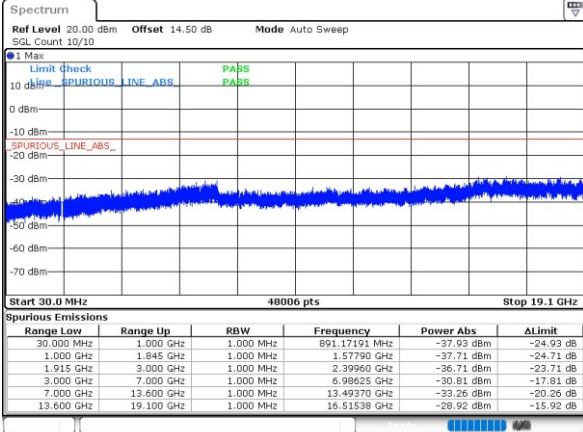




GSM1900 (GSM)

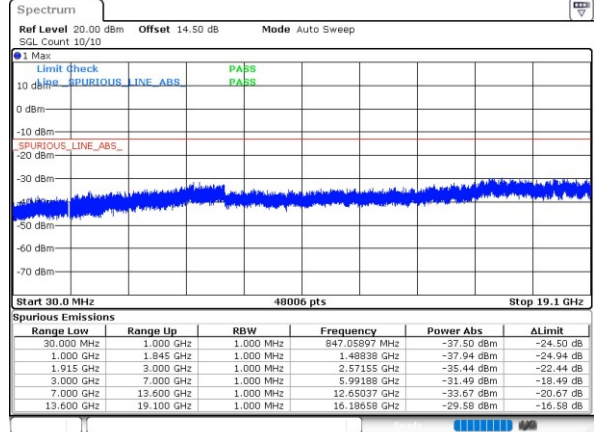
Lowest Channel



Date: 1.FEB.2021 17:27:13

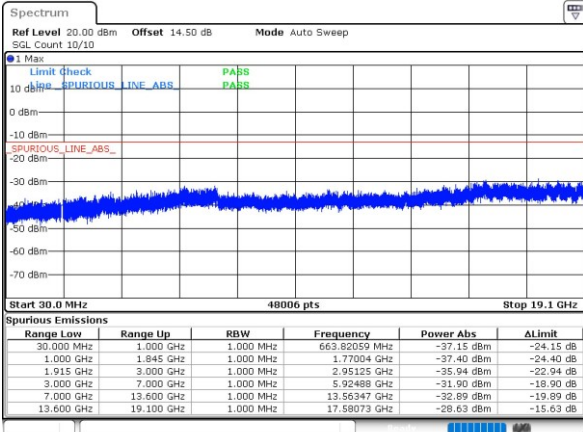
GSM1900 (EDGE class 8)

Lowest Channel



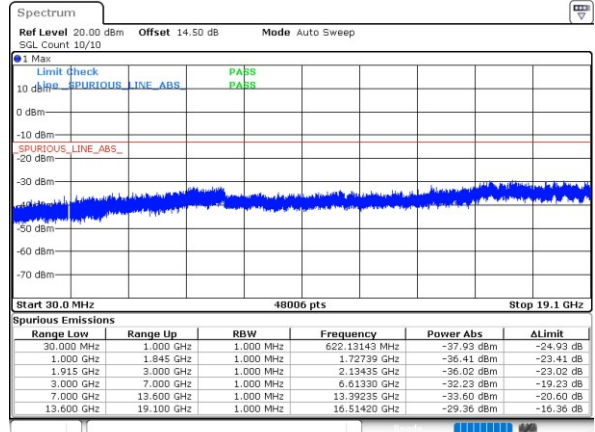
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Middle Channel



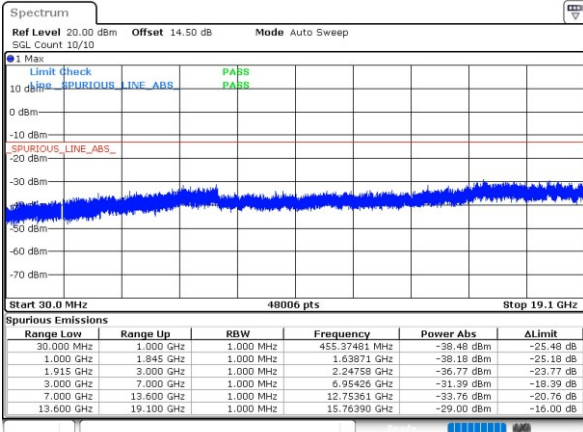
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Middle Channel



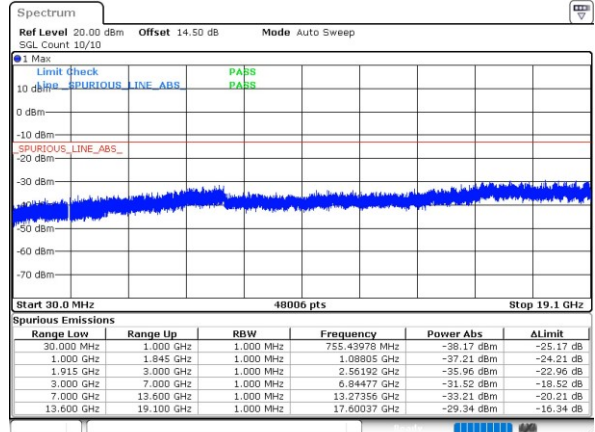
Date: 1.FEB.2021 17:47:53

Highest Channel



Date: 1.FEB.2021 17:28:11

Highest Channel



Date: 1.FEB.2021 17:49:10



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	0.0178	0.0125	PASS
40	Normal Voltage	0.0034	0.0035	
30	Normal Voltage	0.0025	0.0012	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0014	0.0142	
0	Normal Voltage	0.0018	0.0005	
-10	Normal Voltage	0.0032	0.0002	
-20	Normal Voltage	0.0011	0.0112	
-30	Normal Voltage	0.0010	0.0121	
20	Maximum Voltage	0.0124	0.0141	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0061	0.0164	

Test Conditions	Middle Channel	GSM1900 (GSM)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0021	0.0065	PASS
40	Normal Voltage	0.0185	0.0046	
30	Normal Voltage	0.0032	0.0065	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0112	0.0034	
0	Normal Voltage	0.0021	0.0071	
-10	Normal Voltage	0.0091	0.0000	
-20	Normal Voltage	0.0003	0.0005	
-30	Normal Voltage	0.0152	0.0003	
20	Maximum Voltage	0.0001	0.0006	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0032	0.0003	

Note:

