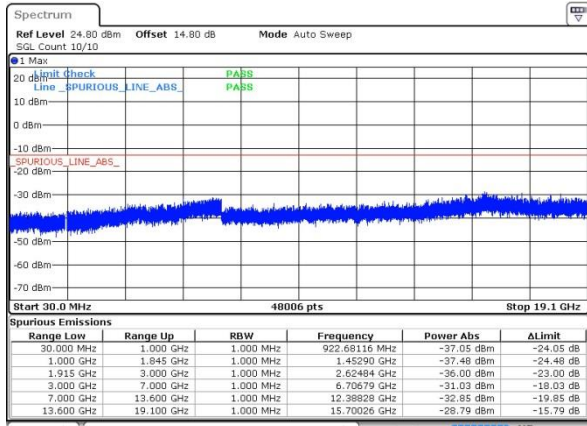




GSM1900 (GSM)

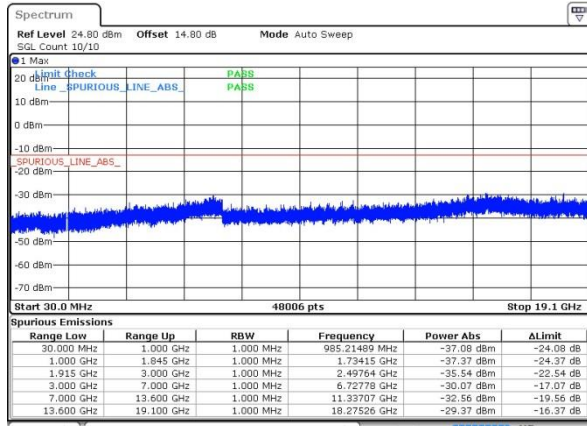
Lowest Channel



Date: 29 OCT 2018 02:46:10

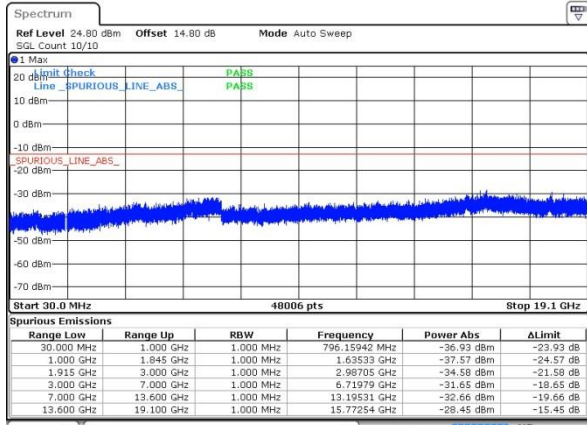
GSM1900 (EDGE class 8)

