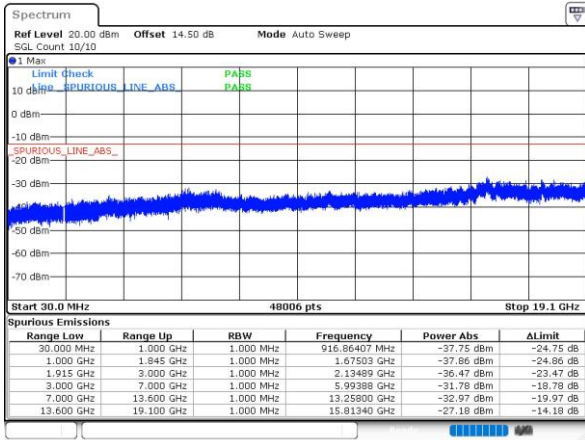




GSM1900 (GSM)

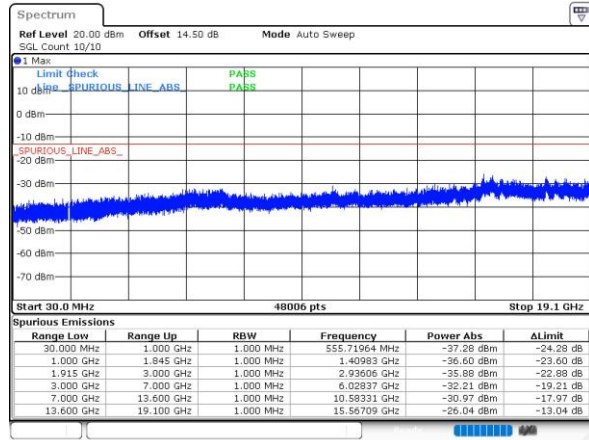
Lowest Channel



Date: 8.DEC.2022 11:57:40

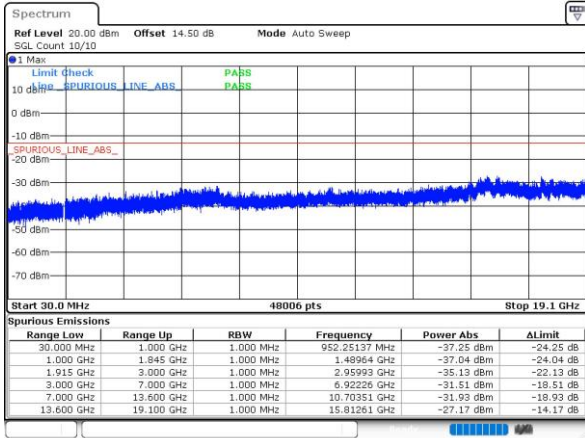
GSM1900 (EDGE class 8)

Lowest Channel



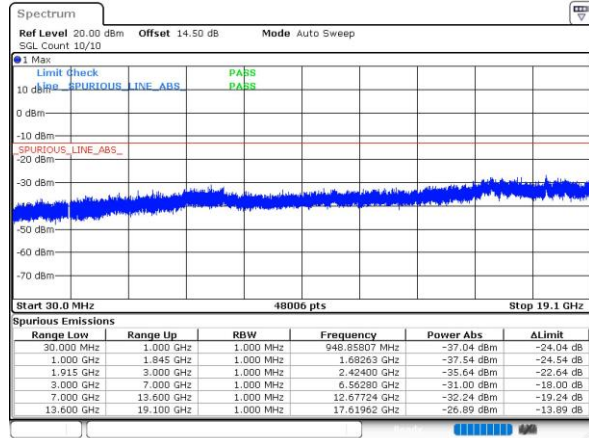
Date: 8.DEC.2022 17:30:01

Middle Channel



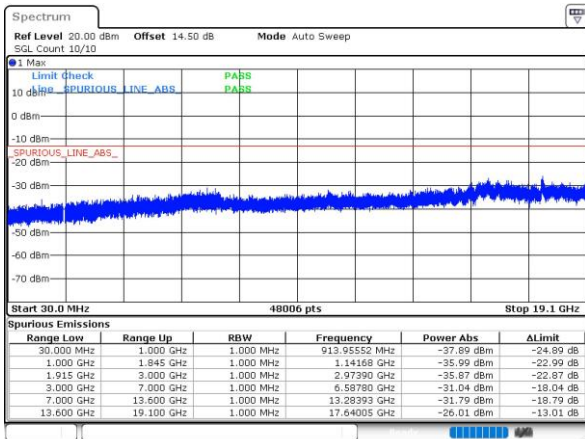
Date: 8.DEC.2022 15:57:19

Middle Channel



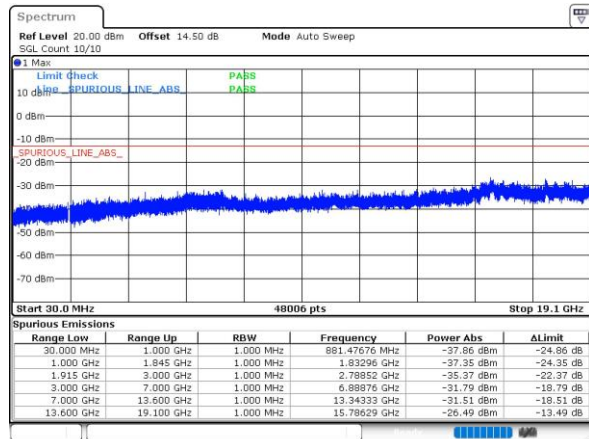
Date: 8.DEC.2022 17:34:13

Highest Channel



Date: 8.DEC.2022 16:01:24

Highest Channel



Date: 8.DEC.2022 17:45:50



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	0.0307	0.0014	PASS
40	Normal Voltage	0.0012	0.0323	
30	Normal Voltage	0.0017	0.0024	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0010	0.0006	
0	Normal Voltage	0.0025	0.0010	
-10	Normal Voltage	0.0305	0.0018	
-20	Normal Voltage	0.0024	0.0344	
-30	Normal Voltage	0.0010	0.0022	
20	Maximum Voltage	0.0006	0.0012	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0017	0.0005	

