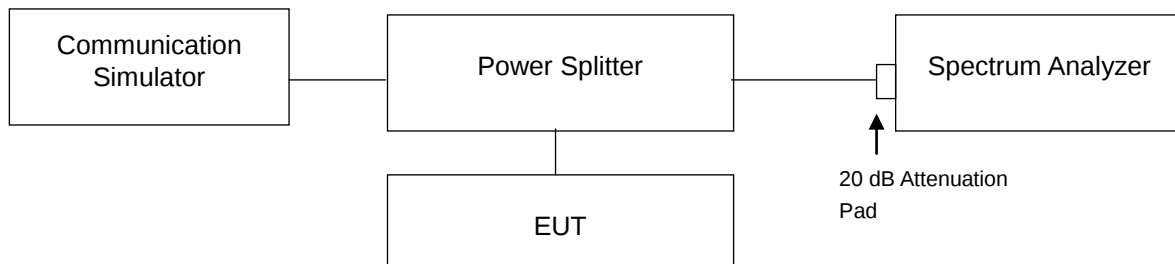


4.6 Conducted Spurious Emissions

4.6.1 Limits of Conducted Spurious Emissions Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -13 dBm.

4.6.2 Test Setup



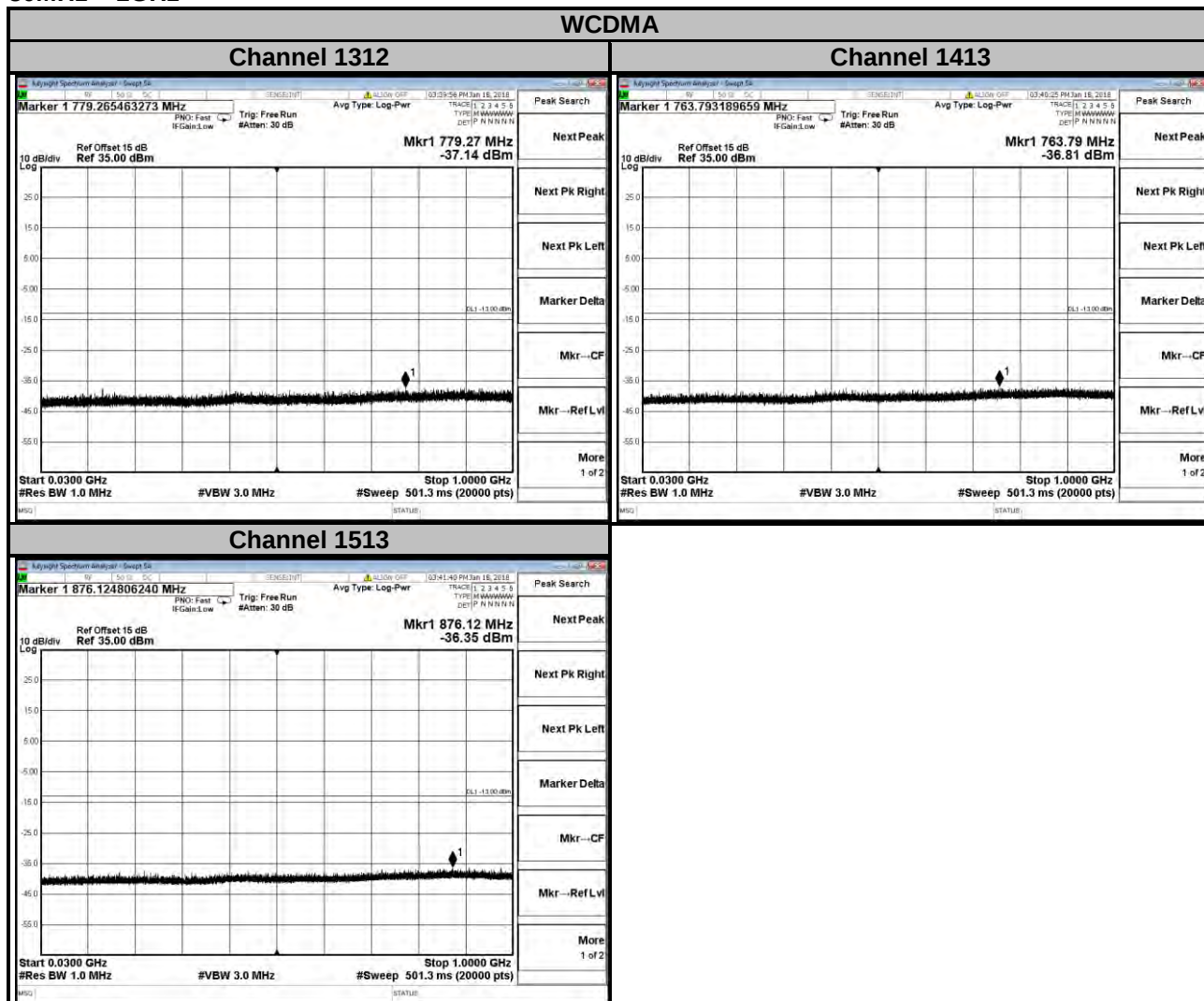
4.6.3 Test Procedure

- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- Measuring frequency range is from 30 MHz to 8 GHz for LTE Band 17 and from 30 MHz to 18 GHz for LTE Band 4. 10 dB attenuation pad is connected with spectrum. RBW = 100 kHz and VBW = 300 kHz are used for conducted emission measurement.

