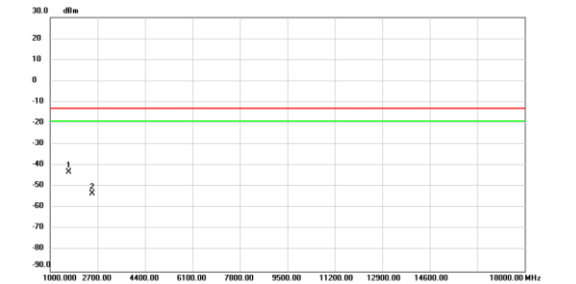


Test Mode : LTE Band 5\_TX CH20525\_1.4MHz

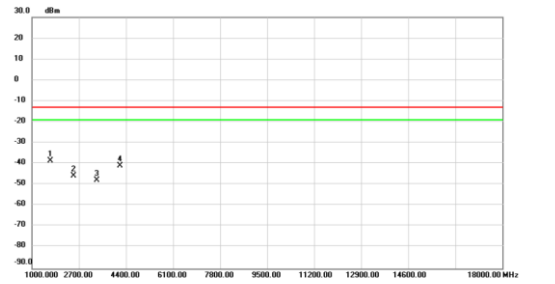
### Vertical



No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1 *	1671.500	-48.51	5.41	-43.10	-13.00	-30.10	peak	
2	2504.500	-60.64	7.47	-53.17	-13.00	-40.17	peak	

Test Mode : LTE Band 5\_TX CH20525\_1.4MHz

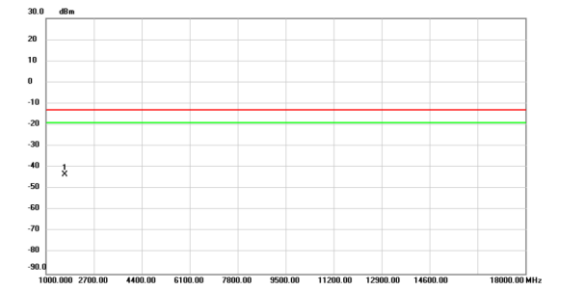
### Horizontal



No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1 *	1671.500	-43.94	5.41	-38.53	-13.00	-25.53	peak	
2	2504.500	-53.36	7.47	-45.89	-13.00	-32.89	peak	
3	3346.000	-57.26	9.48	-47.78	-13.00	-34.78	peak	
4	4179.000	-53.16	12.23	-40.93	-13.00	-27.93	peak	

Test Mode : LTE Band 5\_TX CH20525\_5MHz

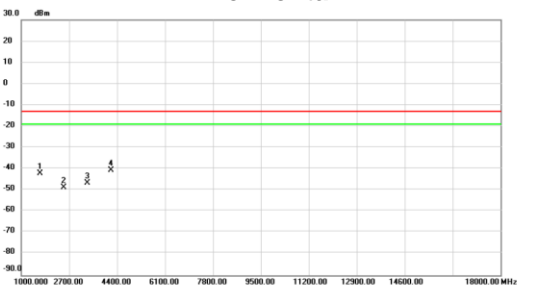
### Vertical



No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1 *	1671.500	-48.72	5.41	-43.31	-13.00	-30.31	peak	

Test Mode : LTE Band 5\_TX CH20525\_5MHz

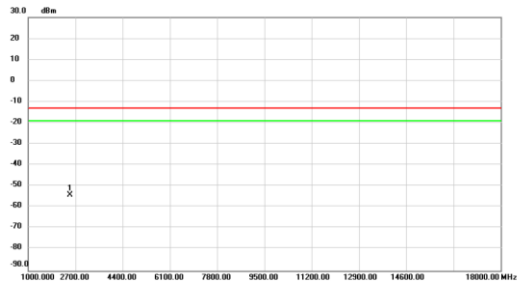
### Horizontal



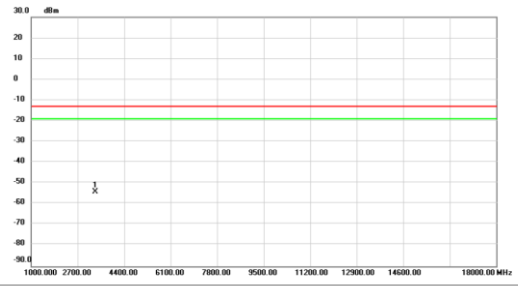
No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1	1671.500	-47.61	5.41	-42.20	-13.00	-29.20	peak	
2	2513.000	-56.34	7.49	-48.85	-13.00	-35.85	peak	
3	3346.000	-56.17	9.48	-46.69	-13.00	-33.69	peak	
4 *	4187.500	-52.75	12.25	-40.50	-13.00	-27.50	peak	

Test Mode : LTE Band 5\_TX CH20525\_10MHz

Test Mode : LTE Band 5\_TX CH20525\_10MHz

**Vertical**


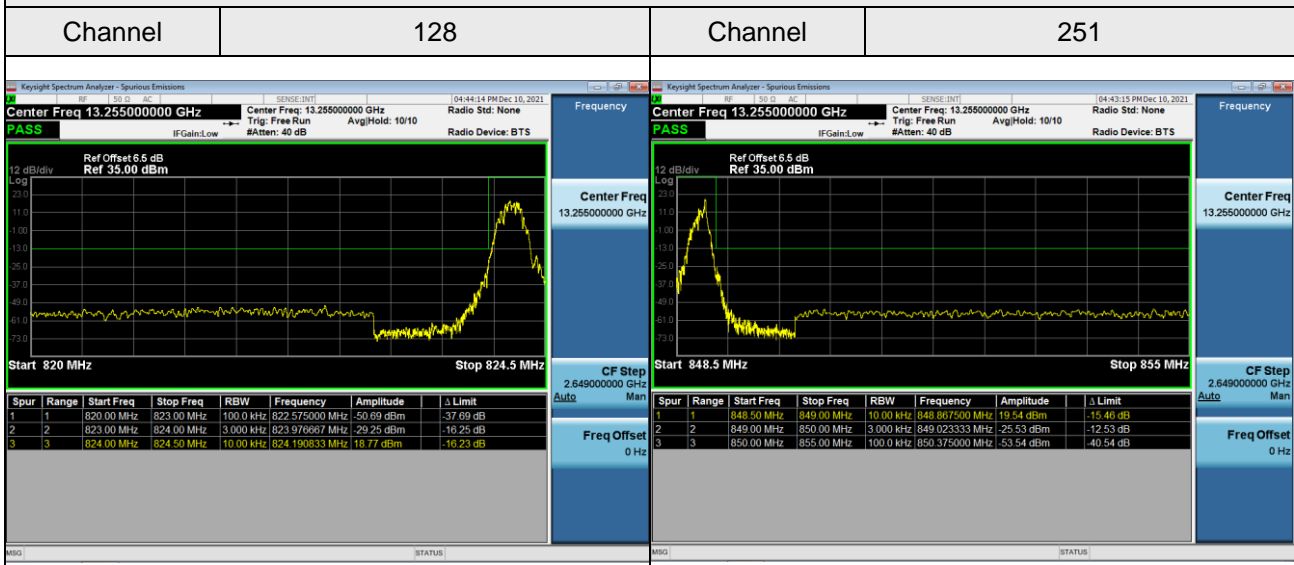
No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1 *	2504.500	-61.62	7.47	-54.15	-13.00	-41.15	peak	