Test Conditions	Middle Channel	GSM1900 (GSM)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0006	0.0006	PASS
40	Normal Voltage	0.0146	0.0003	
30	Normal Voltage	0.0011	0.0011	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0003	0.0142	
0	Normal Voltage	0.0004	0.0004	
-10	Normal Voltage	0.0008	0.0008	
-20	Normal Voltage	0.0153	0.0145	
-30	Normal Voltage	0.0010	0.0010	
20	Maximum Voltage	0.0005	0.0005	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0002	0.0002	

Note:

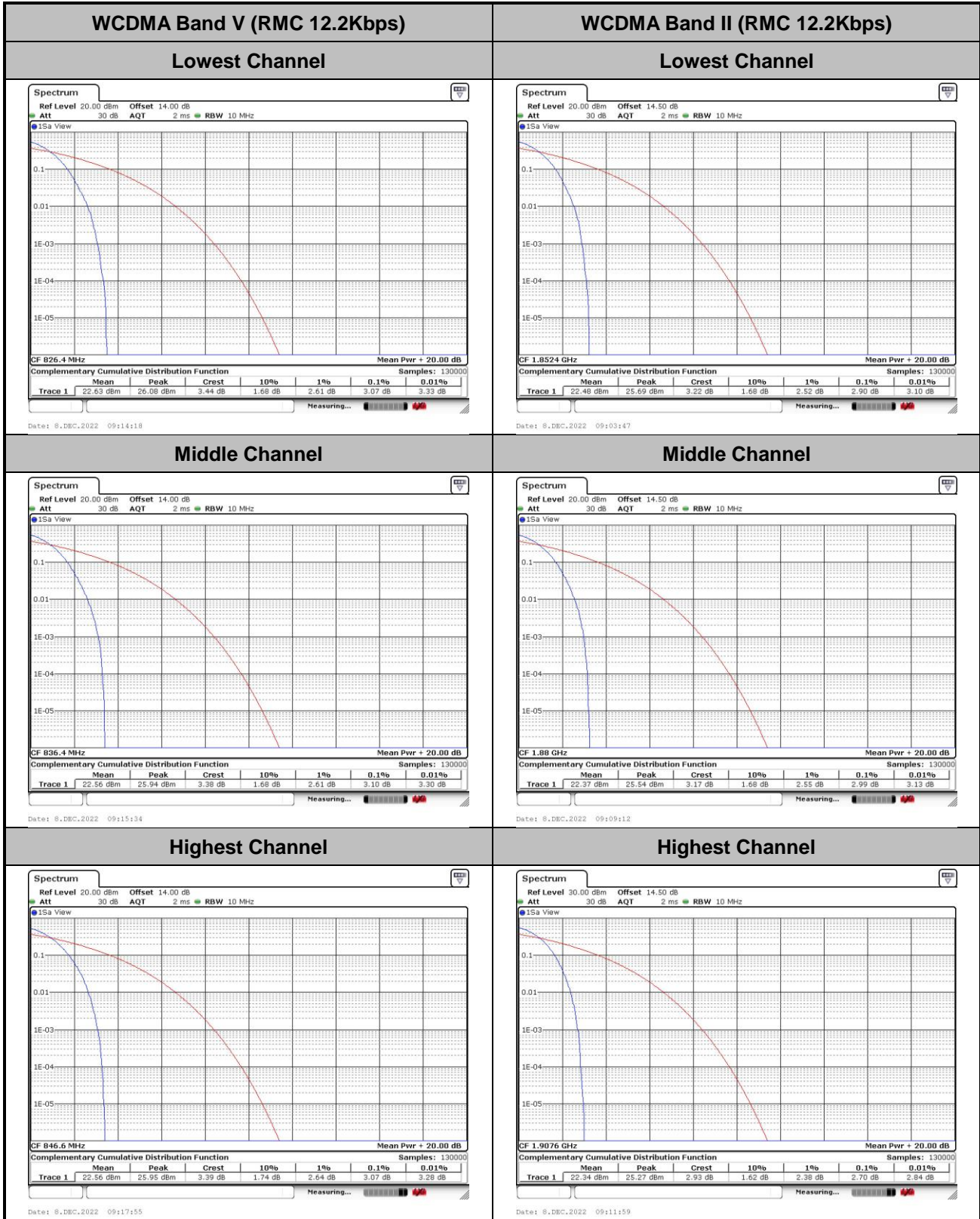
1. Normal Voltage = 3.87V. ; Battery End Point (BEP) = 3.6 V. ; Maximum Voltage =4.4 V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



WCDMA

Peak-to-Average Ratio

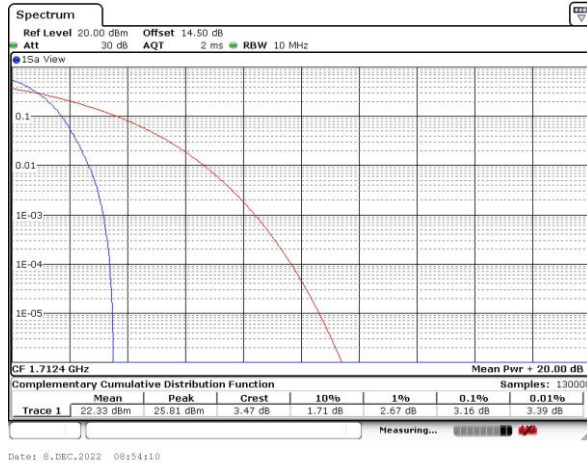
Mode	WCDMA Band V(dB)	WCDMA Band II(dB)	WCDMA Band IV(dB)	Limit: 13dB
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps	Result
Lowest CH	3.07	2.90	3.16	PASS
Middle CH	3.10	2.99	3.22	
Highest CH	3.07	2.70	3.16	



