GSM1900 (GSM) GSM1900 (EDGE class 8) **Lowest Channel Lowest Channel** 242.757242757 kF 30 dBm 30 dBm 40 dBm--50 dBm 1001 pts CF 1.8502 GHz CF 1.8502 GHz Type | Ref | Trc | Type | Ref | Trc | 13.63 dBm 13.37 dBm 242.757242757 kHz 243.756243756 kHz 7.61 dBm 7.62 dBm Date: 21.MAY.2018 14:25:56 Date: 21.MAY.2018 14:53:52 **Middle Channel Middle Channel □**□□□ 27.82 dBr 21.73 dBr 10 dBm -10 dBm -20 dBm 40 dBm-1001 pts CF 1.88 GH 1001 pts CF 1.88 GH
 X-value
 Y-value

 1.880012 GHz
 21.73 dBm

 1.87987612 GHz
 8.35 dBm

 1.88012388 GHz
 8.11 dBm

 X-value
 Y-value
 Function

 1.879994 GHz
 27.82 dBm
 1.87987812 GHz
 12.93 dBm
 Occ BW

 1.88912088 GHz
 13.03 dBm
 Occ BW
 Occ BW
 Occ BW
 Occ BW
 Type Ref Trc Type Ref Trc Function **Function Result Function Result** 242.757242757 kHz 247.752247752 kHz Date: 21.MAY.2018 14:26:24 Date: 21.MAY.2018 14:54:56 **Highest Channel Highest Channel ₩** Offset 15.30 dB RBW 10 kHz SWT 189.6 µs • VBW 30 kHz Mode Auto FFT 27.32 dBn 1.909814000 GH 242.757242757 kH 22.35 dBn 243.756243756 ki 20 dBm dBm--10 dBn -10 dBm -30 dBm 40 dBm-50 dBm

Type Ref Trc

Occ Bw

242.757242757 kHz

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: ZL5AP01

Type | Ref | Trc |

Page Number : A15 of A24
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01
Report Template No.: BU5-FG22/24 Version 2.0

