



GSM1900 (GPRS class 8)

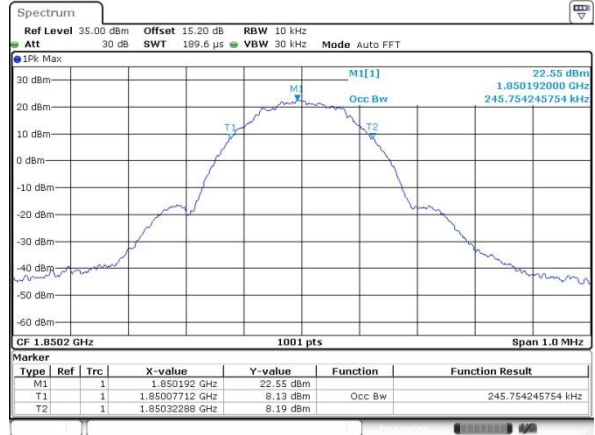
Lowest Channel



Date: 26 APR 2019 22:00:16

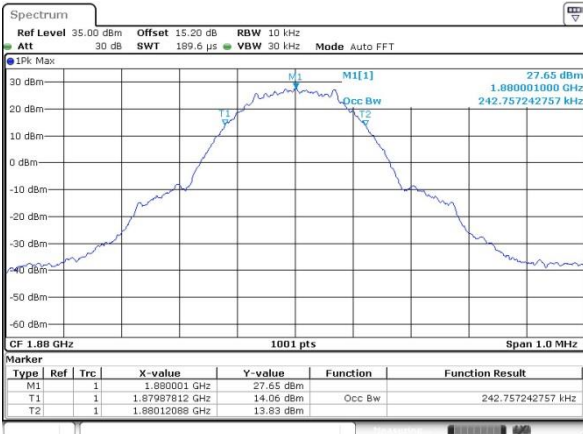
GSM1900 (EDGE class 8)

Lowest Channel



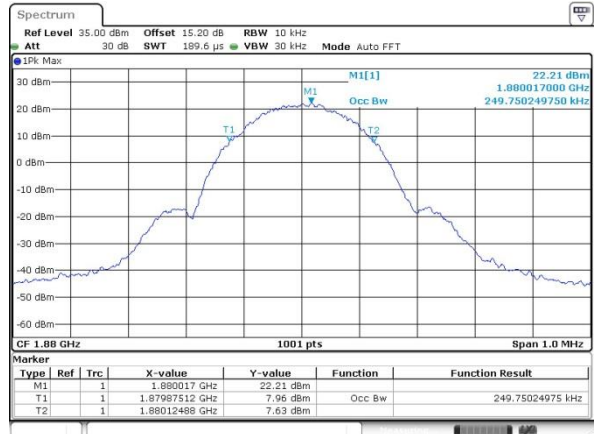
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Middle Channel



Date: 26 APR 2019 22:00:48

Middle Channel



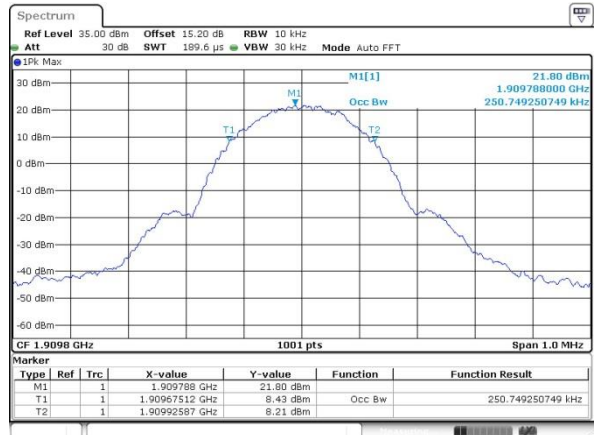
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Highest Channel



Date: 26 APR 2019 22:01:18

Highest Channel

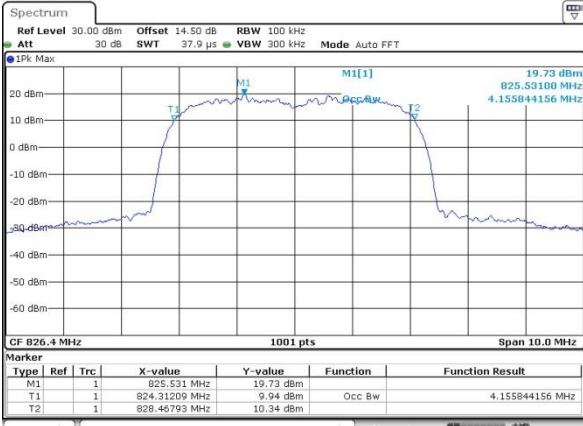


Date: 26 APR 2019 22:15:52



WCDMA Band V (RMC 12.2Kbps)

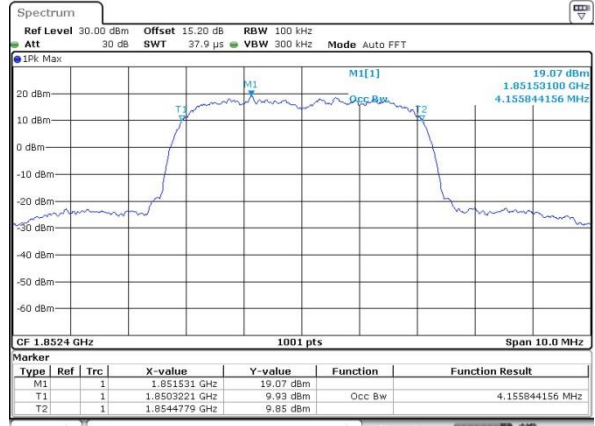
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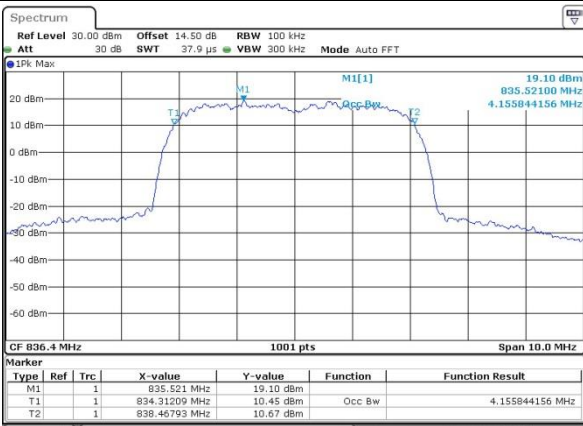
WCDMA Band II (RMC 12.2Kbps)

Lowest Channel



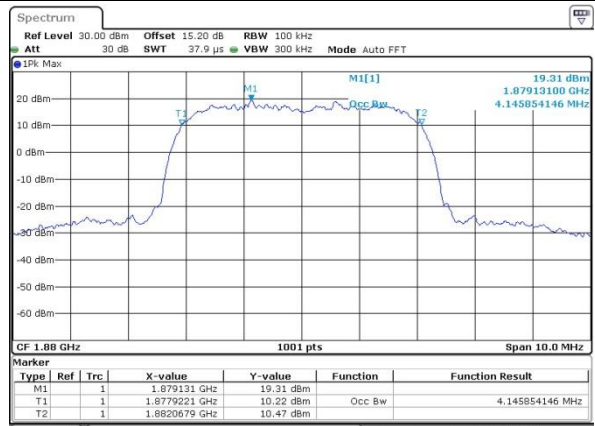
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Middle Channel



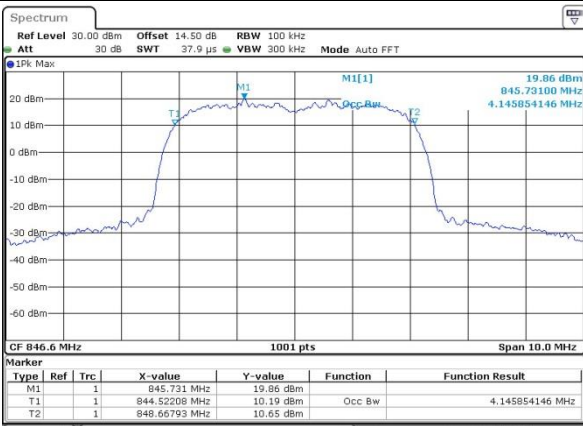
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Middle Channel



