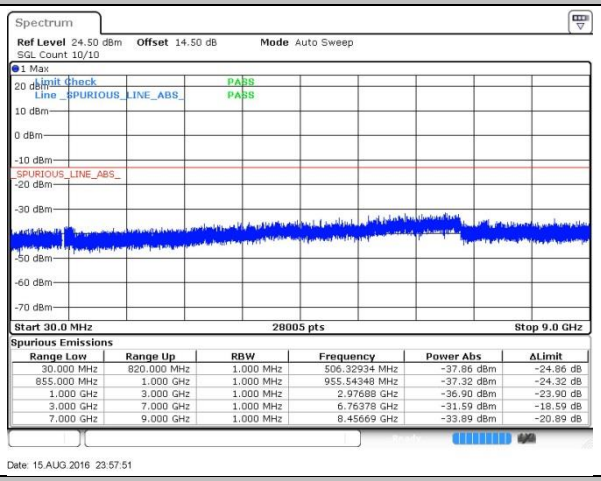
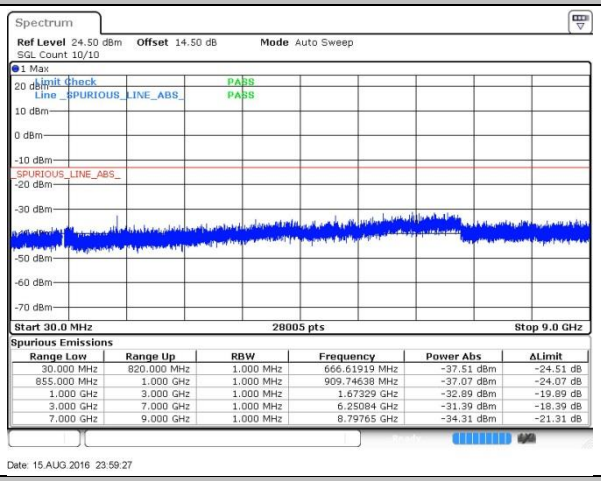
Conducted Spurious Emission

GSM850 (GSM)