243.756243756 kHz

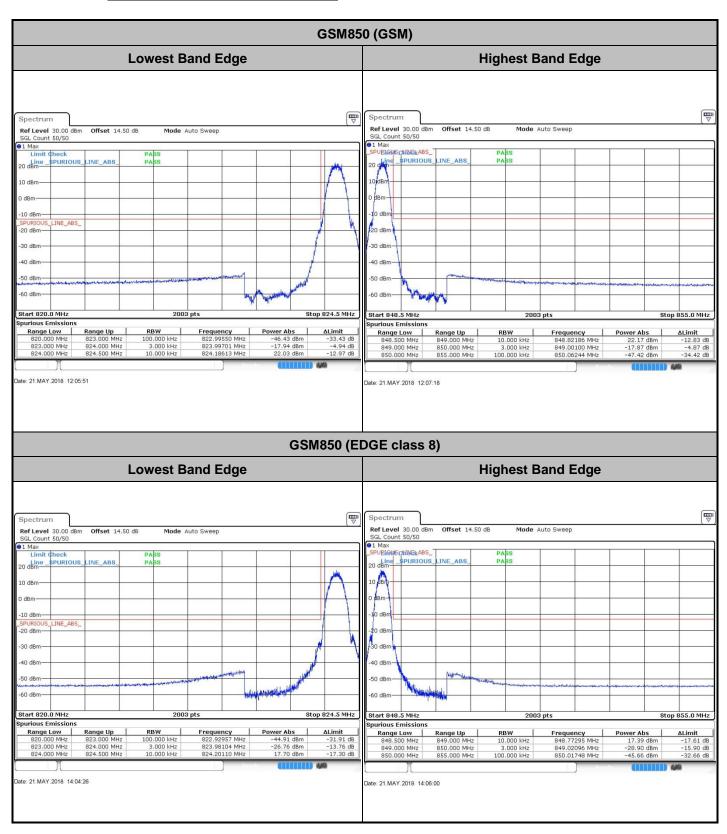
Report No.: FG7N1019-02A

WCDMA Band V (RMC 12.2Kbps) WCDMA Band II (RMC 12.2Kbps) **Lowest Channel Lowest Channel** Offset 15.30 dB RBW 100 kHz SWT 37.9 μs SWBW 300 kHz 19 µs **● VBW** 300 kHz M1[1] 10 dBm 20 dBm-CF 1.8524 GH | Y-value Function | | | 2 | 17.35 dBm | | |2 | 8.29 dBm | Occ Bw | | |2 | 7.77 dBm | | Type | Ref | Trc | Type | Ref | Trc | **Function Result** Function **Function Result** 4.165834166 MHz 4.145854146 MHz Date: 21.MAY.2018 15:27:37 **Middle Channel Middle Channel ₩** 17.35 dB 835.53100 MH 4.145854146 MH -10 dBm 20 dBm -30 dBm Type Ref Trc Type | Ref | Trc | 4.145854146 MHz 4.155844156 MHz **Highest Channel Highest Channel** ■ 1Pk Max 17.14 dBr 845.73100 MH 4.155844156 MH M1[1] dBm--50 dBm-CF 1.9076 GH CF 846.6 MH Type | Ref | Trc | Type | Ref | Trc | Function **Function Result** Function **Function Result** Occ Bw 4.155844156 MHz Occ Bw 4.145854146 MHz Date: 21.MAY.2018 15:28:33

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: ZL5AP01 Page Number : A16 of A24
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01

Report No.: FG7N1019-02A

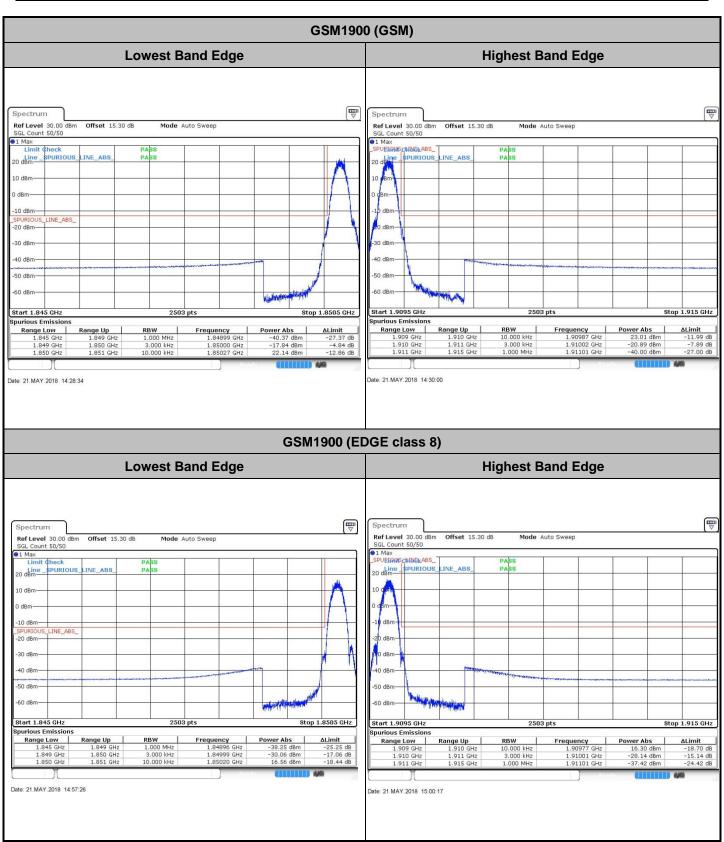
Conducted Band Edge



Sporton International (Kunshan) Inc.

