



WCDMA Band V (RMC 12.2Kbps)

Lowest Band Edge

Highest Band Edge



Date: 2 JUL 2017 23:49:42

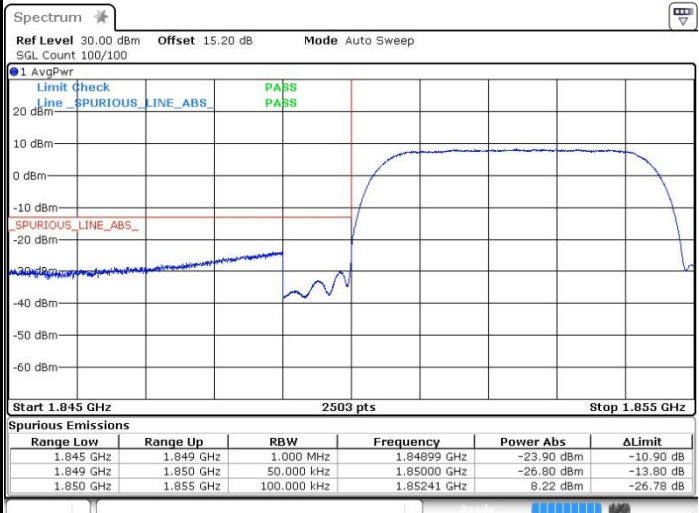


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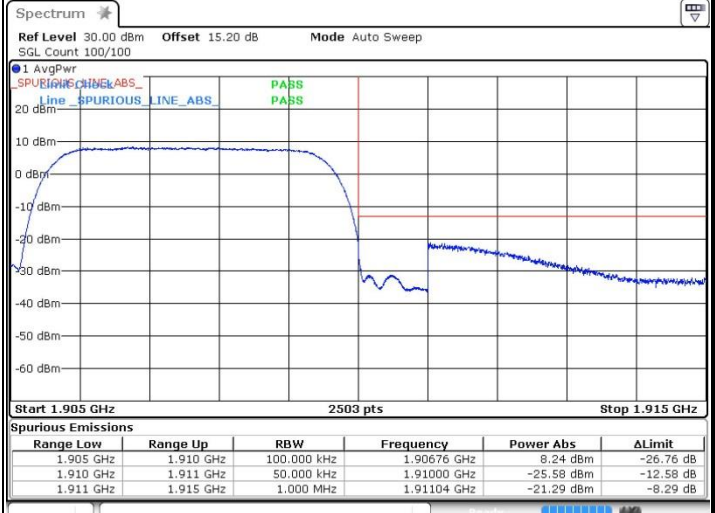
WCDMA Band II (RMC 12.2Kbps)

