



Appendix D. – CDMA2000 1xRTT and 1xEV-DO Test Modes

Test Summary:

The EUT supports IS95 2G networks, CDMA2000 1xRTT, and 1xEVDO Rev. 0 for Cellular band and PCS band. The maximum output power is chosen for EMC and SAR testing for worst case scenario. A full EMC measurement in this report is done in CDMA2000 1xRTT FCH+SCH_RC3 and CDMA2000 1xEV-DO mode with the uplink data rate 9.6Kbps for Cellular 850 band, and CDMA2000 1xRTT FCH_RC1 and CDMA2000 1xEV-DO mode with the uplink data rate 9.6Kbps for PCS 1900 band.

Based on all the uplink channels using the same modulation type, BPSK, and those maximum output power are very closer, above test modes could reflect compliance under all operational modes.

Maximum output power list:

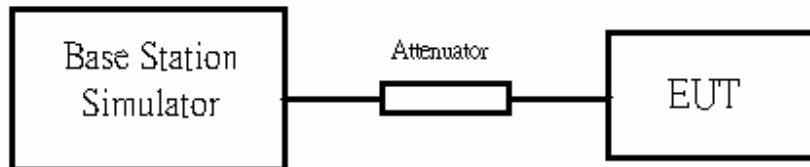
Bands	Test Mode	Test Status	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (Watts)
CDMA2000 Cellular 850	1xRTT	FCH_RC1	1013	824.70 (Low)	23.71	0.23
			384	836.52 (Mid)	23.62	0.23
			777	848.31 (High)	23.80	0.24
		FCH_RC3	1013	824.70 (Low)	23.65	0.23
			384	836.52 (Mid)	23.67	0.23
			777	848.31 (High)	23.67	0.23
		FCH+SCH_RC3	1013	824.70 (Low)	23.66	0.23
			384	836.52 (Mid)	23.58	0.23
			777	848.31 (High)	23.83	0.24
	1xEV-DO	EVDO-UL: 9.6Kbps	1013	824.70 (Low)	24.10	0.26
			384	836.52 (Mid)	24.48	0.28
			777	848.31 (High)	24.24	0.27
		EVDO-UL: 38.4Kbps	1013	824.70 (Low)	23.97	0.25
			384	836.52 (Mid)	24.46	0.28
			777	848.31 (High)	24.43	0.28
		EVDO-UL: 153.6Kbps	1013	824.70 (Low)	23.87	0.24
			384	836.52 (Mid)	24.39	0.27
			777	848.31 (High)	24.29	0.27
CDMA2000 PCS 1900	1xRTT	FCH_RC1	25	1851.25 (Low)	23.46	0.22
			600	1880.00 (Mid)	22.57	0.18
			1177	1908.75 (High)	23.67	0.23
		FCH_RC3	25	1851.25 (Low)	23.32	0.21
			600	1880.00 (Mid)	22.54	0.18
			1177	1908.75 (High)	23.62	0.23
		FCH+SCH_RC1	25	1851.25 (Low)	23.48	0.22
			600	1880.00 (Mid)	22.59	0.18
			1177	1908.75 (High)	23.60	0.23
	1xEV-DO	EVDO-UL: 9.6Kbps	25	1851.25 (Low)	23.92	0.25
			600	1880.00 (Mid)	23.11	0.20
			1177	1908.75 (High)	23.50	0.22
		EVDO-UL: 38.4Kbps	25	1851.25 (Low)	23.82	0.24
			600	1880.00 (Mid)	23.15	0.21
			1177	1908.75 (High)	23.60	0.23
		EVDO-UL: 153.6Kbps	25	1851.25 (Low)	23.76	0.24
			600	1880.00 (Mid)	23.09	0.20
			1177	1908.75 (High)	23.60	0.23

**Band edge list:**

Bands	Test Mode	Test Status	Channel	Frequency (MHz)	Measurement Value (dBm)	Correction Factor (dB)	Band Edge (dBm)
CDMA2000 Cellular 850	1xRTT	FCH_RC1	1013	824.70 (Low)	-16.73	1.07	-15.66
			777	848.31 (High)	-15.50	1.07	-14.43
		FCH_RC3	1013	824.70 (Low)	-16.68	1.07	-15.61
			777	848.31 (High)	-17.17	1.07	-16.10
		FCH+SCH_RC3	1013	824.70 (Low)	-20.15	1.07	-19.08
			777	848.31 (High)	-15.87	1.07	-14.80
	1xEV-DO	9.6Kbps	1013	824.70 (Low)	-18.28	1.09	-17.19
			777	848.31 (High)	-15.81	1.09	-14.72
		38.4Kbps	1013	824.70 (Low)	-15.21	1.09	-14.12
			777	848.31 (High)	-16.23	1.09	-15.14
		153.6Kbps	1013	824.70 (Low)	-15.36	1.09	-14.27
			777	848.31 (High)	-14.27	1.09	-13.18

