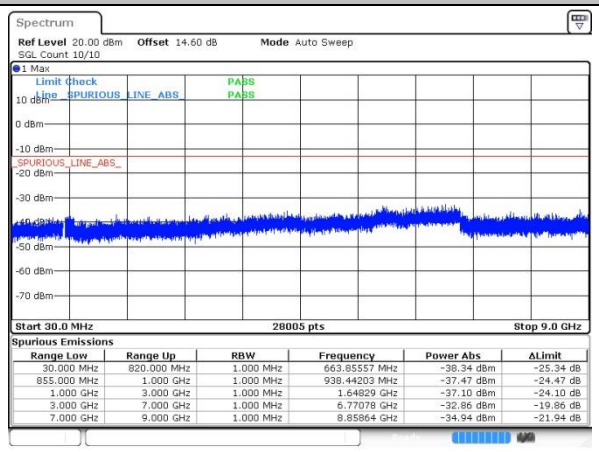
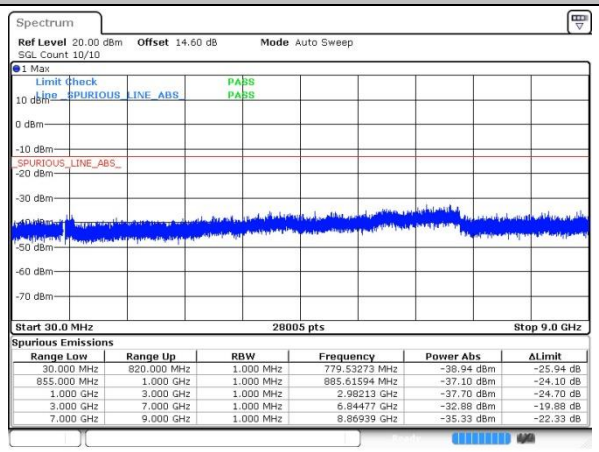
Conducted Spurious Emission

GSM850 (GSM)

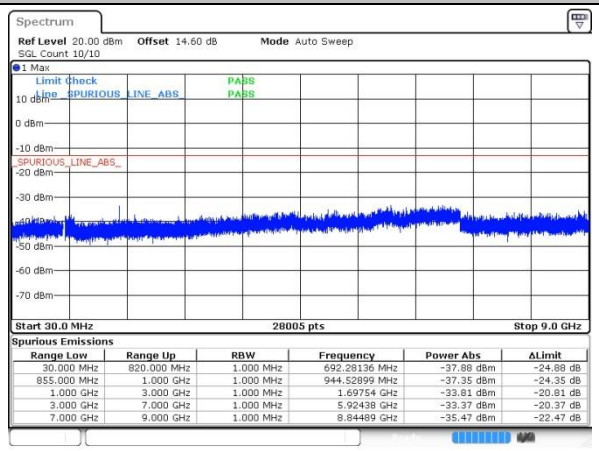
Lowest Channel



Middle Channel

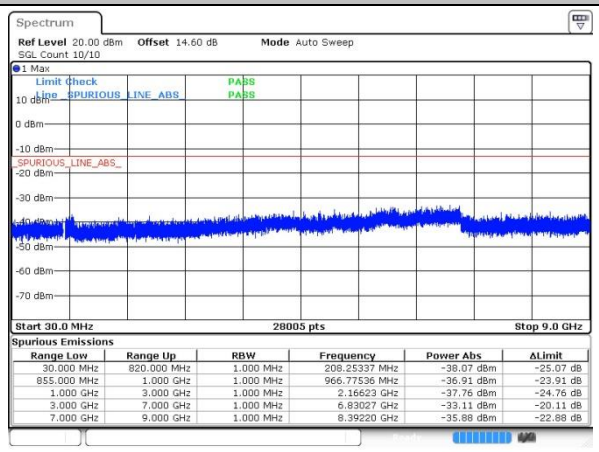


Highest Channel

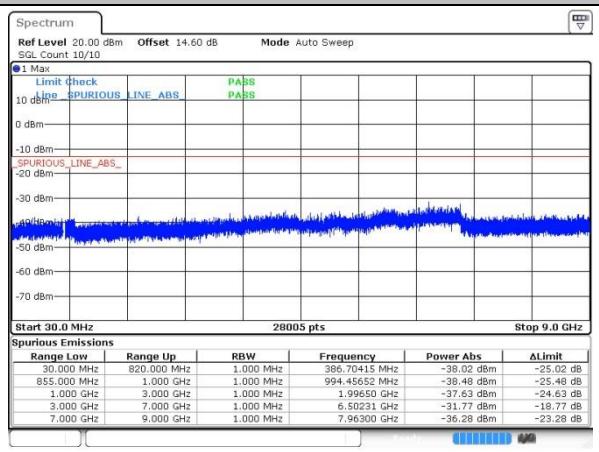


GSM850 (EDGE class 8)