Lowest Channel



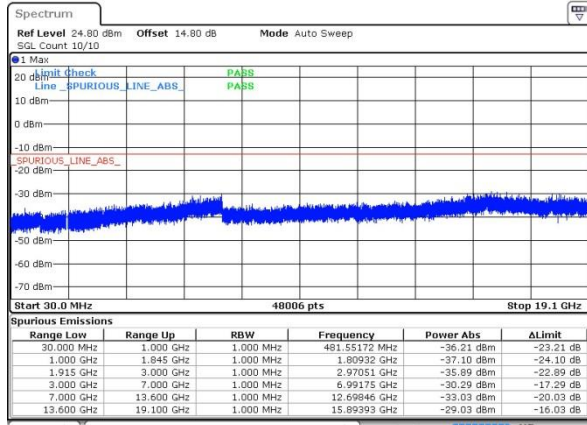
Date: 28 OCT 2018 23:56:00

Middle Channel



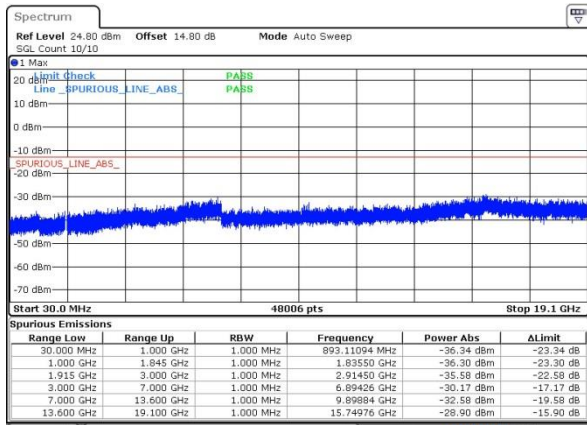
Date: 29 OCT 2018 02:47:41

Middle Channel



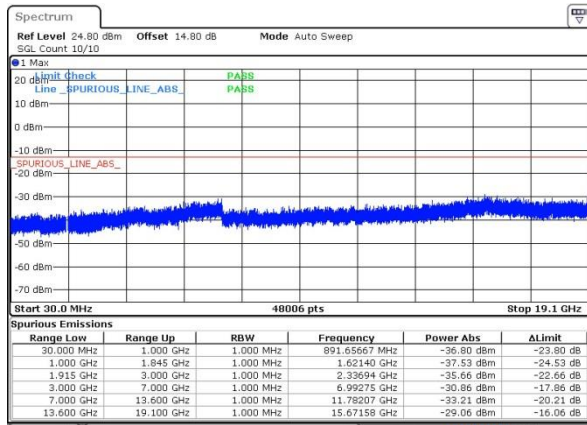
Date: 28 OCT 2018 23:57:23

Highest Channel



Date: 29 OCT 2018 02:49:21

Highest Channel

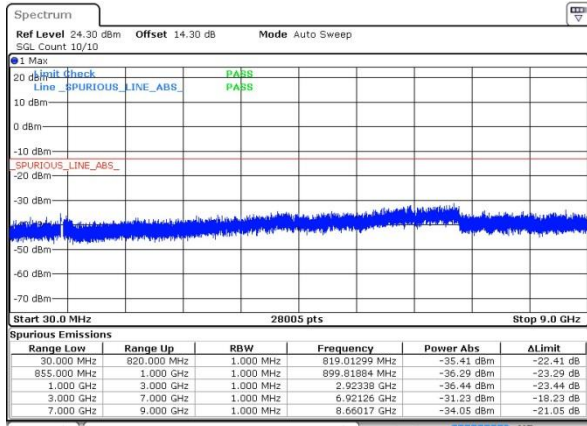


Date: 28 OCT 2018 23:58:51



WCDMA Band V (RMC 12.2Kbps)

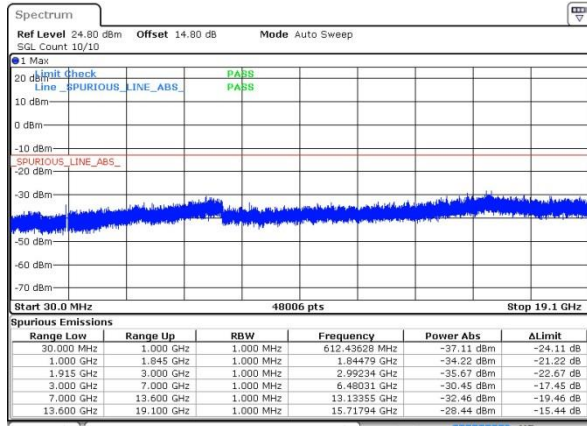
Lowest Channel



Date: 29 OCT.2018 00:44:41

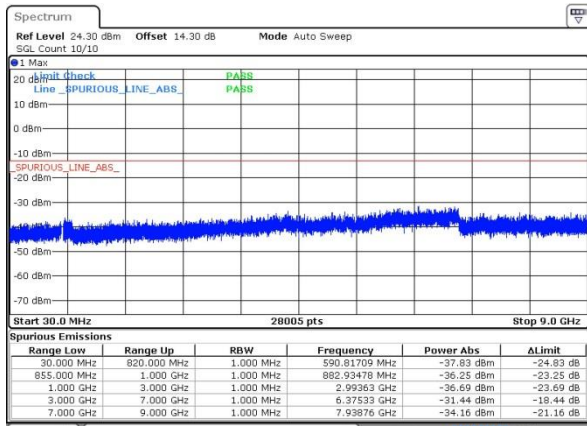
WCDMA Band II (RMC 12.2Kbps)