Bands	Test Mode	Test Status	Channel	Frequency (MHz)	Measurement Value (dBm)	Correction Factor (dB)	Band Edge (dBm)
CDMA2000 PCS 1900	1xRTT	FCH_RC1	25	1851.25 (Low)	-27.28	1.07	-26.21
			1177	1908.75 (High)	-19.18	1.07	-18.11
		FCH_RC3	25	1851.25 (Low)	-26.74	1.07	-25.67
			1177	1908.75 (High)	-22.52	1.07	-21.45
		FCH+SCH_RC3	25	1851.25 (Low)	-30.55	1.07	-29.48
			1177	1908.75 (High)	-22.80	1.07	-21.73
	1xEV-DO	9.6Kbps	25	1851.25 (Low)	-27.16	1.04	-26.12
			1177	1908.75 (High)	-23.08	1.04	-22.04
		38.4Kbps	25	1851.25 (Low)	-20.72	1.04	-19.68
			1177	1908.75 (High)	-32.02	1.04	-30.98
		153.6Kbps	25	1851.25 (Low)	-33.02	1.04	-31.98
			1177	1908.75 (High)	-25.94	1.04	-24.90

Setup Configuration



1. The EUT was connected to Base Station, Agilent 8960.
Refer to the drawing of Setup Configuration.
2. The RF path losses was compensated into the measurements.
3. A call was established between EUT and Base Station for each modes with following settings:
 - a. Set the Power control All Up for FCH_RC3 and FCH_RC1 with Service Option 55.
 - b. Set the Power control All Up for FCH+SCH with Service Option 32.
 - c. Set the Power control All Up for different rates on CDMA2000 1xEV-DO.
4. The transmitted maximum output power was recorded.

Test Mode 1 in Radio Configuration 1 (FCH_RC1)

Call Setup Screen									
Call Control		Active Cell Operating Mode						Call Parm's	
Close Menu		Mobile Station Information ESN (Hex): 0x6C32D3AE ESN (Dec): 108-03330990 NCC: NMC: MSIN: 3163712588 Slot Class: Slotted Slot Cycle Index: 2						Cell Power -86.00 dBm/1.23 MHz	
		Cell Band US PCS							
		Channel 1175							
		Protocol Rev 6 (IS-2000)							
		Radio Config (Fud1, Rvs1)							
		S055 (Loopback)							
		FCH Service Option Setup							
		Service Option for Fud1, Rvs1 S055 (Loopback)							
		Service Option for Fud2, Rvs2 S09 (Loopback)							
		Service Option for Fud3, Rvs3 S032 (* SCH)							
Service Option for Fud4, Rvs3 S055 (Loopback)									
Service Option for Fud5, Rvs4 S055 (Loopback)									
Background Active Cell Idle		Sys Type: IS-2000		1 of 3					
IntRef Offset									

Test Mode 1 in Radio Configuration 1 (FCH_RC1)



Test Mode 3 in Radio Configuration 3 (FCH+SCH)

Call Setup Screen			
Call Control	Active Cell Operating Mode	Call Params	
Operating Mode	Mobile Station Information ESN (Hex): 0x6C32D3AE ESN (Dec): 108-03330990 NCC: 0 NMC: 0 NSIN: 3163712588 Slot Class: Slotted Slot Cycle Index: 2 Protocol Revision: 6 (IS-2000_Rev0) Band Class: 1 (IS-2000_Rev0) NS Operating Mode: 1 (IS-2000_Rev0) Max EIRP (dBm): (Fud1, Rvs1) Registration: (Fud2, Rvs2) QPSK Support: (Fud3, Rvs3) Enhanced RC: (Fud4, Rvs3) Min Power Co: (Fud5, Rvs4) NS Called Pa	Cell Power	-86.00
Active Cell		Cell Band	US PCS
System Type		Channel	1175
IS-2000		Protocol Rev	6 (IS-2000)
End Call		Radio Config	(Fud3, Rvs3)
Paging INSI Setup		FCH Service Option Setup	0032 (+ SCH)
Handoff Setup			
1 of 2	Background Active Cell Connected + Data	Sys Type: IS-2000	1 of 3

Test Mode 3 in Radio Configuration 3 (Service Option32)

Call Setup Screen				
Call Control	Active Cell Operating Mode	Call Params		
Operating Mode	Access Terminal Information (AT Reported) Session Seed: 0x7722375A Hardware ID Type (Hex): 0x010000 ESN Hardware ID (Hex): 0x602D699F Hardware ID (Decimal): 096-02976159 Access Terminal Information (AN Assigned) UATI 024: 2 UATI Color Code: 64 MAC Index: 5 Access Terminal Information (User Entered) AT Max Power: 23 dBm/1.23 MHz Application Configuration Session Application Type: Test Application Test Application Protocol: RTAP Limited TAP: Off AT Directed Packets: 50 % ACK Channel Bit Fixed Node Attribute: On	Cell Power	-60.00	
Active Cell		Cell Band	US PCS	
Start Data Connection		Channel	675	
Close Session		Application Config		
Handoff Setup		FTAP Rate	307.2 kbps	
AT Max Power		(2 Slot, QPSK)	RTAP Rate	153.6 kbps
23 dBm/1.23 MHz				
1 of 3	Background Active Cell Session Open	Sys Type: IS-856 Logging: No Conn.	1 of 3	

1XEVD0 setting with RTAP 153.6kbps

Reference:

- [1.] SAR Measurement Procedures for 3G Devices CDMA 2000/Ev-Do/WCDMA/HSDPA, June 2006 Laboratory Division Office of Engineering and Technology Federal Communications Commission
- [2.] 3.1.2.3.4 Maximum RF Output Power 3GPP2 C.S0033-0 Version 2.0, Date: 12 December 2003 Recommended Minimum Performance Standards for cdma2000 High Rate Packet Data Access Terminal