

TEL: +86-755-8637-9589 FAX: +86-755-8637-9595 FCC ID: 2ALTART400X Page Number : A15 of A24
Report Issued Date : Jun. 11, 2018
Report Version : Rev. 01

Report No.: FG852504A

WCDMA Band V (RMC 12.2Kbps) WCDMA Band II (RMC 12.2Kbps) **Lowest Channel Lowest Channel** 30 dBm CF 1.8524 GHz Type Ref Trc **Function Result** Type | Ref | Trc | 4.125874126 MHz 4.115884116 MHz Date: 7.JUN.2018 22:43:13 Date: 7.JUN.2018 22:07:12 **Middle Channel Middle Channel** Mode Auto FFT 18.34 dBn M1[1] M1[1] 836.97900 M 4.115884116 M 40 dBm
 X-value
 Y-value

 1.880579 GHz
 17.94 dBm

 1.8779421 GHz
 8.61 dBm

 1.8820579 GHz
 9.06 dBm
 Type | Ref | Trc |
 X-value
 Y-value
 Function

 836.979 MHz
 18.34 dBm

 834.35205 MHz
 9.00 dBm
 Occ Bw

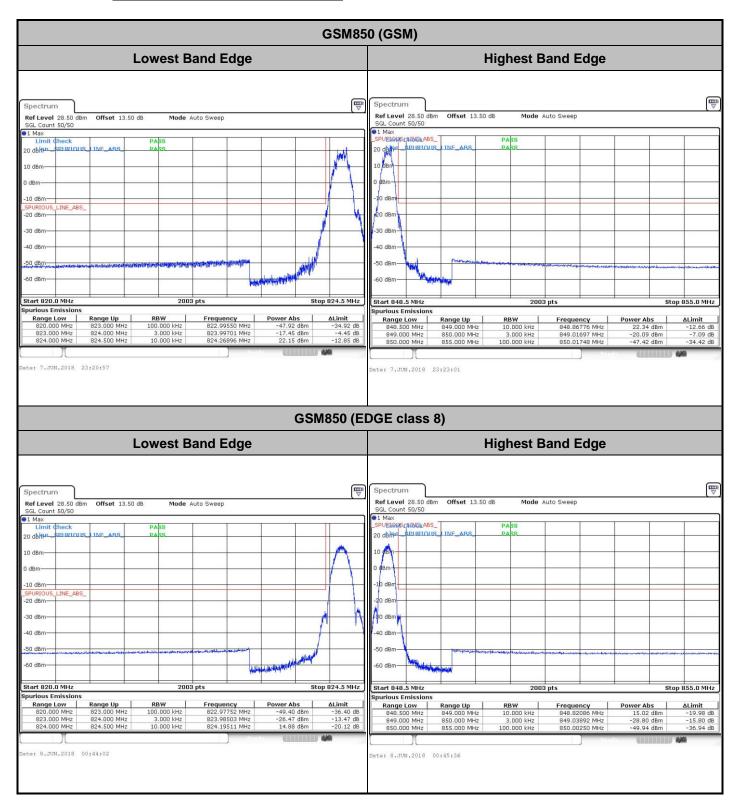
 838.46793 MHz
 9.43 dBm
 Type Ref Trc Function **Function Result Function Result** 4.115884116 MHz 4.115884116 MHz Date: 7.JUN.2018 22:07:46 **Highest Channel Highest Channel** 8.50 dB **RBW** 100 kHz 19 µs **w VBW** 300 kHz **Mode** Auto FFT 17.96 dBn 1.90673100 GH: 4.115884116 MH: 18.32 dBi 845.73100 MH 4.105894106 MH Marker Type | Ref | Trc | Type Ref Trc 4.115884116 MHz