**Horizontal**


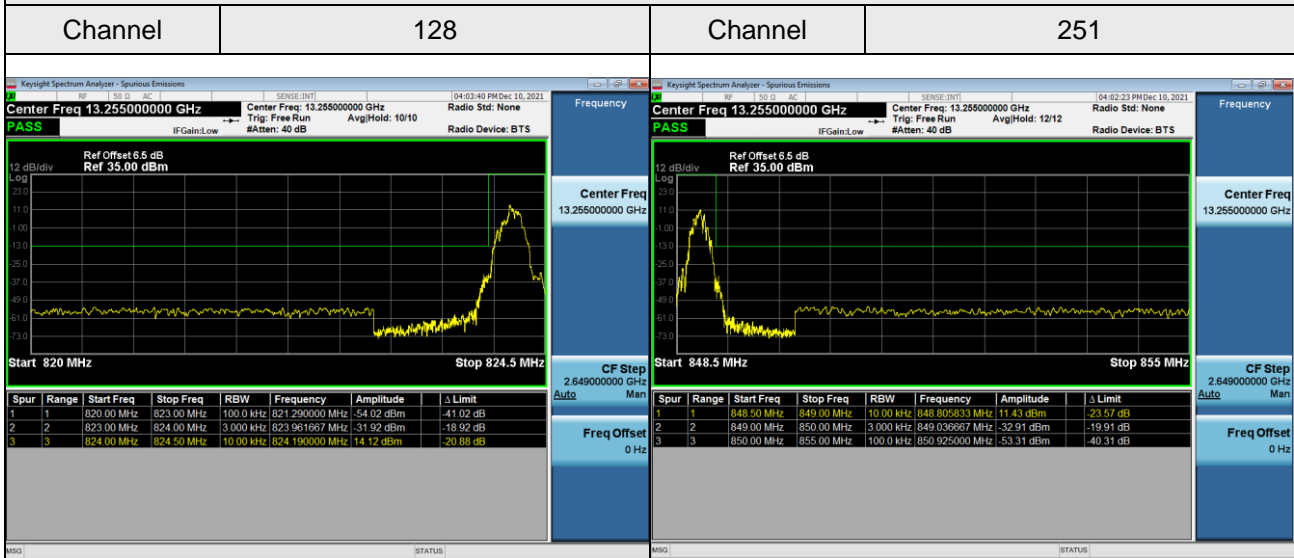
No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1 *	3346.000	-63.54	9.48	-54.06	-13.00	-41.06	peak	

