

CUSTOMER : LGE

DOCUMENT NO. : RBMK-C301A-SA

REV : 1.0

DATE : 2008. 11. 5.

Antenna Specification

MODEL NAME : RBMK-C301A

CUSTOMER M/NO : LBA-T950-U

CUSTOMER P/NO : SGBC0000301

APPROVAL BLANK :

REMARKS :

REVISION :

1.0 (05/11/08) – Initial Release

DSGD	CHKD	APPD
		



1. RF Conditions

- 1) Frequency Band : 2.4GHz ISM Band
- 2) Frequency Range : 2402MHz ~ 2480MHz (79 Channels)
- 3) Bluetooth RF Specification v2.0
- 4) Comply with Korea EMI Type Approval
- 5) Grant "Bluetooth Logo" from SIG (Special Interest Group)

Transmitter Specifications

Item		Conditions	Min	Typ	Max	Unit
Output Power		Extreme	-6	0	4	dBm
Initial Carrier Frequency Tolerance		Extreme	-75		75	kHz
Carrier Frequency Drift	DH1 Packet	Extreme	-25		25	kHz

Receiver Specifications

Item		Conditions	Min	Typ	Max	Unit
Sensitivity	Single Slot	Extreme		-80	-70	dBm
	Multi Slot	Extreme		-80	-70	dBm

※ Test of RF part is to put EUT between Bluetooth test equipment which is TESCOM (TC-3000A/B/C) and RF Cable. Major Test Items are Transmit Power, Sensitivity, Modulation, Initial Carrier Frequency Tolerance, Carrier Frequency Drift

※ Conditions

- 1) Extreme Condition : -20℃/RH 0% ~ 60℃/RH 90%
- 2) Normal Condition : 25℃/RH 65%

※ No General Environment Test at the Normal Test Item

R E V	1.0	2008.11.05	Initial Release	LG Innotek Co., Ltd			
				DSGD	CHKD	APPD	RBMK-C301A
							DOCUMENT NO.
							RBMK-C301A-SA

TITLE : Specifications for Approval (RBMK-C301A)					REV 1.0 (2 / 3)
(CUSTOMER M/NO : LBA-T950)					

2. Antenna Spec.

Item	Conditions	TRP	Peak	Unit	Remarks
0ch	Active test	-9.21	-3.73	dBm EIRP	
39ch	Active test	-8.49	-3.08	dBm EIRP	
78ch	Active test	-8.64	-3.42	dBm EIRP	

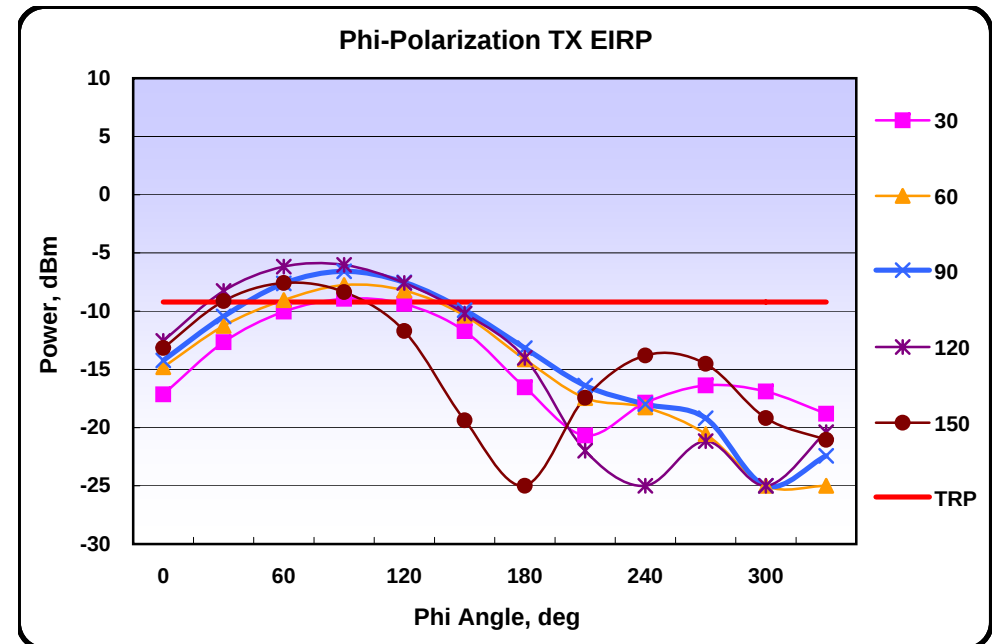
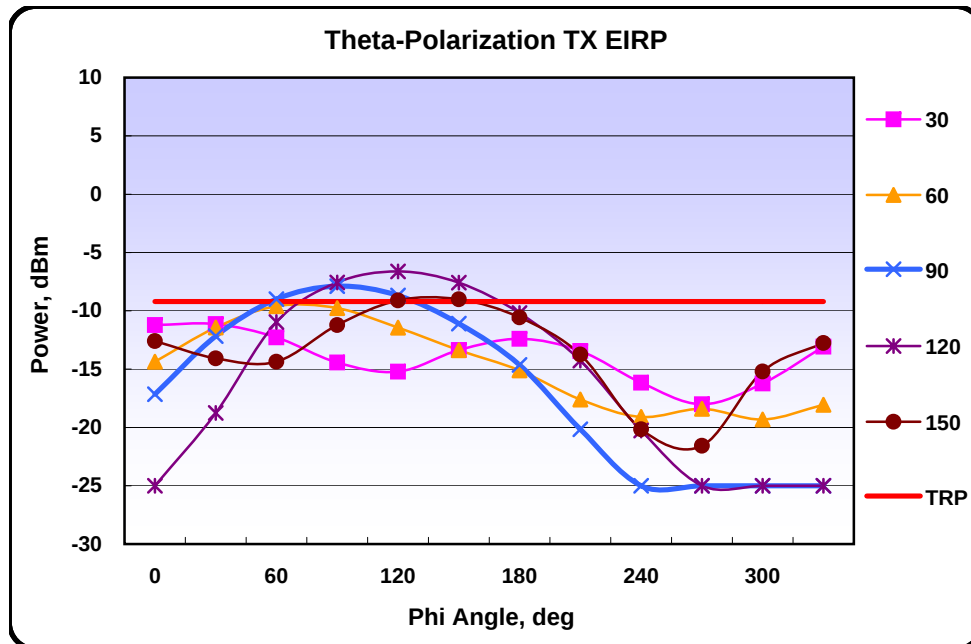
R E V	1.0	2008.11.05	Initial Release	LG Innotek Co., Ltd			
				DSGD	CHKD	APPD	RBMK-C301A
							DOCUMENT NO.
							RBMK-C301A-SA

