Tune-up Procedures of H710VL, H1622

1.1 Test Equipment List

–Radio Communication Tester: CMW500

–Dummy battery or Power Supply: Agilent 66319D

–PC with serial port

–GPIB card

1.2 The CDMA BC0 /BC1 power adjust procedure

Function:

After the CDMA transmit POWER calibration the UE can find the relationship between the TX-AGC and output power. So it can transmit the specific power according to the 3GPP2 protocol.

Procedure:

Step1: The computer sets UE to the Factory test mode and works at CDMA band, sets the CMU200 to CDMA Analyzer mode.

Step2: Tuning the TX-AGC of UE from 130 to 180 and measure the output power of the UE via CMU200, so we can find the relationship between the TX-AGC and output power.

BC0 800M: 24(+1/-1) dBm

BC1 1900M: 24(+1/-1) dBm

1.3 The CDMA EVDO BC0/BC1 power adjust procedure

Function:

After the CDMA transmit POWER calibration the UE can find the relationship between the TX-AGC and output power. So it can transmit the specific power according to the 3GPP protocol.

Procedure:

Step1: The computer sets UE to the Factory test mode and works at CDMA EVDO band, sets the CMU200 to CDMA EVDO Analyzer mode.

Step2: Tuning the TX-AGC of UE from 130 to 180 and measure the output power of the

UE via CMU200, so we can find the relationship between the TX-AGC and output power.

BC0 800M: 24(+1/-1) dBm

BC1 1900M: 24(+1/-1) dBm

1.4 The LTE Band II power adjust procedure

Function:

After the LTE Band II transmit POWER calibration the UE can find the relationship between the TX-PDM value and output power and can control the maximum conduct power through HDET value. So it can transmit the specific power according to the 3GPP protocol.

Procedure:

Step1: The computer sets UE to the Factory test mode and works at LTE band II, sets the CMW500 to LTE band II Analyzer mode.

Step2: Tuning the TX-PDM of UE from 0 to 123 and measure the output power of the UE via CMW500, at the same time measure the HDET value ,so we can find the relationship between the TX-PDM、the HDET value and output power.

Output power of range：

LTE: 23dBm [-2dB~~+1dB]

LTE Band II						
Frequency (MHz)	BW(MHz)	Modulation	RB Size	Target power	MPR Target	MPR Allowed by 3Gpp
Uplink:1850~1910 Downlink:1930~1990	1.4	QPSK	≤5	23	0	0
		16-QAM	≤5	22	1	0-1
		QPSK	>5	22	1	0-1
		16-QAM	>5	21	2	0-2
Uplink:1850~1910 Downlink:1930~1990	3	QPSK	≤4	23	0	0
		16-QAM	≤4	22	1	0-1
		QPSK	>4	22	1	0-1
		16-QAM	>4	21	2	0-2
Uplink:1850~1910 Downlink:1930~1990	5	QPSK	≤8	23	0	0
		16-QAM	≤8	22	1	0-1
		QPSK	>8	22	1	0-1
		16-QAM	>8	21	2	0-2

Uplink:1850~1910 Downlink:1930~1990	10	QPSK	≤12	23	0	0
		16-QAM	≤12	22	1	0-1
		QPSK	>12	22	1	0-1
		16-QAM	>12	21	2	0-2
Uplink:1850~1910 Downlink:1930~1990	15	QPSK	≤16	23	0	0
		16-QAM	≤16	22	1	0-1
		QPSK	>16	22	1	0-1
		16-QAM	>16	21	2	0-2
Uplink:1850~1910 Downlink:1930~1990	20	QPSK	≤18	23	0	0
		16-QAM	≤18	22	1	0-1
		QPSK	>18	22	1	0-1
		16-QAM	>18	21	2	0-2

1.5 The LTE Band IV power adjust procedure

Function:

After the LTE Band IV transmit POWER calibration the UE can find the relationship between the TX-PDM value and output power and can control the maximum conduct power through HDET value. So it can transmit the specific power according to the 3GPP protocol.

Procedure:

Step1: The computer sets UE to the Factory test mode and works at LTE band IV, sets the CMW500 to LTE band IV Analyzer mode.