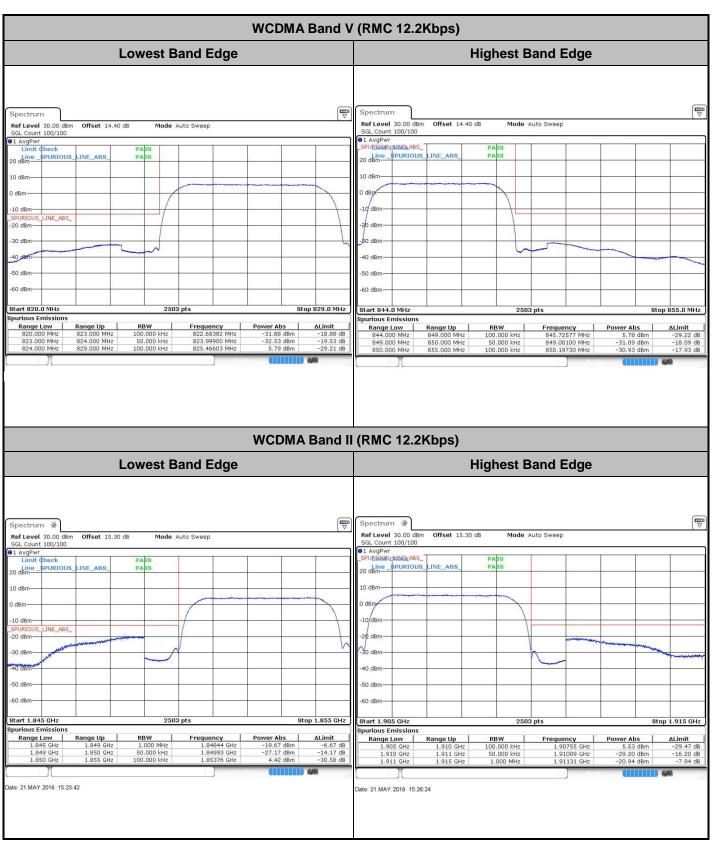
TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: ZL5AP01 Page Number : A17 of A24
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01

Report No.: FG7N1019-02A



TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: ZL5AP01 Page Number : A18 of A24
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01

Report No.: FG7N1019-02A

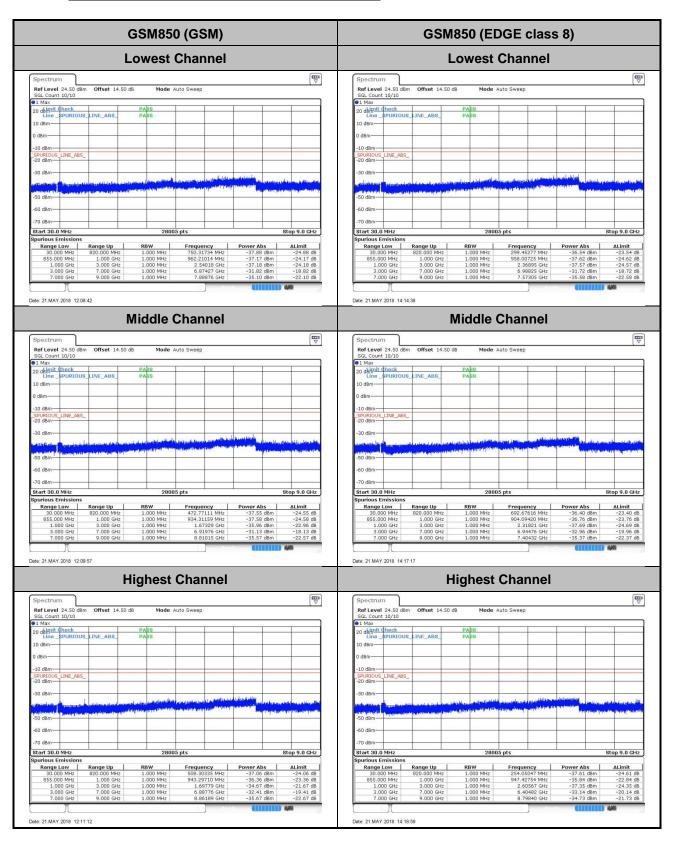


Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: ZL5AP01 Page Number : A19 of A24
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01

