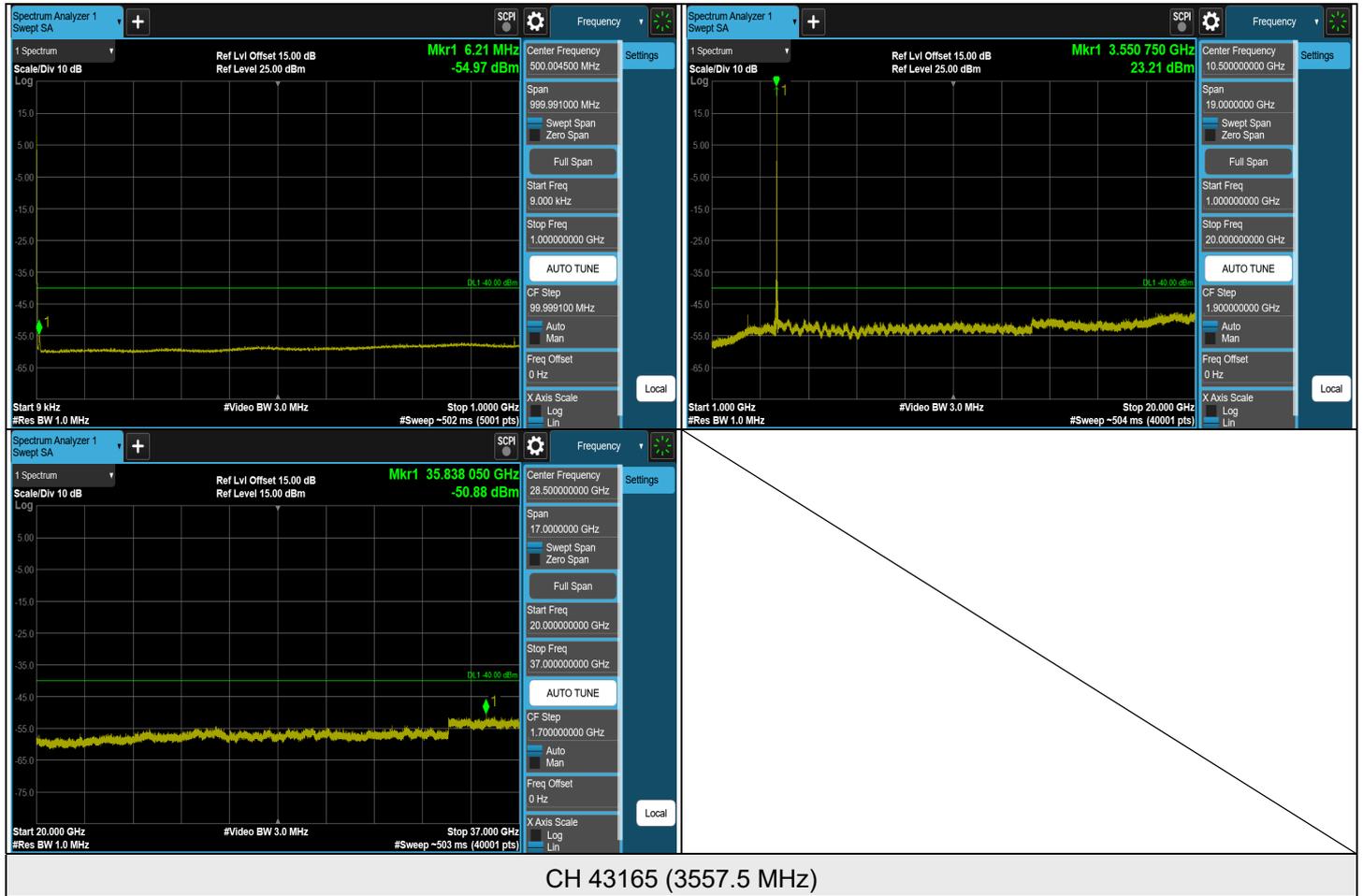
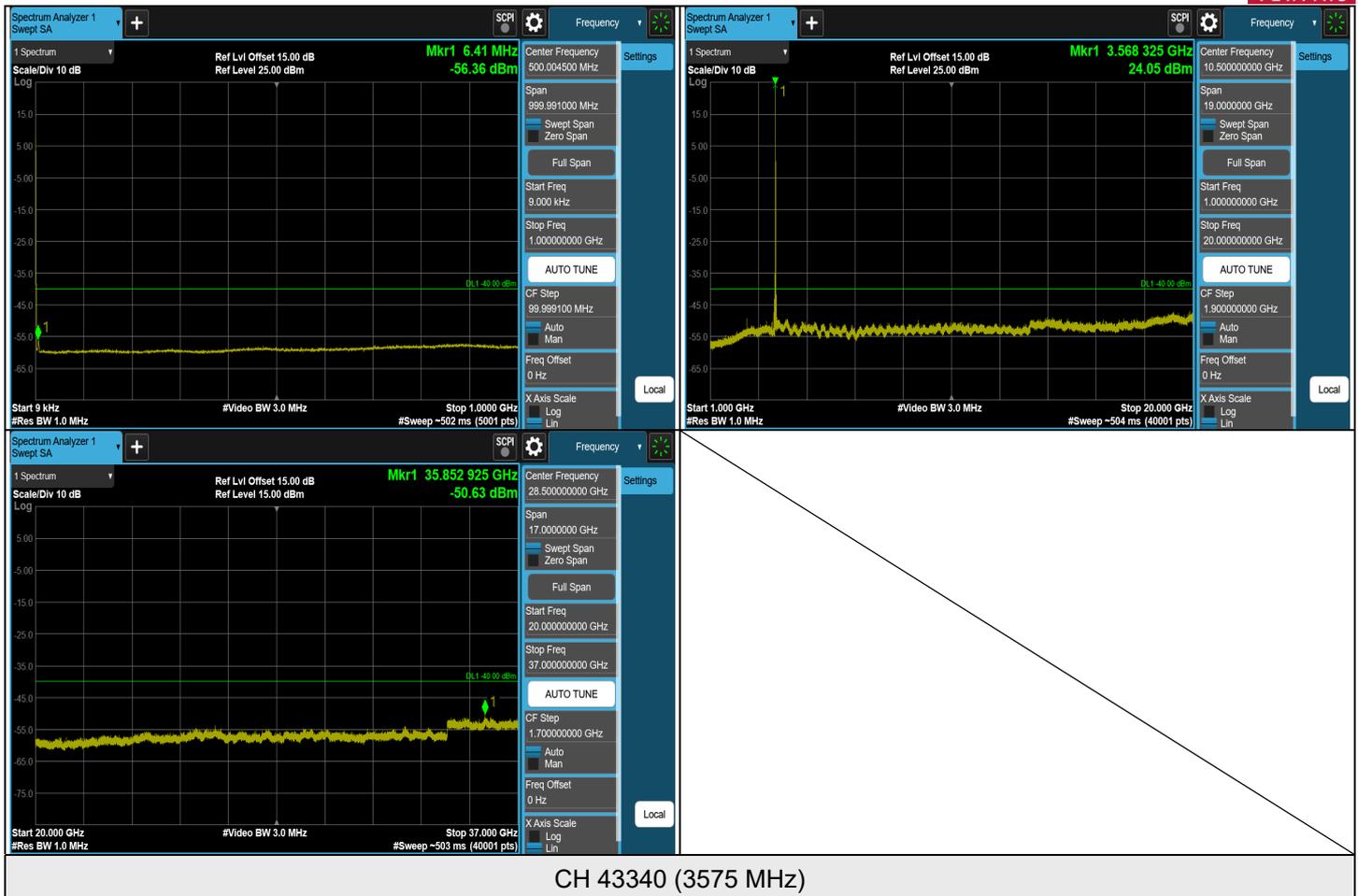