Total Radiated Power(Theta-Polarization and Phi-Polarization)

Bluetooth Channel 0

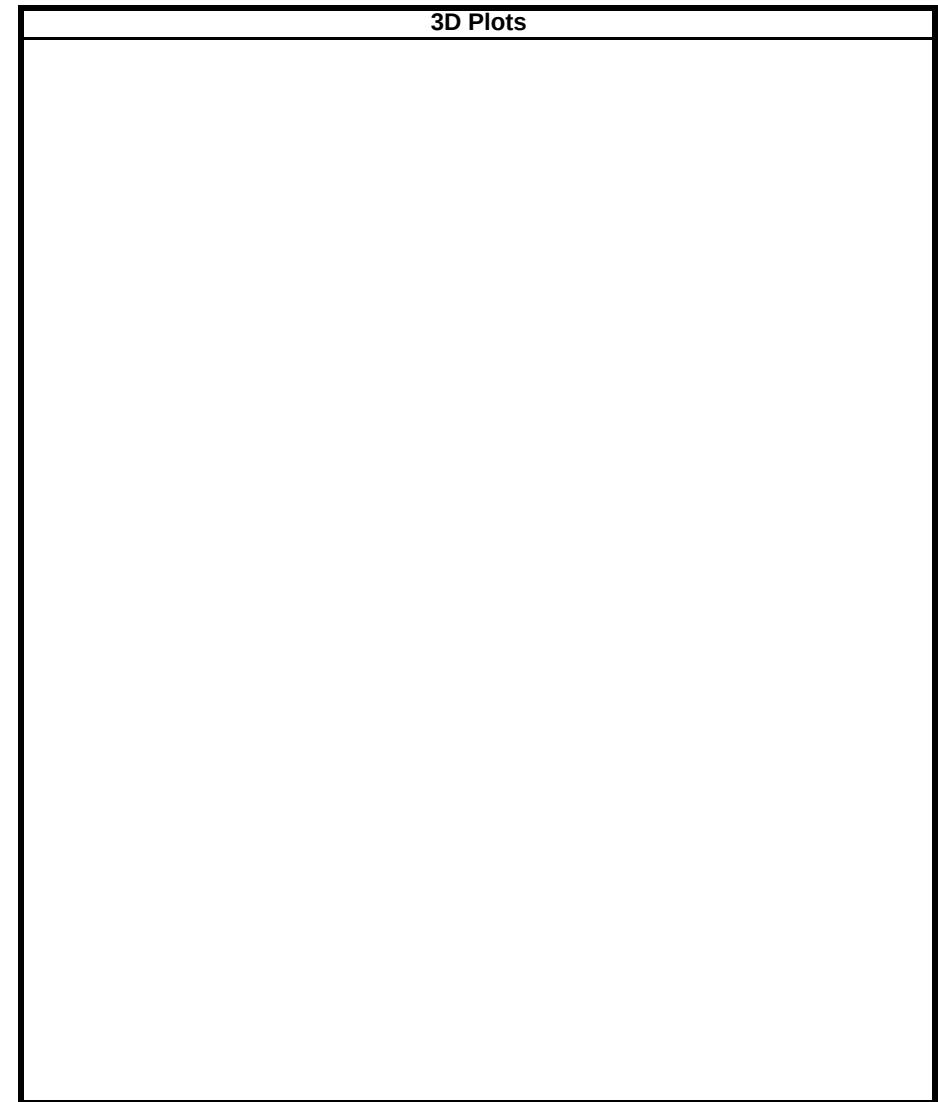
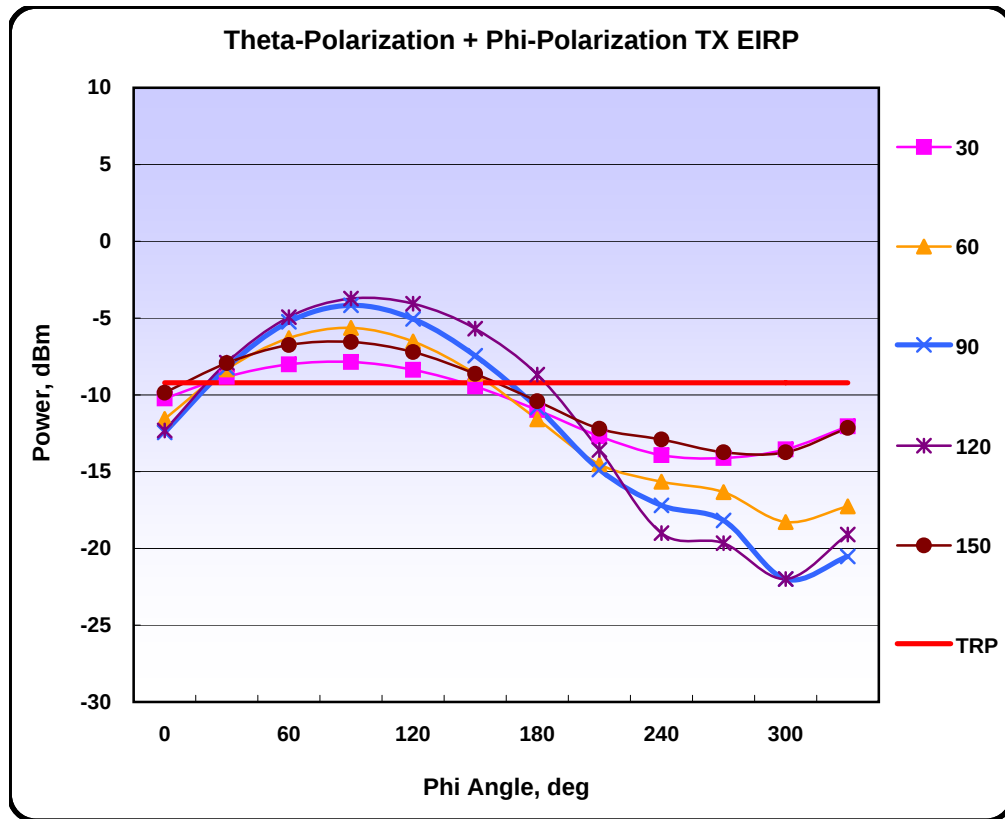
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IMEI		Test Channel	0				
Test Date	Wed 17/Sep/2008 16:03:03	TX Frequency					
Test Condition	Free Space	Antenna Type					
Tester		Conducted Power					

