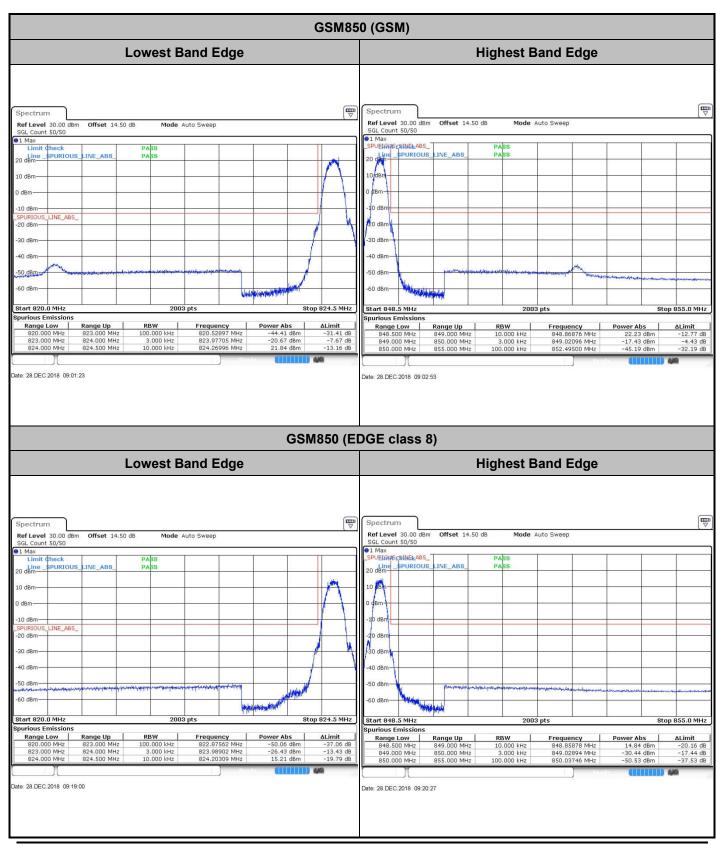


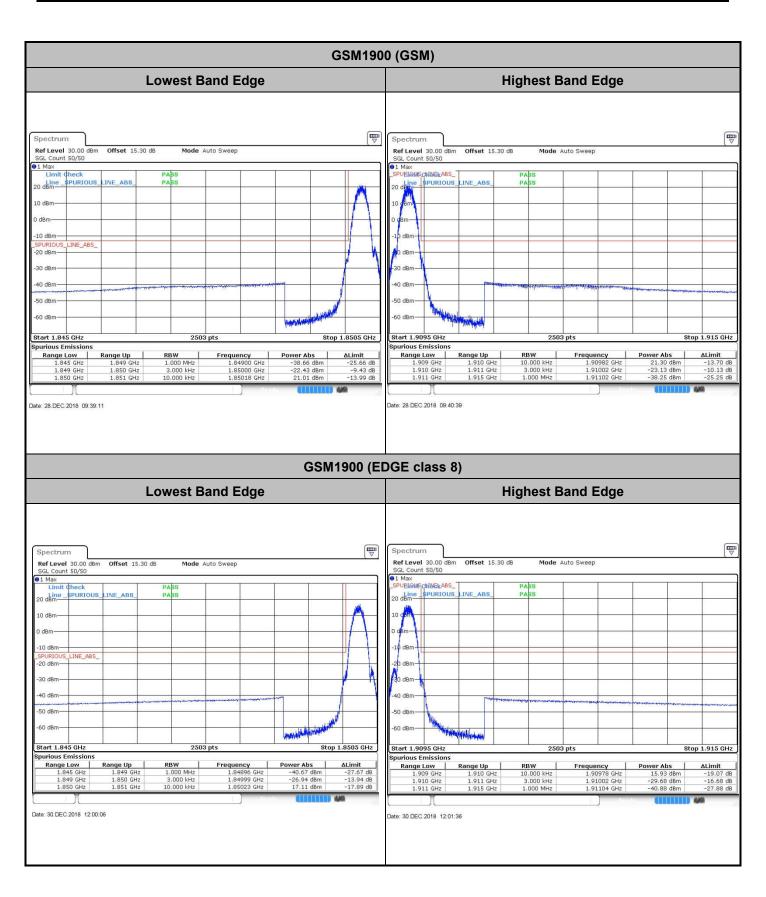
TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A23 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01