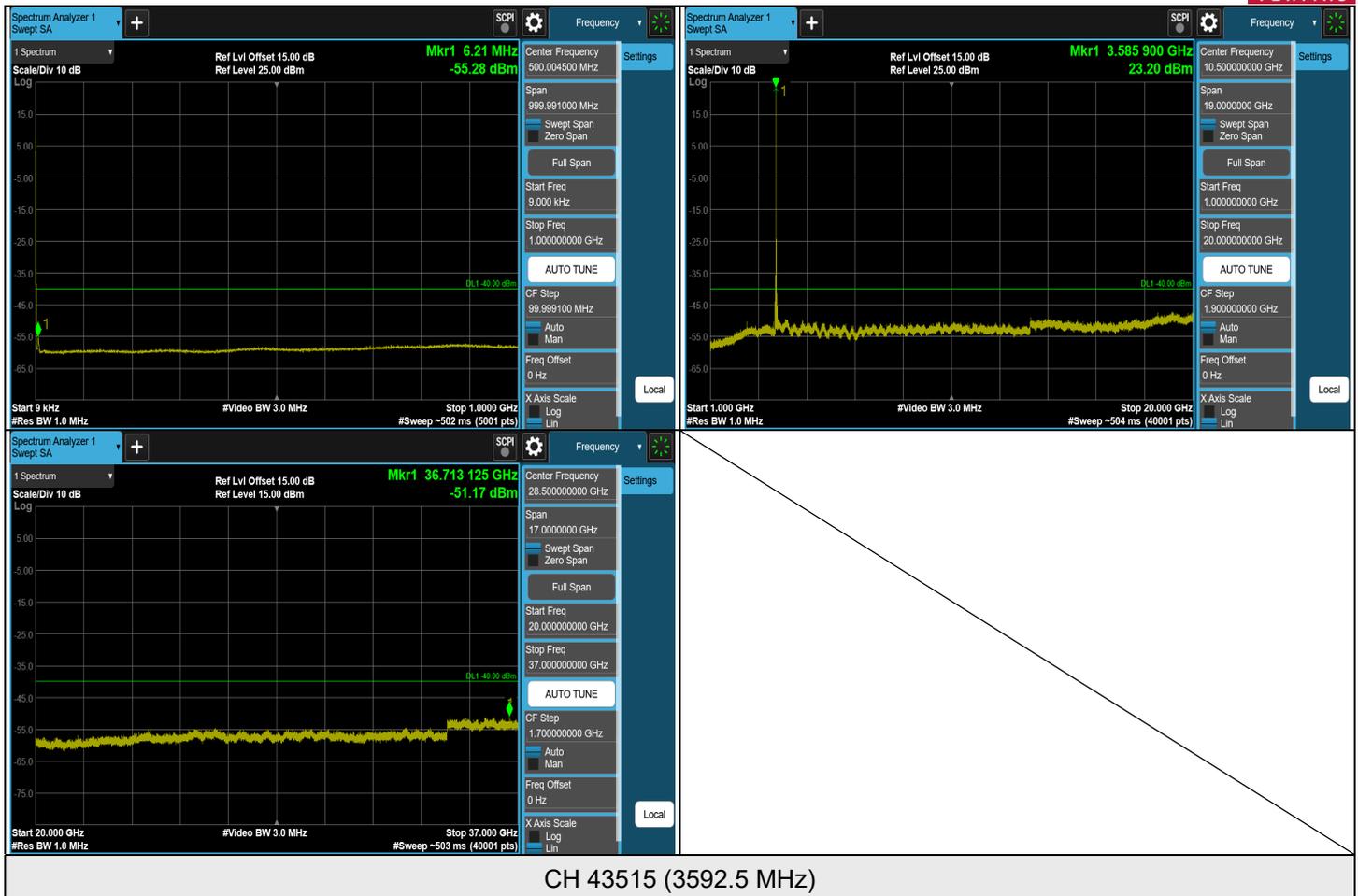


LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 15 MHz





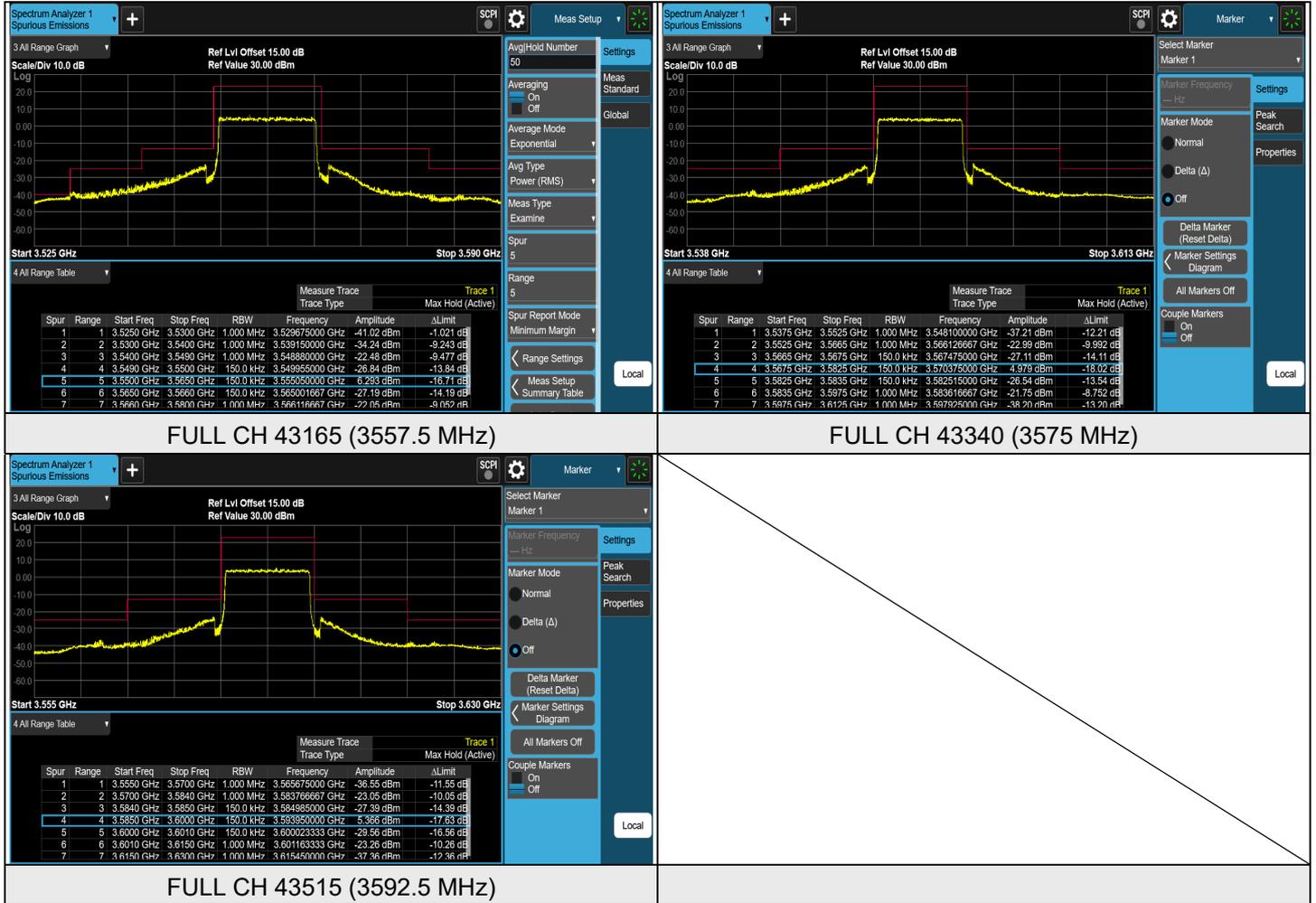
CH 43340 (3575 MHz)