4.6.4 Test Results

WCDMA

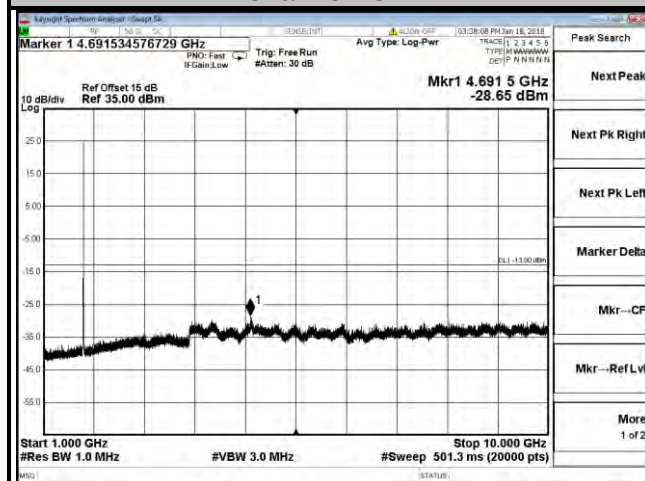
30MHz ~ 1GHz



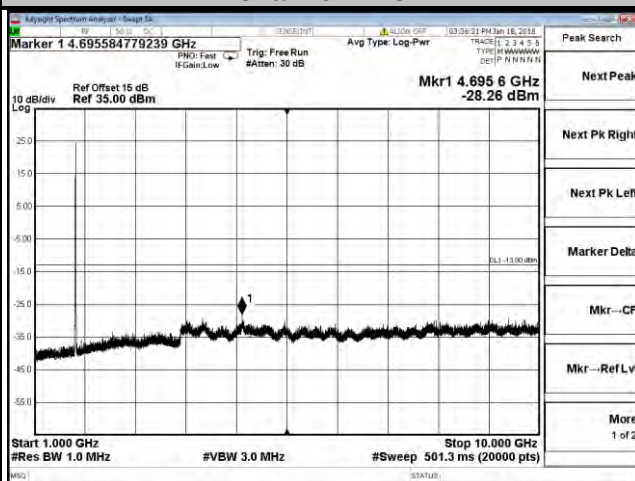
1GHz ~ 10GHz

WCDMA

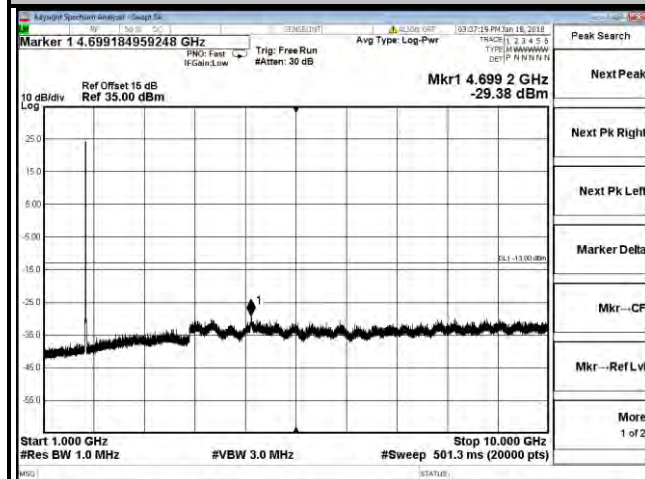
Channel 1312



Channel 1413



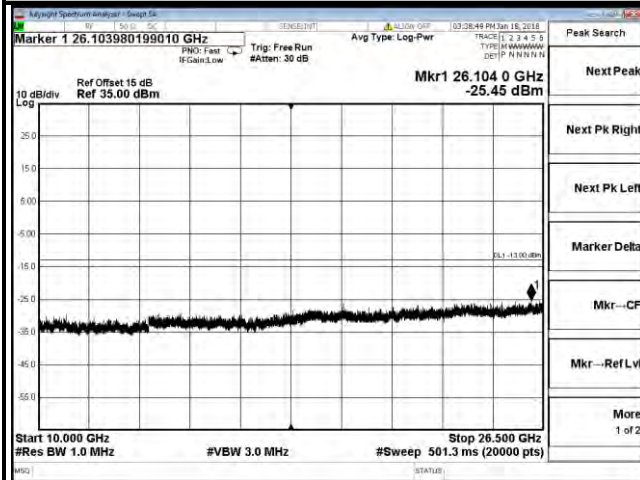
Channel 1513



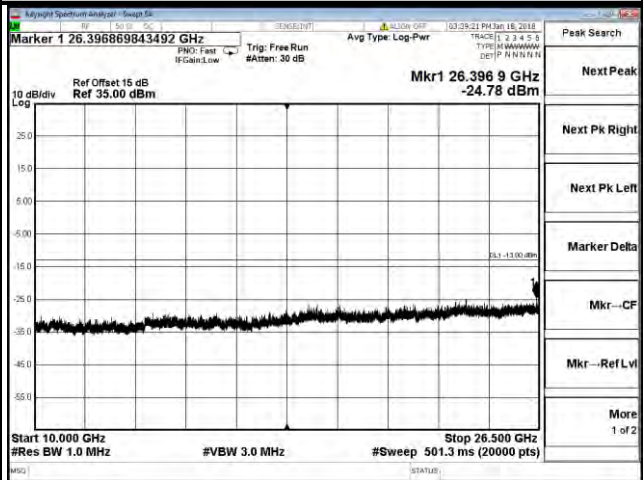
10GHz ~ 26.5GHz

WCDMA

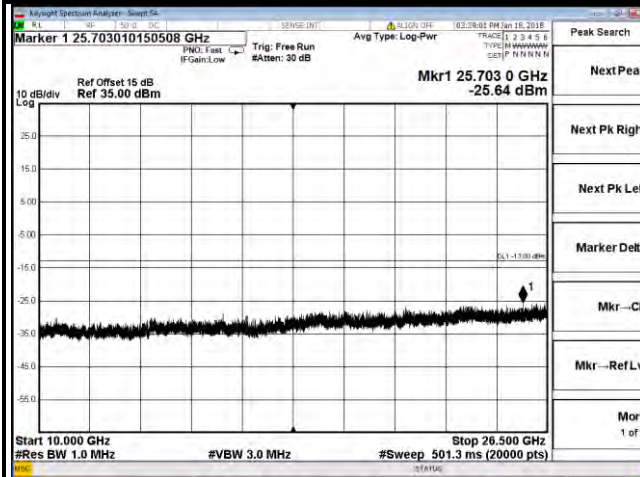
Channel 1312



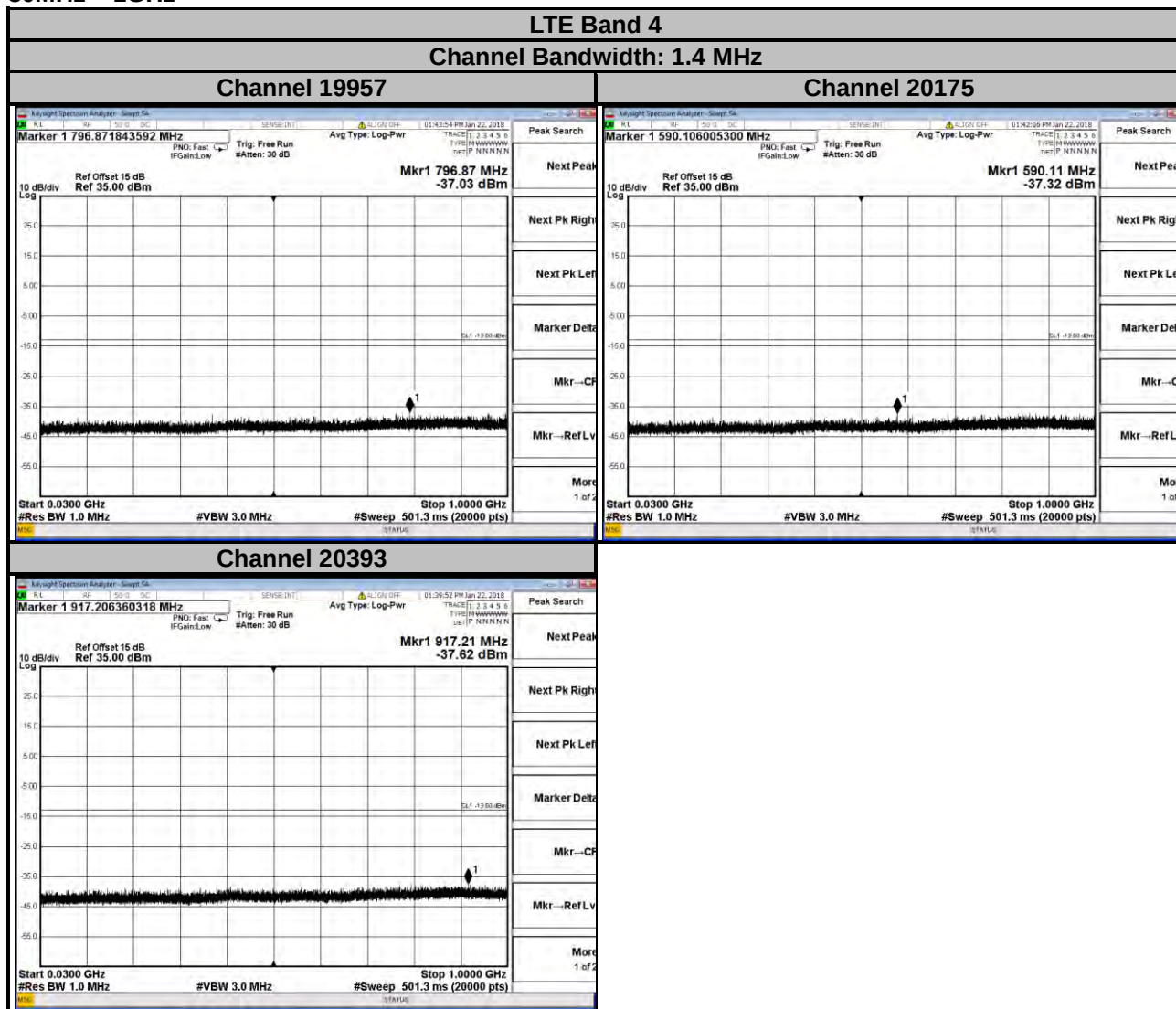
Channel 1413



Channel 1513



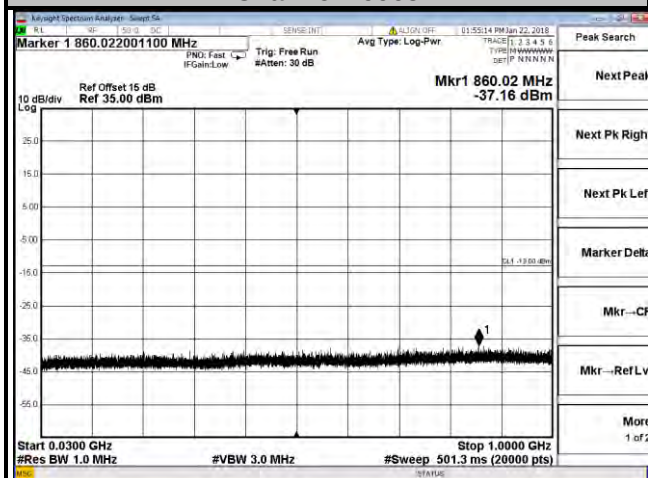
LTE Band 4
30MHz ~ 1GHz



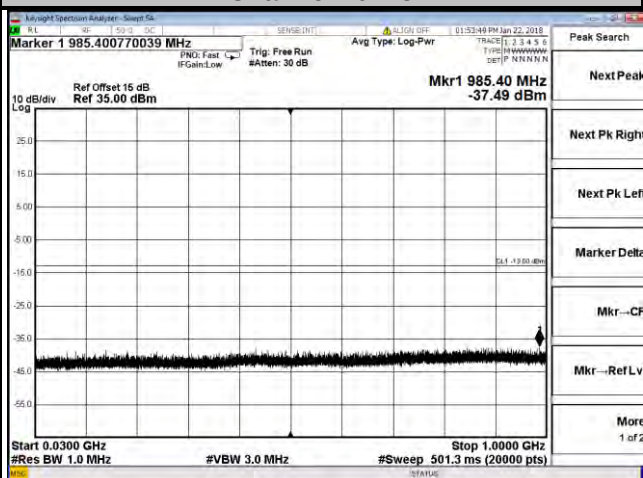
LTE Band 4

Channel Bandwidth: 3 MHz

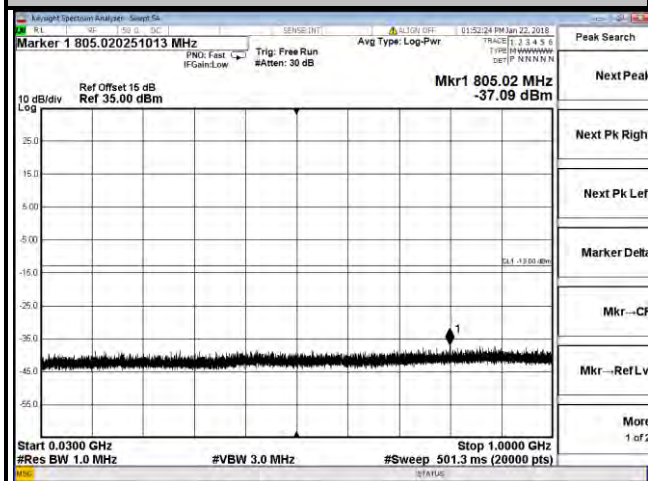
Channel 19965



Channel 20175



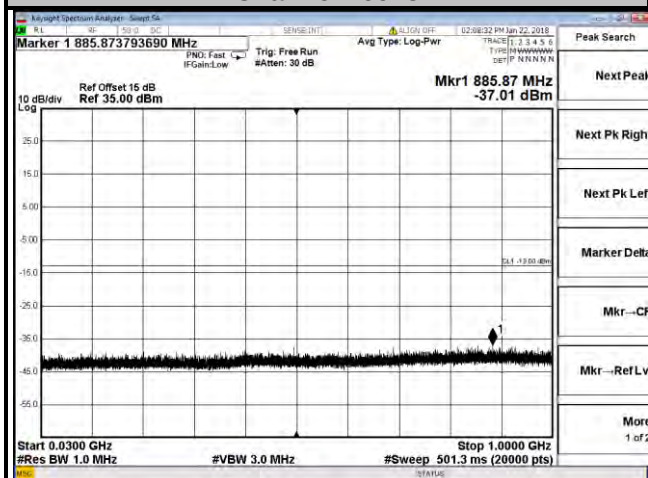
Channel 20385



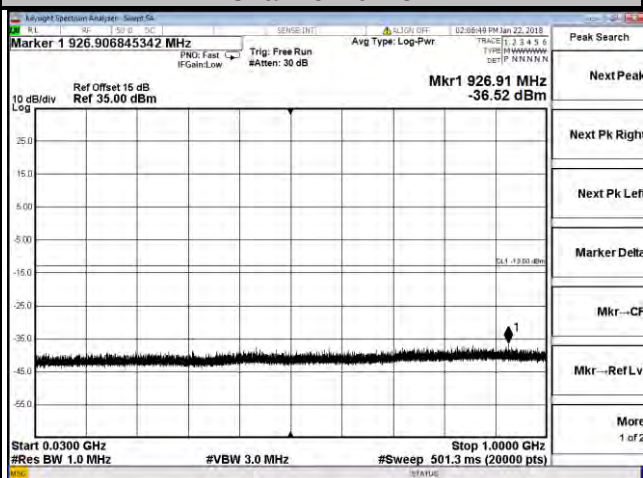
LTE Band 4

Channel Bandwidth: 5 MHz

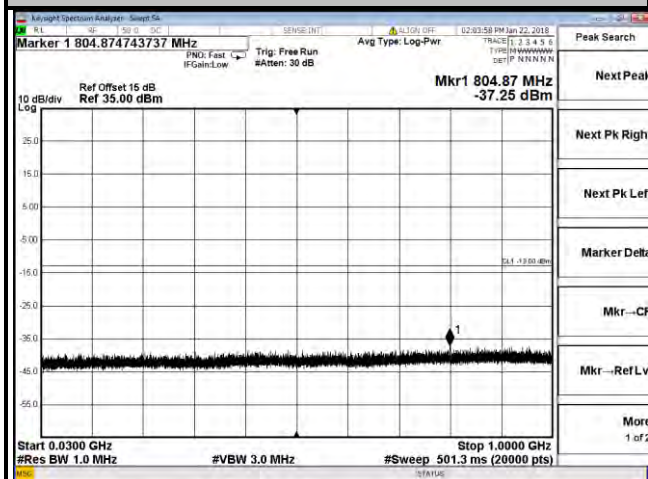
Channel 19975

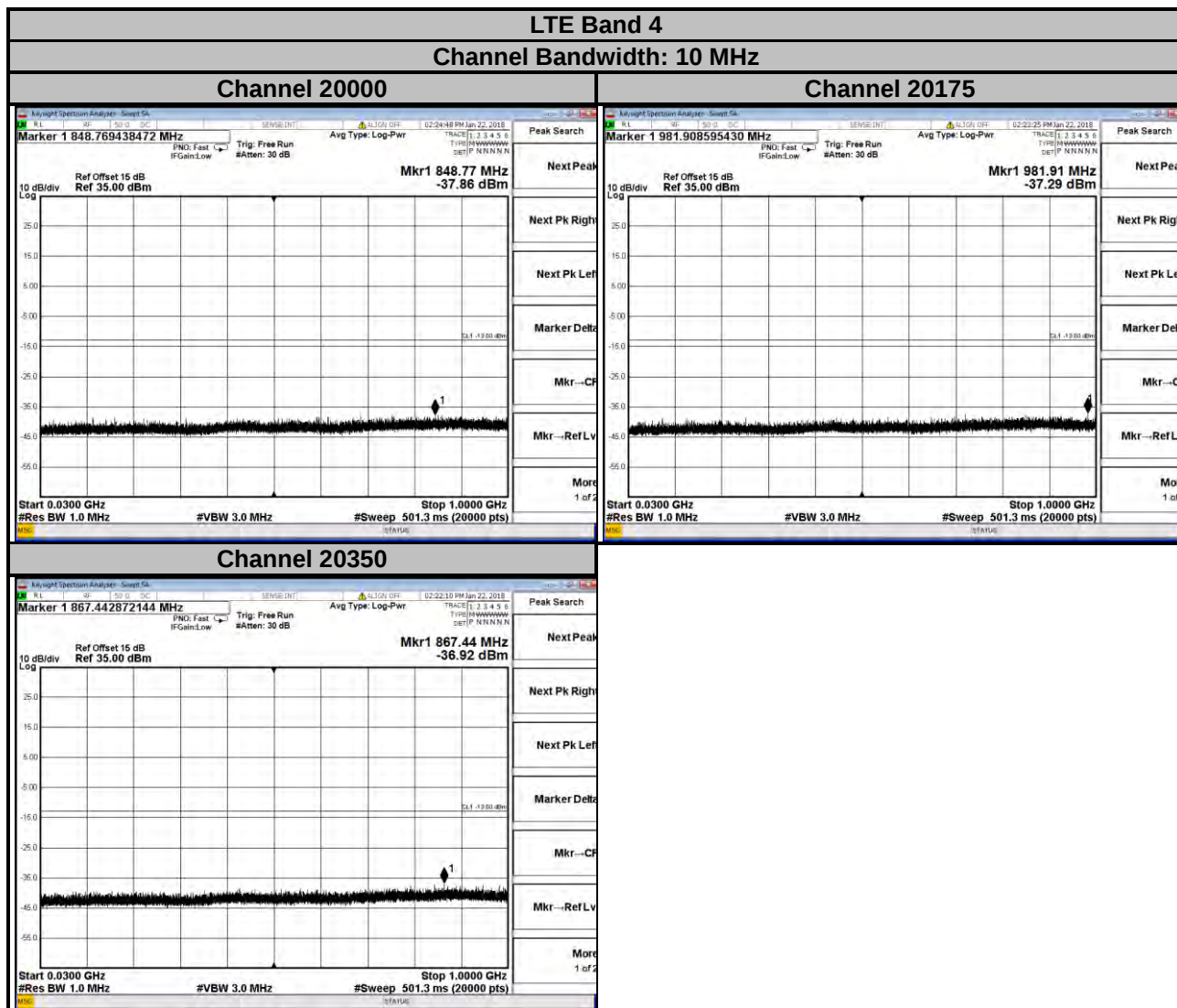


Channel 19715



Channel 20375

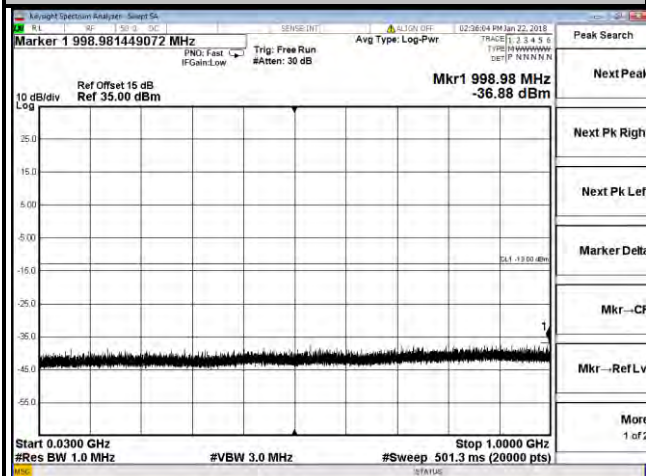




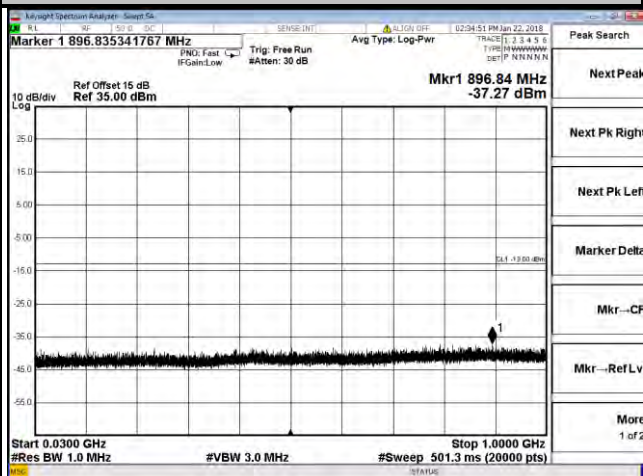
LTE Band 4

Channel Bandwidth: 15 MHz

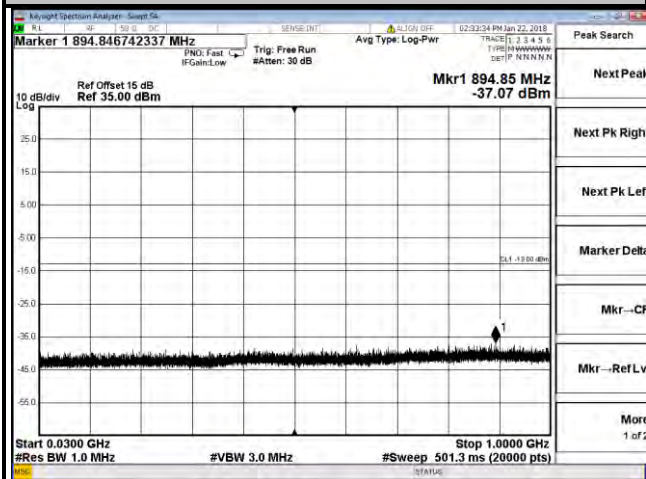
Channel 20025



Channel 10175



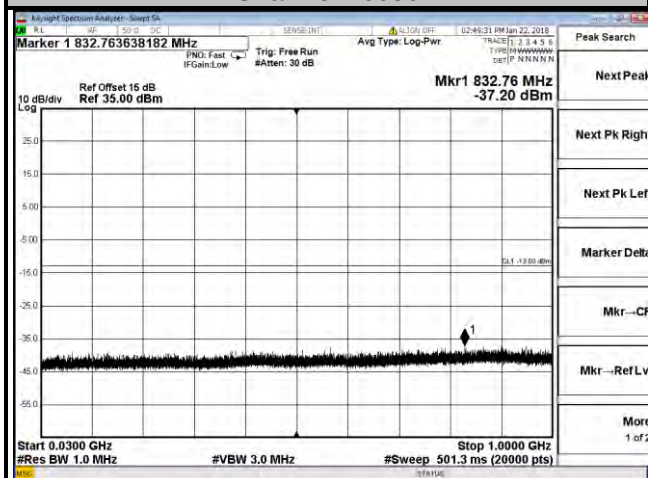
Channel 20325



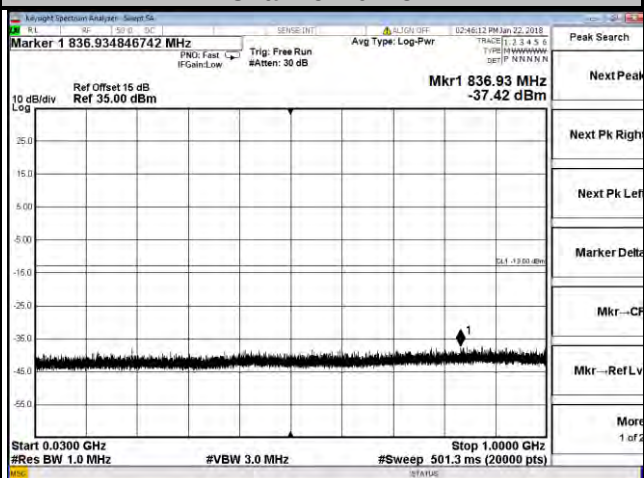
LTE Band 4

Channel Bandwidth: 20 MHz

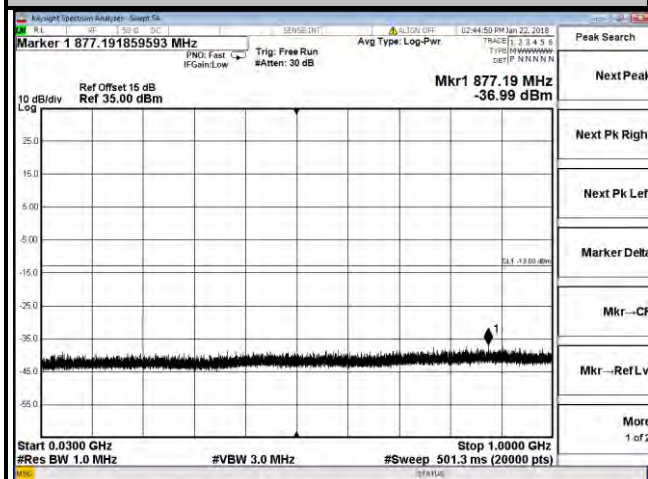
Channel 20050



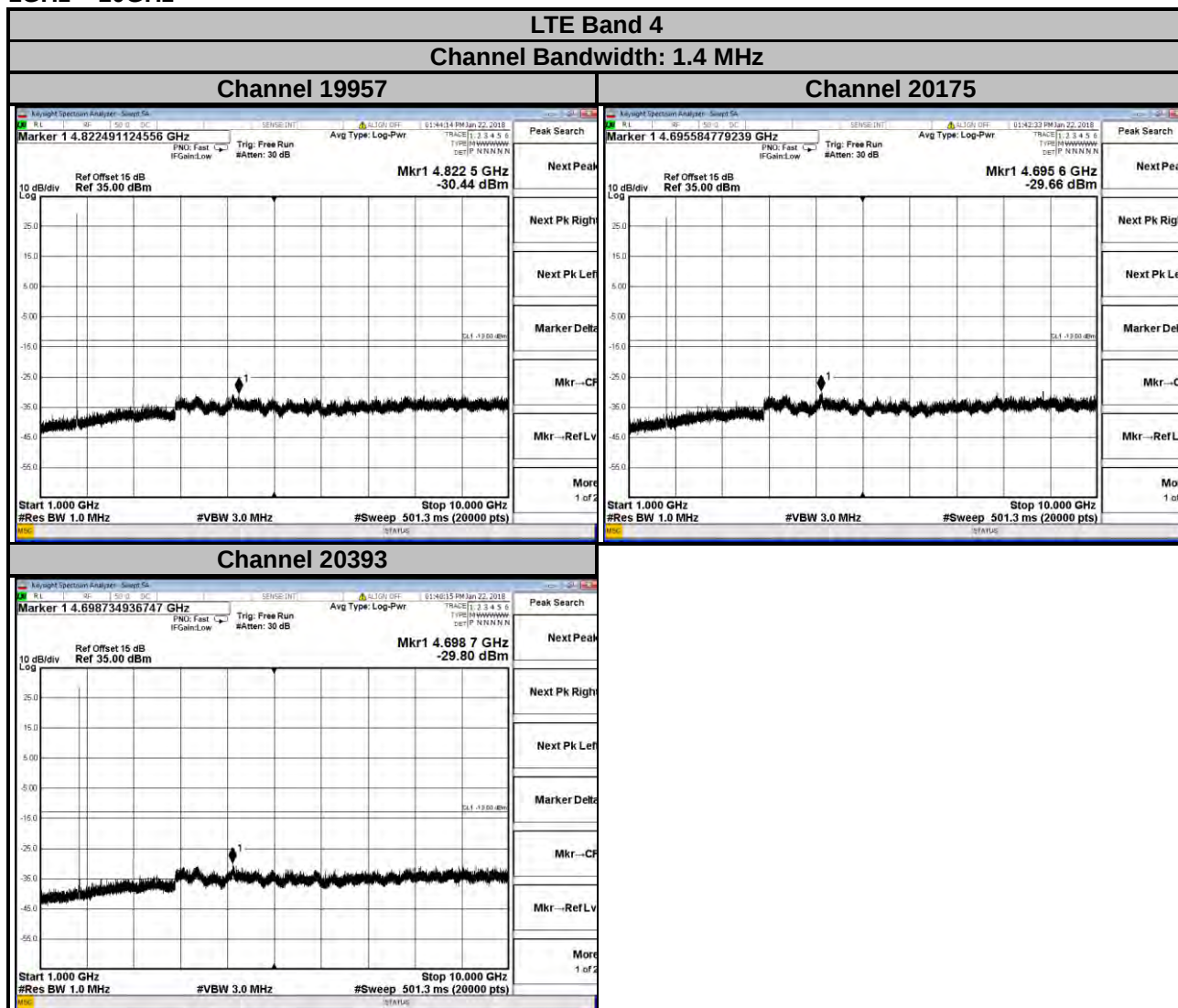
Channel 17175



Channel 20300



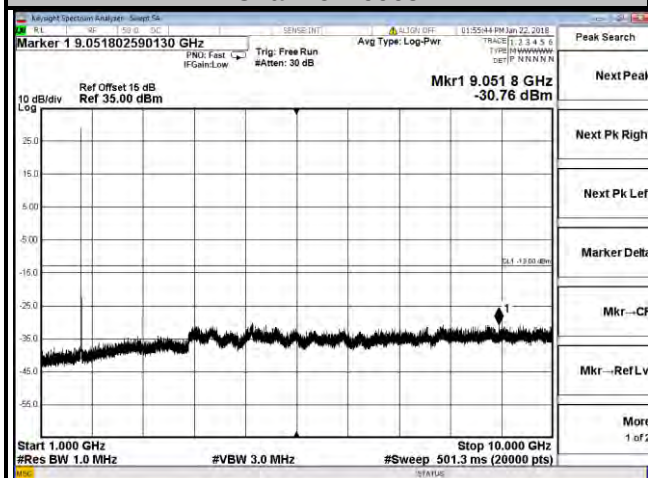
1GHz ~ 10GHz



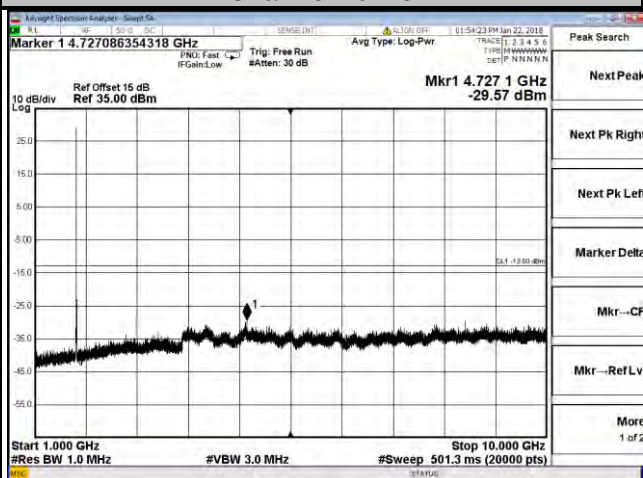
LTE Band 4

Channel Bandwidth: 3 MHz

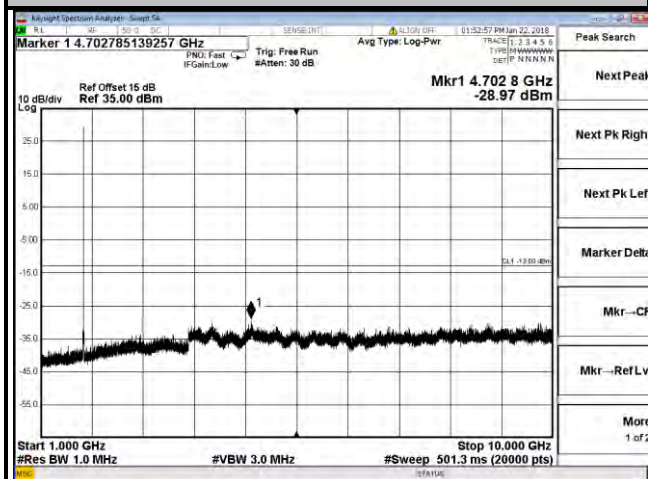
Channel 19965



Channel 20175

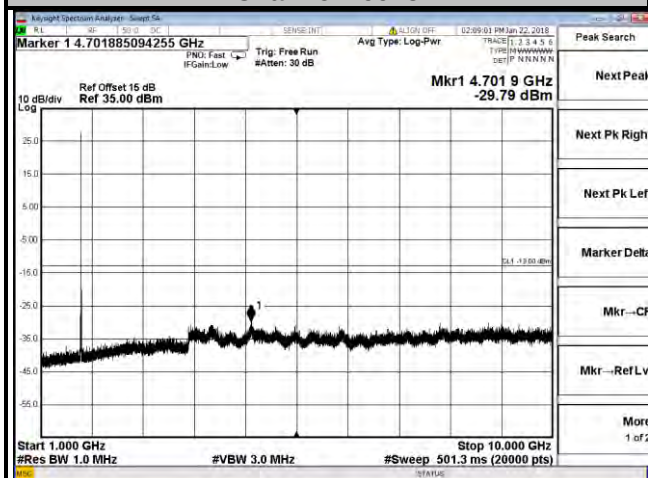


Channel 20385

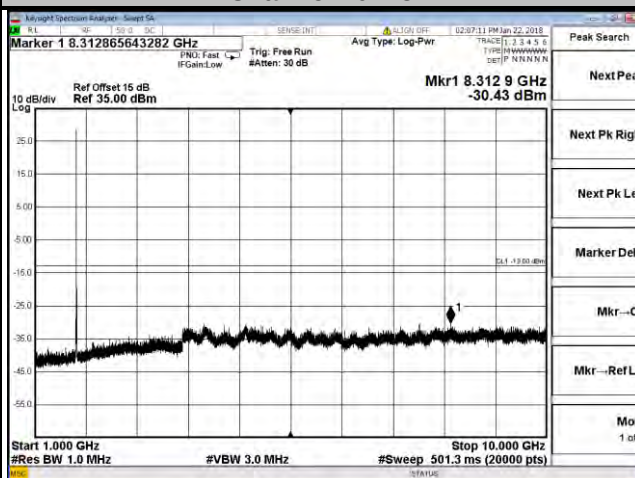


LTE Band 4 Channel Bandwidth: 5 MHz

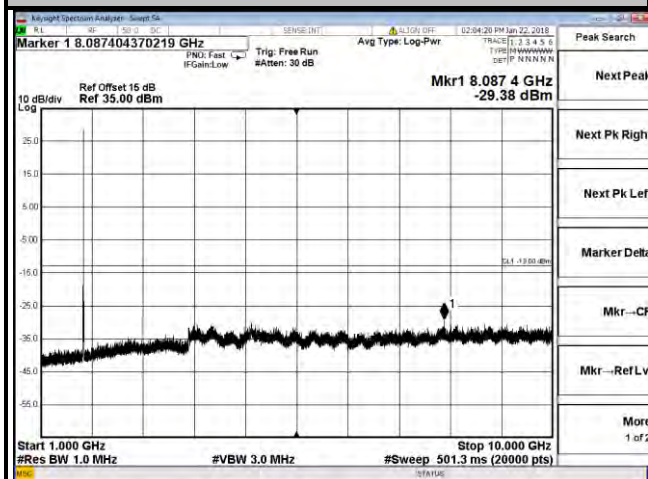
Channel 19975



Channel 10175



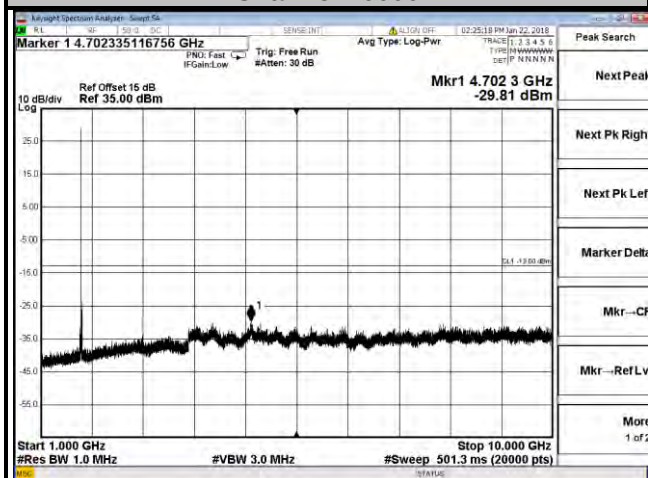
Channel 20375



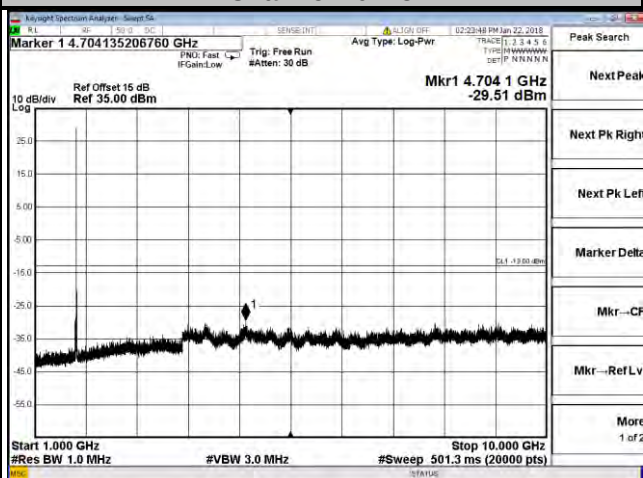
LTE Band 4

Channel Bandwidth: 10 MHz