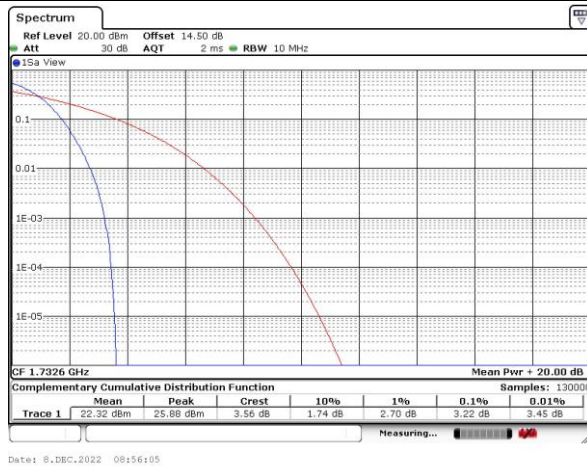


WCDMA Band IV (RMC 12.2Kbps)

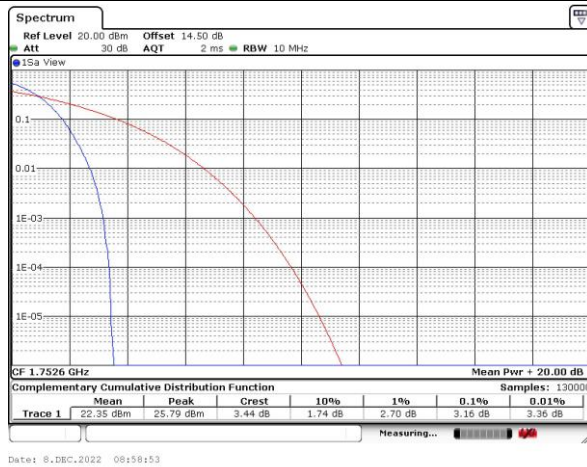
Lowest Channel



Middle Channel



Highest Channel





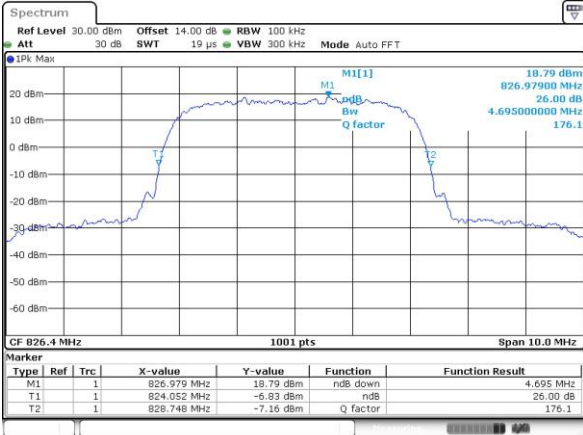
26dB Bandwidth

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	4.70	4.70	4.69
Middle CH	4.71	4.70	4.69
Highest CH	4.68	4.70	4.68



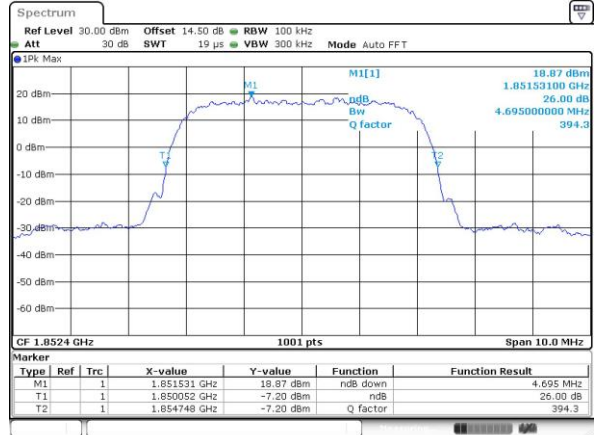
WCDMA Band V (RMC 12.2Kbps)

Lowest Channel

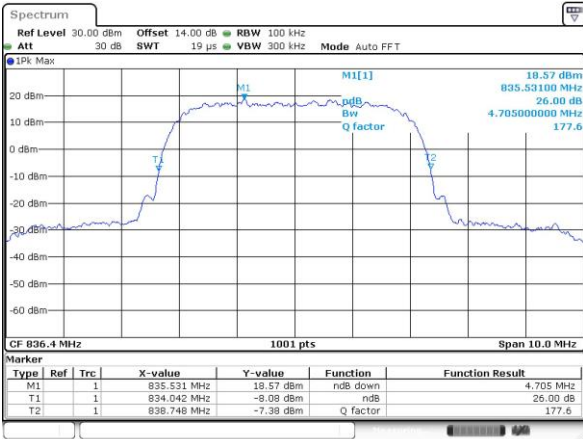


WCDMA Band II (RMC 12.2Kbps)