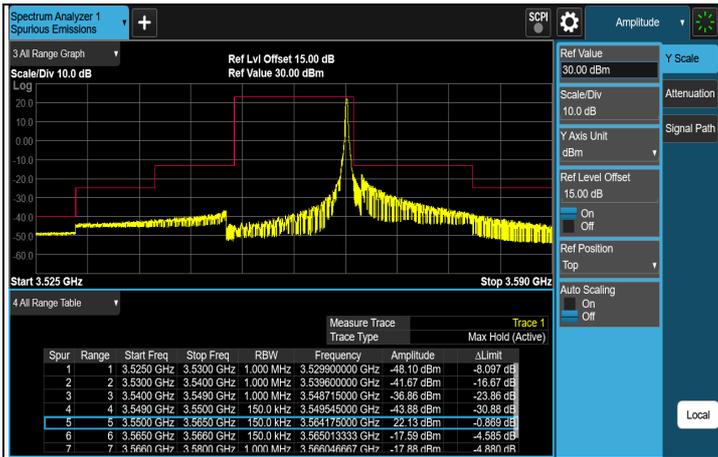


Note: The signal at 9 kHz is IF signal from spectrum analyzer.

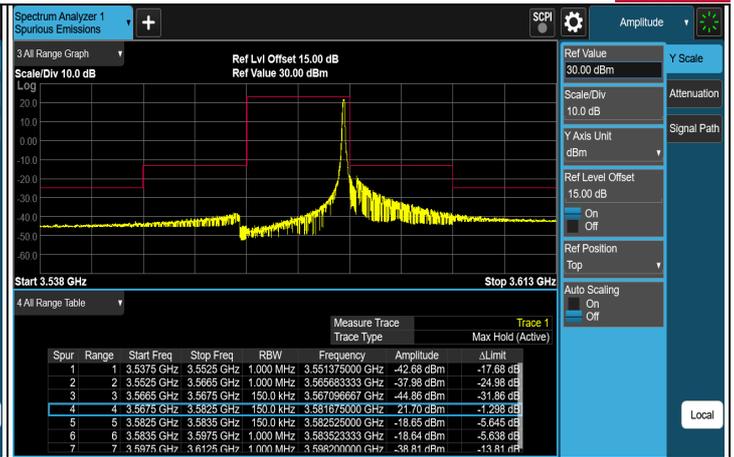


LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 15 MHz

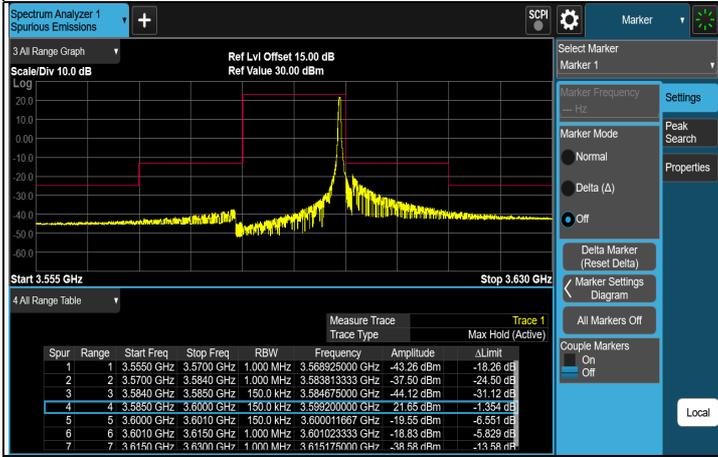




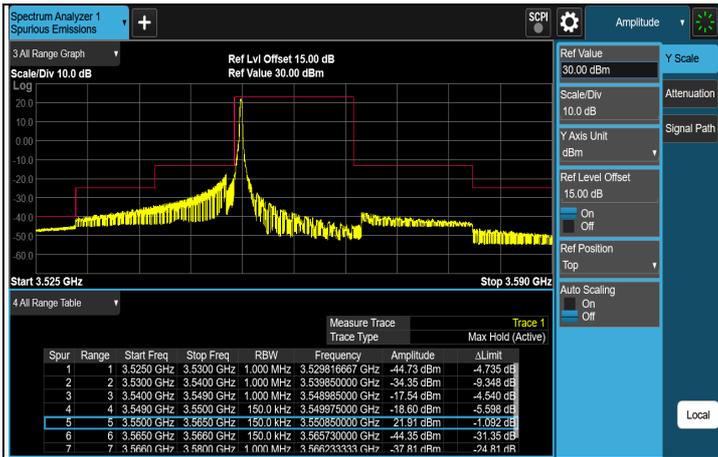
1RB#MAX CH 43165 (3557.5 MHz)



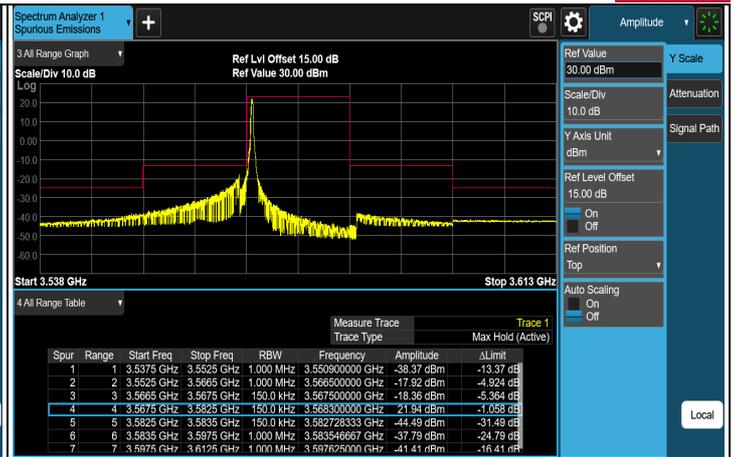
1RB#MAX CH 43340 (3575 MHz)