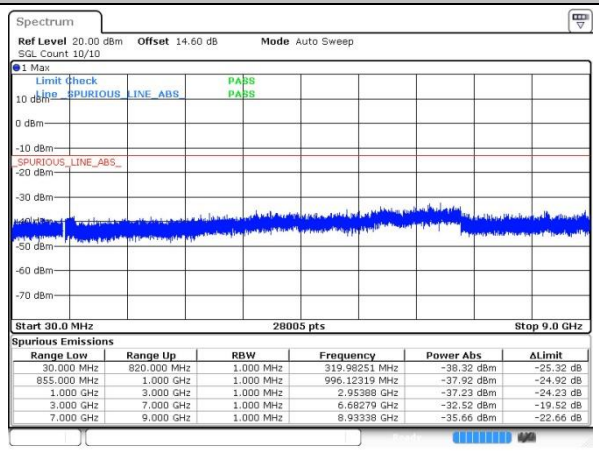
Lowest Channel

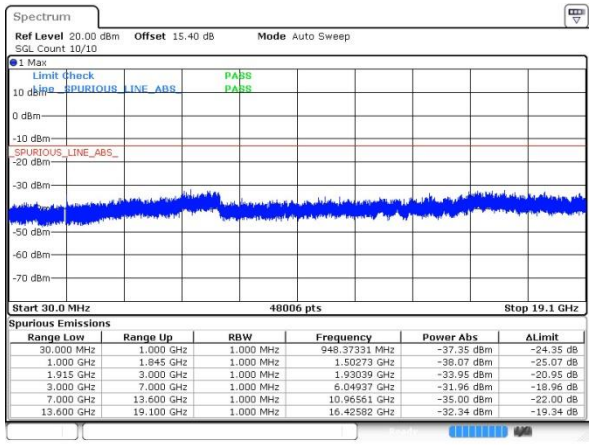
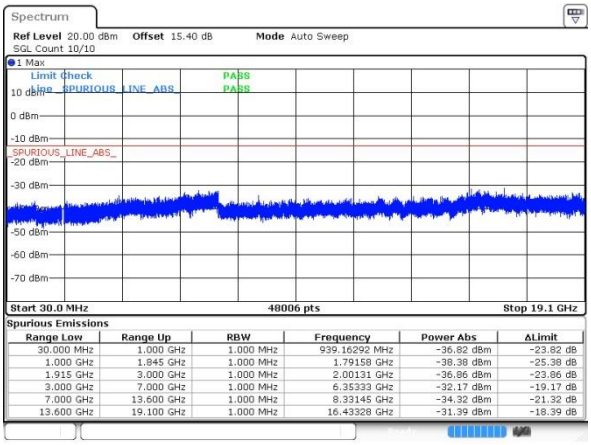
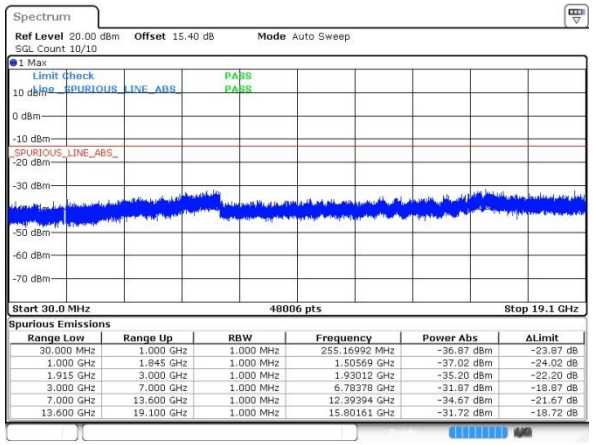
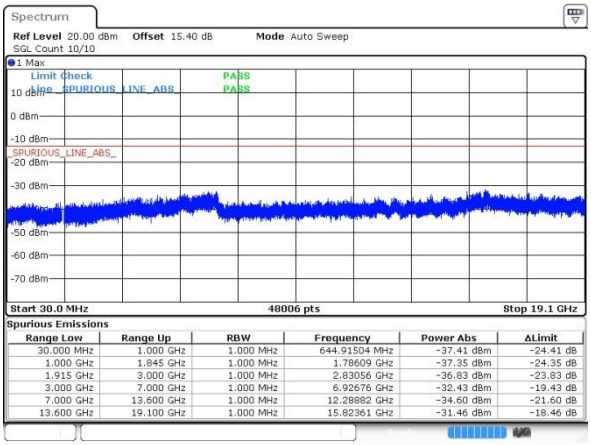
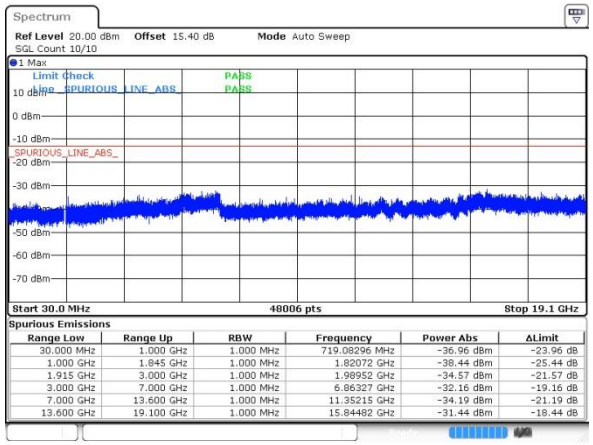
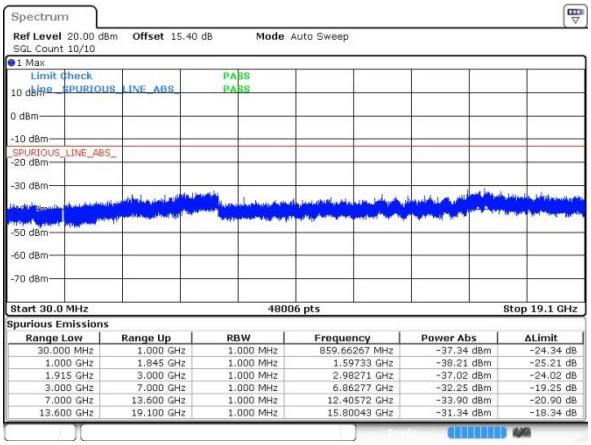


Middle Channel



Highest Channel



GSM1900 (GSM)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

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	0.0035	0.0035	PASS
40	Normal Voltage	0.0512	0.0176	
30	Normal Voltage	0.0096	0.0459	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0564	0.0428	
0	Normal Voltage	0.0187	0.0533	
-10	Normal Voltage	0.0047	0.0441	
-20	Normal Voltage	0.0129	0.0148	
-30	Normal Voltage	0.0147	0.0456	
20	Maximum Voltage	0.0479	0.0575	
20	Normal Voltage	0.0326	0.0124	
20	Battery End Point	0.0349	0.0165	

Test Conditions	Middle Channel	GSM1900 (GSM)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0058	0.0097	PASS
40	Normal Voltage	0.0056	0.0044	
30	Normal Voltage	0.0046	0.0074	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0248	0.0266	
0	Normal Voltage	0.0047	0.0178	
-10	Normal Voltage	0.0122	0.0038	
-20	Normal Voltage	0.0246	0.0257	
-30	Normal Voltage	0.0004	0.0249	
20	Maximum Voltage	0.0017	0.0188	
20	Normal Voltage	0.0029	0.0096	
20	Battery End Point	0.0166	0.0572	

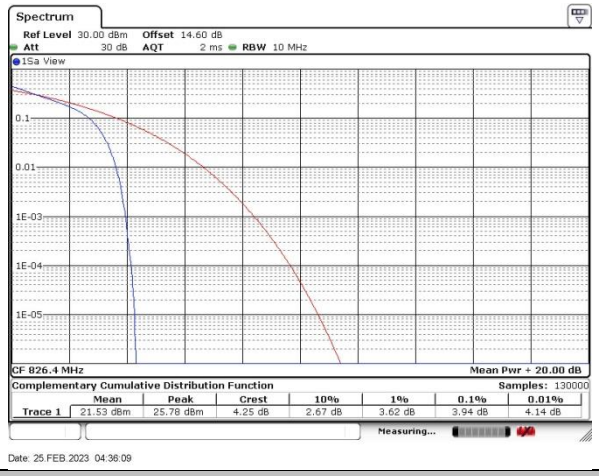
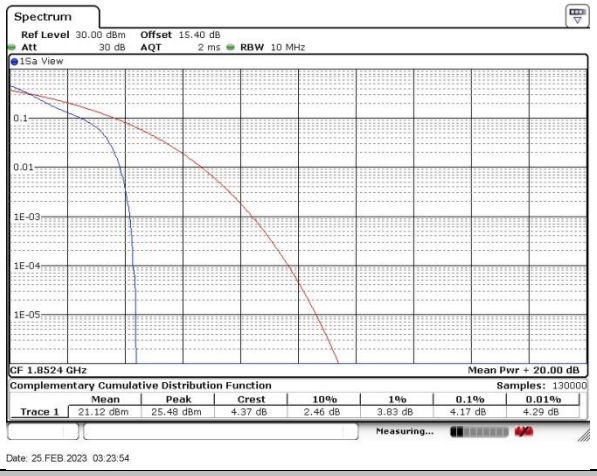
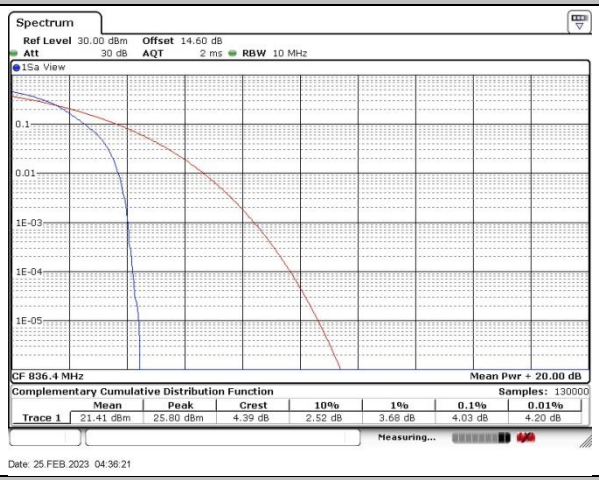
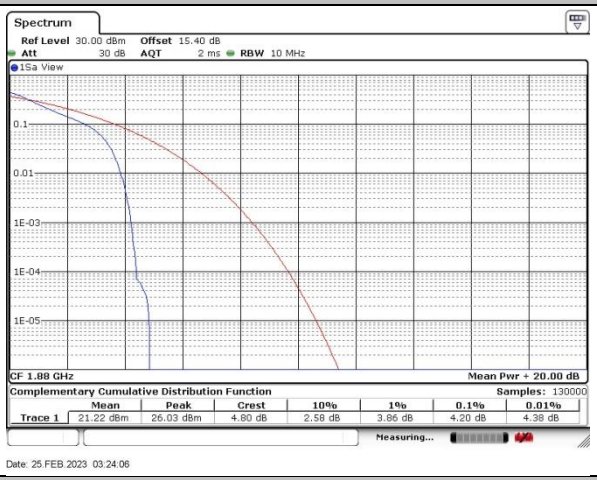
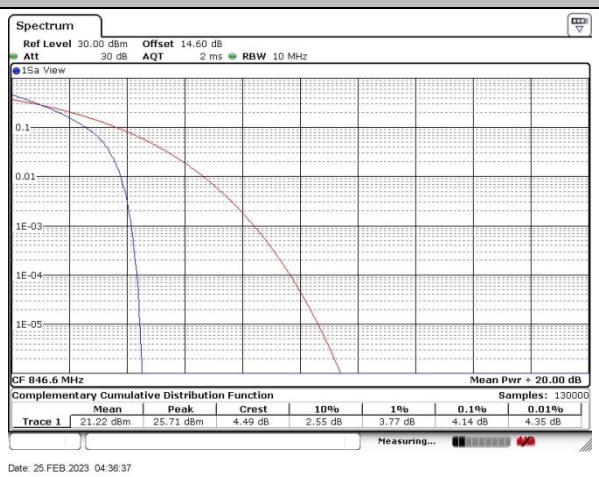
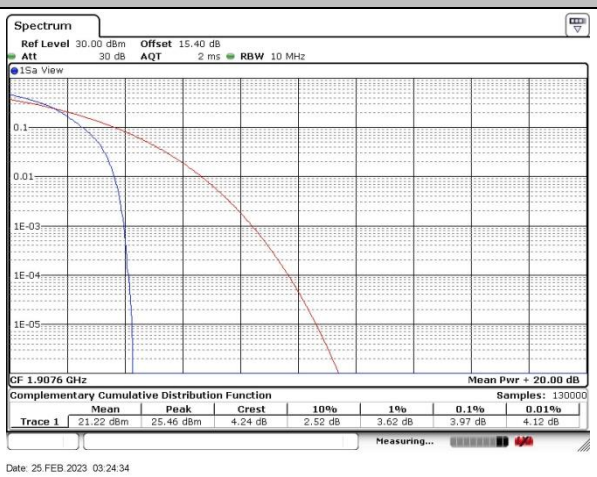
Note:

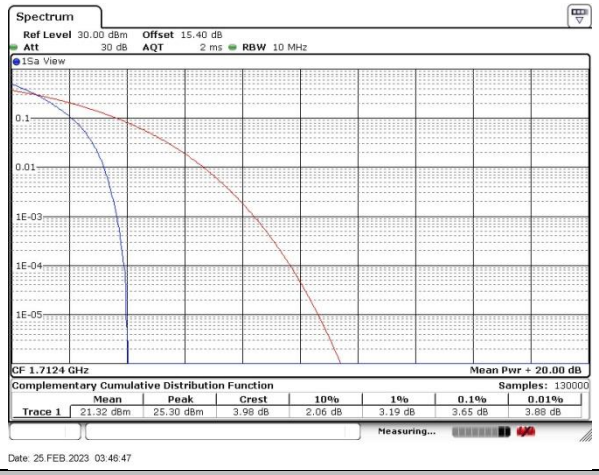
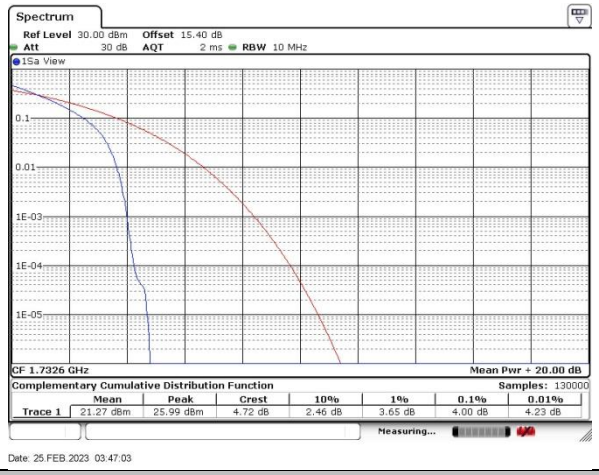
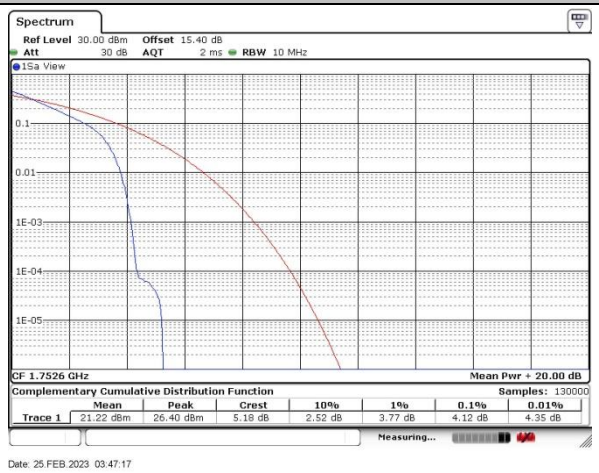
1. Normal Voltage = 3.86V ；Battery End Point (BEP) =3.6V.；Maximum Voltage =4.43V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

A2. WCDMA

Peak-to-Average Ratio

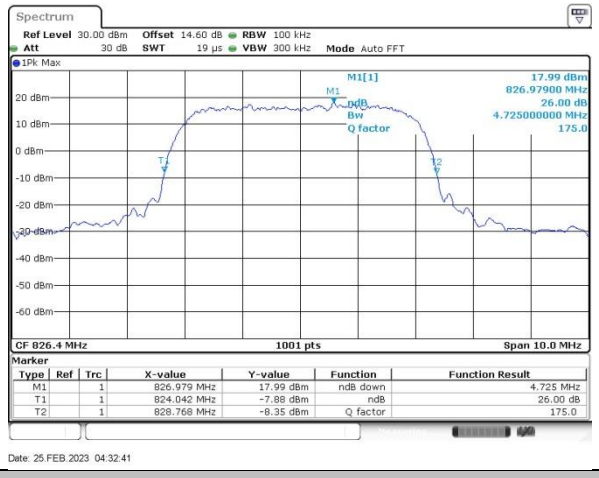
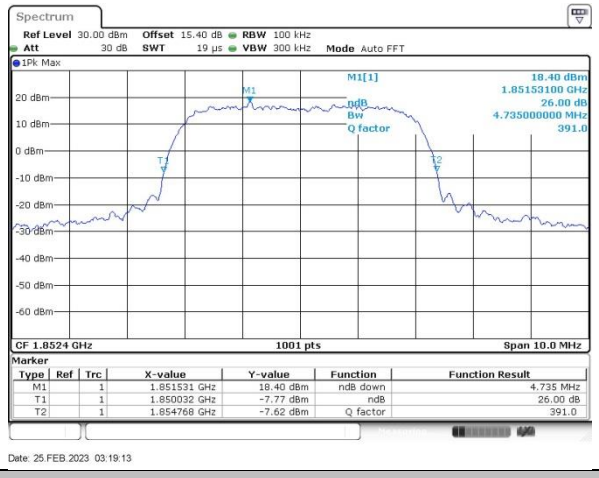
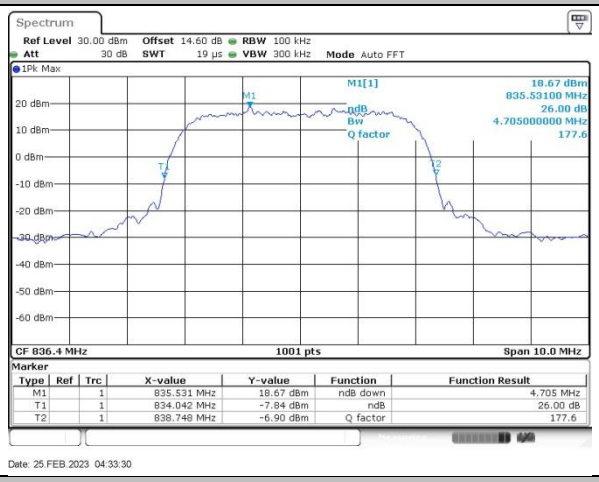
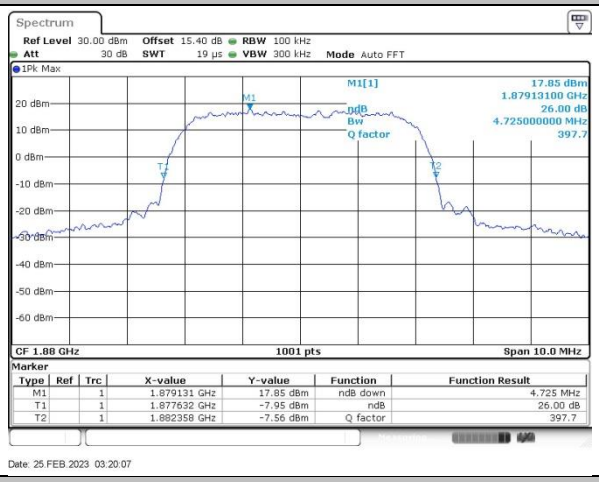
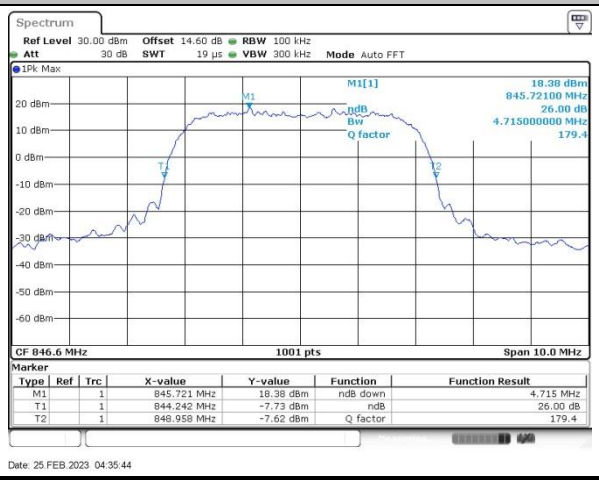
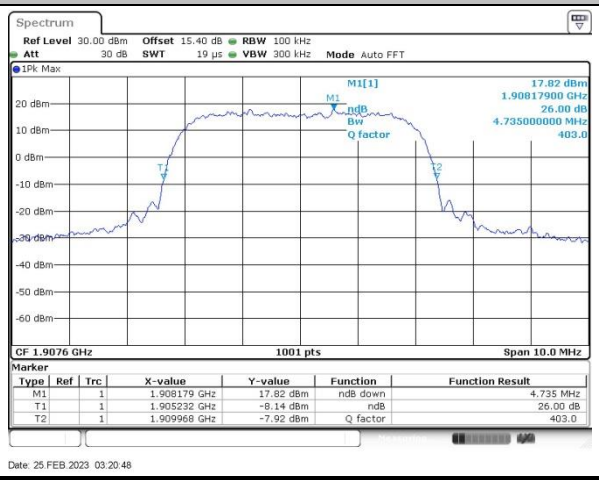
Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV	Limit: 13dB
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps	Result
Lowest CH	3.94	4.17	3.65	PASS
Middle CH	4.03	4.20	4.00	
Highest CH	4.14	3.97	4.12	