# **Conducted Band Edge**

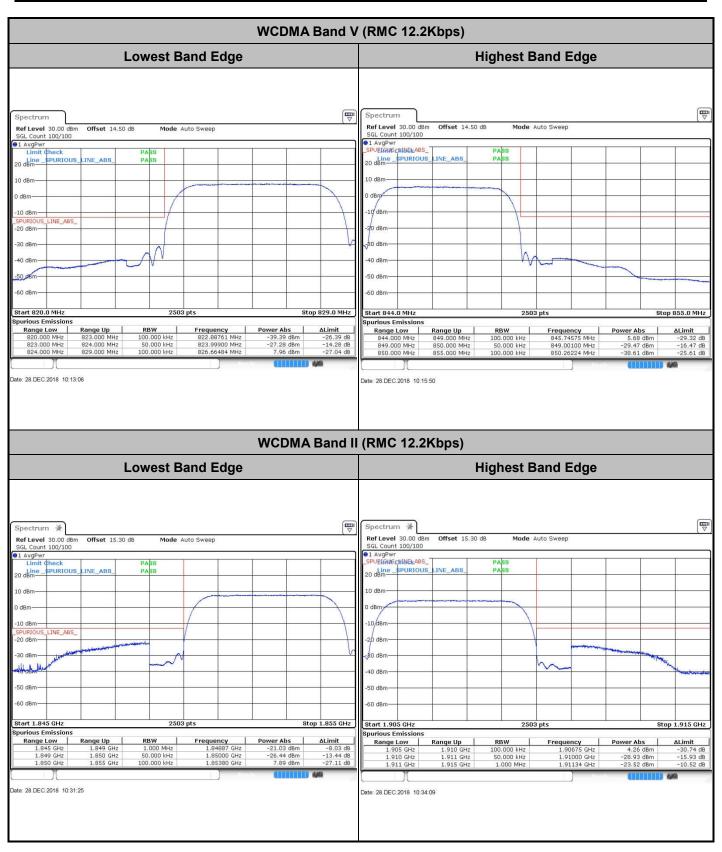


Sporton International (Kunshan) Inc.

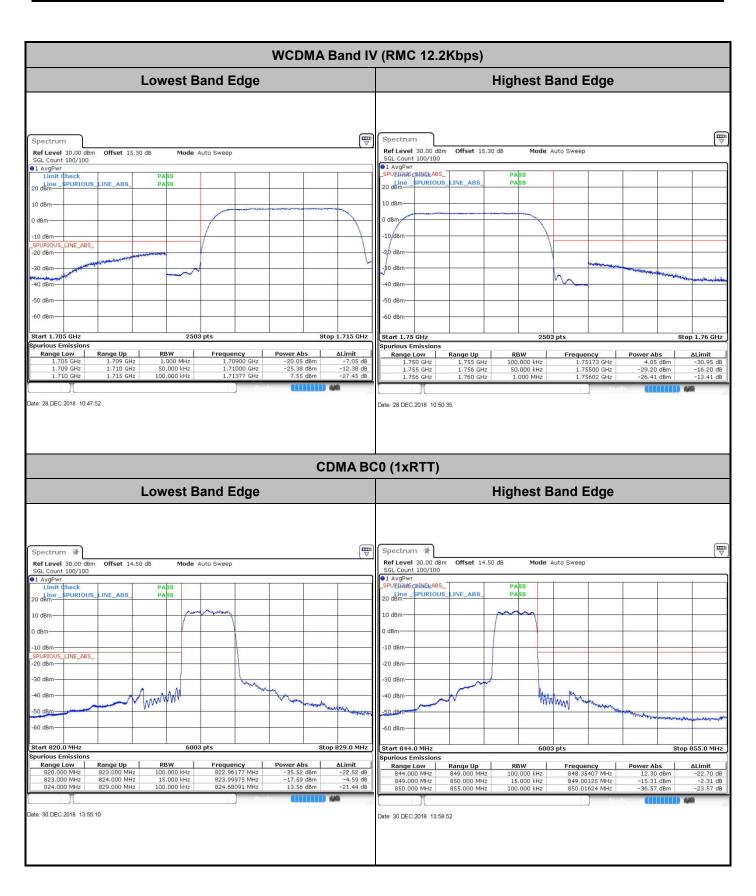
TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A24 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01



TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A25 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01

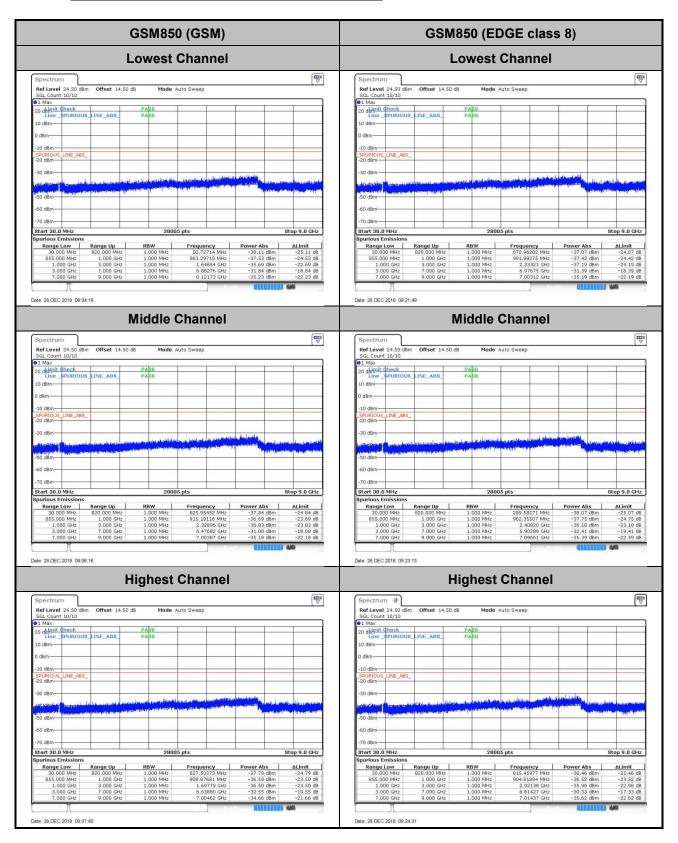


TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A26 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01



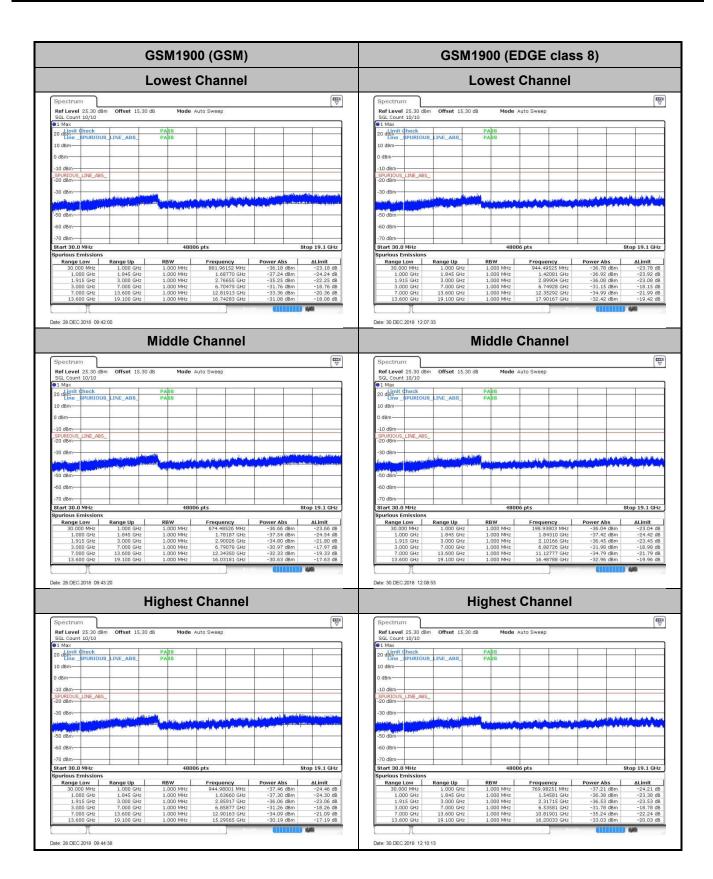
TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A27 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01