Lowest Channel



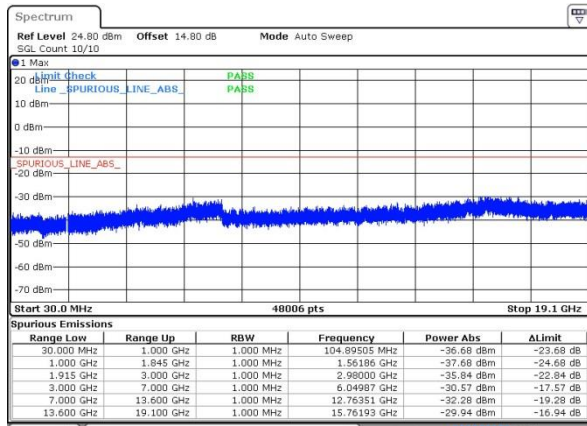
Date: 29 OCT.2018 00:16:59

Middle Channel



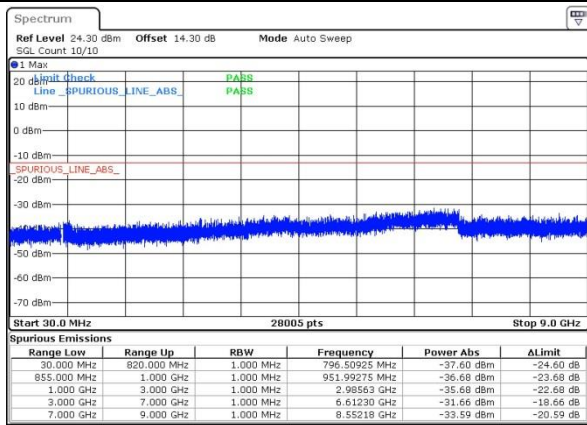
Date: 29 OCT.2018 00:47:16

Middle Channel



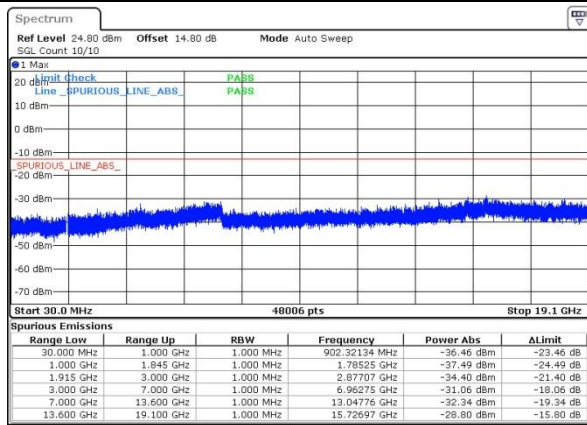
Date: 29 OCT.2018 00:20:37

Highest Channel



Date: 29 OCT.2018 00:48:41

Highest Channel



Date: 29 OCT.2018 00:22:25



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	0.0048	0.0060	PASS
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	
-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) =3.5V. : Maximum Voltage =4.4V



Test Conditions	Middle Channel	GSM1900 (GSM)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0053	0.0005	PASS
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	
-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) =3.5V. ; Maximum Voltage =4.4V
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	0.0060	PASS
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	
-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) =3.5V. : Maximum Voltage =4.4V



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	0.0165	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0117	
0	Normal Voltage	0.0154	
-10	Normal Voltage	0.0239	
-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) =3.5V. ; Maximum Voltage =4.4V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



Appendix B. Test Results of Conducted 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)
Middle	1672	-47.29	-13	-34.29	-49.62	1.21	5.68	H
	2510	-44.04	-13	-31.04	-46.15	1.54	5.80	H
	3345	-59.33	-13	-46.33	-63.33	1.73	7.88	H
	1672	-54.65	-13	-41.65	-56.98	1.21	5.68	V
	2510	-44.78	-13	-31.78	-46.89	1.54	5.80	V
	3345	-59.11	-13	-46.11	-63.11	1.73	7.88	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)
Middle	1672	-47.35	-13	-34.35	-49.68	1.21	5.68	H
	2510	-43.37	-13	-30.37	-45.48	1.54	5.80	H
	3345	-59.38	-13	-46.38	-63.38	1.73	7.88	H
	1672	-54.70	-13	-41.70	-57.03	1.21	5.68	V
	2510	-44.54	-13	-31.54	-46.65	1.54	5.80	V
	3345	-59.56	-13	-46.56	-63.56	1.73	7.88	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	-56.68	-13	-43.68	-63.25	1.848	8.42	H
	5640	-45.40	-13	-32.40	-53.76	2.32	10.68	H
	7521	-54.91	-13	-41.91	-64.24	2.61	11.94	H
	3759	-55.97	-13	-42.97	-62.54	1.85	8.42	V
	5640	-43.95	-13	-30.95	-52.31	2.32	10.68	V
	7521	-55.17	-13	-42.17	-64.50	2.61	11.94	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)
Middle	3759	-57.10	-13	-44.10	-63.67	1.848	8.42	H
	5640	-45.89	-13	-32.89	-54.25	2.32	10.68	H
	7521	-54.85	-13	-41.85	-64.18	2.61	11.94	H
	3759	-57.34	-13	-44.34	-63.91	1.85	8.42	V
	5640	-50.21	-13	-37.21	-58.57	2.32	10.68	V
	7521	-55.22	-13	-42.22	-64.55	2.61	11.94	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)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1670	-63.68	-13	-50.68	-66.01	1.21	5.68	H
	2512	-54.58	-13	-41.58	-56.69	1.54	5.80	H
	3345	-59.35	-13	-46.35	-63.35	1.73	7.88	H
	1672.8	-64.88	-13	-51.88	-67.21	1.21	5.68	V
	2506	-55.48	-13	-42.48	-57.59	1.54	5.80	V
	3345	-59.53	-13	-46.53	-63.53	1.73	7.88	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)
Middle	3762	-56.68	-13	-43.68	-63.25	1.848	8.42	H
	5643	-51.57	-13	-38.57	-59.93	2.32	10.68	H
	7524	-53.84	-13	-40.84	-63.17	2.61	11.94	H
	3762	-53.27	-13	-40.27	-59.84	1.85	8.42	V
	5643	-48.19	-13	-35.19	-56.55	2.32	10.68	V
	7524	-52.28	-13	-39.28	-61.61	2.61	11.94	V

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



A calculation example for radiated spurious emission is shown as below:

GSM850								
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	-61.30	-13	-48.30	-63.21	1.14	5.20	H

- 1. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
- 2. ERP (dBm) = EIRP - 2.15

For example:

- 1. ERP (dBm)
= S.G. Power – Tx Cable Loss + Tx Antenna Gain -2.15
= -63.21(dBm) – 1.14(dB) + 5.2 (dBi) -2.15
= -61.30 (dBm)
- 2. Over Limit(dB)
= ERP (dBm) – Limit Line(dBm)
= -61.30 (dBm) + 13(dBm)
= -48.30 (dB)

The test result complies with the limit line, so test result is “PASS”.