## APPENDIX G - BAND EDGE

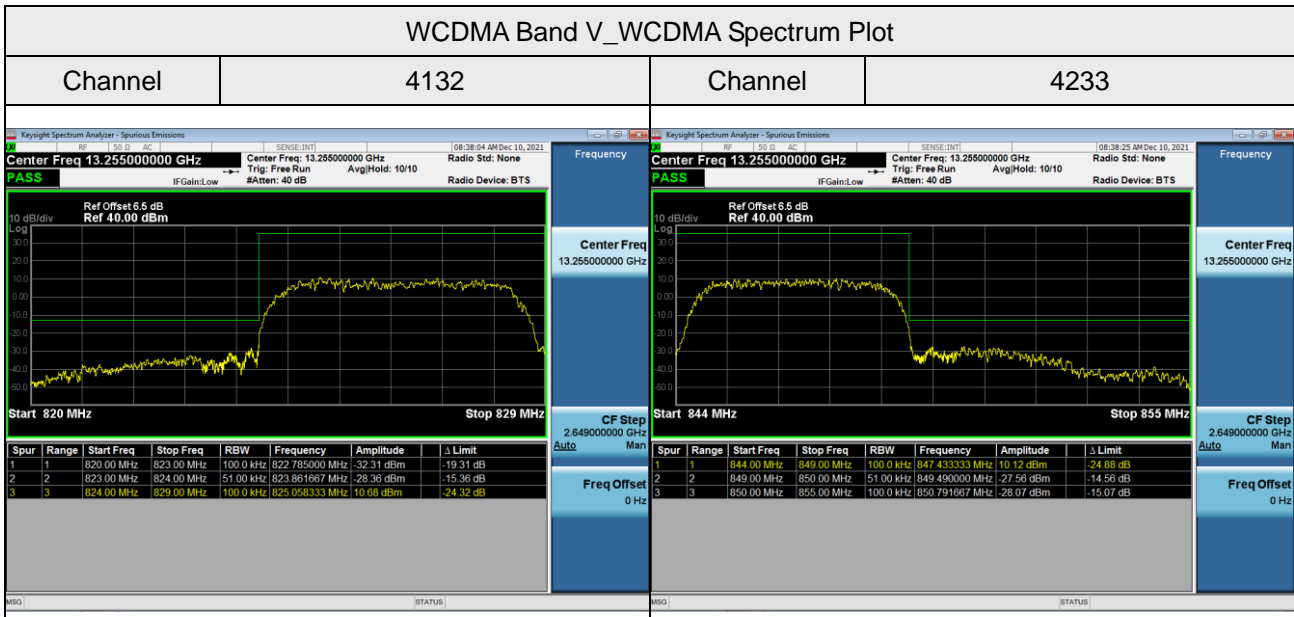
## GSM850\_GSM Spectrum Plot



## GSM850\_EDGE Spectrum Plot



## WCDMA Band V\_WCDMA Spectrum Plot



## LTE Band 5\_1.4MHz Spectrum Plot

1RB#0

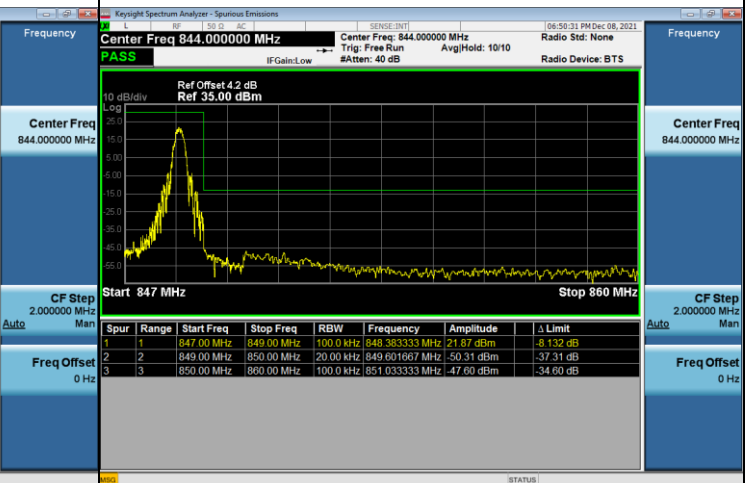
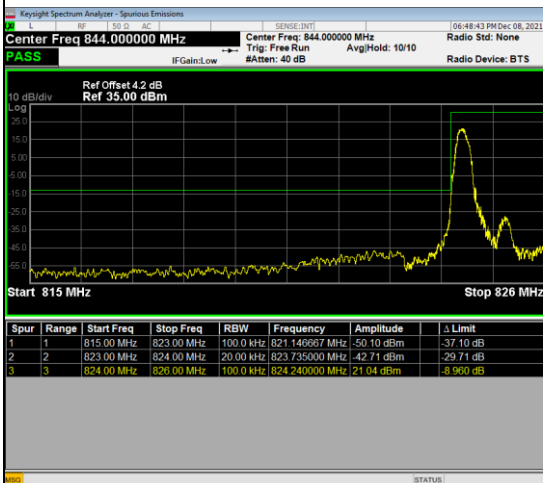
1RB#5

Channel

20407

Channel

20643



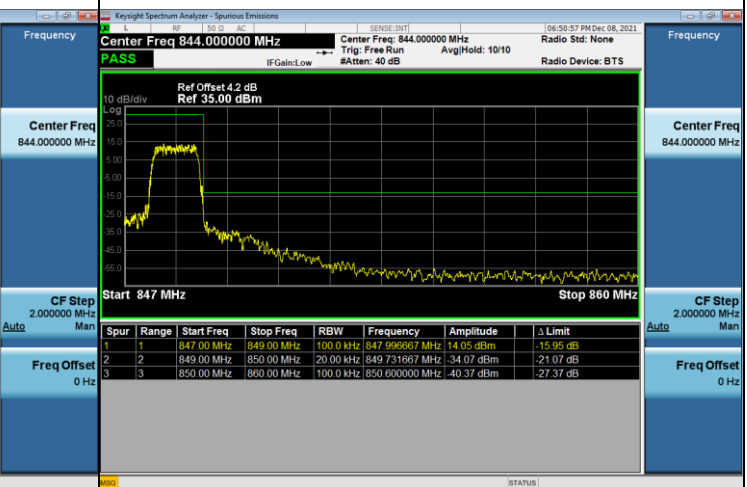
RB#0

Channel

20407

Channel

20643



## LTE Band 5\_3MHz Spectrum Plot

1RB#0

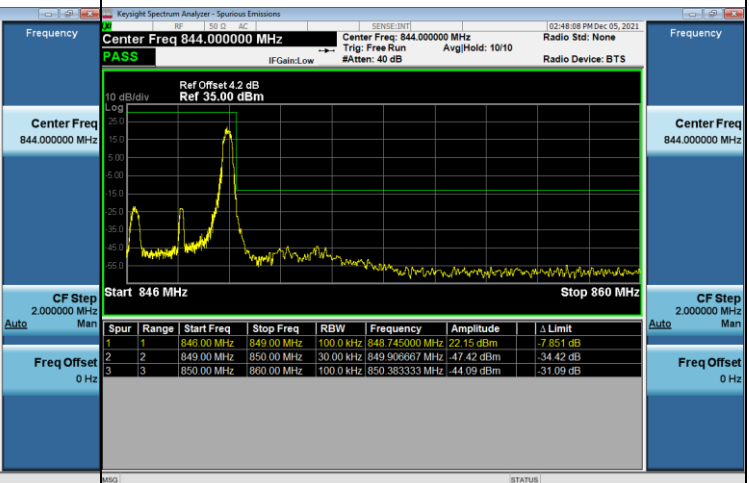
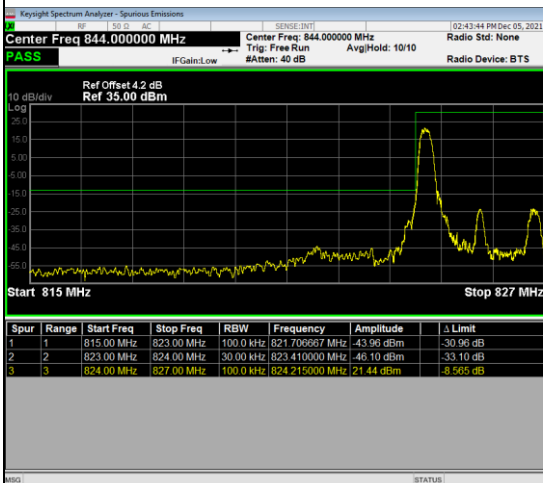
1RB#14