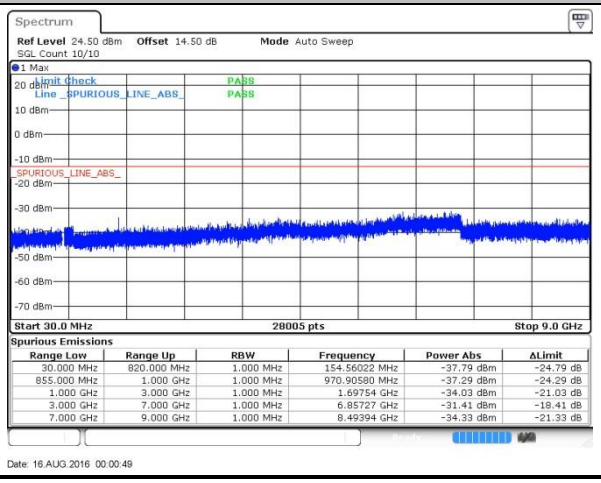
Lowest Channel



Middle Channel

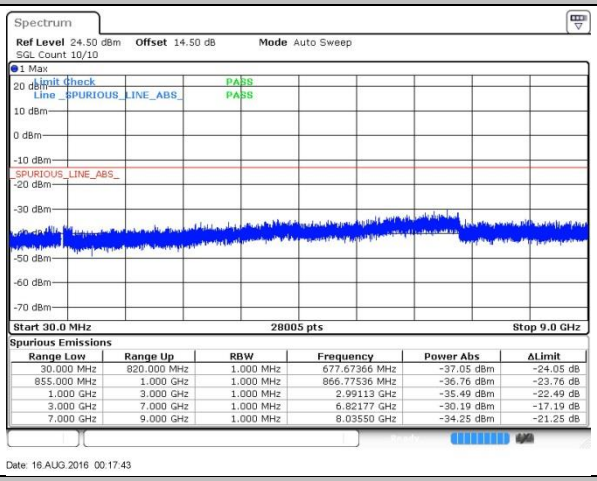


Highest Channel

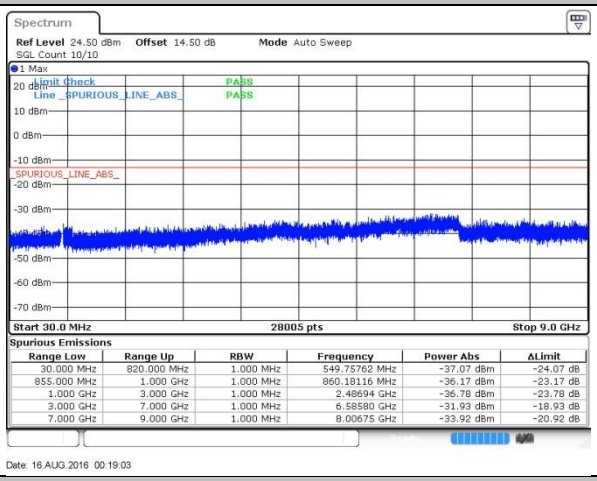


GSM850 (EDGE Class 8)