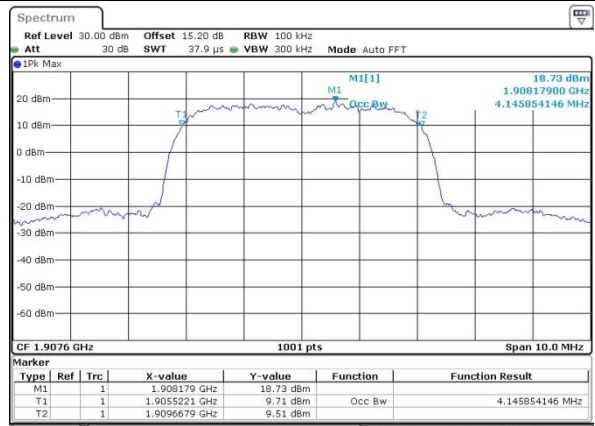
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Highest Channel

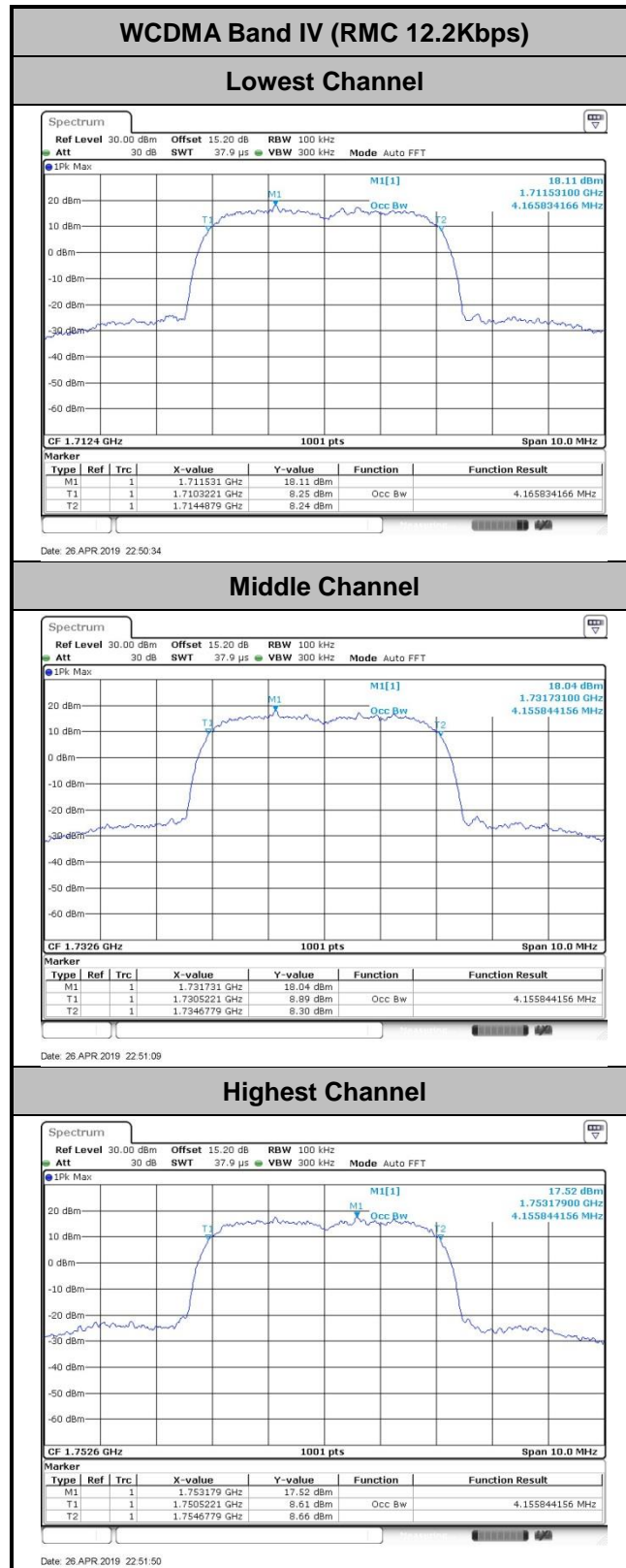


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Highest Channel

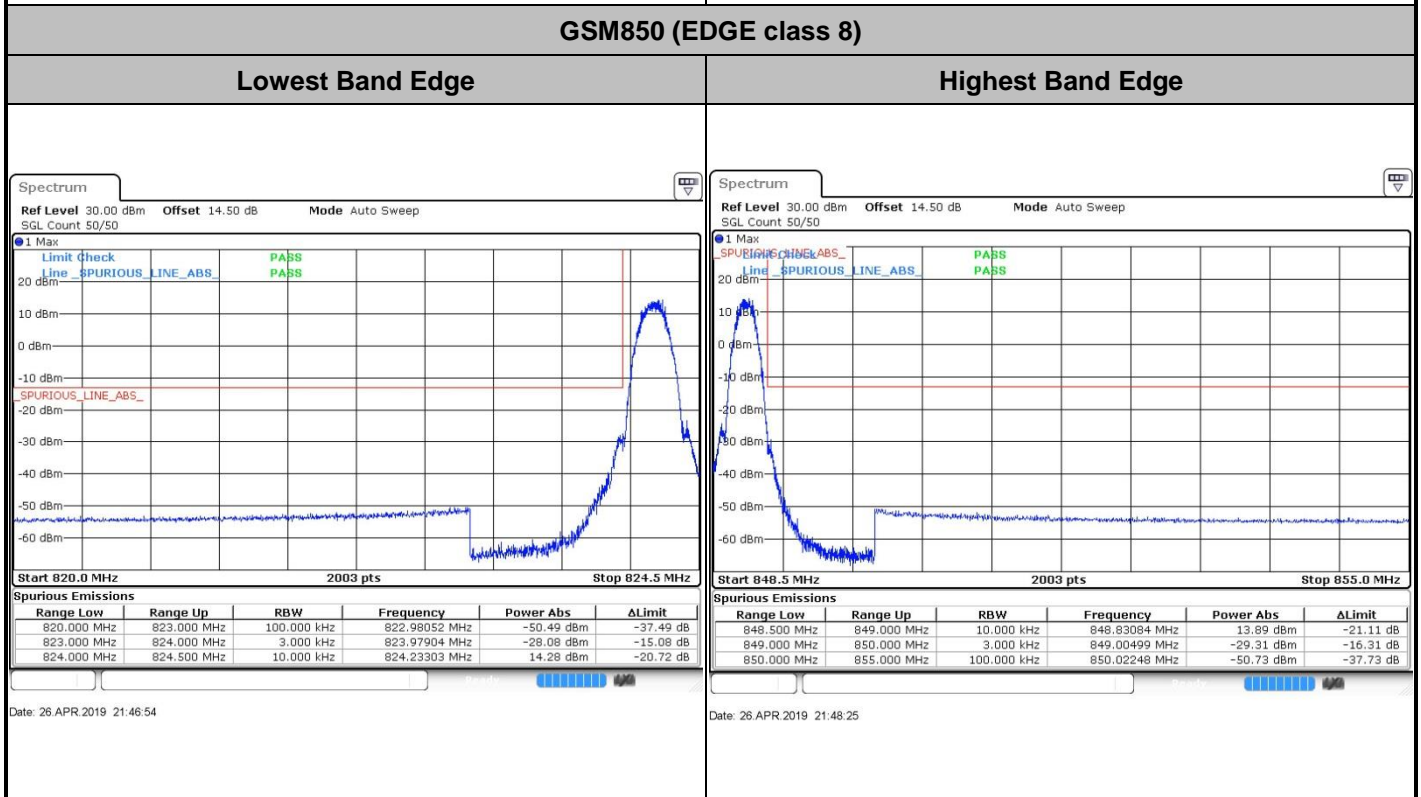
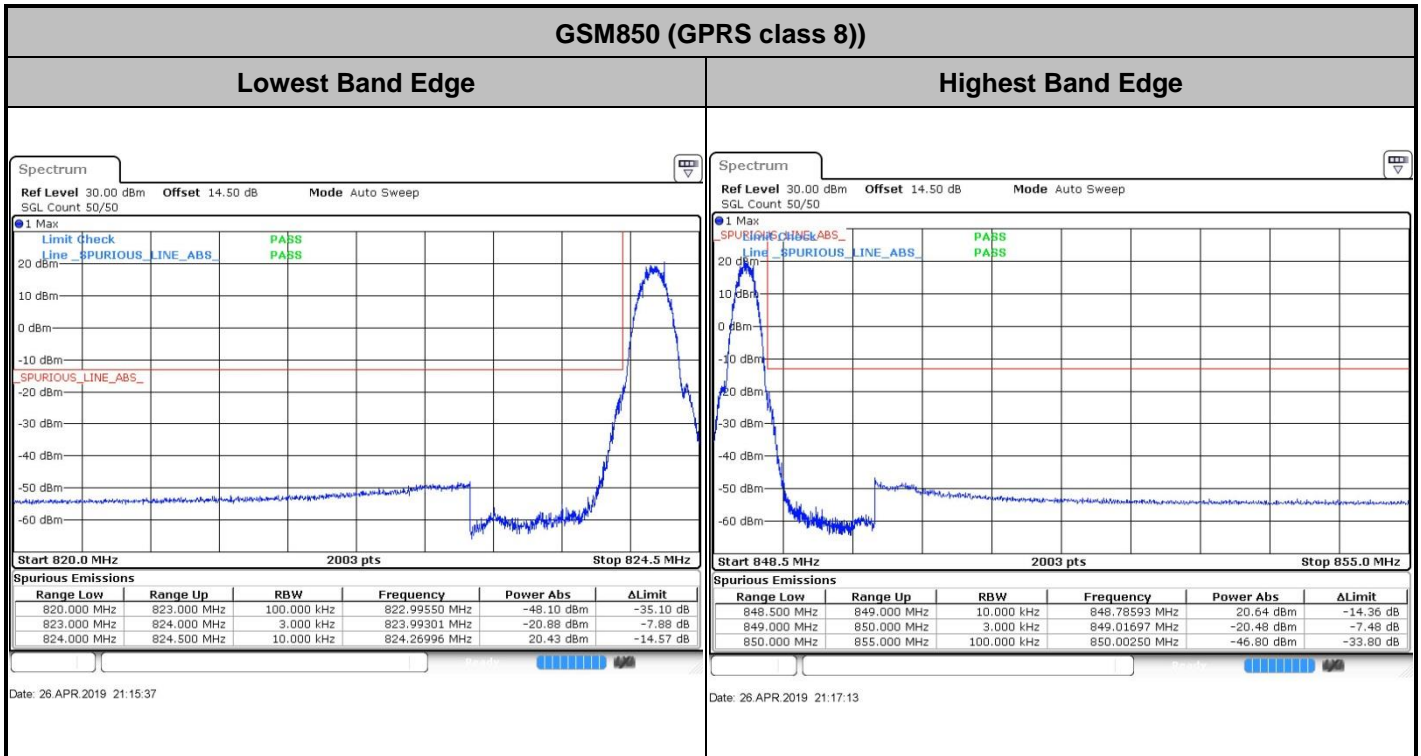


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Conducted Band Edge