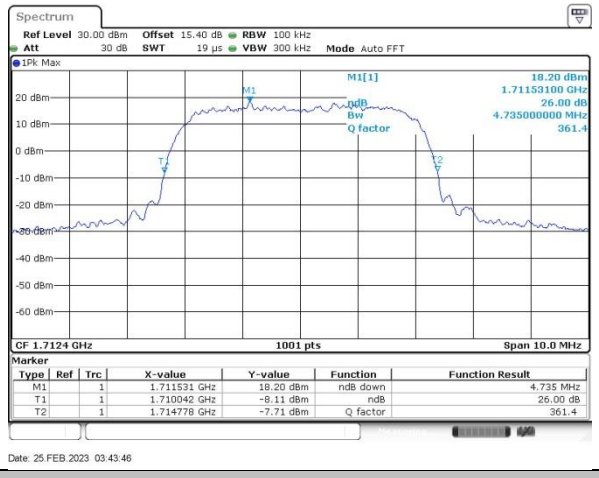
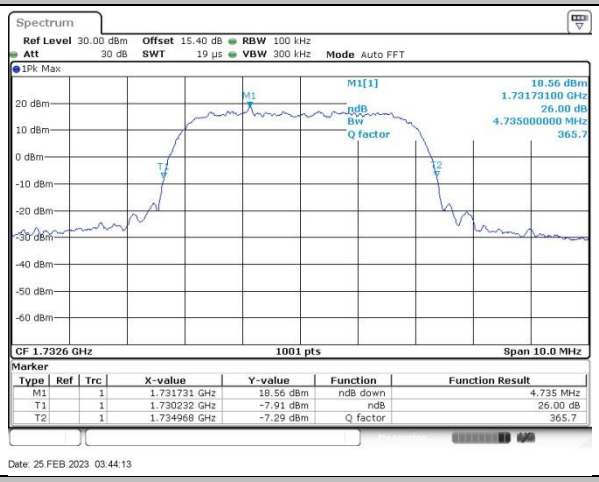
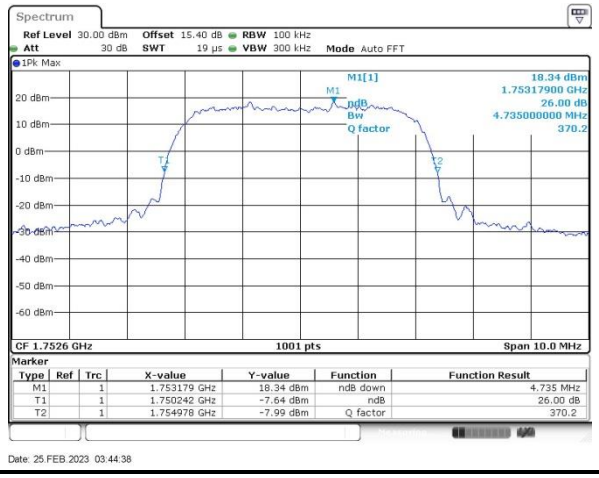
WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

WCDMA Band IV (RMC 12.2Kbps)	
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