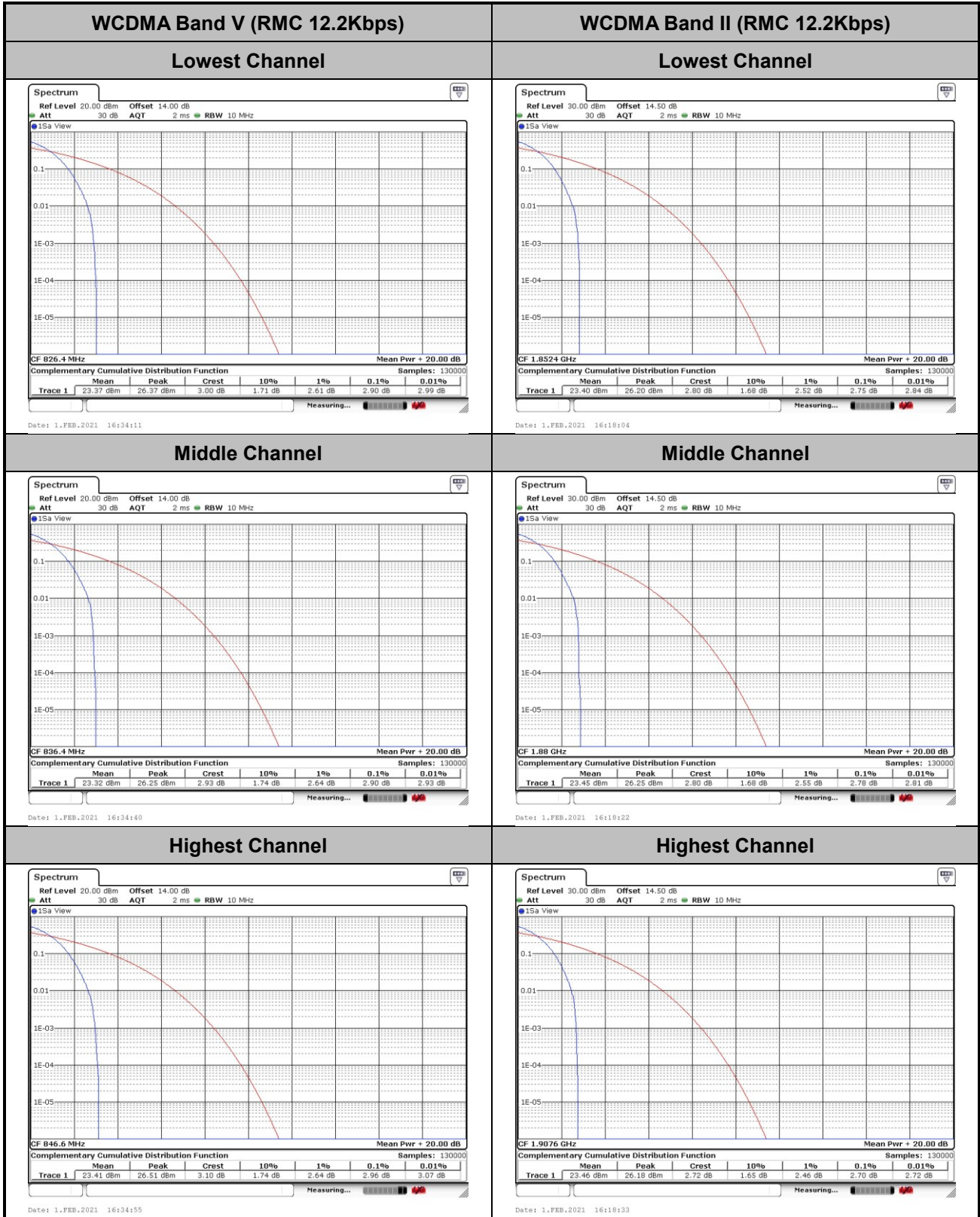
1. Normal Voltage = 3.87V. ; Battery End Point (BEP) = 3.45 V. ; Maximum Voltage =4.45 V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

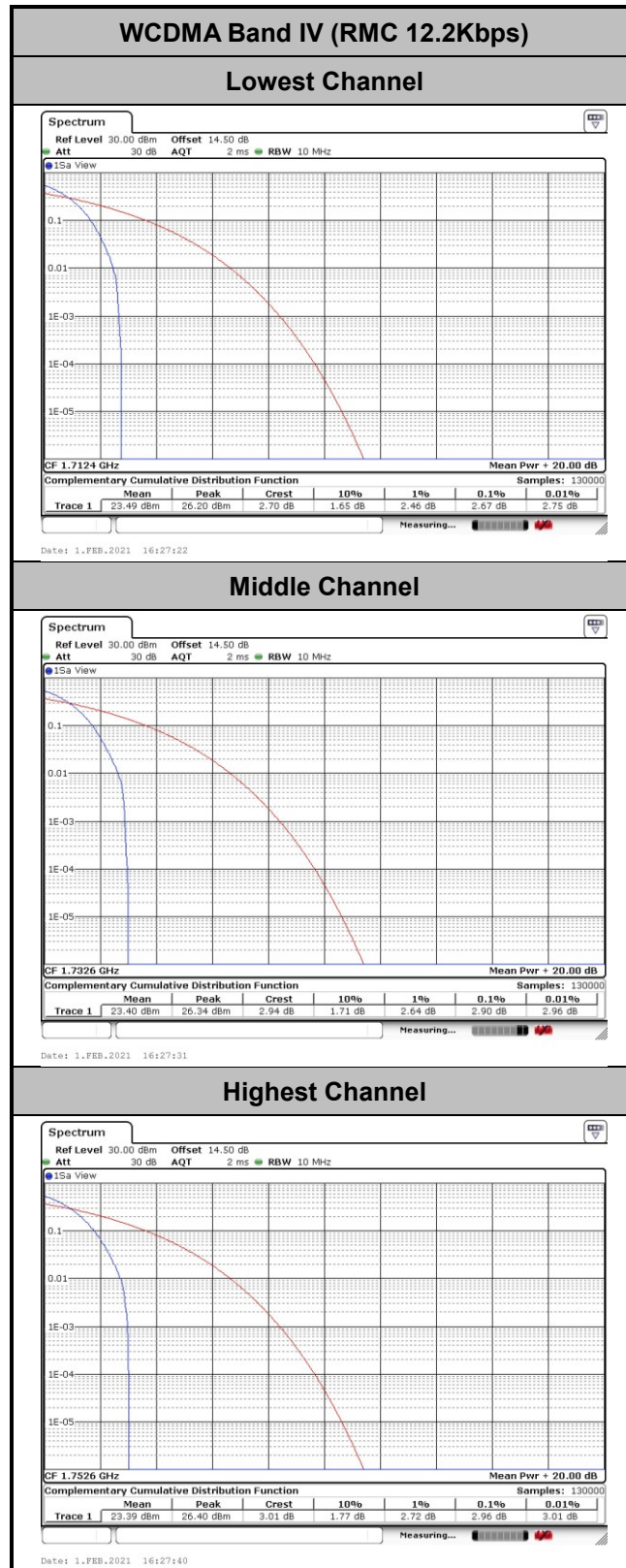


A2. WCDMA

Peak-to-Average Ratio

Mode	WCDMA Band V(dB)	WCDMA Band II(dB)	WCDMA Band IV(dB)	Limit: 13dB
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps	Result
Lowest CH	2.90	2.75	2.67	PASS
Middle CH	2.90	2.78	2.90	
Highest CH	2.96	2.70	2.96	







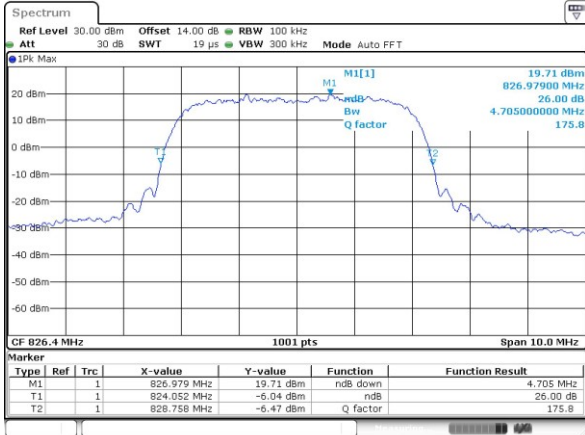
26dB Bandwidth

Mode	WCDMA Band V(MHz)	WCDMA Band II(MHz)	WCDMA Band IV(MHz)
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.71	4.74	4.74
Middle CH	4.71	4.74	4.72
Highest CH	4.71	4.74	4.72



