



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

Test Summary:

The EUT supports IS95 2G networks, CDMA2000 1xRTT, 1xEVDO Rev.0 and 1xEVDO Rev.A 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 mode with FCH RC3 and 1xEV-DO mode with the uplink data rate 153.6kbps for Cellular band, and CDMA2000 1x RTT mode with FCH RC1 and 1xEV-DO mode with the uplink data rate 9.6kbps for PCS 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.

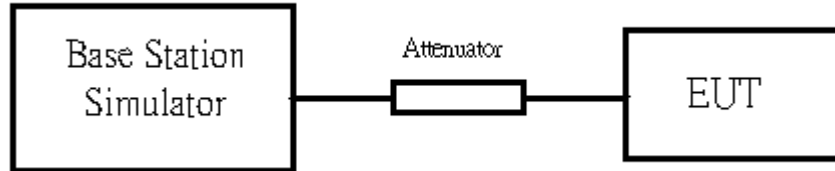
Maximum output power list:

Bands	Test Mode	Test Status	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (Watts)	
CDMA2000 Cellular	1xRTT	FCH_RC1	1013	824.70 (Low)	24.83	0.30	
			384	836.52 (Mid)	24.47	0.28	
			777	848.31 (High)	24.72	0.30	
		FCH_RC3	1013	824.70 (Low)	24.85	0.31	
			384	836.52 (Mid)	24.33	0.27	
			777	848.31 (High)	24.74	0.30	
		FCH+SCH_RC3	1013	824.70 (Low)	24.84	0.30	
			384	836.52 (Mid)	24.27	0.27	
			777	848.31 (High)	24.73	0.30	
	1xEV-DO Rev0 RTAP	EVDO-UL: 9.6Kbps	1013	824.70 (Low)	23.94	0.25	
			384	836.52 (Mid)	23.95	0.25	
			777	848.31 (High)	23.75	0.24	
		EVDO-UL: 38.4Kbps	1013	824.70 (Low)	23.99	0.25	
			384	836.52 (Mid)	23.98	0.25	
			777	848.31 (High)	23.86	0.24	
		EVDO-UL: 53.6Kbps	1013	824.70 (Low)	24.06	0.25	
			384	836.52 (Mid)	24.04	0.25	
			777	848.31 (High)	23.97	0.25	
		1xEV-DO RevA RETAP	128Kbps	1013	824.70 (Low)	23.90	0.25
				384	836.52 (Mid)	23.90	0.25
				777	848.31 (High)	23.68	0.23
	2048Kbps		1013	824.70 (Low)	23.92	0.25	
			384	836.52 (Mid)	23.88	0.24	
			777	848.31 (High)	23.80	0.24	
	12288Kbps		1013	824.70 (Low)	23.82	0.24	
			384	836.52 (Mid)	23.84	0.24	
			777	848.31 (High)	23.66	0.23	



Bands	Test Mode	Test Status	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (Watts)
CDMA2000 PCS	1xRTT	FCH_RC1	25	1851.25 (Low)	25.48	0.35
			600	1880.00 (Mid)	24.80	0.30
			1177	1908.75 (High)	24.62	0.29
		FCH_RC3	25	1851.25 (Low)	25.34	0.34
			600	1880.00 (Mid)	24.76	0.30
			1177	1908.75 (High)	24.54	0.28
		FCH+SCH_RC1	25	1851.25 (Low)	25.46	0.35
			600	1880.00 (Mid)	24.85	0.31
			1177	1908.75 (High)	24.66	0.29
	1xEV-DO Rev0 RTAP	EVDO-UL: 9.6Kbps	25	1851.25 (Low)	24.73	0.30
			600	1880.00 (Mid)	24.10	0.26
			1177	1908.75 (High)	23.53	0.23
		EVDO-UL: 38.4Kbps	25	1851.25 (Low)	24.60	0.29
			600	1880.00 (Mid)	24.03	0.25
			1177	1908.75 (High)	23.67	0.23
		EVDO-UL: 53.6Kbps	25	1851.25 (Low)	24.61	0.29
			600	1880.00 (Mid)	24.16	0.26
			1177	1908.75 (High)	23.84	0.24
	1xEV-DO RevA RETAP	128Kbps	25	1851.25 (Low)	24.15	0.26
			600	1880.00 (Mid)	23.48	0.22
			1177	1908.75 (High)	22.94	0.20
		2048Kbps	25	1851.25 (Low)	23.94	0.25
			600	1880.00 (Mid)	23.52	0.22
			1177	1908.75 (High)	23.02	0.20
		12288Kbps	25	1851.25 (Low)	24.09	0.26
			600	1880.00 (Mid)	23.47	0.22
			1177	1908.75 (High)	22.86	0.19

