



## Appendix F. FCC 3G SAR Measurement Procedures

### Conducted Output Power:

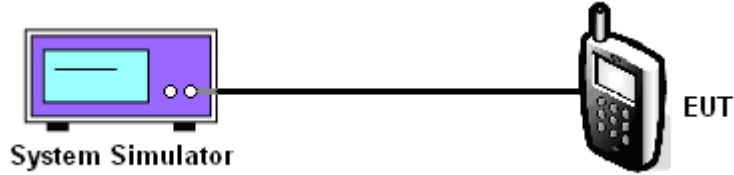
The EUT was tested according to the requirements of the FCC 3G procedures and the 3.1.2.3.4.

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	24.64	24.84	24.18
		3	3	3	55	Full	All Up	24.48	24.70	24.13
	FCH+SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.44	24.68	24.12
	EVDO Rev.0*	Subtype:0				RTAP 9.6	All Up	24.36	24.64	23.99
	EVDO Rev.0*	Subtype:0				RTAP 38.4	All Up	24.26	24.56	24.06
	EVDO Rev.0*	Subtype:0				RTAP 153.6	All Up	24.31	24.49	24.04
	EVDO Rev.A*	Subtype:0				RETAP 128	All Up	24.20	24.46	23.97
	EVDO Rev.A*	Subtype:0				RETAP 2048	All Up	24.37	24.70	24.05
	EVDO Rev.A*	Subtype:0				RETAP 12288	All Up	24.43	24.69	24.03

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	24.33	24.34
		3	3	3	55	Full	All Up	24.06	24.32	24.33
	FCH+SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	23.97	24.25	24.32
	EVDO Rev.0*	Subtype:0				RTAP 9.6	All Up	24.08	24.02	24.08
	EVDO Rev.0*	Subtype:0				RTAP 38.4	All Up	23.92	24.15	24.20
	EVDO Rev.0*	Subtype:0				RTAP 153.6	All Up	23.86	24.08	24.22
	EVDO Rev.A*	Subtype:0				RETAP 128	All Up	23.95	24.11	24.08
	EVDO Rev.A*	Subtype:0				RETAP 2048	All Up	23.96	24.42	24.42
	EVDO Rev.A*	Subtype:0				RETAP 12288	All Up	24.03	24.39	24.43

**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				Cell Power	-86.00
	ESN (Hex):				dBm/1.23 MHz	
	ESN (Dec):				Cell Band	US PCS
	NCC:				Channel	1175
	MNC:				Protocol Rev	6 (IS-2000-0)
	MSIN:				Radio Config	(Fud1, Rus1)
	Slot Class:				FCH Service Option Setup	S055 (Loopback)
	Slot Cycle Index: ----				Service Option	S09 (Loopback)
	Protocol Revision:				Service Option f	S01 (Voice)
					Service Option f	S02 (Loopback)
				Service Option f	S03 (Voice)	
				Service Option f	S06 (SMS)	
				Service Option f	S055 (Loopback)	
				Service Option f	S068 (Voice)	
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 Parm																		
Close Menu	<b>Mobile Station Information</b> 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																		
	<b>FCH Service Option Setup</b>		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 (SIS)</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 (SIS)	S055 (Loopback)	S055 (Loopback)		S032 (+ F-SCH)		Radio Config (Fud3, Rvs3) S055 (Loopback)
	Service Option	Value																			
	S055 (Loopback)	S055 (Loopback)																			
	S09 (Loopback)	S09 (Loopback)																			
	S01 (Voice)	S055 (Loopback)																			
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	S03 (Voice)	S055 (Loopback)																			
	S06 (SIS)	S055 (Loopback)																			
S055 (Loopback)																					
S032 (+ F-SCH)																					
Active Cell Idle		Sys Type: IS-2000																			
IntRef Offset		FCH Service Option Setup																			
		1 of 4																			

1xRTT setting for Radio Configuration 3 with Service Option 55

Call Setup Screen																					
Call Control	Active Cell Operating Mode		Call Parm																		
Close Menu	<b>Mobile Station Information</b> 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																		
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	Service Option	Value																			
	S055 (Loopback)	S055 (Loopback)																			
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	S02 (Loopback)	S032 (+ SCH)																			
	S03 (Voice)	S055 (Loopback)																			
	S06 (SIS)	S055 (Loopback)																			
	S055 (Loopback)																				
S032 (+ F-SCH)																					
S032 (+ SCH)																					
Active Cell Idle		Sys Type: IS-2000																			
IntRef Offset		FCH Service Option Setup																			
		1 of 4																			