Report No.: FG7N1019-02A

Conducted Spurious Emission

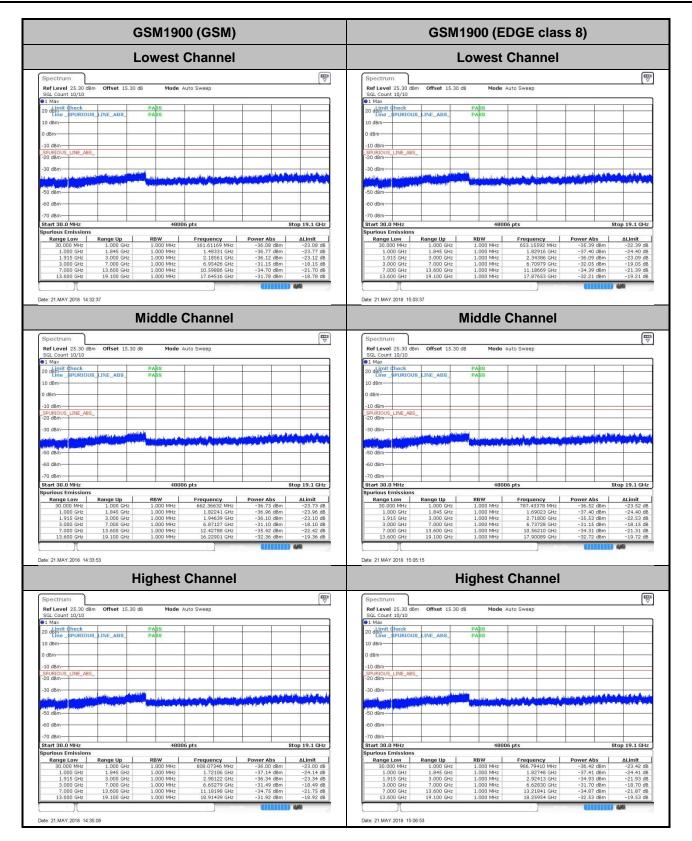


Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: ZL5AP01 Page Number : A20 of A24
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01
Report Template No.: BU5-FG22/24 Version 2.0

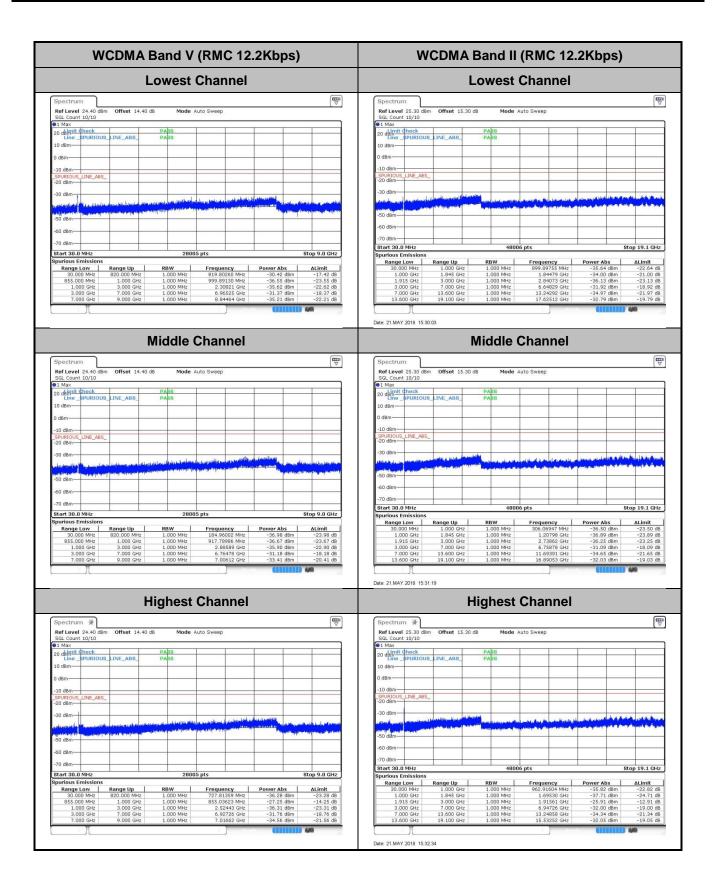
Report No.: FG7N1019-02A

CC RF Test Report No.: FG7N1019-02A



TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: ZL5AP01 Page Number : A21 of A24
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01

FCC RF Test Report



TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: ZL5AP01

Page Number : A22 of A24 Report Issued Date: Jun. 19, 2018 Report Version : Rev. 01