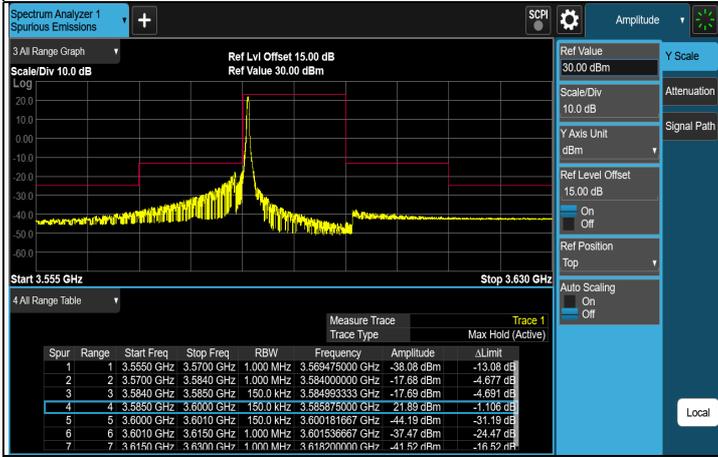
1RB#MAX CH 43515 (3592.5 MHz)



1RB#0 CH 43165 (3557.5 MHz)



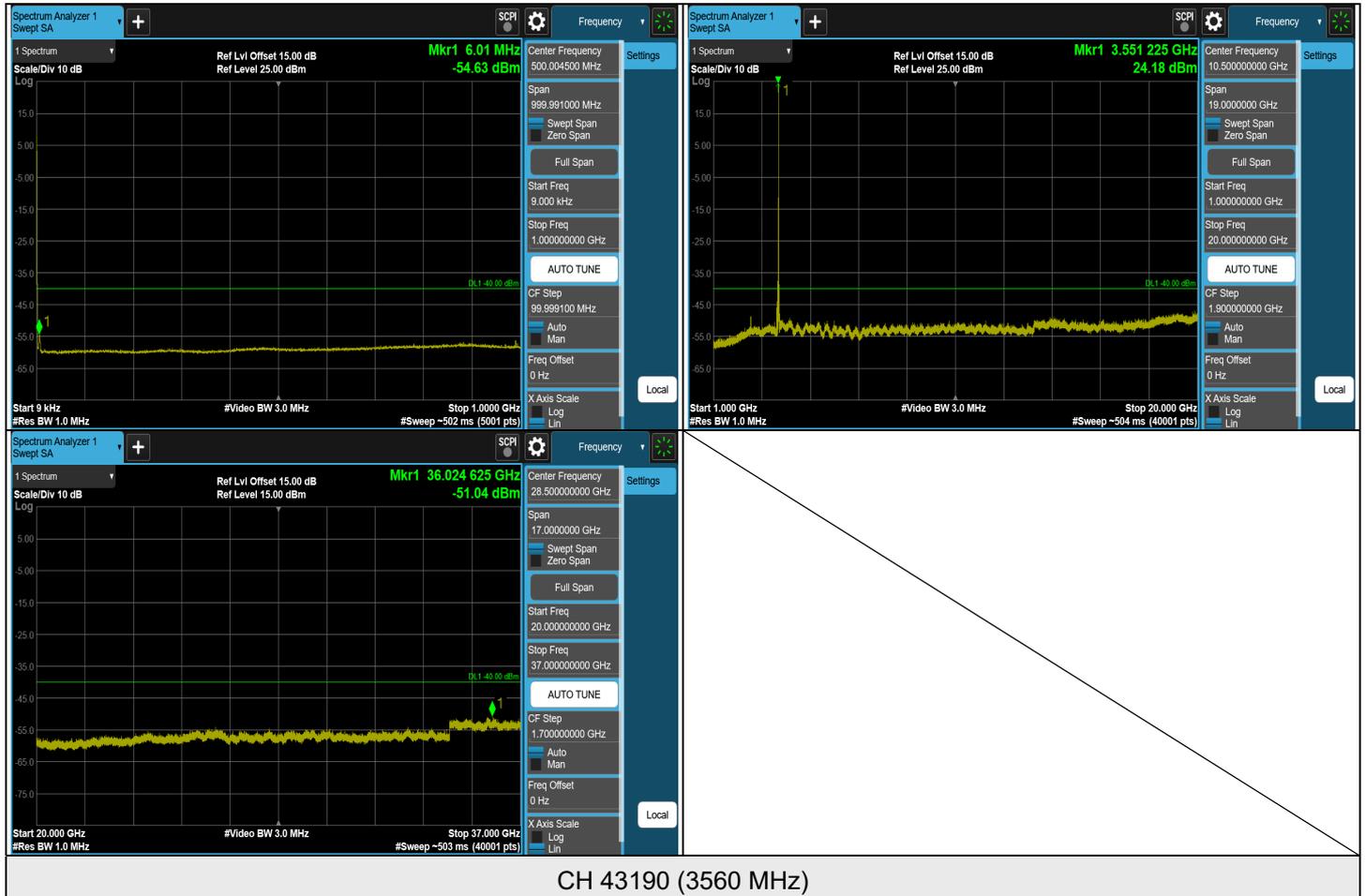
1RB#0 CH 43340 (3575 MHz)