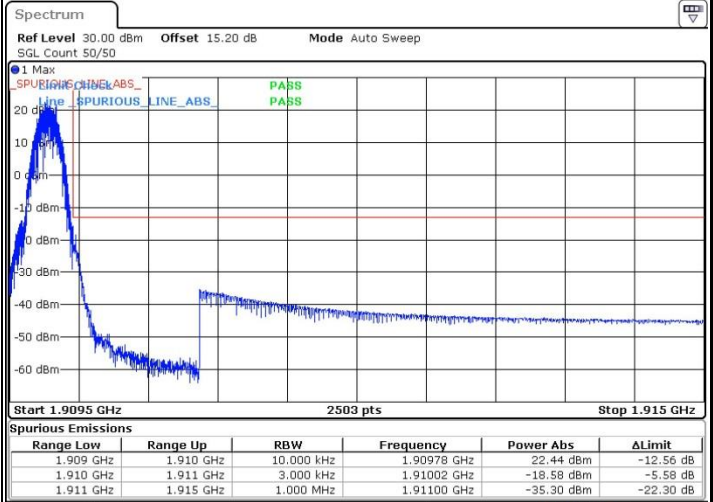
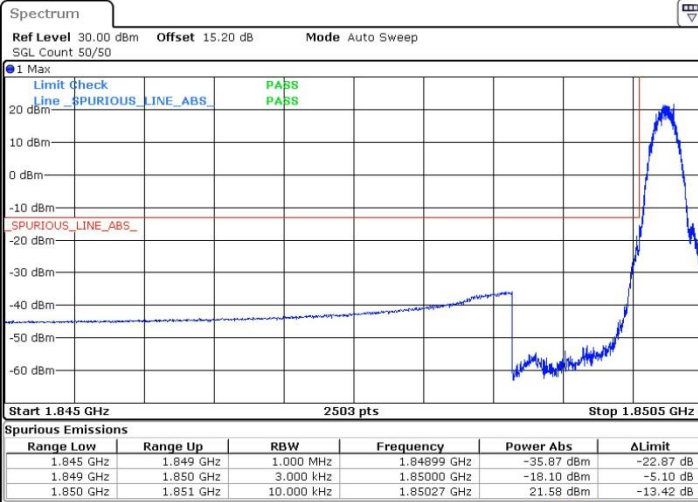




GSM1900 (GPRS class 8)

Lowest Band Edge

Highest Band Edge



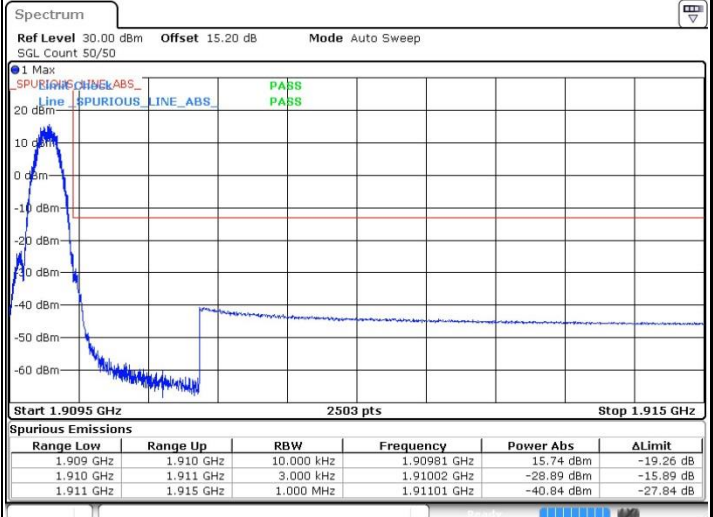
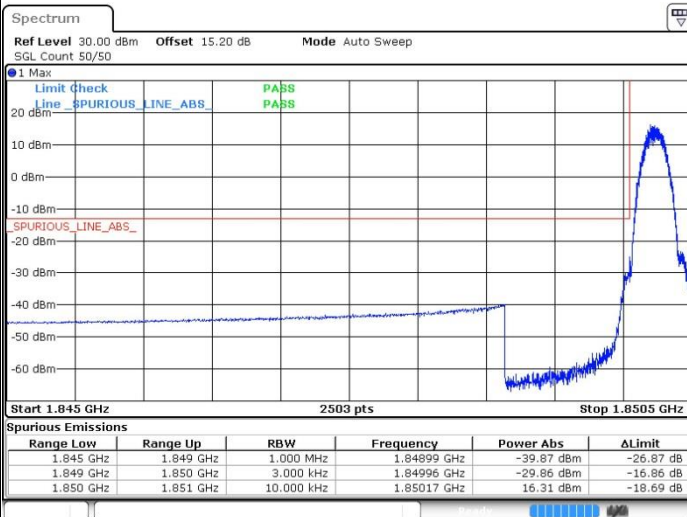
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Date: 26 APR.2019 22:04:27