# **Conducted Spurious Emission**

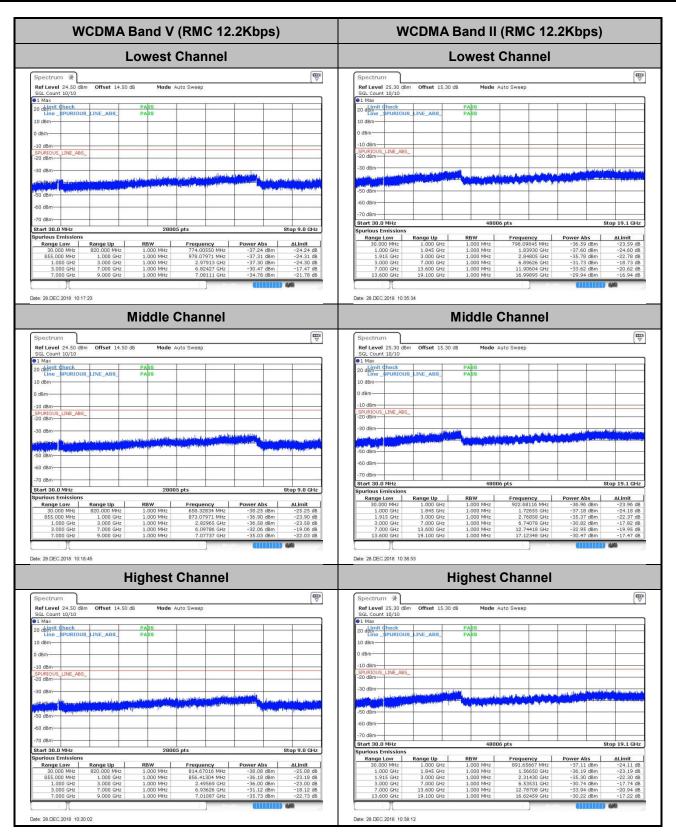


Sporton International (Kunshan) Inc.

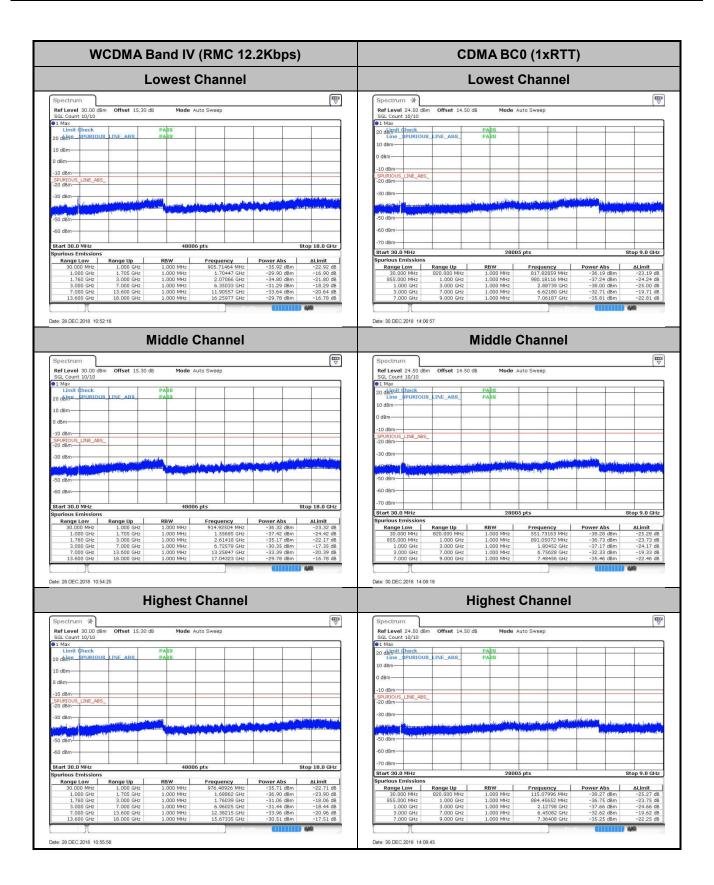
TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A28 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01



TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A29 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01



TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A30 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01



TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A31 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01