26dB Bandwidth

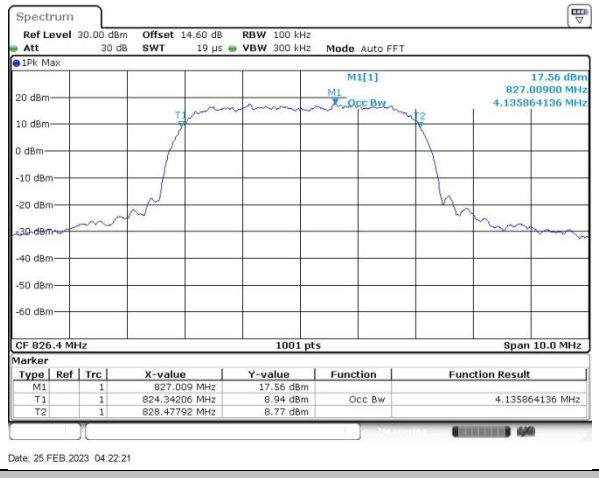
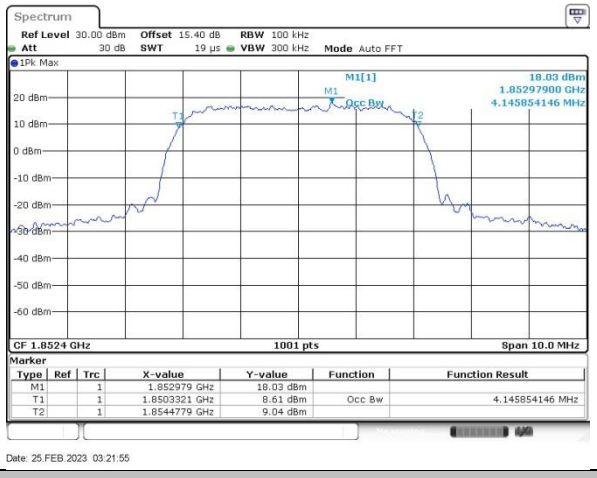
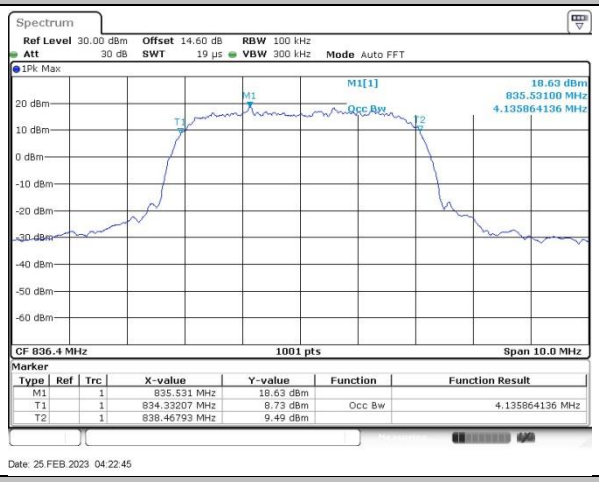
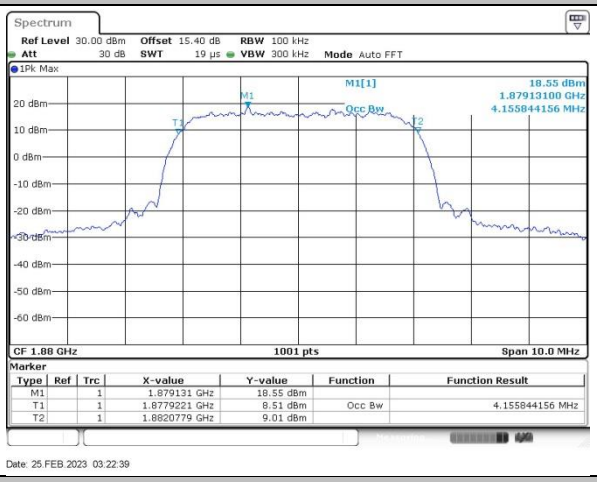
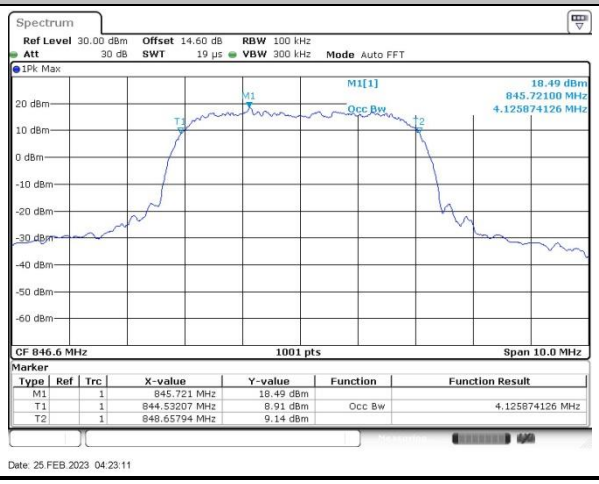
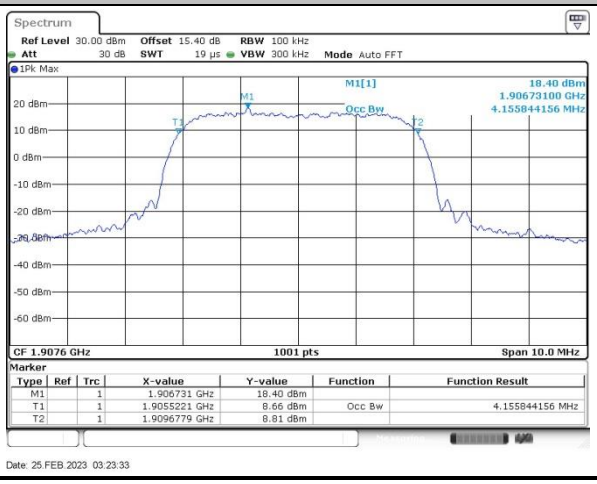
Mode	WCDMA Band V(MHz)	WCDMA Band II(MHz)	WCDMA Band IV(MHz)
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.725	4.735	4.735
Middle CH	4.705	4.725	4.735
Highest CH	4.715	4.735	4.735

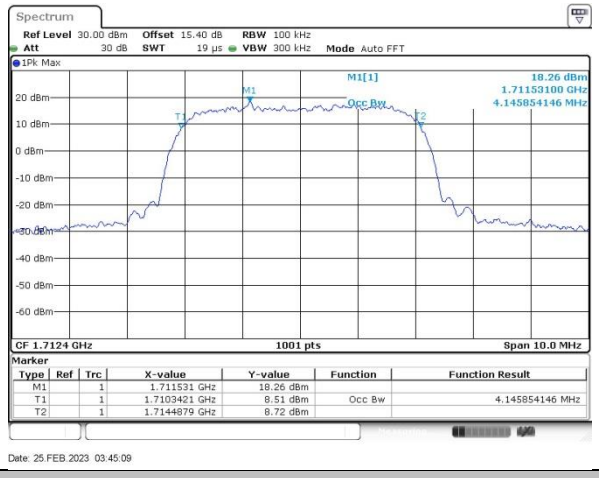
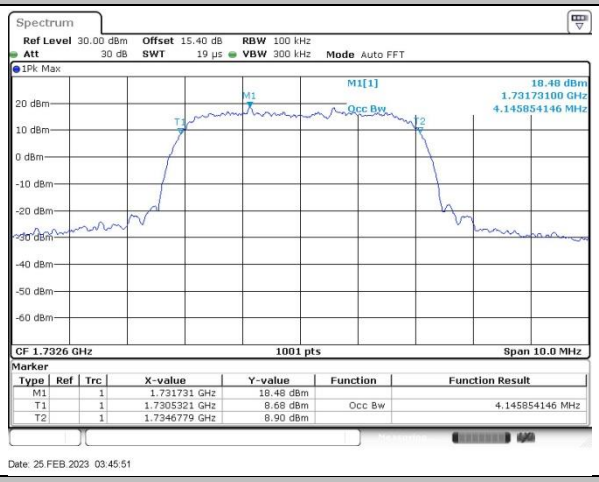
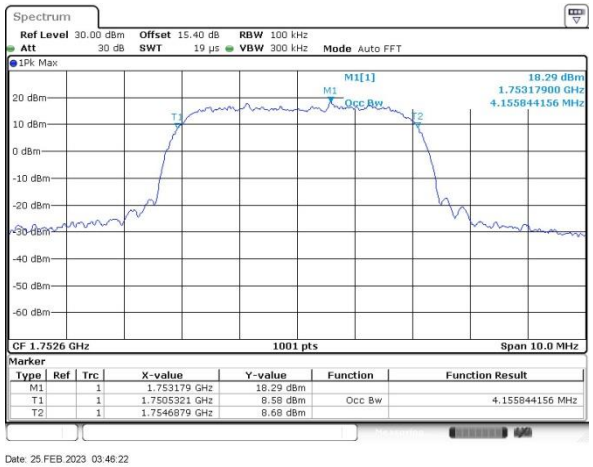
WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

WCDMA Band IV (RMC 12.2Kbps)	
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

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	4.136	4.146	4.146
Middle CH	4.136	4.156	4.146
Highest CH	4.126	4.156	4.156

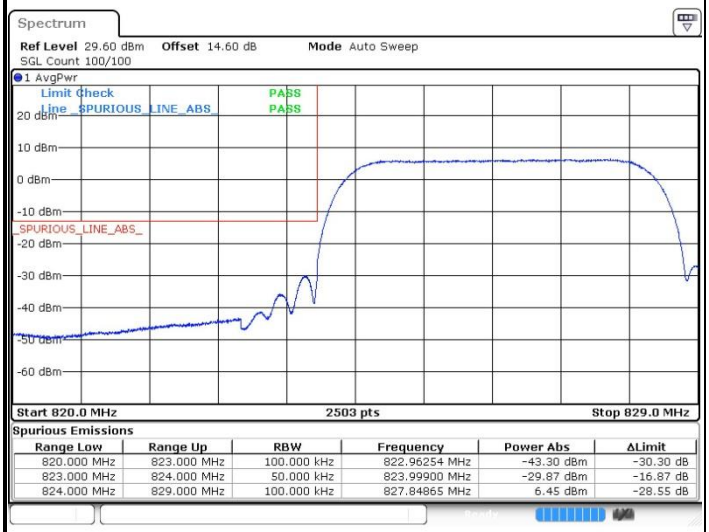
WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

WCDMA Band IV (RMC 12.2Kbps)	
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

Conducted Band Edge

WCDMA Band V (RMC 12.2Kbps)