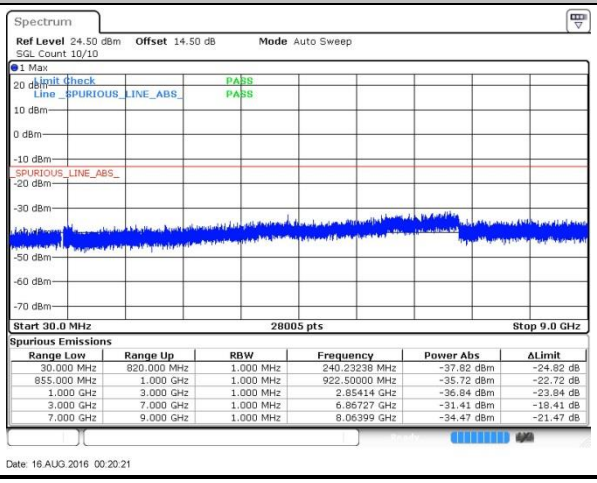
Lowest Channel

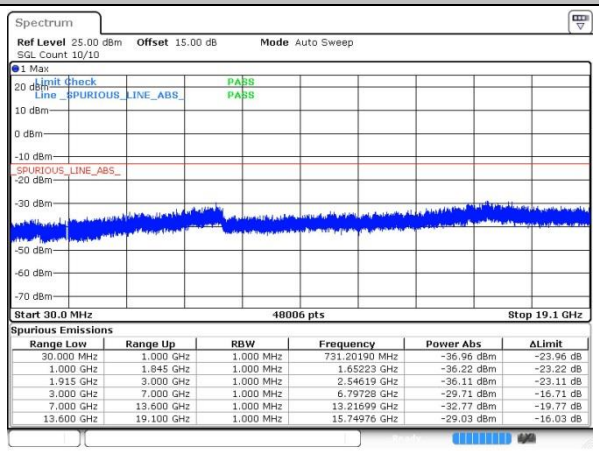
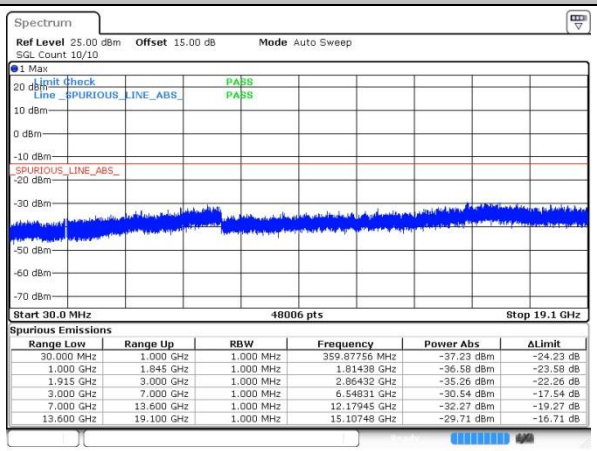
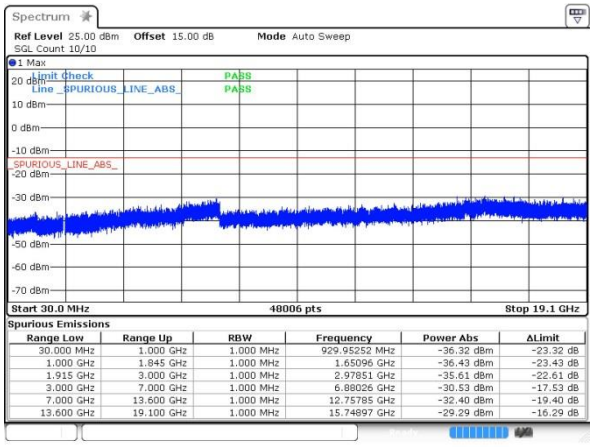
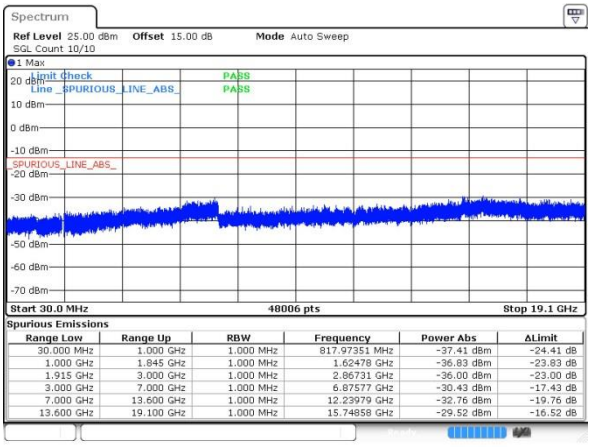
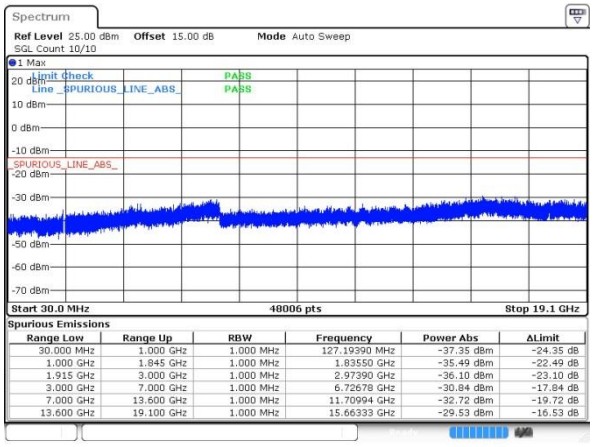
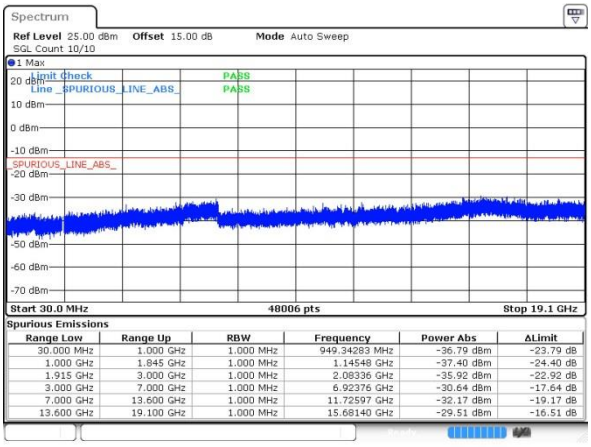