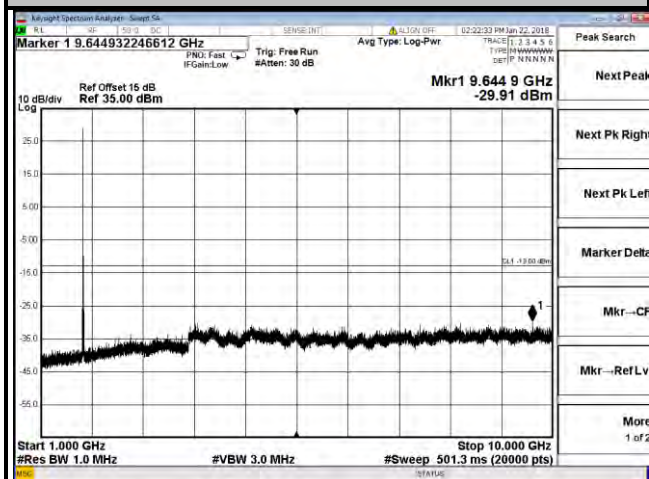
Channel 20000



Channel 17175



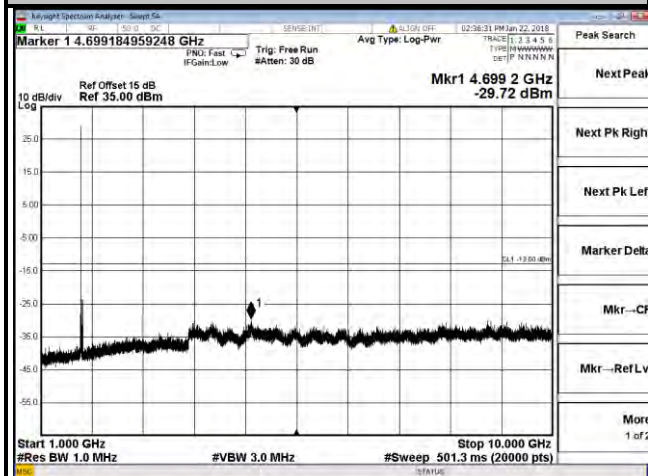
Channel 20350



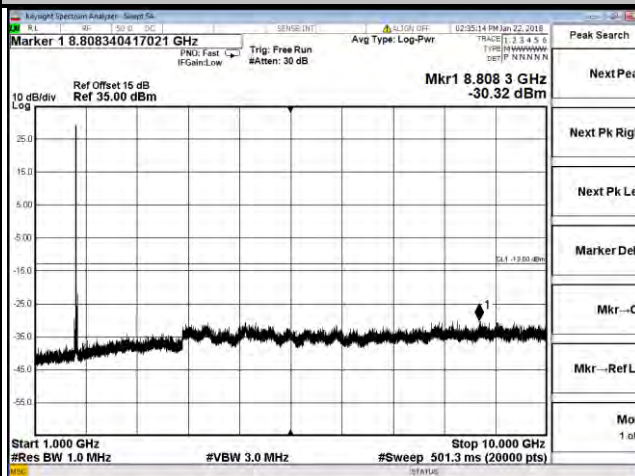
LTE Band 4

Channel Bandwidth: 15 MHz

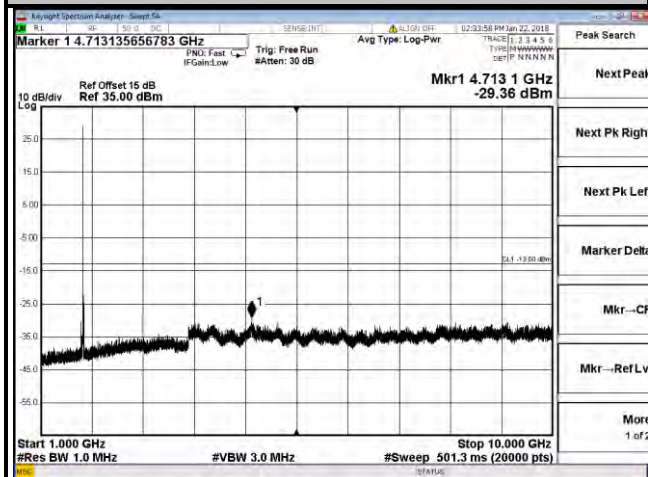
Channel 20025



Channel 10175



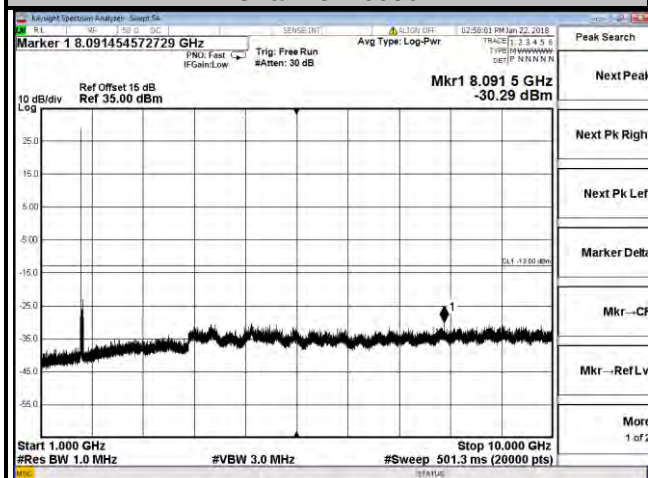
Channel 20325



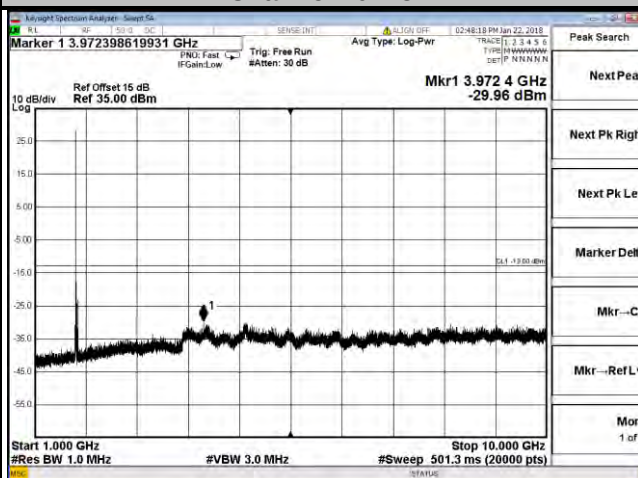
LTE Band 4

Channel Bandwidth: 20 MHz

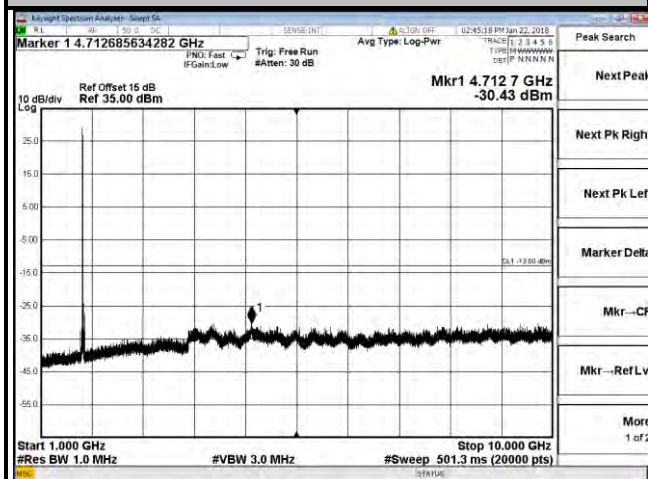
Channel 20050



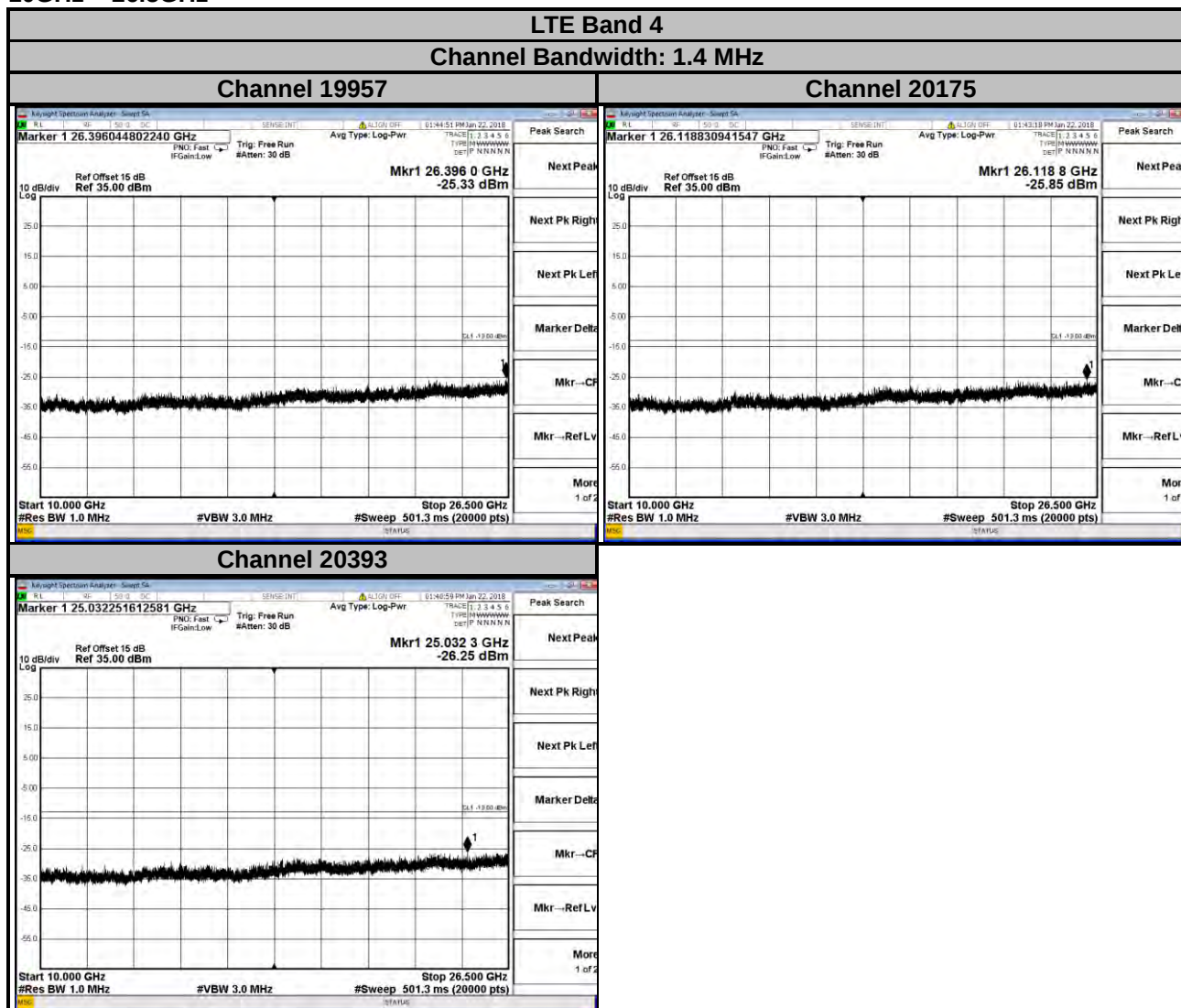
Channel 10175



Channel 20300



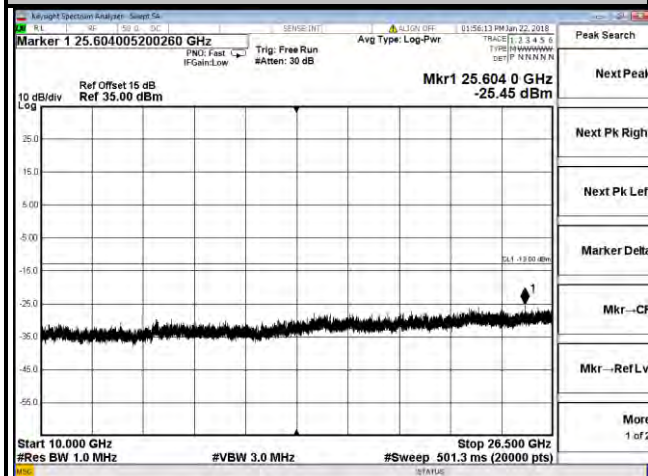
10GHz ~ 26.5GHz



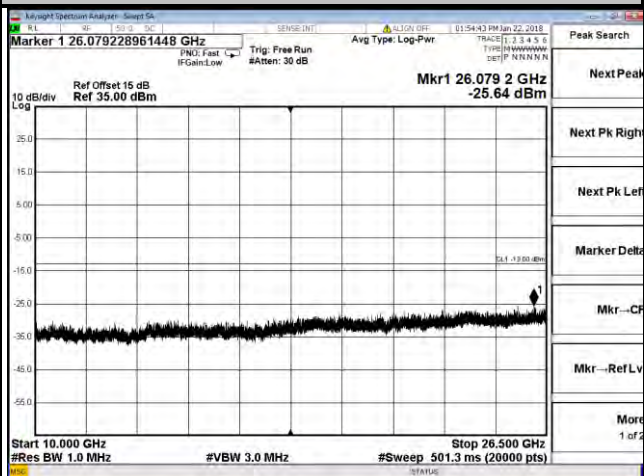
LTE Band 4

Channel Bandwidth: 3 MHz

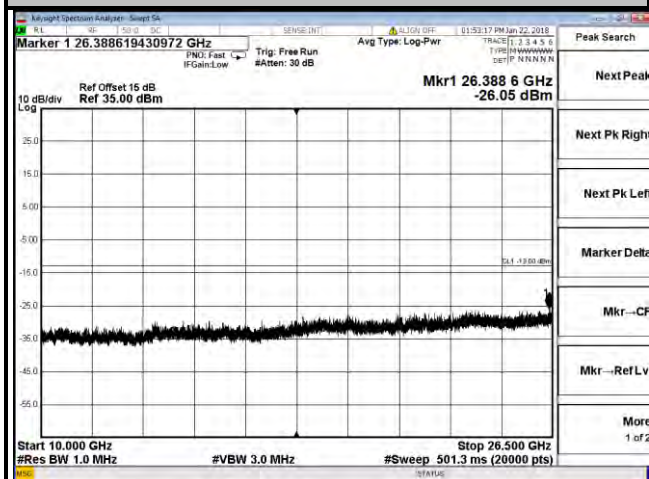
Channel 19965



Channel 17075



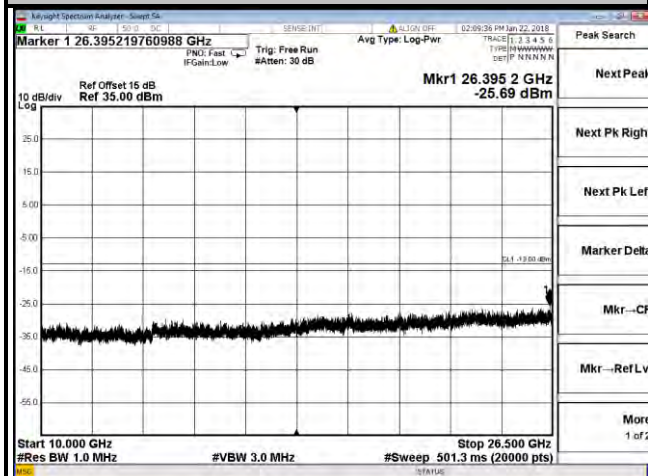
Channel 20385



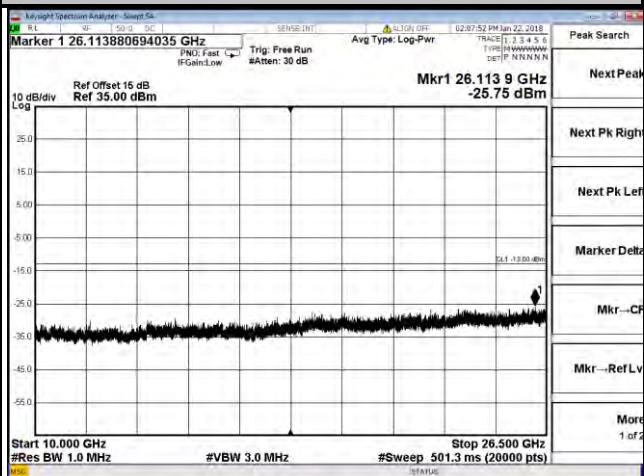
LTE Band 4

Channel Bandwidth: 5 MHz

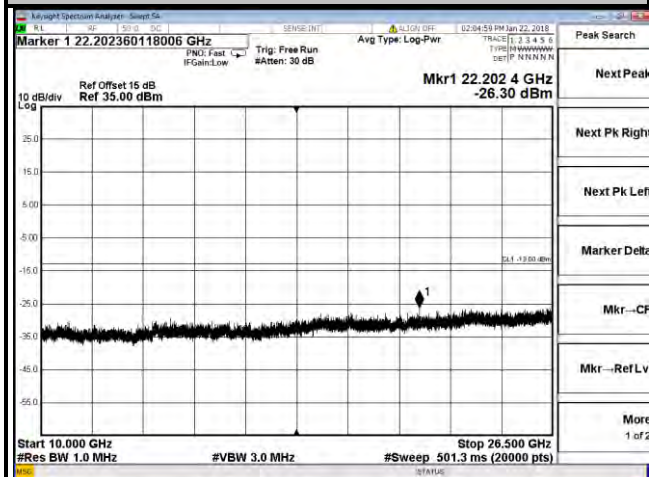
Channel 19975



Channel 17175



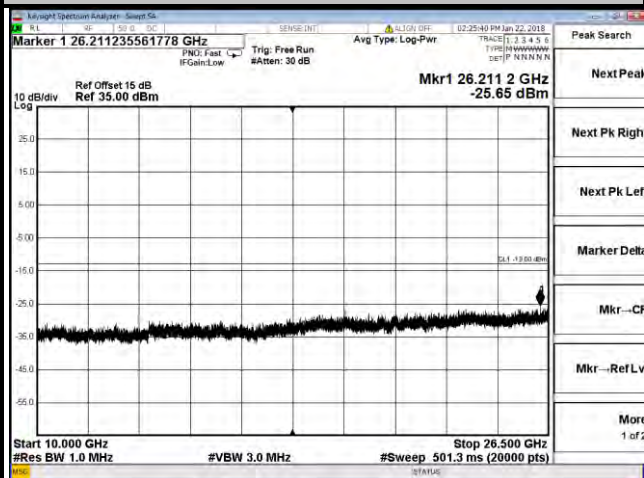
Channel 20375



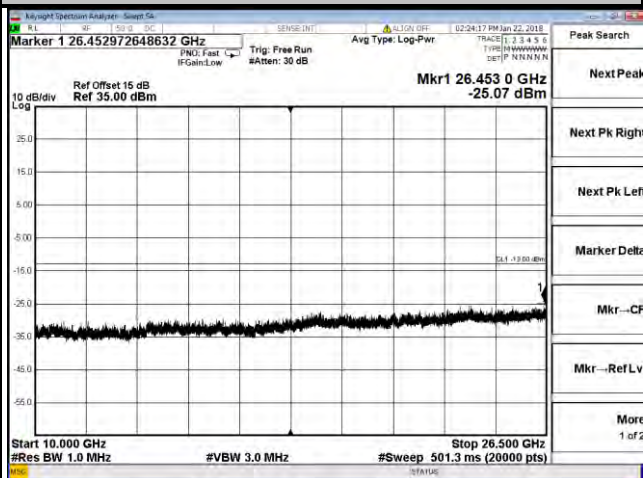
LTE Band 4

Channel Bandwidth: 10 MHz

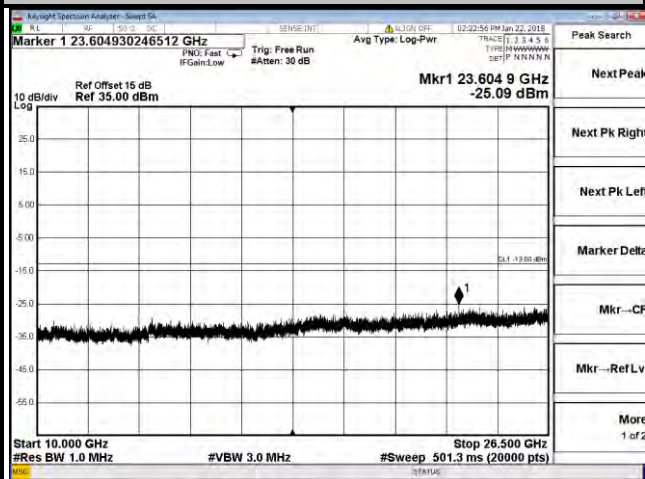
Channel 20000



Channel 17175



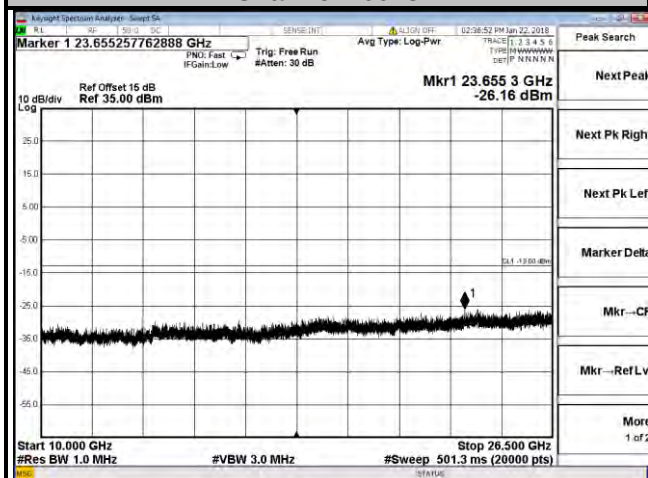
Channel 20350



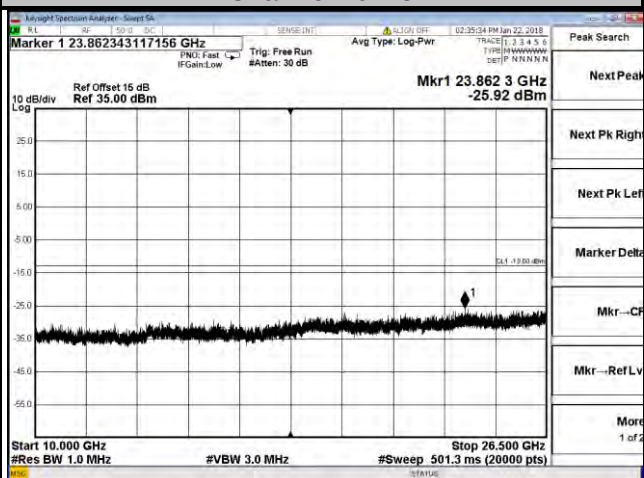
LTE Band 4

Channel Bandwidth: 15 MHz

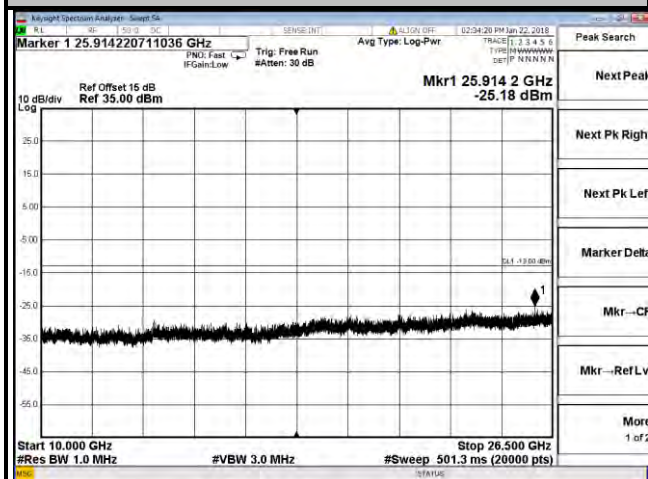
Channel 20025

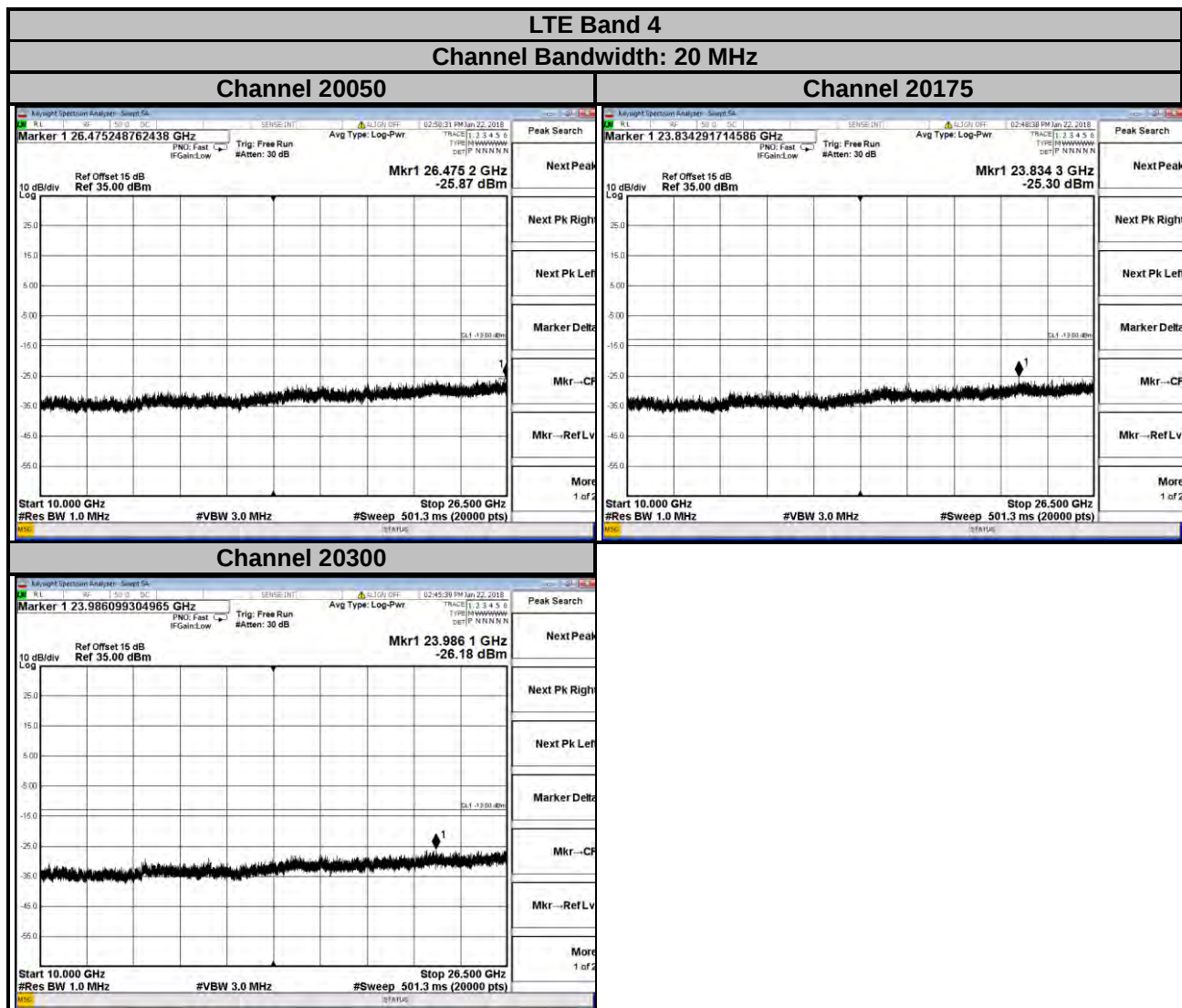


Channel 10175

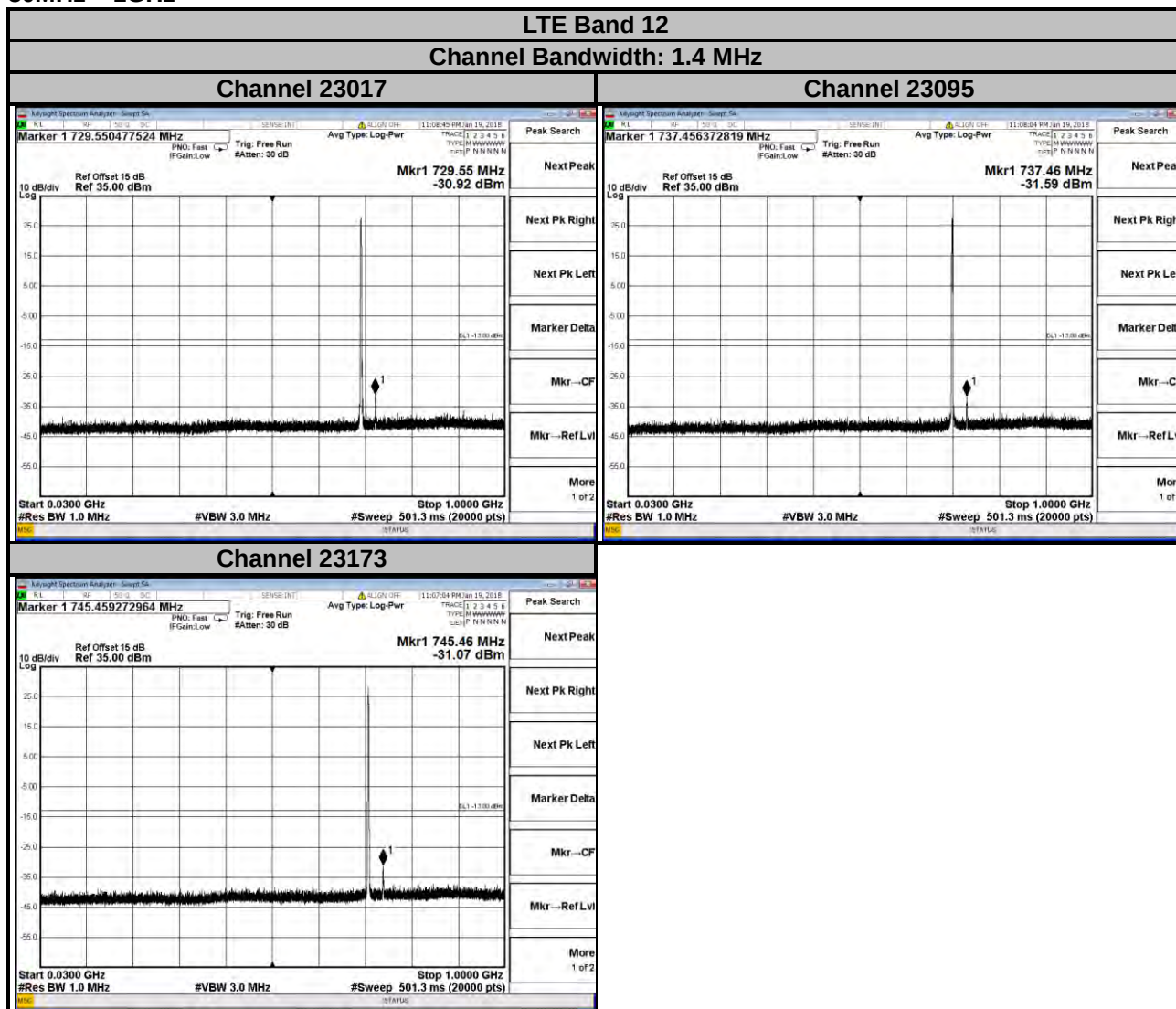


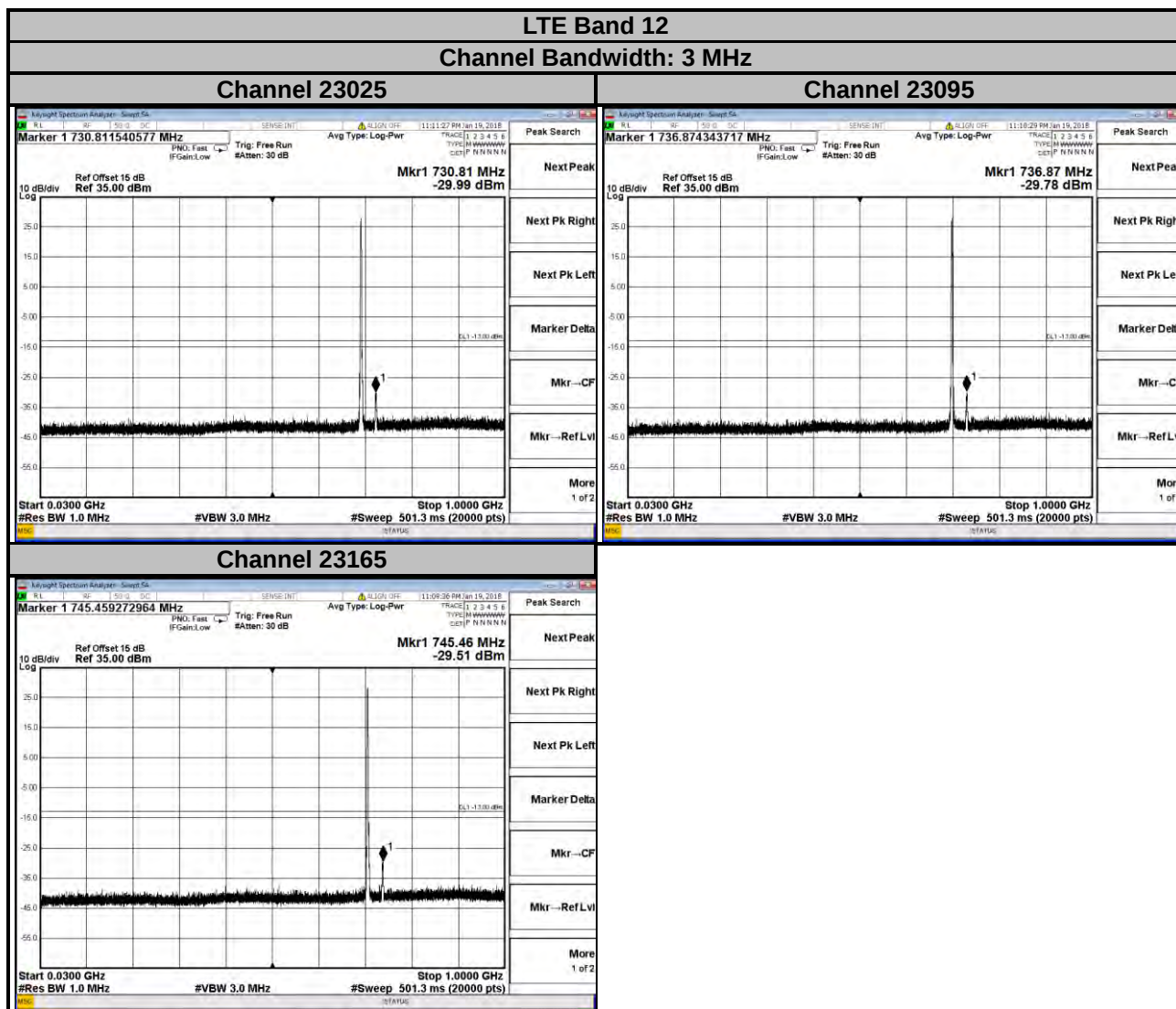
Channel 20325

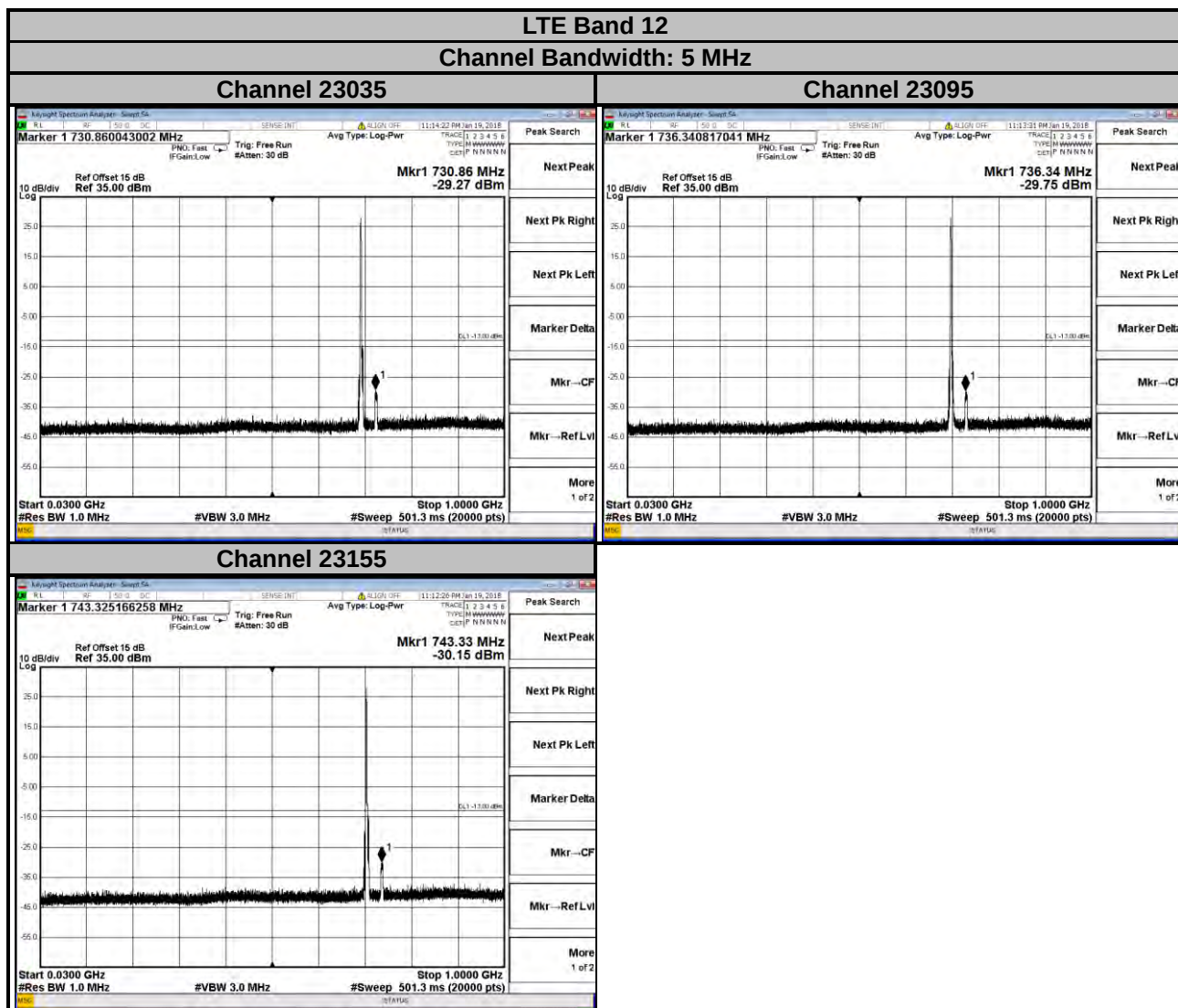


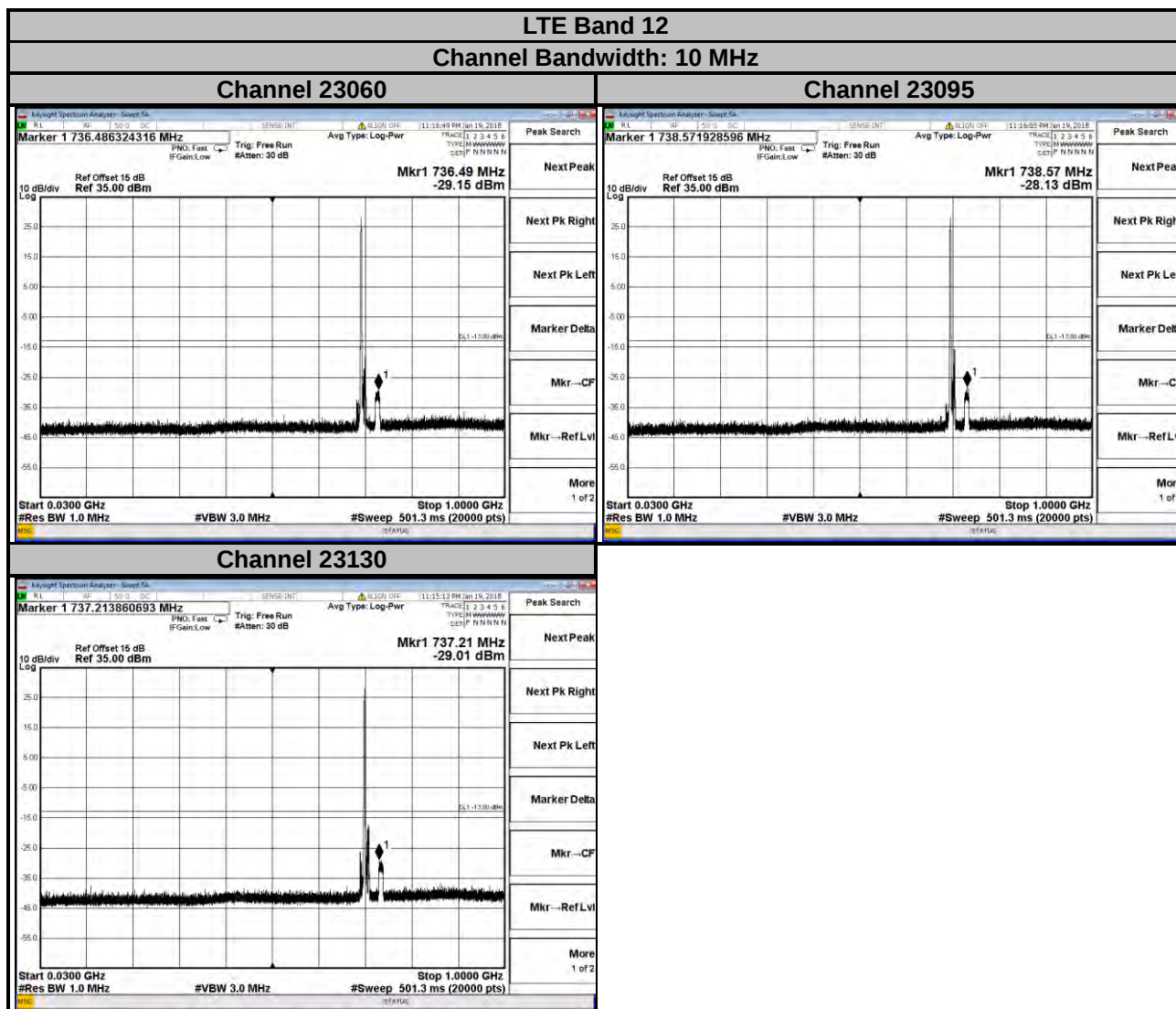


LTE Band 12
30MHz ~ 1GHz

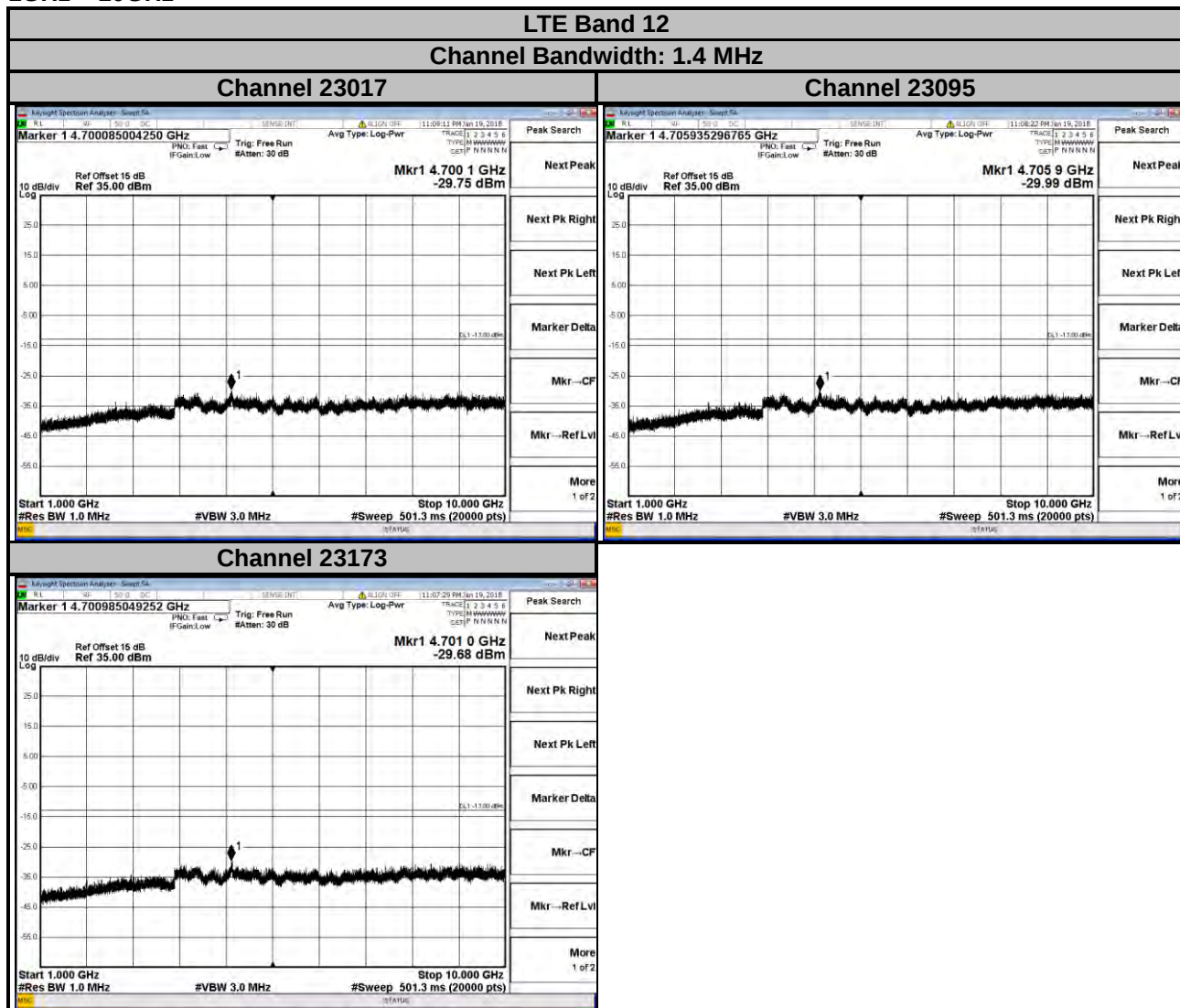


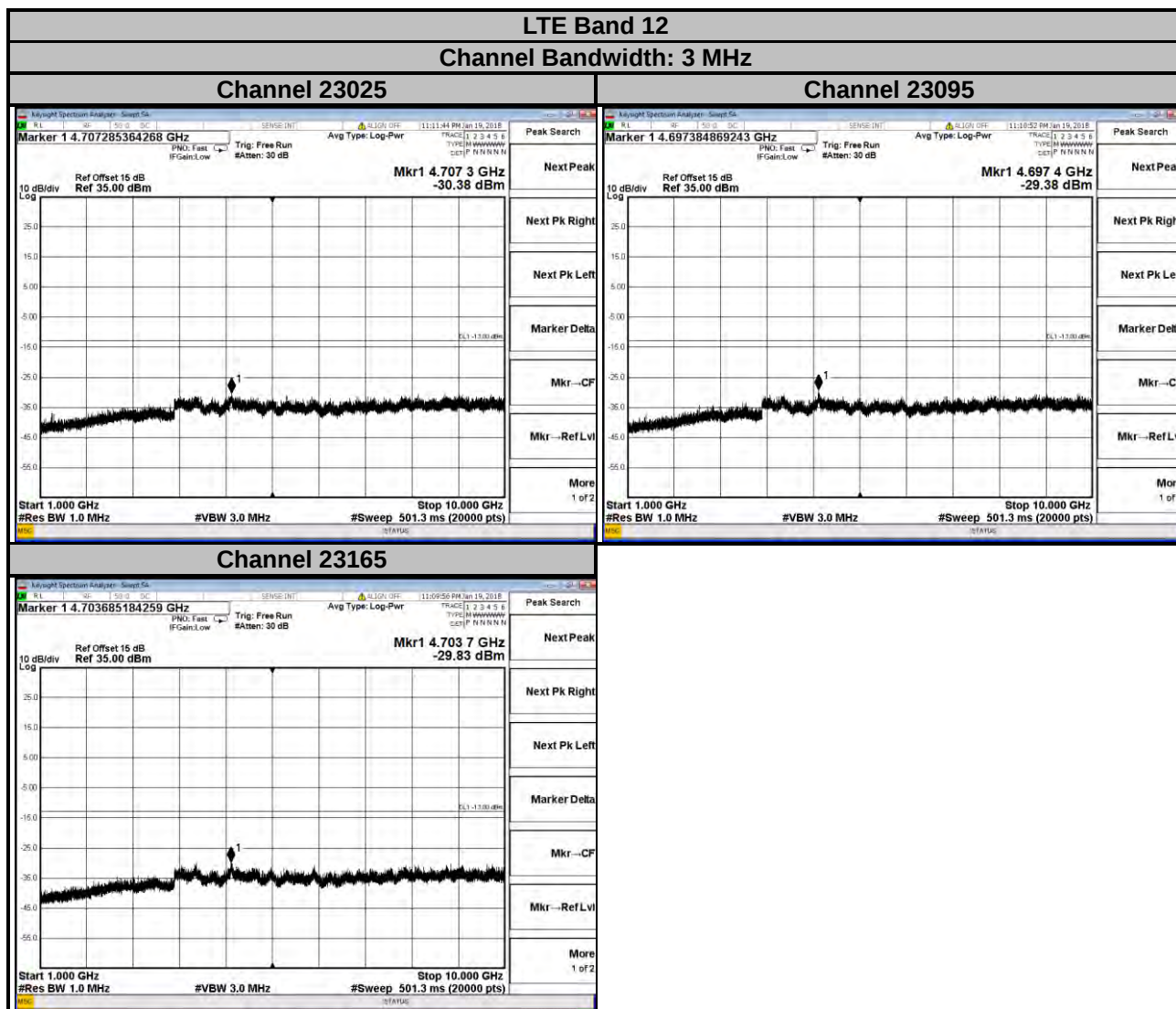


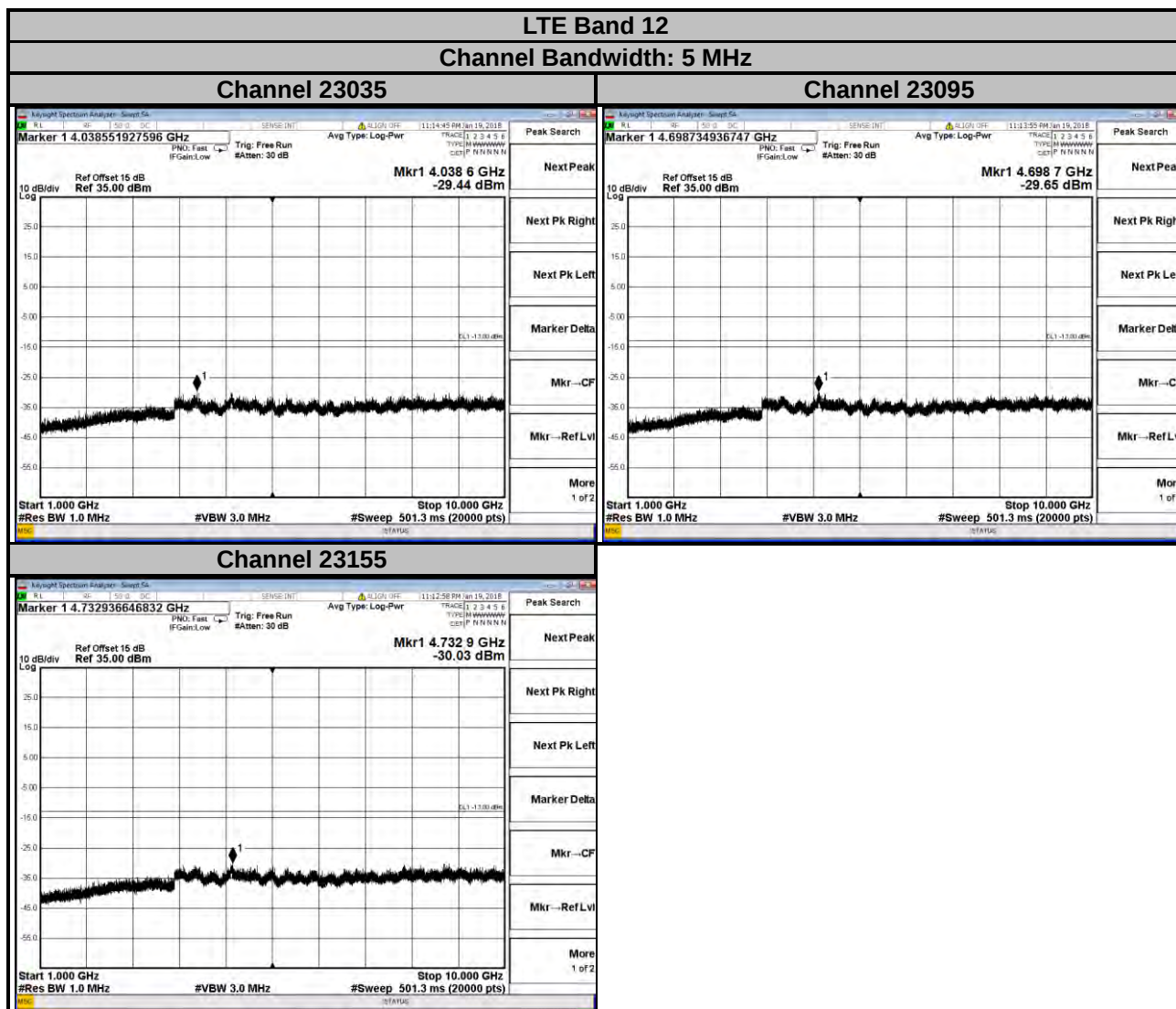


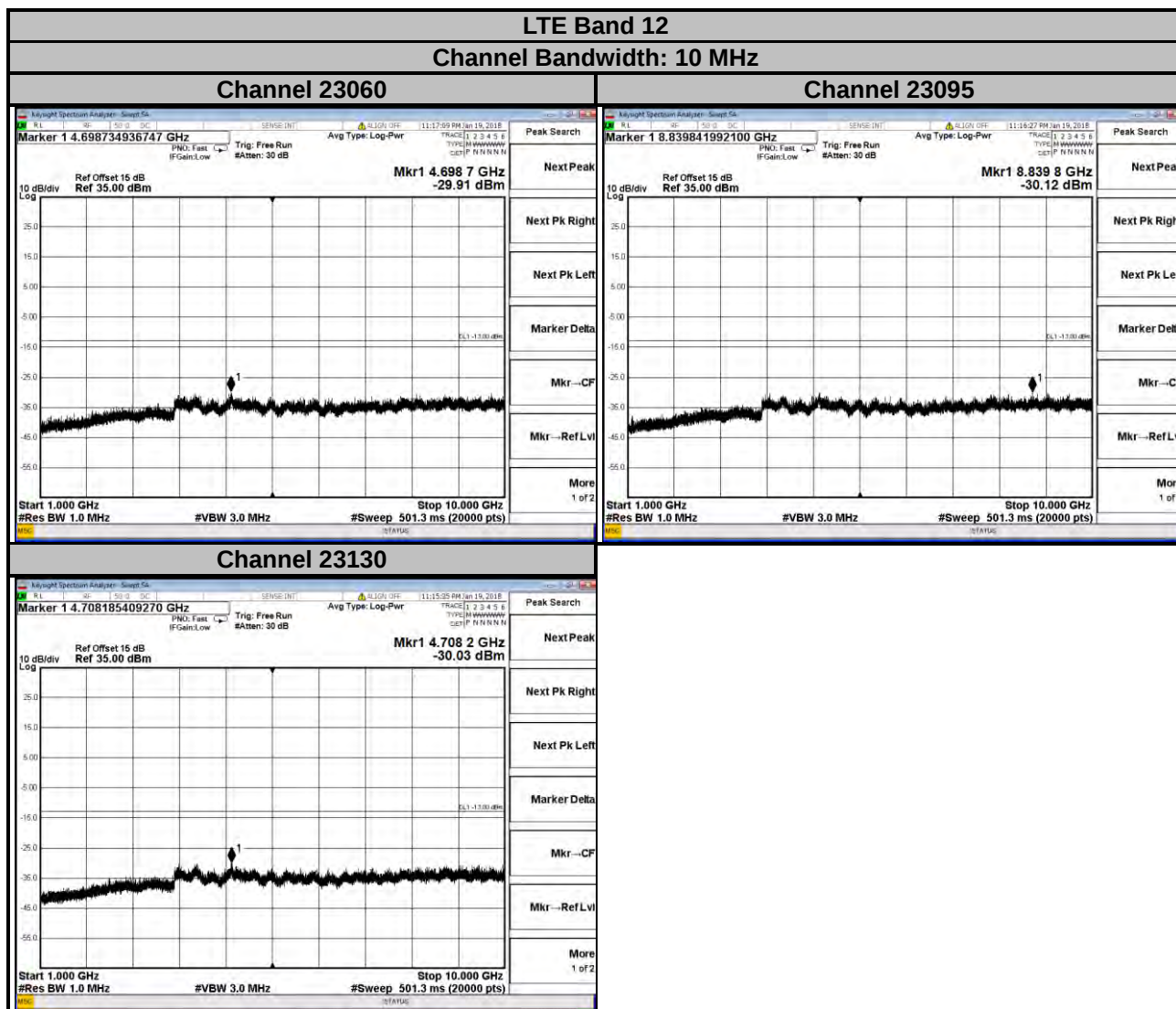


1GHz ~ 10GHz

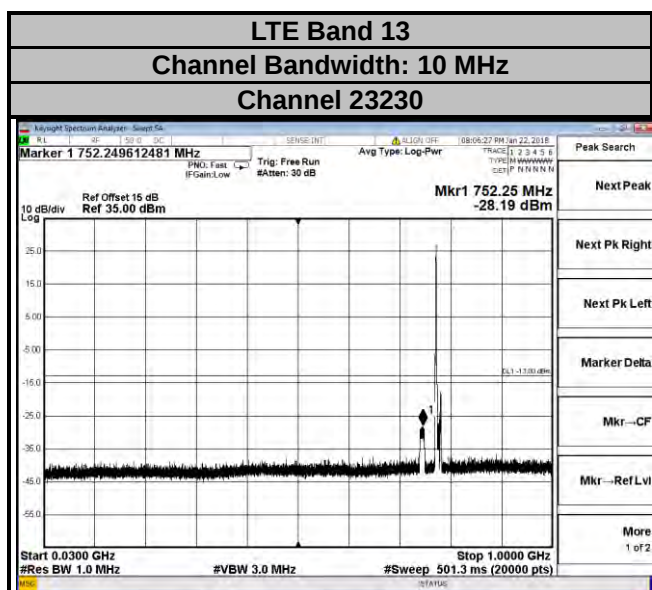
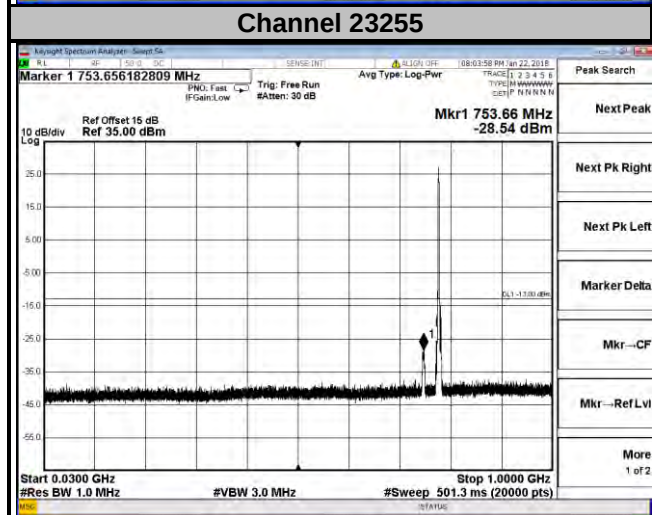
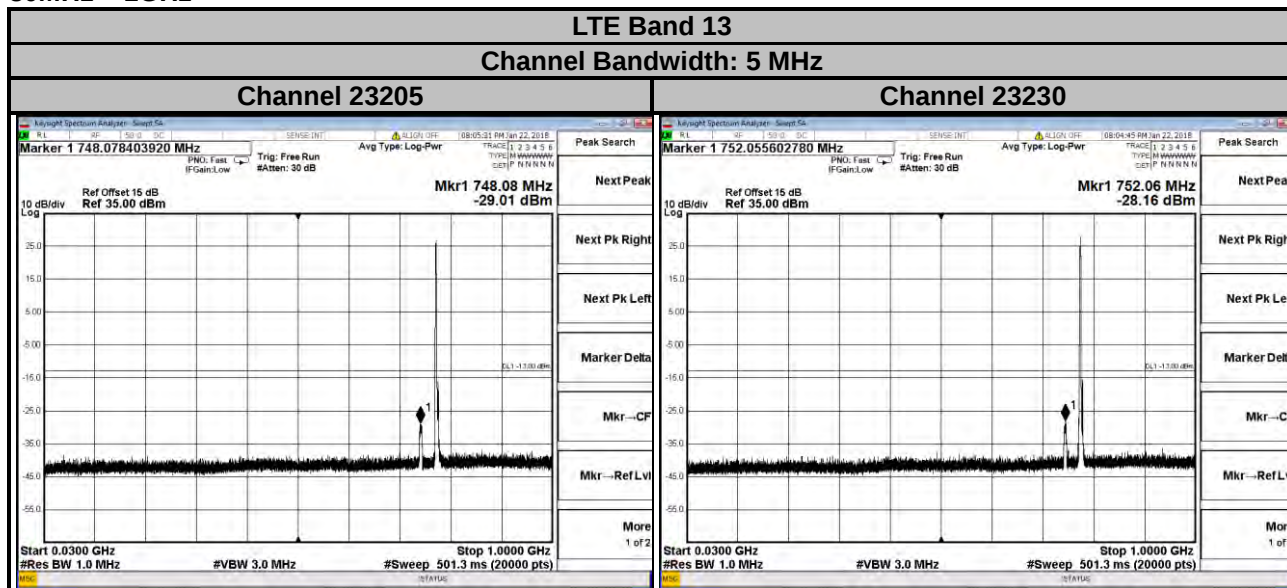