Lowest Band Edge

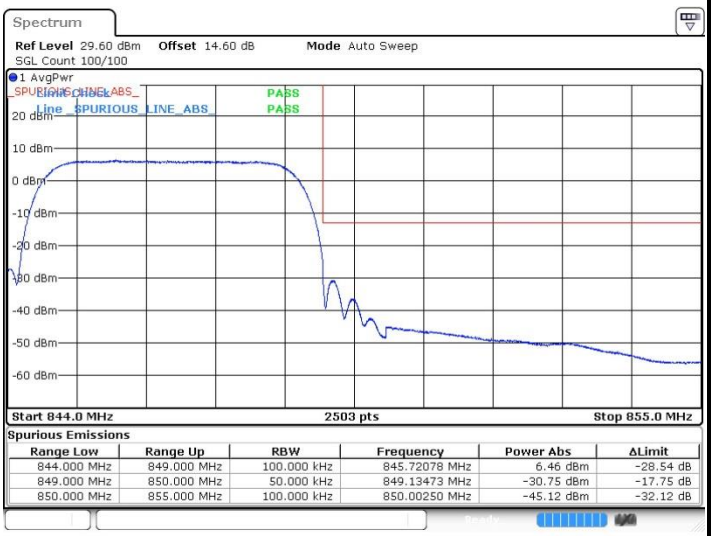


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
820.000 MHz	823.000 MHz	100.000 kHz	822.96254 MHz	-43.30 dBm	-30.30 dB
823.000 MHz	824.000 MHz	50.000 kHz	823.99900 MHz	-29.87 dBm	-16.87 dB
824.000 MHz	829.000 MHz	100.000 kHz	827.84865 MHz	6.45 dBm	-28.55 dB

Date: 25.FEB.2023 04:03:22

Highest Band Edge



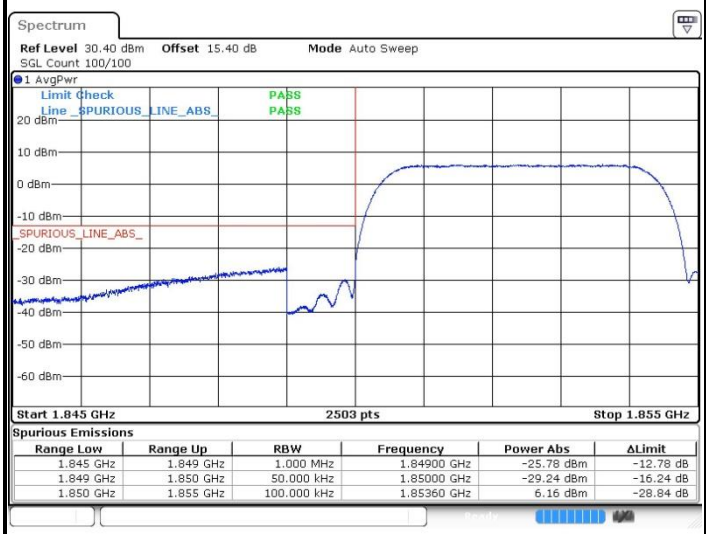
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
844.000 MHz	849.000 MHz	100.000 kHz	845.72078 MHz	6.46 dBm	-28.54 dB
849.000 MHz	850.000 MHz	50.000 kHz	849.13473 MHz	-30.75 dBm	-17.75 dB
850.000 MHz	855.000 MHz	100.000 kHz	850.00250 MHz	-45.12 dBm	-32.12 dB

Date: 25.FEB.2023 04:15:13

WCDMA Band II (RMC 12.2Kbps)

Lowest Band Edge

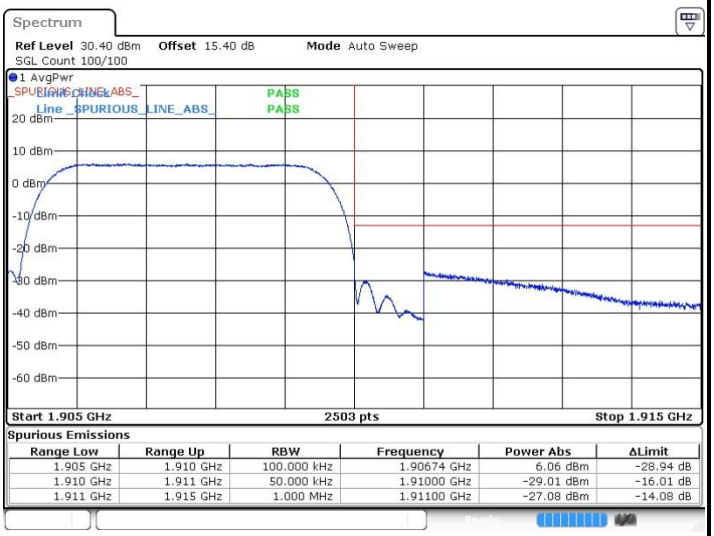


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.845 GHz	1.849 GHz	1.000 MHz	1.84900 GHz	-25.78 dBm	-12.78 dB
1.849 GHz	1.850 GHz	50.000 kHz	1.85000 GHz	-29.24 dBm	-16.24 dB
1.850 GHz	1.855 GHz	100.000 kHz	1.85360 GHz	6.16 dBm	-28.84 dB

Date: 25.FEB.2023 03:31:33

Highest Band Edge

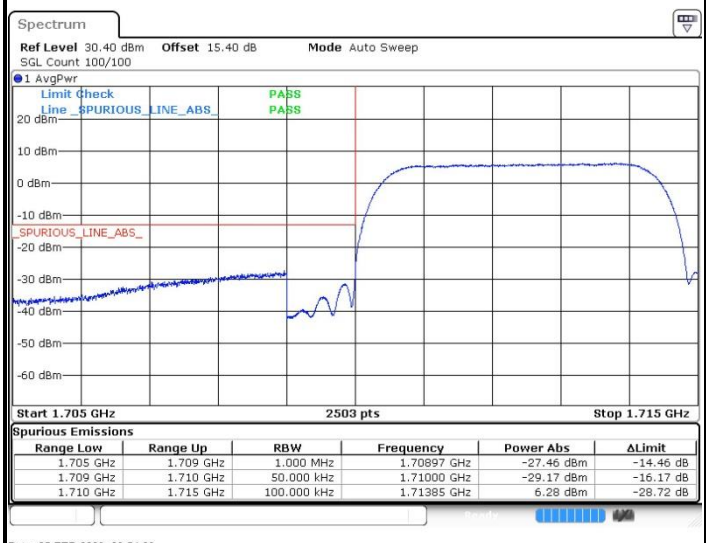


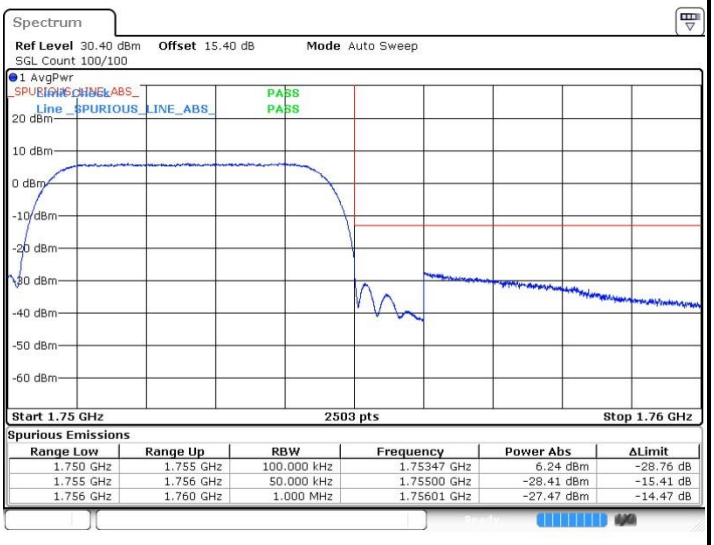
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90674 GHz	6.06 dBm	-28.94 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91000 GHz	-29.01 dBm	-16.01 dB
1.911 GHz	1.915 GHz	1.000 MHz	1.91100 GHz	-27.08 dBm	-14.08 dB