GSM1900 (EDGE class 8)

Lowest Band Edge

Highest Band Edge

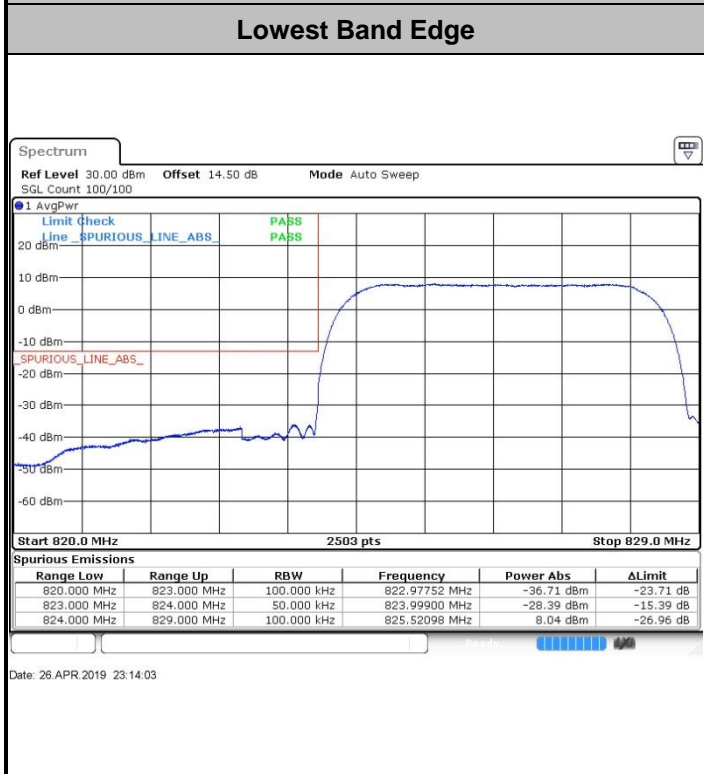


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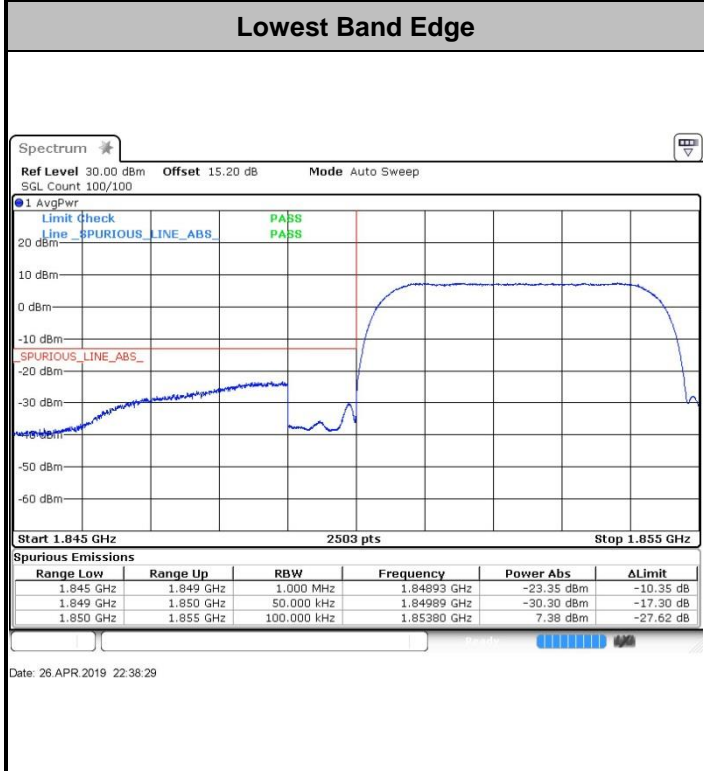
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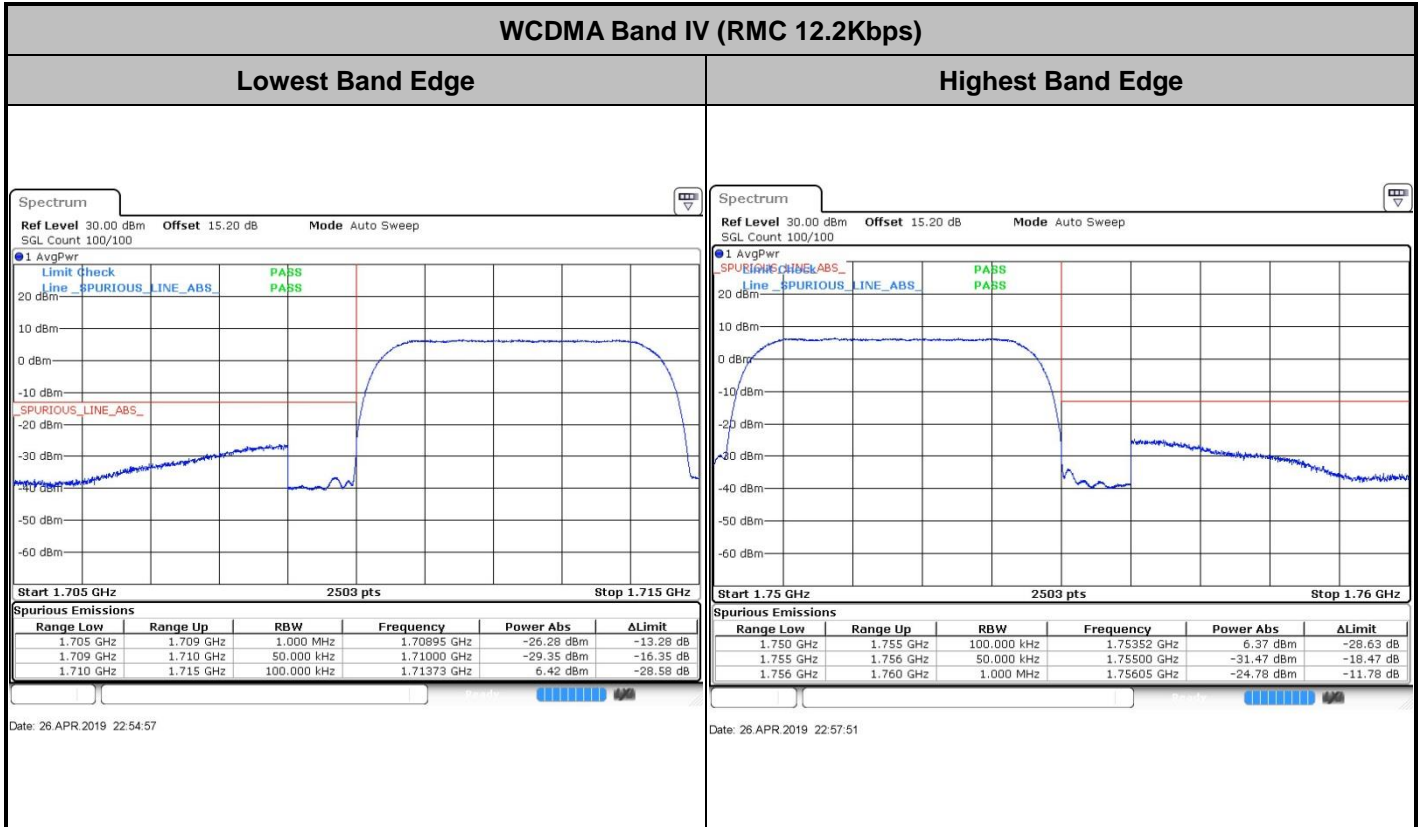