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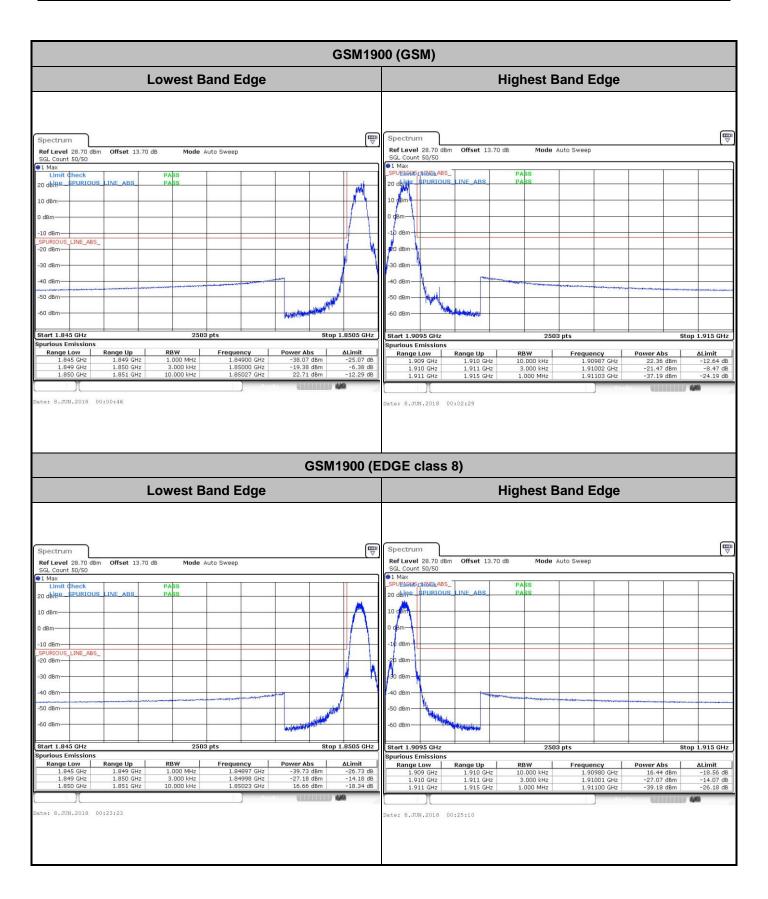
Conducted Band Edge



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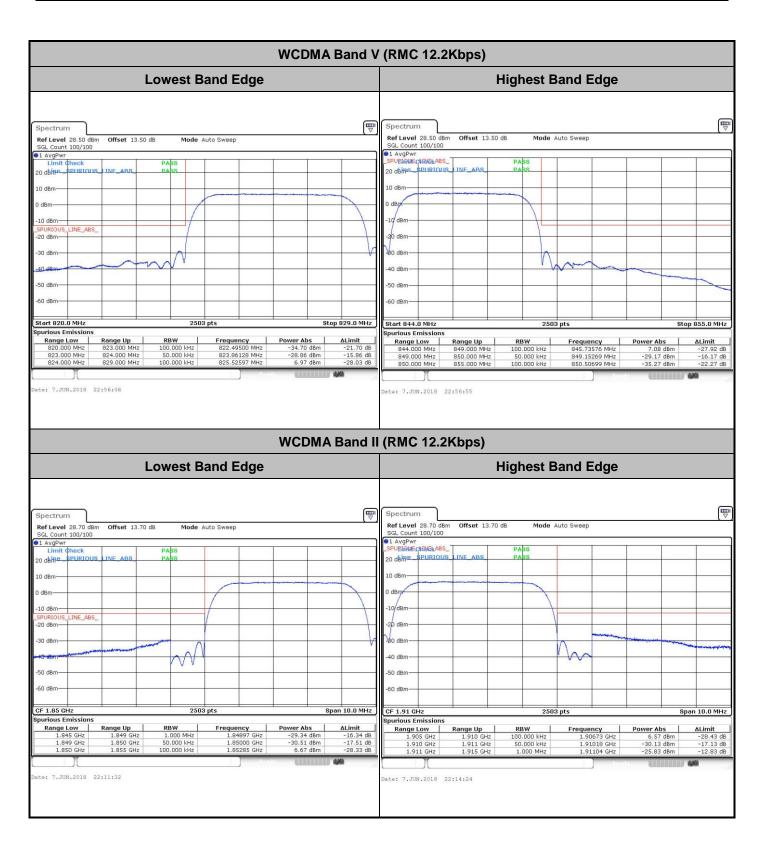
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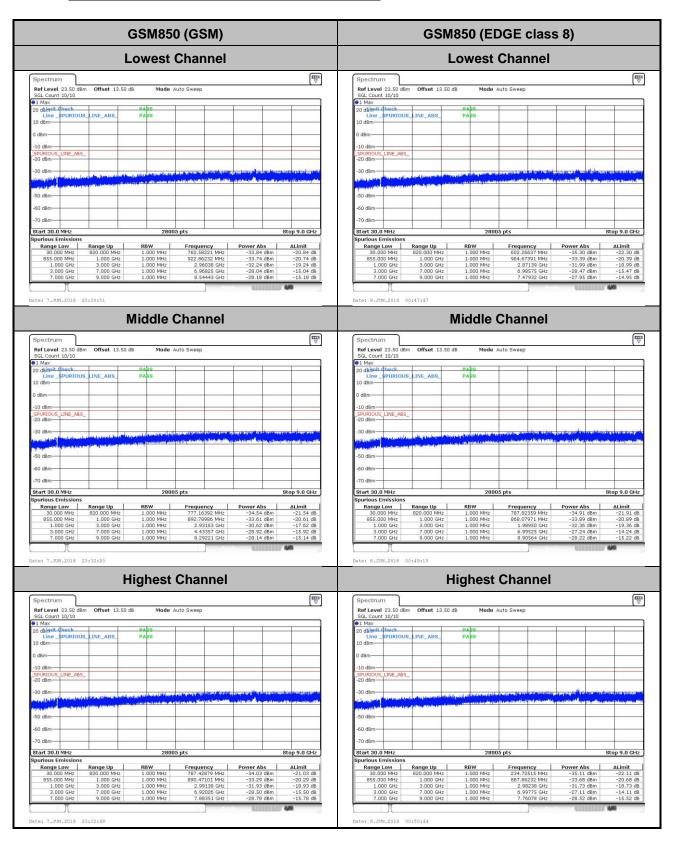