Lowest Band Edge

Highest Band Edge



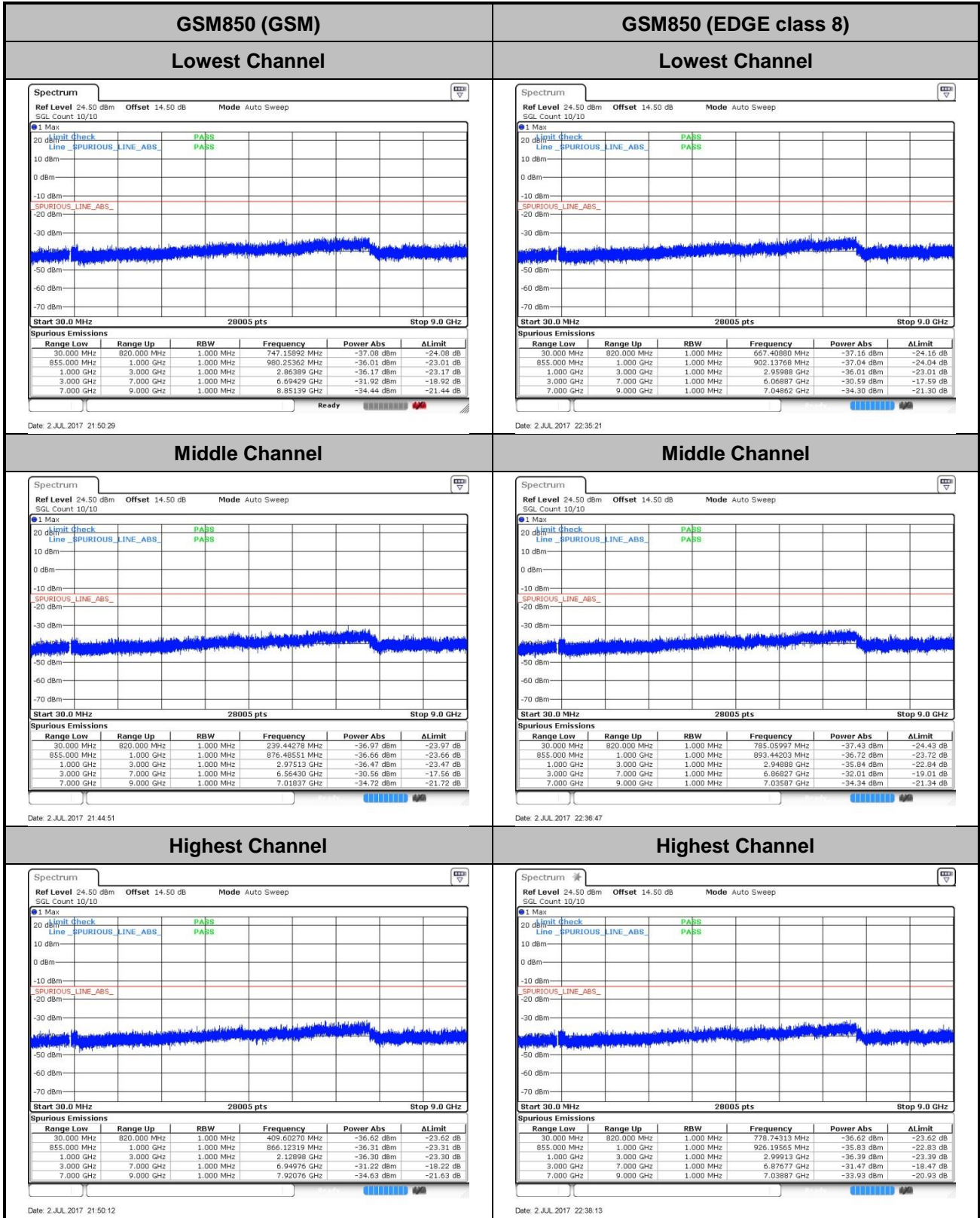
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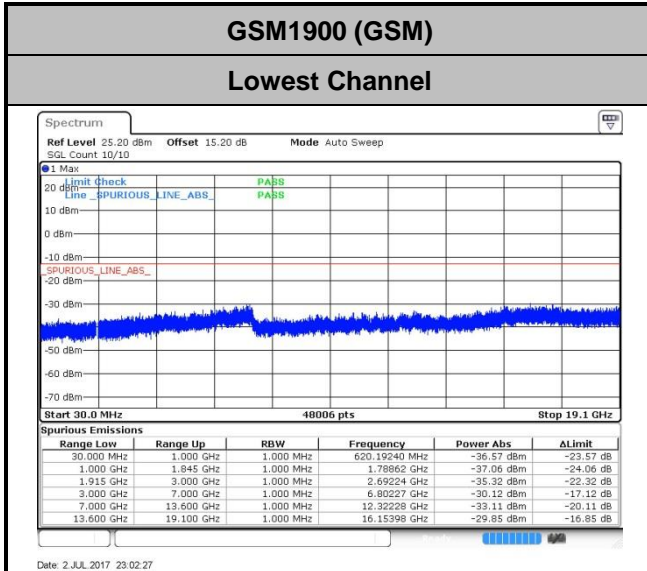


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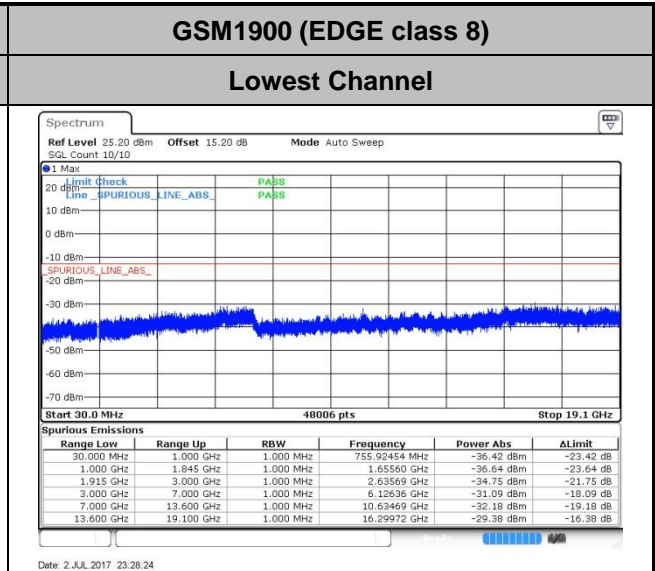