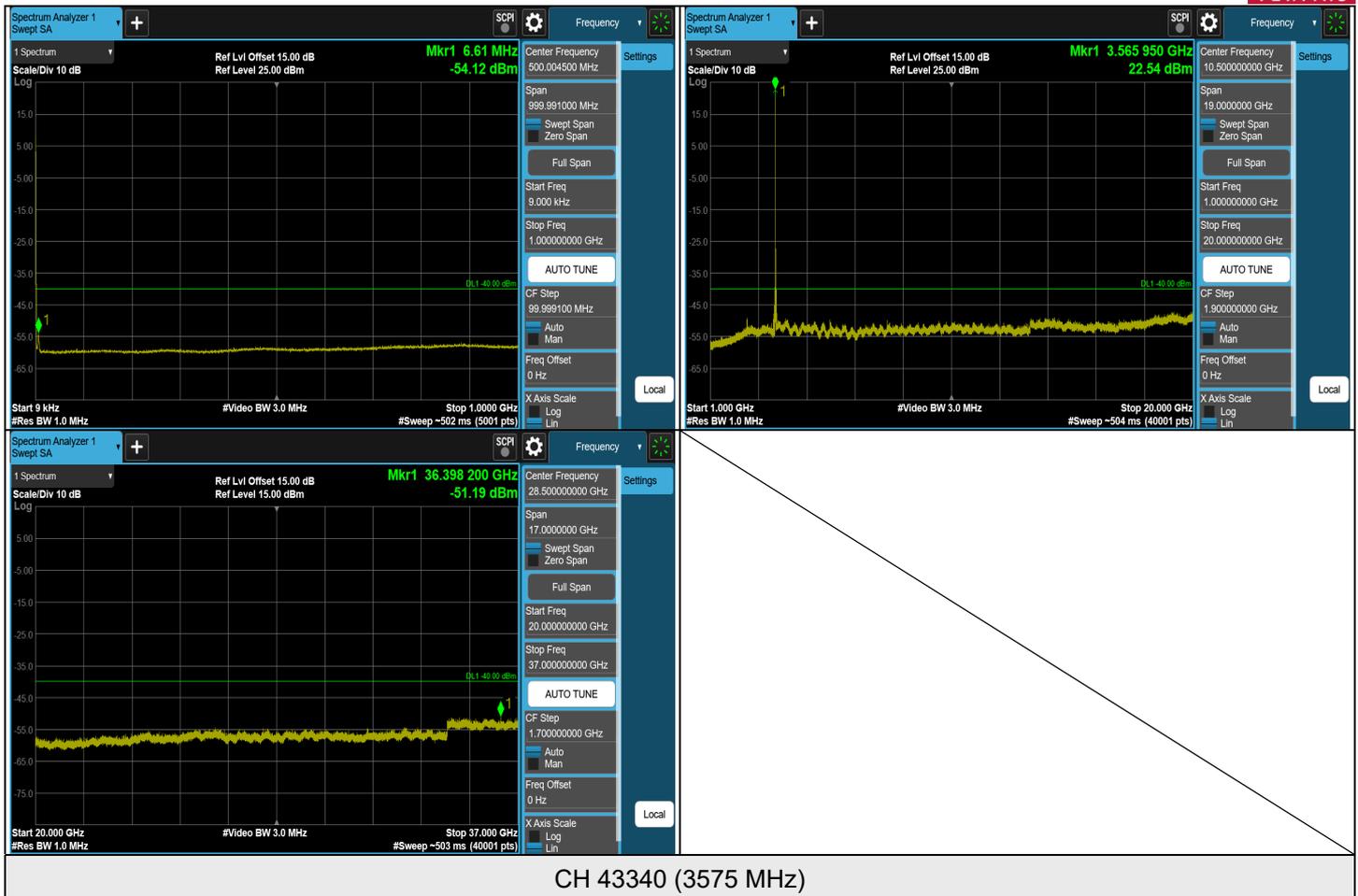


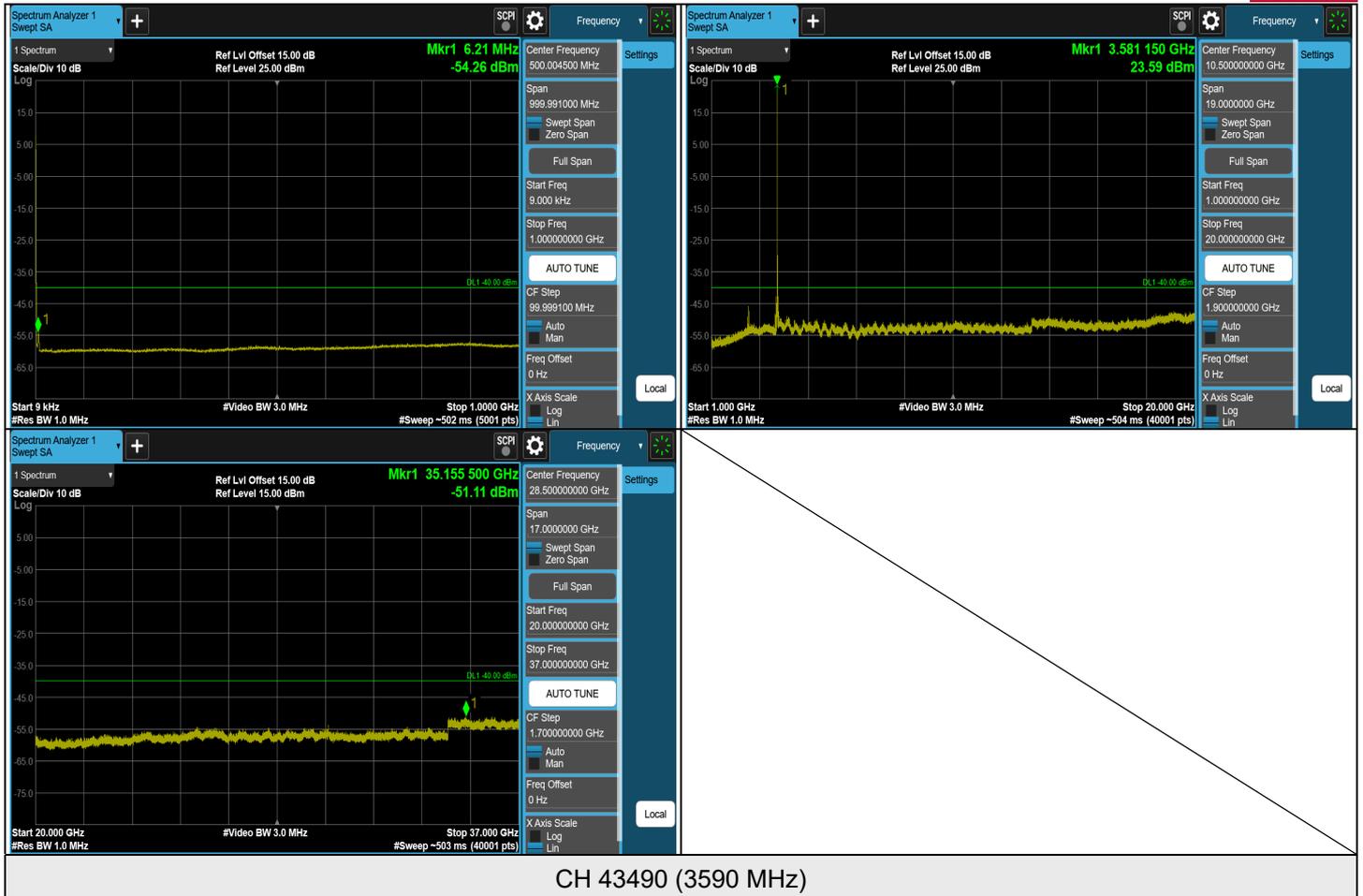
1RB#0 CH 43515 (3592.5 MHz)



LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 20 MHz







Note: The signal at 9 kHz is IF signal from spectrum analyzer.

