPSK	1 RB	23dBm±1dB
		50% RB	22dBm±1dB			50% RB	22dBm±1dB
		100% RB	22dBm±1dB			100% RB	22dBm±1dB

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	16QAM	1 RB	22dBm±1dB		16QAM	1 RB	22dBm±1dB
		50% RB	21dBm±1dB			50% RB	21dBm±1dB
		100% RB	21dBm±1dB			100% RB	21dBm±1dB
10MHz	QPSK	1 RB	23dBm±1dB	10MHz	QPSK	1 RB	23dBm±1dB
		50% RB	22dBm±1dB			50% RB	22dBm±1dB
		100% RB	22dBm±1dB			100% RB	22dBm±1dB
	16QAM	1 RB	22dBm±1dB		16QAM	1 RB	22dBm±1dB
		50% RB	21dBm±1dB			50% RB	21dBm±1dB
		100% RB	21dBm±1dB			100% RB	21dBm±1dB
NA				15MHz	QPSK	1 RB	23dBm±1dB
						50% RB	22dBm±1dB
						100% RB	22dBm±1dB
					16QAM	1 RB	22dBm±1dB
						50% RB	21dBm±1dB
						100% RB	21dBm±1dB
NA				20MHz	QPSK	1 RB	23dBm±1dB
						50% RB	22dBm±1dB
						100% RB	22dBm±1dB
					16QAM	1 RB	22dBm±1dB
						50% RB	21dBm±1dB
						100% RB	21dBm±1dB
LTE B25				LTE B26			
1.4MHz	QPSK	1 RB	23dBm±1dB	1.4MHz	QPSK	1 RB	23dBm±1dB
		50% RB	23dBm±1dB			50% RB	23dBm±1dB
		100% RB	22dBm±1dB			100% RB	22dBm±1dB
	16QAM	1 RB	22dBm±1dB		16QAM	1 RB	22dBm±1dB
		50% RB	22dBm±1dB			50% RB	22dBm±1dB
		100% RB	21dBm±1dB			100% RB	21dBm±1dB
3MHz	QPSK	1 RB	23dBm±1dB	3MHz	QPSK	1 RB	23dBm±1dB
		50% RB	22dBm±1dB			50% RB	22dBm±1dB
		100% RB	22dBm±1dB			100% RB	22dBm±1dB
	16QAM	1 RB	22dBm±1dB		16QAM	1 RB	22dBm±1dB
		50% RB	21dBm±1dB			50% RB	21dBm±1dB
		100% RB	21dBm±1dB			100% RB	21dBm±1dB
5MHz	QPSK	1 RB	23dBm±1dB	5MHz	QPSK	1 RB	23dBm±1dB
		50% RB	22dBm±1dB			50% RB	22dBm±1dB
		100% RB	22dBm±1dB			100% RB	22dBm±1dB
	16QAM	1 RB	22dBm±1dB		16QAM	1 RB	22dBm±1dB
		50% RB	21dBm±1dB			50% RB	21dBm±1dB
		100% RB	21dBm±1dB			100% RB	21dBm±1dB
10MHz	QPSK	1 RB	23dBm±1dB	10MHz	QPSK	1 RB	23dBm±1dB
		50% RB	22dBm±1dB			50% RB	22dBm±1dB
		100% RB	22dBm±1dB			100% RB	22dBm±1dB
	16QAM	1 RB	22dBm±1dB		16QAM	1 RB	22dBm±1dB

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		50% RB	21dBm±1dB			50% RB	21dBm±1dB
		100% RB	21dBm±1dB			100% RB	21dBm±1dB
15MHz	QPSK	1 RB	23dBm±1dB	15MHz	QPSK	1 RB	23dBm±1dB
		50% RB	22dBm±1dB			50% RB	22dBm±1dB
		100% RB	22dBm±1dB			100% RB	22dBm±1dB
	16QAM	1 RB	22dBm±1dB		16QAM	1 RB	22dBm±1dB
		50% RB	21dBm±1dB			50% RB	21dBm±1dB
		100% RB	21dBm±1dB			100% RB	21dBm±1dB
20MHz	QPSK	1 RB	23dBm±1dB	NA			
		50% RB	22dBm±1dB				
		100% RB	22dBm±1dB				
	16QAM	1 RB	22dBm±1dB				
		50% RB	21dBm±1dB				
		100% RB	21dBm±1dB				
				LTE B41			
s				5MHz	QPSK	1 RB	23dBm±1dB
						50% RB	22dBm±1dB
						100% RB	22dBm±1dB
					16QAM	1 RB	22dBm±1dB
						50% RB	21dBm±1dB
						100% RB	21dBm±1dB
				10MHz	QPSK	1 RB	23dBm±1dB
						50% RB	22dBm±1dB
						100% RB	22dBm±1dB
					16QAM	1 RB	22dBm±1dB
						50% RB	21dBm±1dB
						100% RB	21dBm±1dB
				15MHz	QPSK	1 RB	23dBm±1dB
						50% RB	22dBm±1dB
						100% RB	22dBm±1dB
					16QAM	1 RB	22dBm±1dB
						50% RB	21dBm±1dB
						100% RB	21dBm±1dB
				20MHz	QPSK	1 RB	23dBm±1dB
						50% RB	22dBm±1dB
						100% RB	22dBm±1dB
					16QAM	1 RB	22dBm±1dB
						50% RB	21dBm±1dB
						100% RB	21dBm±1dB

WiFi:

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Frequency	Mode	Date Rate	Bandwidth(MHz)	TX Power(dBm)
2.4G	802.11b	1Mbps	20	17.0±3
		11Mbps	20	17.0±3
	802.11g	6Mbps	20	16.0±3
		54Mbps	20	13.0±3
	802.11n	MCS0	20	15.0±3
		MCS7	20	12.0±3
5G	802.11a	6Mbs	20	19.0±3
		54Mbps	20	16.0±3
	802.11n	MCS0	20	18.0±3
		MCS7	20	15.0±3
		MCS0	40	17.0±3
		MCS7	40	14.0±3
	802.11ac	MCS0	20	17.0±3
		MCS8	20	14.0±3
		MCS0	40	16.0±3
		MCS9	40	13.0±3
		MCS0	80	15.0±3
		MCS9	80	12.0±3

BT:

Type	DH-5	2-DH5	3-DH5	Unit
Transmitter	10±2.5	9±2.5	8±2.5	dBm