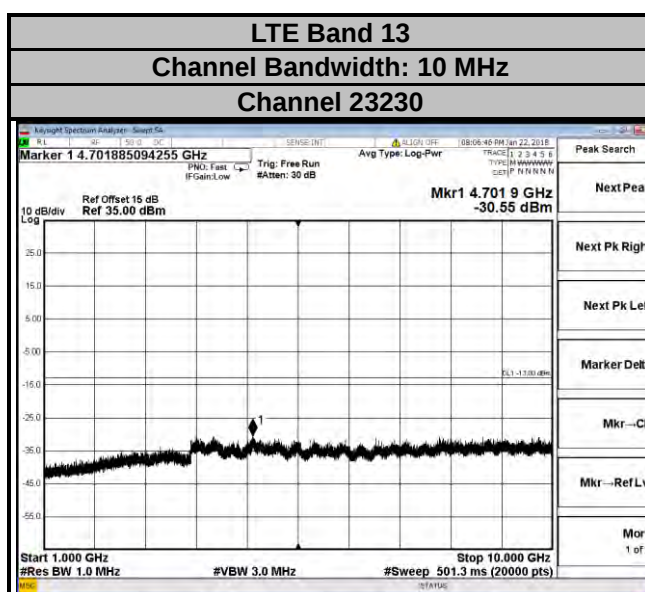
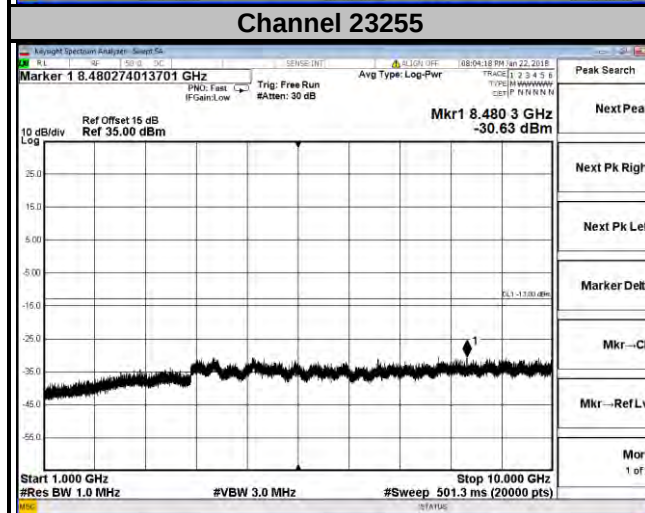
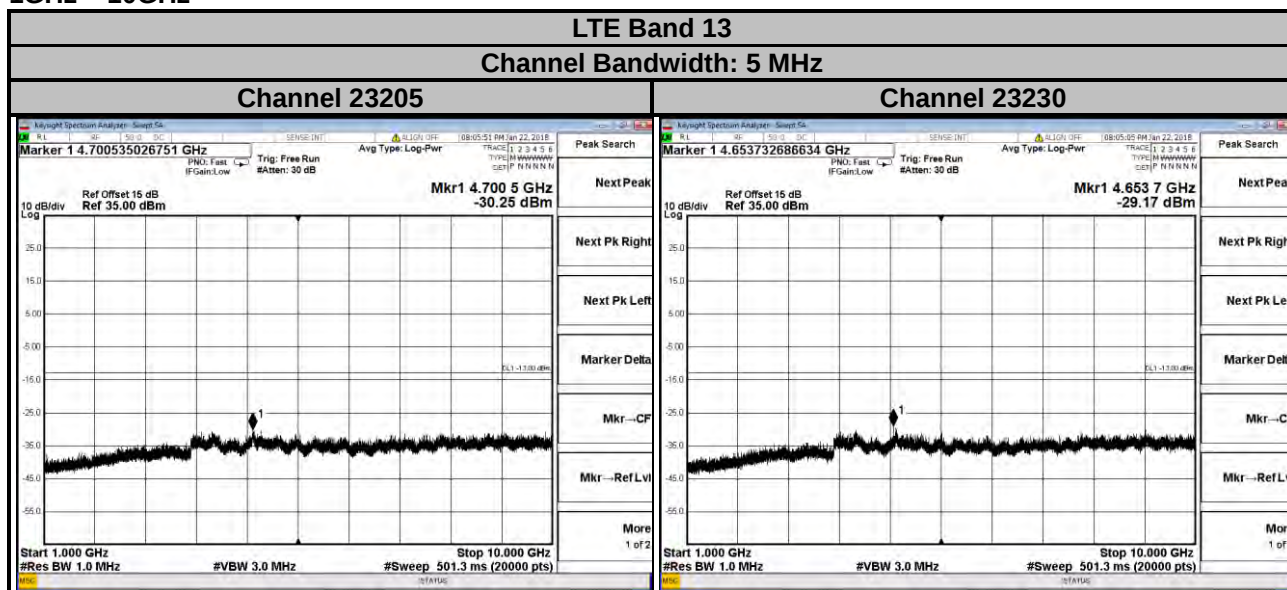