Conducted Spurious Emission

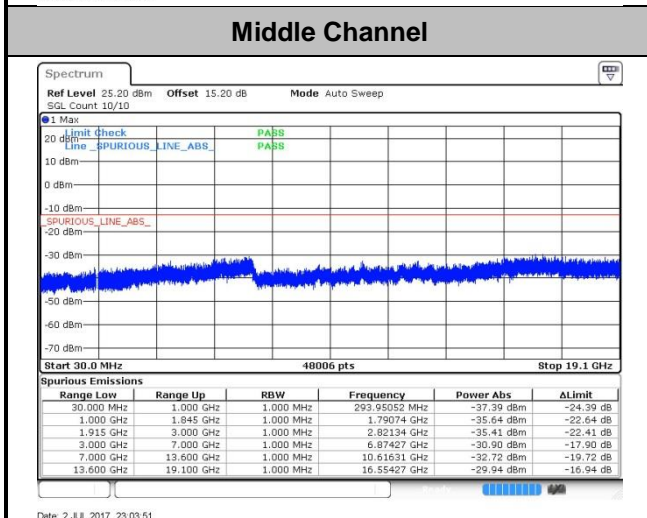




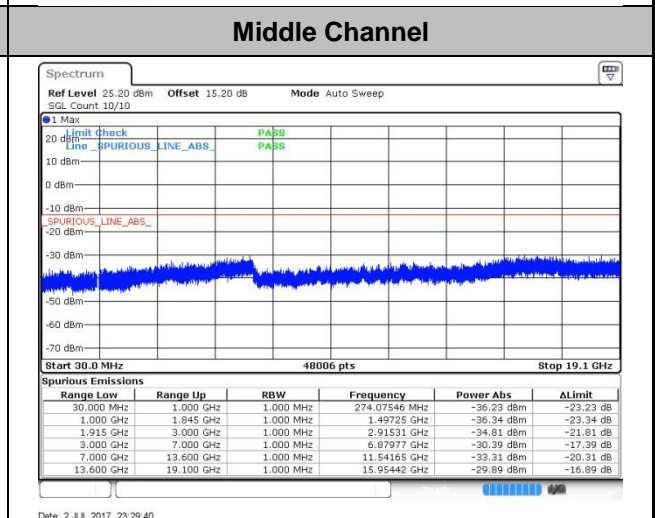
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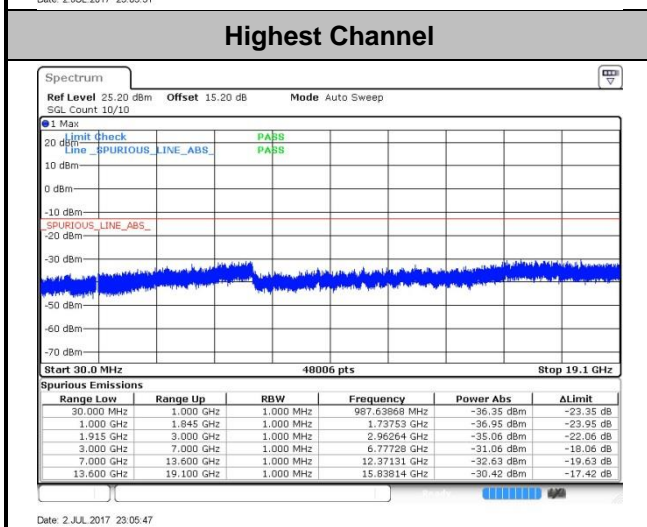
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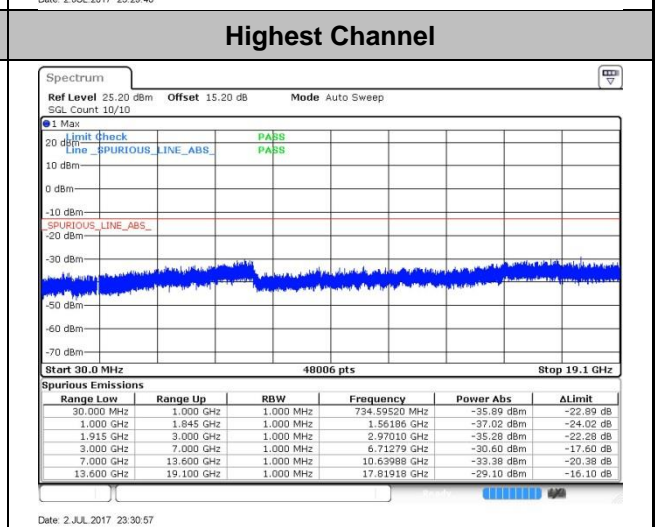
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Date: 2.JUL.2017 23:29:40