# Frequency Stability

Test Conditions	Middle Channel	<b>GSM850</b> (GSM)	GSM850 (EDGE class 8)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviatio	on (ppm)	Result
50	Normal Voltage	0.0048	0.0060	
40	Normal Voltage	0.0526	0.0167	
30	Normal Voltage	0.0120	0.0538	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0574	0.0335	
0	Normal Voltage	0.0191	0.0538	
-10	Normal Voltage	0.0084	0.0466	PASS
-20	Normal Voltage	0.0143	0.0167	
-30	Normal Voltage	0.0108	0.0478	
20	Maximum Voltage	0.0466	0.0514	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0395	0.0395	

Note: Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.7V. ; Maximum Voltage =4.4V

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A32 of A37 Report Issued Date : Jan. 17, 2019

Report No.: FG8N2303A

Report Version : Rev. 01

Test Conditions	Middle Channel	<b>GSM1900</b> (GSM)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviatio	n (ppm)	Result
50	Normal Voltage	0.0053	0.0005	
40	Normal Voltage	0.0016	0.0016	
30	Normal Voltage	0.0027	0.0021	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0170	0.0255	
0	Normal Voltage	0.0074	0.0186	
-10	Normal Voltage	0.0160	0.0011	PASS
-20	Normal Voltage	0.0218	0.0037	
-30	Normal Voltage	0.0005	0.0213	
20	Maximum Voltage	0.0053	0.0160	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0133	0.0011	

#### Note:

- 1. Normal Voltage = 3.85V. ; Battery End Point (BEP) =3.7V. ; Maximum Voltage =4.4 V
- **2.** The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

Sporton International (Kunshan) Inc.

FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G

TEL: +86-512-57900158

Page Number : A33 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01

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	0.0060	
40	Normal Voltage	0.0395	
30	Normal Voltage	0.0442	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0072	
0	Normal Voltage	0.0323	
-10	Normal Voltage	0.0048	PASS
-20	Normal Voltage	0.0167	
-30	Normal Voltage	0.0311	
20	Maximum Voltage	0.0442	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0012	

Note: Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.7V. ; Maximum Voltage =4.4V

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A34 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01

Test Conditions	Middle Channel	WCDMA Band II (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0186	
40	Normal Voltage	0.0128	
30	Normal Voltage	0.0165	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0117	
0	Normal Voltage	0.0154	
-10	Normal Voltage	0.0239	PASS
-20	Normal Voltage	0.0005	
-30	Normal Voltage	0.0117	
20	Maximum Voltage	0.0165	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0032	

#### Note:

- 1. Normal Voltage = 3.85V. ; Battery End Point (BEP) =3.7V. ; Maximum Voltage =4.4V
- **2.** The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A35 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01

Test Conditions	Middle Channel	WCDMA Band IV (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0069	
40	Normal Voltage	0.0156	
30	Normal Voltage	0.0017	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0012	
0	Normal Voltage	0.0058	
-10	Normal Voltage	0.0150	PASS
-20	Normal Voltage	0.0167	
-30	Normal Voltage	0.0092	
20	Maximum Voltage	0.0092	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0167	

#### Note:

- 1. Normal Voltage = 3.85V. ; Battery End Point (BEP) =3.7V. ; Maximum Voltage =4.4V
- **2.** The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A36 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01

Test Conditions	Middle Channel	CDMA BC0 (1xRTT)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0311	
40	Normal Voltage	0.0084	
30	Normal Voltage	0.0179	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0323	
0	Normal Voltage	0.0167	
-10	Normal Voltage	0.0299	PASS
-20	Normal Voltage	0.0096	
-30	Normal Voltage	0.0072	
20	Maximum Voltage	0.0406	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0155	

Note: Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.7V. ; Maximum Voltage =4.4V

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : A37 of A37
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01

### **Appendix B. Test Results of Radiated Test**

## **Radiated Spurious Emission**

	GSM850 (GSM)									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)		
	1672	-50.19	-13	-37.19	-57.16	1.58	10.70	Н		
	2510	-40.53	-13	-27.53	-48.78	2.102	12.50	Н		
Middle	3348	-62.99	-13	-49.99	-71.88	2.856	13.90	Н		
Middle	1672	-55.46	-13	-42.46	-62.43	1.58	10.70	V		
	2510	-49.30	-13	-36.30	-57.55	2.10	12.50	V		
	3348	-62.49	-13	-49.49	-71.38	2.86	13.90	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 )	S.G. Power (dBm)	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)		
	1672	-60.22	-13	-47.22	-67.19	1.58	10.70	Н		
	2510	-55.29	-13	-42.29	-63.54	2.102	12.50	Н		
NA: al all a	3348	-62.80	-13	-49.80	-71.69	2.856	13.90	Н		
Middle	1672	-66.40	-13	-53.40	-73.37	1.58	10.70	V		
	2508	-63.03	-13	-50.03	-71.28	2.10	12.50	V		
	3348	-62.64	-13	-49.64	-71.53	2.86	13.90	V		