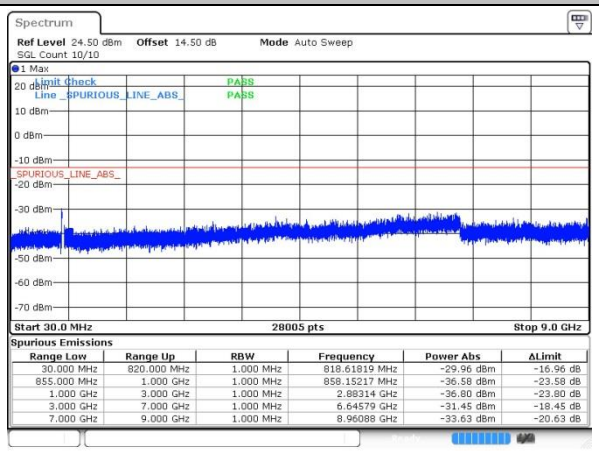
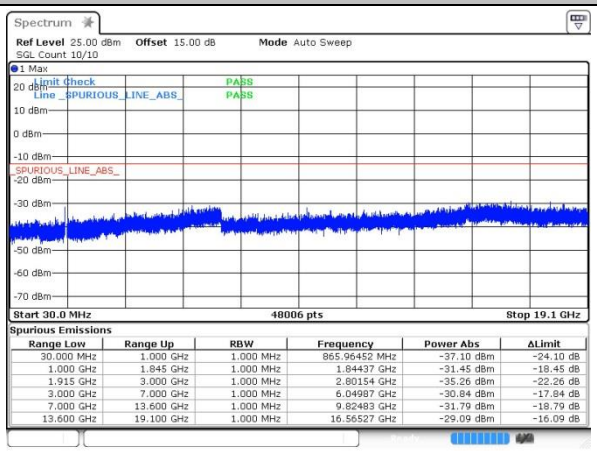
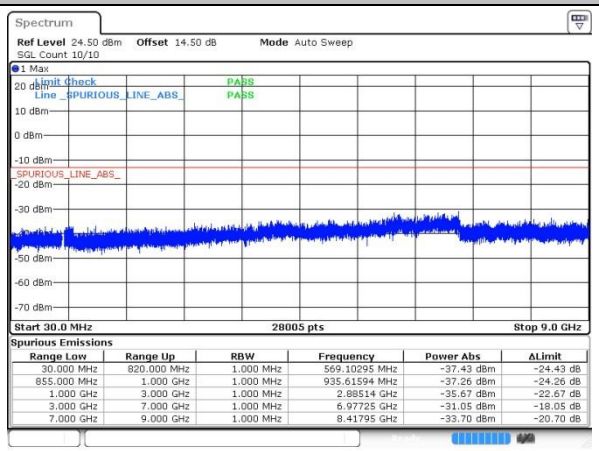
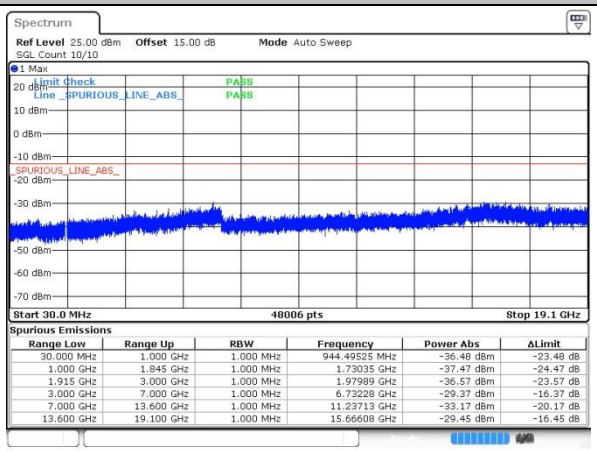
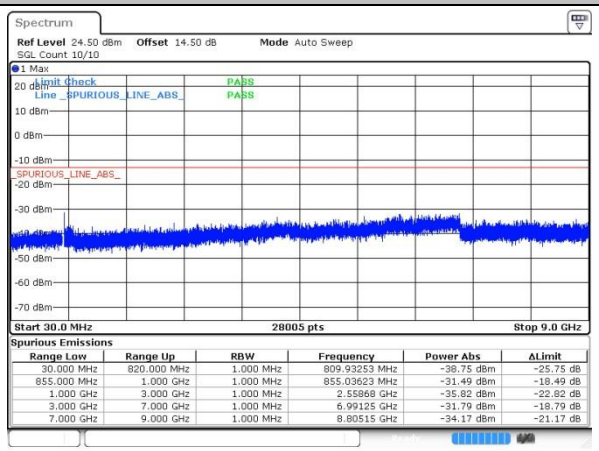
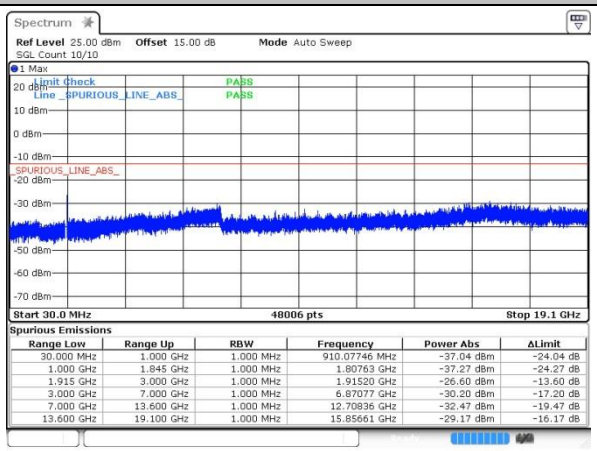
Middle Channel