Theta-Polarization EIRP(dBm)													Phi-Polarization EIRP(dBm)												
θ_N (deg)	φ_M (deg)												θ_N (deg)	φ_M (deg)											
	0	30	60	90	120	150	180	210	240	270	300	330		0	30	60	90	120	150	180	210	240	270	300	330
0													0												
30	-11.23	-11.14	-12.28	-14.44	-15.22	-13.36	-12.40	-13.45	-16.16	-18.02	-16.23	-13.08	30	-17.15	-12.67	-10.04	-8.94	-9.37	-11.71	-16.54	-20.68	-17.87	-16.37	-16.91	-18.81
60	-14.36	-11.43	-9.60	-9.76	-11.44	-13.38	-15.11	-17.60	-19.10	-18.39	-19.32	-18.06	60	-14.81	-11.26	-9.05	-7.76	-8.22	-10.39	-14.14	-17.46	-18.27	-20.55	-25.00	-25.00
90	-17.16	-12.17	-9.00	-7.89	-8.68	-11.10	-14.64	-20.15	-25.00	-25.00	-25.00	-25.00	90	-14.23	-10.46	-7.62	-6.58	-7.53	-9.91	-13.17	-16.39	-17.99	-19.20	-25.00	-22.43
120	-25.00	-18.76	-10.96	-7.57	-6.63	-7.59	-10.19	-14.27	-20.26	-25.00	-25.00	-25.00	120	-12.56	-8.27	-6.18	-6.03	-7.58	-10.20	-14.01	-21.98	-25.00	-21.16	-25.00	-20.39
150	-12.59	-14.08	-14.36	-11.22	-9.11	-9.01	-10.57	-13.75	-20.16	-21.57	-15.20	-12.76	150	-13.16	-9.14	-7.58	-8.37	-11.71	-19.38	-25.00	-17.44	-13.81	-14.52	-19.19	-21.06
180													180												



Total Radiated Power(TRP)	-9.211dBm	Theta	-12.76 dBm	Phi	-11.74 dBm	UHRP	-12.74 dBm	NHRP±30	-11.99 dBm	NHRP±45	-9.85 dBm
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Theta-Polarization + Phi-Polarization(dBm)												
θ_N (deg)	φ_M (deg)											
	0	30	60	90	120	150	180	210	240	270	300	330
0												
30	-10.24	-8.83	-8.01	-7.86	-8.37	-9.45	-10.98	-12.69	-13.92	-14.11	-13.55	-12.05
60	-11.57	-8.33	-6.31	-5.64	-6.53	-8.62	-11.59	-14.52	-15.65	-16.33	-18.28	-17.26
90	-12.44	-8.22	-5.25	-4.17	-5.06	-7.45	-10.83	-14.86	-17.20	-18.18	-21.99	-20.52
120	-12.32	-7.90	-4.93	-3.73	-4.07	-5.69	-8.68	-13.59	-19.00	-19.66	-21.99	-19.10
150	-9.86	-7.93	-6.75	-6.56	-7.21	-8.63	-10.41	-12.20	-12.90	-13.74	-13.74	-12.16
180												



Peak EIRP	-3.73dBm	Theta	120 degrees	Phi	90 degrees
Minimum EIRP	-21.99dBm	Theta	90 degrees	Phi	300 degrees