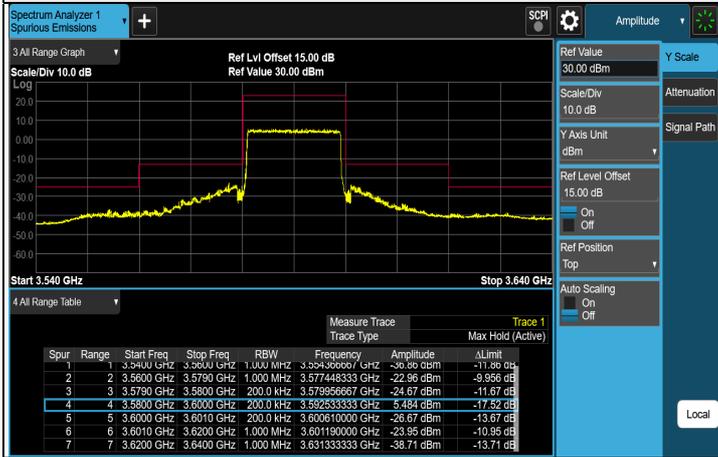


LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 20 MHz

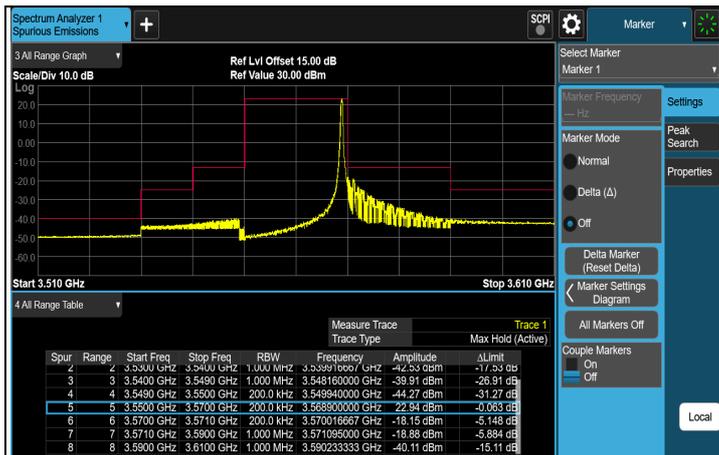


FULL CH 43190 (3560 MHz)

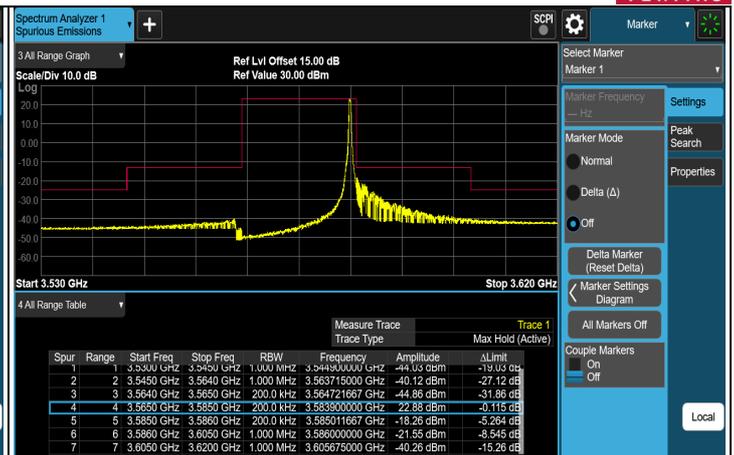
FULL CH 43340 (3575 MHz)



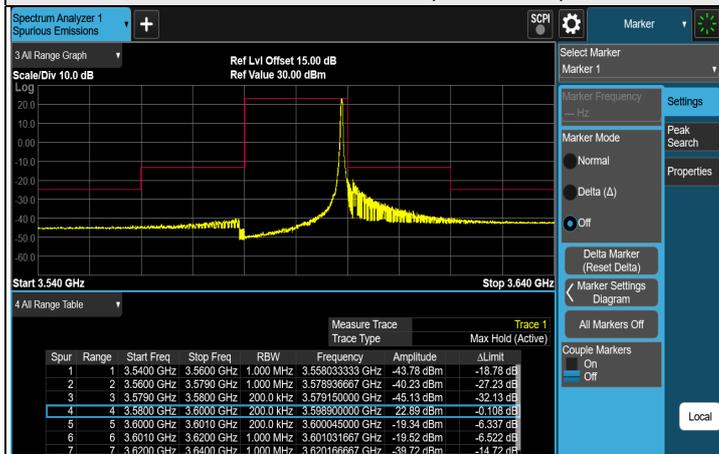
FULL CH 43490 (3590 MHz)



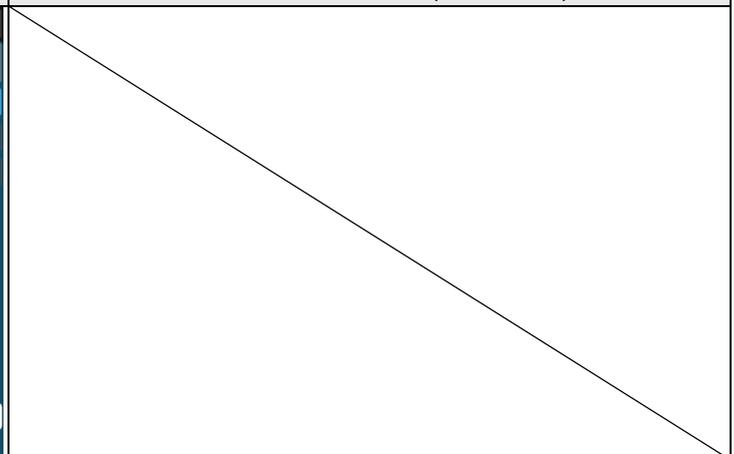
1RB#MAX CH 43190 (3560 MHz)

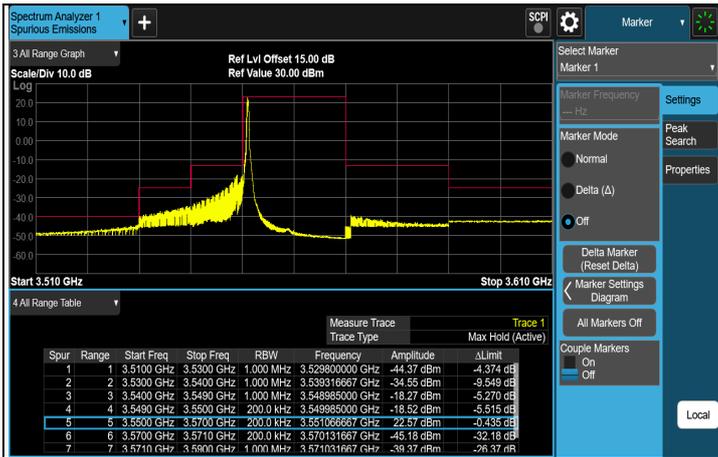


1RB#MAX CH 43340 (3575 MHz)