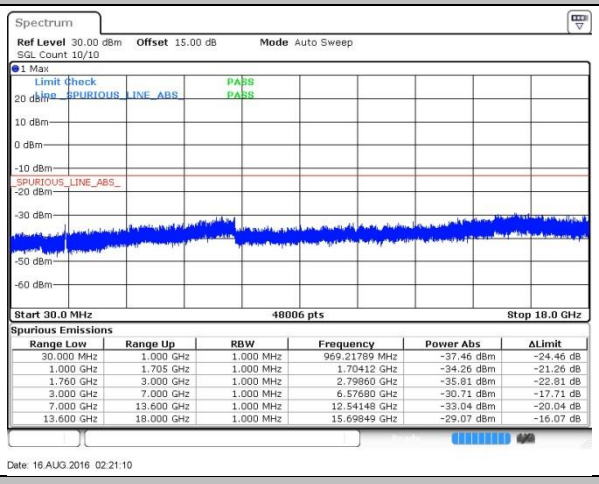
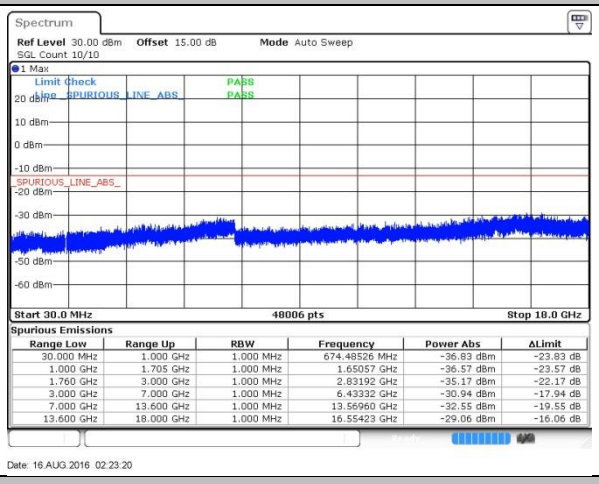
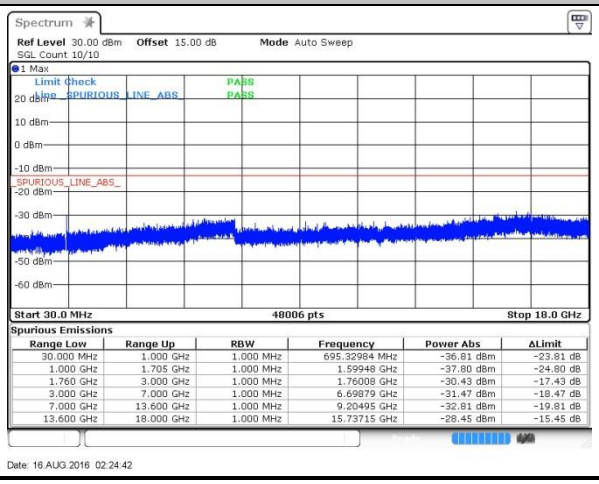


Highest Channel



GSM1900 (GSM)	GSM1900 (EDGE Class 8)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

WCDMA Band IV (RMC 12.2Kbps)	
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

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	0.0036	0.0060	PASS
40	Normal Voltage	0.0012	0.0036	
30	Normal Voltage	0.0072	0.0072	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0036	0.0024	
0	Normal Voltage	0.0060	0.0024	
-10	Normal Voltage	0.0024	0.0048	
-20	Normal Voltage	0.0012	0.0012	
-30	Normal Voltage	0.0036	0.0096	
20	Maximum Voltage	0.0024	0.0012	
20	Normal Voltage	0.0048	0.0072	
20	Battery End Point	0.0072	0.0060	

