

PeopleNet Communications Corporation

Tune up Procedure

I would like to confirm this device does not have tune up information, because the tune up is fixed by the manufacturer. Therefore, the user cannot tune up the device.

WCDMA

Based on the measurement result got by R&S CMW500 base station simulator (system tester), each mobile phone will be calibrated individually during manufacturing. The procedure is outlined below:

1. Set the voltage of power supply to nominal operating voltage (12Volts).
2. Set the R&S CMW500 to the specified channel and test mode.
3. The actual transmitted and received power is measured at several power levels.

The register values of each device are adjusted until the target is met. These values will be stored in the corresponding device. It is not possible for users to change the register value settings later on. The requirement of maximum transmitted power is listed in the table below. When the calibration complete, the maximum transmitted power of each device will be in the range is below.

Conducted power range is below:

Mode	Burst Average Power (dBm)		
	WCDMA Band II	WCDMA Band IV	WCDMA Band V
AMR 12.2Kbps	21.00~23.00	21.00~23.00	21.00~23.00
RMC 12.2Kbps	21.00~23.00	21.00~23.00	21.00~23.00
HSDPA Subtest-1	21.00~23.00	21.00~23.00	21.00~23.00
HSDPA Subtest-2	21.00~23.00	21.00~23.00	21.00~23.00
HSDPA Subtest-3	21.00~23.00	21.00~23.00	21.00~23.00
HSDPA Subtest-4	21.00~23.00	21.00~23.00	21.00~23.00
HSUPA Subtest-1	21.00~23.00	21.00~23.00	21.00~23.00
HSUPA Subtest-2	21.00~23.00	21.00~23.00	21.00~23.00
HSUPA Subtest-3	21.00~23.00	21.00~23.00	21.00~23.00
HSUPA Subtest-4	21.00~23.00	21.00~23.00	21.00~23.00
HSUPA Subtest-5	21.00~23.00	21.00~23.00	21.00~23.00

Band	Bandwidth	Modulation	RB Configuration	Maximum Tune-up (dBm)
Band2	1.4MHz	QPSK	1RB	21.75±1
Band2	1.4MHz	QPSK	3RB	21.53±1
Band2	1.4MHz	QPSK	6RB	21.71±1
Band2	1.4MHz	16QAM	1RB	21.61±1
Band2	1.4MHz	16QAM	3RB	21.38±1
Band2	1.4MHz	16QAM	6RB	21.74±1
Band2	3MHz	QPSK	1RB	21.67±1
Band2	3MHz	QPSK	8RB	21.69±1
Band2	3MHz	QPSK	15RB	21.28±1
Band2	3MHz	16QAM	1RB	21.34±1
Band2	3MHz	16QAM	8RB	21.71±1
Band2	3MHz	16QAM	15RB	21.46±1
Band2	5MHz	QPSK	1RB	21.72±1
Band2	5MHz	QPSK	12RB	21.75±1
Band2	5MHz	QPSK	25R	20.56±1
Band2	5MHz	16QAM	1R	21.55±1
Band2	5MHz	16QAM	12R	21.59±1
Band2	5MHz	16QAM	25R	21.12±1
Band2	10MHz	QPSK	1R	21.48±1
Band2	10MHz	QPSK	25RB	21.42±1
Band2	10MHz	QPSK	50R	21.15±1
Band2	10MHz	16QAM	1RB	21.39±1
Band2	10MHz	16QAM	25RB	21.68±1
Band2	10MHz	16QAM	50RB	21.05±1
Band2	15MHz	QPSK	1RB	21.74±1
Band2	15MHz	QPSK	38RB	21.56±1
Band2	15MHz	QPSK	75RB	21.39±1
Band2	15MHz	16QAM	1RB	21.57±1
Band2	15MHz	16QAM	38RB	21.67±1
Band2	15MHz	16QAM	75RB	21.50±1
Band2	20MHz	QPSK	1RB	21.62±1
Band2	20MHz	QPSK	50RB	21.61±1
Band2	20MHz	QPSK	100RB	21.74±1
Band2	20MHz	16QAM	1RB	21.93±1
Band2	20MHz	16QAM	50RB	21.43±1
Band2	20MHz	16QAM	100RB	21.71±1