WCDMA Band V (RMC 12.2Kbps)

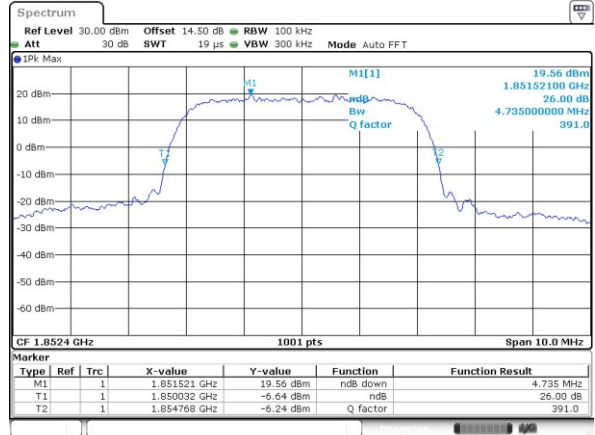
Lowest Channel



Date: 1.FEB.2021 16:13:50

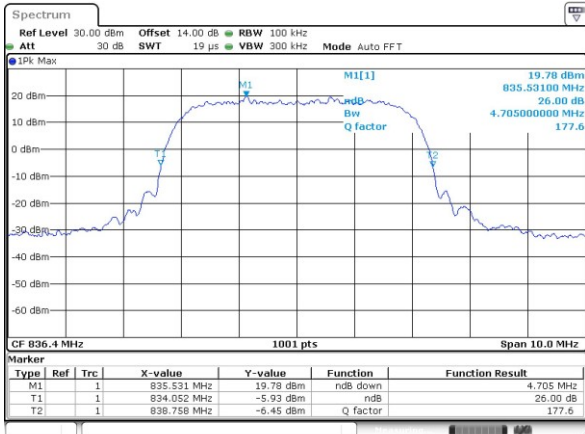
WCDMA Band II (RMC 12.2Kbps)