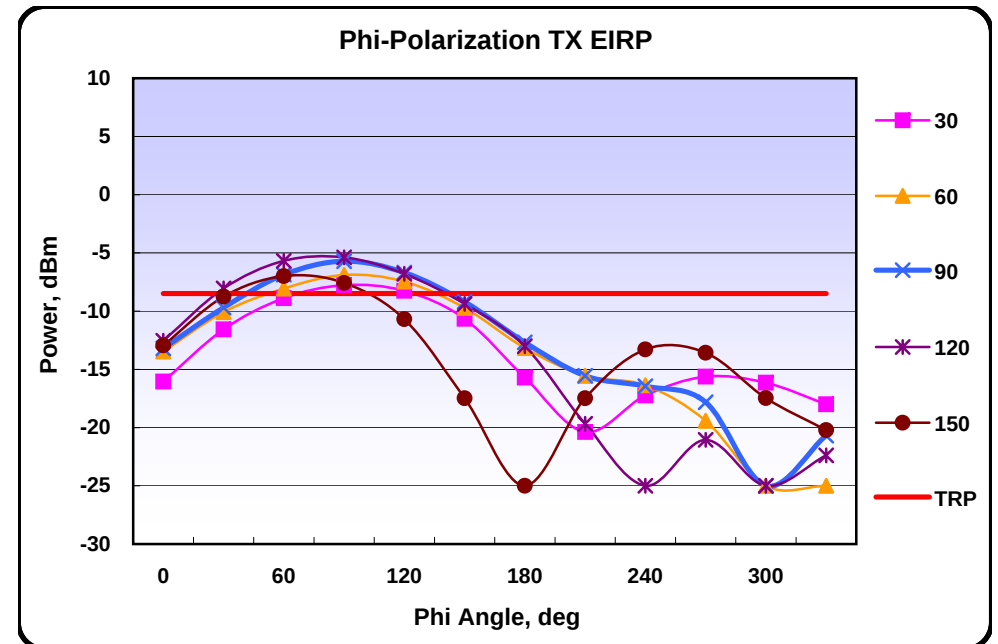
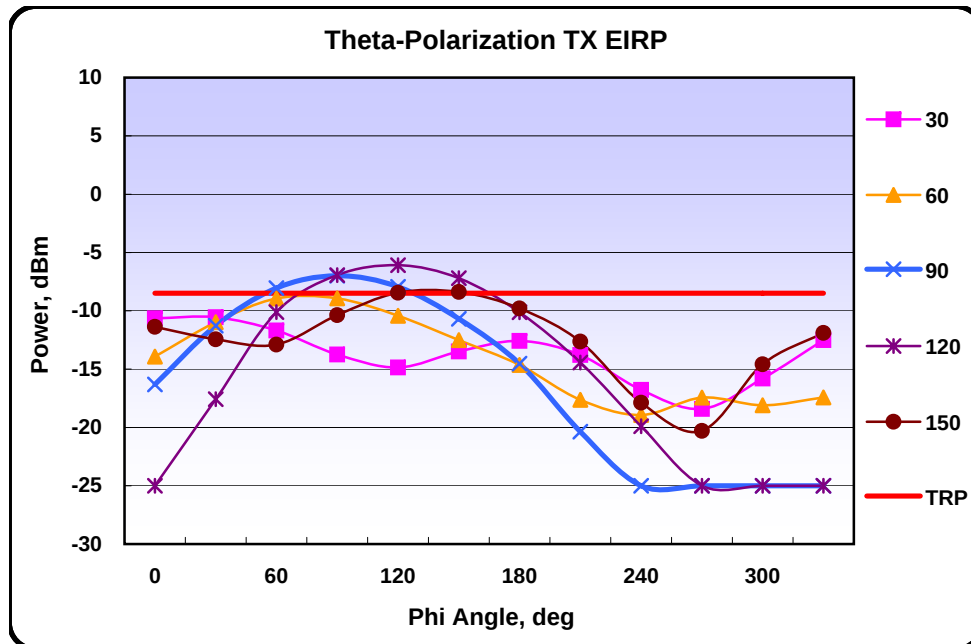
Total Radiated Power(TRP)	-9.211dBm	Theta	-12.76 dBm	Phi	-11.74 dBm	UHRP	-12.74 dBm	NHRP±30	-11.99 dBm	NHRP±45	-9.85 dBm
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Total Radiated Power(Theta-Polarization and Phi-Polarization)