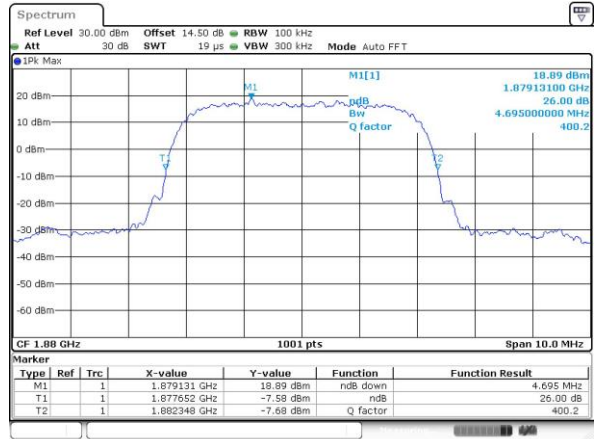
Lowest Channel



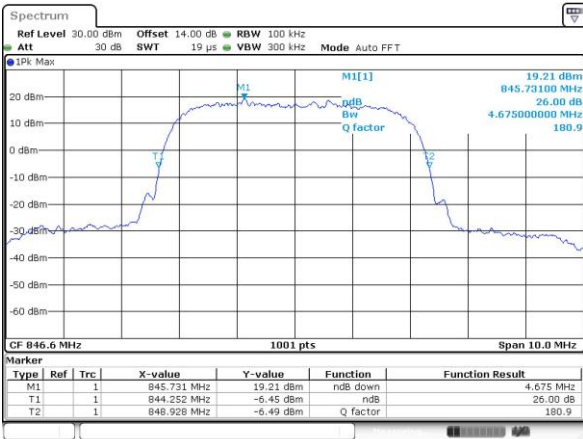
Middle Channel



Middle Channel



Highest Channel



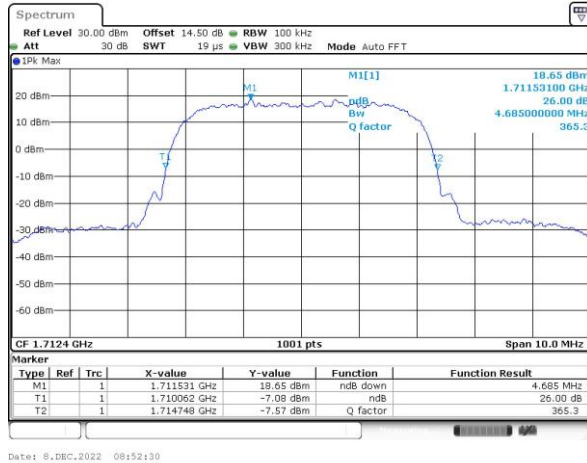
Highest Channel





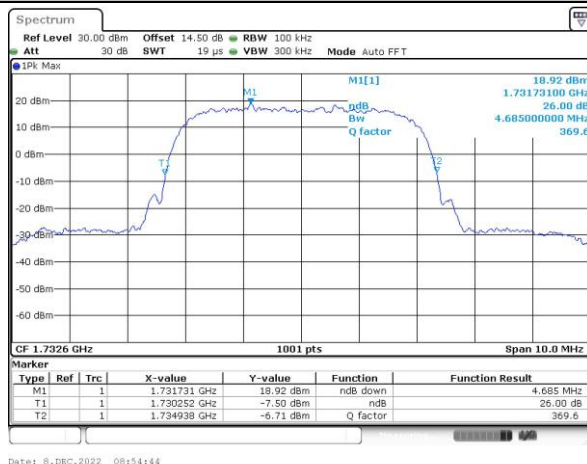
WCDMA Band IV (RMC 12.2Kbps)

Lowest Channel



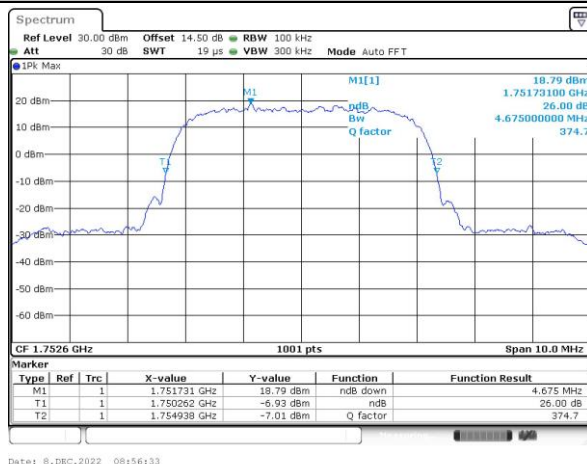
Date: 8, DEC, 2022 08:52:30

Middle Channel



Date: 8, DEC, 2022 08:54:44

Highest Channel



Date: 8, DEC, 2022 08:56:33



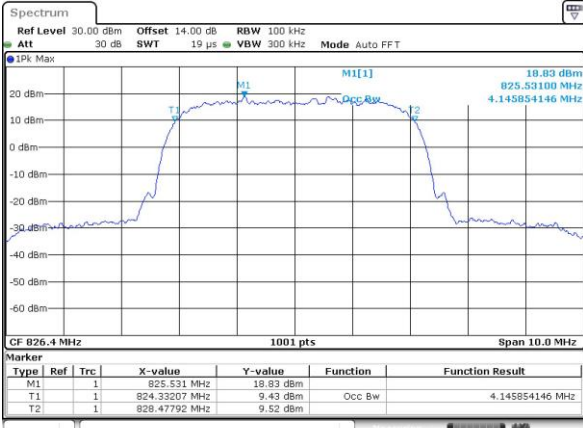
Occupied Bandwidth

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	4.15	4.14	4.13
Middle CH	4.15	4.14	4.14
Highest CH	4.14	4.14	4.14



WCDMA Band V (RMC 12.2Kbps)

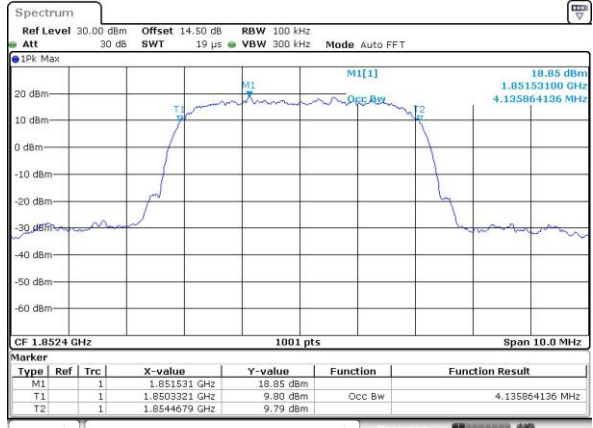
Lowest Channel



Date: 8,DEC,2022 09:13:01

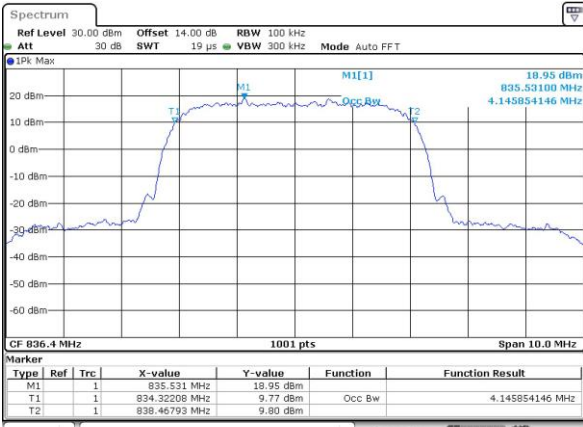
WCDMA Band II (RMC 12.2Kbps)