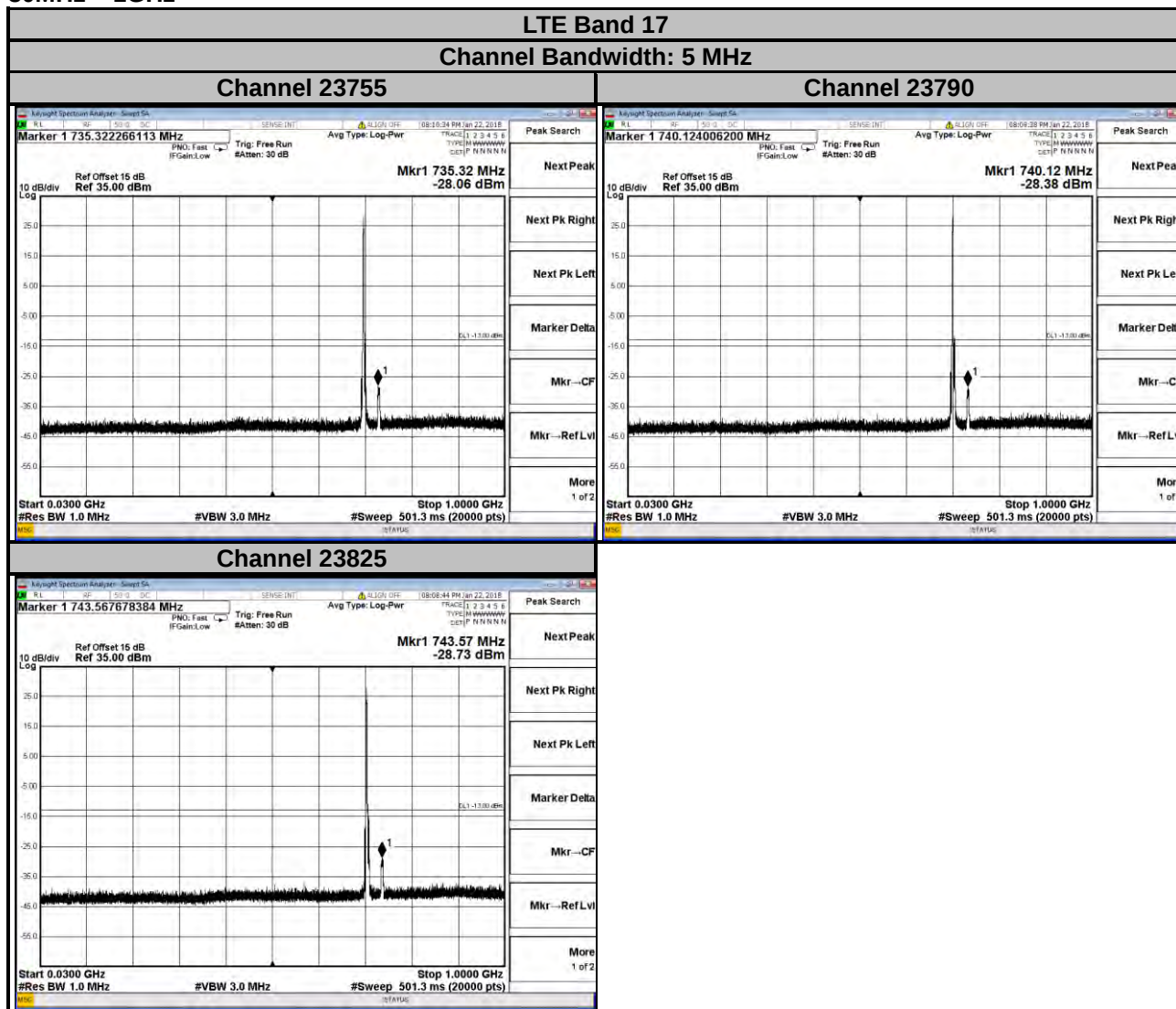
LTE Band 13 30MHz ~ 1GHz

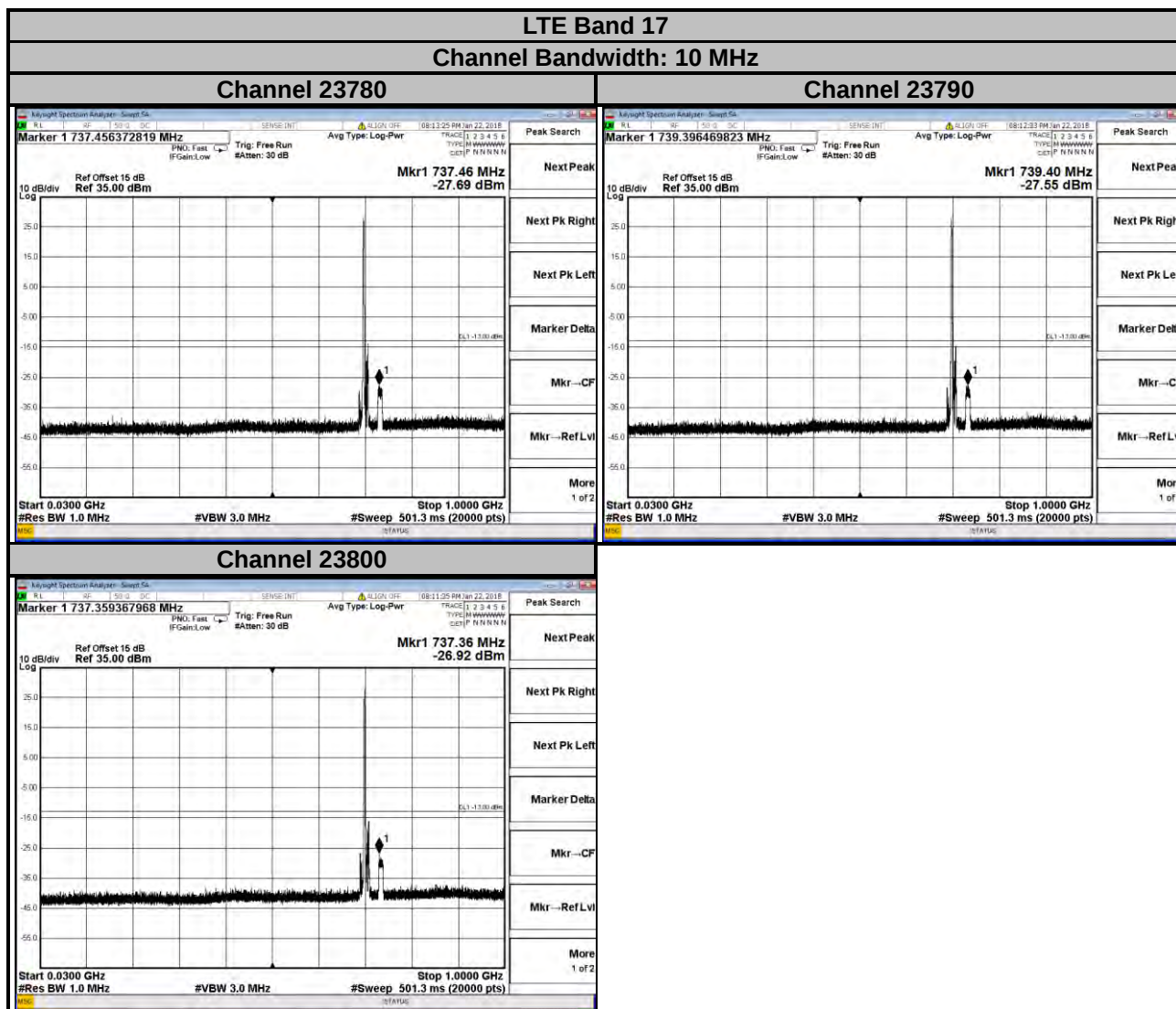


1GHz ~ 10GHz

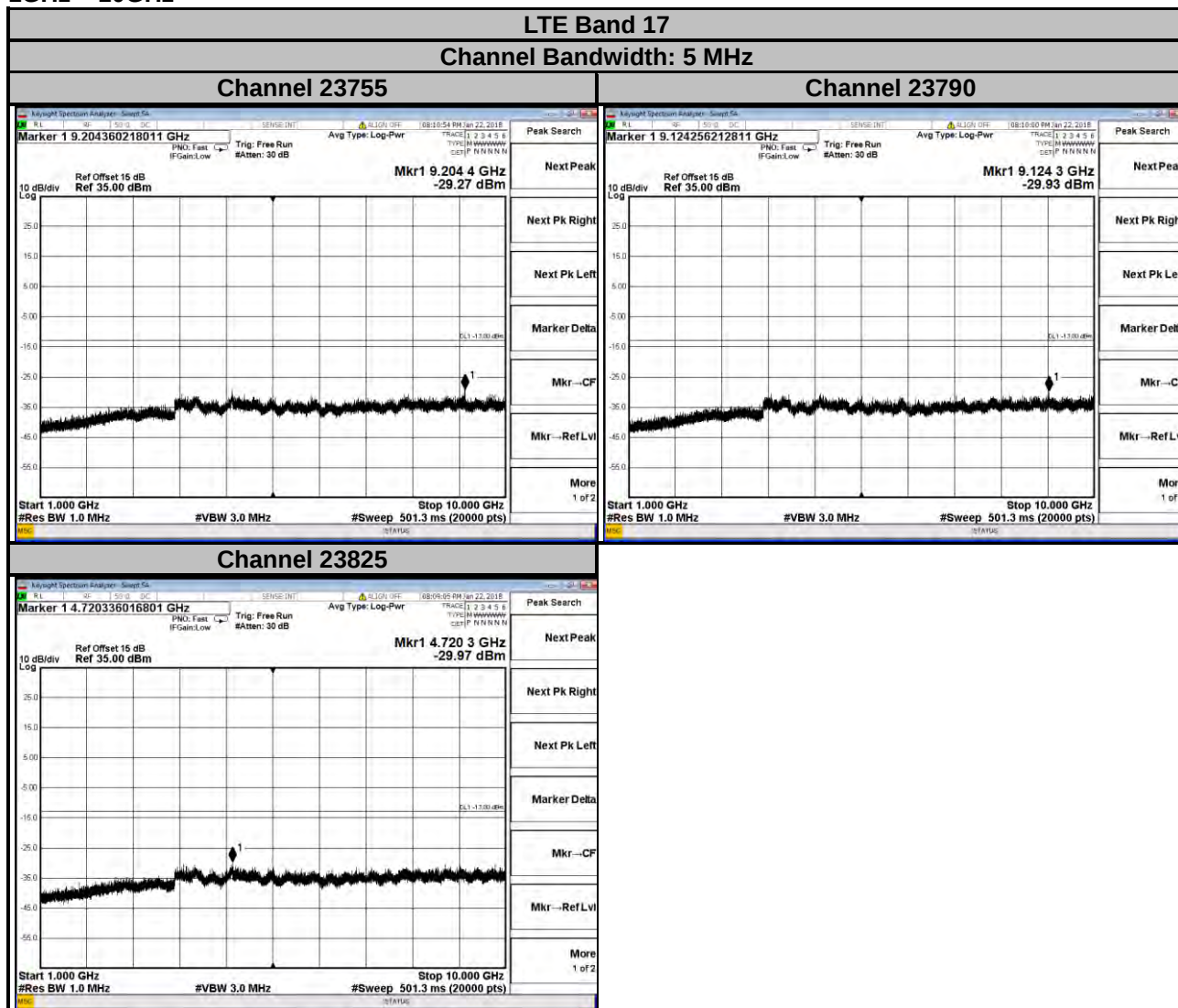


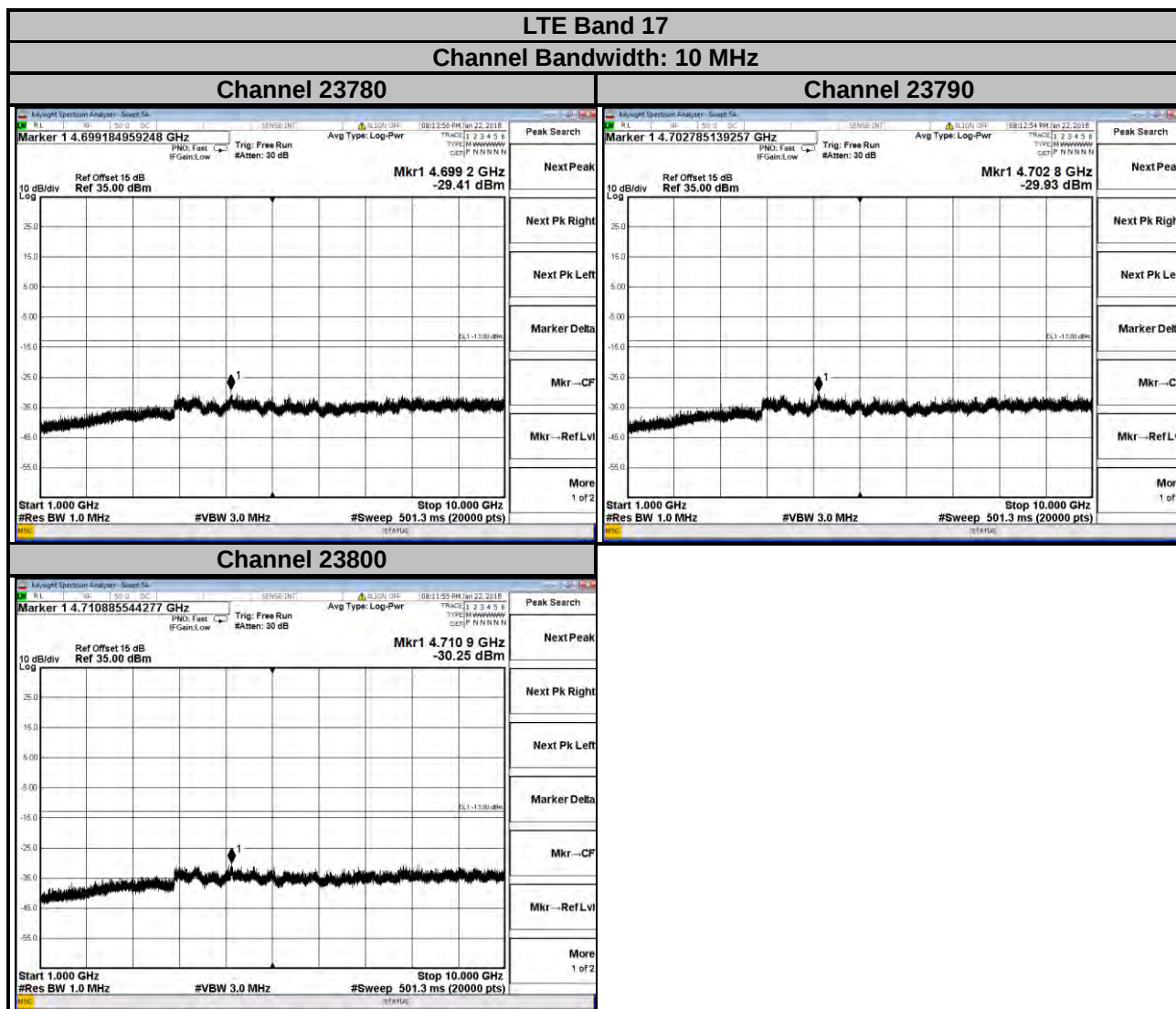
LTE Band 17
30MHz ~ 1GHz



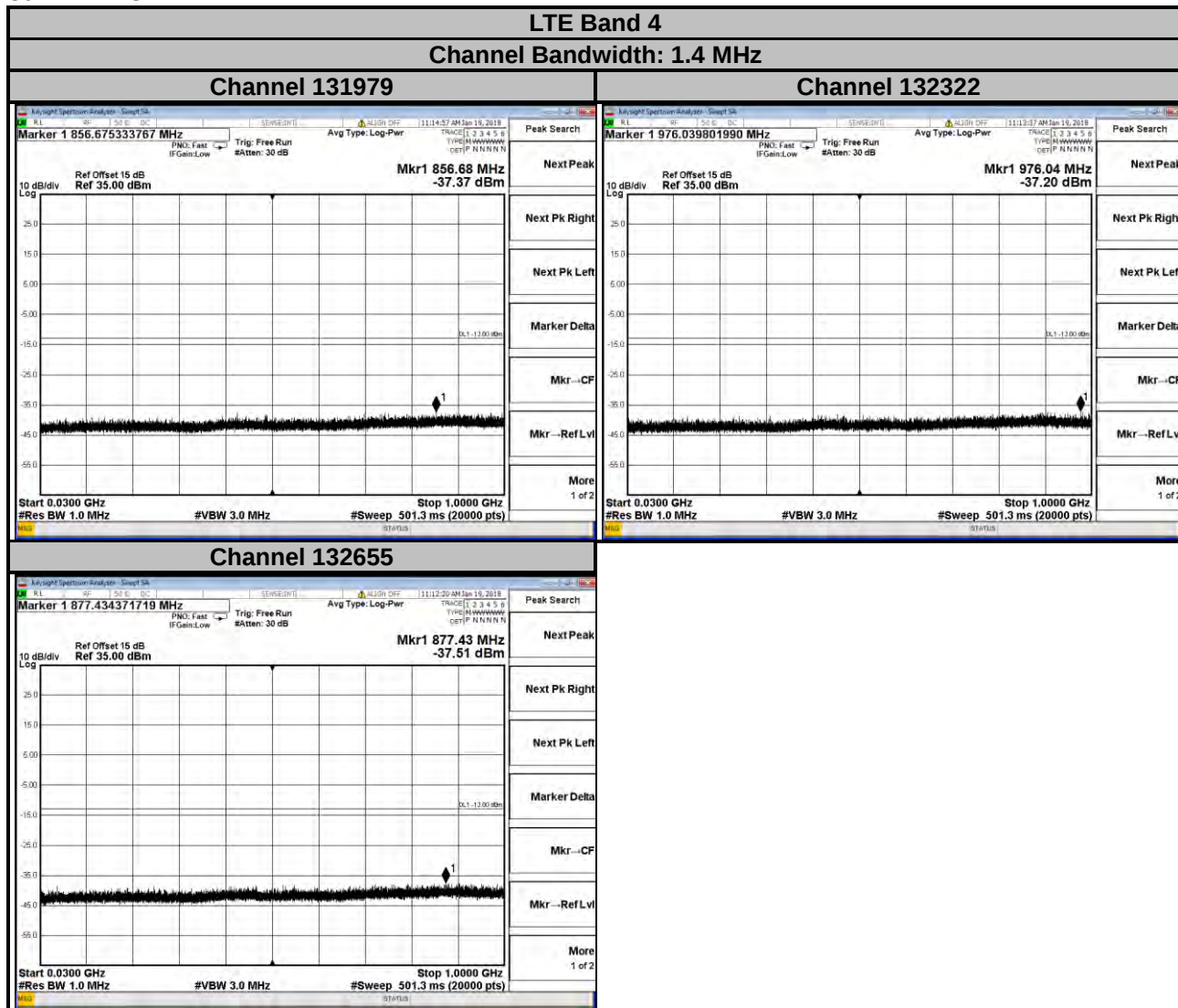


1GHz ~ 10GHz





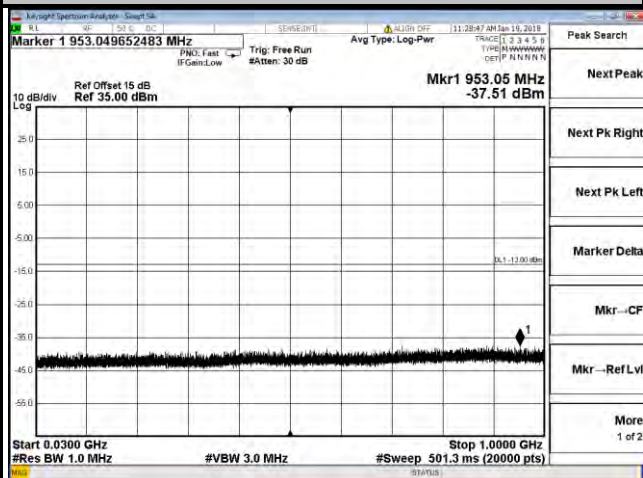
LTE Band 66
30MHz ~ 1GHz



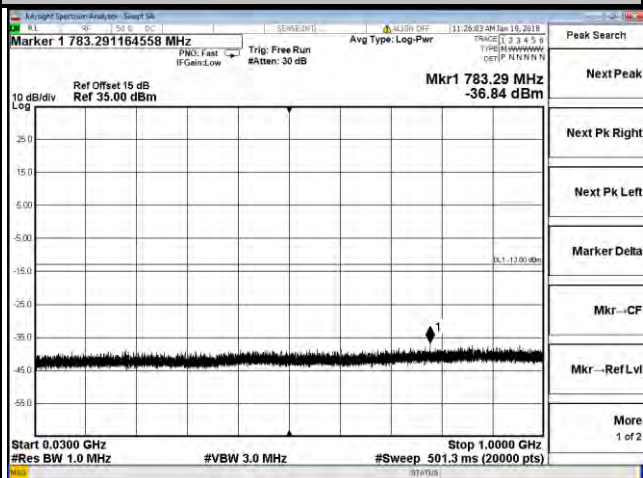
LTE Band 4

Channel Bandwidth: 3 MHz

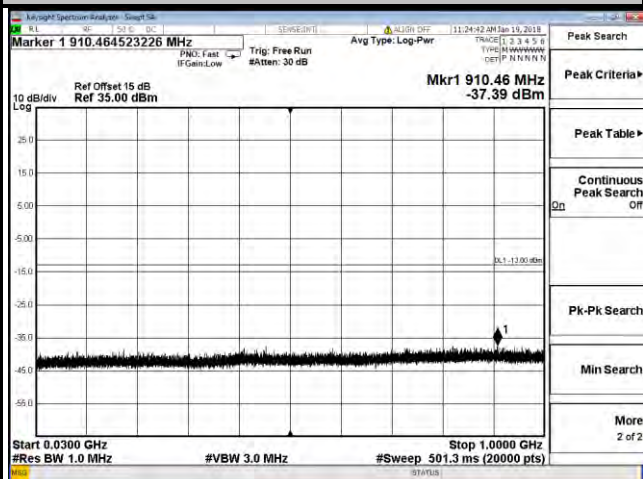
Channel 131987



Channel 132322



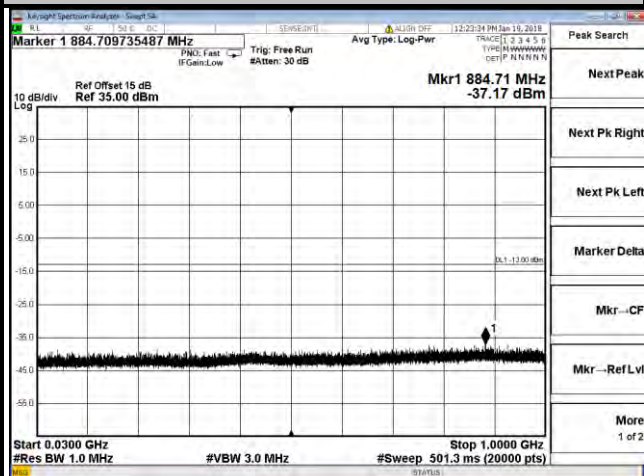
Channel 132657



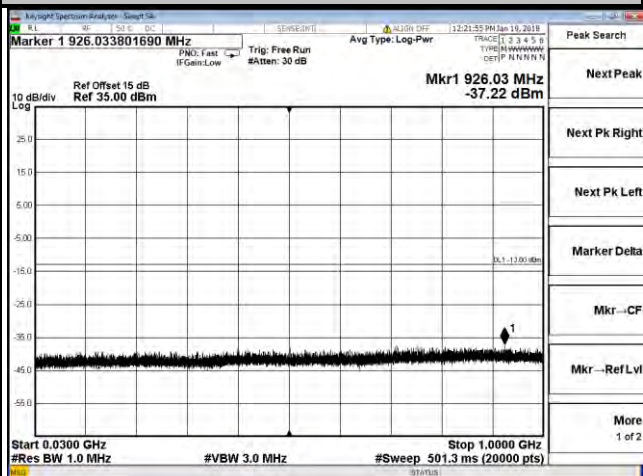
LTE Band 4

Channel Bandwidth: 5 MHz

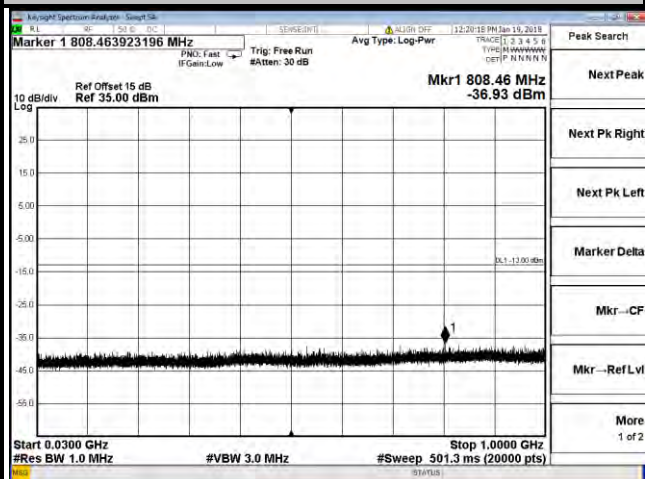
Channel 131997

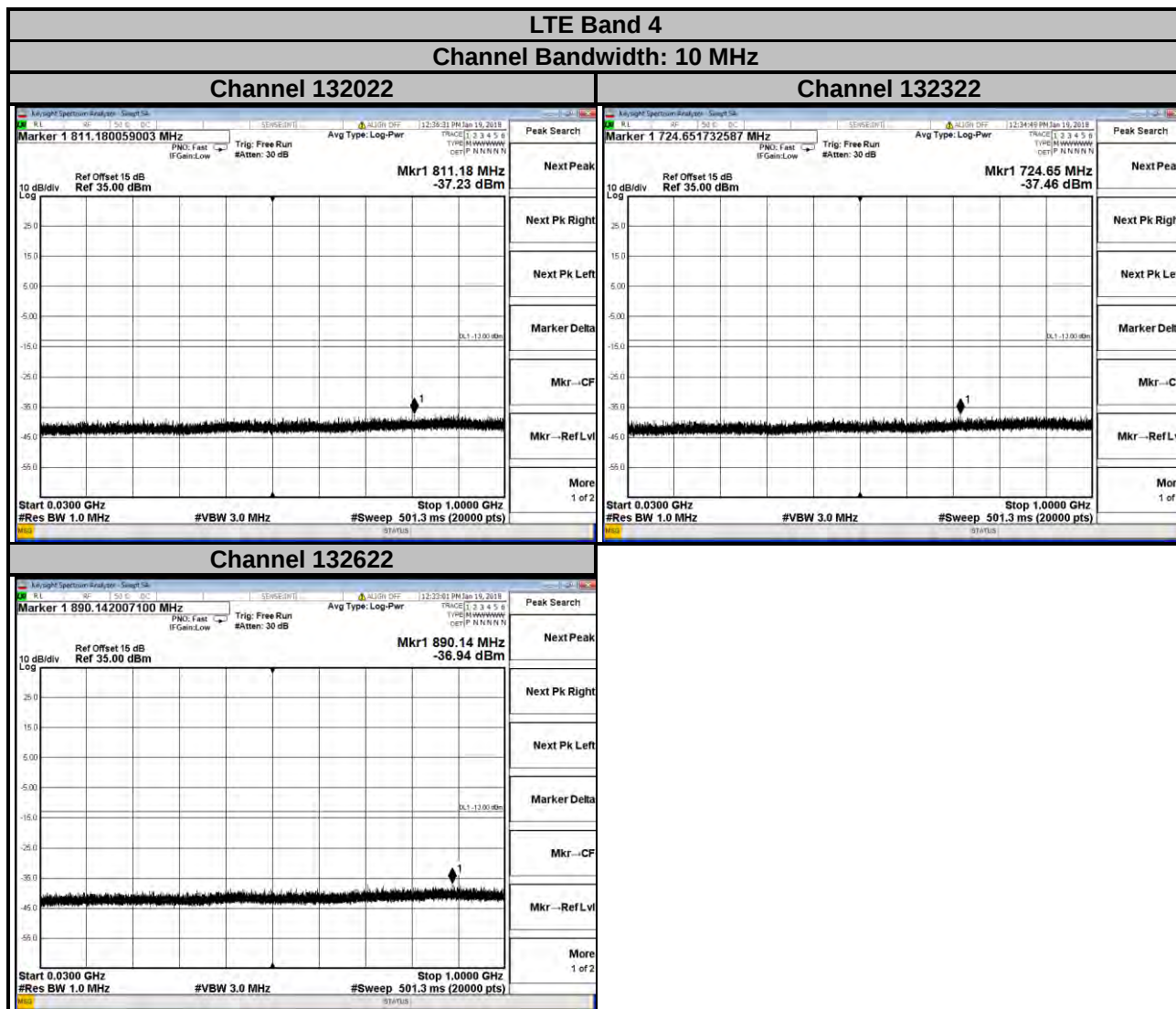


Channel 132322



Channel 132647

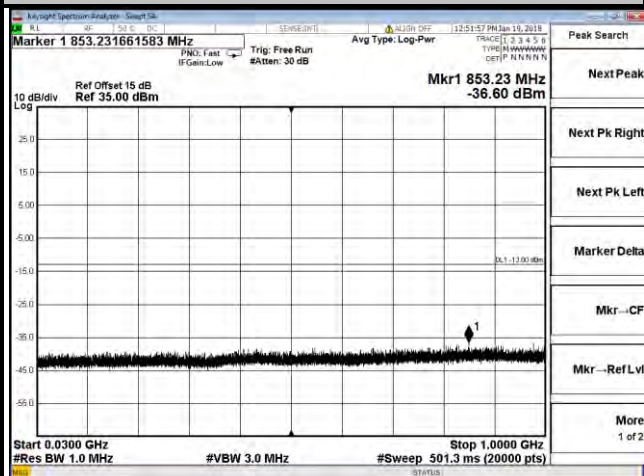




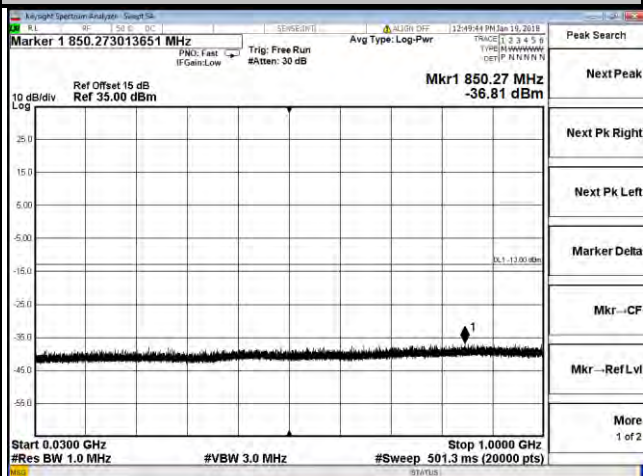
LTE Band 4

Channel Bandwidth: 15 MHz

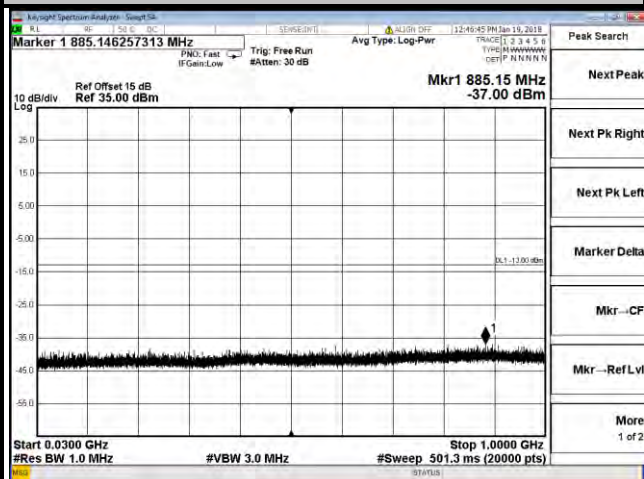
Channel 132047



Channel 132322



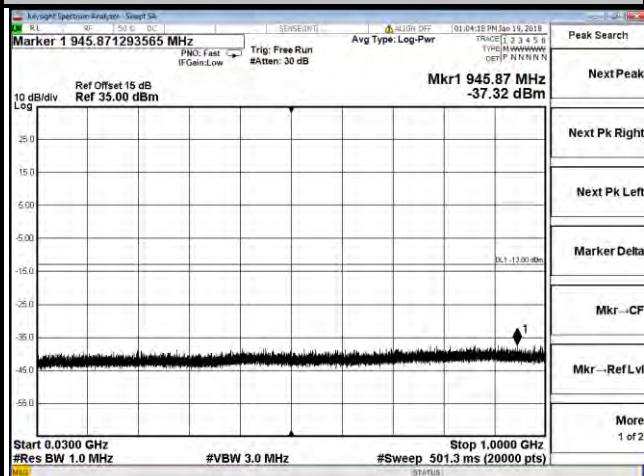
Channel 132597



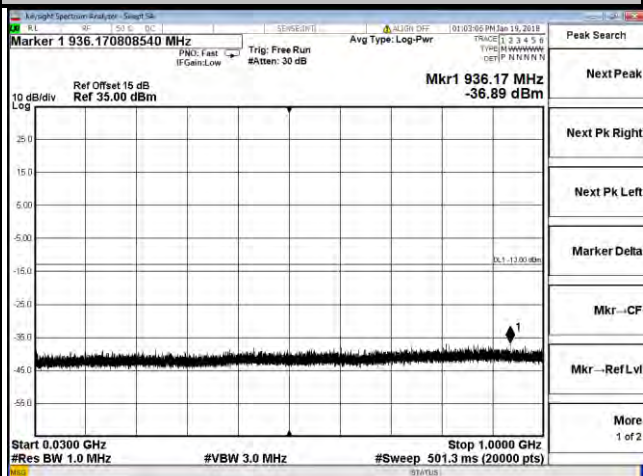
LTE Band 4

Channel Bandwidth: 20 MHz

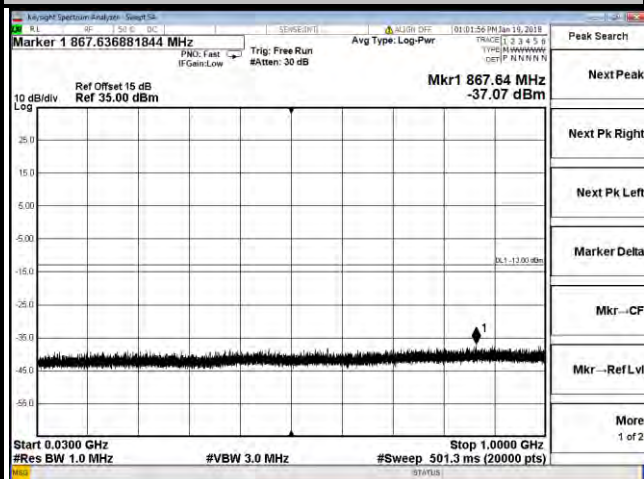
Channel 132072



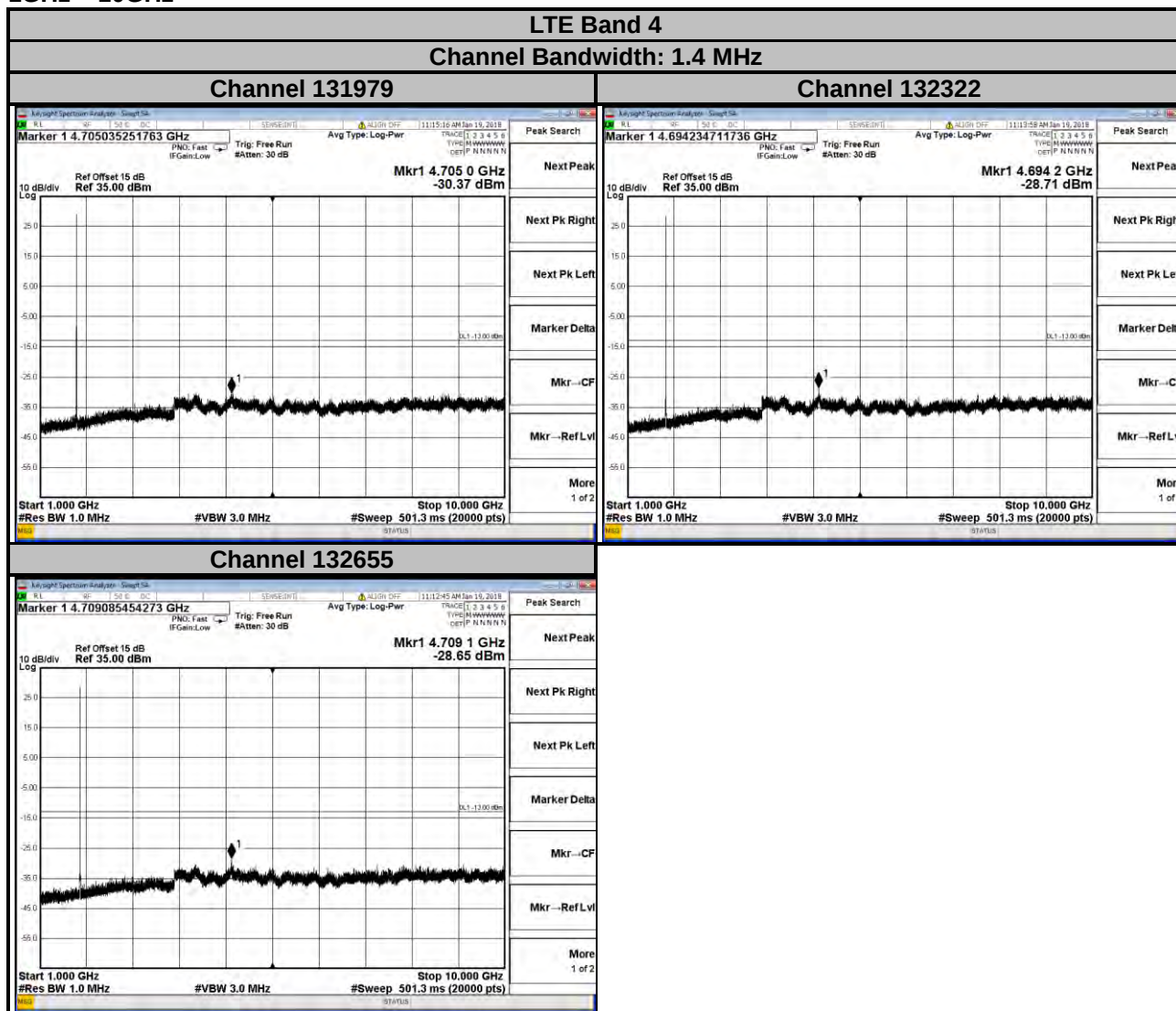
Channel 132322

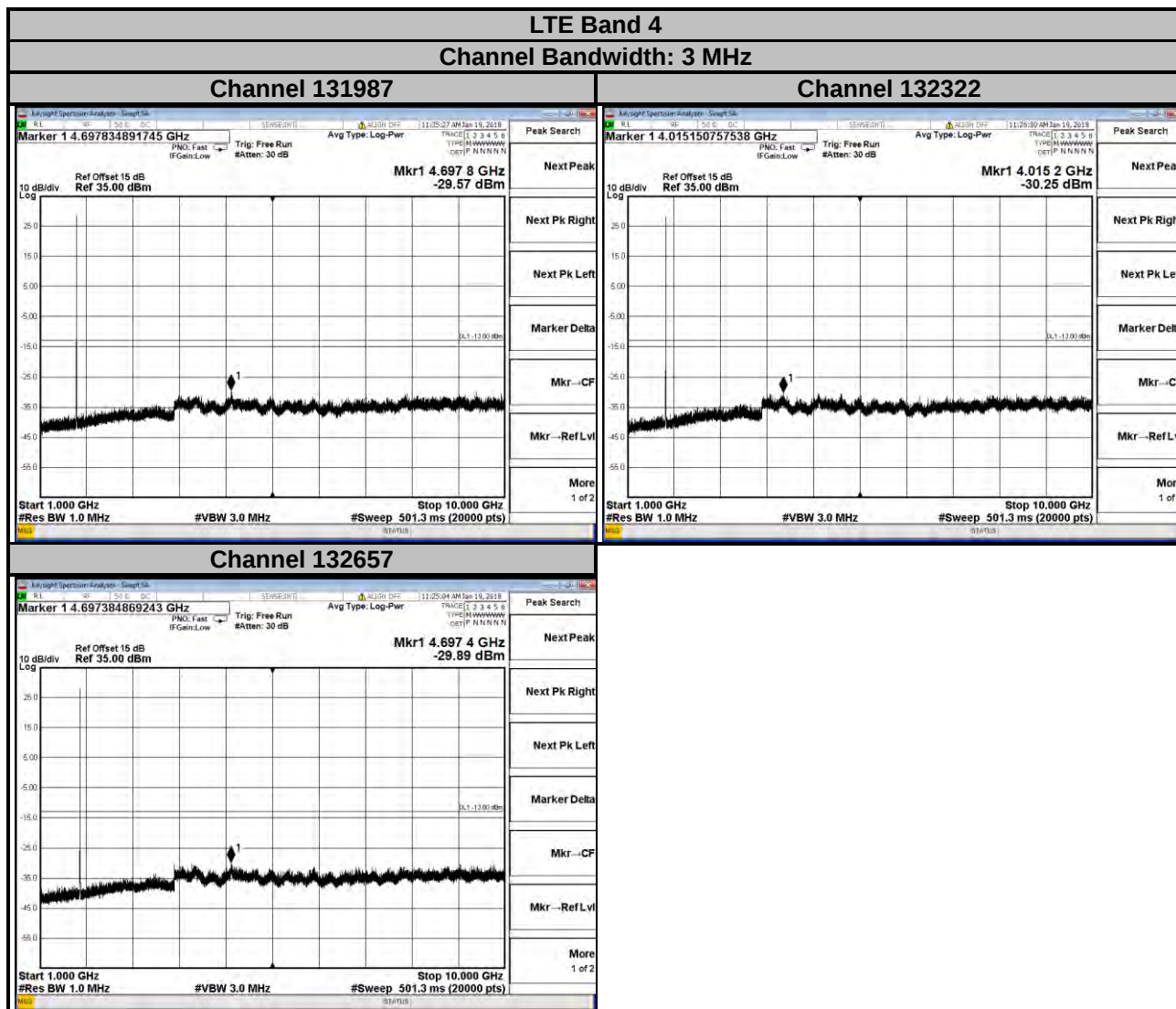


Channel 132572



1GHz ~ 10GHz

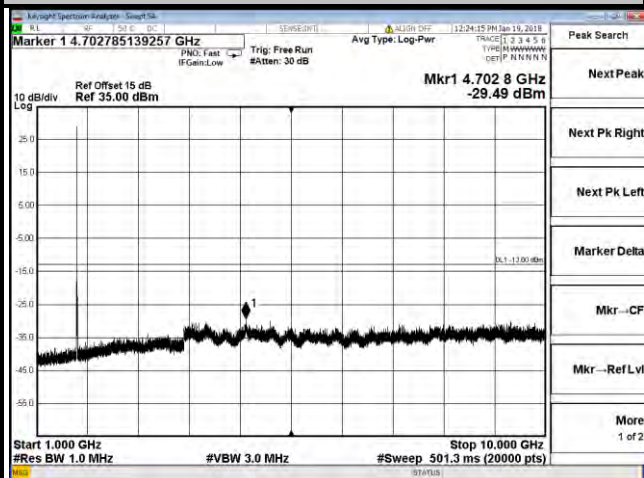




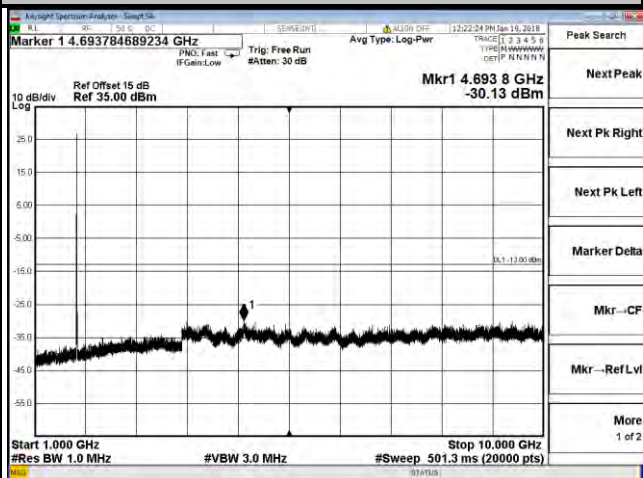
LTE Band 4

Channel Bandwidth: 5 MHz

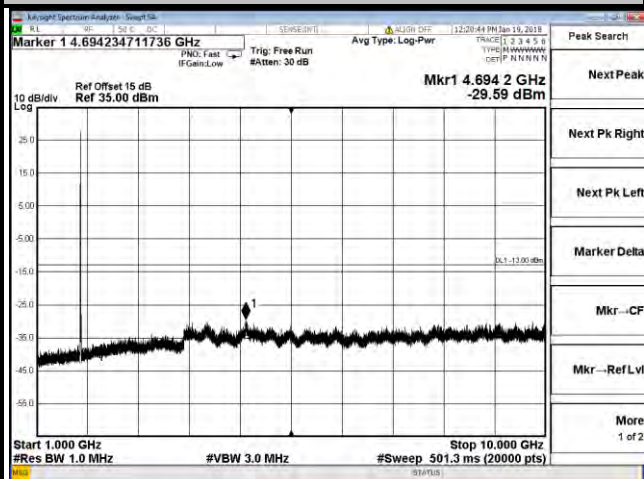
Channel 131997



Channel 132322



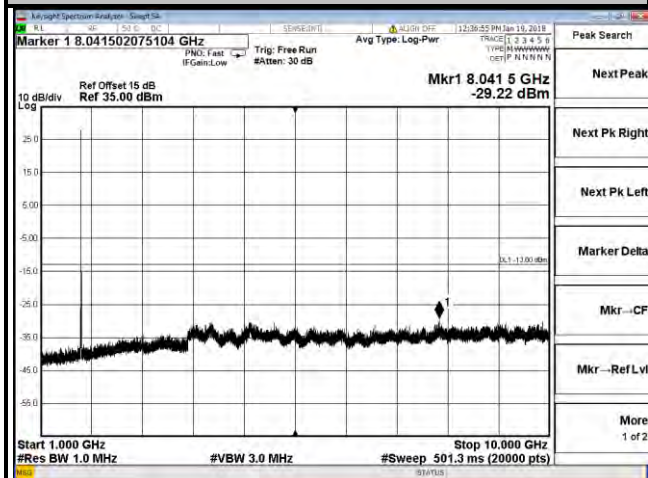
Channel 132647



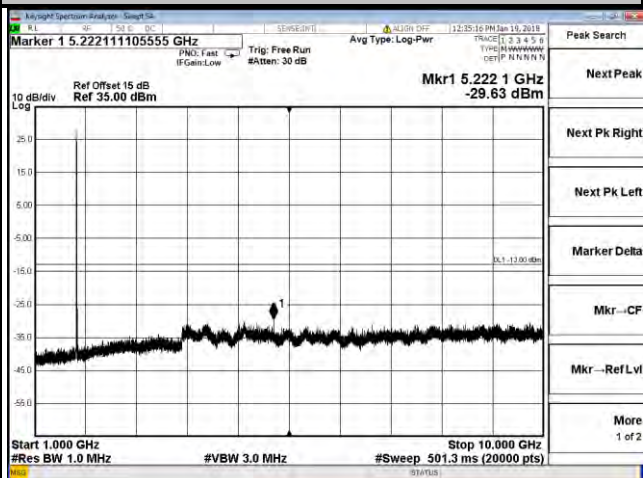
LTE Band 4

Channel Bandwidth: 10 MHz

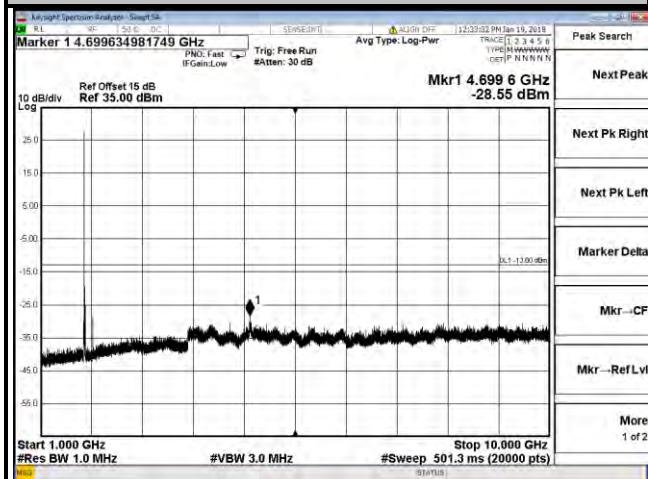
Channel 132022

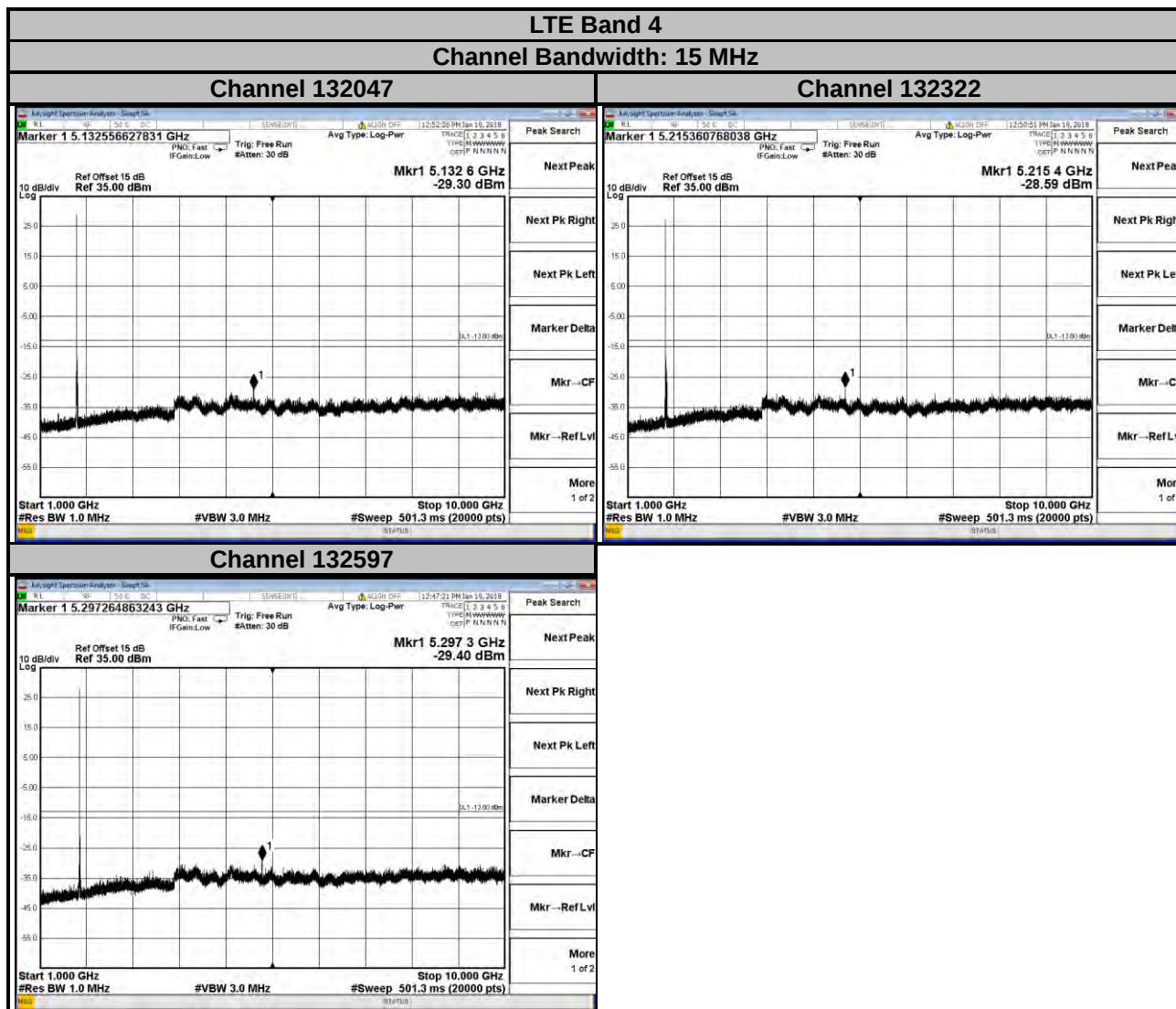


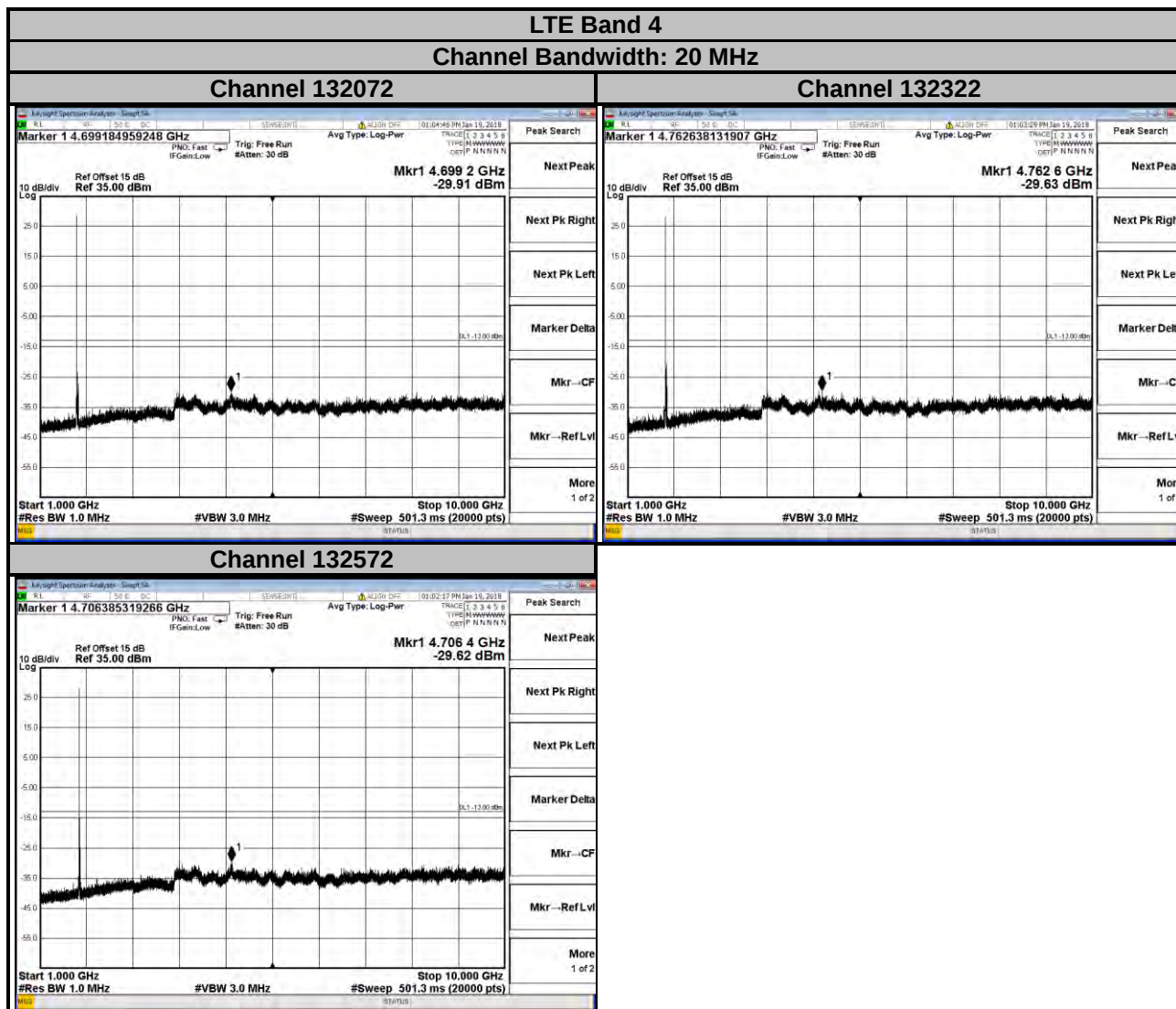
Channel 132322



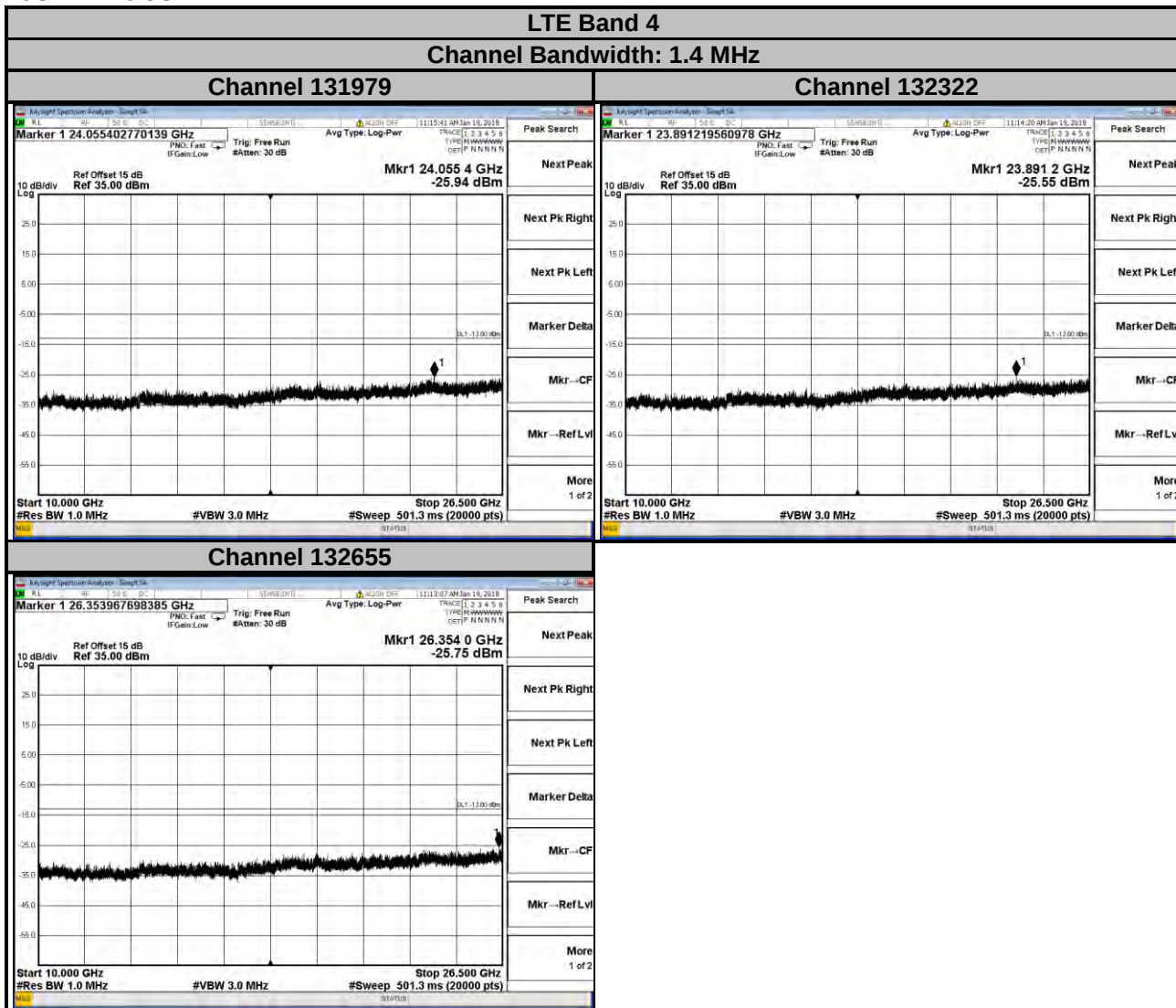
Channel 132622







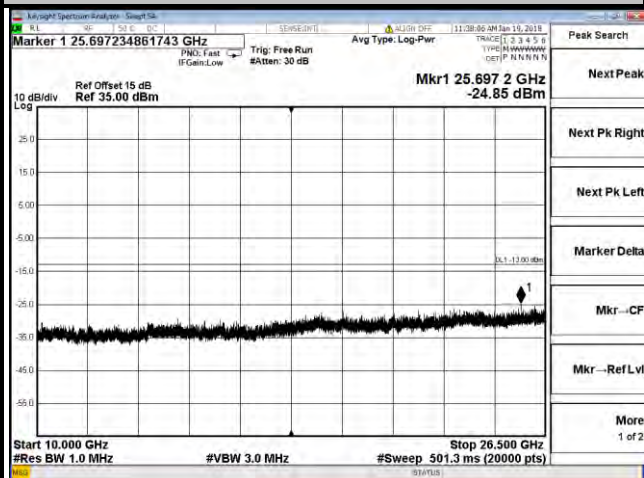
10GHz ~ 26.5GHz



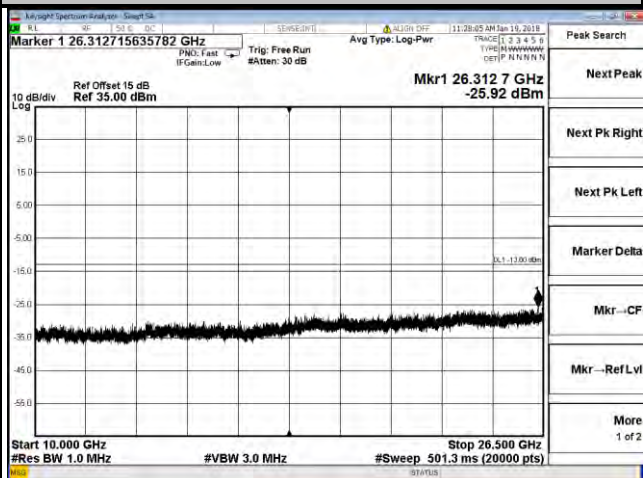
LTE Band 4

Channel Bandwidth: 3 MHz

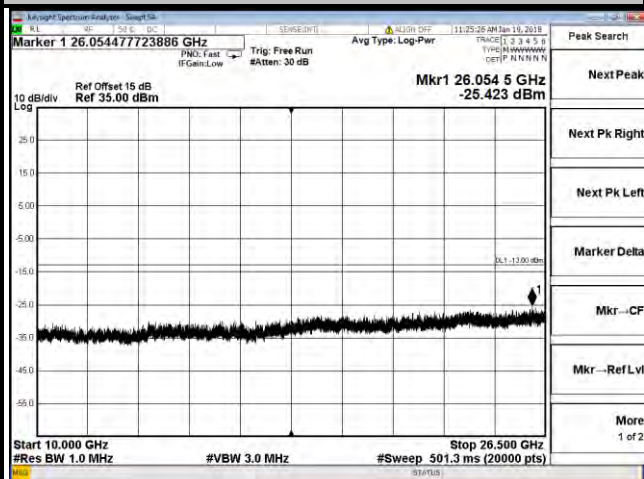
Channel 131987

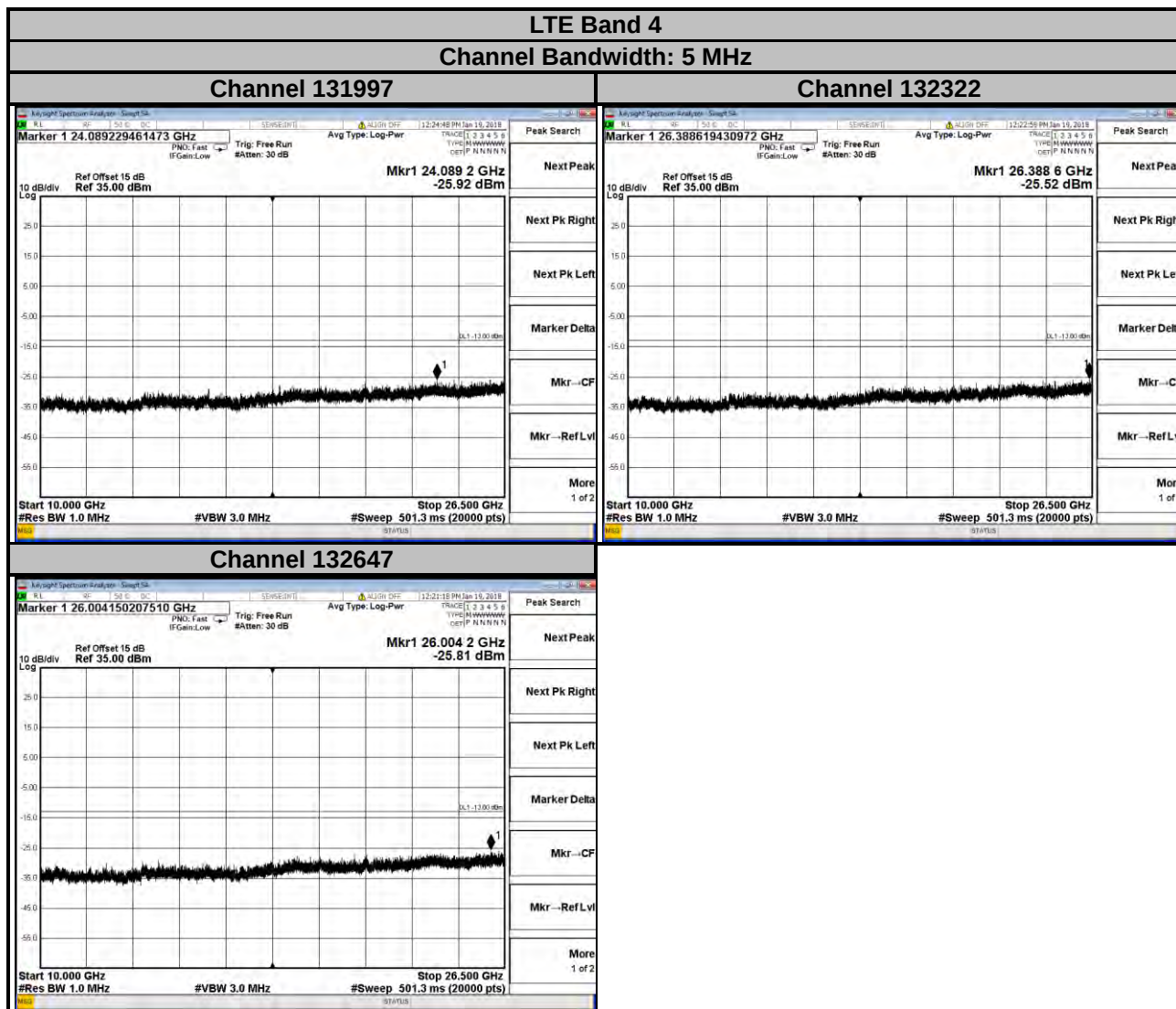


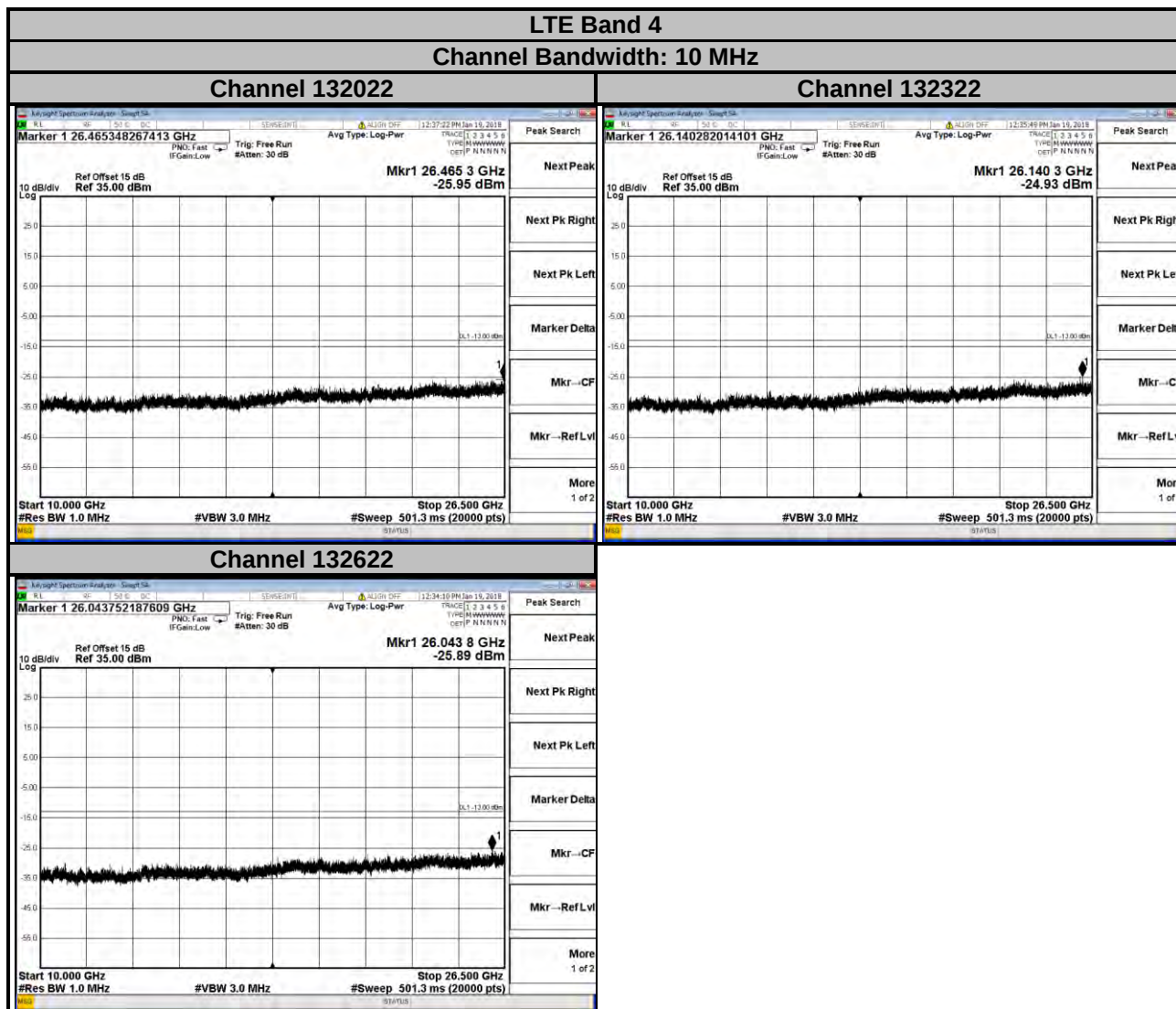
Channel 132322

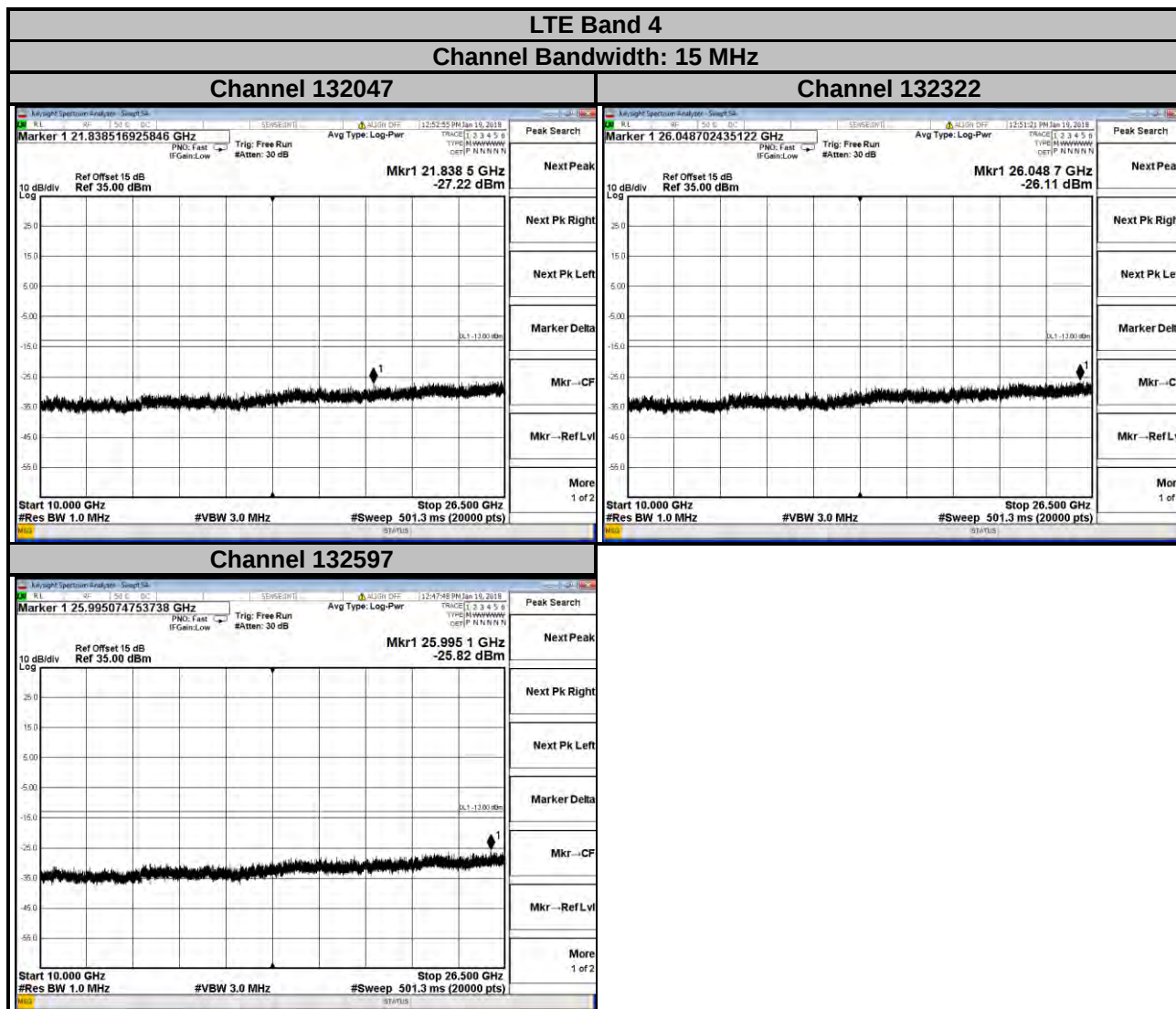


Channel 132657





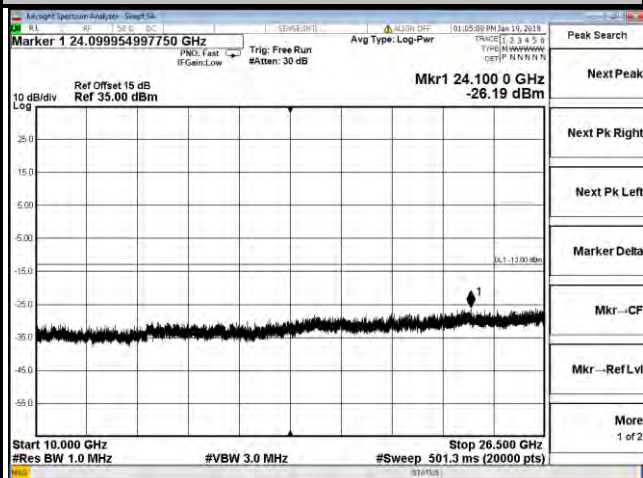




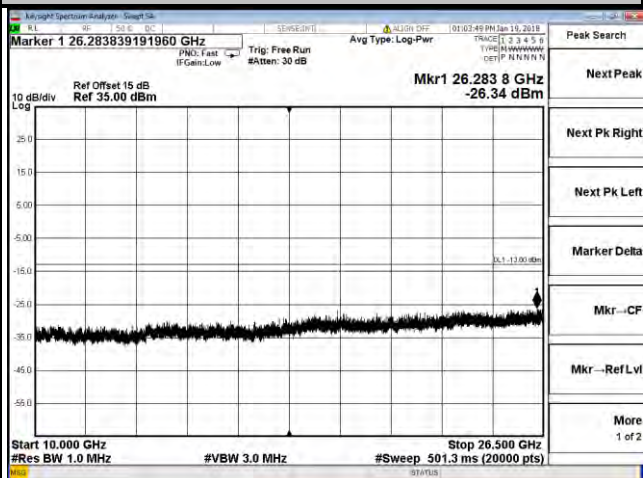
LTE Band 4

Channel Bandwidth: 20 MHz

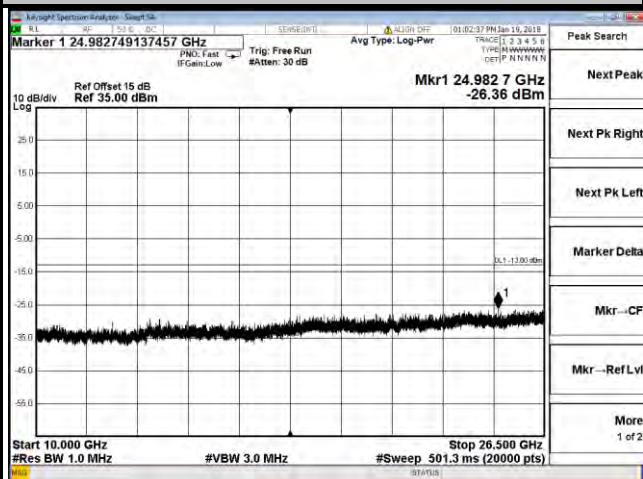
Channel 132072



Channel 132322



Channel 132572



4.7 Radiated Emission Measurement

4.7.1 Limits of Radiated Emission Measurement

- a. The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -13 dBm.
- b. For operations in the 775-788 MHz, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz. The limit of emissions is equal to -40 dBm.

4.7.2 Test Procedure

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G.
- c. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, $E.R.P \text{ power} = E.I.P.R \text{ power} - 2.15 \text{ dBi}$.

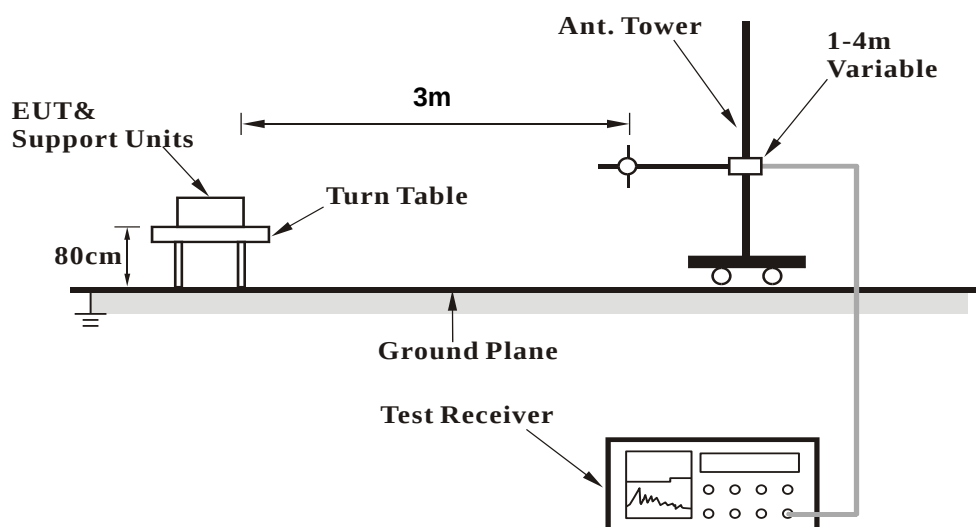
Note: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.7.3 Deviation from Test Standard

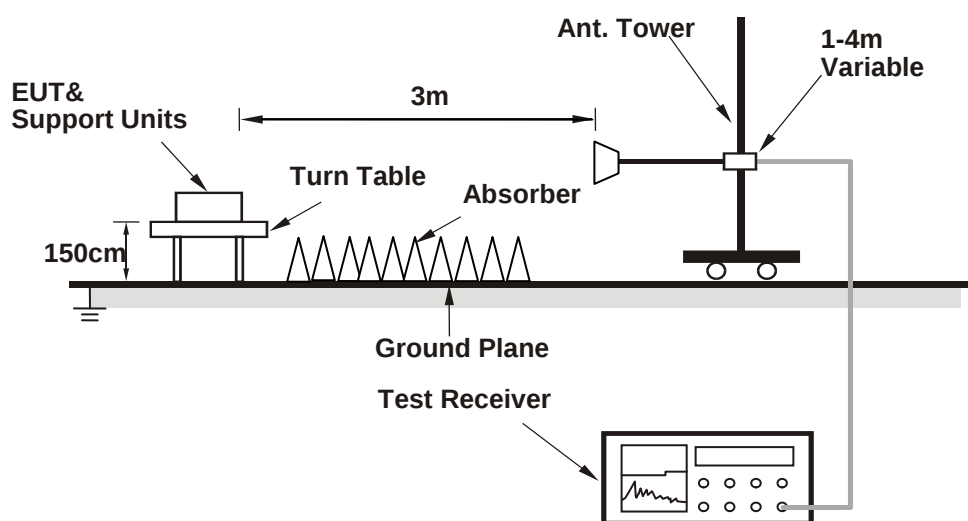
No deviation.

4.7.4 Test Setup

<Radiated Emission below or equal 1 GHz>



<Radiated Emission above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.7.5 Test Results

WCDMA:

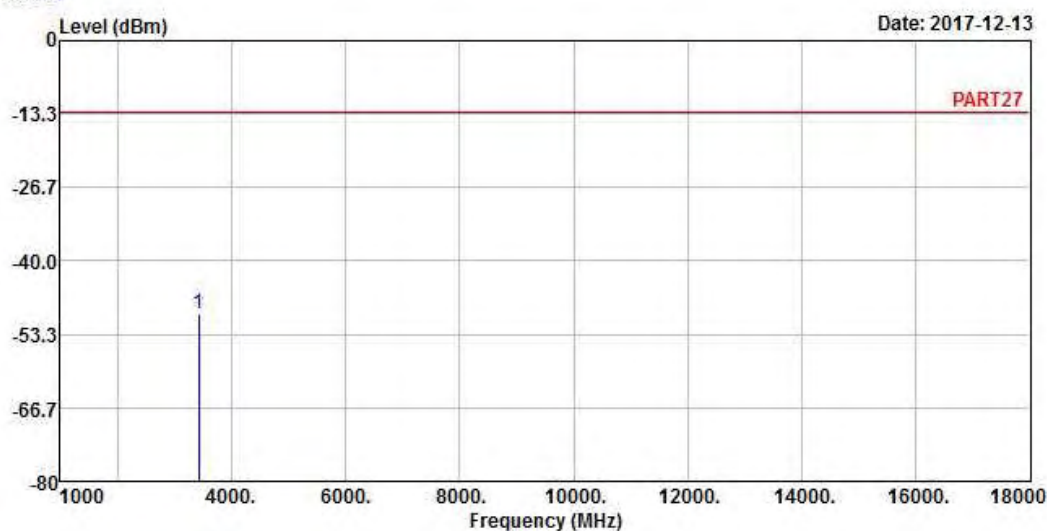
Low Channel



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A D T

Data: 5



Site : 966 Chamber 5

Condition: PART27 HORIZONTAL

Remark : WCDMA Band IV Link_L-CH

Tested by: Getaz Yang

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3424.80	-49.60	-40.51	-13.00	-36.60	-9.09	Peak

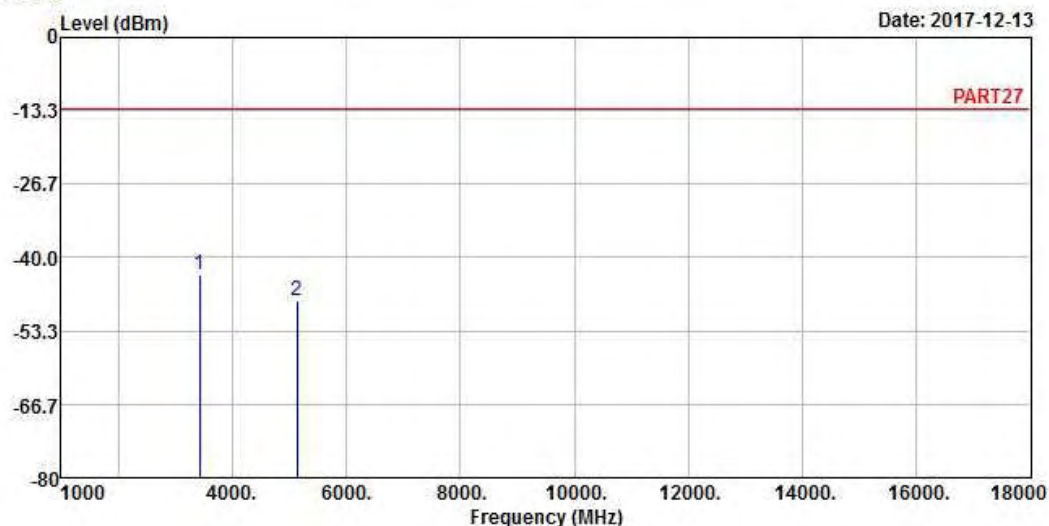


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A D T

Data: 6

Date: 2017-12-13



Site : 966 Chamber 5

Condition: PART27 VERTICAL

Remark : WCDMA Band IV Link_L-CH

Tested by: Getaz Yang