Bluetooth Channel 39

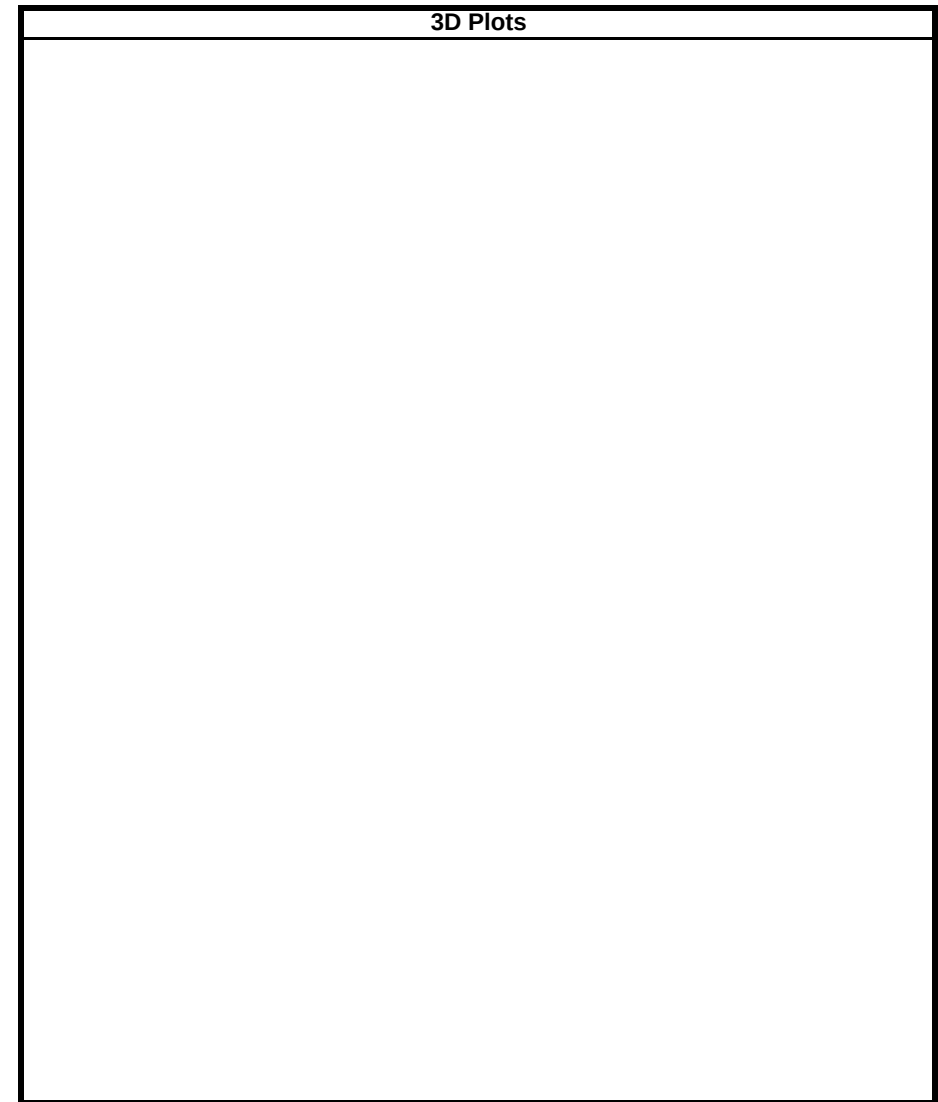
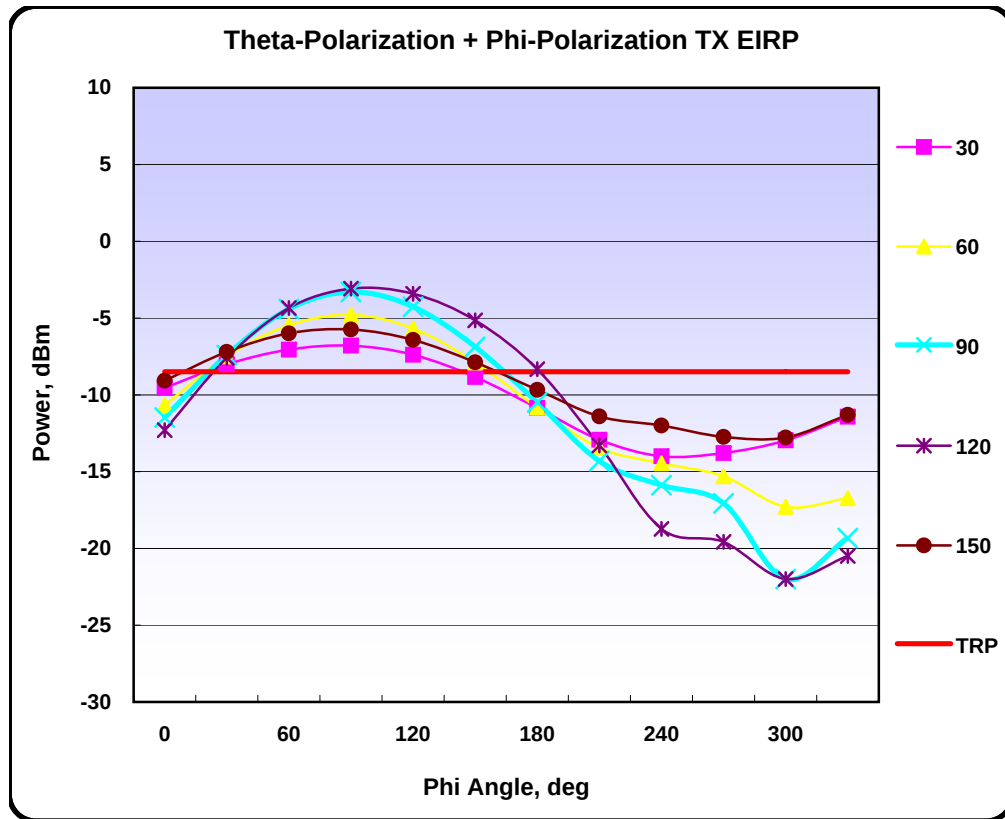
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IMEI		Test Channel	39				
Test Date	Wed 17/Sep/2008 16:03:03	TX Frequency					
Test Condition	Free Space	Antenna Type					
Tester		Conducted Power					