Lowest Channel



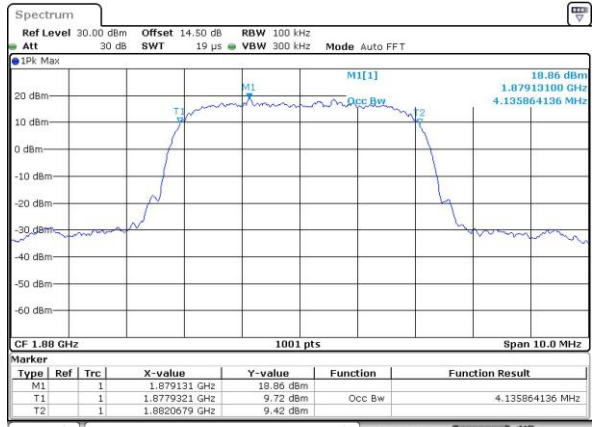
Date: 8,DEC,2022 09:00:43

Middle Channel



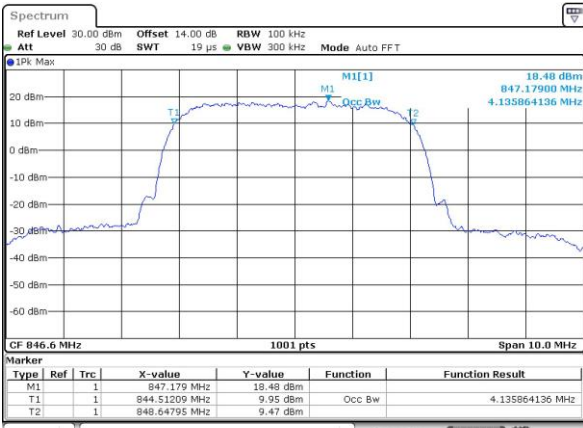
Date: 8,DEC,2022 09:15:12

Middle Channel



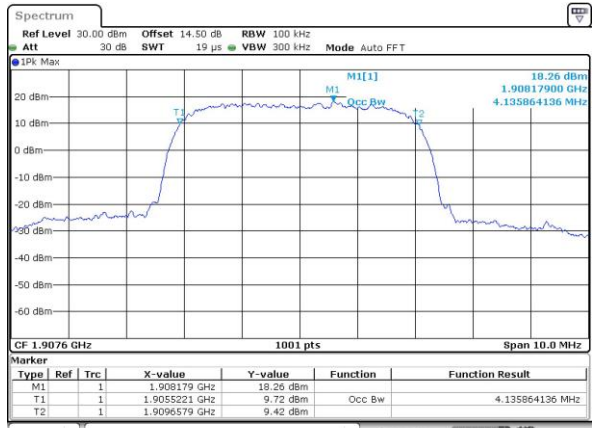
Date: 8,DEC,2022 09:08:45

Highest Channel



Date: 8,DEC,2022 09:16:20

Highest Channel

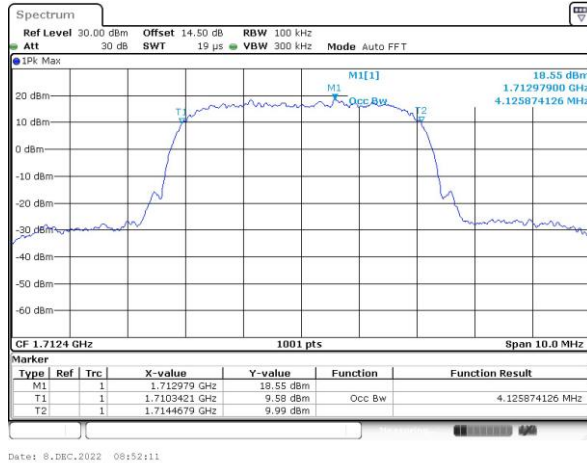


Date: 8,DEC,2022 09:10:13



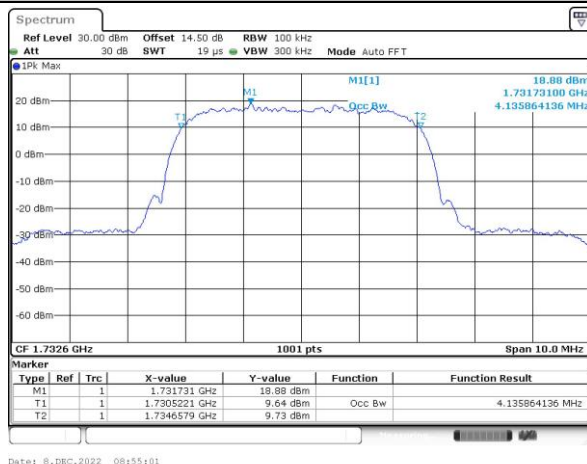
WCDMA Band IV (RMC 12.2Kbps)

Lowest Channel



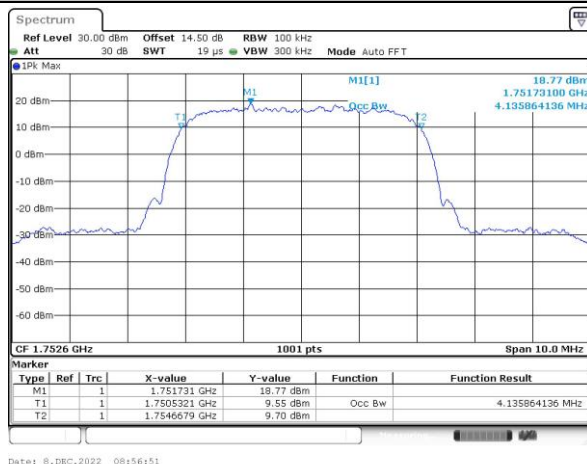
Date: 8, DEC, 2022 08:52:11

Middle Channel



Date: 8, DEC, 2022 08:55:01

Highest Channel



Date: 8, DEC, 2022 08:56:51



Conducted Band Edge

WCDMA Band V (RMC 12.2Kbps)