Lowest Channel



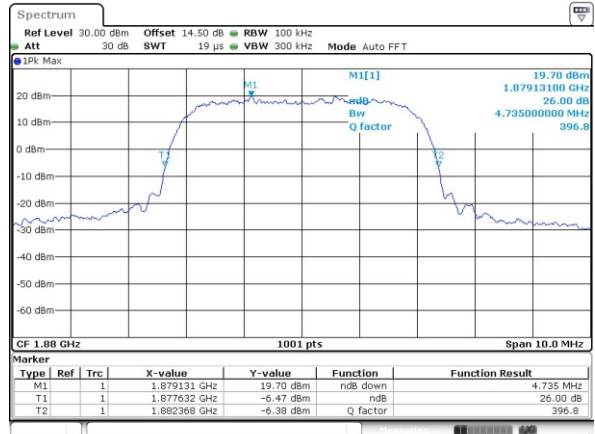
Date: 1.FEB.2021 16:15:13

Middle Channel



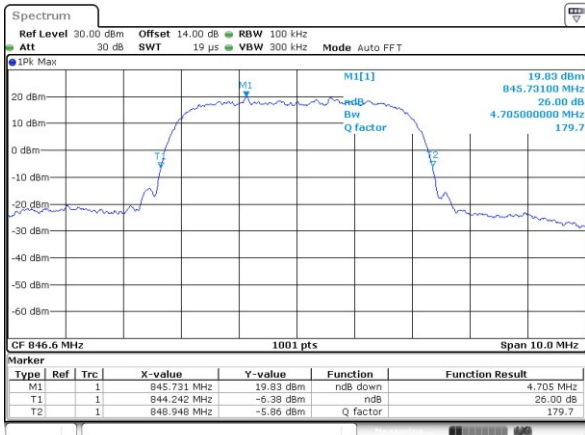
Date: 1.FEB.2021 16:13:13

Middle Channel



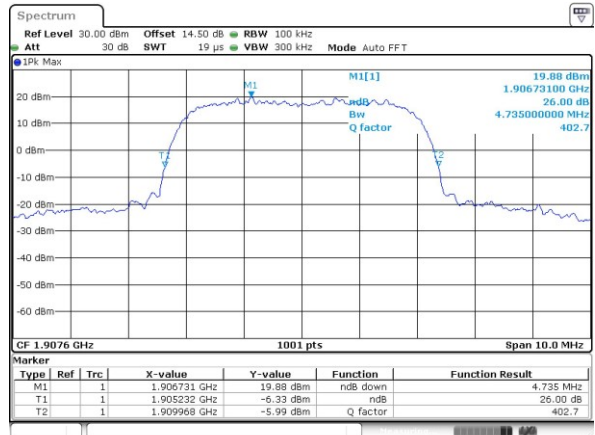
Date: 1.FEB.2021 16:15:37