Report No.: FG7N1019-02A

Frequency Stability

Test Conditions	Middle Channel	GSM850 (GSM)	GSM850 (EDGE class 8)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviatio	n (ppm)	Result
50	Normal Voltage	0.0060	0.0454	
40	Normal Voltage	0.0060	0.0299	
30	Normal Voltage	0.0335	0.0060	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0371	0.0299	
0	Normal Voltage	0.0311	0.0335	
-10	Normal Voltage	0.0072	0.0407	PASS
-20	Normal Voltage	0.0012	0.0275	
-30	Normal Voltage	0.0359	0.0263	
20	Maximum Voltage	0.0227	0.0048	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0359	0.0060	

Test Conditions	Middle Channel	GSM1900 (GSM)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation	n (ppm)	Result
50	Normal Voltage	0.0016	0.0122	
40	Normal Voltage	0.0016	0.0106	
30	Normal Voltage	0.0090	0.0037	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0043	0.0144	
0	Normal Voltage	0.0064	0.0074	
-10	Normal Voltage	0.0122	0.0101	PASS
-20	Normal Voltage	0.0037	0.0027	
-30	Normal Voltage	0.0138	0.0074	
20	Maximum Voltage	0.0011	0.0059	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0117	0.0016	

Note:

- 1. Normal Voltage = 3.8V. ; Battery End Point (BEP) = 3.4V. ; 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.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: ZL5AP01 Page Number : A23 of A24
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01

Report No.: FG7N1019-02A

Test Conditions	Middle Channel	WCDMA Band V (RMC 12.2Kbps)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0335	
40	Normal Voltage	0.0287	
30	Normal Voltage	0.0383	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0132	
0	Normal Voltage	0.0024	D4 00
-10	Normal Voltage	0.0418	PASS
-20	Normal Voltage	0.0323	
-30	Normal Voltage	0.0084	
20	Maximum Voltage	0.0359	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0012	

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	
40	Normal Voltage	0.0101	
30	Normal Voltage	0.0112	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0165	
0	Normal Voltage	0.0048	
-10	Normal Voltage	0.0122	PASS
-20	Normal Voltage	0.0154	
-30	Normal Voltage	0.0005	
20	Maximum Voltage	0.0021	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0032	

Note:

- 1. Normal Voltage = 3.8V. ; Battery End Point (BEP) = 3.4V. ; 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: ZL5AP01 Page Number : A24 of A24
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01

Report No.: FG7N1019-02A

Appendix B. Test Results of Conducted Test

Radiated Spurious Emission

<Normal>

	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)				
	1674	-52.45	-13	-39.45	-54.36	1.14	5.20	Н				
	2510	-53.09	-13	-40.09	-55.72	1.12	5.90	Н				
Middle	3348	-60.31	-13	-47.31	-63.52	1.34	6.70	Н				
Middle	1672	-47.70	-13	-34.70	-49.61	1.14	5.20	V				
	2510	-52.39	-13	-39.39	-55.02	1.12	5.90	V				
	3348	-60.04	-13	-47.04	-63.25	1.34	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)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)				
	1672	-49.52	-13	-36.52	-51.43	1.14	5.20	Н				
	2510	-61.12	-13	-48.12	-63.75	1.12	5.90	Н				
Middle	3348	-60.16	-13	-47.16	-63.37	1.34	6.70	Н				
Middle	1672	-49.35	-13	-36.35	-51.26	1.14	5.20	V				
	2510	-60.55	-13	-47.55	-63.18	1.12	5.90	V				
	3348	-60.22	-13	-47.22	-63.43	1.34	6.70	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: ZL5AP01 Page Number : B1 of B5
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01

Report No.: FG7N1019-02A

	GSM1900 (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	-33.76	-13	-20.76	-35.48	5.08	6.80	Н				
	5640	-54.19	-13	-41.19	-55.86	8.03	9.70	Н				
Middle	7521	-48.31	-13	-35.31	-50.69	9.43	11.81	Н				
Middle	3759	-43.35	-13	-30.35	-45.07	5.08	6.80	V				
	5640	-55.96	-13	-42.96	-57.63	8.03	9.70	V				
	7521	-50.02	-13	-37.02	-52.40	9.43	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)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)				
	3759	-39.69	-13	-26.69	-41.41	5.08	6.80	Н				
	5640	-55.95	-13	-42.95	-57.62	8.03	9.70	Н				
Middle	7521	-50.51	-13	-37.51	-52.89	9.43	11.81	Н				
Middle	3759	-49.96	-13	-36.96	-51.68	5.08	6.80	V				
	5640	-55.89	-13	-42.89	-57.56	8.03	9.70	V				
	7521	-50.59	-13	-37.59	-52.97	9.43	11.81	V				