Channel

20415

Channel

20635



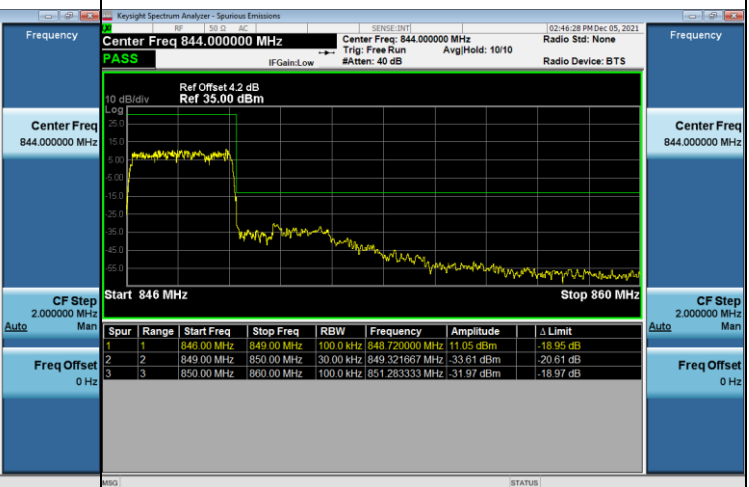
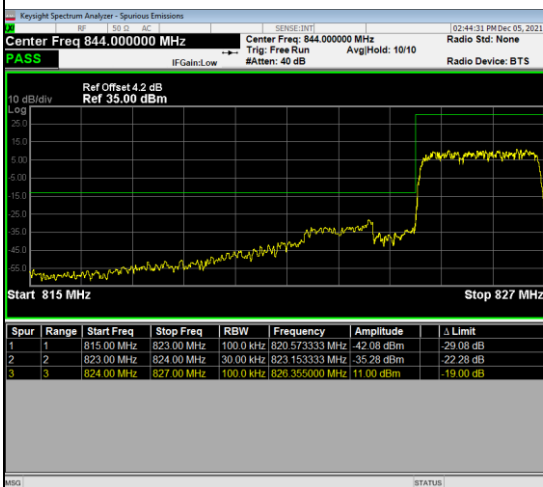
## 15RB#0

Channel

20415

Channel

20635



## LTE Band 5\_5MHz Spectrum Plot

1RB#0

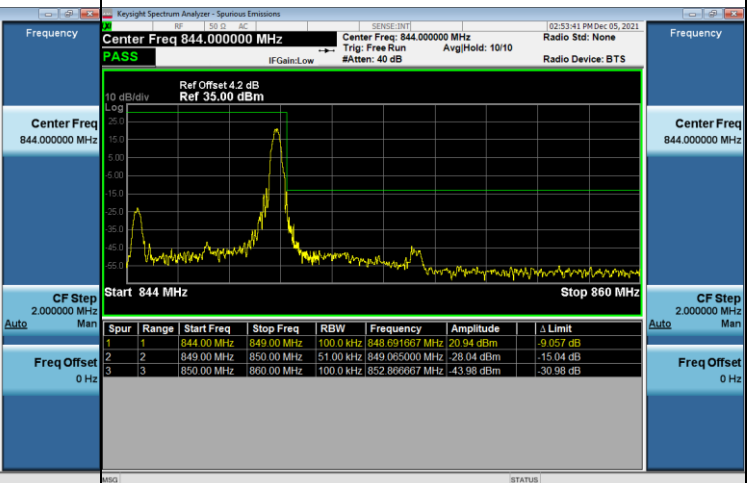
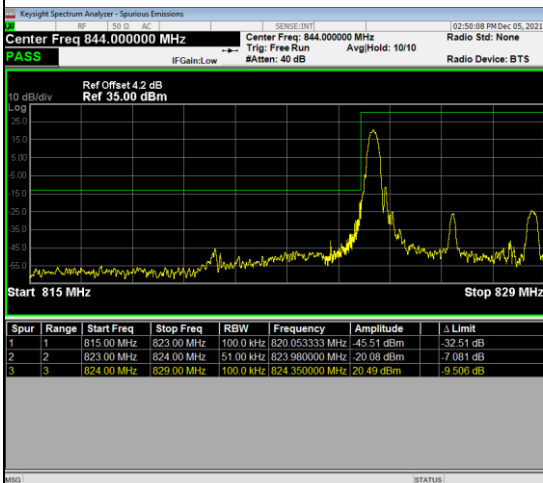
1RB#24