Date: 25.FEB.2023 03:36:44

WCDMA Band IV (RMC 12.2Kbps)	
Lowest Band Edge	**Highest Band Edge**

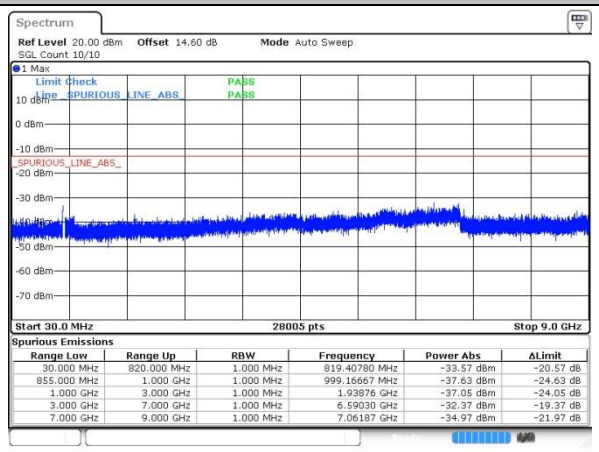




Conducted Spurious Emission

WCDMA Band V (RMC 12.2Kbps)

Lowest Channel

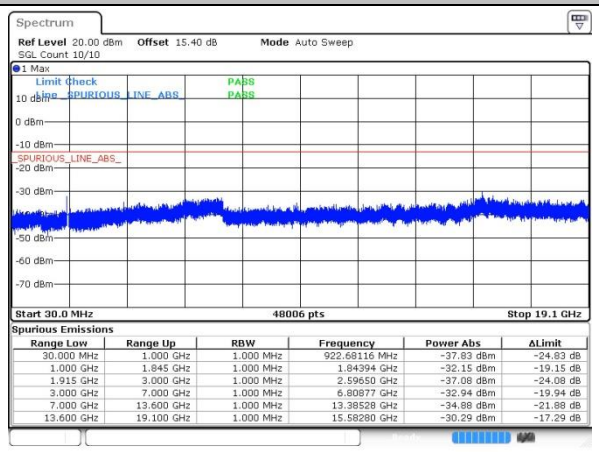


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	819.40780 MHz	-33.57 dBm	-20.57 dB
855.000 MHz	1.000 GHz	1.000 MHz	999.16667 MHz	-37.63 dBm	-24.63 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.93876 GHz	-37.05 dBm	-24.05 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.59030 GHz	-32.37 dBm	-19.37 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.06187 GHz	-34.97 dBm	-21.97 dB

Date: 25.FEB.2023 04:38:20

Lowest Channel



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	922.68116 MHz	-37.83 dBm	-24.83 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.84394 GHz	-32.15 dBm	-19.15 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.59650 GHz	-37.08 dBm	-24.08 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.80877 GHz	-32.94 dBm	-19.94 dB
7.000 GHz	13.600 GHz	1.000 MHz	13.38528 GHz	-34.88 dBm	-21.88 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.58280 GHz	-30.29 dBm	-17.29 dB

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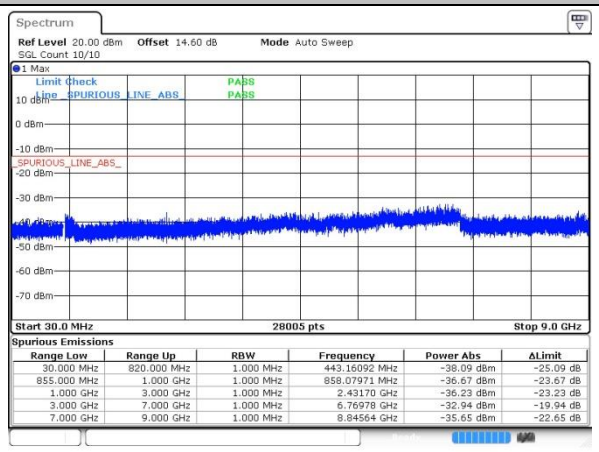
Middle Channel



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	443.16092 MHz	-38.09 dBm	-25.09 dB
855.000 MHz	1.000 GHz	1.000 MHz	858.07971 MHz	-36.67 dBm	-23.67 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.43170 GHz	-36.23 dBm	-23.23 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.76978 GHz	-32.94 dBm	-19.94 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.84564 GHz	-35.65 dBm	-22.65 dB

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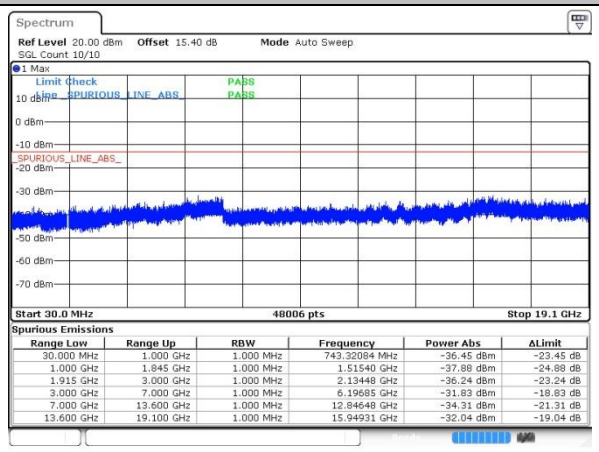
Middle Channel



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	743.32084 MHz	-36.45 dBm	-23.45 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.51540 GHz	-37.88 dBm	-24.88 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.13448 GHz	-36.24 dBm	-23.24 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.19685 GHz	-31.83 dBm	-18.83 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.84648 GHz	-34.31 dBm	-21.31 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.94931 GHz	-32.04 dBm	-19.04 dB

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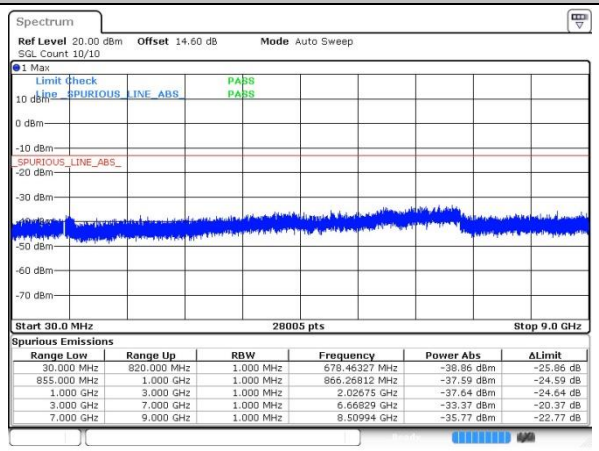
Highest Channel



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	678.46327 MHz	-38.86 dBm	-25.86 dB
855.000 MHz	1.000 GHz	1.000 MHz	866.26812 MHz	-37.59 dBm	-24.59 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.02675 GHz	-37.64 dBm	-24.64 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.66829 GHz	-33.37 dBm	-20.37 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.50994 GHz	-35.77 dBm	-22.77 dB

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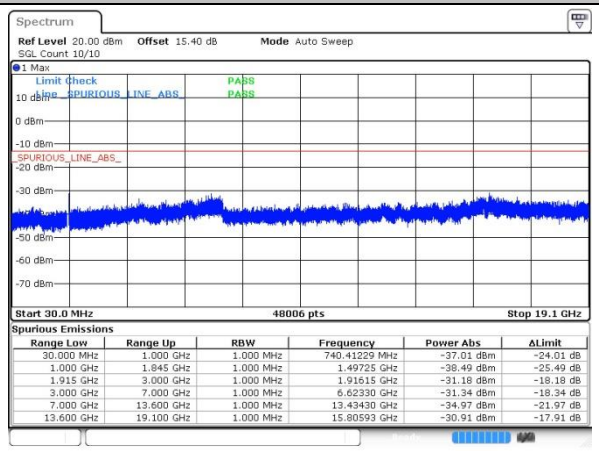
Highest Channel



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	740.41229 MHz	-37.01 dBm	-24.01 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.49725 GHz	-38.49 dBm	-25.49 dB
1.915 GHz	3.000 GHz	1.000 MHz	1.91615 GHz	-31.18 dBm	-18.18 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.62330 GHz	-31.34 dBm	-18.34 dB
7.000 GHz	13.600 GHz	1.000 MHz	13.43430 GHz	-34.97 dBm	-21.97 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.80593 GHz	-30.91 dBm	-17.91 dB