Highest Channel

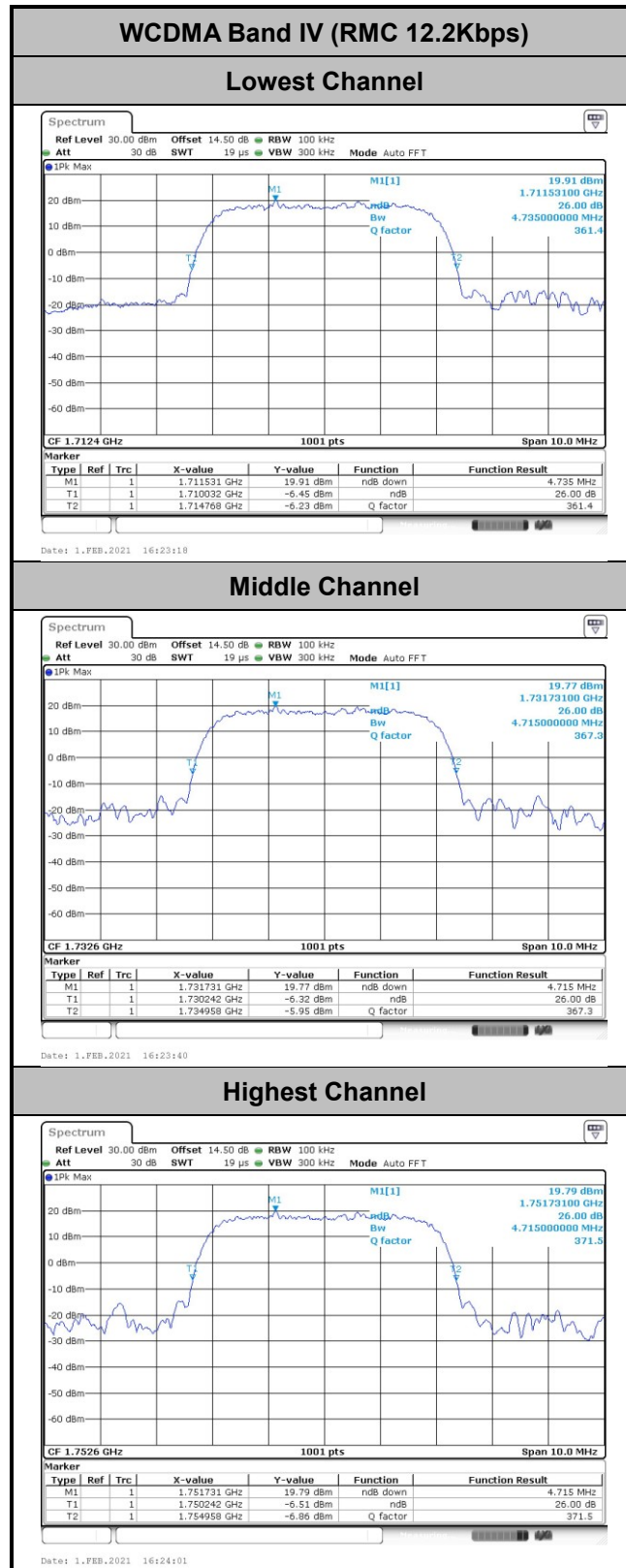


Date: 1.FEB.2021 16:13:36

Highest Channel



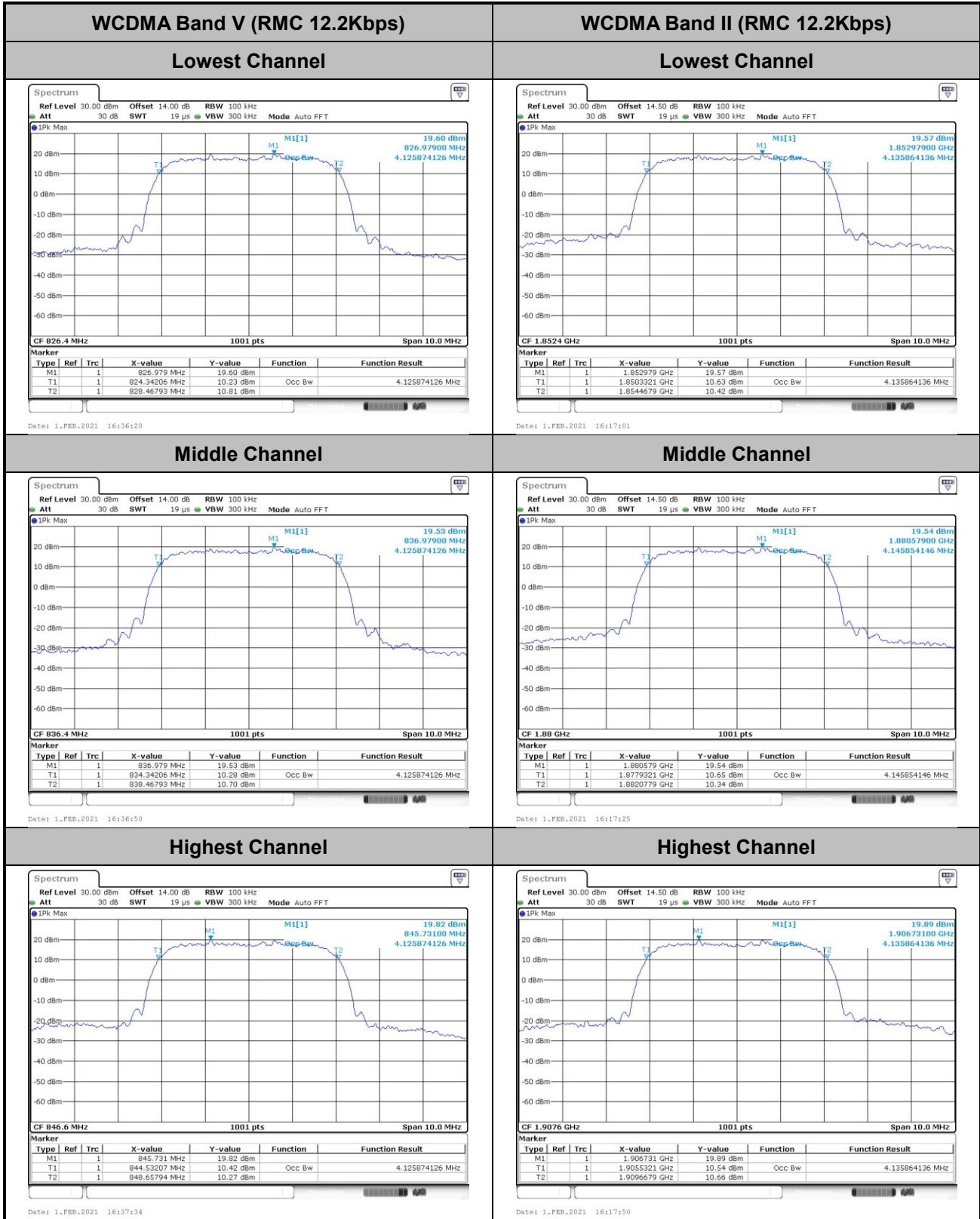
Date: 1.FEB.2021 16:16:31

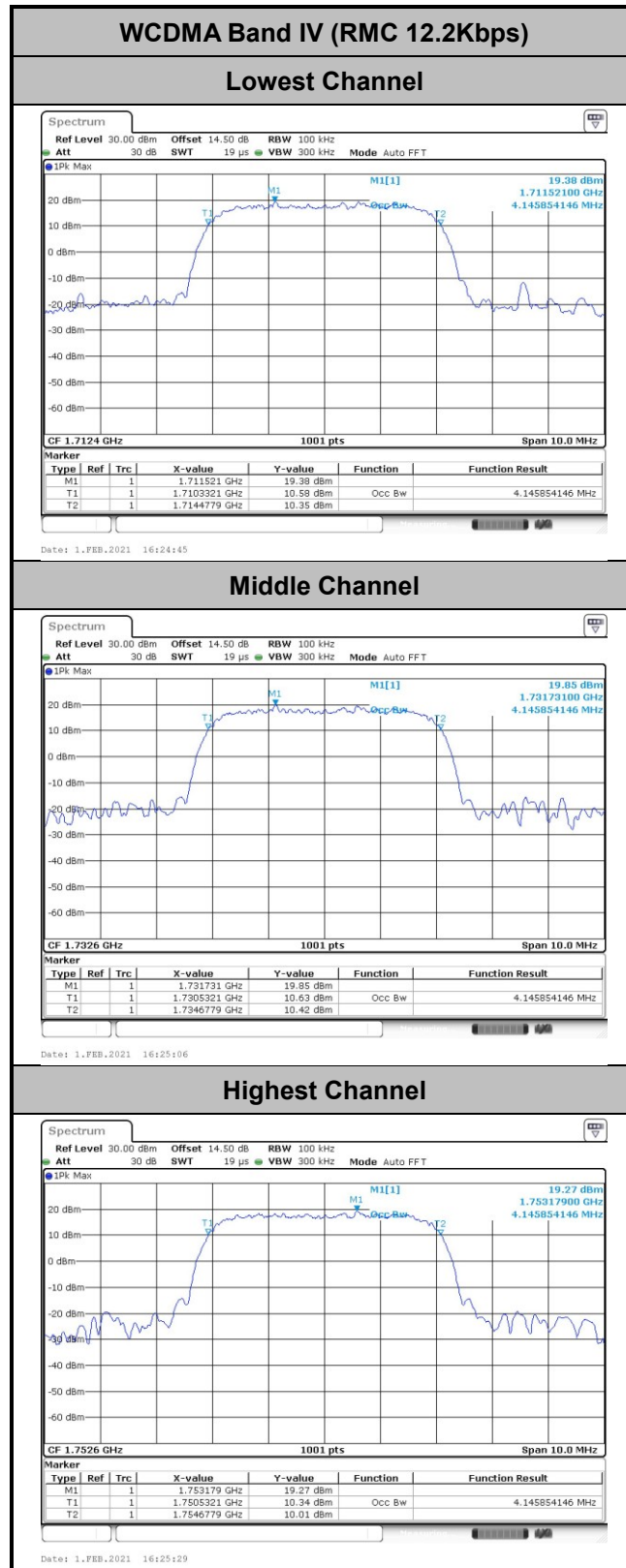




Occupied Bandwidth