Channel

20425

Channel

20625



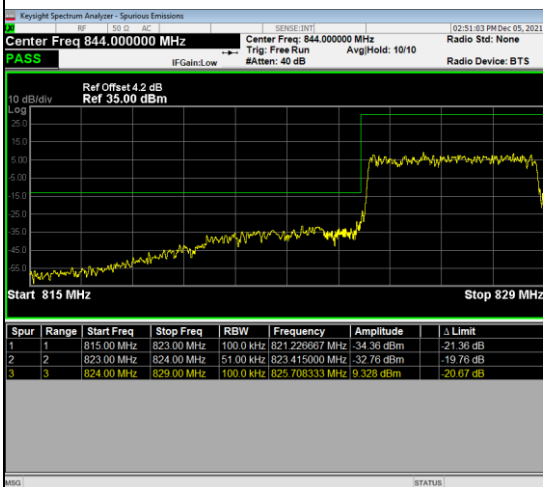
## 25RB#0

Channel

20425

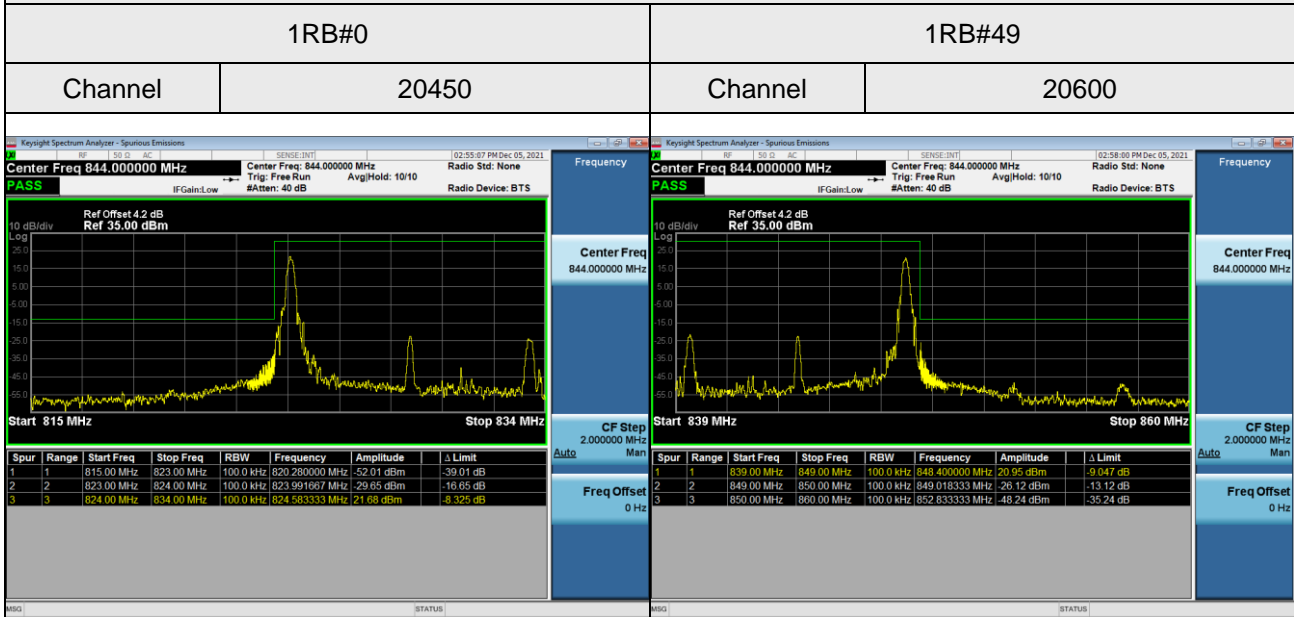
Channel

20625

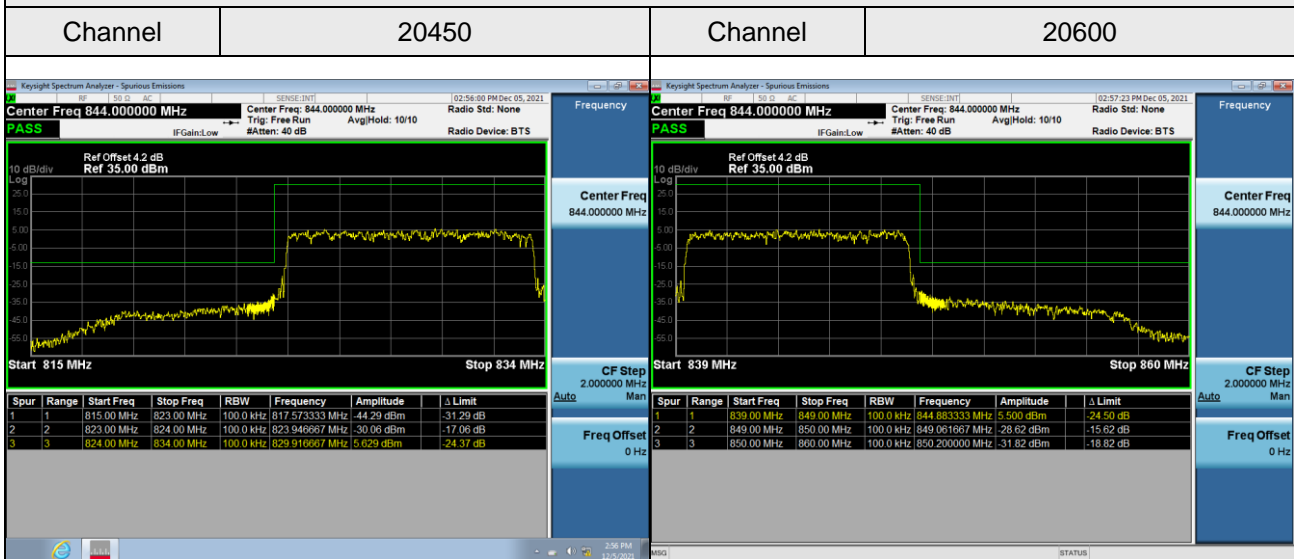




### LTE Band 5\_10MHz Spectrum Plot



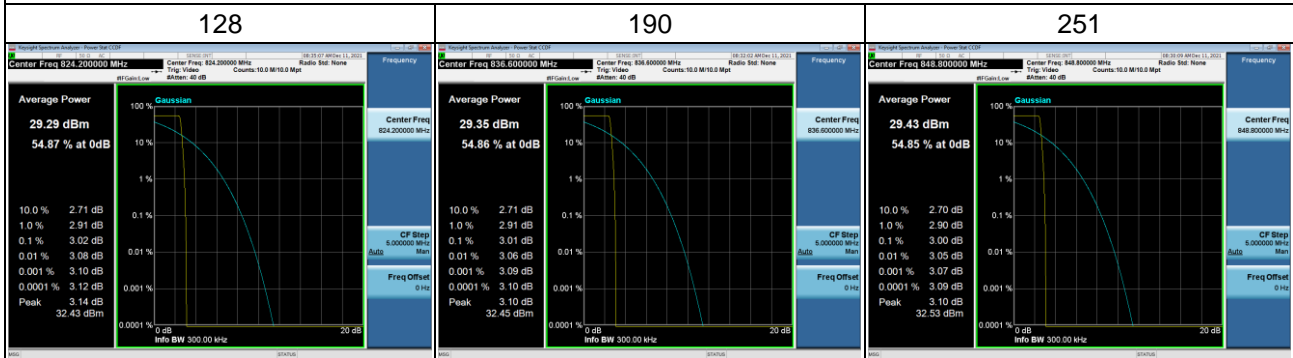
### 50RB#0



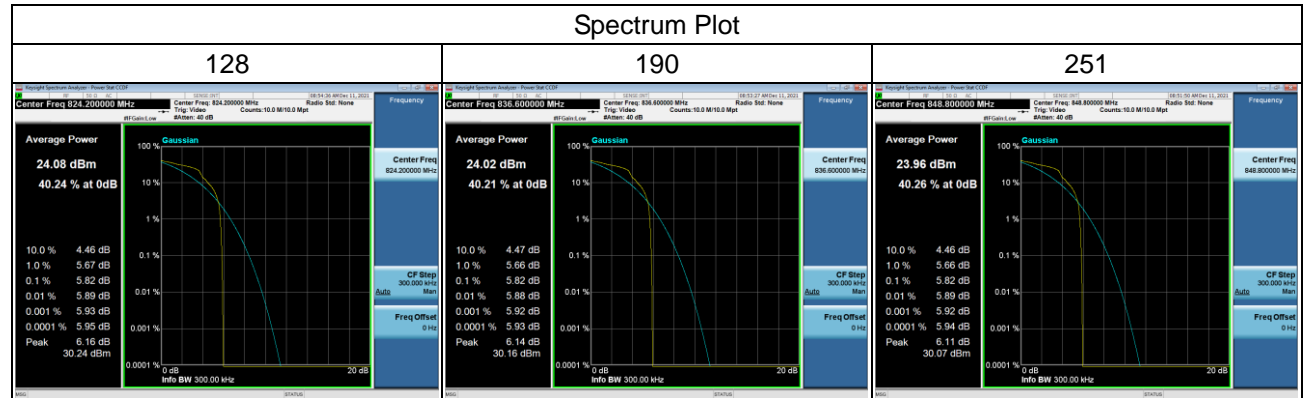
## APPENDIX H - PEAK TO AVERAGE RATIO

GSM 850_GSM					
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Max. Limit (dB)	Result
		QPSK			
128	824.2	3.02		13	Pass