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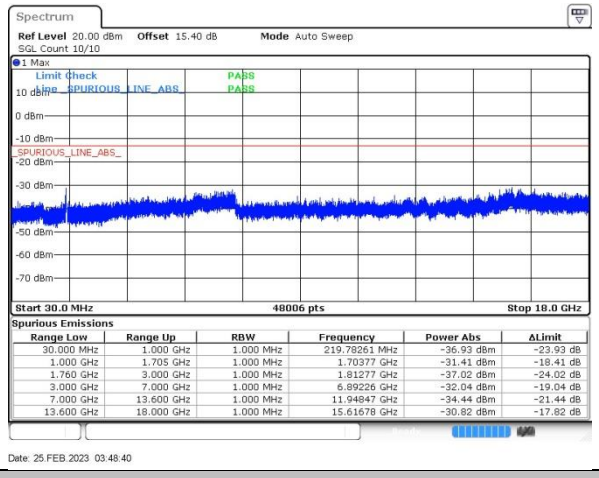
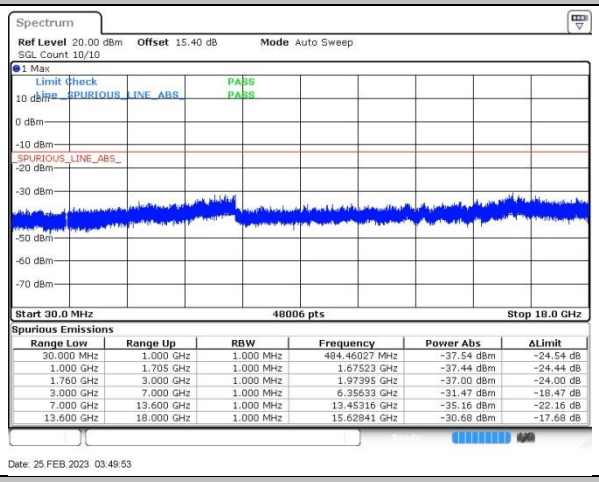
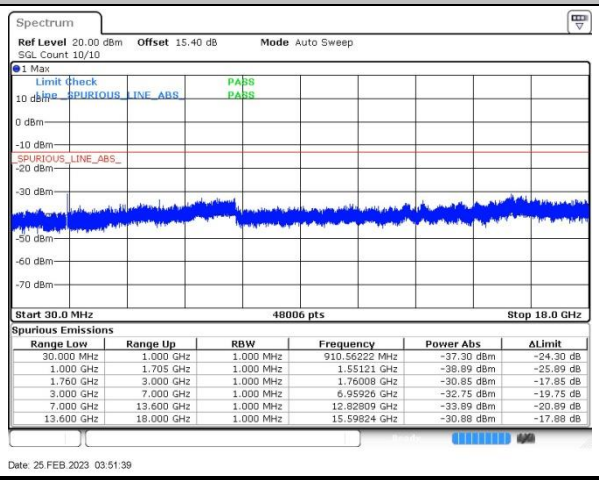
WCDMA Band IV (RMC 12.2Kbps)	
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

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	0.0025	PASS
40	Normal Voltage	0.0316	
30	Normal Voltage	0.0474	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0066	
0	Normal Voltage	0.0344	
-10	Normal Voltage	0.0061	
-20	Normal Voltage	0.0146	
-30	Normal Voltage	0.0324	
20	Maximum Voltage	0.0412	
20	Normal Voltage	0.0124	
20	Battery End Point	0.0027	

Test Conditions	Middle Channel	WCDMA Band II (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0198	PASS
40	Normal Voltage	0.0145	
30	Normal Voltage	0.0132	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0178	
0	Normal Voltage	0.0116	
-10	Normal Voltage	0.0297	
-20	Normal Voltage	0.0072	
-30	Normal Voltage	0.0163	
20	Maximum Voltage	0.0161	
20	Normal Voltage	0.0123	
20	Battery End Point	0.0034	

Test Conditions	Middle Channel	WCDMA Band IV (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0078	PASS
40	Normal Voltage	0.0146	
30	Normal Voltage	0.0014	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0079	
0	Normal Voltage	0.0046	
-10	Normal Voltage	0.0174	
-20	Normal Voltage	0.0132	
-30	Normal Voltage	0.0076	
20	Maximum Voltage	0.0027	
20	Normal Voltage	0.0037	
20	Battery End Point	0.0126	

Note:

1. Normal Voltage = 3.86V ；Battery End Point (BEP) =3.6V.；Maximum Voltage =4.43V

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

Test Engineer :	Carry Xu	Temperature :	23~25℃
		Relative Humidity :	41~42%

GSM850 (GSM) Ant1								
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	-51.39	-13	-38.39	-58.36	1.58	10.70	H
	2512	-38.45	-13	-25.45	-46.70	2.102	12.50	H
	3344	-61.60	-13	-48.60	-70.49	2.856	13.90	H
	4184	-57.09	-13	-44.09	-65.55	2.689	13.30	H
	1672	-53.81	-13	-40.81	-60.78	1.58	10.70	V
	2512	-36.02	-13	-23.02	-44.27	2.10	12.50	V
	3344	-61.69	-13	-48.69	-70.58	2.86	13.90	V
	4184	-61.39	-13	-48.39	-69.85	2.69	13.30	V

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

GSM850 (EDGE 1 Tx slots) Ant1								
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	-48.28	-13	-35.28	-55.25	1.58	10.70	H
	2508	-49.64	-13	-36.64	-57.89	2.102	12.50	H
	3348	-53.28	-13	-40.28	-62.17	2.856	13.90	H
	4182	-52.95	-13	-39.95	-61.41	2.689	13.30	H
	1672	-44.69	-13	-31.69	-51.66	1.58	10.70	V
	2508	-32.43	-13	-19.43	-40.68	2.10	12.50	V
	3348	-61.03	-13	-48.03	-69.92	2.86	13.90	V
	4182	-53.74	-13	-40.74	-62.20	2.69	13.30	V

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

GSM1900 (GSM) Ant2								
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	-47.71	-13	-34.71	-59.97	2.64	14.90	H
	5640	-37.10	-13	-24.10	-48.96	2.94	14.80	H
	7524	-53.27	-13	-40.27	-63.04	3.39	13.16	H
	3759	-48.09	-13	-35.09	-60.35	2.64	14.90	V
	5640	-42.97	-13	-29.97	-54.83	2.94	14.80	V
	7524	-52.98	-13	-39.98	-62.75	3.39	13.16	V

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

GSM1900 (EDGE 1 Tx slots) Ant2								
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	3765	-55.81	-13	-42.81	-68.07	2.641	14.90	H
	5640	-43.46	-13	-30.46	-55.32	2.94	14.80	H
	7515	-52.92	-13	-39.92	-62.69	3.39	13.16	H
	3765	-54.99	-13	-41.99	-67.25	2.64	14.90	V
	5640	-44.00	-13	-31.00	-55.86	2.94	14.80	V
	7515	-53.06	-13	-40.06	-62.83	3.39	13.16	V

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

WCDMA Band V(RMC 12.2Kbps) Ant1								
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	-64.83	-13	-51.83	-71.80	1.58	10.70	H
	2512	-60.69	-13	-47.69	-68.94	2.102	12.50	H
	3344	-61.57	-13	-48.57	-70.46	2.856	13.90	H
	1672	-63.88	-13	-50.88	-70.85	1.58	10.70	V
	2512	-60.26	-13	-47.26	-68.51	2.10	12.50	V
	3344	-61.50	-13	-48.50	-70.39	2.86	13.90	V

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

WCDMA Band II(RMC 12.2Kbps) Ant2								
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	3765	-57.67	-13	-44.67	-69.93	2.64	14.90	H
	5640	-55.91	-13	-42.91	-67.77	2.94	14.80	H
	7515	-52.76	-13	-39.76	-62.53	3.39	13.16	H
	3765	-57.18	-13	-44.18	-69.44	2.64	14.90	V
	5640	-56.30	-13	-43.30	-68.16	2.94	14.80	V
	7515	-52.89	-13	-39.89	-62.66	3.39	13.16	V

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

WCDMA Band IV(RMC 12.2Kbps) Ant2								
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	3465	-57.95	-13	-44.95	-68.69	2.604	13.34	H
	5190	-55.05	-13	-42.05	-65.56	3.011	13.52	H
	6930	-54.70	-13	-41.70	-64.90	3.271	13.47	H
	3465	-58.38	-13	-45.38	-69.12	2.604	13.34	V
	5190	-54.78	-13	-41.78	-65.29	3.011	13.52	V
	6930	-54.46	-13	-41.46	-64.66	3.271	13.47	V

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