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

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : B1 of B4
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01

	<b>GSM1900</b> (GSM)									
Channel	Frequency (MHz)	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)		
	3759	-51.54	-13	-38.54	-63.80	2.641	14.90	Н		
	5640	-37.00	-13	-24.00	-48.86	2.94	14.80	Н		
Middle	7521	-52.84	-13	-39.84	-62.61	3.39	13.16	Н		
Middle	3759	-50.13	-13	-37.13	-62.39	2.64	14.90	V		
	5640	-46.62	-13	-33.62	-58.48	2.94	14.80	V		
	7521	-52.46	-13	-39.46	-62.23	3.39	13.16	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 )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)		
	3759	-59.73	-13	-46.73	-71.99	2.641	14.90	Н		
	5640	-52.73	-13	-39.73	-64.59	2.94	14.80	Н		
Middle	7521	-53.06	-13	-40.06	-62.83	3.39	13.16	Н		
Middle	3759	-59.50	-13	-46.50	-71.76	2.64	14.90	V		
	5640	-56.36	-13	-43.36	-68.22	2.94	14.80	V		
	7521	-52.68	-13	-39.68	-62.45	3.39	13.16	V		

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

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : B2 of B4
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01

	WCDMA Band V(RMC 12.2Kbps)									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)		
	1672	-66.92	-13	-53.92	-73.89	1.58	10.70	Н		
	2509	-63.29	-13	-50.29	-71.54	2.102	12.50	Н		
Middle	3348	-62.94	-13	-49.94	-71.83	2.856	13.90	Н		
Middle	1770	-56.72	-13	-43.72	-63.69	1.58	10.70	V		
	2509	-62.93	-13	-49.93	-71.18	2.10	12.50	V		
	3348	-62.44	-13	-49.44	-71.33	2.86	13.90	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 )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)		
	3759	-59.65	-13	-46.65	-71.91	2.641	14.90	Н		
	5640	-56.89	-13	-43.89	-68.75	2.94	14.80	Н		
Middle	7521	-53.21	-13	-40.21	-62.98	3.39	13.16	Н		
Middle	3759	-58.84	-13	-45.84	-71.10	2.64	14.90	V		
	5640	-56.45	-13	-43.45	-68.31	2.94	14.80	V		
	7521	-52.37	-13	-39.37	-62.14	3.39	13.16	V		

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

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : B3 of B4
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01

WCDMA Band IV(RMC 12.2Kbps)												
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)				
Middle	3465	-62.60	-13	-49.60	-73.34	2.604	13.34	Н				
	5197.8	-58.41	-13	-45.41	-68.92	3.011	13.52	Н				
	6930	-54.68	-13	-41.68	-64.88	3.271	13.47	Н				
	3465	-62.21	-13	-49.21	-72.95	2.604	13.34	V				
	5197.8	-58.54	-13	-45.54	-69.05	3.011	13.52	V				
	6930	-54.62	-13	-41.62	-64.82	3.271	13.47	V				

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

CDMA BC0(1xRTT)												
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)				
Middle	1672	-62.53	-13	-49.53	-69.5	1.58	10.70	Н				
	2508	-37.30	-13	-24.30	-45.55	2.102	12.50	Н				
	3348	-65.09	-13	-52.09	-73.98	2.856	13.90	Н				
	1674	-65.63	-13	-52.63	-72.6	1.58	10.70	V				
	2510	-49.48	-13	-36.48	-57.73	2.10	12.50	V				
	3348	-64.79	-13	-51.79	-73.68	2.86	13.90	V				

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

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AFZZ-XMSF1G Page Number : B4 of B4
Report Issued Date : Jan. 17, 2019
Report Version : Rev. 01