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Conducted Spurious Emission



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GSM1900 (GSM) GSM1900 (EDGE class 8) **Lowest Channel Lowest Channel** Ref Level 23.70 dBm Offset 13.70 dB Ref Level 23,70 dBm SGL Count 10/10 1 Max 20 dBirnit Check Offset 13.70 dB Stop 19.1 GHz Start 30.0 MHz Stop 19.1 GHz Date: 8.JUN.2018 00:27:37 **Middle Channel Middle Channel** LINE_ABS_ 50 dBm Start 30.0 MH Stop 19.1 GHz Start 30.0 MHz 5.29985 MHz 1.59944 GHz 2.71692 GHz 6.98825 GHz 1.20225 GHz 6.56252 GHz Date: 8.JUN.2018 00:06:40 Date: 8.JUN.2018 00:29:00 **Highest Channel Highest Channel** SGL Count 10/10

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WCDMA Band V (RMC 12.2Kbps) WCDMA Band II (RMC 12.2Kbps) **Lowest Channel Lowest Channel** Ref Level 23.70 dBm Offset 13.70 dB SGL Count 10/10 1 Max 20 dBimit check Ref Level 23.50 dBm Offset 13.50 dB Start 30.0 MHz Stop 19.1 GHz Start 30.0 MHz Spurious Emission Range Low 30,000 MHz Date: 7.JUN.2018 22:49:07 Date: 7.JUN.2018 22:20:50 **Middle Channel Middle Channel** LINE_ABS_ LINE_ABS_ 50 dBm-Start 30.0 MHz Date: 7.JUN.2018 22:22:37 **Highest Channel Highest Channel** SGL Count 10/10 it theck spurious_line_abs Start 30.0 MH Stop 9.0 GHz