Date: 2.JUL.2017 23:05:47

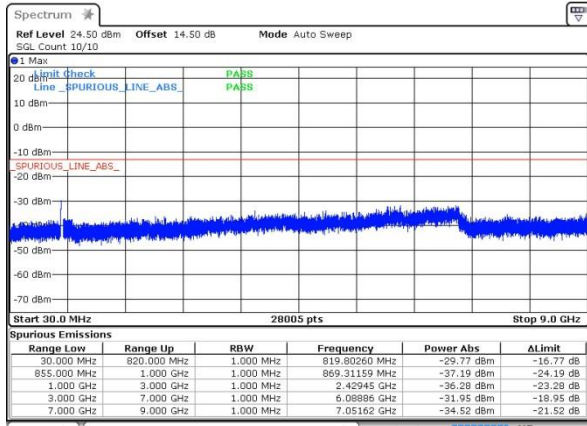


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WCDMA Band V (RMC 12.2Kbps)

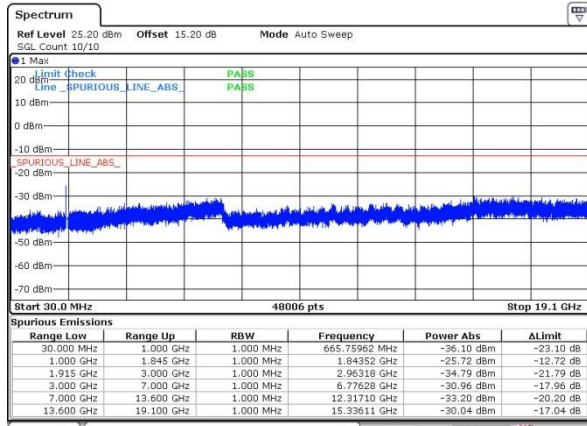
Lowest Channel



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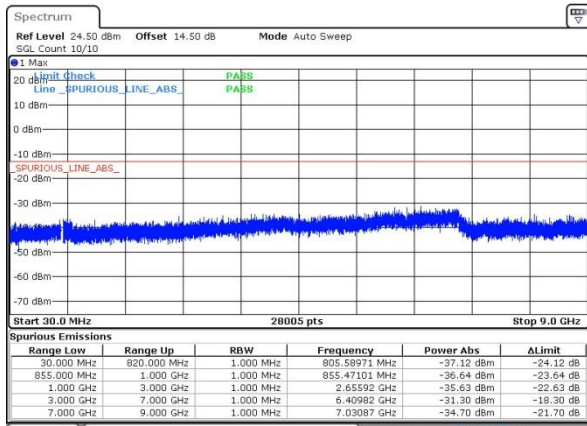
WCDMA Band II (RMC 12.2Kbps)

Lowest Channel



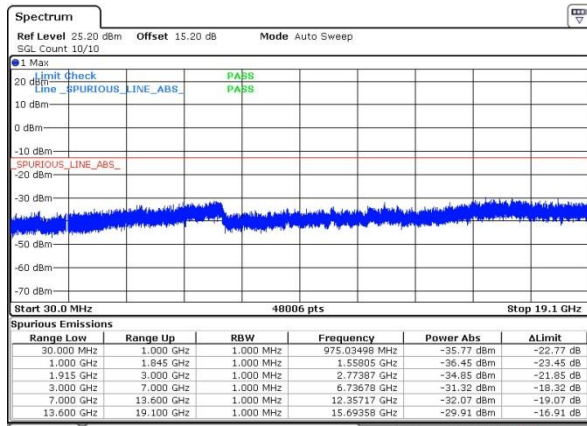
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Middle Channel