Theta-Polarization EIRP(dBm)													Phi-Polarization EIRP(dBm)												
θ_N (deg)	φ_M (deg)												θ_N (deg)	φ_M (deg)											
	0	30	60	90	120	150	180	210	240	270	300	330		0	30	60	90	120	150	180	210	240	270	300	330
0													0												
30	-10.64	-10.54	-11.68	-13.75	-14.86	-13.49	-12.58	-13.78	-16.78	-18.42	-15.81	-12.51	30	-16.05	-11.56	-8.89	-7.77	-8.25	-10.66	-15.70	-20.38	-17.24	-15.63	-16.14	-18.01
60	-13.92	-10.98	-8.95	-8.93	-10.42	-12.51	-14.64	-17.63	-18.94	-17.43	-18.10	-17.42	60	-13.46	-10.08	-8.06	-6.89	-7.46	-9.72	-13.17	-15.55	-16.37	-19.42	-25.00	-25.00
90	-16.32	-11.28	-8.05	-7.00	-7.94	-10.68	-14.52	-20.36	-25.00	-25.00	-25.00	-25.00	90	-13.21	-9.70	-6.86	-5.71	-6.69	-9.20	-12.67	-15.55	-16.45	-17.83	-25.00	-20.70
120	-25.00	-17.58	-10.11	-6.94	-6.08	-7.20	-10.13	-14.43	-19.90	-25.00	-25.00	-25.00	120	-12.54	-8.05	-5.68	-5.38	-6.79	-9.38	-13.02	-19.68	-25.00	-21.05	-25.00	-22.39
150	-11.38	-12.44	-12.89	-10.37	-8.45	-8.38	-9.80	-12.64	-17.88	-20.29	-14.59	-11.89	150	-12.95	-8.75	-6.98	-7.58	-10.69	-17.48	-25.00	-17.47	-13.29	-13.58	-17.46	-20.22
180													180												



Total Radiated Power(TRP)	-8.491dBm	Theta	-12.12 dBm	Phi	-10.96 dBm	UHRP	-11.94 dBm	NHRP±30	-11.26 dBm	NHRP±45	-9.15 dBm
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Theta-Polarization + Phi-Polarization(dBm)												
θ_N (deg)	φ_M (deg)											
	0	30	60	90	120	150	180	210	240	270	300	330
0												
30	-9.54	-8.01	-7.05	-6.79	-7.39	-8.84	-10.85	-12.92	-13.99	-13.79	-12.96	-11.43
60	-10.67	-7.50	-5.47	-4.78	-5.68	-7.88	-10.83	-13.46	-14.45	-15.30	-17.29	-16.72
90	-11.48	-7.41	-4.41	-3.30	-4.26	-6.87	-10.49	-14.31	-15.88	-17.07	-21.99	-19.33
120	-12.30	-7.59	-4.34	-3.08	-3.41	-5.14	-8.33	-13.30	-18.73	-19.58	-21.99	-20.49
150	-9.08	-7.20	-5.99	-5.75	-6.42	-7.88	-9.67	-11.40	-11.99	-12.74	-12.78	-11.29
180												



Peak EIRP	-3.08dBm	Theta	120 degrees	Phi	90 degrees
Minimum EIRP	-21.99dBm	Theta	90 degrees	Phi	300 degrees

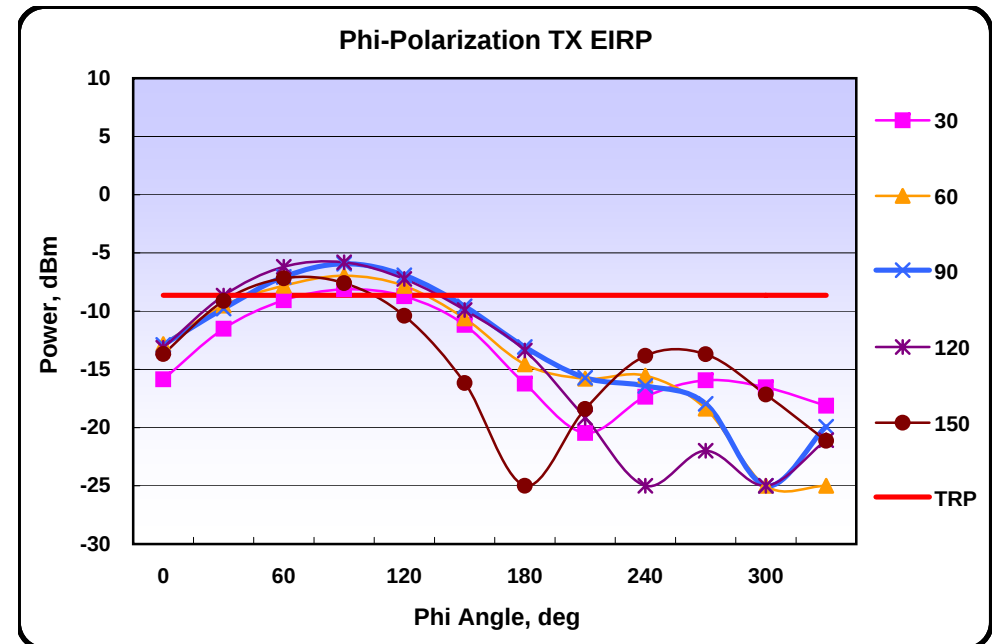
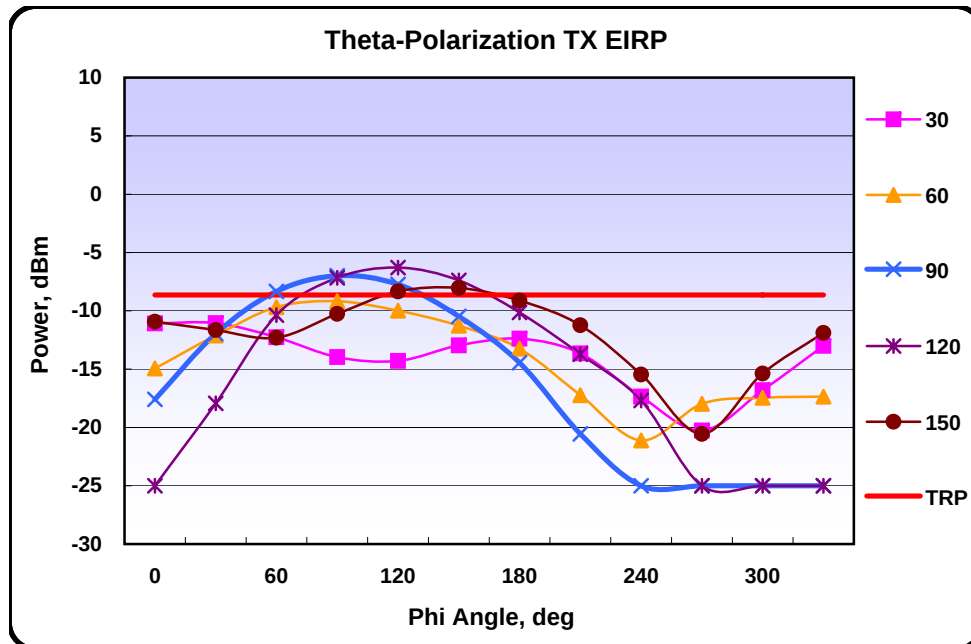
Total Radiated Power(TRP)	-8.491dBm	Theta	-12.12 dBm	Phi	-10.96 dBm	UHRP	-11.94 dBm	NHRP±30	-11.26 dBm	NHRP±45	-9.15 dBm
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Total Radiated Power(Theta-Polarization and Phi-Polarization)