190	836.6	3.01		13	Pass
251	848.8	3.00		13	Pass

### Spectrum Plot

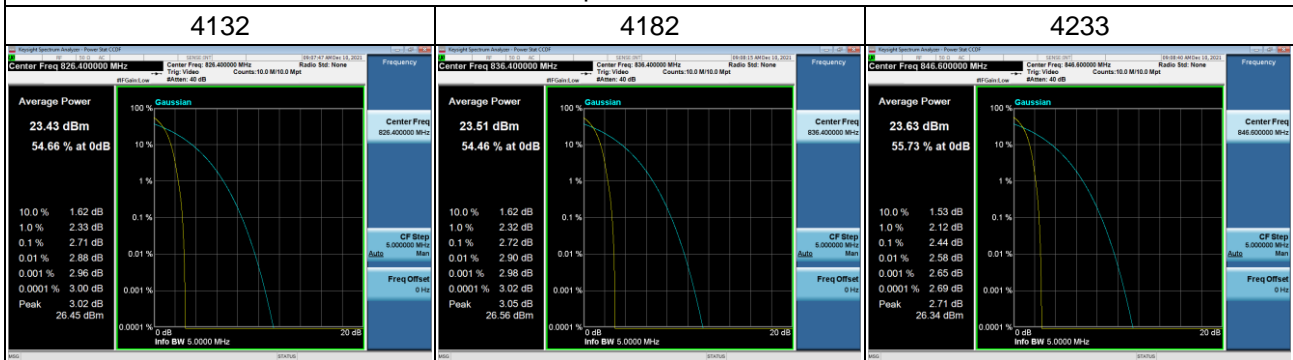


GSM 850_EDGE					
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Max. Limit (dB)	Result
		QPSK			
128	824.2	5.82		13	Pass
190	836.6	5.82		13	Pass
251	848.8	5.82		13	Pass



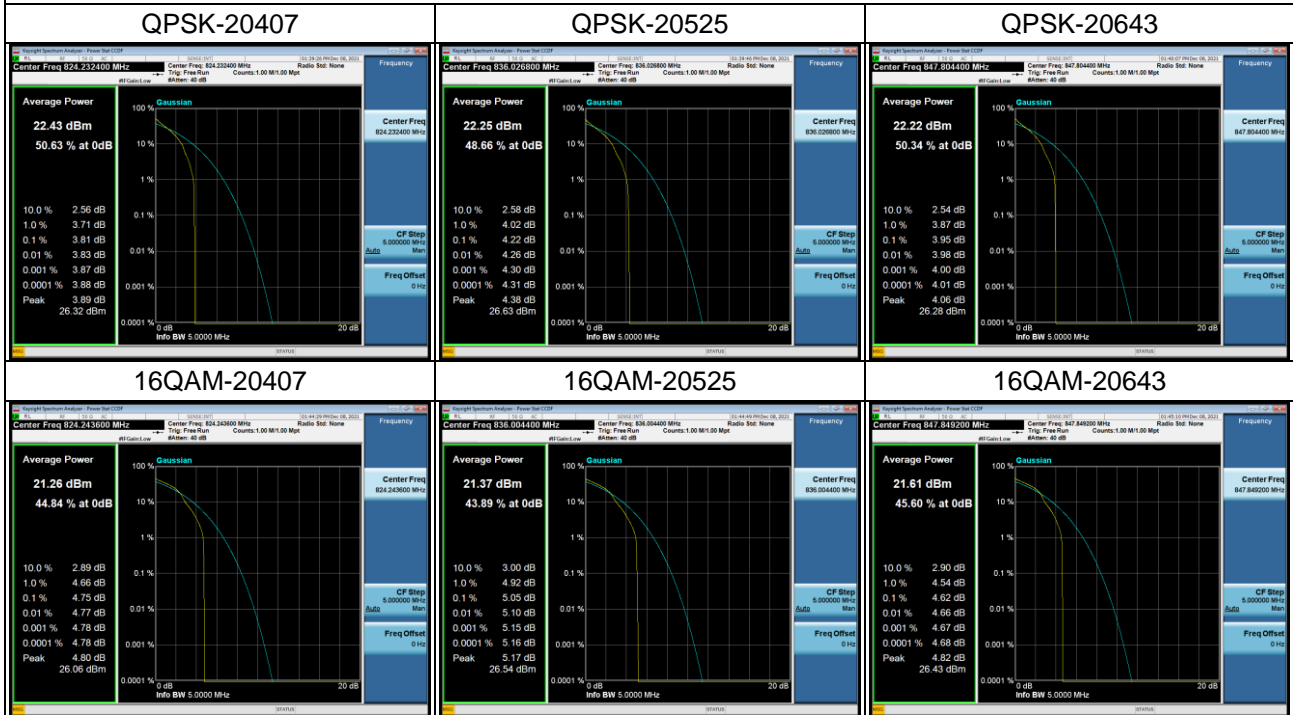
WCDMA Band V_WCDMA					
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Max. Limit (dB)	Result
		QPSK			
4132	826.4	2.71		13	Pass
4182	836.4	2.72		13	Pass
4233	846.6	2.44		13	Pass