Note: Normal Voltage = 3.85V. ；Battery End Point (BEP) = 3.5V.；Maximum Voltage =4.35V

Test Conditions	Middle Channel	GSM1900 (GSM)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0016	0.0016	PASS
40	Normal Voltage	0.0037	0.0005	
30	Normal Voltage	0.0027	0.0016	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0043	0.0005	
0	Normal Voltage	0.0011	0.0032	
-10	Normal Voltage	0.0005	0.0005	
-20	Normal Voltage	0.0032	0.0021	
-30	Normal Voltage	0.0069	0.0016	
20	Maximum Voltage	0.0027	0.0037	
20	Normal Voltage	0.0048	0.0021	
20	Battery End Point	0.0021	0.0011	

Note:

1. Normal Voltage = 3.85V. ；Battery End Point (BEP) = 3.5V.；Maximum Voltage =4.35V
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 12.2Kbps)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0024	PASS
40	Normal Voltage	0.0060	
30	Normal Voltage	0.0036	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0048	
0	Normal Voltage	0.0036	
-10	Normal Voltage	0.0060	
-20	Normal Voltage	0.0096	
-30	Normal Voltage	0.0060	
20	Maximum Voltage	0.0024	
20	Normal Voltage	0.0084	
20	Battery End Point	0.0096	

Test Conditions	Middle Channel	WCDMA Band II (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0021	PASS
40	Normal Voltage	0.0016	
30	Normal Voltage	0.0005	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0005	
0	Normal Voltage	0.0021	
-10	Normal Voltage	0.0016	
-20	Normal Voltage	0.0027	
-30	Normal Voltage	0.0032	
20	Maximum Voltage	0.0021	
20	Normal Voltage	0.0016	
20	Battery End Point	0.0011	

Note:

1. Normal Voltage = 3.85V. ；Battery End Point (BEP) = 3.5V.；Maximum Voltage =4.35V

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 IV (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0046	PASS
40	Normal Voltage	0.0006	
30	Normal Voltage	0.0017	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0035	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0012	
-20	Normal Voltage	0.0017	
-30	Normal Voltage	0.0058	
20	Maximum Voltage	0.0069	
20	Normal Voltage	0.0035	
20	Battery End Point	0.0017	

Note:

1. Normal Voltage = 3.85V. ；Battery End Point (BEP) = 3.5V.；Maximum Voltage =4.35V

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

ERP/EIRP

Channel	Mode	Horizontal		Vertical	
		ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	GSM850 GSM	26.55	0.4515	17.29	0.0536
Middle		26.53	0.4499	17.38	0.0547
Highest		26.90	0.4893	18.23	0.0665
Lowest	GSM850 EDGE class 8	19.74	0.0942	10.40	0.0110
Middle		19.11	0.0815	9.88	0.0097
Highest		18.71	0.0743	10.11	0.0103
Lowest	WCDMA Band V RMC 12.2Kbps	18.53	0.0713	9.86	0.0097
Middle		18.64	0.0732	10.04	0.0101
Highest		19.01	0.0797	10.45	0.0111
Limit	ERP < 7W	Result		PASS	

Channel	Mode	Horizontal		Vertical	
		EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	GSM1900 GSM	28.38	0.6893	28.42	0.6943
Middle		29.28	0.8463	29.30	0.8521
Highest		31.08	1.2813	30.91	1.2329
Lowest	GSM1900 EDGE class 8	24.00	0.2512	24.13	0.2588
Middle		24.35	0.2723	24.34	0.2716
Highest		25.09	0.3228	24.94	0.3119
Lowest	WCDMA Band II RMC 12.2Kbps	22.91	0.1955	23.01	0.1999
Middle		24.13	0.2590	24.11	0.2578
Highest		25.59	0.3622	25.12	0.3250
Limit	EIRP < 2W	Result		PASS	