Bluetooth Channel 78

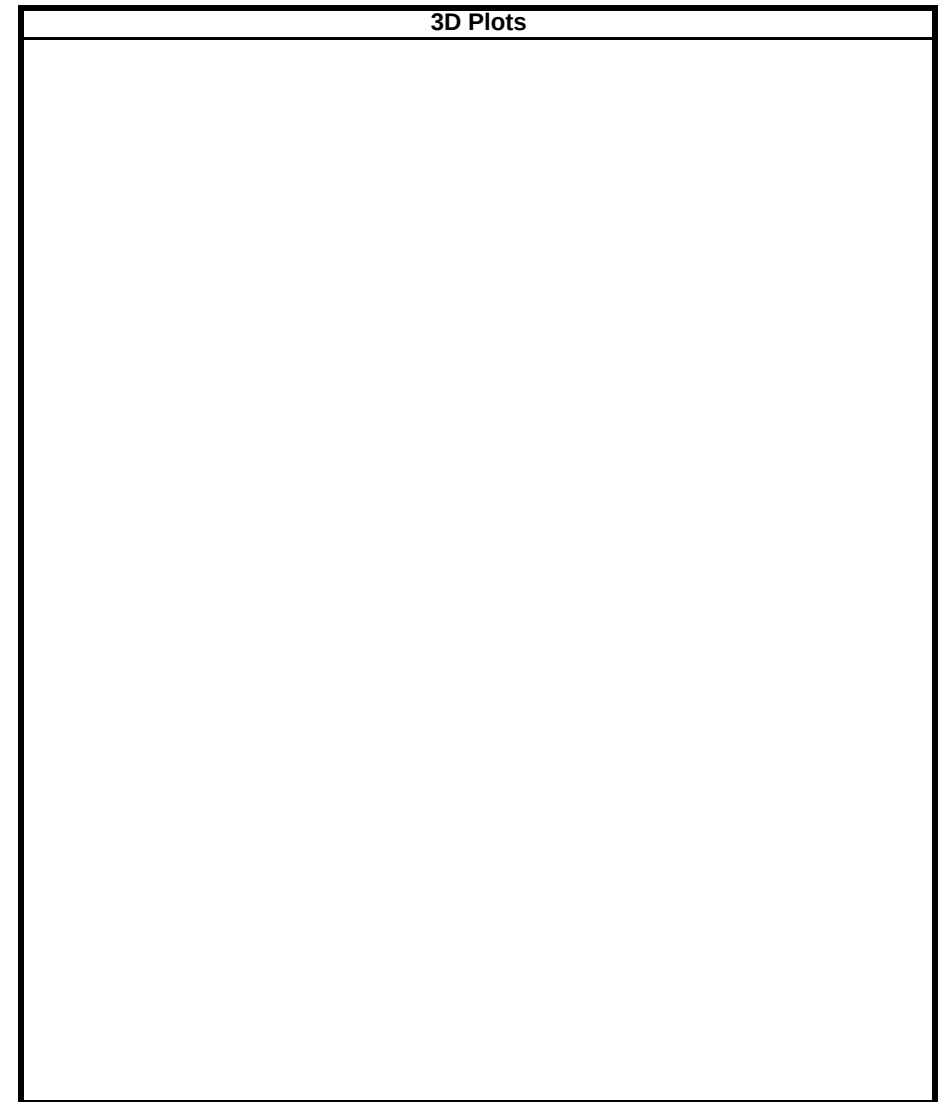
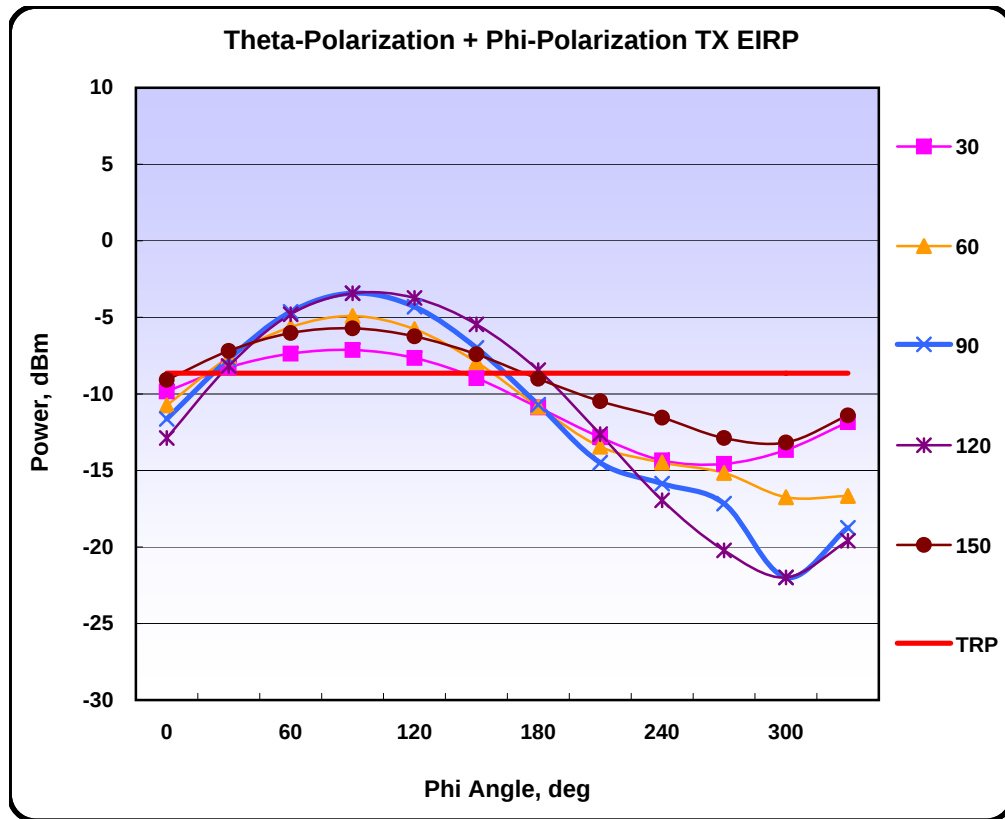
EUT		Test Band	Bluetooth	Comment		Event Status	
IMEI		Test Channel	78				
Test Date	Wed 17/Sep/2008 16:03:03	TX Frequency					
Test Condition	Free Space	Antenna Type					
Tester		Conducted Power					