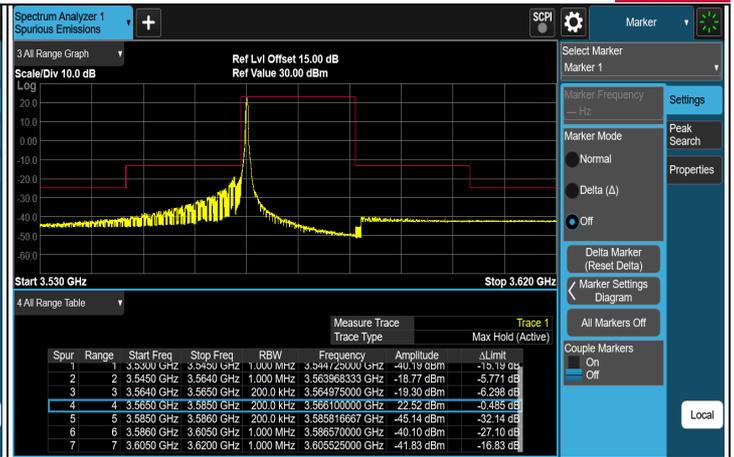


1RB#MAX CH 43490 (3590 MHz)

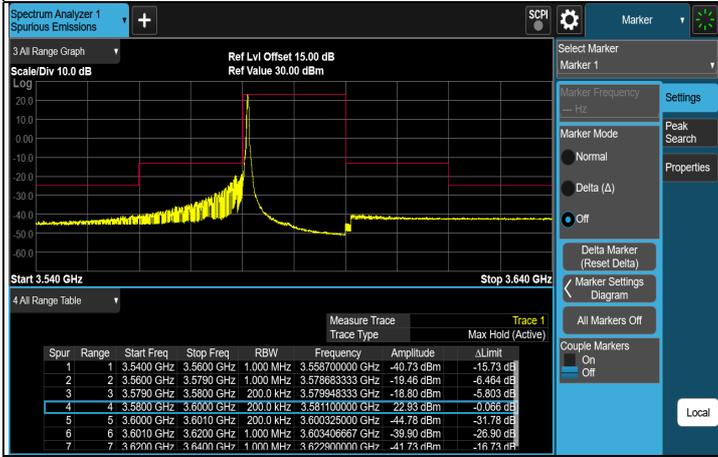




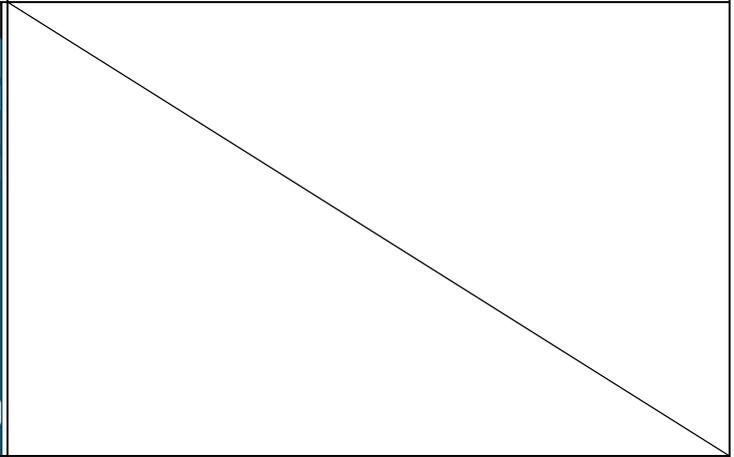
1RB#0 CH 43190 (3560 MHz)



1RB#0 CH 43340 (3575 MHz)



1RB#0 CH 43490 (3590 MHz)



7.6 Radiated Spurious Emissions below 1GHz

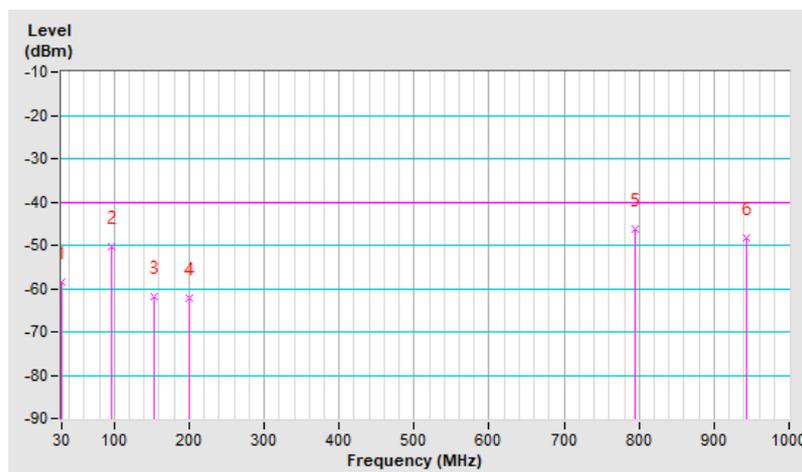
7.6.1 LTE Band 42 (3.55 GHz ~ 3.6 GHz)

RF Mode	LTE Band 42 Channel Bandwidth: 5MHz	Channel	CH 43115 : 3552.5 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Edison Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.97	-58.31	-40.00	-18.31	2.00 H	129	51.45	-109.76
2	96.93	-50.45	-40.00	-10.45	1.49 H	174	62.86	-113.31
3	153.19	-61.82	-40.00	-21.82	1.49 H	18	46.40	-108.22
4	199.75	-62.12	-40.00	-22.12	1.49 H	282	49.52	-111.64
5	795.33	-46.31	-40.00	-6.31	1.49 H	242	50.99	-97.30
6	943.74	-48.19	-40.00	-8.19	1.49 H	6	46.98	-95.17

Remarks:

- EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
- Margin value = EIRP – Limit value
- The other EIRP levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
- The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



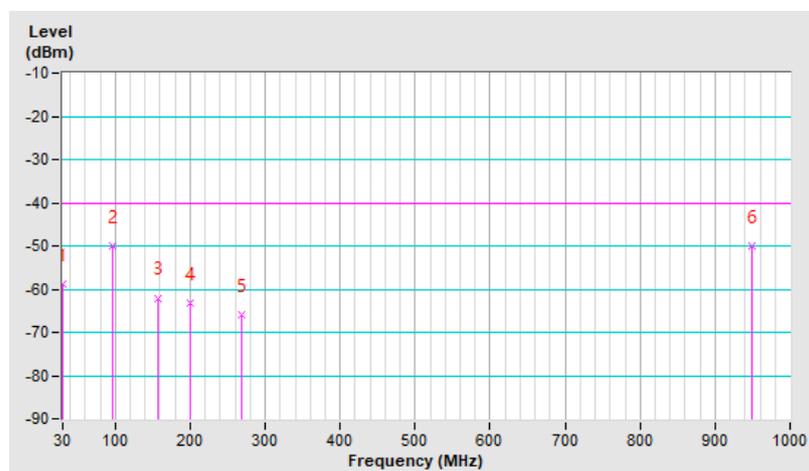
RF Mode	LTE Band 42 Channel Bandwidth: 5MHz	Channel	CH 43115 : 3552.5 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Edison Lee		

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.97	-58.96	-40.00	-18.96	2.00 V	127	50.80	-109.76
2	95.96	-49.90	-40.00	-9.90	1.50 V	165	63.66	-113.56
3	157.07	-62.03	-40.00	-22.03	1.50 V	119	46.07	-108.10
4	199.75	-63.09	-40.00	-23.09	1.50 V	116	48.55	-111.64
5	268.62	-65.78	-40.00	-25.78	1.01 V	255	42.86	-108.64
6	949.56	-50.16	-40.00	-10.16	1.50 V	11	44.88	-95.04