Band	Bandwidth	Modulation	RB Configuration	Maximum Tune-up (dBm)
Band4	1.4MHz	QPSK	1RB	21.67±1
Band4	1.4MHz	QPSK	3RB	21.25±1
Band4	1.4MHz	QPSK	6RB	21.68±1
Band4	1.4MHz	16QAM	1RB	21.66±1
Band4	1.4MHz	16QAM	3RB	21.64±1
Band4	1.4MHz	16QAM	6RB	21.67±1
Band4	3MHz	QPSK	1RB	21.42±1
Band4	3MHz	QPSK	8RB	21.47±1
Band4	3MHz	QPSK	15RB	21.39±1
Band4	3MHz	16QAM	1RB	21.59±1
Band4	3MHz	16QAM	8RB	21.55±1
Band4	3MHz	16QAM	15RB	21.32±1
Band4	5MHz	QPSK	1RB	21.62±1
Band4	5MHz	QPSK	12RB	21.42±1
Band4	5MHz	QPSK	25RB	20.83±1
Band4	5MHz	16QAM	1RB	21.50±1
Band4	5MHz	16QAM	12RB	21.60±1
Band4	5MHz	16QAM	25RB	21.13±1
Band4	10MHz	QPSK	1RB	21.45±1
Band4	10MHz	QPSK	25RB	21.60±1
Band4	10MHz	QPSK	50RB	21.22±1
Band4	10MHz	16QAM	1RB	21.58±1
Band4	10MHz	16QAM	25RB	21.58±1
Band4	10MHz	16QAM	50RB	21.17±1
Band4	15MHz	QPSK	1RB	21.55±1
Band4	15MHz	QPSK	38RB	21.67±1
Band4	15MHz	QPSK	75RB	21.40±1
Band4	15MHz	16QAM	1RB	21.63±1
Band4	15MHz	16QAM	38RB	21.62±1
Band4	15MHz	16QAM	75RB	20.83±1
Band4	20MHz	QPSK	1RB	21.39±1
Band4	20MHz	QPSK	50RB	21.60±1
Band4	20MHz	QPSK	100RB	21.09±1
Band4	20MHz	16QAM	1RB	21.44±1
Band4	20MHz	16QAM	50RB	21.57±1
Band4	20MHz	16QAM	100RB	21.29±1

Band	Bandwidth	Modulation	RB Configuration	Maximum Tune-up (dBm)
Band5	1.4MHz	QPSK	1RB	22.58±1
Band5	1.4MHz	QPSK	3RB	22.60±1
Band5	1.4MHz	QPSK	6RB	21.62±1
Band5	1.4MHz	16QAM	1RB	22.03±1
Band5	1.4MHz	16QAM	3RB	21.71±1
Band5	1.4MHz	16QAM	6RB	20.66±1
Band5	3MHz	QPSK	1RB	22.79±1
Band5	3MHz	QPSK	8RB	21.77±1
Band5	3MHz	QPSK	15RB	21.76±1
Band5	3MHz	16QAM	1RB	22.15±1
Band5	3MHz	16QAM	8RB	20.76±1
Band5	3MHz	16QAM	15RB	20.75±1
Band5	5MHz	QPSK	1RB	22.92±1
Band5	5MHz	QPSK	12RB	21.85±1
Band5	5MHz	QPSK	25RB	21.84±1
Band5	5MHz	16QAM	1RB	22.15±1
Band5	5MHz	16QAM	12RB	20.90±1
Band5	5MHz	16QAM	25RB	20.84±1
Band5	10MHz	QPSK	1RB	22.90±1
Band5	10MHz	QPSK	25RB	21.90±1
Band5	10MHz	QPSK	50RB	21.91±1
Band5	10MHz	16QAM	1RB	22.17±1
Band5	10MHz	16QAM	25RB	20.84±1
Band5	10MHz	16QAM	50RB	20.82±1

Band	Bandwidth	Modulation	RB Configuration	Maximum Tune-up (dBm)
Band12	1.4MHz	QPSK	1RB	22.43±1
Band12	1.4MHz	QPSK	3RB	22.41±1
Band12	1.4MHz	QPSK	6RB	22.32±1
Band12	1.4MHz	16QAM	1RB	22.90±1
Band12	1.4MHz	16QAM	3RB	22.45±1
Band12	1.4MHz	16QAM	6RB	22.40±1
Band12	3MHz	QPSK	1RB	22.72±1
Band12	3MHz	QPSK	8RB	22.49±1
Band12	3MHz	QPSK	15RB	22.29±1
Band12	3MHz	16QAM	1RB	22.94±1
Band12	3MHz	16QAM	8RB	22.55±1
Band12	3MHz	16QAM	15RB	22.37±1
Band12	5MHz	QPSK	1RB	22.91±1
Band12	5MHz	QPSK	12RB	22.93±1
Band12	5MHz	QPSK	25RB	22.27±1
Band12	5MHz	16QAM	1RB	22.82±1
Band12	5MHz	16QAM	12RB	22.42±1
Band12	5MHz	16QAM	25RB	22.23±1
Band12	10MHz	QPSK	1RB	22.95±1
Band12	10MHz	QPSK	25RB	22.56±1
Band12	10MHz	QPSK	50RB	22.98±1
Band12	10MHz	16QAM	1RB	22.89±1
Band12	10MHz	16QAM	25RB	22.18±1
Band12	10MHz	16QAM	50RB	21.92±1

LTEMPR will follow up 3GPP setting as below:

Modulation	Channel bandwidth / Transmission bandwidth (NRB)						MPR (dB)
	1.4MHz	3.0MHz	5MHz	10MHz	15MHz	20MHz	
QPSK	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	0
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	2

WIFI

1. Connect EUT with RS Spectrum Analyzer through RF cable.
2. Connect the EUT to the computer using a serial port.
3. Set the TX frame parameters mode, rate, power, packet type.
4. Click TX start.

WLAN	
Mode	Maximum Tune-up (dBm) Burst Average Power
802.11b	17.00~19.00
802.11g	14.00~16.00
802.11n(HT20)	13.00~15.00
802.11n(HT40)	13.00~15.00

Company Stamp: **PeopleNet Communications Corporation**

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