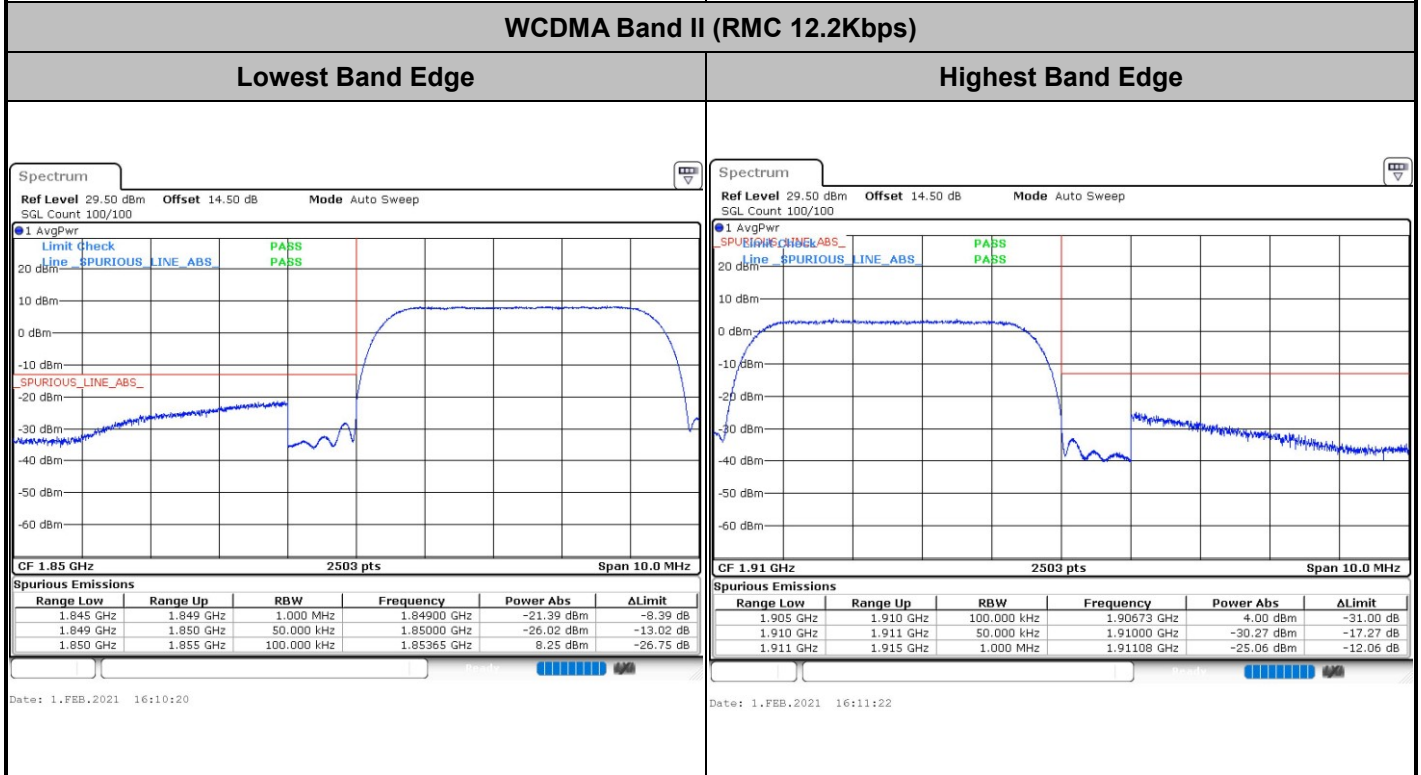
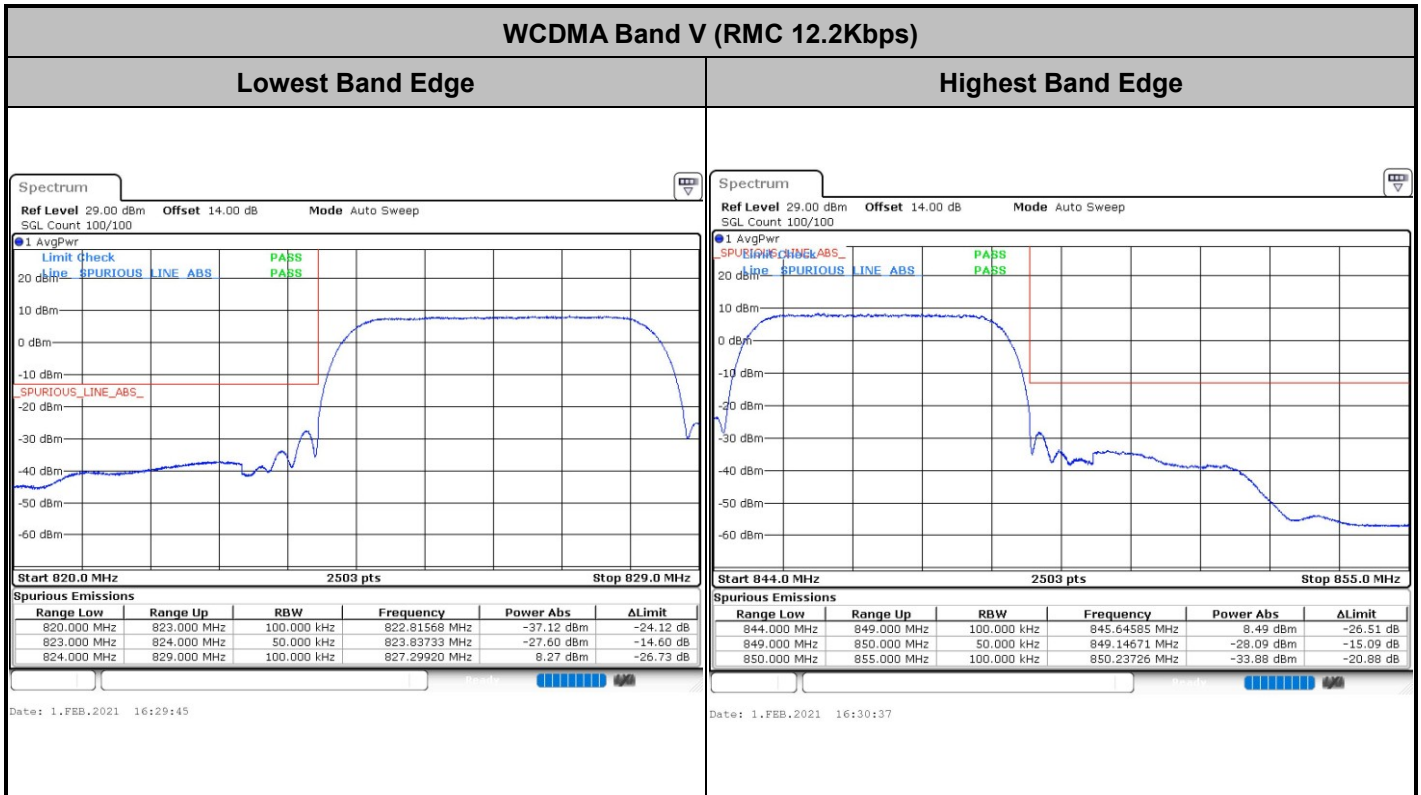
Mode	WCDMA Band V(MHz)	WCDMA Band II(MHz)	WCDMA Band IV(MHz)
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.13	4.14	4.15
Middle CH	4.13	4.15	4.15
Highest CH	4.13	4.14	4.15