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



7.7 Radiated Spurious Emissions above 1GHz

7.7.1 LTE Band 42 (3.55 GHz ~ 3.6 GHz)

RF Mode	LTE Band 42 Channel Bandwidth: 5MHz	Channel	CH 43115 : 3552.5 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	4997.00	-46.79	-25.00	-21.79	1.01 H	12	46.03	-92.82

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	4997.00	-45.87	-25.00	-20.87	2.72 V	132	46.95	-92.82

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



RF Mode	LTE Band 42 Channel Bandwidth: 5MHz	Channel	CH 43340 : 3575 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5186.00	-46.31	-25.00	-21.31	1.03 H	14	46.12	-92.43
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5186.00	-45.62	-25.00	-20.62	2.67 V	134	46.81	-92.43

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



RF Mode	LTE Band 42 Channel Bandwidth: 5MHz	Channel	CH 43565 : 3597.5 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5375.00	-46.48	-25.00	-21.48	1.06 H	10	46.11	-92.59
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5375.00	-45.56	-25.00	-20.56	2.69 V	133	47.03	-92.59

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



RF Mode	LTE Band 42 Channel Bandwidth: 20MHz	Channel	CH 43190 : 3560 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5012.00	-46.62	-25.00	-21.62	1.07 H	7	46.23	-92.85
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5012.00	-46.07	-25.00	-21.07	2.67 V	130	46.78	-92.85

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.



RF Mode	LTE Band 42 Channel Bandwidth: 20MHz	Channel	CH 43340 : 3575 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5186.00	-46.14	-25.00	-21.14	1.02 H	8	46.29	-92.43
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5186.00	-45.35	-25.00	-20.35	2.66 V	135	47.08	-92.43

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



RF Mode	LTE Band 42 Channel Bandwidth: 20MHz	Channel	CH 43490 : 3590 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5360.00	-46.65	-25.00	-21.65	1.02 H	13	45.99	-92.64
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5360.00	-45.81	-25.00	-20.81	2.64 V	127	46.83	-92.64

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

7.8 Frequency Stability

Environmental Conditions:	25°C, 60% RH	Tested By:	Noah Chang
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7.8.1 LTE Band 42 (3.55 GHz ~ 3.6 GHz)

LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 5 MHz

Frequency Stability Versus Voltage				
Voltage (Vdc)	CH 43115 (3552.5 MHz)		CH 43565 (3597.5 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.27	3552.499997	-0.0008	3597.499997	-0.0008
3.85	3552.500001	0.0003	3597.500003	0.0008
4.43	3552.499993	-0.002	3597.499991	-0.0025

Note: The applicant defined the normal working voltage is from 3.27 to 4.43 Vdc.

Frequency Stability Versus Temperature				
Temperature (°C)	CH 43115 (3552.5 MHz)		CH 43565 (3597.5 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3552.500003	0.0008	3597.500001	0.0003
-20	3552.499998	-0.0006	3597.500001	0.0003
-10	3552.500009	0.0025	3597.500007	0.0019
0	3552.499995	-0.0014	3597.499993	-0.0019
10	3552.499995	-0.0014	3597.499993	-0.0019
20	3552.499991	-0.0025	3597.499991	-0.0025
30	3552.499993	-0.002	3597.499993	-0.0019
40	3552.499995	-0.0014	3597.499993	-0.0019
50	3552.499993	-0.002	3597.499996	-0.0011

LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 10 MHz

Frequency Stability Versus Voltage				
Voltage (Vdc)	CH 43140 (3555 MHz)		CH 43540 (3595 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.27	3554.999998	-0.0006	3595.000003	0.0008
3.85	3555.000009	0.0025	3595.00001	0.0028
4.43	3554.999997	-0.0008	3595	0

Note: The applicant defined the normal working voltage is from 3.27 to 4.43 Vdc.

Frequency Stability Versus Temperature				
Temperature (°C)	CH 43140 (3555 MHz)		CH 43540 (3595 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3555.000002	0.0006	3595.000001	0.0003
-20	3555.000003	0.0008	3595.000007	0.0019
-10	3555.000001	0.0003	3595.000001	0.0003
0	3554.999996	-0.0011	3594.999994	-0.0017
10	3555.000006	0.0017	3595.000009	0.0025
20	3554.999993	-0.002	3594.999995	-0.0014
30	3554.999994	-0.0017	3594.999994	-0.0017
40	3555.000006	0.0017	3595.000006	0.0017
50	3555	0	3594.999999	-0.0003

LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 15 MHz

Frequency Stability Versus Voltage				
Voltage (Vdc)	CH 43165 (3557.5 MHz)		CH 43515 (3592.5 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.27	3557.500005	0.0014	3592.500007	0.0019
3.85	3557.499992	-0.0022	3592.499995	-0.0014
4.43	3557.49999	-0.0028	3592.499992	-0.0022

Note: The applicant defined the normal working voltage is from 3.27 to 4.43 Vdc.

Frequency Stability Versus Temperature				
Temperature (°C)	CH 43165 (3557.5 MHz)		CH 43515 (3592.5 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3557.500002	0.0006	3592.500003	0.0008
-20	3557.499991	-0.0025	3592.499994	-0.0017
-10	3557.500004	0.0011	3592.500002	0.0006
0	3557.500008	0.0022	3592.500005	0.0014
10	3557.500006	0.0017	3592.500001	0.0028
20	3557.499996	-0.0011	3592.499996	-0.0011
30	3557.499995	-0.0014	3592.499999	-0.0003
40	3557.500006	0.0017	3592.500009	0.0025
50	3557.500005	0.0014	3592.500009	0.0025

LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 20 MHz

Frequency Stability Versus Voltage				
Voltage (Vdc)	CH 43190 (3560 MHz)		CH 43490 (3590 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.27	3560.000007	0.002	3590.000009	0.0025
3.85	3560.000007	0.002	3590.000006	0.0017
4.43	3560.000009	0.0025	3590.000008	0.0022

Note: The applicant defined the normal working voltage is from 3.27 to 4.43 Vdc.

Frequency Stability Versus Temperature				
Temperature (°C)	CH 43190 (3560 MHz)		CH 43490 (3590 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3559.999991	-0.0025	3589.999995	-0.0014
-20	3559.999995	-0.0014	3589.999992	-0.0022
-10	3560.000009	0.0025	3590.000007	0.0019
0	3559.999993	-0.002	3589.999998	-0.0006
10	3559.999995	-0.0014	3589.999994	-0.0017
20	3559.999992	-0.0022	3589.999996	-0.0011
30	3560.000002	0.0006	3589.999998	-0.0006
40	3560.000001	0.0003	3590.000004	0.0011
50	3559.999991	-0.0025	3589.999993	-0.0019

8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of 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: <http://ee.bureauveritas.com.tw>

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

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