Theta-Polarization EIRP(dBm)													Phi-Polarization EIRP(dBm)												
θ_N (deg)	φ_M (deg)												θ_N (deg)	φ_M (deg)											
	0	30	60	90	120	150	180	210	240	270	300	330		0	30	60	90	120	150	180	210	240	270	300	330
0													0												
30	-11.09	-11.06	-12.27	-13.97	-14.30	-12.96	-12.38	-13.65	-17.36	-20.27	-16.82	-13.01	30	-15.85	-11.52	-9.07	-8.13	-8.71	-11.18	-16.23	-20.46	-17.35	-15.93	-16.54	-18.13
60	-14.94	-12.11	-9.68	-9.17	-9.98	-11.27	-13.24	-17.23	-21.11	-17.97	-17.45	-17.35	60	-12.83	-9.52	-7.81	-6.96	-7.83	-10.62	-14.56	-15.80	-15.54	-18.37	-25.00	-25.00
90	-17.60	-11.97	-8.34	-6.99	-7.74	-10.48	-14.45	-20.56	-25.00	-25.00	-25.00	-25.00	90	-12.90	-9.78	-7.05	-5.93	-6.92	-9.58	-13.08	-15.72	-16.42	-17.95	-25.00	-19.92
120	-25.00	-17.94	-10.38	-7.17	-6.29	-7.39	-10.13	-13.73	-17.69	-25.00	-25.00	-25.00	120	-13.15	-8.66	-6.20	-5.80	-7.24	-9.91	-13.38	-19.15	-25.00	-21.99	-25.00	-21.08
150	-10.93	-11.65	-12.31	-10.26	-8.33	-8.03	-9.12	-11.24	-15.46	-20.56	-15.38	-11.89	150	-13.68	-9.12	-7.18	-7.59	-10.41	-16.17	-25.00	-18.40	-13.83	-13.70	-17.16	-21.14
180													180												



Total Radiated Power(TRP)	-8.644dBm	Theta	-12.16 dBm	Phi	-11.20 dBm	UHRP	-12.09 dBm	NHRP±30	-11.44 dBm	NHRP±45	-9.33 dBm
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Theta-Polarization + Phi-Polarization(dBm)												
θ_N (deg)	φ_M (deg)											
	0	30	60	90	120	150	180	210	240	270	300	330
0												
30	-9.84	-8.27	-7.37	-7.13	-7.65	-8.97	-10.88	-12.83	-14.35	-14.57	-13.66	-11.84
60	-10.75	-7.62	-5.64	-4.91	-5.77	-7.92	-10.84	-13.45	-14.48	-15.16	-16.75	-16.67
90	-11.63	-7.73	-4.64	-3.42	-4.30	-7.00	-10.70	-14.49	-15.86	-17.17	-21.99	-18.75
120	-12.88	-8.18	-4.79	-3.42	-3.73	-5.46	-8.45	-12.63	-16.95	-20.23	-21.99	-19.60
150	-9.08	-7.19	-6.02	-5.71	-6.24	-7.41	-9.01	-10.47	-11.56	-12.88	-13.17	-11.40
180												



Peak EIRP	-3.42dBm	Theta	90 degrees	Phi	90 degrees
Minimum EIRP	-21.99dBm	Theta	90 degrees	Phi	300 degrees

Total Radiated Power(TRP)	-8.644dBm	Theta	-12.16 dBm	Phi	-11.20 dBm	UHRP	-12.09 dBm	NHRP±30	-11.44 dBm	NHRP±45	-9.33 dBm
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