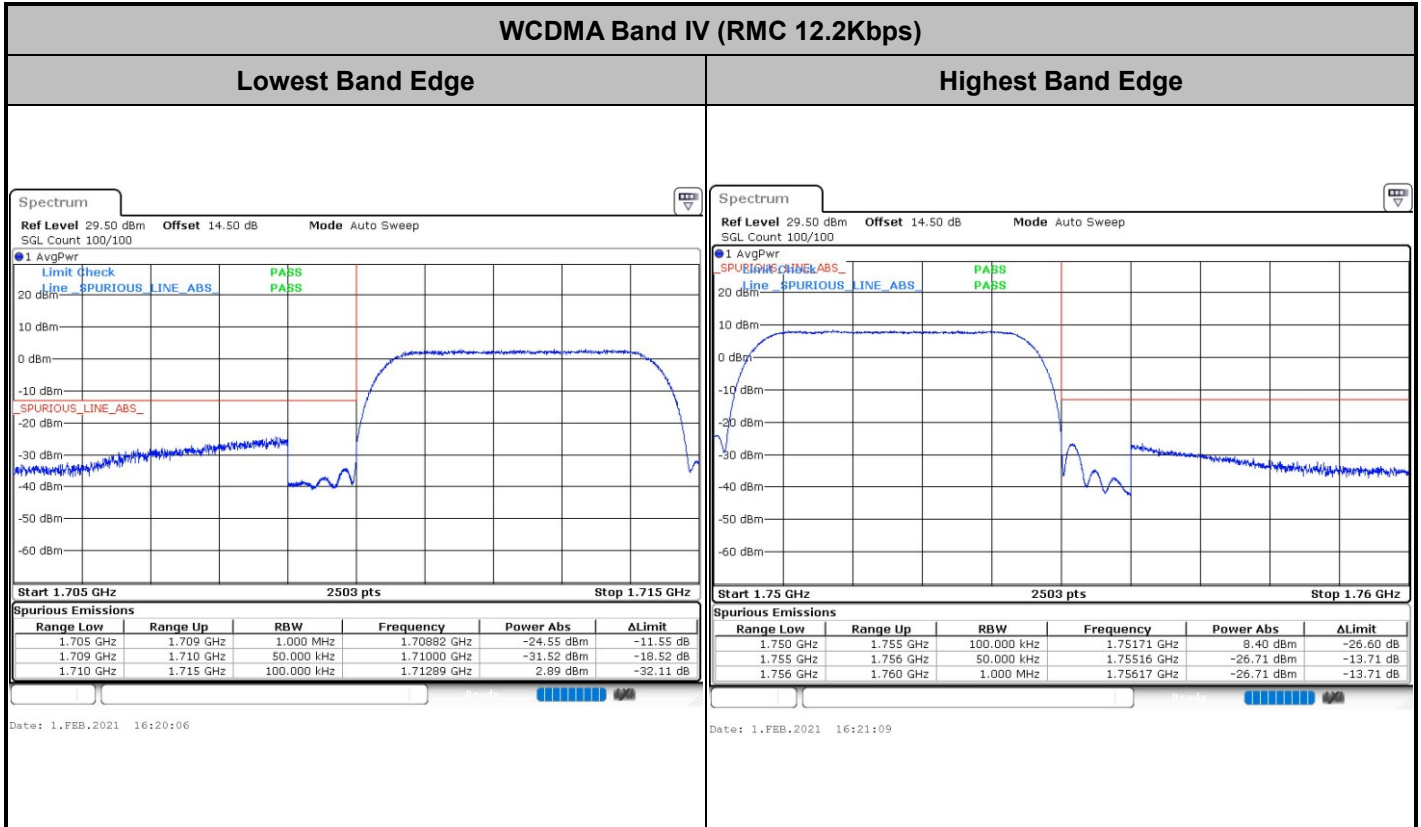






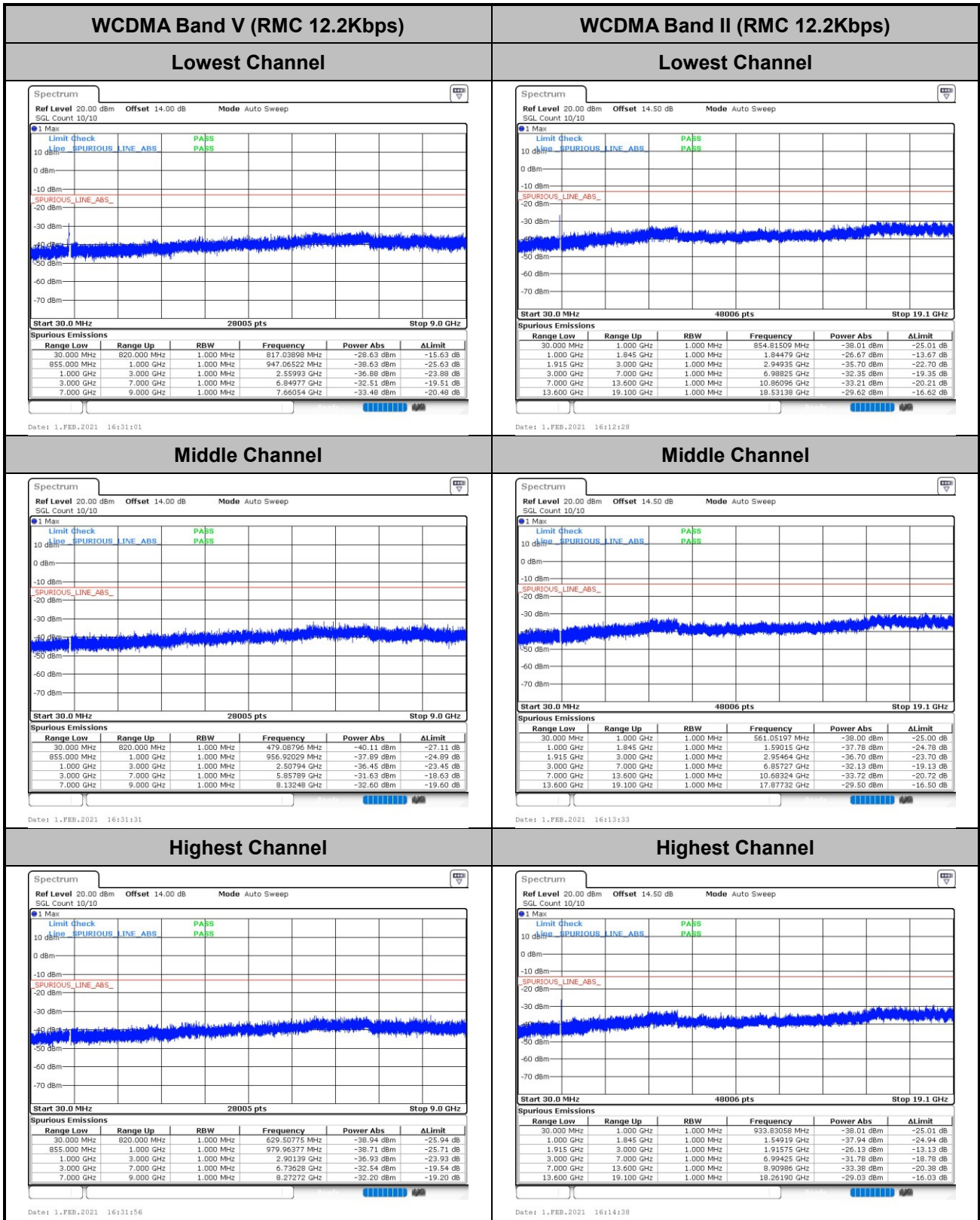
Conducted Band Edge

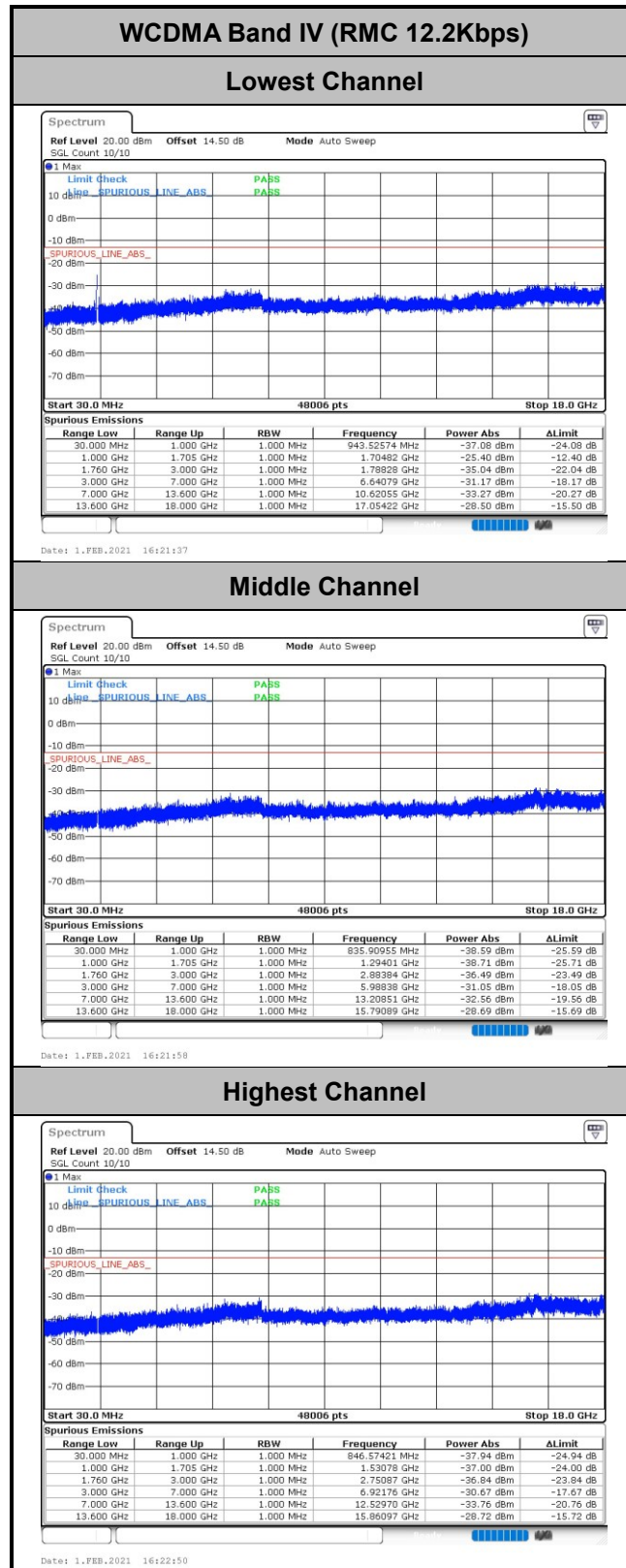






Conducted Spurious Emission







Frequency Stability

Test Conditions	Middle Channel	WCDMA Band V (RMC 12.2Kbps)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0006	PASS
40	Normal Voltage	0.0000	
30	Normal Voltage	0.0001	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0005	
0	Normal Voltage	0.0007	
-10	Normal Voltage	0.0009	
-20	Normal Voltage	0.0002	
-30	Normal Voltage	0.0010	
20	Maximum Voltage	0.0002	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0008	

Test Conditions	Middle Channel	WCDMA Band II (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0014	PASS
40	Normal Voltage	0.0017	
30	Normal Voltage	0.0025	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0008	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0039	
-20	Normal Voltage	0.0024	
-30	Normal Voltage	0.0010	
20	Maximum Voltage	0.0007	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0014	

Note:

1. Normal Voltage = 3.87V. ; Battery End Point (BEP) = 3.45 V. ; Maximum Voltage =4.45 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	0.0031	PASS
40	Normal Voltage	0.0010	
30	Normal Voltage	0.0003	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0003	
0	Normal Voltage	0.0024	
-10	Normal Voltage	0.0041	
-20	Normal Voltage	0.0005	
-30	Normal Voltage	0.0017	
20	Maximum Voltage	0.0006	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0006	

Note:

1. Normal Voltage = 3.87V. ; Battery End Point (BEP) = 3.45 V. ; Maximum Voltage =4.45 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 (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)
Middle	1672.8	-39.60	-13	-26.60	-49.36	-42.85	4.00	9.40	H
	2509.2	-40.59	-13	-27.59	-54.79	-44.16	4.88	10.60	H
	3345.6	-61.20	-13	-48.20	-77.54	-66.13	5.52	12.60	H
	4182	-56.22	-13	-43.22	-76.58	-60.69	6.00	12.62	H
	1672.8	-40.41	-13	-27.41	-49.62	-43.66	4.00	9.40	V
	2509.2	-42.41	-13	-29.41	-56.57	-45.98	4.88	10.60	V
	3345.6	-61.38	-13	-48.38	-77.45	-66.31	5.52	12.60	V
	4182	-56.55	-13	-43.55	-76.92	-61.02	6.00	12.62	V

