



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.

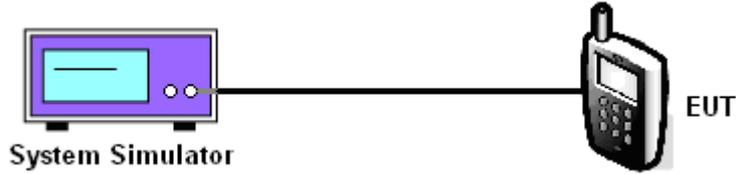
A detailed analysis of the output power verification is provided as the table below:

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	24.00	23.90
		3	3	3	55	Full	All Up	24.17	24.09	23.95
	FCH+SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	24.17	24.13	23.97
	EVDO Rev.0*	Subtype:0/1				RTAP 153.6	All Up	23.83	23.80	23.67
	EVDO Rev.A*	Subtype:2				RETAP 4096	All Up	23.87	23.89	23.77

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	23.55	23.47	23.55
		3	3	3	55	Full	All Up	23.54	23.54	23.59
	FCH+SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	23.55	23.50	23.53
	EVDO Rev.0*	Subtype:0/1				RTAP 153.6	All Up	23.58	23.31	23.32
	EVDO Rev.A*	Subtype:2				RETAP 4096	All Up	23.59	23.47	23.42

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	23.48	23.30	23.55
		3	3	3	55	Full	All Up	23.50	23.27	23.58
	FCH+SCH	3	3	3	32	FCH:Full,SCH 9.6	All Up	23.50	23.35	23.57
	EVDO Rev.0*	Subtype:0/1				RTAP 153.6	All Up	23.38	23.37	23.39
	EVDO Rev.A*	Subtype:2				RETAP 4096	All Up	23.43	23.39	23.47

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
	NMC:				Protocol Rev	6 (IS-2000-0)
	NSIN:				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																		
Operating Mode	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; background-color: #e0e0e0;">Access Terminal Information (AT Reported)</p> <p>Session Seed: Hardware ID Type (Hex): Hardware ID (Hex): Hardware ID (Decimal):</p> <hr/> <p style="text-align: center; background-color: #e0e0e0;">Access Terminal Information (AN Assigned)</p> <p>UATI 024: ---- UATI Color Code: ---- NAC Index: ----</p> <hr/> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; background-color: #e0e0e0;">Protocol Release</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> </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																			
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 style="text-align: center; background-color: #e0e0e0;">Access Terminal Information (AT Reported)</p> <p>Session Seed: Hardware ID Type (Hex): Hardware ID (Hex): Hardware ID (Decimal):</p> <hr/> <p style="text-align: center; background-color: #e0e0e0;">Access Terminal Information (AN Assigned)</p> <p>UATI 024: ---- UATI Color Code: ---- NAC Index: ----</p> <hr/> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; background-color: #e0e0e0;">RTAP Rate</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> </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																			
	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 Params
Operating Mode	Access Terminal Information (AT Reported) Session Seed: Hardware ID Type (Hex): Hardware ID (Hex): Hardware ID (Decimal):	Cell Power
Active Cell		-86.00
Start Data Connection	Access Terminal Information (AM Assigned) UATI Q24: ---- UATI Color Code: ---- MAC Index: ----	dBm/1.23 MHz
		Cell Band
		US PCS
Close Session	Application Configuration Session App: R-Data Packet Size Application Enhanced Te: 128 AT Directed: 256 DRC Value Fi: 512 ACK Channel: 768 ACK Channel: 768 Reverse Data: 1024 Expected En: 1536	Channel
		1175
Handoff Setup		Application Config
		F-Traffic Format
AT Max Power		4 (1024,2,128)
23 dBm/1.23MHz		(307.2k, QPSK)
		R-Data Pkt Size
		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