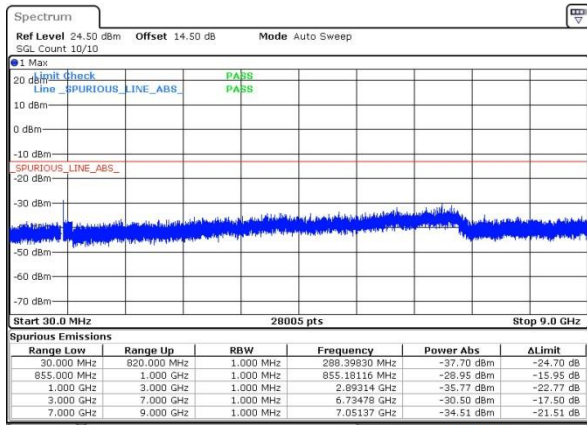
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Middle Channel



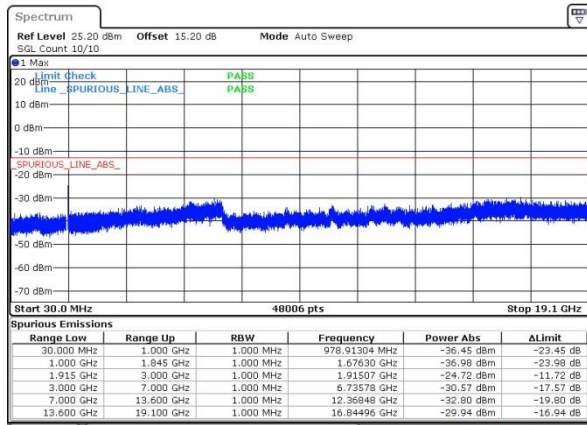
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Highest Channel



Date: 2 JUL 2017 23:58:01

Highest Channel



Date: 3 JUL 2017 00:17:53



Frequency Stability

Test Conditions	Middle Channel	GSM850 (GSM)	GSM850 (EDGE class 8)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0048	0.0263	PASS
40	Normal Voltage	0.0132	0.0048	
30	Normal Voltage	0.0036	0.0048	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0096	0.0024	
0	Normal Voltage	0.0024	0.0084	
-10	Normal Voltage	0.0084	0.0215	
-20	Normal Voltage	0.0120	0.0060	
-30	Normal Voltage	0.0024	0.0143	
20	Maximum Voltage	0.0143	0.0012	
20	Normal Voltage	0.0084	0.0167	
20	Battery End Point	0.0179	0.0155	

Note: Normal Voltage = 3.82V. ; Battery End Point (BEP) =3.65V. ; Maximum Voltage =4.4 V



Test Conditions	Middle Channel	GSM1900 (GSM)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0106	0.0037	PASS
40	Normal Voltage	0.0117	0.0048	
30	Normal Voltage	0.0128	0.0011	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0096	0.0122	
0	Normal Voltage	0.0037	0.0005	
-10	Normal Voltage	0.0021	0.0011	
-20	Normal Voltage	0.0032	0.0027	
-30	Normal Voltage	0.0085	0.0096	
20	Maximum Voltage	0.0011	0.0021	
20	Normal Voltage	0.0133	0.0090	
20	Battery End Point	0.0080	0.0170	

Note:

1. Normal Voltage = 3.82V. ; Battery End Point (BEP) =3.65V. ; Maximum Voltage =4.4 V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

Test Conditions	Middle Channel	WCDMA Band V (RMC 12.2KbpsRMC 12.2Kbps)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0024	PASS
40	Normal Voltage	0.0167	
30	Normal Voltage	0.0072	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0012	
0	Normal Voltage	0.0048	
-10	Normal Voltage	0.0227	
-20	Normal Voltage	0.0275	
-30	Normal Voltage	0.0072	
20	Maximum Voltage	0.0251	
20	Normal Voltage	0.0048	
20	Battery End Point	0.0215	

Note: Normal Voltage = 3.82V. ; Battery End Point (BEP) =3.65V. ; Maximum Voltage =4.4 V



Test Conditions	Middle Channel	WCDMA Band II (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0048	PASS
40	Normal Voltage	0.0101	
30	Normal Voltage	0.0112	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0170	
0	Normal Voltage	0.0138	
-10	Normal Voltage	0.0021	
-20	Normal Voltage	0.0005	
-30	Normal Voltage	0.0133	
20	Maximum Voltage	0.0011	
20	Normal Voltage	0.0005	
20	Battery End Point	0.0032	

Note:

1. Normal Voltage = 3.82V. ; Battery End Point (BEP) = 3.65V. ; Maximum Voltage =4.4V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