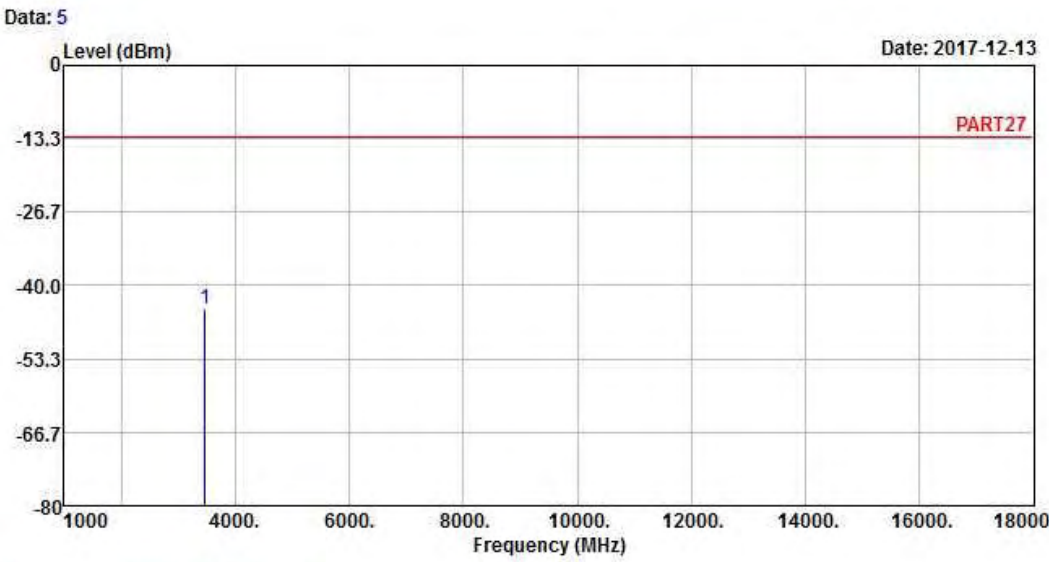
			Read	Limit	Over		
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3424.80	-42.97	-33.88	-13.00	-29.97	-9.09	Peak
2	5137.20	-47.70	-44.73	-13.00	-34.70	-2.97	Peak

Middle Channel



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A D T



Site : 966 Chamber 5
 Condition: PART27 HORIZONTAL
 Remark : WCDMA Band IV Link_M-CH
 Tested by: Getaz Yang

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3465.20	-44.21	-35.30	-13.00	-31.21	-8.91	Peak

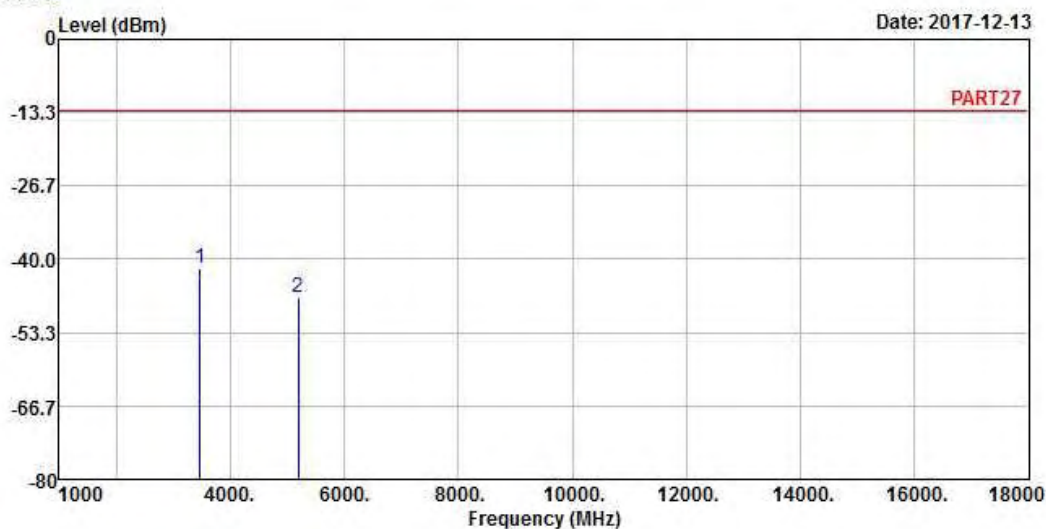


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2017-12-13



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remark : WCDMA Band IV Link_M-CH
Tested by: Getaz Yang

			Read	Limit	Over		
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3465.20	-41.68	-32.77	-13.00	-28.68	-8.91	Peak
2	5197.80	-46.87	-44.01	-13.00	-33.87	-2.86	Peak

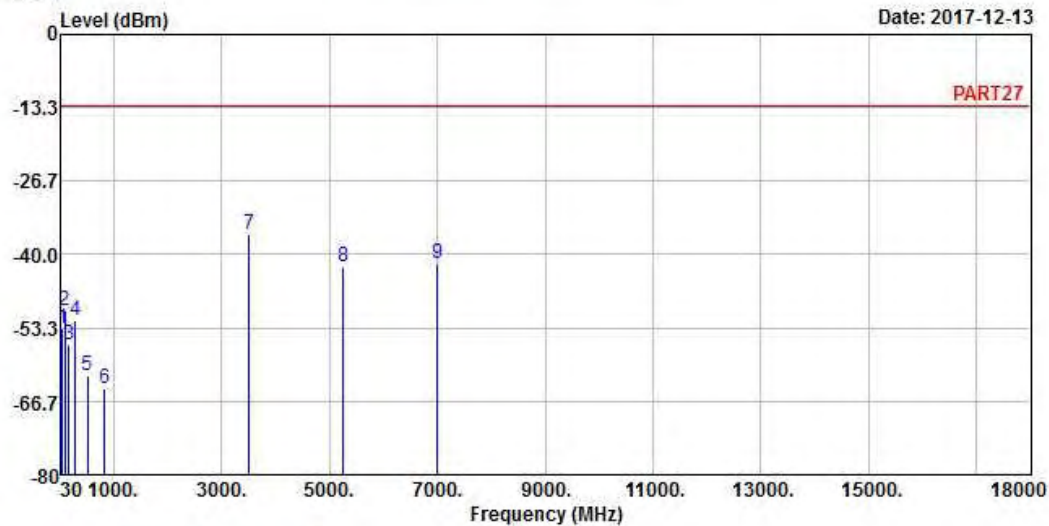
High Channel



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A D T

Data: 7



Site : 966 Chamber 5
 Condition: PART27 HORIZONTAL
 Remark : WCDMA Band IV Link_H-CH
 Tested by: Getaz Yang

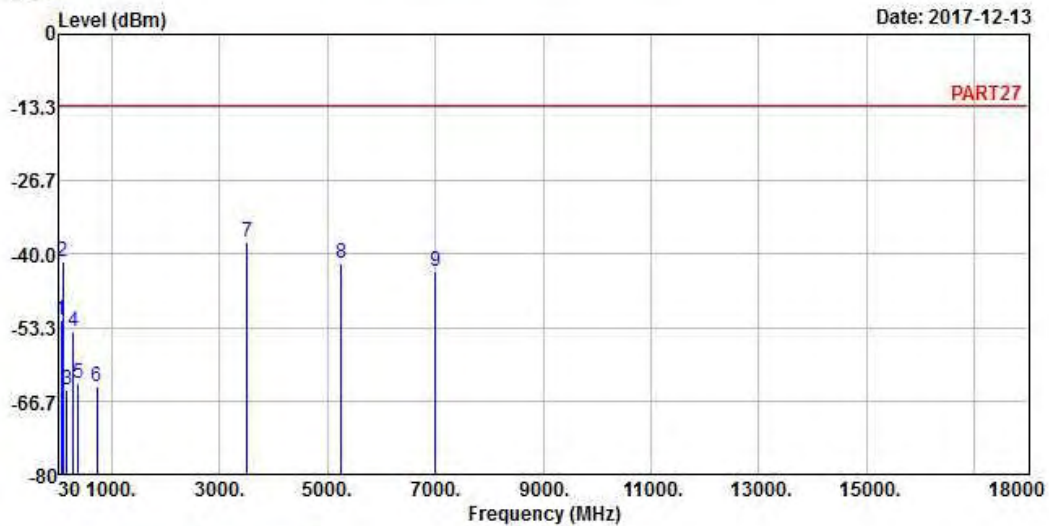
			Read	Limit	Over		
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	43.58	-53.54	-52.07	-13.00	-40.54	-1.47	Peak
2	94.99	-50.30	-39.46	-13.00	-37.30	-10.84	Peak
3	167.74	-56.35	-50.96	-13.00	-43.35	-5.39	Peak
4	289.96	-51.81	-45.00	-13.00	-38.81	-6.81	Peak
5	514.03	-62.13	-58.00	-13.00	-49.13	-4.13	Peak
6	829.28	-64.38	-64.85	-13.00	-51.38	0.47	Peak
7 pp	3505.20	-36.44	-28.33	-13.00	-23.44	-8.11	Peak
8	5257.80	-42.24	-39.76	-13.00	-29.24	-2.48	Peak
9	7010.40	-41.63	-46.31	-13.00	-28.63	4.68	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 8



Site : 966 Chamber 5
Condition: PART27 VERTICAL
Remark : WCDMA Band IV Link_H-CH
Tested by: Getaz Yang

			Read	Limit	Over		
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	68.80	-51.98	-43.66	-13.00	-38.98	-8.32	Peak
2	97.90	-41.19	-30.52	-13.00	-28.19	-10.67	Peak
3	171.62	-64.79	-58.92	-13.00	-51.79	-5.87	Peak
4	297.72	-53.94	-46.97	-13.00	-40.94	-6.97	Peak
5	380.17	-63.56	-57.50	-13.00	-50.56	-6.06	Peak
6	729.37	-63.96	-64.44	-13.00	-50.96	0.48	Peak
7 pp	3505.20	-37.83	-29.72	-13.00	-24.83	-8.11	Peak
8	5257.80	-41.57	-39.09	-13.00	-28.57	-2.48	Peak
9	7010.40	-43.08	-47.76	-13.00	-30.08	4.68	Peak

LTE Band 4
Channel Bandwidth: 20 MHz / QPSK
Low Channel

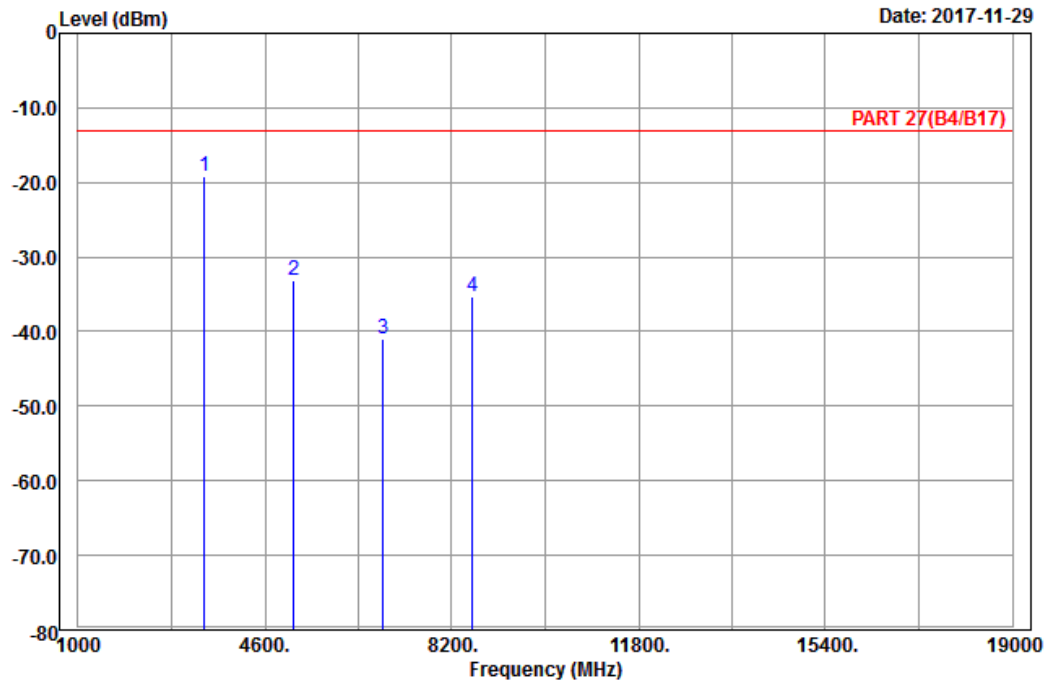


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2017-11-29



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : LTE_Band 4_Link_CH20050
Tested by: Charles Hsiao

		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3440.00	-19.19	-33.54	-13.00	-6.19	14.35	Peak
2 5160.00	-33.24	-53.16	-13.00	-20.24	19.92	Peak
3 6880.00	-40.93	-63.73	-13.00	-27.93	22.80	Peak
4 8600.00	-35.39	-59.49	-13.00	-22.39	24.10	Peak

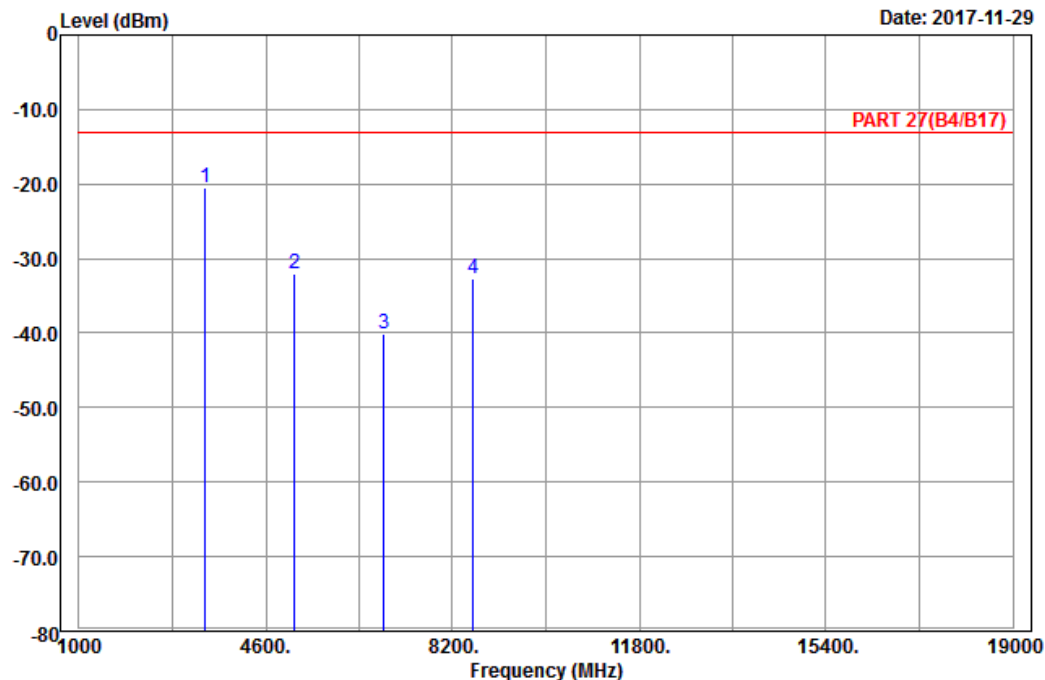


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2017-11-29



Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 4_Link_CH20050
Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3440.00	-20.45	-34.80	-13.00	-7.45	14.35	Peak
2	5160.00	-32.14	-52.06	-13.00	-19.14	19.92	Peak
3	6880.00	-40.17	-62.97	-13.00	-27.17	22.80	Peak
4	8600.00	-32.63	-56.73	-13.00	-19.63	24.10	Peak

Middle Channel

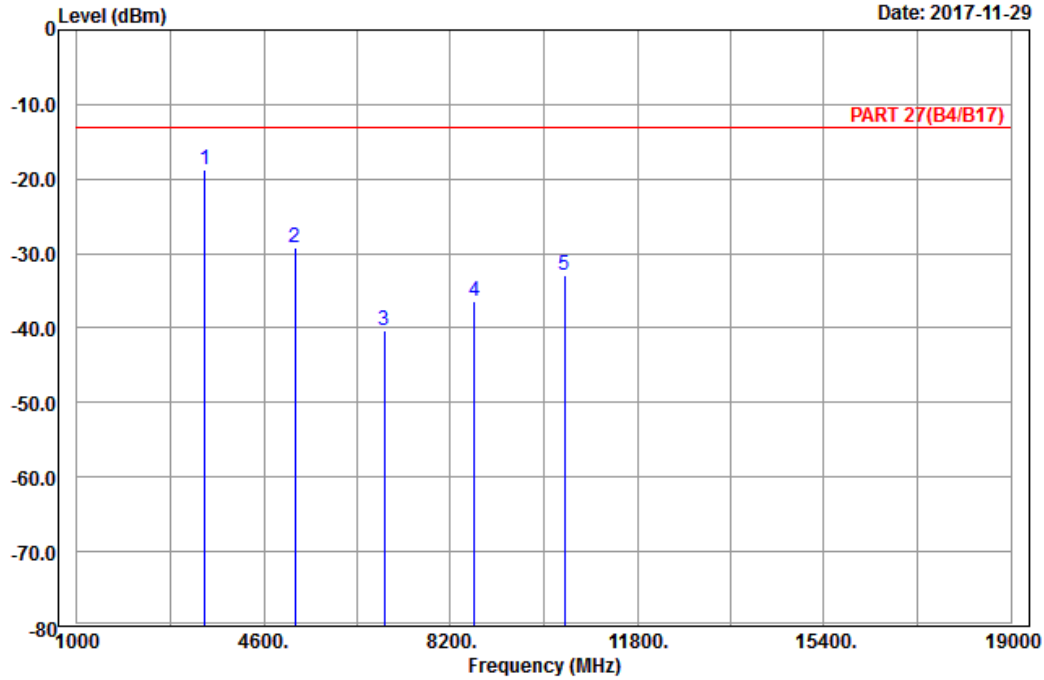


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2017-11-29



Site : 966 chamber 1

Condition: PART 27(B4/B17) Horizontal

Remark : LTE_Band 4_Link_CH20175

Tested by: Charles Hsiao

		Read	Limit	Over			
Freq	Level	Level	Line	Limit	Factor	Remark	
MHz	dBm	dBm	dBm	dB	dB		
1 pp	3465.00	-18.70	-33.04	-13.00	-5.70	14.34	Peak
2	5197.50	-29.20	-49.32	-13.00	-16.20	20.12	Peak
3	6930.00	-40.39	-63.26	-13.00	-27.39	22.87	Peak
4	8662.50	-36.38	-60.59	-13.00	-23.38	24.21	Peak
5	10395.00	-32.85	-59.61	-13.00	-19.85	26.76	Peak