Setup Configuration:



1. The EUT was connected to Base Station, Agilent 8960.
Refer to the drawing of Setup Configuration.
2. The RF path losses were 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 Parms											
Close Menu	Mobile Station Information ESN (Hex): 0x6C32D3AE ESN (Dec): 108-03330990 MCC: MNC: MSIN: 3163712588 Slot Class: Slotted Slot Cycle Index: 2		Cell Power -86.00 dBm/1.23 MHz Cell Band US PCS Channel 1175										
	FCH Service Option Setup		Protocol Rev 6 (IS-2000)										
	<table border="1"> <thead> <tr> <th>Service Option for Fud1, Rvs1</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Service Option for Fud2, Rvs2</td> <td>S09 (Loopback)</td> </tr> <tr> <td>Service Option for Fud3, Rvs3</td> <td>S032 (+ SCH)</td> </tr> <tr> <td>Service Option for Fud4, Rvs3</td> <td>S055 (Loopback)</td> </tr> <tr> <td>Service Option for Fud5, Rvs4</td> <td>S055 (Loopback)</td> </tr> </tbody> </table>		Service Option for Fud1, Rvs1	Value	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)	Radio Config (Fud1, Rvs1) S055 (Loopback)
	Service Option for Fud1, Rvs1	Value											
	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)											
	<table border="1"> <thead> <tr> <th>Background</th> <th>Active Cell</th> <th>Sys Type: IS-2000</th> </tr> </thead> <tbody> <tr> <td></td> <td>Idle</td> <td></td> </tr> <tr> <td></td> <td>IntRef</td> <td>Offset</td> </tr> </tbody> </table>		Background	Active Cell	Sys Type: IS-2000		Idle			IntRef	Offset	FCH Service Option Setup	
	Background	Active Cell	Sys Type: IS-2000										
	Idle												
	IntRef	Offset											
		1 of 3											

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 Active Cell	Mobile Station Information ESN (Hex): 0x6C32D3AE ESN (Dec): 108-03330990 MCC: MNC: MSIN: 3163712588 Slot Class: Slotted Slot Cycle Index: 2 Protocol Revision: 6 (IS-2000_Rev0) Band Class: US Cell US PCS MS Operating Mode: DPA Max EIRP (dBm) (Fud1, Rvs1): 7 Registration (Fud2, Rvs2) QPCH Support (Fud3, Rvs3) Enhanced RACH (Fud4, Rvs3) Min Power Class (Fud5, Rvs4) MS Called Pa	Cell Power -86.00 dBm/1.23 MHz	
System Type IS-2000		Cell Band US PCS	
End Call		Channel 1175	
Paging INSI Setup		Protocol Rev 6 (IS-2000)	
Handoff Setup		Radio Config (Fud3, Rvs3) S032 (+ SCH)	
		FCH Service Option Setup	
		Background Active Cell Connected + Data Sys Type: IS-2000	
1 of 2		IntRef Offset	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 Active Cell	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 (AM assigned) UATI Q24: 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 Mode Attribute: On	Cell Power -60.00 dBm/1.23 MHz	
Start Data Connection		Cell Band US PCS	
Close Session		Channel 675	
Handoff Setup		Application Config	
AT Max Power 23 dBm/1.23 MHz		FTAP Rate 307.2 kbps (2 Slot, QPSK)	
		RTAP Rate 153.6 kbps	
		Background Active Cell Session Open Sys Type: IS-856 Logging: No Conn.	
1 of 3		IntRef Offset RTAP	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