## Spectrum Plot



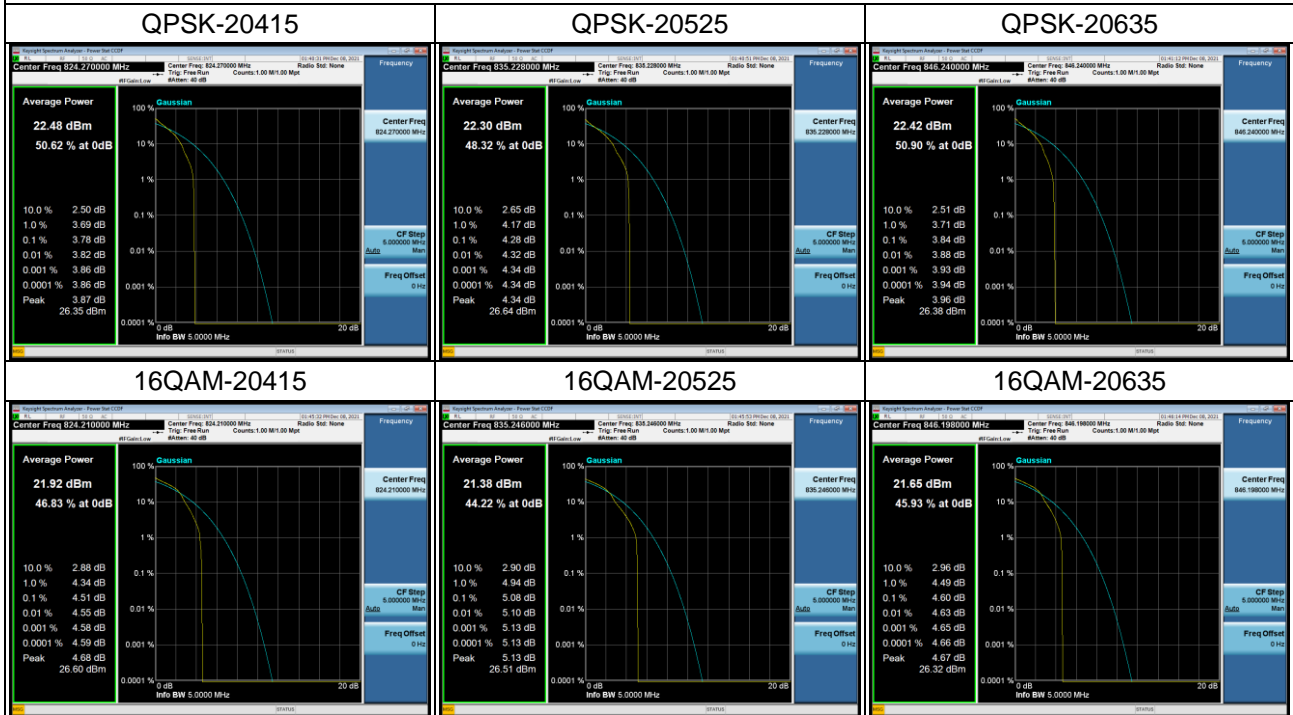
LTE Band 5_1.4MHz					
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Max. Limit (dB)	Result
		QPSK	16QAM		
20407	824.7	3.81	4.75	13	Pass
20525	836.5	4.22	5.05	13	Pass
20643	848.3	3.95	4.62	13	Pass

## Spectrum Plot



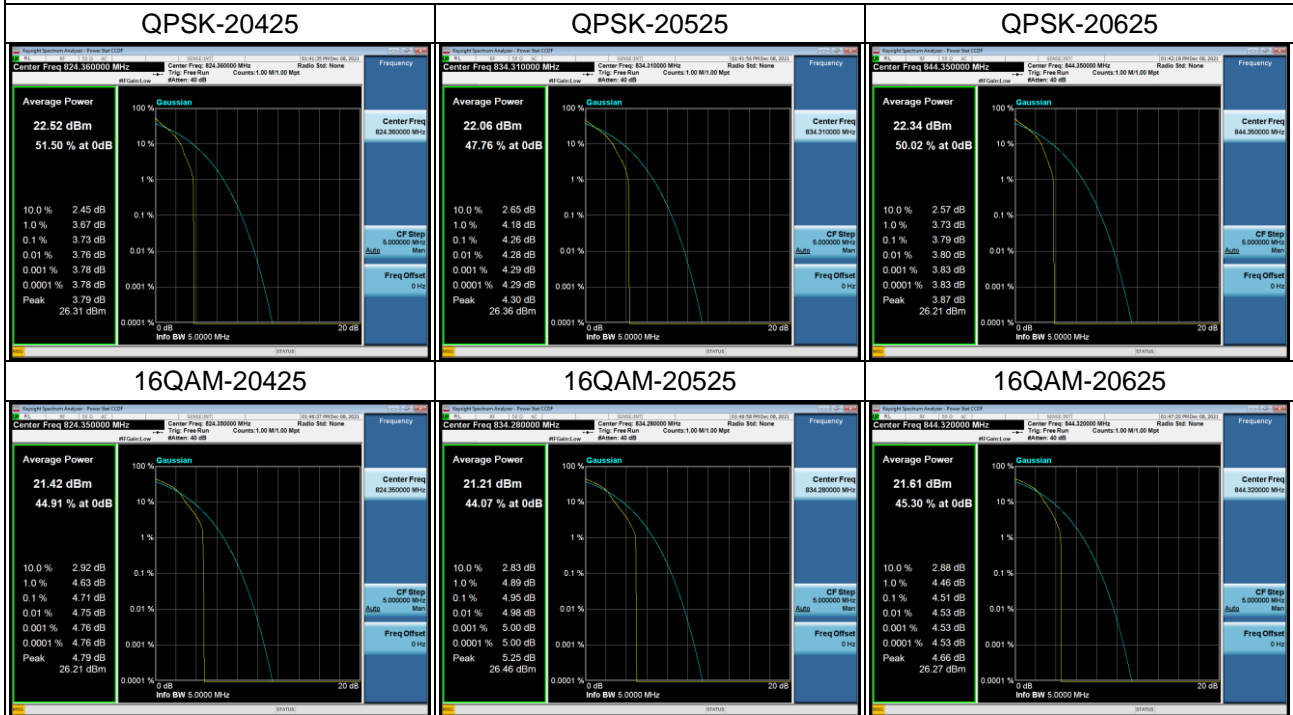
LTE Band 5_3MHz					
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Max. Limit (dB)	Result
		QPSK	16QAM		
20415	825.5	3.78	4.51	13	Pass
20525	836.5	4.28	5.08	13	Pass
20635	847.5	3.84	4.60	13	Pass

