

Appendix F. FCC 3G SAR Measurement Procedures

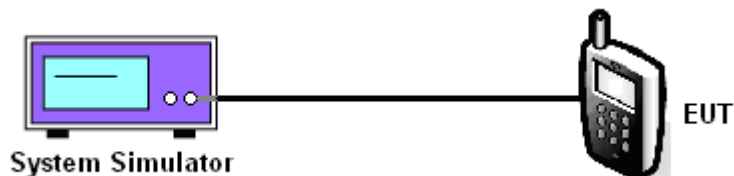
Conducted Output Power:

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	24.00	23.97	23.99
		3	3	3	55	Full	All Up	24.13	24.10	24.11

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		
Close Menu		Mobile Station Information ESN (Hex): ESN (Dec): NCC: INC: NSIN: 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 Service Option Service Option f Service Option f Service Option f Service Option f Service Option f Service Option f Service Option f Service Option f					Value S055 (Loopback) S09 (Loopback) S055 (Loopback) S055 (Loopback) S055 (Loopback) S055 (Loopback) S055 (Loopback) S055 (Loopback) S055 (Loopback)		
		S01 (Voice) S02 (Loopback) S03 (Voice) S06 (SMS) S055 (Loopback) S068 (Voice)					Protocol Rev 6 (IS-2000-0) Radio Config (Fud1, Rvs1) S055 (Loopback)		
		Active Cell Idle IntRef Offset					Sys Type: IS-2000 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																								
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						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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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: 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	
		Call Limit Mode	Off						
Close Session		Protocol Rel	0 (1xEV-DO)						
Handoff Setup									
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: ---- 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	-86.00	
Active Cell							dBm/1.23 MHz		
							Cell Band	US PCS	
Start Data Connection							Channel	1175	
		Application Config							
Close Session		FTAP Rate	307.2 kbps						
Handoff Setup		(2 Slot, QPSK)							
AT Max Power	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 (9.6 or 38.4 or 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	
		R-Data Packet Size			F-Traffic Format	
		Session App: 128			4 (1024,2,128)	
		Enhanced Te: 256			(307.2k, QPSK)	
		AT Directed: 512			R-Data Pkt Size	
		DRC Value Fi: 768			128	
	Handoff Setup	ACK Channel: 1024			bits	
		ACK Channel: 1536				
	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 (128 or 2048 or 12288 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