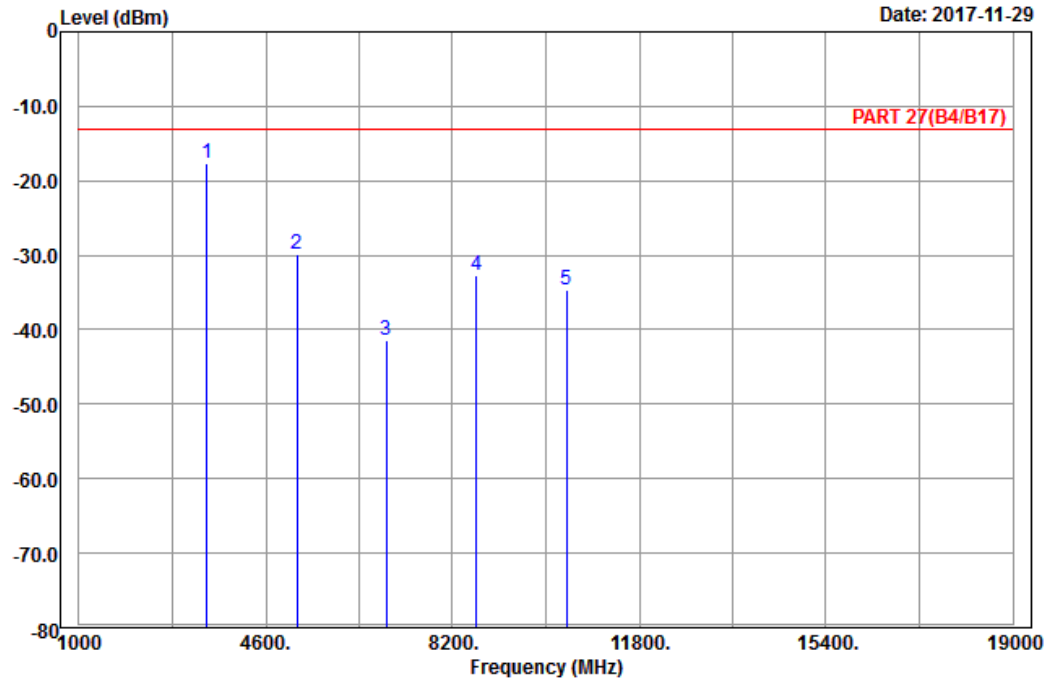


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A D T

Data: 10

Date: 2017-11-29



Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 4_Link_CH20175
Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3465.00	-17.67	-32.01	-13.00	-4.67	14.34	Peak
2	5197.50	-29.87	-49.99	-13.00	-16.87	20.12	Peak
3	6930.00	-41.39	-64.26	-13.00	-28.39	22.87	Peak
4	8662.50	-32.75	-56.96	-13.00	-19.75	24.21	Peak
5	10395.00	-34.63	-61.39	-13.00	-21.63	26.76	Peak

High Channel

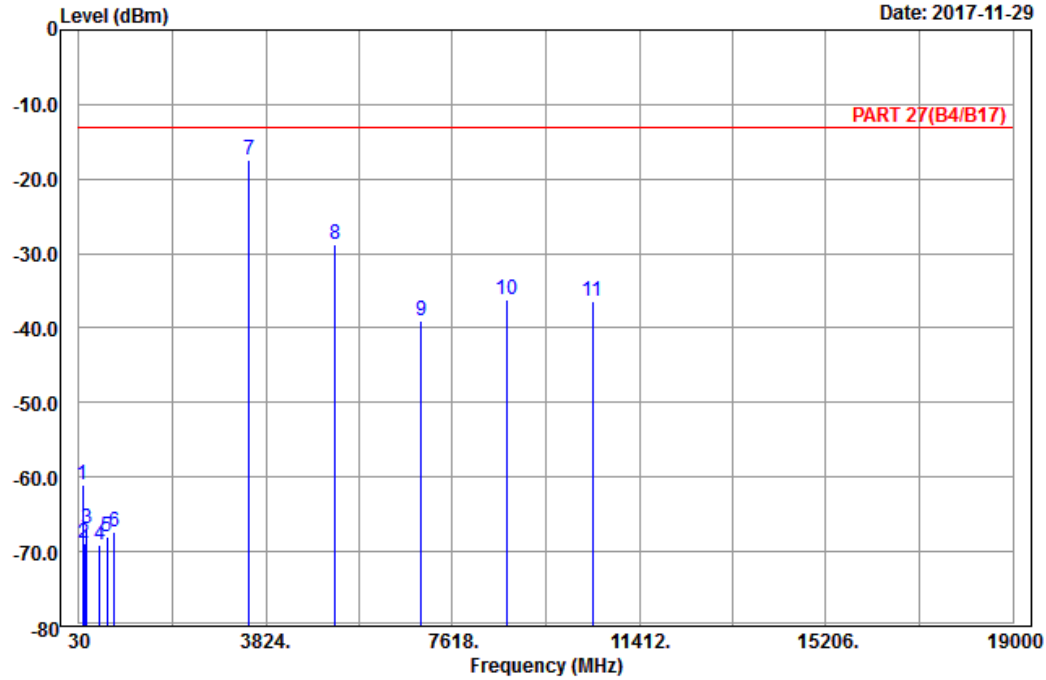


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 13

Date: 2017-11-29



Site : 966 chamber 1

Condition: PART 27(B4/B17) Horizontal

Remark : LTE_Band 4_Link_CH20300

Tested by: Charles Hsiao

		Read	Limit	Over			
Freq	Level	Level	Line	Limit	Factor	Remark	
MHz	dBm	dBm	dBm	dB	dB		
1	98.58	-61.09	-50.91	-13.00	-48.09	-10.18	Peak
2	143.40	-68.92	-61.13	-13.00	-55.92	-7.79	Peak
3	190.11	-66.85	-61.12	-13.00	-53.85	-5.73	Peak
4	444.20	-69.10	-65.38	-13.00	-56.10	-3.72	Peak
5	598.20	-68.02	-68.37	-13.00	-55.02	0.35	Peak
6	750.80	-67.29	-66.04	-13.00	-54.29	-1.25	Peak
7 pp	3490.00	-17.37	-31.68	-13.00	-4.37	14.31	Peak
8	5235.00	-28.69	-48.85	-13.00	-15.69	20.16	Peak
9	6980.00	-39.13	-61.82	-13.00	-26.13	22.69	Peak
10	8725.00	-36.29	-60.68	-13.00	-23.29	24.39	Peak
11	10470.00	-36.40	-63.06	-13.00	-23.40	26.66	Peak

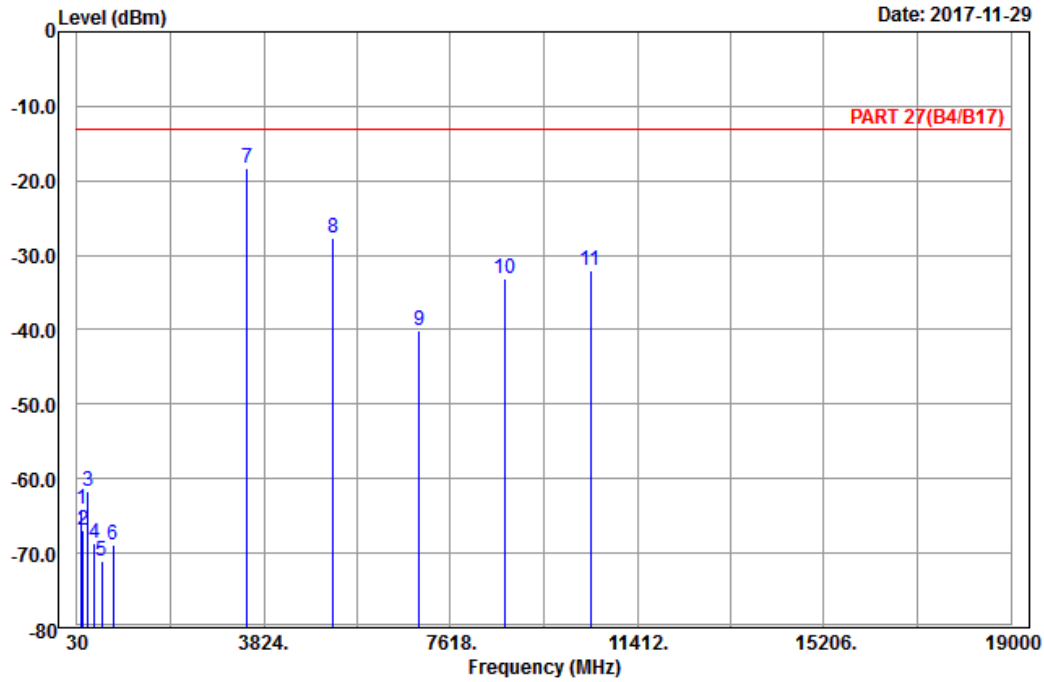


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 14

Date: 2017-11-29



Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 4_Link_CH20300
Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	114.24	-64.15	-55.52	-13.00	-51.15	-8.63	Peak
2	149.34	-66.82	-58.89	-13.00	-53.82	-7.93	Peak
3	257.34	-61.78	-56.21	-13.00	-48.78	-5.57	Peak
4	384.00	-68.64	-65.07	-13.00	-55.64	-3.57	Peak
5	531.70	-71.05	-68.04	-13.00	-58.05	-3.01	Peak
6	761.30	-68.91	-68.37	-13.00	-55.91	-0.54	Peak
7 pp	3490.00	-18.30	-32.61	-13.00	-5.30	14.31	Peak
8	5235.00	-27.70	-47.86	-13.00	-14.70	20.16	Peak
9	6980.00	-40.06	-62.75	-13.00	-27.06	22.69	Peak
10	8725.00	-33.05	-57.44	-13.00	-20.05	24.39	Peak
11	10470.00	-32.13	-58.79	-13.00	-19.13	26.66	Peak

LTE Band 12
Channel Bandwidth: 10 MHz / QPSK
Low Channel

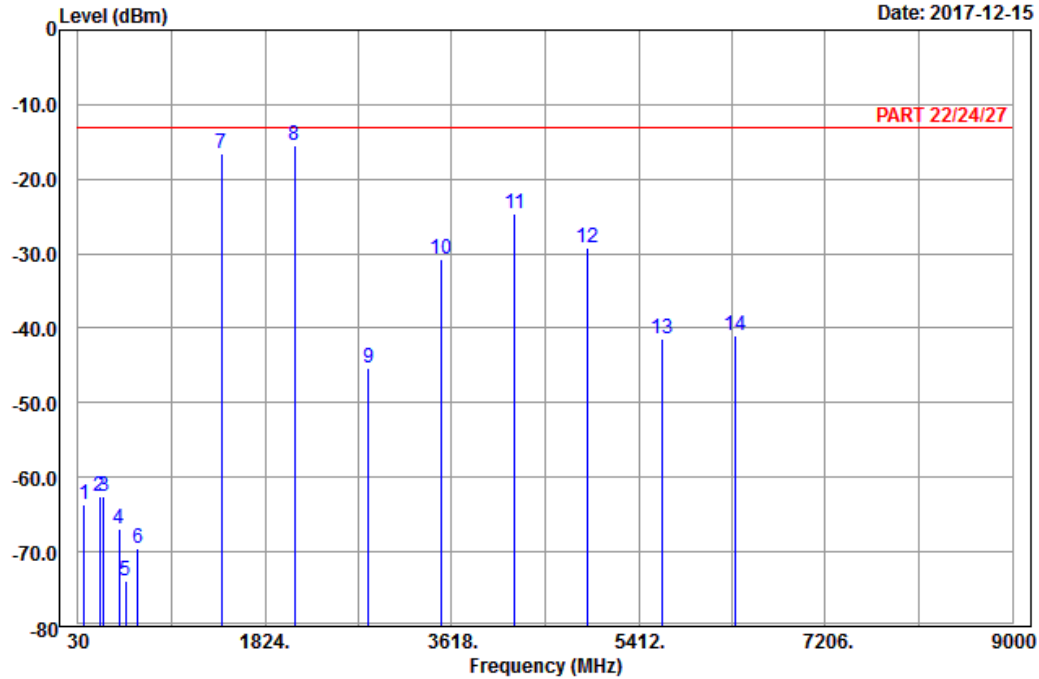


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2017-12-15



Site : 966 chamber 1
Condition: PART 22/24/27 Horizontal
Remark : LTE_Band 12_Link_CH23060
Tested by: Charles Hsiao

		Read	Limit	Over			
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	88.59	-63.62	-52.73	-13.00	-50.62	-10.89	Peak
2	238.17	-62.52	-56.86	-13.00	-49.52	-5.66	Peak
3	275.70	-62.55	-56.81	-13.00	-49.55	-5.74	Peak
4	425.30	-66.93	-63.62	-13.00	-53.93	-3.31	Peak
5	483.40	-73.91	-69.12	-13.00	-60.91	-4.79	Peak
6	604.50	-69.51	-69.89	-13.00	-56.51	0.38	Peak
7	1408.00	-16.46	-22.82	-13.00	-3.46	6.36	Peak
8 pp	2112.00	-15.40	-26.51	-13.00	-2.40	11.11	Peak
9	2816.00	-45.43	-58.30	-13.00	-32.43	12.87	Peak
10	3520.00	-30.82	-45.40	-13.00	-17.82	14.58	Peak
11	4224.00	-24.54	-41.82	-13.00	-11.54	17.28	Peak
12	4928.00	-29.11	-48.46	-13.00	-16.11	19.35	Peak
13	5632.00	-41.35	-61.79	-13.00	-28.35	20.44	Peak
14	6336.00	-40.89	-62.64	-13.00	-27.89	21.75	Peak

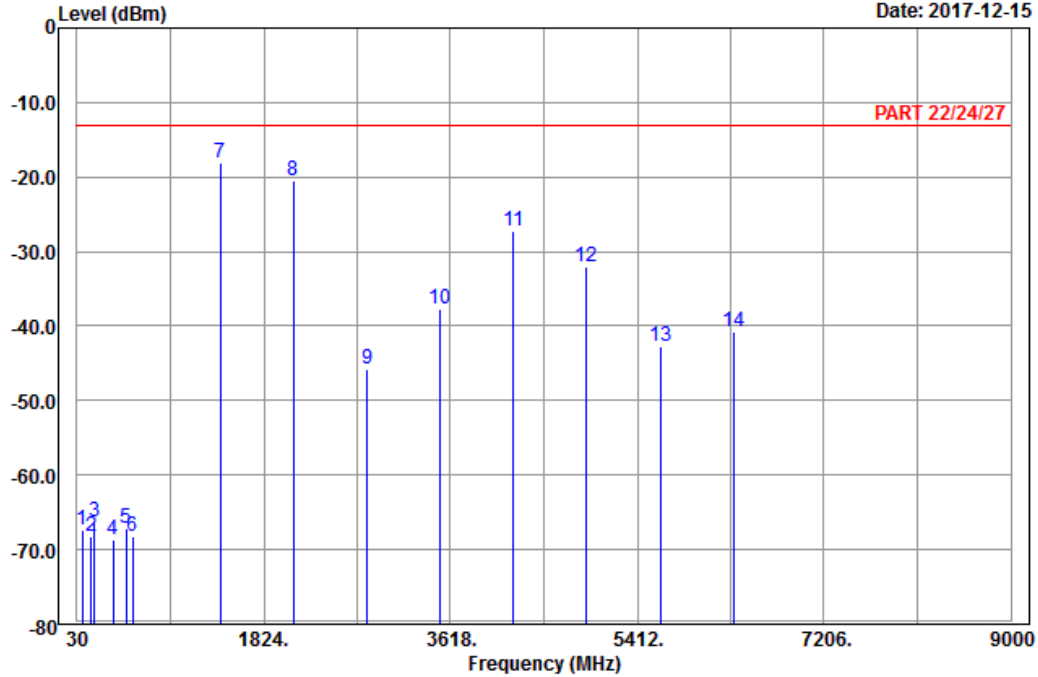


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2017-12-15



Site : 966 chamber 1
Condition: PART 22/24/27 Vertical
Remark : LTE_Band 12_Link_CH23060
Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	81.03	-67.41	-55.75	-13.00	-54.41	-11.66	Peak
2	163.38	-68.32	-61.04	-13.00	-55.32	-7.28	Peak
3	196.59	-66.36	-60.31	-13.00	-53.36	-6.05	Peak
4	374.90	-68.77	-64.74	-13.00	-55.77	-4.03	Peak
5	501.60	-67.05	-61.84	-13.00	-54.05	-5.21	Peak
6	567.40	-68.12	-67.18	-13.00	-55.12	-0.94	Peak
7 pp	1408.00	-18.10	-24.46	-13.00	-5.10	6.36	Peak
8	2112.00	-20.55	-31.66	-13.00	-7.55	11.11	Peak
9	2816.00	-45.74	-58.61	-13.00	-32.74	12.87	Peak
10	3520.00	-37.69	-52.27	-13.00	-24.69	14.58	Peak
11	4224.00	-27.18	-44.46	-13.00	-14.18	17.28	Peak
12	4928.00	-32.07	-51.42	-13.00	-19.07	19.35	Peak
13	5632.00	-42.74	-63.18	-13.00	-29.74	20.44	Peak
14	6336.00	-40.71	-62.46	-13.00	-27.71	21.75	Peak

Middle Channel

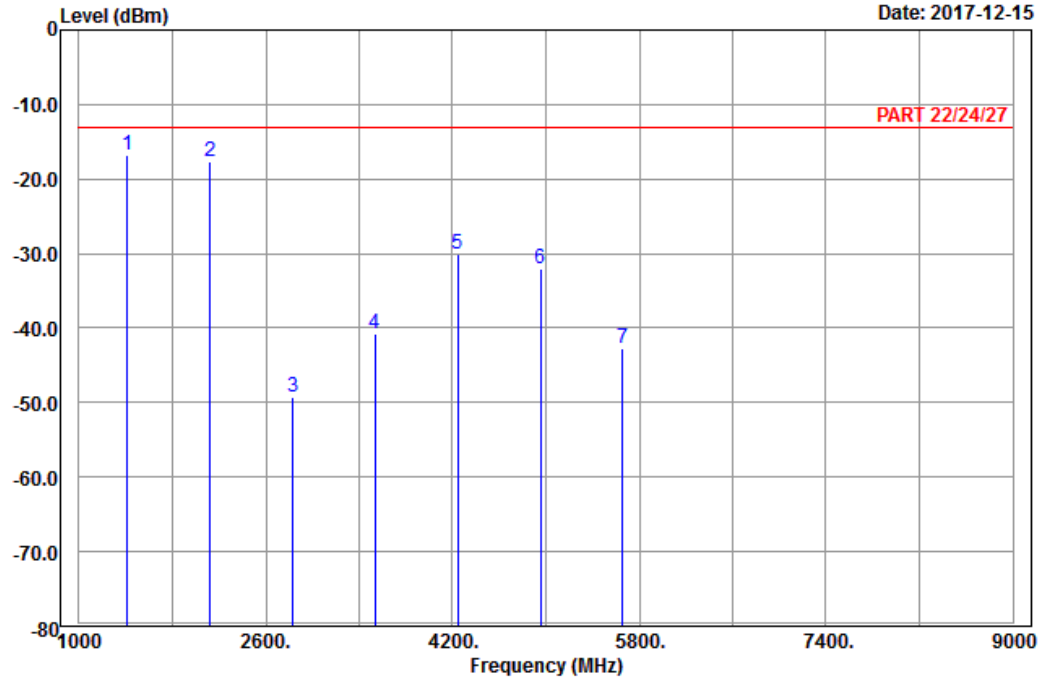


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2017-12-15



Site : 966 chamber 1
Condition: PART 22/24/27 Horizontal
Remark : LTE_Band 12_Link_CH23095
Tested by: Charles Hsiao

		Read	Limit	Over			
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1415.00	-16.71	-23.07	-13.00	-3.71	6.36	Average
2	2122.50	-17.76	-28.87	-13.00	-4.76	11.11	Average
3	2830.00	-49.34	-62.31	-13.00	-36.34	12.97	Peak
4	3537.50	-40.69	-55.58	-13.00	-27.69	14.89	Peak
5 pk	4245.00	-30.19	-47.55	-13.00	-17.19	17.36	Peak
6	4952.50	-32.04	-51.47	-13.00	-19.04	19.43	Peak
7	5660.00	-42.75	-63.06	-13.00	-29.75	20.31	Peak

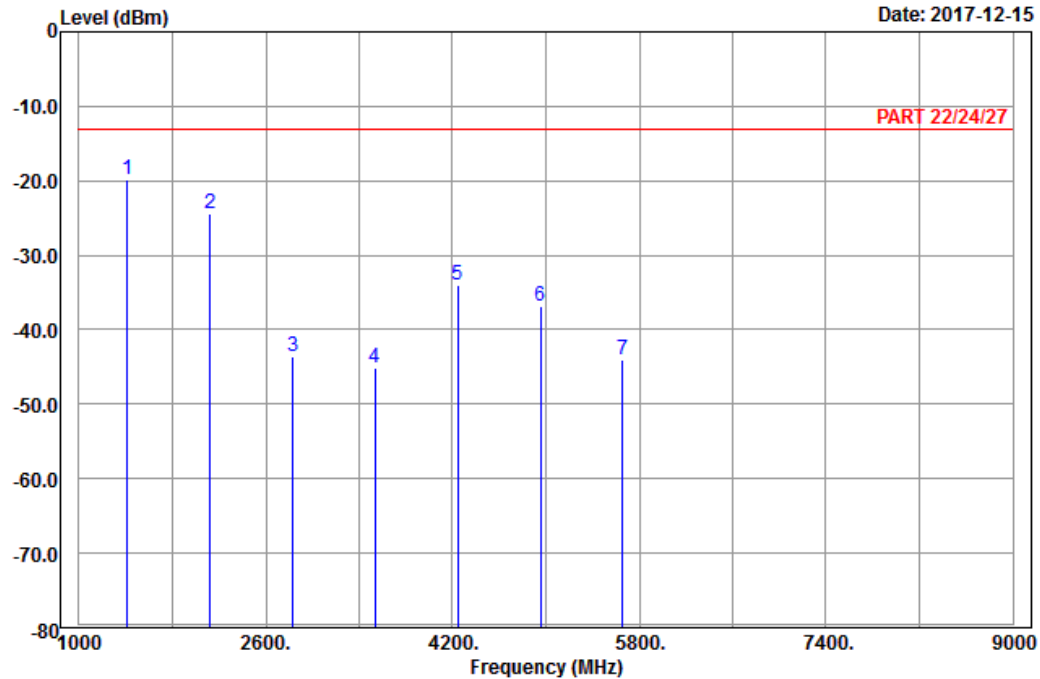


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2017-12-15



Site : 966 chamber 1
Condition: PART 22/24/27 Vertical
Remark : LTE_Band 12_Link_CH23095
Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1415.00	-19.81	-26.17	-13.00	-6.81	6.36	Average
2	2122.50	-24.36	-35.47	-13.00	-11.36	11.11	Average
3	2830.00	-43.64	-56.61	-13.00	-30.64	12.97	Peak
4	3537.50	-45.08	-59.97	-13.00	-32.08	14.89	Peak
5 pk	4245.00	-33.94	-51.30	-13.00	-20.94	17.36	Peak
6	4952.50	-36.81	-56.24	-13.00	-23.81	19.43	Peak
7	5660.00	-44.10	-64.41	-13.00	-31.10	20.31	Peak

High Channel

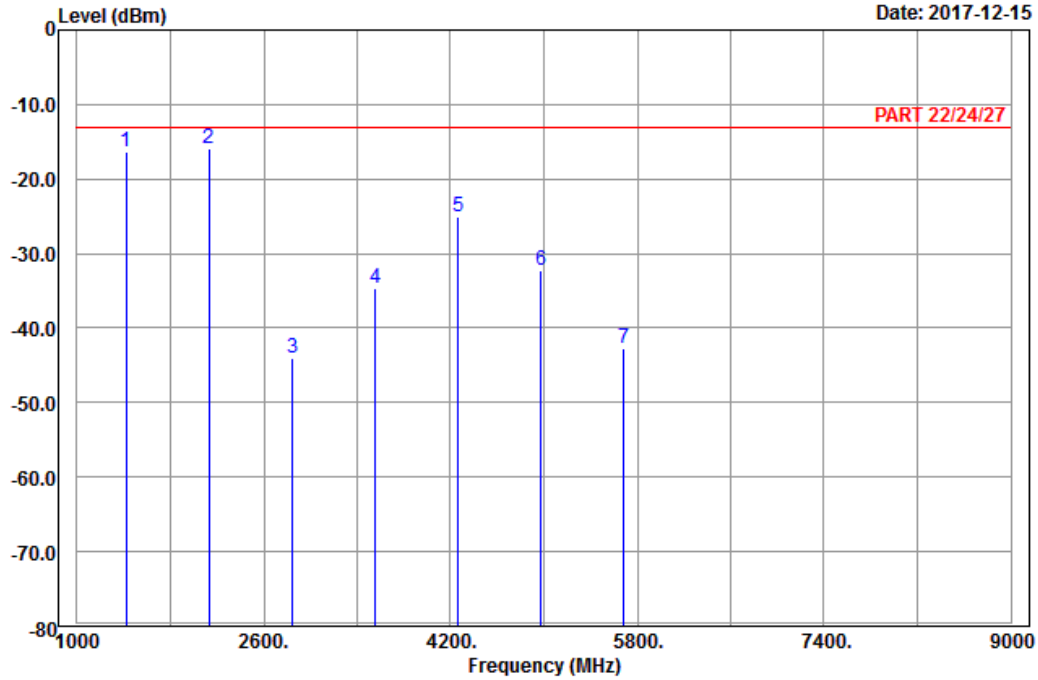


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2017-12-15



Site : 966 chamber 1
Condition: PART 22/24/27 Horizontal
Remark : LTE_Band 12_Link_CH23130
Tested by: Charles Hsiao

		Read	Limit	Over			
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	1422.00	-16.36	-22.72	-13.00	-3.36	6.36	Peak
2	2133.00	-15.96	-27.24	-13.00	-2.96	11.28	Peak
3	2844.00	-44.03	-57.00	-13.00	-31.03	12.97	Peak
4	3555.00	-34.66	-49.85	-13.00	-21.66	15.19	Peak
5	4266.00	-25.04	-42.47	-13.00	-12.04	17.43	Peak
6	4977.00	-32.28	-51.75	-13.00	-19.28	19.47	Peak
7	5688.00	-42.76	-62.91	-13.00	-29.76	20.15	Peak

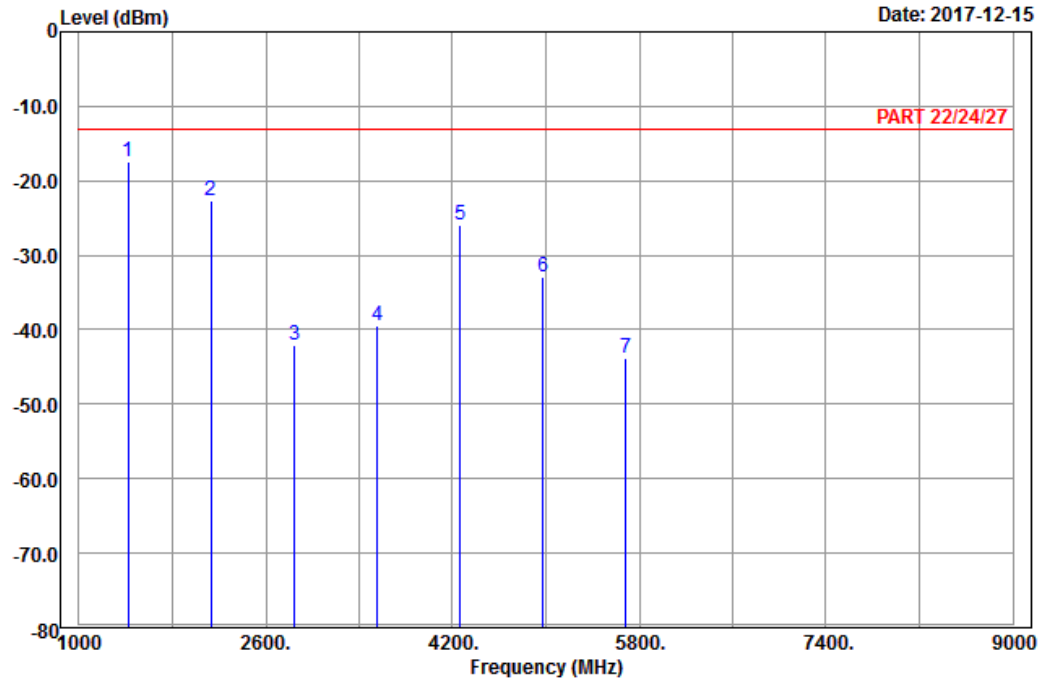


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2017-12-15



Site : 966 chamber 1
Condition: PART 22/24/27 Vertical
Remark : LTE_Band 12_Link_CH23130
Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1422.00	-17.54	-23.90	-13.00	-4.54	6.36	Peak
2	2133.00	-22.66	-33.94	-13.00	-9.66	11.28	Peak
3	2844.00	-42.06	-55.03	-13.00	-29.06	12.97	Peak
4	3555.00	-39.36	-54.55	-13.00	-26.36	15.19	Peak
5	4266.00	-25.94	-43.37	-13.00	-12.94	17.43	Peak
6	4977.00	-33.02	-52.49	-13.00	-20.02	19.47	Peak
7	5688.00	-43.87	-64.02	-13.00	-30.87	20.15	Peak

LTE Band 13
Channel Bandwidth: 10 MHz / QPSK

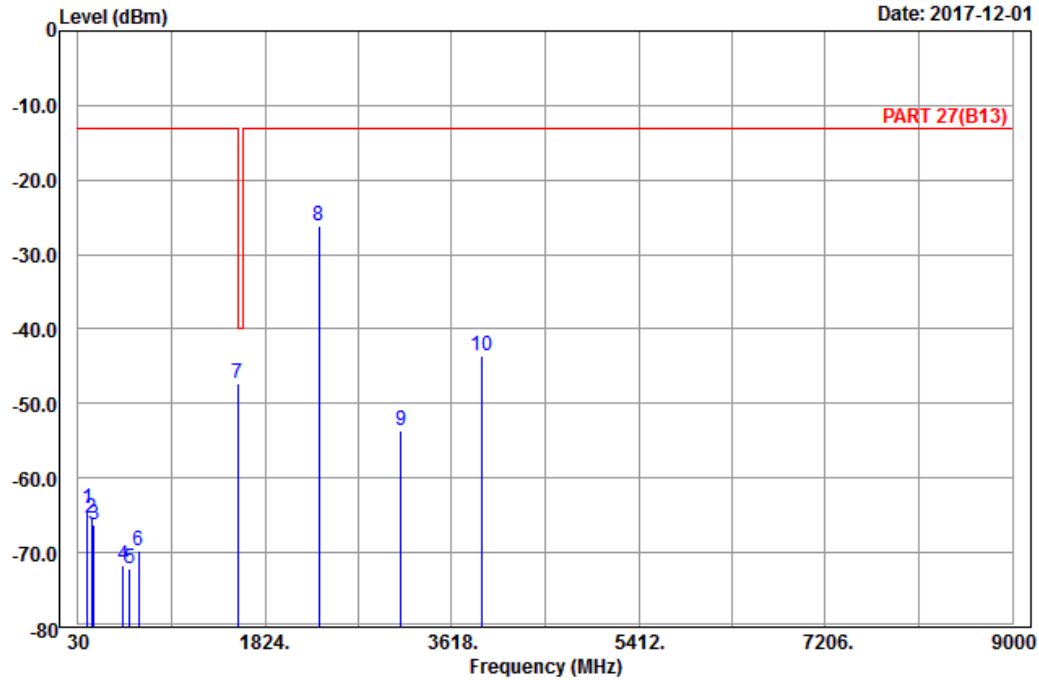


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2017-12-01



Site : 966 chamber 1
Condition: PART 27(B13) Horizontal
Remark : LTE_Band 13_Link_CH23230
Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	120.18	-63.99	-55.74	-13.00	-50.99	-8.25	Peak
2	156.90	-65.40	-57.65	-13.00	-52.40	-7.75	Peak
3	183.09	-66.18	-60.56	-13.00	-53.18	-5.62	Peak
4	462.40	-71.72	-67.51	-13.00	-58.72	-4.21	Peak
5	522.60	-72.20	-68.55	-13.00	-59.20	-3.65	Peak
6	608.70	-69.67	-70.00	-13.00	-56.67	0.33	Peak
7 pp	1564.00	-47.26	-54.12	-40.00	-7.26	6.86	Peak
8	2346.00	-26.18	-37.12	-13.00	-13.18	10.94	Peak
9	3128.00	-53.52	-67.04	-13.00	-40.52	13.52	Peak
10	3910.00	-43.58	-60.52	-13.00	-30.58	16.94	Peak

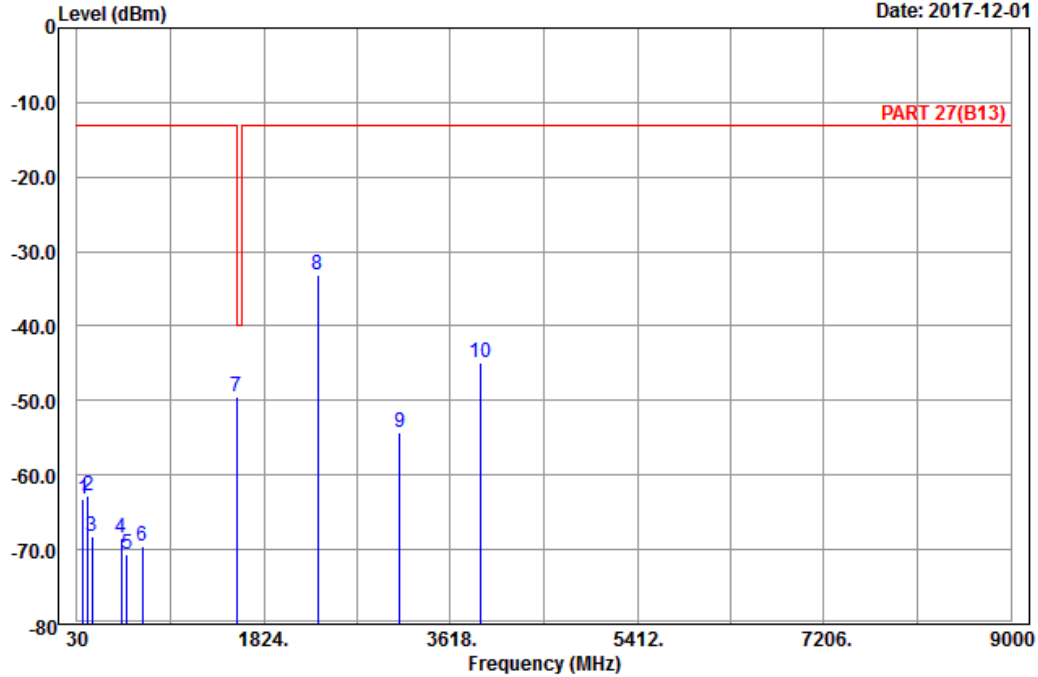


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2017-12-01



Site : 966 chamber 1
Condition: PART 27(B13) Vertical
Remark : LTE_Band 13_Link_CH23230
Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	90.48	-63.13	-52.46	-13.00	-50.13	-10.67	Peak
2	135.03	-62.77	-55.10	-13.00	-49.77	-7.67	Peak
3	170.67	-68.32	-61.72	-13.00	-55.32	-6.60	Peak
4	456.10	-68.35	-64.34	-13.00	-55.35	-4.01	Peak
5	508.60	-70.59	-65.88	-13.00	-57.59	-4.71	Peak
6	655.60	-69.56	-69.40	-13.00	-56.56	-0.16	Peak
7 pp	1564.00	-49.46	-56.32	-40.00	-9.46	6.86	Peak
8	2346.00	-33.03	-43.97	-13.00	-20.03	10.94	Peak
9	3128.00	-54.25	-67.77	-13.00	-41.25	13.52	Peak
10	3910.00	-44.83	-61.77	-13.00	-31.83	16.94	Peak