Lowest Band Edge

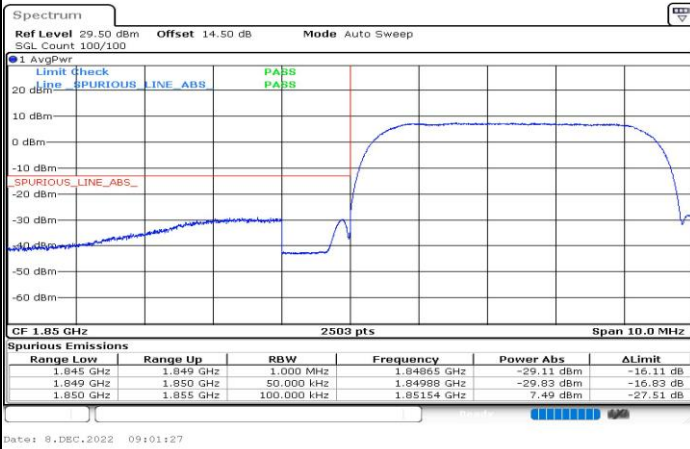


Highest Band Edge

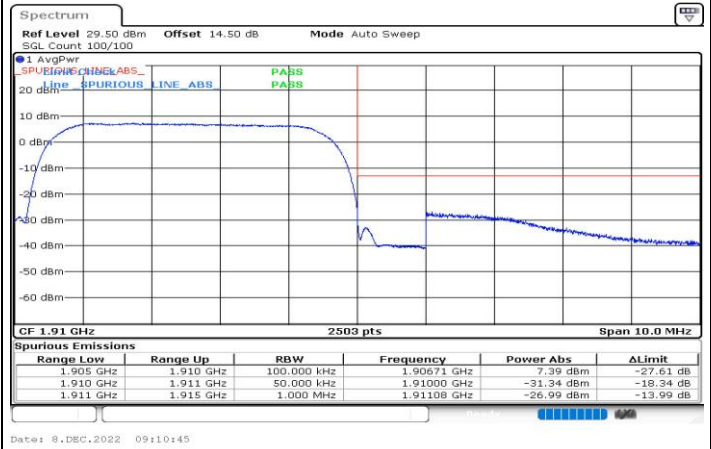


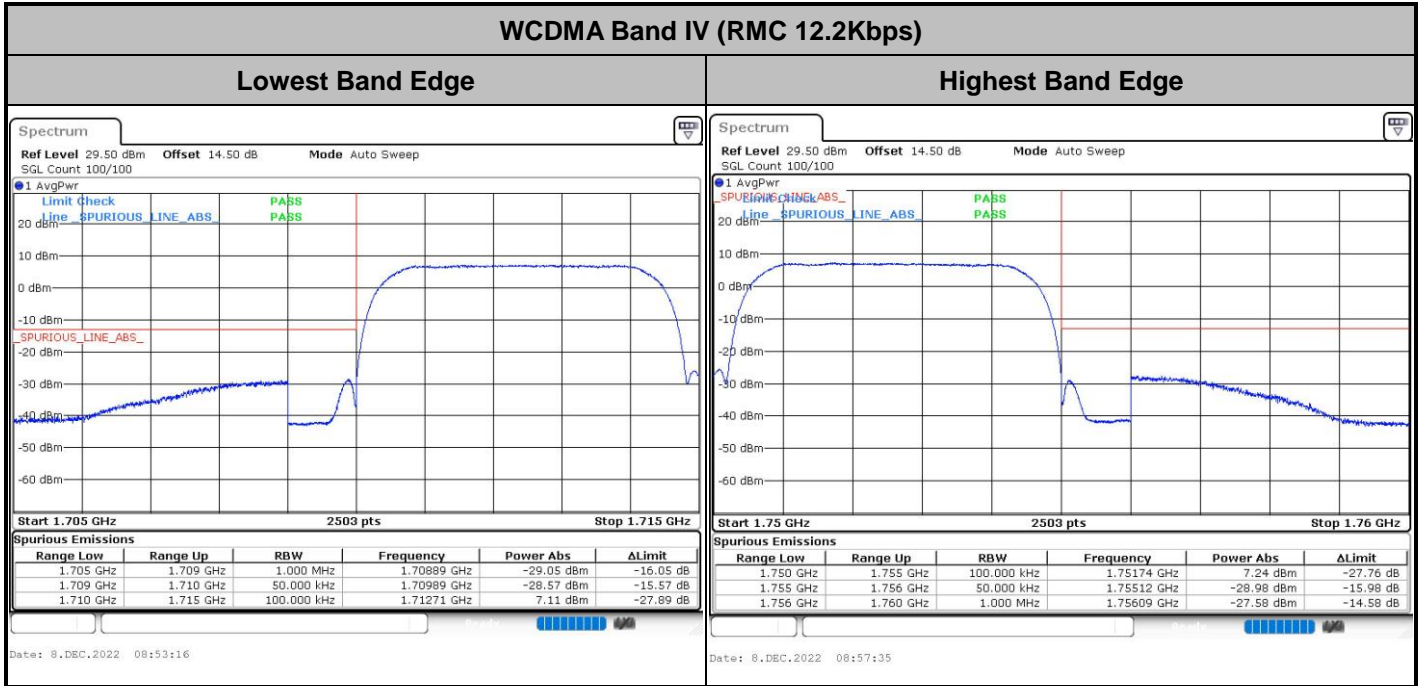
WCDMA Band II (RMC 12.2Kbps)