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

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: ZL5AP01 Page Number : B2 of B5
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01

Report No.: FG7N1019-02A

	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	-63.94	-13	-50.94	-65.85	1.14	5.20	Н				
	2510	-61.02	-13	-48.02	-63.65	1.12	5.90	Н				
Middle	3348	-59.71	-13	-46.71	-62.92	1.34	6.70	Н				
ivildale	1672	-63.33	-13	-50.33	-65.24	1.14	5.20	V				
	2510	-60.46	-13	-47.46	-63.09	1.12	5.90	V				
	3348	-60.25	-13	-47.25	-63.46	1.34	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)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)				
	3759	-58.07	-13	-45.07	-59.79	5.08	6.80	Н				
	5640	-56.23	-13	-43.23	-57.90	8.03	9.70	Н				
Middle	7521	-51.06	-13	-38.06	-53.44	9.43	11.81	Н				
Middle	3759	-58.56	-13	-45.56	-60.28	5.08	6.80	V				
	5640	-55.95	-13	-42.95	-57.62	8.03	9.70	V				
	7521	-50.96	-13	-37.96	-53.34	9.43	11.81	V				

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

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: ZL5AP01 Page Number : B3 of B5
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01

Report No.: FG7N1019-02A

<Battery module 3620>

	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	-49.93	-13	-36.93	-51.84	1.14	5.20	Н				
	2510	-55.68	-13	-42.68	-58.31	1.12	5.90	Н				
Middle	3348	-60.02	-13	-47.02	-63.23	1.34	6.70	Н				
Middle	1672	-47.39	-13	-34.39	-49.30	1.14	5.20	V				
	2510	-51.39	-13	-38.39	-54.02	1.12	5.90	V				
	3348	-60.27	-13	-47.27	-63.48	1.34	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)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)				
	3759	-33.86	-13	-20.86	-35.58	5.08	6.80	Н				
	5640	-55.44	-13	-42.44	-57.11	8.03	9.70	Н				
Middle	7521	-44.63	-13	-31.63	-47.01	9.43	11.81	Н				
Middle	3759	-39.50	-13	-26.50	-41.22	5.08	6.80	V				
	5640	-55.64	-13	-42.64	-57.31	8.03	9.70	V				
	7521	-43.37	-13	-30.37	-45.75	9.43	11.81	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: ZL5AP01 Page Number : B4 of B5
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01

Report No.: FG7N1019-02A

<Battery module 4370>

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)				
Middle	1672	-49.59	-13	-36.59	-51.50	1.14	5.20	Н				
	2510	-52.46	-13	-39.46	-55.09	1.12	5.90	Н				
	3348	-59.90	-13	-46.90	-63.11	1.34	6.70	Н				
	1672	-47.40	-13	-34.40	-49.31	1.14	5.20	V				
	2510	-51.34	-13	-38.34	-53.97	1.12	5.90	V				
	3348	-60.27	-13	-47.27	-63.48	1.34	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)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)				
Middle	3759	-31.91	-13	-18.91	-33.63	5.08	6.80	Н				
	5640	-54.85	-13	-41.85	-56.52	8.03	9.70	Н				
	7521	-41.04	-13	-28.04	-43.42	9.43	11.81	Н				
	3759	-32.68	-13	-19.68	-34.40	5.08	6.80	V				
	5640	-55.71	-13	-42.71	-57.38	8.03	9.70	V				
	7521	-42.57	-13	-29.57	-44.95	9.43	11.81	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: ZL5AP01 Page Number : B5 of B5
Report Issued Date : Jun. 19, 2018
Report Version : Rev. 01

Report No.: FG7N1019-02A