LTE Band 17
Channel Bandwidth: 10 MHz / QPSK
Low Channel

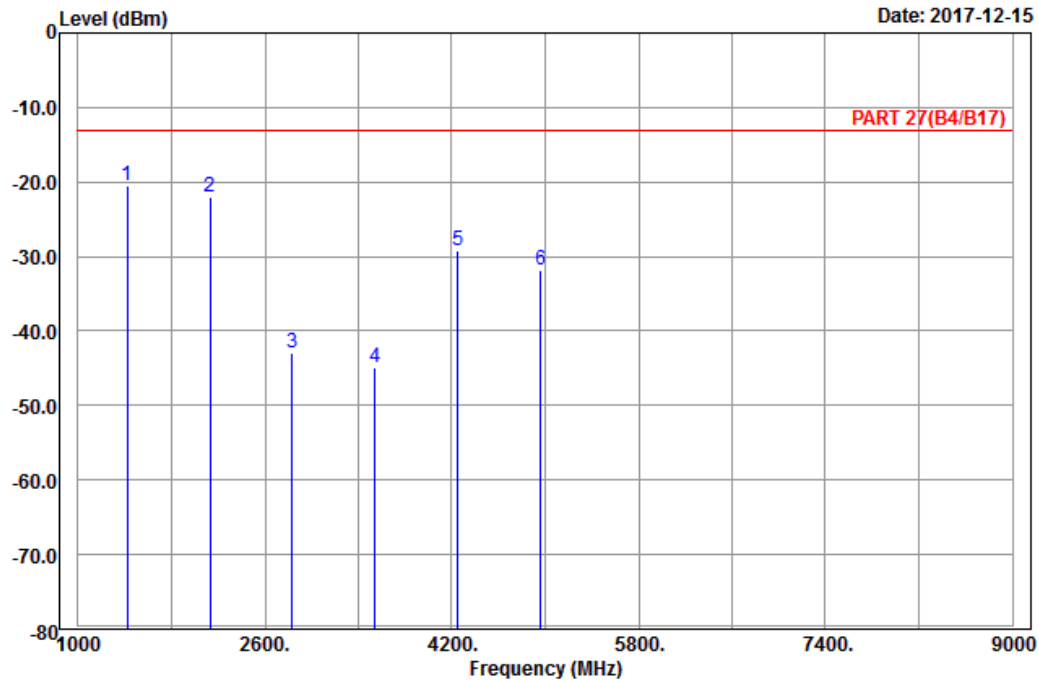


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2017-12-15



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : LTE_Band 17_Link_CH23780
Tested by: Karl Lee

		Read	Limit	Over		
	Freq	Level	Level	Line	Limit	Factor Remark
	MHz	dBm	dBm	dBm	dB	dB
1 pp	1418.00	-20.46	-26.82	-13.00	-7.46	6.36 Average
2	2127.00	-22.01	-33.29	-13.00	-9.01	11.28 Average
3	2836.00	-43.04	-56.01	-13.00	-30.04	12.97 Peak
4	3545.00	-44.94	-59.83	-13.00	-31.94	14.89 Peak
5 pk	4254.00	-29.24	-46.67	-13.00	-16.24	17.43 Peak
6	4963.00	-31.86	-51.29	-13.00	-18.86	19.43 Peak

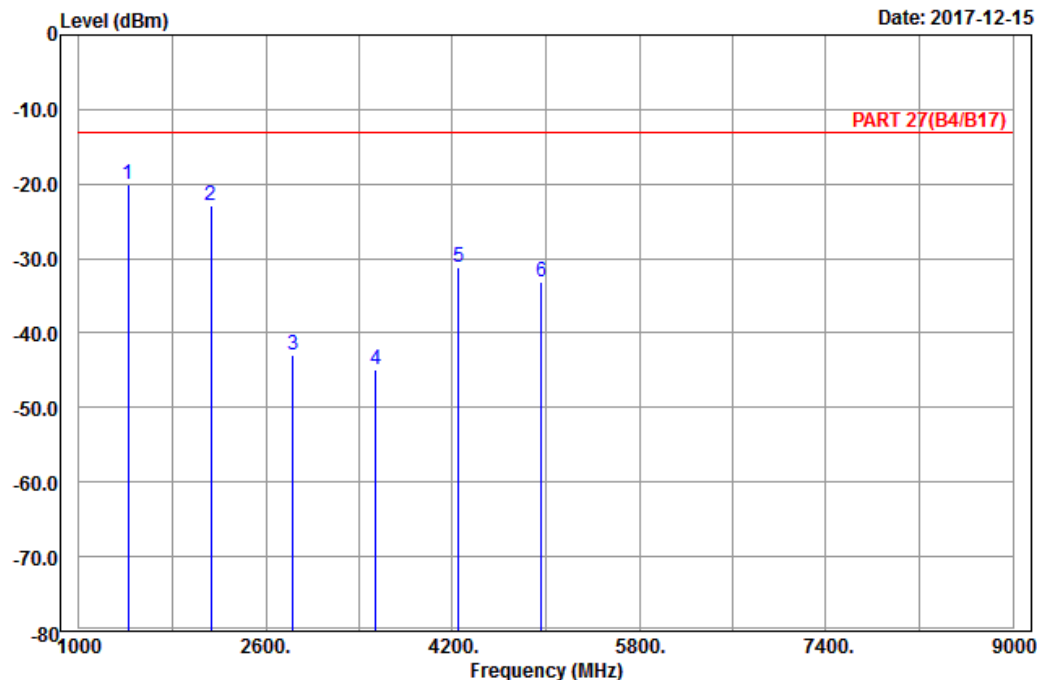


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2017-12-15



Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 17_Link_CH23780
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1418.00	-20.16	-26.52	-13.00	-7.16	6.36	Average
2	2127.00	-22.95	-34.23	-13.00	-9.95	11.28	Average
3	2836.00	-42.89	-55.86	-13.00	-29.89	12.97	Average
4	3545.00	-44.94	-59.83	-13.00	-31.94	14.89	Average
5 pk	4254.00	-31.07	-48.50	-13.00	-18.07	17.43	Peak
6	4963.00	-33.22	-52.65	-13.00	-20.22	19.43	Peak

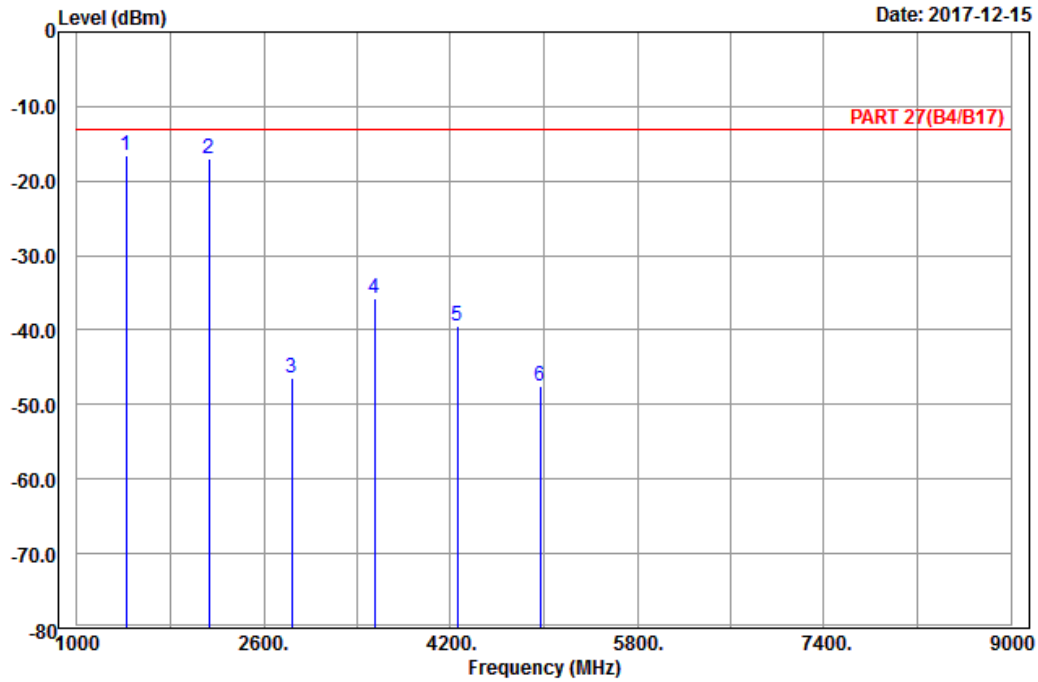
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : LTE_Band 17_Link_CH23790
Tested by: Karl Lee

		Read	Limit	Over		
	Freq	Level	Level	Line	Limit	Factor Remark
	MHz	dBm	dBm	dBm	dB	dB
1 pp	1420.00	-16.53	-22.89	-13.00	-3.53	6.36 Average
2	2130.00	-16.98	-28.26	-13.00	-3.98	11.28 Average
3	2840.00	-46.44	-59.41	-13.00	-33.44	12.97 Peak
4 pk	3550.00	-35.67	-50.86	-13.00	-22.67	15.19 Peak
5	4260.00	-39.44	-56.87	-13.00	-26.44	17.43 Peak
6	4970.00	-47.54	-67.01	-13.00	-34.54	19.47 Peak

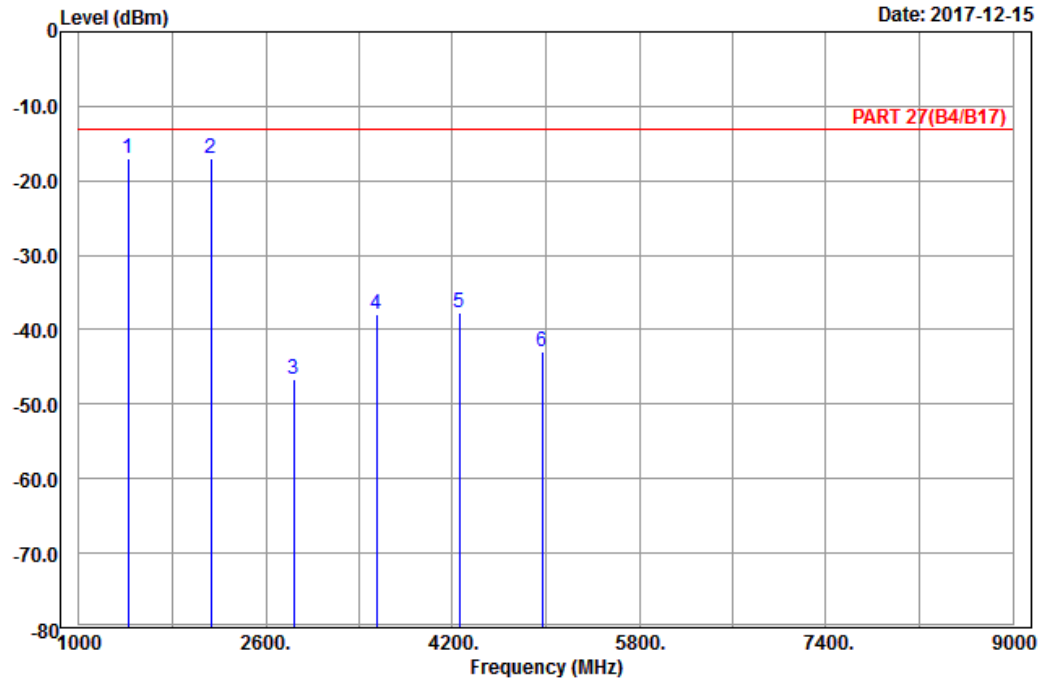


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2017-12-15



Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 17_Link_CH23790
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	1420.00	-16.96	-23.32	-13.00	-3.96	6.36	Average
2	2130.00	-17.00	-28.28	-13.00	-4.00	11.28	Average
3	2840.00	-46.57	-59.54	-13.00	-33.57	12.97	Peak
4	3550.00	-37.84	-53.03	-13.00	-24.84	15.19	Peak
5 pk	4260.00	-37.74	-55.17	-13.00	-24.74	17.43	Peak
6	4970.00	-43.02	-62.49	-13.00	-30.02	19.47	Peak

High Channel

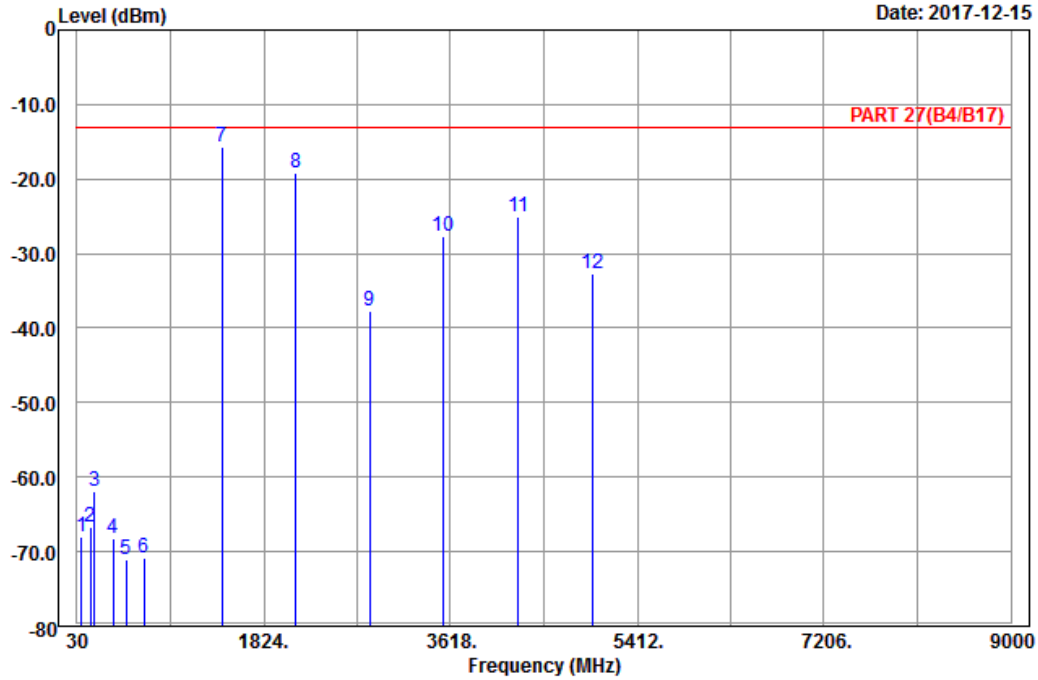


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2017-12-15



Site : 966 chamber 1
Condition: PART 27(B4/B17) Horizontal
Remark : LTE_Band 17_Link_CH23800
Tested by: Karl Lee

		Read	Limit	Over			
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	76.44	-67.91	-55.81	-13.00	-54.91	-12.10	Peak
2	159.33	-66.66	-58.96	-13.00	-53.66	-7.70	Peak
3	199.29	-61.98	-55.80	-13.00	-48.98	-6.18	Peak
4	380.50	-68.15	-64.38	-13.00	-55.15	-3.77	Peak
5	503.00	-70.96	-65.89	-13.00	-57.96	-5.07	Peak
6	675.20	-70.87	-70.61	-13.00	-57.87	-0.26	Peak
7 pp	1422.00	-15.69	-22.05	-13.00	-2.69	6.36	Average
8	2133.00	-19.16	-30.44	-13.00	-6.16	11.28	Average
9	2844.00	-37.66	-50.63	-13.00	-24.66	12.97	Peak
10	3555.00	-27.77	-42.96	-13.00	-14.77	15.19	Peak
11 pk	4266.00	-25.14	-42.57	-13.00	-12.14	17.43	Peak
12	4977.00	-32.70	-52.17	-13.00	-19.70	19.47	Peak

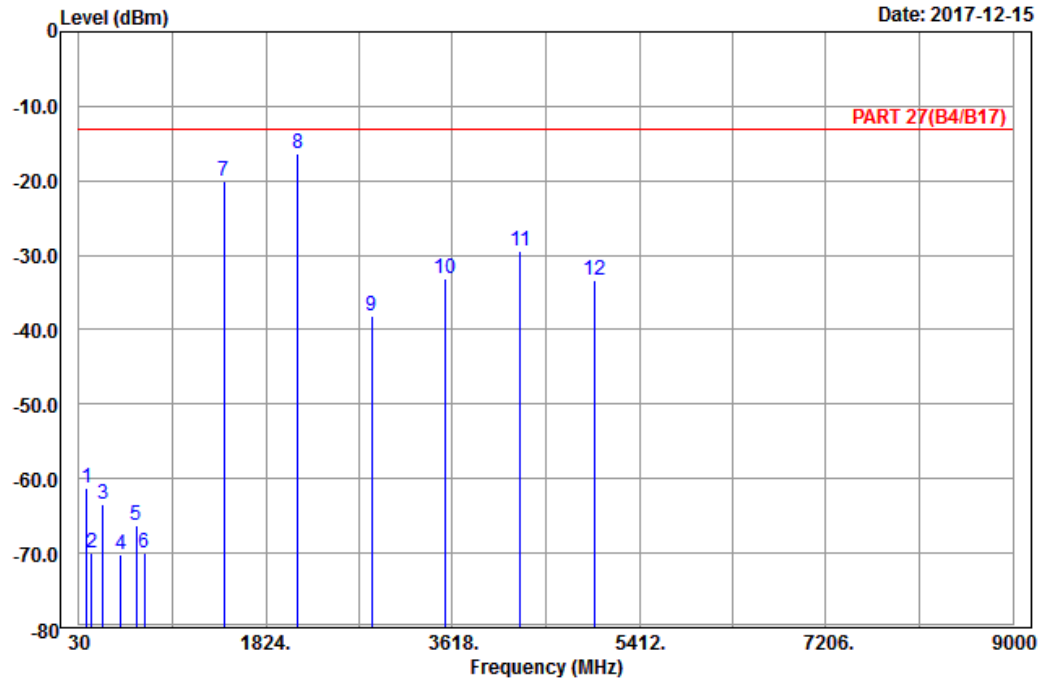


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2017-12-15



Site : 966 chamber 1
Condition: PART 27(B4/B17) Vertical
Remark : LTE_Band 17_Link_CH23800
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	103.44	-61.35	-51.70	-13.00	-48.35	-9.65	Peak
2	148.53	-70.06	-62.16	-13.00	-57.06	-7.90	Peak
3	261.12	-63.40	-57.80	-13.00	-50.40	-5.60	Peak
4	430.20	-70.26	-66.84	-13.00	-57.26	-3.42	Peak
5	581.40	-66.28	-65.90	-13.00	-53.28	-0.38	Peak
6	657.70	-70.00	-69.83	-13.00	-57.00	-0.17	Peak
7 av	1422.00	-20.06	-26.42	-13.00	-7.06	6.36	Average
8 pp	2133.00	-16.29	-27.57	-13.00	-3.29	11.28	Peak
9	2844.00	-38.19	-51.16	-13.00	-25.19	12.97	Peak
10	3555.00	-33.14	-48.33	-13.00	-20.14	15.19	Peak
11	4266.00	-29.40	-46.83	-13.00	-16.40	17.43	Peak
12	4977.00	-33.46	-52.93	-13.00	-20.46	19.47	Peak

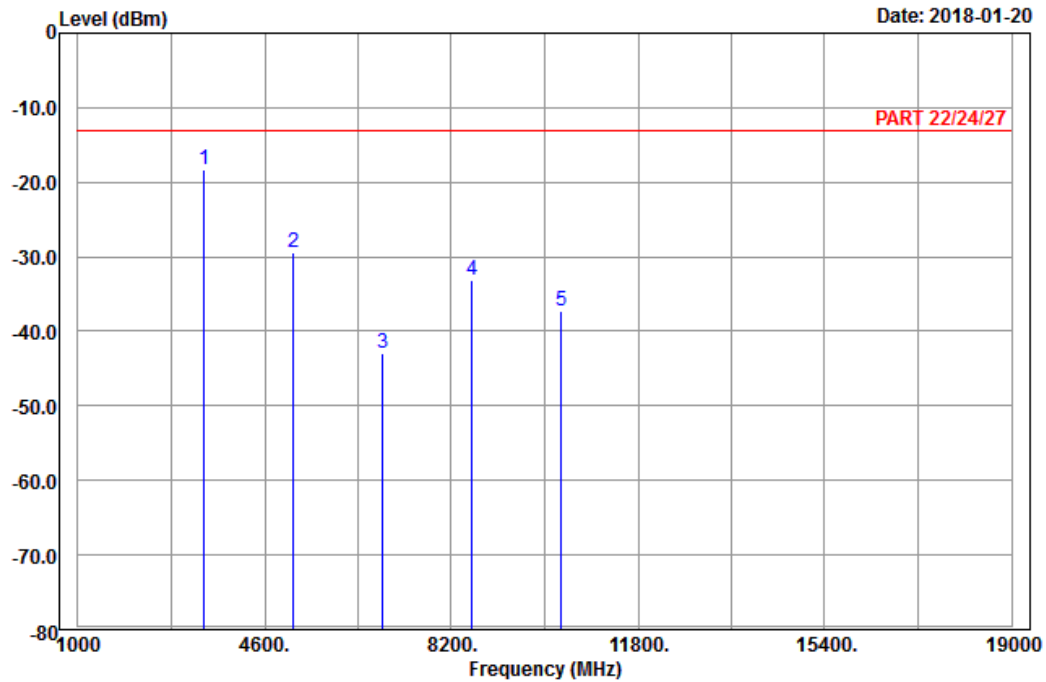
LTE Band 66:
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9



Site : 966 chamber 1
Condition: PART 22/24/27 Horizontal
Remark : LTE_Band 66_Link_CH132072
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3440.00	-18.22	-32.57	-13.00	-5.22	14.35	Peak
2	5160.00	-29.48	-49.40	-13.00	-16.48	19.92	Peak
3	6880.00	-42.86	-65.66	-13.00	-29.86	22.80	Peak
4	8600.00	-33.18	-57.28	-13.00	-20.18	24.10	Peak
5	10320.00	-37.38	-64.05	-13.00	-24.38	26.67	Peak

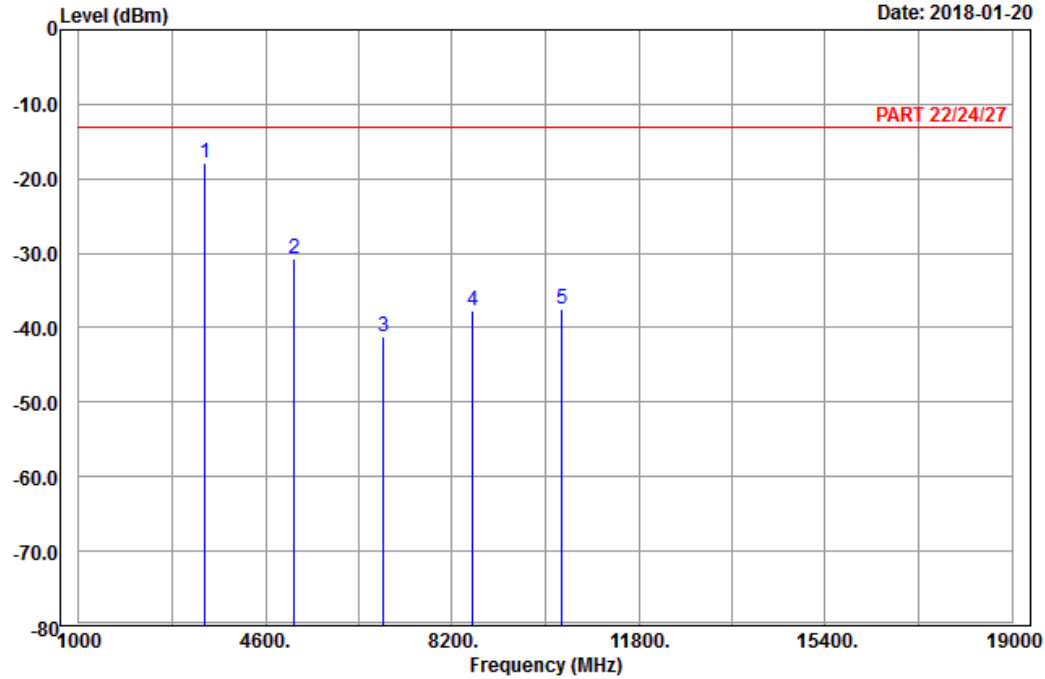


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-01-20



Site : 966 chamber 1
Condition: PART 22/24/27 Vertical
Remark : LTE_Band 66_Link_CH132072
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3440.00	-17.97	-32.32	-13.00	-4.97	14.35	Peak
2	5160.00	-30.72	-50.64	-13.00	-17.72	19.92	Peak
3	6880.00	-41.16	-63.96	-13.00	-28.16	22.80	Peak
4	8600.00	-37.80	-61.90	-13.00	-24.80	24.10	Peak
5	10320.00	-37.40	-64.07	-13.00	-24.40	26.67	Peak

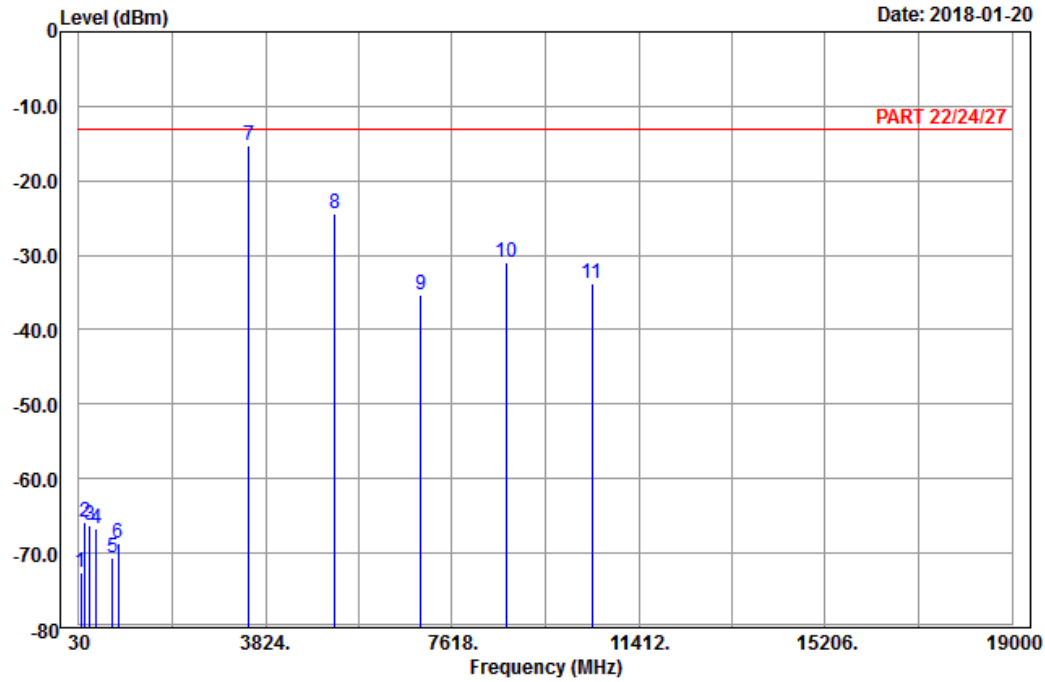
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 13



Site : 966 chamber 1
Condition: PART 22/24/27 Horizontal
Remark : LTE_Band 66_Link_CH132322
Tested by: Karl Lee

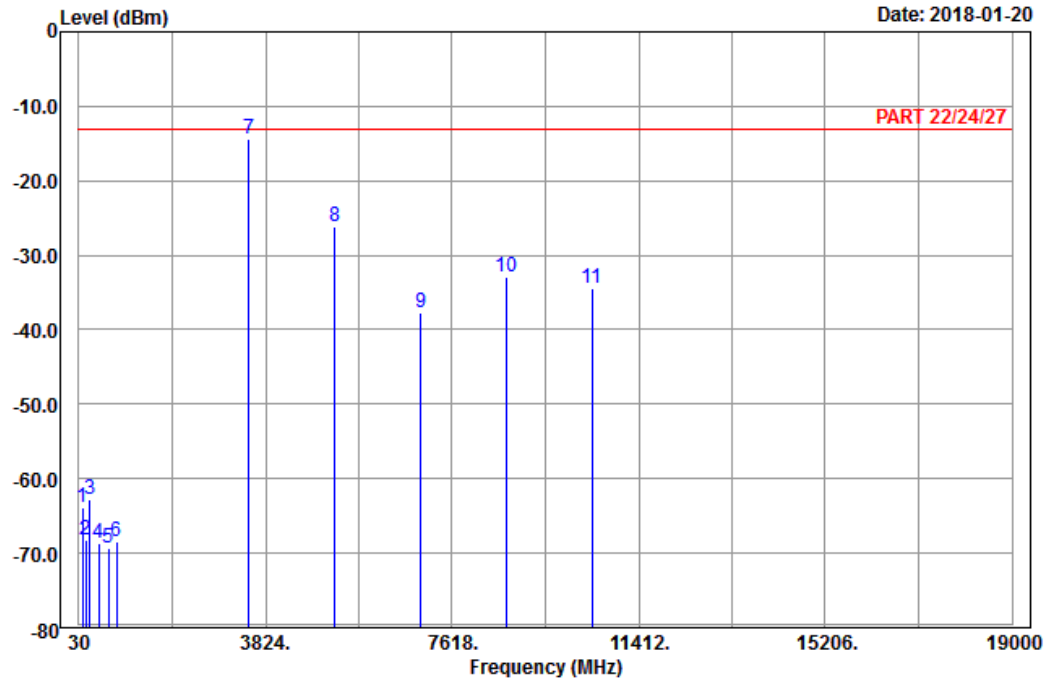
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm	dBm	dBm	dB	dB	
1	68.61	-72.53	-59.71	-13.00	-59.53	-12.82 Peak
2	160.41	-65.93	-58.26	-13.00	-52.93	-7.67 Peak
3	254.64	-66.22	-60.67	-13.00	-53.22	-5.55 Peak
4	391.70	-66.78	-63.63	-13.00	-53.78	-3.15 Peak
5	719.30	-70.53	-69.79	-13.00	-57.53	-0.74 Peak
6	822.20	-68.67	-70.43	-13.00	-55.67	1.76 Peak
7 pp	3490.00	-15.17	-29.48	-13.00	-2.17	14.31 Peak
8	5235.00	-24.45	-44.61	-13.00	-11.45	20.16 Peak
9	6980.00	-35.28	-57.97	-13.00	-22.28	22.69 Peak
10	8725.00	-31.04	-55.43	-13.00	-18.04	24.39 Peak
11	10470.00	-33.75	-60.41	-13.00	-20.75	26.66 Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 14



Site : 966 chamber 1
 Condition: PART 22/24/27 Vertical
 Remark : LTE_Band 66_Link_CH132322
 Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	106.41	-63.97	-54.67	-13.00	-50.97	-9.30	Peak
2	162.84	-68.14	-60.76	-13.00	-55.14	-7.38	Peak
3	258.15	-62.75	-57.17	-13.00	-49.75	-5.58	Peak
4	440.00	-68.76	-65.13	-13.00	-55.76	-3.63	Peak
5	638.80	-69.27	-69.26	-13.00	-56.27	-0.01	Peak
6	791.40	-68.55	-69.99	-13.00	-55.55	1.44	Peak
7 pp	3490.00	-14.40	-28.71	-13.00	-1.40	14.31	Peak
8	5235.00	-26.11	-46.27	-13.00	-13.11	20.16	Peak
9	6980.00	-37.60	-60.29	-13.00	-24.60	22.69	Peak
10	8725.00	-32.98	-57.37	-13.00	-19.98	24.39	Peak
11	10470.00	-34.41	-61.07	-13.00	-21.41	26.66	Peak

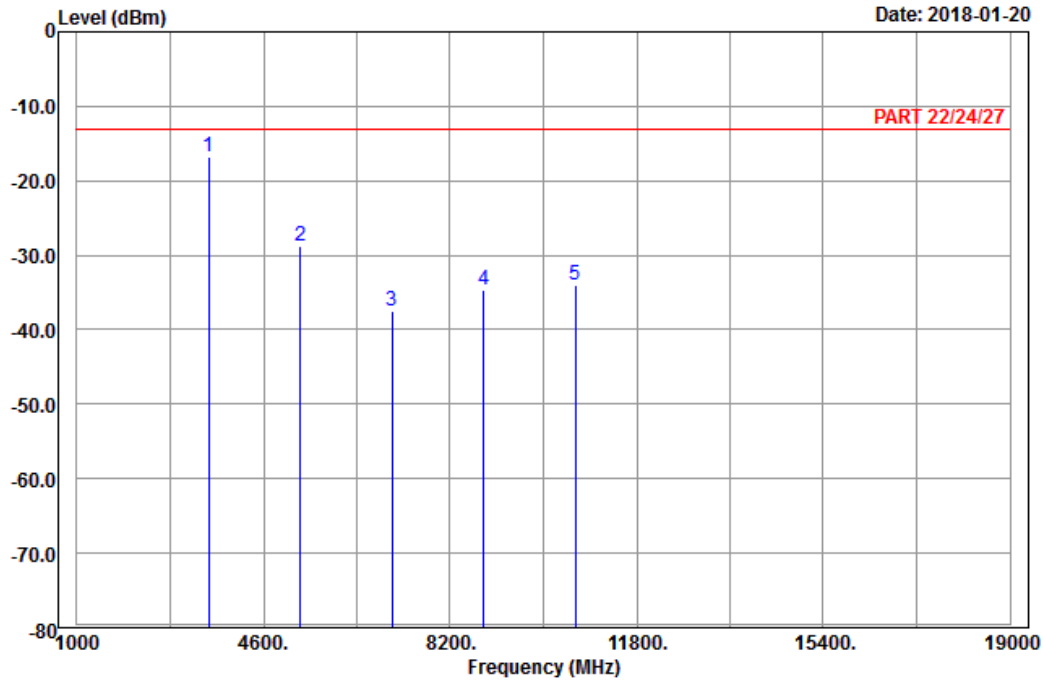
High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

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Data: 9



Site : 966 chamber 1
Condition: PART 22/24/27 Horizontal
Remark : LTE_Band 66_Link_CH132572
Tested by: Karl Lee

		Read	Limit	Over			
	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3540.00	-16.89	-31.78	-13.00	-3.89	14.89	Peak
2	5310.00	-28.88	-49.12	-13.00	-15.88	20.24	Peak
3	7080.00	-37.58	-60.12	-13.00	-24.58	22.54	Peak
4	8850.00	-34.76	-59.56	-13.00	-21.76	24.80	Peak
5	10620.00	-33.92	-60.77	-13.00	-20.92	26.85	Peak

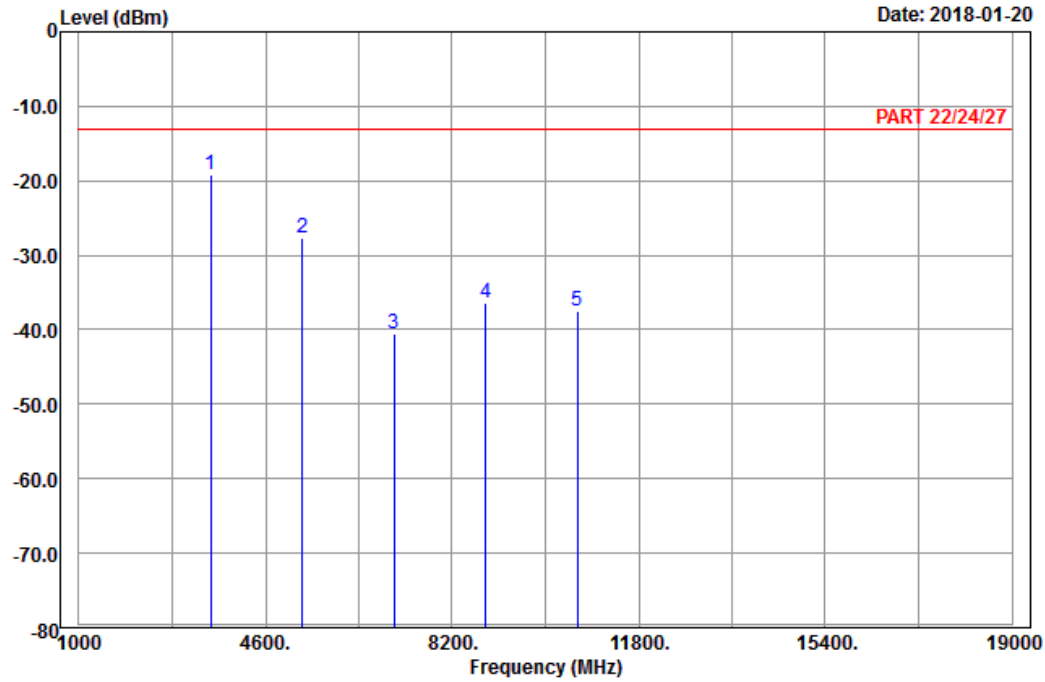


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-01-20



Site : 966 chamber 1
Condition: PART 22/24/27 Vertical
Remark : LTE_Band 66_Link_CH132572
Tested by: Karl Lee

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	3540.00	-19.22	-34.11	-13.00	-6.22	14.89	Peak
2	5310.00	-27.68	-47.92	-13.00	-14.68	20.24	Peak
3	7080.00	-40.49	-63.03	-13.00	-27.49	22.54	Peak
4	8850.00	-36.51	-61.31	-13.00	-23.51	24.80	Peak
5	10620.00	-37.56	-64.41	-13.00	-24.56	26.85	Peak

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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