

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.

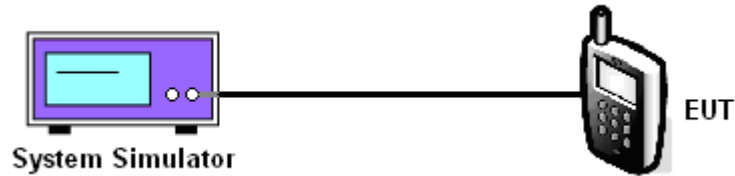
A detailed analysis of the output power verification is provided as the table below:

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	24.12	24.05	24.01
		3	3	3	55	Full	All Up	24.21	24.11	24.14
	F-SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.20	24.18	24.17
	SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.13	24.07	24.01
	EVDO Rev.0*	Subtype:0				RTAP 153.6	All Up	24.18	24.07	24.06
	EVDO Rev.A*	Subtype:0				RETAP 4096	All Up	24.15	24.06	24.04

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	24.10	24.03	24.08
		3	3	3	55	Full	All Up	24.17	24.05	24.08
	F-SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.05	24.03	24.04
	SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.16	24.14	24.05
	EVDO Rev.0*	Subtype:0				RTAP 153.6	All Up	24.13	24.12	24.03
	EVDO Rev.A*	Subtype:0				RETAP 4096	All Up	24.16	24.11	24.10



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	425	875
CDMA2000 AWS	FCH	1	1	1	55	Full	All Up	24.03	24.29	24.19
		3	3	3	55	Full	All Up	24.03	24.32	24.20
	F-SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.02	24.29	24.15
	SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.04	24.30	24.17
	EVDO Rev.0*	Subtype:0				RTAP 153.6	All Up	24.02	24.30	24.22
	EVDO Rev.A*	Subtype:0				RETAP 4096	All Up	24.11	24.25	24.18

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 Parm		
	Mobile Station Information						Cell Power		
	ESN (Hex):						-86.00		
	ESN (Dec):						dBm/1.23 MHz		
	NCC:						Cell Band		
	NMC:						US PCS		
	NSIN:						Channel		
	Slot Class:						1175		
	Slot Cycle Index: ----						Protocol Rev		
	Protocol Revision:						6 (IS-2000-0)		
	FCH Service Option Setup						Value		
Service Option for Fud1, Rvs1						S055 (Loopback)			
Service Option for S01 (Voice)						S09 (Loopback)			
Service Option for S02 (Loopback)						S055 (Loopback)			
Service Option for S03 (Voice)						S055 (Loopback)			
Service Option for S06 (SIS)						S055 (Loopback)			
S055 (Loopback)						Radio Config			
S068 (Voice)						(Fud1, Rvs1)			
						S055 (Loopback)			
Close Menu						FCH Service Option Setup			
Active Cell						Sys Type: IS-2000			
Idle									
IntRef Offset						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																			
		FCH Service Option Setup <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>S032 (+ F-SCH)</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)		S032 (+ F-SCH)		Cell Band US PCS	
		Service Option	Value																								
		S055 (Loopback)	S055 (Loopback)																								
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		S01 (Voice)	S055 (Loopback)																								
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		S06 (SMS)	S055 (Loopback)																								
		S055 (Loopback)																									
S032 (+ F-SCH)																											
						Channel 1175																					
						Protocol Rev 6 (IS-2000-0)																					
						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																			
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		Service Option	Value																								
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		S02 (Loopback)	S032 (+ SCH)																								
		S03 (Voice)	S055 (Loopback)																								
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		S032 (+ F-SCH)																									
S032 (+ SCH)																											
						Channel 1175																					
						Protocol Rev 6 (IS-2000-0)																					
						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: ---- MAC Index: ---- Protocol Release Session App: 0 (1xEV-DO) Application 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	
								Pur Ctrl Step	
								1.0 dB	
Start Data Connection								Call Drop Timer	
								On	
Close Session								Call Limit Mode	
								Off	
Handoff Setup								Protocol Rel	
								0 (1xEV-DO)	
AT Max Power									
23 dBm/1.23MHz									
		Active Cell				Sys Type: IS-856			
		Idle							
1 of 3				IntRef	Offset		PLSub0	RTAP	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: ---- MAC Index: ---- RTAP Rate Session App: 9.6 kbps Application 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	
								dBm/1.23 MHz	
								Cell Band	
Start Data Connection								US PCS	
								Channel	
Close Session								1175	
								Application Config	
Handoff Setup								FTAP Rate	
								307.2 kbps	
AT Max Power								(2 Slot, QPSK)	
23 dBm/1.23MHz								RTAP Rate	
								9.6 kbps	
		Active Cell				Sys Type: IS-856			
		Idle							
1 of 3				IntRef	Offset		PLSub0	RTAP	1 of 3

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



Call Setup Screen									
Call Control		Active Cell Operating Mode					Call Parms		
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					Application		
		Enhanced Te: 128					Capacity		
		AT Directed: 256					kbps		
		DRC Value Fi: 512					F-Traffic Format		
	Handoff Setup	ACK Channel: 768					4 (1024,2,128)		
		ACK Channel: 1024					(307.2k, QPSK)		
	AT Max Power	Reverse Data: 1536					R-Data Pkt Size		
	23 dBm/1.23MHz						128		
							bits		
		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