GSM850 (GSM)									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1672	-21.08	-13	-8.08	-26.45	-25.45	2.88	9.40	H
	2510	-26.83	-13	-13.83	-38.00	-32.78	2.5	10.60	H
	3345.6	-41.09	-13	-28.09	-50.48	-46.91	4.63	12.60	H
	4182	-48.90	-13	-35.90	-60.98	-54.33	5.02	12.60	H
	5018	-53.28	-13	-40.28	-67.96	-57.58	6.25	12.70	H
	1672	-18.67	-13	-5.67	-23.76	-23.04	2.88	9.40	V
	2510	-26.66	-13	-13.66	-37.51	-32.61	2.50	10.60	V
	3345.6	-45.56	-13	-32.56	-54.82	-51.38	4.63	12.60	V
	4182	-51.76	-13	-38.76	-63.72	-57.19	5.02	12.60	V
	5018	-55.45	-13	-42.45	-69.27	-59.75	6.25	12.70	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

GSM850 (EDGE class 8)									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1672	-36.10	-13	-23.10	-41.50	-40.47	2.88	9.40	H
	2510	-43.82	-13	-30.82	-53.16	-49.77	2.5	10.60	H
	3346	-53.42	-13	-40.42	-61.42	-59.24	4.63	12.60	H
	4182	-52.89	-13	-39.89	-64.97	-58.32	5.02	12.60	H
	5018	-62.83	-13	-49.83	-77.51	-67.13	6.25	12.70	H
	1672	-33.39	-13	-20.39	-38.76	-37.76	2.88	9.40	V
	2510	-40.15	-13	-27.15	-50.18	-46.10	2.50	10.60	V
	3346	-56.13	-13	-43.13	-64.16	-61.95	4.63	12.60	V
	4182	-55.39	-13	-42.39	-67.35	-60.82	5.02	12.60	V
	5018	-60.70	-13	-47.70	-74.52	-65.00	6.25	12.70	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



GSM1900 (GSM)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3760	-60.55	-13	-47.55	-74.17	-68.13	5.02	12.60	H
	5640	-60.10	-13	-47.10	-76.70	-65.90	7.3	13.10	H
	7520	-58.84	-13	-45.84	-78.82	-62.41	7.73	11.30	H
	3760	-61.36	-13	-48.36	-75.69	-68.94	5.02	12.60	V
	5640	-57.58	-13	-44.58	-74.11	-63.38	7.3	13.10	V
	7520	-59.46	-13	-46.46	-79.1	-63.03	7.73	11.30	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

GSM1900 (EDGE class 8)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3760	-60.15	-13	-47.15	-73.77	-67.73	5.02	12.60	H
	5640	-60.53	-13	-47.53	-77.13	-66.33	7.3	13.10	H
	7520	-59.01	-13	-46.01	-78.99	-62.58	7.73	11.30	H
	3760	-62.08	-13	-49.08	-76.41	-69.66	5.02	12.60	V
	5640	-58.38	-13	-45.38	-74.91	-64.18	7.3	13.10	V
	7520	-59.49	-13	-46.49	-79.13	-63.06	7.73	11.30	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



WCDMA Band V(RMC 12.2Kbps)									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1672	-41.54	-13	-28.54	-46.55	-45.91	2.88	9.40	H
	2510	-59.34	-13	-46.34	-65.40	-65.29	2.5	10.60	H
	3346	-61.34	-13	-48.34	-69.34	-67.16	4.63	12.60	H
	4182	-61.41	-13	-48.41	-73.49	-66.84	5.02	12.60	H
	1672	-37.29	-13	-24.29	-42.43	-41.66	2.88	9.40	V
	2510	-58.87	-13	-45.87	-64.82	-64.82	2.50	10.60	V
	3346	-62.58	-13	-49.58	-70.61	-68.40	4.63	12.60	V
	4182	-64.15	-13	-51.15	-76.11	-69.58	5.02	12.60	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

WCDMA Band II(RMC 12.2Kbps)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3760	-53.21	-13	-40.21	-66.83	-60.79	5.02	12.60	H
	5640	-62.24	-13	-49.24	-78.84	-68.04	7.3	13.10	H
	7520	-59.05	-13	-46.05	-79.03	-62.62	7.73	11.30	H
	3760	-54.21	-13	-41.21	-68.54	-61.79	5.02	12.60	V
	5640	-61.96	-13	-48.96	-78.49	-67.76	7.3	13.10	V
	7520	-59.16	-13	-46.16	-78.8	-62.73	7.73	11.30	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Appendix C. Test Setup Photographs