1xRTT setting for Radio Configuration 3 with Service Option 32



Call Setup Screen																				
Call Control	Active Cell Operating Mode	Call Parm																		
Operating Mode	<div style="border: 1px solid black; padding: 5px;"> <p><b>Access Terminal Information (AT Reported)</b></p> <p>Session Seed:            Hardware ID Type (Hex):            Hardware ID (Hex):            Hardware ID (Decimal):</p> <p><b>Access Terminal Information (AN Assigned)</b></p> <p>UATI 024: ----            UATI Color Code: ----            NAC Index: ----</p> <p><b>Protocol Release</b></p> <table border="1"> <tr><td>Session App</td><td>0 (1xEV-DO)</td><td>Application</td></tr> <tr><td>Test Applica</td><td>A (1xEV-DO-A)</td><td></td></tr> <tr><td>Limited TAP:</td><td>B (1xEV-DO-B)</td><td></td></tr> <tr><td>AT Directed</td><td></td><td>Z</td></tr> <tr><td>DRC Value Fi</td><td></td><td></td></tr> <tr><td>ACK Channel</td><td></td><td></td></tr> </table> </div>	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
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																				
Active Cell		Active bits																		
Start Data Connection		Pur Ctrl Step	1.0 dB																	
Close Session		Call Drop Timer	On																	
Handoff Setup	Call Limit Mode	Off																		
AT Max Power	Protocol Rel	0 (1xEV-DO)																		
23 dBm/1.23MHz	Active Cell	Idle																		
	Sys Type: IS-856																			
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 Parm																		
Operating Mode	<div style="border: 1px solid black; padding: 5px;"> <p><b>Access Terminal Information (AT Reported)</b></p> <p>Session Seed:            Hardware ID Type (Hex):            Hardware ID (Hex):            Hardware ID (Decimal):</p> <p><b>Access Terminal Information (AN Assigned)</b></p> <p>UATI 024: ----            UATI Color Code: ----            NAC Index: ----</p> <p><b>RTAP Rate</b></p> <table border="1"> <tr><td>Session App</td><td>9.6 kbps</td><td>Application</td></tr> <tr><td>Test Applica</td><td>19.2 kbps</td><td></td></tr> <tr><td>Limited TAP:</td><td>38.4 kbps</td><td></td></tr> <tr><td>AT Directed</td><td>76.8 kbps</td><td>Z</td></tr> <tr><td>DRC Value Fi</td><td>153.6 kbps</td><td></td></tr> <tr><td>ACK Channel</td><td></td><td></td></tr> </table> </div>	Session App	9.6 kbps	Application	Test Applica	19.2 kbps		Limited TAP:	38.4 kbps		AT Directed	76.8 kbps	Z	DRC Value Fi	153.6 kbps		ACK Channel			Cell Power
Session App		9.6 kbps	Application																	
Test Applica		19.2 kbps																		
Limited TAP:		38.4 kbps																		
AT Directed		76.8 kbps	Z																	
DRC Value Fi		153.6 kbps																		
ACK Channel																				
Active Cell		-86.00																		
Start Data Connection		dBm/1.23 MHz																		
Close Session		Cell Band	US PCS																	
Handoff Setup	Channel	1175																		
AT Max Power	Application Config																			
23 dBm/1.23MHz	FTAP Rate	307.2 kbps																		
	(2 Slot, QPSK)																			
1 of 3	RTAP Rate	9.6 kbps																		
	Active Cell	Idle																		
	Sys Type: IS-856																			
	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	Access Terminal Information (AT Reported)				Cell Power															
Active Cell	Session Seed: Hardware ID Type (Hex): Hardware ID (Hex): Hardware ID (Decimal):				-86.00															
	Access Terminal Information (AM Assigned)				dBm/1.23 MHz															
Start Data Connection	UATI 024: ---- UATI Color Code: ---- MAC Index: ----				Cell Band															
	Application Configuration				US PCS															
Close Session	<table border="1"> <thead> <tr> <th>R-Data Packet Size</th> <th>Application</th> </tr> </thead> <tbody> <tr> <td>128</td> <td>AP</td> </tr> <tr> <td>256</td> <td>Z</td> </tr> <tr> <td>512</td> <td></td> </tr> <tr> <td>768</td> <td></td> </tr> <tr> <td>1024</td> <td></td> </tr> <tr> <td>1536</td> <td>Capacity</td> </tr> </tbody> </table>				R-Data Packet Size	Application	128	AP	256	Z	512		768		1024		1536	Capacity	Channel	
R-Data Packet Size	Application																			
128	AP																			
256	Z																			
512																				
768																				
1024																				
1536	Capacity																			
Handoff Setup					1175															
AT Max Power					Application Config															
23 dBm/1.23MHz					F-Traffic Format															
	Active Cell				4 (1024,2,128)															
	Idle				(307.2k, QPSK)															
	Sys Type: IS-856				R-Data Pkt Size															
	IntRef Offset				128															
1 of 3	PLSub0 RETAP				bits															
					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