Channel	Mode	Horizontal		Vertical	
		EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	WCDMA Band IV RMC 12.2Kbps	24.00	0.2512	23.60	0.2289
Middle		23.90	0.2455	23.58	0.2280
Highest		23.40	0.2189	23.34	0.2158
Limit	EIRP < 1W	Result		PASS	

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	-54.36	-13	-41.36	-53.84	-56.18	1.23	5.20	H
	2512	-65.76	-13	-52.76	-70.61	-67.99	1.52	5.90	H
	3345.6	-67.22	-13	-54.22	-74.78	-70.00	1.77	6.70	H
	1672	-51.17	-13	-38.17	-51.46	-52.99	1.23	5.20	V
	2512	-59.55	-13	-46.55	-67.85	-61.78	1.52	5.90	V
	3345.6	-63.49	-13	-50.49	-74.59	-66.27	1.77	6.70	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	-66.14	-13	-53.14	-64.34	-67.96	1.23	5.20	H
	2509.2	-67.40	-13	-54.40	-72.25	-69.63	1.52	5.90	H
	3345.6	-67.24	-13	-54.24	-74.80	-70.02	1.77	6.70	H
	1672	-63.95	-13	-50.95	-61.90	-65.77	1.23	5.20	V
	2509.2	-63.60	-13	-50.60	-71.90	-65.83	1.52	5.90	V
	3345.6	-63.78	-13	-50.78	-74.88	-66.56	1.77	6.70	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	3762	-65.44	-13	-52.44	-74.45	-70.30	1.93	6.80	H
	5640	-60.18	-13	-47.18	-70.74	-67.48	2.40	9.70	H
	7520	-57.51	-13	-44.51	-72.55	-66.56	2.76	11.81	H
	3762	-64.33	-13	-51.33	-73.64	-69.20	1.93	6.80	V
	5640	-63.04	-13	-50.04	-70.99	-70.34	2.40	9.70	V
	7520	-60.09	-13	-47.09	-72.58	-69.14	2.76	11.81	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	3762	-65.61	-13	-52.61	-74.62	-70.47	1.93	6.80	H
	5640	-60.65	-13	-47.65	-71.21	-67.95	2.40	9.70	H
	7520	-57.06	-13	-44.06	-72.10	-66.11	2.76	11.81	H
	3762	-64.28	-13	-51.28	-73.59	-69.15	1.93	6.80	V
	5640	-63.12	-13	-50.12	-71.07	-70.42	2.40	9.70	V
	7520	-59.69	-13	-46.69	-72.18	-68.74	2.76	11.81	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	-68.21	-13	-55.21	-66.41	-70.03	1.23	5.20	H
	2509.2	-67.47	-13	-54.47	-72.32	-69.70	1.52	5.90	H
	3345.6	-67.06	-13	-54.06	-74.62	-69.84	1.77	6.70	H
	1672	-68.23	-13	-55.23	-66.18	-70.05	1.23	5.20	V
	2509.2	-64.41	-13	-51.41	-72.71	-66.64	1.52	5.90	V
	3345.6	-63.68	-13	-50.68	-74.78	-66.46	1.77	6.70	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	3762	-64.99	-13	-51.99	-74.00	-69.85	1.93	6.80	H
	5640	-59.53	-13	-46.53	-70.09	-66.83	2.40	9.70	H
	7520	-56.96	-13	-43.96	-72.00	-66.01	2.76	11.81	H
	3762	-64.75	-13	-51.75	-74.06	-69.62	1.93	6.80	V
	5640	-60.85	-13	-47.85	-68.8	-68.15	2.40	9.70	V
	7520	-59.62	-13	-46.62	-72.11	-68.67	2.76	11.81	V

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

WCDMA Band IV(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	3468	-63.99	-13	-50.99	-75.47	-68.87	1.81	6.69	H
	5197.8	-58.37	-13	-45.37	-69.07	-65.32	2.19	9.14	H
	6930.4	-59.06	-13	-46.06	-71.40	-67.14	2.6	10.68	H
	3468	-64.09	-13	-51.09	-75.84	-68.97	1.81	6.69	V
	5197.8	-60.29	-13	-47.29	-69.79	-67.24	2.19	9.14	V
	6930.4	-58.92	-13	-45.92	-71.43	-67.00	2.6	10.68	V

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