

Appendix F. FCC CDMA2000 SAR Measurement Procedures

Conducted Output Power:

The EUT was tested according to the requirements of the FCC 3G procedures and the 3.1.2.3.4.

A detailed analysis of the output power verification is provided as the table below:

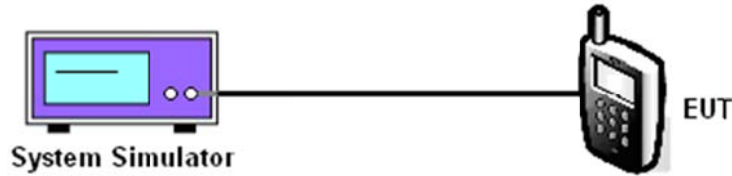
Function Type	Reverse Traffic Channel	Test Mode	Radio Configuration		Service Option	Data Rates (kbps)	Power Control	Low Ch	Mid. Ch	High Ch
			Forward Traffic Channel (Fwd)	Reverse Traffic Channel (Rvs)				1013	384	777
CDMA2000 Cellular	FCH	1	1	1	55	Full	All Up	24.11	24.09	23.90
		3	3	3	55	Full	All Up	24.10	24.08	23.88
	F-SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.09	24.07	23.87
	SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.05	24.08	23.84
	EVDO Rev.0*	Subtype:0				RTAP 153.6	All Up	23.99	23.95	23.84
	EVDO Rev.A*	Subtype:0				RETAP 4096	All Up	24.21	24.06	23.90

Function Type	Reverse Traffic Channel	Test Mode	Radio Configuration		Service Option	Data Rates (kbps)	Power Control	Low Ch	Mid. Ch	High Ch
			Forward Traffic Channel (Fwd)	Reverse Traffic Channel (Rvs)				25	600	1175
CDMA2000 PCS	FCH	1	1	1	55	Full	All Up	24.18	24.07	24.58
		3	3	3	55	Full	All Up	24.21	24.05	24.45
	F-SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.12	24.01	24.47
	SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.14	24.04	24.48
	EVDO Rev.0*	Subtype:0				RTAP 153.6	All Up	24.17	24.03	24.51
	EVDO Rev.A*	Subtype:0				RETAP 4096	All Up	24.19	24.09	24.62



Function Type	Reverse Traffic Channel	Test Mode	Radio Configuration		Service Option	Data Rates (kbps)	Power Control	Low Ch	Mid. Ch	High Ch
			Forward Traffic Channel (Fwd)	Reverse Traffic Channel (Rvs)				25	450	875
CDMA2000 AWS	FCH	1	1	1	55	Full	All Up	23.40	24.29	23.38
		3	3	3	55	Full	All Up	23.33	24.44	23.37
	F-SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	23.27	24.42	23.29
	SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	23.32	24.37	23.31
	EVDO Rev.0*	Subtype:0				RTAP 153.6	All Up	23.30	24.40	23.28
	EVDO Rev.A*	Subtype:0				RETAP 4096	All Up	23.44	24.43	23.35

CDMA2000 Setup Configuration:



Setup Configuration

1. The EUT was connected to System Simulator, 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 System Simulator with following setting:
 - a. For 1xRTT, set the Radio Configuration and the Service Option
 - b. For 1xEV-DO, set the Protocol Release and Data Rate
 - c. Set the Power Control to All Up Bits
4. The transmitted maximum output power was recorded.

Call Setup Screen																					
Call Control	Active Cell Operating Mode		Call Params																		
Close Menu	Mobile Station Information ESN (Hex): ESN (Dec): MCC: MNC: MSIN: Slot Class: Slot Cycle Index: ---- Protocol Revision:		Cell Power -86.00 dBm/1.23 MHz Cell Band US PCS Channel 1175																		
	FCH Service Option Setup		Protocol Rev 6 (IS-2000-0)																		
	<table border="1"> <thead> <tr> <th>Service Option</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>S055 (Loopback)</td> <td>S055 (Loopback)</td> </tr> <tr> <td>S09 (Loopback)</td> <td>S09 (Loopback)</td> </tr> <tr> <td>S01 (Voice)</td> <td>S055 (Loopback)</td> </tr> <tr> <td>S02 (Loopback)</td> <td>S055 (Loopback)</td> </tr> <tr> <td>S03 (Voice)</td> <td>S055 (Loopback)</td> </tr> <tr> <td>S06 (SMS)</td> <td>S055 (Loopback)</td> </tr> <tr> <td>S055 (Loopback)</td> <td></td> </tr> <tr> <td>S068 (Voice)</td> <td></td> </tr> </tbody> </table>		Service Option	Value	S055 (Loopback)	S055 (Loopback)	S09 (Loopback)	S09 (Loopback)	S01 (Voice)	S055 (Loopback)	S02 (Loopback)	S055 (Loopback)	S03 (Voice)	S055 (Loopback)	S06 (SMS)	S055 (Loopback)	S055 (Loopback)		S068 (Voice)		Radio Config (Fud1, Rvs1) S055 (Loopback)
	Service Option	Value																			
	S055 (Loopback)	S055 (Loopback)																			
	S09 (Loopback)	S09 (Loopback)																			
	S01 (Voice)	S055 (Loopback)																			
	S02 (Loopback)	S055 (Loopback)																			
	S03 (Voice)	S055 (Loopback)																			
	S06 (SMS)	S055 (Loopback)																			
S055 (Loopback)																					
S068 (Voice)																					
Active Cell Idle		Sys Type: IS-2000																			
IntRef Offset		FCH Service Option Setup																			
		1 of 4																			