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Frequency Stability

Test Conditions	Middle Channel	GSM850 (GSM)	GSM850 (EDGE class 8)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation	on (ppm)	Result
50	Normal Voltage	0.0041	0.0055	
40	Normal Voltage	0.0024	0.0039	
30	Normal Voltage	0.0026	0.0023	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0008	0.0010	
0	Normal Voltage	0.0005	0.0001	
-10	Normal Voltage	0.0011	0.0024	PASS
-20	Normal Voltage	0.0019	0.0014	
-30	Normal Voltage	0.0036	0.0012	
20	Maximum Voltage	0.0022	0.0024	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0020	0.0033	

Test Conditions	Middle Channel	GSM1900 (GSM)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation	n (ppm)	Result
50	Normal Voltage	0.0041	0.0014	
40	Normal Voltage	0.0030	0.0009	
30	Normal Voltage	0.0014	0.0004	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0010	0.0008	
0	Normal Voltage	0.0021	0.0016	
-10	Normal Voltage	0.0004	0.0010	PASS
-20	Normal Voltage	0.0024	0.0007	
-30	Normal Voltage	0.0002	0.0010	
20	Maximum Voltage	0.0009	0.0010	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0004	0.0002	

Note:

- 1. Normal Voltage = 12V. ; Battery End Point (BEP) = 9.6 V.; Maximum Voltage =14.4V
- 2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

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Test Conditions	Middle Channel	WCDMA Band V (RMC 12.2Kbps)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0056	
40	Normal Voltage	0.0030	
30	Normal Voltage	0.0037	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0053	
0	Normal Voltage	0.0023	
-10	Normal Voltage	0.0033	PASS
-20	Normal Voltage	0.0006	
-30	Normal Voltage	0.0042	
20	Maximum Voltage	0.0018	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0013	

Test Conditions	Middle Channel	WCDMA Band II (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0003	
40	Normal Voltage	0.0009	
30	Normal Voltage	0.0018	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0001	
0	Normal Voltage	0.0009	
-10	Normal Voltage	0.0005	PASS
-20	Normal Voltage	0.0010	
-30	Normal Voltage	0.0012	
20	Maximum Voltage	0.0015	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0010	

Note:

- 1. Normal Voltage = 12V. ; Battery End Point (BEP) = 9.6 V.; Maximum Voltage =14.4 V
- **2.** The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

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Appendix B. Test Results of Conducted Test

Radiated Spurious Emission

				GSM85	60 (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)
	1672.8	-28.96	-13	-15.96	-42.57	-32.21	4.00	9.40	Н
	2509.2	-38.55	-13	-25.55	-57.35	-42.12	4.88	10.60	Н
	3345.6	-44.25	-13	-31.25	-65.24	-49.18	5.52	12.60	Н
	4182	-53.37	-13	-40.37	-78.02	-57.84	6.00	12.62	Н
	5018.4	-51.03	-13	-38.03	-77.59	-54.44	7.14	12.70	Н
Middle	5854.8	-46.91	-13	-33.91	-75.58	-50.14	7.62	13.00	Н
Middle	1672.8	-29.40	-13	-16.40	-42.50	-32.65	4.00	9.40	V
	2509.2	-37.78	-13	-24.78	-56.41	-41.35	4.88	10.60	V
	3345.6	-39.39	-13	-26.39	-59.94	-44.32	5.52	12.60	V
	4182	-49.49	-13	-36.49	-73.14	-53.96	6.00	12.62	V
	5018.4	-43.88	-13	-30.88	-70.16	-47.29	7.14	12.70	V
	5854.8	-49.03	-13	-36.03	-76.52	-52.26	7.62	13.00	V

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

				GSM850 (E	DGE class 8	3)			
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)
	1672.8	-29.73	-13	-16.73	-43.34	-32.98	4.00	9.40	Н
	2509.2	-37.39	-13	-24.39	-56.19	-40.96	4.88	10.60	Н
	3345.6	-44.91	-13	-31.91	-65.90	-49.84	5.52	12.60	Н
	4182	-52.66	-13	-39.66	-77.31	-57.13	6.00	12.62	Н
	5018.4	-52.95	-13	-39.95	-79.51	-56.36	7.14	12.70	Н
Middle	5854.8	-47.97	-13	-34.97	-76.64	-51.20	7.62	13.00	Н
ivildale	1672.8	-29.97	-13	-16.97	-43.07	-33.22	4.00	9.40	V
	2509.2	-36.45	-13	-23.45	-55.08	-40.02	4.88	10.60	V
	3345.6	-39.55	-13	-26.55	-60.10	-44.48	5.52	12.60	V
	4182	-51.80	-13	-38.80	-75.45	-56.27	6.00	12.62	V
	5018.4	-45.15	-13	-32.15	-71.43	-48.56	7.14	12.70	V
	5854.8	-49.86	-13	-36.86	-77.35	-53.09	7.62	13.00	V