WCDMA Band V (RMC 12.2Kbps)



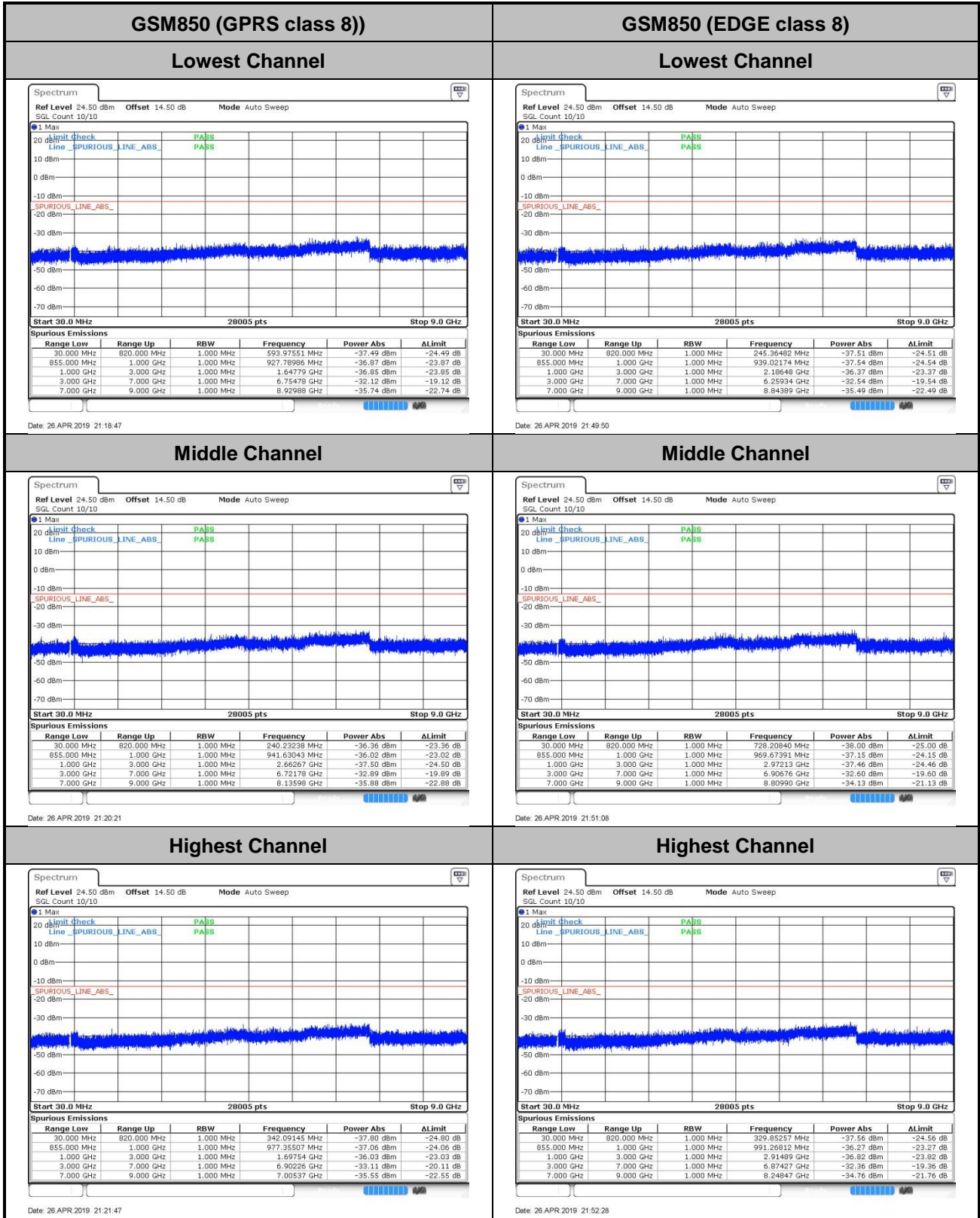
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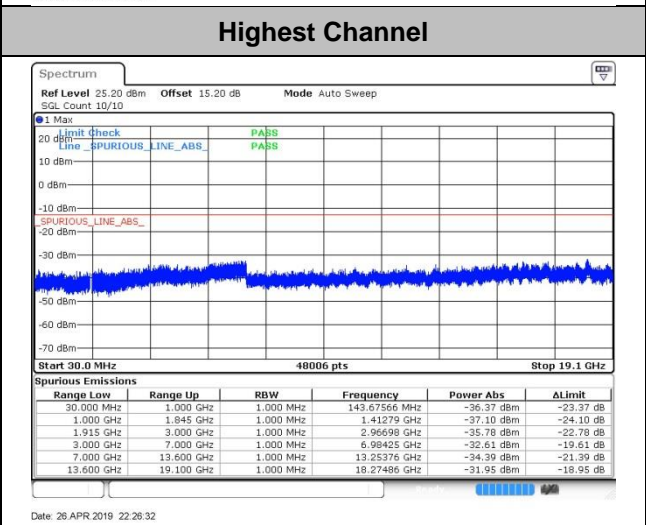
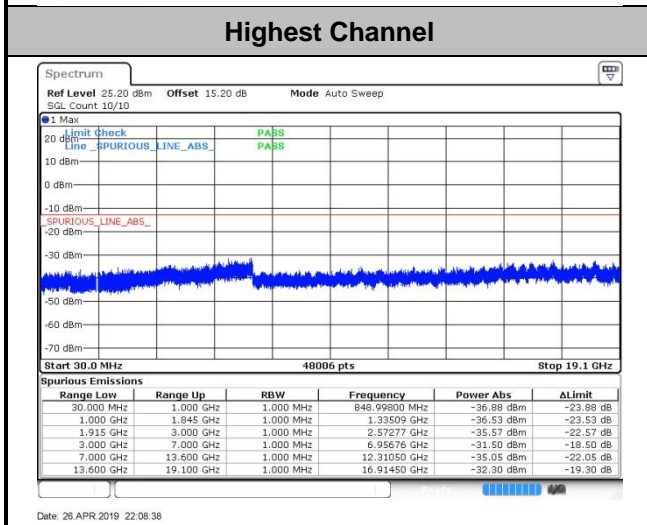
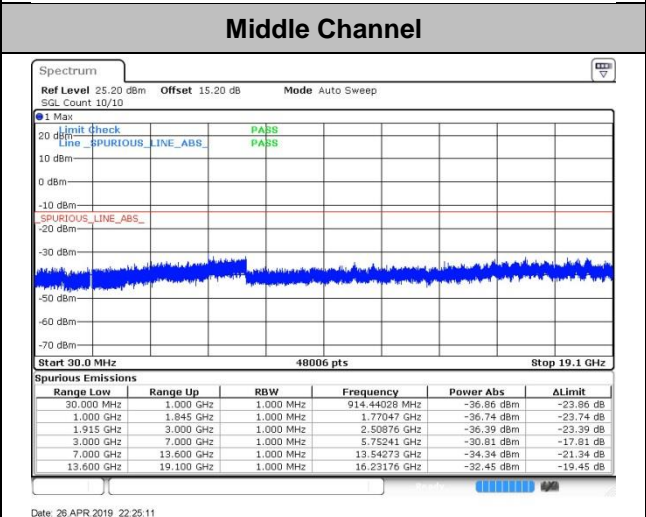
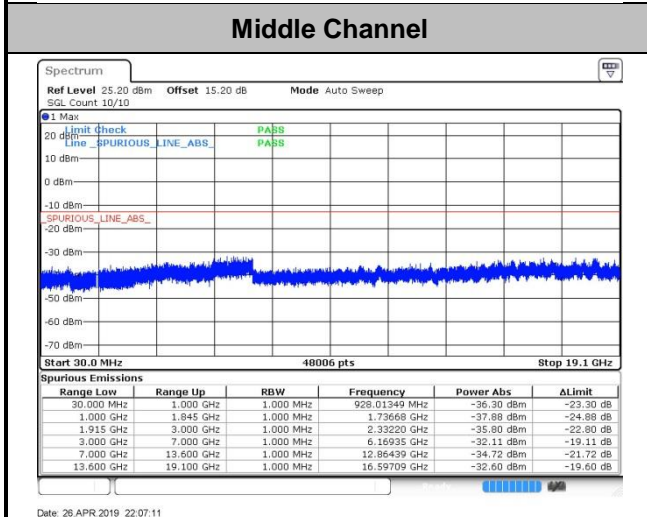
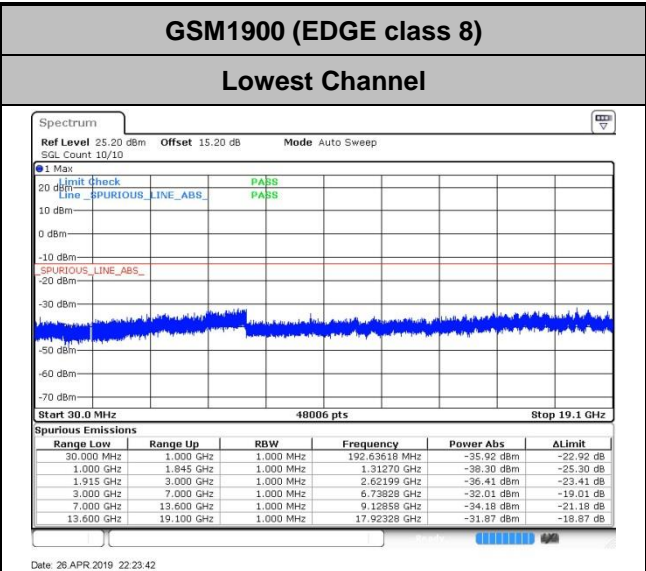
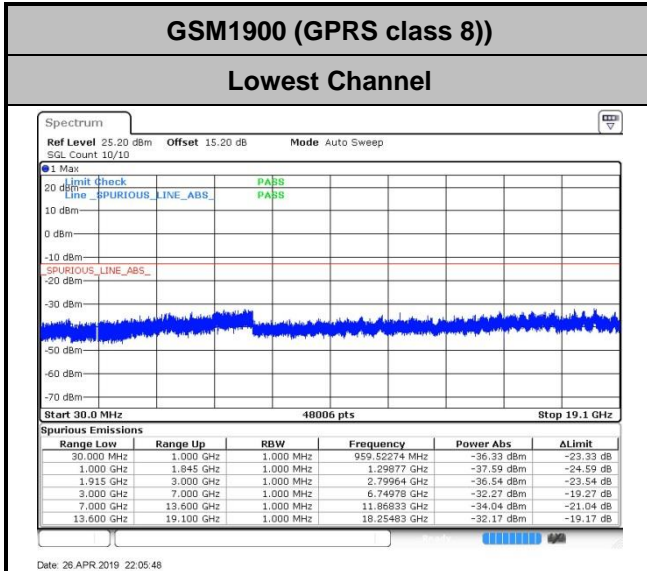