## Spectrum Plot



LTE Band 5_5MHz					
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Max. Limit (dB)	Result
		QPSK	16QAM		
20425	826.5	3.73	4.71	13	Pass
20525	836.5	4.26	4.95	13	Pass
20625	846.5	3.79	4.51	13	Pass

## Spectrum Plot

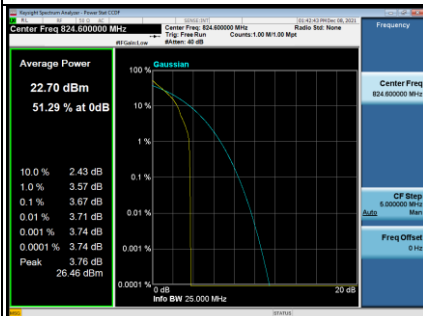




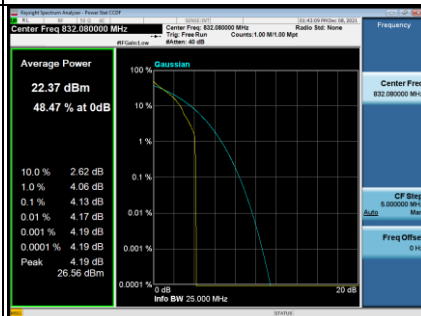
LTE Band 5_10MHz					
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Max. Limit (dB)	Result
		QPSK	16QAM		
20450	829.0	3.67	4.43	13	Pass
20525	836.5	4.13	5.02	13	Pass
20600	844.0	3.91	4.70	13	Pass

## Spectrum Plot

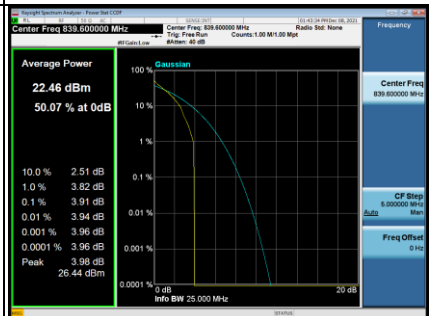
QPSK-20450



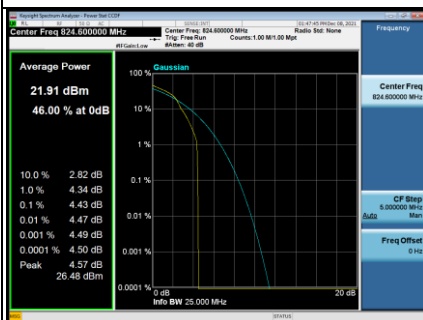
QPSK-20525



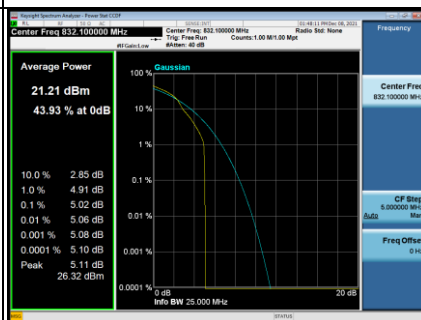
QPSK-20600



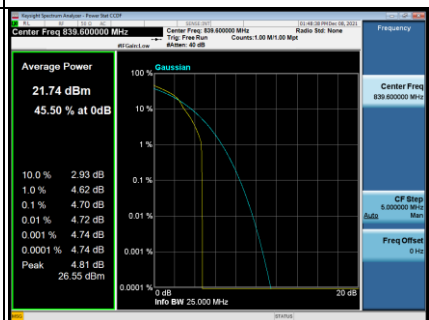
16QAM-20450



16QAM-20525



16QAM-20600



## APPENDIX I - FREQUENCY STABILITY

Test Mode	GSM850_CH190
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Frequency error versus temperature and supply voltage			
Temperature (°C)	Frequency error (Hz)	ppm	Limit
50	24	0.03	±2.5ppm
40	19	0.02	
30	17	0.02	
20	17	0.02	
10	13	0.02	
0	11	0.01	
-10	24	0.03	
-20	19	0.02	
-30	20	0.02	
Minimum voltage	12	0.01	
Maximum voltage	33	0.04	
Nominal voltage	13	0.02	

Note: Nominal voltage= 3.8V, Maximum voltage= 4.3V, Minimum voltage= 3.3V.

Test Mode	WCDMA Band V_CH4182
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Frequency error versus temperature and supply voltage			
Temperature (°C)	Frequency error (Hz)	ppm	Limit
50	-18	-0.02	±2.5ppm
40	-42	-0.05	
30	-2	0.00	
20	50	0.06	
10	23	0.03	
0	-5	-0.01	
-10	28	0.03	
-20	-16	-0.02	
-30	-27	-0.03	
Minimum voltage	-21	-0.03	
Maximum voltage	-24	-0.03	
Nominal voltage	-26	-0.03	

Note: Nominal voltage= 3.8V, Maximum voltage= 4.3V, Minimum voltage= 3.3V.

Test Mode	LTE Band 5_CH20525_10MHz
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Frequency error versus temperature and supply voltage			
Temperature (°C)	Frequency error (Hz)	ppm	Limit
50	19	0.02	±2.5ppm
40	-23	-0.03	
30	19	0.02	
20	-20	-0.02	
10	5	0.01	
0	47	0.06	
-10	11	0.01	
-20	-10	-0.01	
-30	31	0.04	
Minimum voltage	-40	-0.05	
Maximum voltage	38	0.05	
Nominal voltage	-13	-0.02	

Note: Nominal voltage= 3.8V, Maximum voltage= 4.3V, Minimum voltage= 3.3V.