Lowest Band Edge



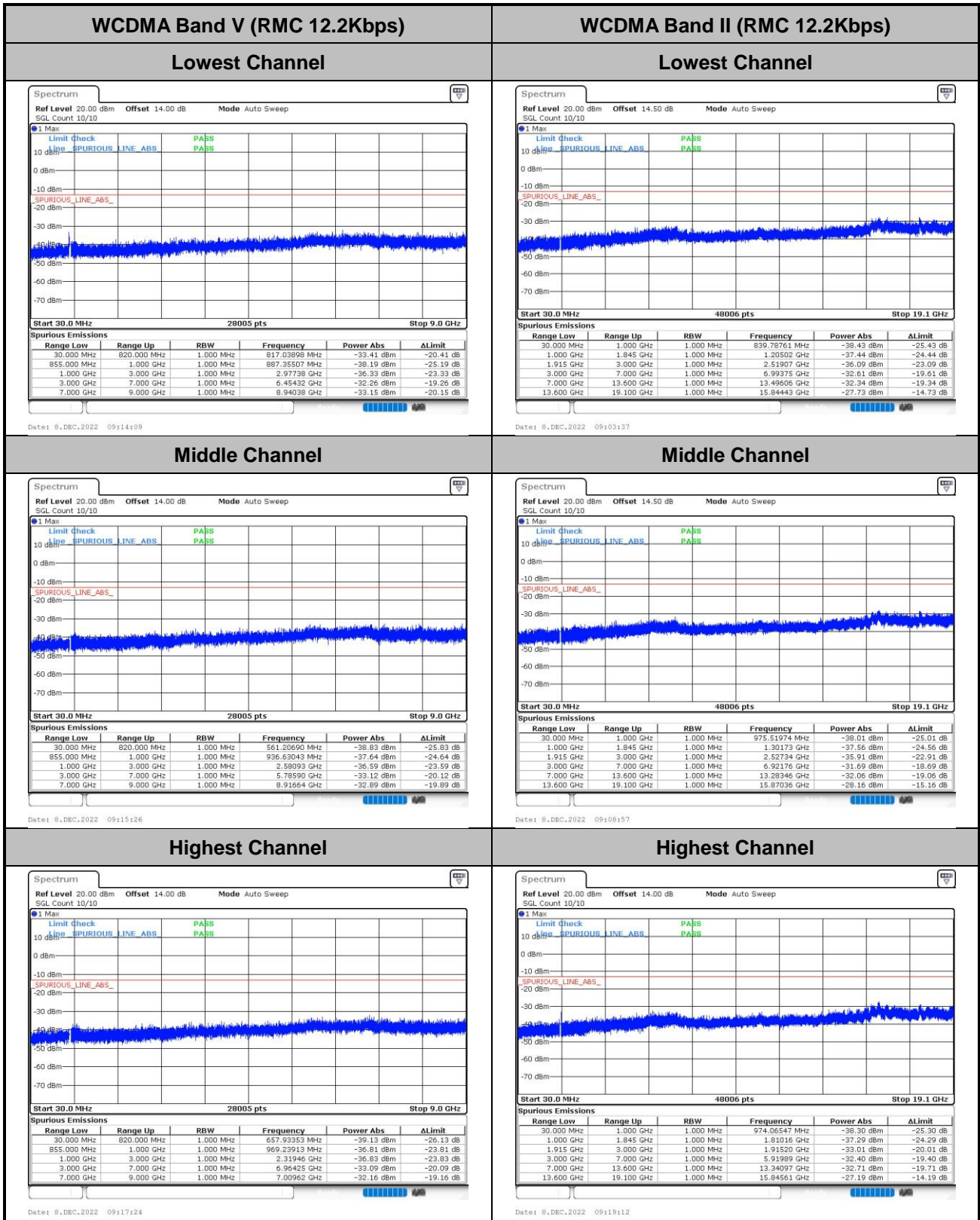
Highest Band Edge







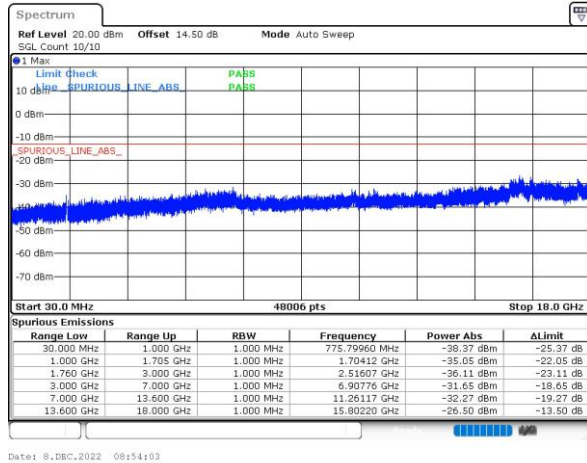
Conducted Spurious Emission





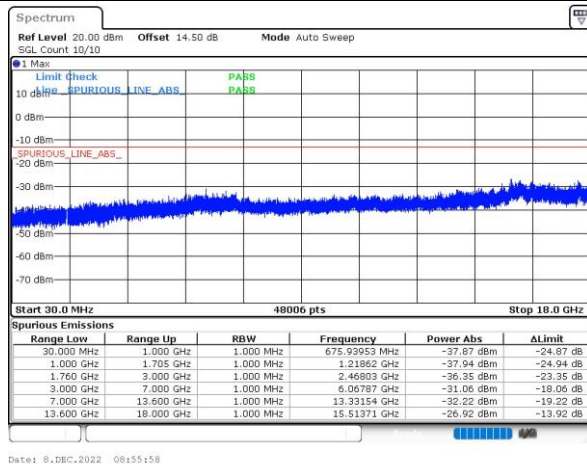
WCDMA Band IV (RMC 12.2Kbps)

Lowest Channel



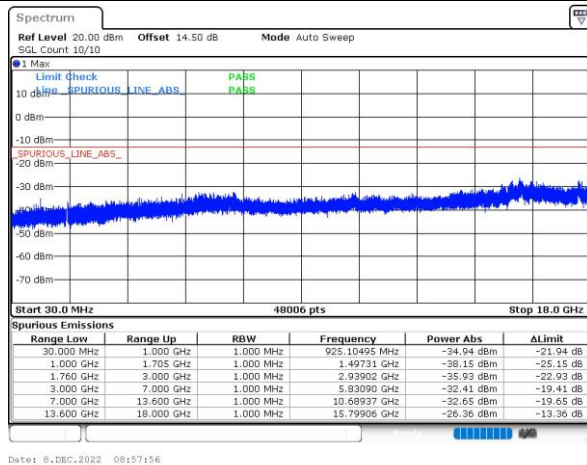
Date: 8, DEC, 2022 08:54:03

Middle Channel



Date: 8, DEC, 2022 08:55:58

Highest Channel



Date: 8, DEC, 2022 08:57:56



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	0.0014	PASS
40	Normal Voltage	0.0007	
30	Normal Voltage	0.0352	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0006	
0	Normal Voltage	0.0010	
-10	Normal Voltage	0.0018	
-20	Normal Voltage	0.0020	
-30	Normal Voltage	0.0022	
20	Maximum Voltage	0.0012	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0005	