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

GSM850 (EDGE 1 Tx slots)									
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	-42.37	-13	-29.37	-52.13	-45.62	4.00	9.40	H
	2509.2	-38.68	-13	-25.68	-52.88	-42.25	4.88	10.60	H
	3345.6	-60.52	-13	-47.52	-76.86	-65.45	5.52	12.60	H
	1672.8	-41.88	-13	-28.88	-51.09	-45.13	4.00	9.40	V
	2509.2	-45.41	-13	-32.41	-59.57	-48.98	4.88	10.60	V
	3345.6	-61.43	-13	-48.43	-77.50	-66.36	5.52	12.60	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	-60.38	-13	-47.38	-70.14	-63.63	4.00	9.40	H
	2509.2	-60.93	-13	-47.93	-75.13	-64.50	4.88	10.60	H
	3345.6	-49.06	-13	-36.06	-65.40	-53.99	5.52	12.60	H
	1672.8	-60.46	-13	-47.46	-69.67	-63.71	4.00	9.40	V
	2509.2	-62.34	-13	-49.34	-76.50	-65.91	4.88	10.60	V
	3345.6	-56.10	-13	-43.10	-72.17	-61.03	5.52	12.60	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)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3760	-58.25	-13	-45.25	-77.33	-65.00	5.85	12.60	H
	5640	-53.76	-13	-40.76	-77.86	-59.56	7.30	13.10	H
	7520	-52.00	-13	-39.00	-78.74	-55.15	8.35	11.50	H
	3760	-58.68	-13	-45.68	-77.69	-65.43	5.85	12.60	V
	5640	-54.26	-13	-41.26	-77.61	-60.06	7.30	13.10	V
	7520	-52.26	-13	-39.26	-78.98	-55.41	8.35	11.50	V

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

GSM1900 (EDGE 1 Tx slots)									
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	-58.61	-13	-45.61	-77.69	-65.36	5.85	12.60	H
	5640	-53.39	-13	-40.39	-77.49	-59.19	7.30	13.10	H
	7520	-52.00	-13	-39.00	-78.74	-55.15	8.35	11.50	H
	3760	-58.64	-13	-45.64	-77.65	-65.39	5.85	12.60	V
	5640	-54.55	-13	-41.55	-77.9	-60.35	7.30	13.10	V
	7520	-52.25	-13	-39.25	-78.97	-55.40	8.35	11.50	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	-58.69	-13	-45.69	-77.77	-65.44	5.85	12.60	H
	5640	-54.96	-13	-41.96	-79.06	-60.76	7.30	13.10	H
	7520	-52.35	-13	-39.35	-79.09	-55.50	8.35	11.50	H
	3760	-58.76	-13	-45.76	-77.77	-65.51	5.85	12.60	V
	5640	-55.51	-13	-42.51	-78.86	-61.31	7.30	13.10	V
	7520	-52.17	-13	-39.17	-78.89	-55.32	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	-59.99	-13	-46.99	-77.43	-66.84	5.65	12.50	H
	5197.8	-57.35	-13	-44.35	-79.94	-63.02	7.13	12.80	H
	6930.4	-52.10	-13	-39.10	-78.31	-55.50	8.40	11.80	H
	8663	-49.27	-13	-36.27	-79.16	-52.12	8.75	11.60	H
	10395.6	-46.97	-13	-33.97	-79.02	-48.39	10.58	12.00	H
	12128.2	-43.65	-13	-30.65	-76.49	-45.07	11.78	13.20	H
	3465.2	-60.14	-13	-47.14	-77.6	-66.99	5.65	12.50	V
	5197.8	-56.91	-13	-43.91	-79.81	-62.58	7.13	12.80	V
	6930.4	-51.60	-13	-38.60	-78.28	-55.00	8.40	11.80	V
	8663	-49.69	-13	-36.69	-78.83	-52.54	8.75	11.60	V
	10395.6	-47.81	-13	-34.81	-79.1	-49.23	10.58	12.00	V
	12128.2	-44.44	-13	-31.44	-76.62	-45.86	11.78	13.20	V

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



Bottom antenna:

GSM850 (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)
Middle	1672.8	-62.70	-13	-49.70	-72.46	-65.95	4.00	9.40	H
	2509.2	-61.81	-13	-48.81	-76.01	-65.38	4.88	10.60	H
	3345.6	-61.37	-13	-48.37	-77.71	-66.30	5.52	12.60	H
	1672.8	-61.43	-13	-48.43	-70.64	-64.68	4.00	9.40	V
	2509.2	-60.89	-13	-47.89	-75.05	-64.46	4.88	10.60	V
	3345.6	-61.66	-13	-48.66	-77.73	-66.59	5.52	12.60	V

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

GSM850 (EDGE 1 Tx slots)									
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	-62.67	-13	-49.67	-72.43	-65.92	4.00	9.40	H
	2509.2	-60.63	-13	-47.63	-74.83	-64.20	4.88	10.60	H
	3345.6	-61.42	-13	-48.42	-77.76	-66.35	5.52	12.60	H
	1672.8	-63.78	-13	-50.78	-72.99	-67.03	4.00	9.40	V
	2509.2	-60.63	-13	-47.63	-74.79	-64.20	4.88	10.60	V
	3345.6	-61.70	-13	-48.70	-77.77	-66.63	5.52	12.60	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	-64.56	-13	-51.56	-74.32	-67.81	4.00	9.40	H
	2509.2	-62.34	-13	-49.34	-76.54	-65.91	4.88	10.60	H
	3345.6	-48.20	-13	-35.20	-64.54	-53.13	5.52	12.60	H
	1672.8	-65.20	-13	-52.20	-74.41	-68.45	4.00	9.40	V
	2509.2	-62.18	-13	-49.18	-76.34	-65.75	4.88	10.60	V
	3345.6	-53.32	-13	-40.32	-69.39	-58.25	5.52	12.60	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)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3760	-58.75	-13	-45.75	-77.83	-65.50	5.85	12.60	H
	5640	-54.93	-13	-41.93	-79.03	-60.73	7.30	13.10	H
	7520	-52.27	-13	-39.27	-79.01	-55.42	8.35	11.50	H
	3760	-58.25	-13	-45.25	-77.26	-65.00	5.85	12.60	V
	5640	-55.71	-13	-42.71	-79.06	-61.51	7.30	13.10	V
	7520	-52.27	-13	-39.27	-78.99	-55.42	8.35	11.50	V

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

GSM1900 (EDGE 1 Tx slots)									
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	-58.50	-13	-45.50	-77.58	-65.25	5.85	12.60	H
	5640	-54.98	-13	-41.98	-79.08	-60.78	7.30	13.10	H
	7520	-52.35	-13	-39.35	-79.09	-55.50	8.35	11.50	H
	3760	-58.41	-13	-45.41	-77.42	-65.16	5.85	12.60	V
	5640	-55.63	-13	-42.63	-78.98	-61.43	7.30	13.10	V
	7520	-52.21	-13	-39.21	-78.93	-55.36	8.35	11.50	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	-58.24	-13	-45.24	-77.32	-64.99	5.85	12.60	H
	5640	-54.89	-13	-41.89	-78.99	-60.69	7.30	13.10	H
	7520	-52.11	-13	-39.11	-78.85	-55.26	8.35	11.50	H
	3760	-58.44	-13	-45.44	-77.45	-65.19	5.85	12.60	V
	5640	-55.80	-13	-42.80	-79.15	-61.60	7.30	13.10	V
	7520	-52.18	-13	-39.18	-78.9	-55.33	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	-60.27	-13	-47.27	-77.71	-67.12	5.65	12.50	H
	5197.8	-57.45	-13	-44.45	-80.04	-63.12	7.13	12.80	H
	6930.4	-53.01	-13	-40.01	-79.22	-56.41	8.40	11.80	H
	3465.2	-60.31	-13	-47.31	-77.77	-67.16	5.65	12.50	V
	5197.8	-57.21	-13	-44.21	-80.11	-62.88	7.13	12.80	V
	6930.4	-52.27	-13	-39.27	-78.95	-55.67	8.40	11.80	V

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