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

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	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)	
	3760	-39.23	-13	-26.23	-62.73	-45.98	5.85	12.60	Н	
	5640	-37.35	-13	-24.35	-64.62	-43.15	7.30	13.10	Н	
	7520	-42.23	-13	-29.23	-73.32	-45.38	8.35	11.50	Н	
Middle	9400	-41.14	-13	-28.14	-74.49	-43.29	9.85	12.00	Н	
Middle	3760	-37.15	-13	-24.15	-59.88	-43.90	5.85	12.60	V	
	5640	-29.79	-13	-16.79	-56	-35.59	7.30	13.10	V	
	7520	-42.23	-13	-29.23	-72.74	-45.38	8.35	11.50	V	
	9400	-40.23	-13	-27.23	-74.92	-42.38	9.85	12.00	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)		
	3760	-38.09	-13	-25.09	-61.59	-44.84	5.85	12.60	Н		
	5640	-30.15	-13	-17.15	-57.42	-35.95	7.30	13.10	Н		
	7520	-41.95	-13	-28.95	-73.04	-45.10	8.35	11.50	Н		
Middle	9400	-45.15	-13	-32.15	-78.50	-47.30	9.85	12.00	Н		
Middle	3760	-33.29	-13	-20.29	-56.02	-40.04	5.85	12.60	V		
	5640	-30.38	-13	-17.38	-56.59	-36.18	7.30	13.10	V		
	7520	-39.43	-13	-26.43	-69.94	-42.58	8.35	11.50	V		
	9400	-41.26	-13	-28.26	-75.95	-43.41	9.85	12.00	V		

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

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			WC	DMA Band	V(RMC 12.2F	(bps)			
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)
	1672.8	-43.19	-13	-30.19	-56.80	-46.44	4.00	9.40	Н
	2509.2	-55.47	-13	-42.47	-74.27	-59.04	4.88	10.60	Н
	3345.6	-55.69	-13	-42.69	-76.68	-60.62	5.52	12.60	Н
	4182	-52.88	-13	-39.88	-77.53	-57.35	6.00	12.62	Н
	5018.4	-52.64	-13	-39.64	-79.20	-56.05	7.14	12.70	Н
M: alalla	5854.8	-50.26	-13	-37.26	-78.93	-53.49	7.62	13.00	Н
Middle	1672.8	-46.47	-13	-33.47	-59.57	-49.72	4.00	9.40	V
	2509.2	-57.21	-13	-44.21	-75.84	-60.78	4.88	10.60	V
	3345.6	-56.07	-13	-43.07	-76.62	-61.00	5.52	12.60	V
	4182	-54.44	-13	-41.44	-78.09	-58.91	6.00	12.62	V
	5018.4	-53.12	-13	-40.12	-79.40	-56.53	7.14	12.70	V
	5854.8	-51.60	-13	-38.60	-79.09	-54.83	7.62	13.00	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)		
	3760	-48.77	-13	-35.77	-72.27	-55.52	5.85	12.60	Н		
	5640	-44.00	-13	-31.00	-71.27	-49.80	7.30	13.10	Н		
M: al all a	7520	-47.33	-13	-34.33	-78.42	-50.48	8.35	11.50	Н		
Middle	3760	-43.93	-13	-30.93	-66.66	-50.68	5.85	12.60	V		
	5640	-42.26	-13	-29.26	-68.47	-48.06	7.30	13.10	V		
	7520	-47.98	-13	-34.98	-78.49	-51.13	8.35	11.50	V		

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

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