Test Conditions	Middle Channel	WCDMA Band II (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0006	PASS
40	Normal Voltage	0.0003	
30	Normal Voltage	0.0011	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0003	
0	Normal Voltage	0.0004	
-10	Normal Voltage	0.0148	
-20	Normal Voltage	0.0009	
-30	Normal Voltage	0.0010	
20	Maximum Voltage	0.0005	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0002	



Test Conditions	Middle Channel	WCDMA Band IV (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0007	PASS
40	Normal Voltage	0.0003	
30	Normal Voltage	0.0012	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0003	
0	Normal Voltage	0.0158	
-10	Normal Voltage	0.0009	
-20	Normal Voltage	0.0010	
-30	Normal Voltage	0.0010	
20	Maximum Voltage	0.0006	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0002	

Note:

1. Normal Voltage = 3.87V. ; Battery End Point (BEP) = 3.6 V. ; 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

Pre-scanned harmonic for the different antenna combinations, we choose the worst antenna mode to perform final test and record in the report.

Test Engineer :	Hua Cong Liang	Temperature :	22~25°C
		Relative Humidity :	48~52%

GSM850 (GSM) for Ant.7									
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	-55.95	-13	-42.95	-62.03	-59.20	4.00	9.40	H
	2509.2	-35.36	-13	-22.36	-45.51	-38.93	4.88	10.60	H
	3345.6	-64.04	-13	-51.04	-75.87	-68.97	5.52	12.60	H
	4182	-54.88	-13	-41.88	-70.38	-59.35	6.00	12.62	H
	1672.8	-51.36	-13	-38.36	-57.16	-54.61	4.00	9.40	V
	2509.2	-34.49	-13	-21.49	-44.97	-38.06	4.88	10.60	V
	3345.6	-63.58	-13	-50.58	-75.79	-68.51	5.52	12.60	V
	4182	-57.94	-13	-44.94	-73.65	-62.41	6.00	12.62	V

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

GSM850 (EDGE) for Ant.7									
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	-48.53	-13	-35.53	-54.61	-51.78	4.00	9.40	H
	2509.2	-43.78	-13	-30.78	-53.93	-47.35	4.88	10.60	H
	3345.6	-63.93	-13	-50.93	-75.76	-68.86	5.52	12.60	H
	4182	-60.77	-13	-47.77	-76.27	-65.24	6.00	12.62	H
	1672.8	-47.51	-13	-34.51	-53.31	-50.76	4.00	9.40	V
	2509.2	-40.38	-13	-27.38	-50.86	-43.95	4.88	10.60	V
	3345.6	-64.01	-13	-51.01	-76.22	-68.94	5.52	12.60	V
	4182	-62.70	-13	-49.70	-78.41	-67.17	6.00	12.62	V

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



GSM1900 (GSM) for Ant.7									
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	-56.49	-13	-43.49	-70.94	-63.24	5.85	12.60	H
	5640	-54.46	-13	-41.46	-71.34	-60.26	7.30	13.10	H
	7520	-56.83	-13	-43.83	-79.13	-59.98	8.35	11.50	H
	3760	-59.40	-13	-46.40	-74.03	-66.15	5.85	12.60	V
	5640	-54.60	-13	-41.60	-71.37	-60.40	7.30	13.10	V
	7520	-57.95	-13	-44.95	-80.13	-61.10	8.35	11.50	V

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

GSM1900 (EDGE) for Ant.7									
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	-58.58	-13	-45.58	-73.03	-65.33	5.85	12.60	H
	5640	-53.00	-13	-40.00	-69.88	-58.80	7.30	13.10	H
	7520	-55.95	-13	-42.95	-78.25	-59.10	8.35	11.50	H
	3760	-54.62	-13	-41.62	-69.25	-61.37	5.85	12.60	V
	5640	-53.10	-13	-40.10	-69.87	-58.90	7.30	13.10	V
	7520	-57.54	-13	-44.54	-79.72	-60.69	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) for Ant.7									
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	-53.35	-13	-40.35	-59.43	-56.60	4.00	9.40	H
	2509.2	-50.54	-13	-37.54	-60.69	-54.11	4.88	10.60	H
	3345.6	-64.37	-13	-51.37	-76.20	-69.30	5.52	12.60	H
	1672.8	-54.07	-13	-41.07	-59.87	-57.32	4.00	9.40	V
	2509.2	-49.99	-13	-36.99	-60.47	-53.56	4.88	10.60	V
	3345.6	-64.03	-13	-51.03	-76.24	-68.96	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) for Ant.7									
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	-61.62	-13	-48.62	-76.07	-68.37	5.85	12.60	H
	5640	-61.14	-13	-48.14	-78.02	-66.94	7.30	13.10	H
	7520	-57.98	-13	-44.98	-80.28	-61.13	8.35	11.50	H
	3760	-62.24	-13	-49.24	-76.87	-68.99	5.85	12.60	V
	5640	-62.02	-13	-49.02	-78.79	-67.82	7.30	13.10	V
	7520	-57.83	-13	-44.83	-80.01	-60.98	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) for Ant.7									
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	-63.98	-13	-50.98	-76.52	-70.83	5.65	12.50	H
	5197.8	-58.15	-13	-45.15	-75.39	-63.82	7.13	12.80	H
	6930.4	-59.36	-13	-46.36	-79.89	-62.76	8.40	11.80	H
	3465.2	-63.46	-13	-50.46	-76.54	-70.31	5.65	12.50	V
	5197.8	-61.65	-13	-48.65	-78.84	-67.32	7.13	12.80	V
	6930.4	-59.46	-13	-46.46	-80	-62.86	8.40	11.80	V

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