1xRTT setting for Radio Configuration 1 with Service Option 55

Call Setup Screen			
Call Control	Active Cell Operating Mode		Call Params
Close Menu	Mobile Station Information ESN (Hex): ESN (Dec): MCC: MNC: MSIN: Slot Class: Slot Cycle Index: ---- Protocol Revision:		Cell Power -86.00 dBm/1.23 MHz Cell Band US PCS Channel 1175
	FCH Service Option Setup		Protocol Rev 6 (IS-2000-0)
	Service Option Service Option for Fud3, Rvs3 S01 (Voice) S02 (Loopback) S03 (Voice) S06 (SMS) S055 (Loopback) S032 (+ F-SCH)		Value S055 (Loopback) S09 (Loopback) S055 (Loopback) S055 (Loopback) S055 (Loopback)
			Radio Config (Fud3, Rvs3) S055 (Loopback)
			FCH Service Option Setup
	Active Cell Idle		Sys Type: IS-2000
	IntRef Offset		1 of 4

1xRTT setting for Radio Configuration 3 with Service Option 55

Call Setup Screen			
Call Control	Active Cell Operating Mode		Call Params
Close Menu	Mobile Station Information ESN (Hex): ESN (Dec): MCC: MNC: MSIN: Slot Class: Slot Cycle Index: ---- Protocol Revision:		Cell Power -86.00 dBm/1.23 MHz Cell Band US PCS Channel 1175
	FCH Service Option Setup		Protocol Rev 6 (IS-2000-0)
	Service Option Service Option for Fud3, Rvs3 S02 (Loopback) S03 (Voice) S06 (SMS) S055 (Loopback) S032 (+ F-SCH) S032 (+ SCH)		Value S055 (Loopback) S09 (Loopback) S032 (+ SCH) S055 (Loopback) S055 (Loopback)
			Radio Config (Fud3, Rvs3) S032 (+ SCH)
			FCH Service Option Setup
	Active Cell Idle		Sys Type: IS-2000
	IntRef Offset		1 of 4

1xRTT setting for Radio Configuration 3 with Service Option 32

Call Setup Screen						
Call Control	Active Cell Operating Mode				Call Params	
Operating Mode	Access Terminal Information (AT Reported) Session Seed: Hardware ID Type (Hex): Hardware ID (Hex): Hardware ID (Decimal): Access Terminal Information (AN Assigned) UATI 024: ---- UATI Color Code: ---- NAC Index: ---- Protocol Release Session App: 0 (1xEV-DO) Test Applica: A (1xEV-DO-A) Limited TAP: B (1xEV-DO-B) AT Directed: Z DRC Value Fi ACK Channel				Rvs Power Ctrl	
Active Cell					Active bits	
Start Data Connection					Pur Ctrl Step	
Close Session					1.0 dB	
Handoff Setup					Call Drop Timer	
AT Max Power	Active Cell Idle				On	
23 dBm/1.23MHz	Sys Type: IS-856				Call Limit Mode	
1 of 3	IntRef Offset				Off	
	PLSub0 RTAP				Protocol Rel	
					0 (1xEV-DO)	
					2 of 3	

1xEV-DO setting for Protocol Release (Rev.0 or Rev.A)

Call Setup Screen						
Call Control	Active Cell Operating Mode				Call Params	
Operating Mode	Access Terminal Information (AT Reported) Session Seed: Hardware ID Type (Hex): Hardware ID (Hex): Hardware ID (Decimal): Access Terminal Information (AN Assigned) UATI 024: ---- UATI Color Code: ---- NAC Index: ---- RTAP Rate Session App: 9.6 kbps Test Applica: 19.2 kbps Limited TAP: 38.4 kbps AT Directed: 76.8 kbps DRC Value Fi: 153.6 kbps ACK Channel				Cell Power	
Active Cell					-86.00	
Start Data Connection					dBm/1.23 MHz	
Close Session					Cell Band	
Handoff Setup					US PCS	
AT Max Power	Active Cell Idle				Channel	
23 dBm/1.23MHz	Sys Type: IS-856				1175	
1 of 3	IntRef Offset				Application Config	
	PLSub0 RTAP				FTAP Rate	
					307.2 kbps	
					(2 Slot, QPSK)	
					RTAP Rate	
					9.6 kbps	
					1 of 3	

1xEV-DO setting for RTAP data rate (153.6 kbps)



Call Setup Screen						
Call Control		Active Cell Operating Mode			Call Params	
Operating Mode	Active Cell	Access Terminal Information (AT Reported)			Cell Power	
		Session Seed:			-86.00	
		Hardware ID Type (Hex):			dBm/1.23 MHz	
		Hardware ID (Hex):			Cell Band	
		Hardware ID (Decimal):			US PCS	
		Access Terminal Information (AN Assigned)			Channel	
Start Data Connection		UATI 024: ----			1175	
		UATI Color Code: ----				
		MAC Index: ----				
Close Session		Application Configuration			Application Config	
		Session App: R-Data Packet Size			F-Traffic Format	
		Enhanced Te: 128			4 (1024,2,128)	
		AT Directed: 256			(307.2k, QPSK)	
		DRC Value F: 512			R-Data Pkt Size	
Handoff Setup		ACK Channel: 768			128	
		ACK Channel: 768			bits	
		Reverse Data: 1024				
AT Max Power		Expected En: 1536				
23 dBm/1.23MHz						
		Active Cell		Sys Type: IS-856		
		Idle				
1 of 3		IntRef	Offset	PLSub0	RETAP	1 of 3

1xEV-DO setting for RETAP data rate (4096 kbps)



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