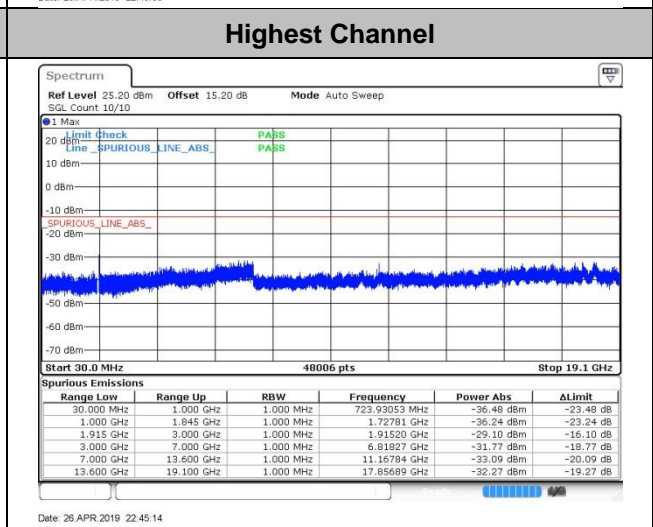
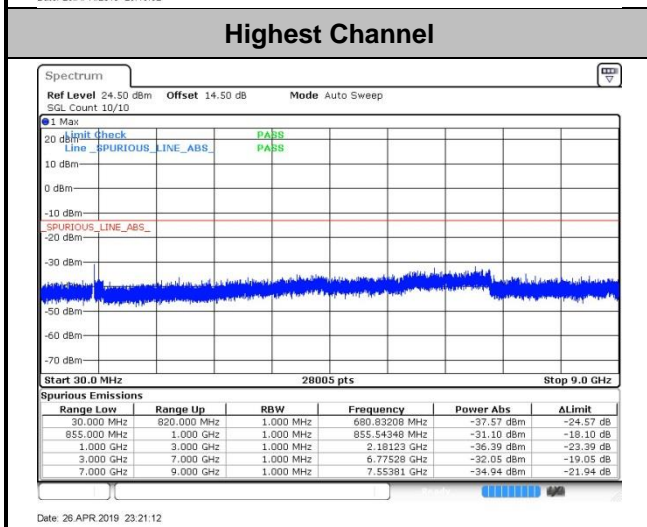
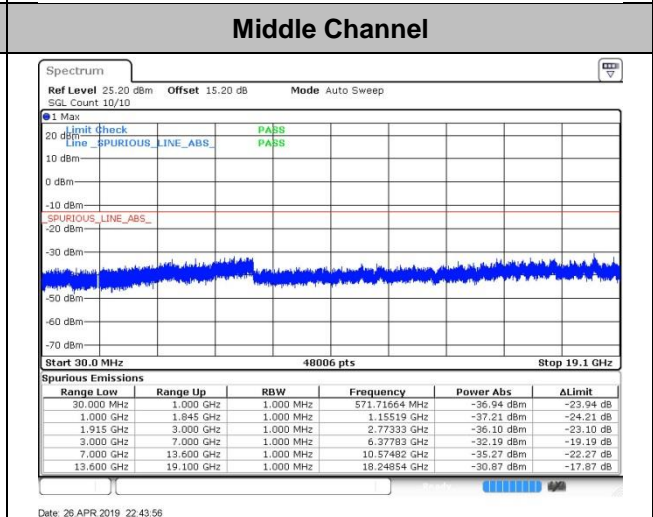
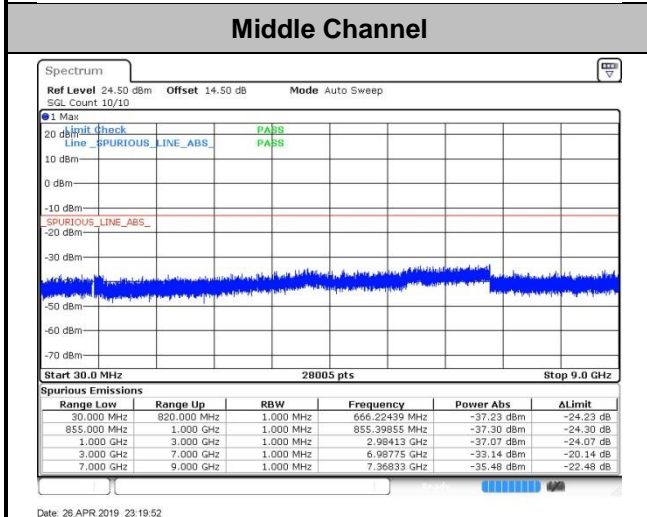
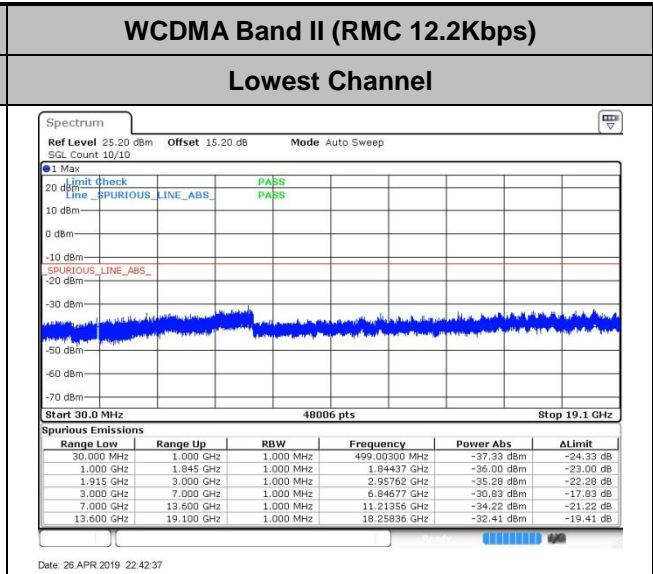
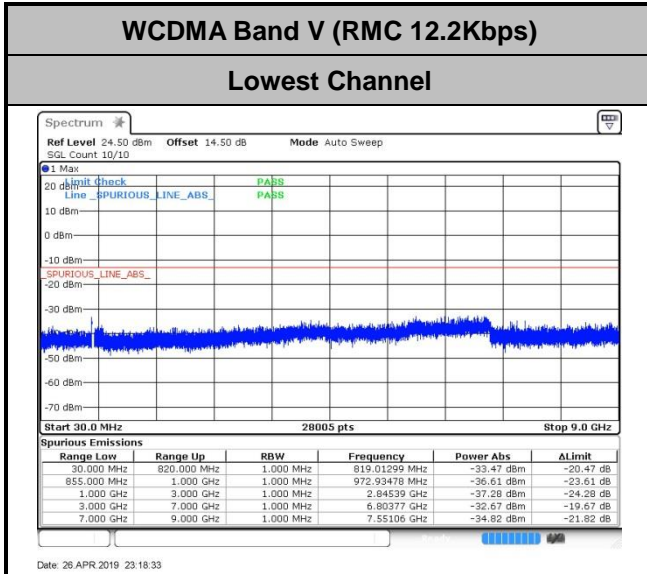