Step2: Tuning the TX-PDM of UE from 0 to 123 and measure the output power of the UE via CMW500, at the same time measure the HDET value ,so we can find the relationship between the TX-PDM、the HDET value and output power.

Output power of range：

LTE: 23dBm [-2dB~~+1dB]

LTE Band IV						
Frequency (MHz)	BW(MHz)	Modulation	RB Size	Target power	MPR Target	MPR Allowed by 3Gpp
Uplink:1710~1755 Downlink:2110~2155	1.4	QPSK	≤5	23	0	0
		16-QAM	≤5	22	1	0-1

		QPSK	>5	22	1	0-1
		16-QAM	>5	21	2	0-2
Uplink:1710~1755 Downlink:2110~2155	3	QPSK	≤4	23	0	0
		16-QAM	≤4	22	1	0-1
		QPSK	>4	22	1	0-1
		16-QAM	>4	21	2	0-2
Uplink:1710~1755 Downlink:2110~2155	5	QPSK	≤8	23	0	0
		16-QAM	≤8	22	1	0-1
		QPSK	>8	22	1	0-1
		16-QAM	>8	21	2	0-2
Uplink:1710~1755 Downlink:2110~2155	10	QPSK	≤12	23	0	0
		16-QAM	≤12	22	1	0-1
		QPSK	>12	22	1	0-1
		16-QAM	>12	21	2	0-2
Uplink:1710~1755 Downlink:2110~2155	15	QPSK	≤16	23	0	0
		16-QAM	≤16	22	1	0-1
		QPSK	>16	22	1	0-1
		16-QAM	>16	21	2	0-2
Uplink:1710~1755 Downlink:2110~2155	20	QPSK	≤18	23	0	0
		16-QAM	≤18	22	1	0-1
		QPSK	>18	22	1	0-1
		16-QAM	>18	21	2	0-2

1.6 The LTE Band XIII power adjust procedure

Function:

After the LTE Band XIII transmit POWER calibration the UE can find the relationship between the TX-PDM value and output power and can control the maximum conduct power through HDET value. So it can transmit the specific power according to the 3GPP protocol.

Procedure:

Step1: The computer sets UE to the Factory test mode and works at LTE band XIII, sets the CMW500 to LTE band XIII Analyzer mode.

Step2: Tuning the TX-PDM of UE from 0 to 123 and measure the output power of the UE via CMW500, at the same time measure the HDET value ,so we can find the relationship between the TX-PDM、the HDET value and output power.

Output power of range：

LTE: 23dBm [-2dB~~+1dB]

LTE Band XIII						
Frequency (MHz)	BW(MHz)	Modulation	RB Size	Target power	MPR Target	MPR Allowed by 3Gpp
Uplink:777~787MHz Downlink: 746~756MHz	5	QPSK	≤8	23	0	0
		16-QAM	≤8	22	1	0-1
		QPSK	>8	22	1	0-1
		16-QAM	>8	21	2	0-2
Uplink:777~787MHz Downlink: 746~756MHz	10	QPSK	≤12	23	0	0
		16-QAM	≤12	22	1	0-1
		QPSK	>12	22	1	0-1
		16-QAM	>12	21	2	0-2

1.7 The Bluetooth RF test procedure

Step1: The computer sets UE to the Factory test mode and works at Bluetooth mode and

sets the CMU200 to Bluetooth Analyzer mode.

Step2: The EUT's Bluetooth chip connects with CMU200 through SMA interface, then all

the BT RF performances can be tested.

BT Average Power:

BT2.0/3.0: 8dBm [-4dB~~+1dB]

BLE: 1dBm [-4dB~~+1dB]

BT Peak Power:

≤20 dBm

1.8 The WIFi RF test procedure

WIFI only:

Average Power：

11b： 18 dBm[-4dB~~+1.5dB]

11g： 15 dBm[-4dB~~+1dB]

11n： 14 dBm[-4dB~~+1dB]

Wi-Fi (proximity sensor power reduction):

Average Power：

11b： 15 dBm[-4dB~~+1.5dB]

11g： 14 dBm[-4dB~~+1dB]

11n： 14 dBm[-4dB~~+1dB]

Note：The user has no possibility to change these settings later on.