Conducted Spurious Emission



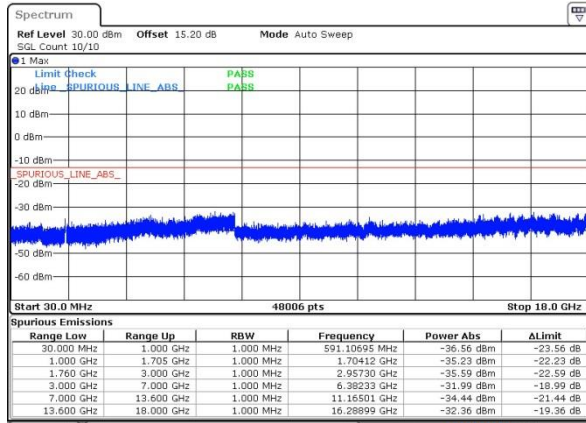






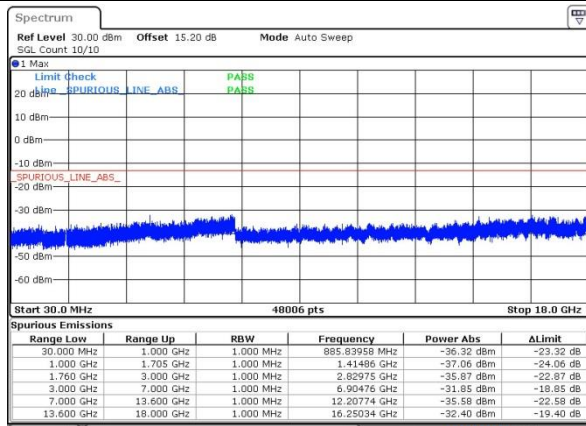
WCDMA Band IV (RMC 12.2Kbps)

Lowest Channel



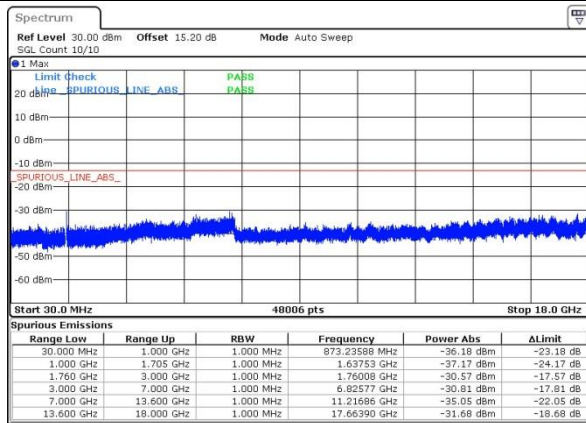
Date: 26 APR 2019 22:59:12

Middle Channel



Date: 26 APR 2019 23:01:20

Highest Channel



Date: 26 APR 2019 23:02:43



Frequency Stability

Test Conditions	Middle Channel	GSM850 (GPRS class 8)	GSM850 (EDGE class 8)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0049	0.0060	PASS
40	Normal Voltage	0.0525	0.0168	
30	Normal Voltage	0.0120	0.0538	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0573	0.0336	
0	Normal Voltage	0.0192	0.0538	
-10	Normal Voltage	0.0084	0.0466	
-20	Normal Voltage	0.0143	0.0167	
-30	Normal Voltage	0.0107	0.0478	
20	Maximum Voltage	0.0466	0.0514	
20	Normal Voltage	0.0155	0.0132	
20	Battery End Point	0.0395	0.0395	

Note: Normal Voltage = 3.6V. ; Battery End Point (BEP) =3.8V. ; Maximum Voltage =4.4 V

Test Conditions	Middle Channel	GSM1900 (GPRS class 8)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0052	0.0005	PASS
40	Normal Voltage	0.0015	0.0017	
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	
-20	Normal Voltage	0.0218	0.0037	
-30	Normal Voltage	0.0005	0.0213	
20	Maximum Voltage	0.0053	0.0160	
20	Normal Voltage	0.0021	0.0016	
20	Battery End Point	0.0133	0.0011	

Note:

1. Normal Voltage = 3.6V. ; Battery End Point (BEP) =3.8V. ; 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	0.0060	PASS
40	Normal Voltage	0.0394	
30	Normal Voltage	0.0441	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0071	
0	Normal Voltage	0.0323	
-10	Normal Voltage	0.0049	
-20	Normal Voltage	0.0168	
-30	Normal Voltage	0.0312	
20	Maximum Voltage	0.0442	
20	Normal Voltage	0.0155	
20	Battery End Point	0.0012	

Note: Normal Voltage = 3.6V. ; Battery End Point (BEP) =3.8V. ; 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	0.0186	PASS
40	Normal Voltage	0.0128	
30	Normal Voltage	0.0164	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0117	
0	Normal Voltage	0.0155	
-10	Normal Voltage	0.0239	
-20	Normal Voltage	0.0005	
-30	Normal Voltage	0.0117	
20	Maximum Voltage	0.0165	
20	Normal Voltage	0.0005	
20	Battery End Point	0.0032	

Note:

1. Normal Voltage = 3.6V. ; Battery End Point (BEP) =3.8V. ; 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 IV (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0069	PASS
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	
-20	Normal Voltage	0.0167	
-30	Normal Voltage	0.0092	
20	Maximum Voltage	0.0092	
20	Normal Voltage	0.0006	
20	Battery End Point	0.0167	

Note:

1. Normal Voltage = 3.6V. ; Battery End Point (BEP) =3.8V. ; Maximum Voltage =4.4 V
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

Top Antenna:

GSM850 (GPRS 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	1672.8	-48.71	-13	-35.71	-57.56	-51.96	4.00	9.40	H
	2509.2	-61.56	-13	-48.56	-75.04	-65.13	4.88	10.60	H
	3345.6	-64.20	-13	-51.20	-79.67	-69.13	5.52	12.60	H
	1672.8	-43.47	-13	-30.47	-52.11	-46.72	4.00	9.40	V
	2509.2	-62.61	-13	-49.61	-75.94	-66.18	4.88	10.60	V
	3345.6	-64.28	-13	-51.28	-79.75	-69.21	5.52	12.60	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	1672.8	-56.86	-13	-43.86	-65.71	-60.11	4.00	9.40	H
	2509.2	-66.69	-13	-53.69	-80.17	-70.26	4.88	10.60	H
	3345.6	-65.82	-13	-52.82	-81.29	-70.75	5.52	12.60	H
	1672.8	-63.89	-13	-50.89	-72.53	-67.14	4.00	9.40	V
	2509.2	-66.84	-13	-53.84	-80.17	-70.41	4.88	10.60	V
	3345.6	-65.47	-13	-52.47	-80.94	-70.40	5.52	12.60	V

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



GSM1900 (GPRS 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	-63.35	-13	-50.35	-80.35	-70.10	5.85	12.60	H
	5640	-62.39	-13	-49.39	-83.06	-68.19	7.30	13.10	H
	7520	-56.78	-13	-43.78	-83.05	-59.93	8.35	11.50	H
	3760	-59.57	-13	-46.57	-76.61	-66.32	5.85	12.60	V
	5640	-59.92	-13	-46.92	-80.99	-65.72	7.30	13.10	V
	7520	-56.95	-13	-43.95	-83.03	-60.10	8.35	11.50	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	-64.31	-13	-51.31	-81.31	-71.06	5.85	12.60	H
	5640	-62.37	-13	-49.37	-83.04	-68.17	7.30	13.10	H
	7520	-56.63	-13	-43.63	-82.90	-59.78	8.35	11.50	H
	3760	-64.23	-13	-51.23	-81.27	-70.98	5.85	12.60	V
	5640	-62.15	-13	-49.15	-83.22	-67.95	7.30	13.10	V
	7520	-56.92	-13	-43.92	-83	-60.07	8.35	11.50	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	1672.8	-68.48	-13	-55.48	-77.33	-71.73	4.00	9.40	H
	2509.2	-66.84	-13	-53.84	-80.32	-70.41	4.88	10.60	H
	3345.6	-65.87	-13	-52.87	-81.34	-70.80	5.52	12.60	H
	1672.8	-67.63	-13	-54.63	-76.27	-70.88	4.00	9.40	V
	2509.2	-66.86	-13	-53.86	-80.19	-70.43	4.88	10.60	V
	3345.6	-65.76	-13	-52.76	-81.23	-70.69	5.52	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	-64.25	-13	-51.25	-81.25	-71.00	5.85	12.60	H
	5640	-62.40	-13	-49.40	-83.07	-68.20	7.30	13.10	H
	7520	-57.01	-13	-44.01	-83.28	-60.16	8.35	11.50	H
	3760	-63.87	-13	-50.87	-80.91	-70.62	5.85	12.60	V
	5640	-61.51	-13	-48.51	-82.58	-67.31	7.30	13.10	V
	7520	-56.80	-13	-43.80	-82.88	-59.95	8.35	11.50	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	3465.2	-64.96	-13	-51.96	-80.58	-71.81	5.65	12.50	H
	5197.8	-62.58	-13	-49.58	-82.75	-68.25	7.13	12.80	H
	6930.4	-57.26	-13	-44.26	-82.55	-60.66	8.40	11.80	H
	3465.2	-65.33	-13	-52.33	-80.98	-72.18	5.65	12.50	V
	5197.8	-62.18	-13	-49.18	-82.8	-67.85	7.13	12.80	V
	6930.4	-57.22	-13	-44.22	-82.62	-60.62	8.40	11.80	V

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



Bottom Antenna:

GSM850 (GPRS 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	1672.8	-46.26	-13	-33.26	-55.11	-49.51	4.00	9.40	H
	2509.2	-62.64	-13	-49.64	-76.12	-66.21	4.88	10.60	H
	3345.6	-65.11	-13	-52.11	-80.58	-70.04	5.52	12.60	H
	1672.8	-54.69	-13	-41.69	-63.33	-57.94	4.00	9.40	V
	2509.2	-65.32	-13	-52.32	-78.65	-68.89	4.88	10.60	V
	3345.6	-65.72	-13	-52.72	-81.19	-70.65	5.52	12.60	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	1672.8	-57.50	-13	-44.50	-66.35	-60.75	4.00	9.40	H
	2509.2	-66.50	-13	-53.50	-79.98	-70.07	4.88	10.60	H
	3345.6	-65.54	-13	-52.54	-81.01	-70.47	5.52	12.60	H
	1672.8	-57.42	-13	-44.42	-66.06	-60.67	4.00	9.40	V
	2509.2	-66.89	-13	-53.89	-80.22	-70.46	4.88	10.60	V
	3345.6	-65.78	-13	-52.78	-81.25	-70.71	5.52	12.60	V

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



GSM1900 (GPRS 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	-62.84	-13	-49.84	-79.84	-69.59	5.85	12.60	H
	5640	-61.96	-13	-48.96	-82.63	-67.76	7.30	13.10	H
	7520	-56.59	-13	-43.59	-82.86	-59.74	8.35	11.50	H
	3760	-61.43	-13	-48.43	-78.47	-68.18	5.85	12.60	V
	5640	-57.39	-13	-44.39	-78.46	-63.19	7.30	13.10	V
	7520	-56.77	-13	-43.77	-82.85	-59.92	8.35	11.50	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	-63.97	-13	-50.97	-80.97	-70.72	5.85	12.60	H
	5640	-62.20	-13	-49.20	-82.87	-68.00	7.30	13.10	H
	7520	-56.32	-13	-43.32	-82.59	-59.47	8.35	11.50	H
	3760	-64.29	-13	-51.29	-81.33	-71.04	5.85	12.60	V
	5640	-61.69	-13	-48.69	-82.76	-67.49	7.30	13.10	V
	7520	-56.60	-13	-43.60	-82.68	-59.75	8.35	11.50	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	1672.8	-69.55	-13	-56.55	-78.40	-72.80	4.00	9.40	H
	2509.2	-66.70	-13	-53.70	-80.18	-70.27	4.88	10.60	H
	3345.6	-65.84	-13	-52.84	-81.31	-70.77	5.52	12.60	H
	1672.8	-69.65	-13	-56.65	-78.29	-72.90	4.00	9.40	V
	2509.2	-66.90	-13	-53.90	-80.23	-70.47	4.88	10.60	V
	3345.6	-65.72	-13	-52.72	-81.19	-70.65	5.52	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	-63.73	-13	-50.73	-80.73	-70.48	5.85	12.60	H
	5640	-62.21	-13	-49.21	-82.88	-68.01	7.30	13.10	H
	7520	-56.52	-13	-43.52	-82.79	-59.67	8.35	11.50	H
	3760	-63.70	-13	-50.70	-80.74	-70.45	5.85	12.60	V
	5640	-61.82	-13	-48.82	-82.89	-67.62	7.30	13.10	V
	7520	-56.78	-13	-43.78	-82.86	-59.93	8.35	11.50	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	3465.2	-65.17	-13	-52.17	-80.79	-72.02	5.65	12.50	H
	5197.8	-62.55	-13	-49.55	-82.72	-68.22	7.13	12.80	H
	6930.4	-57.32	-13	-44.32	-82.61	-60.72	8.40	11.80	H
	3465.2	-65.06	-13	-52.06	-80.71	-71.91	5.65	12.50	V
	5197.8	-62.12	-13	-49.12	-82.74	-67.79	7.13	12.80	V
	6930.4	-56.93	-13	-43.93	-82.33	-60.33	8.40	11.80	V

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