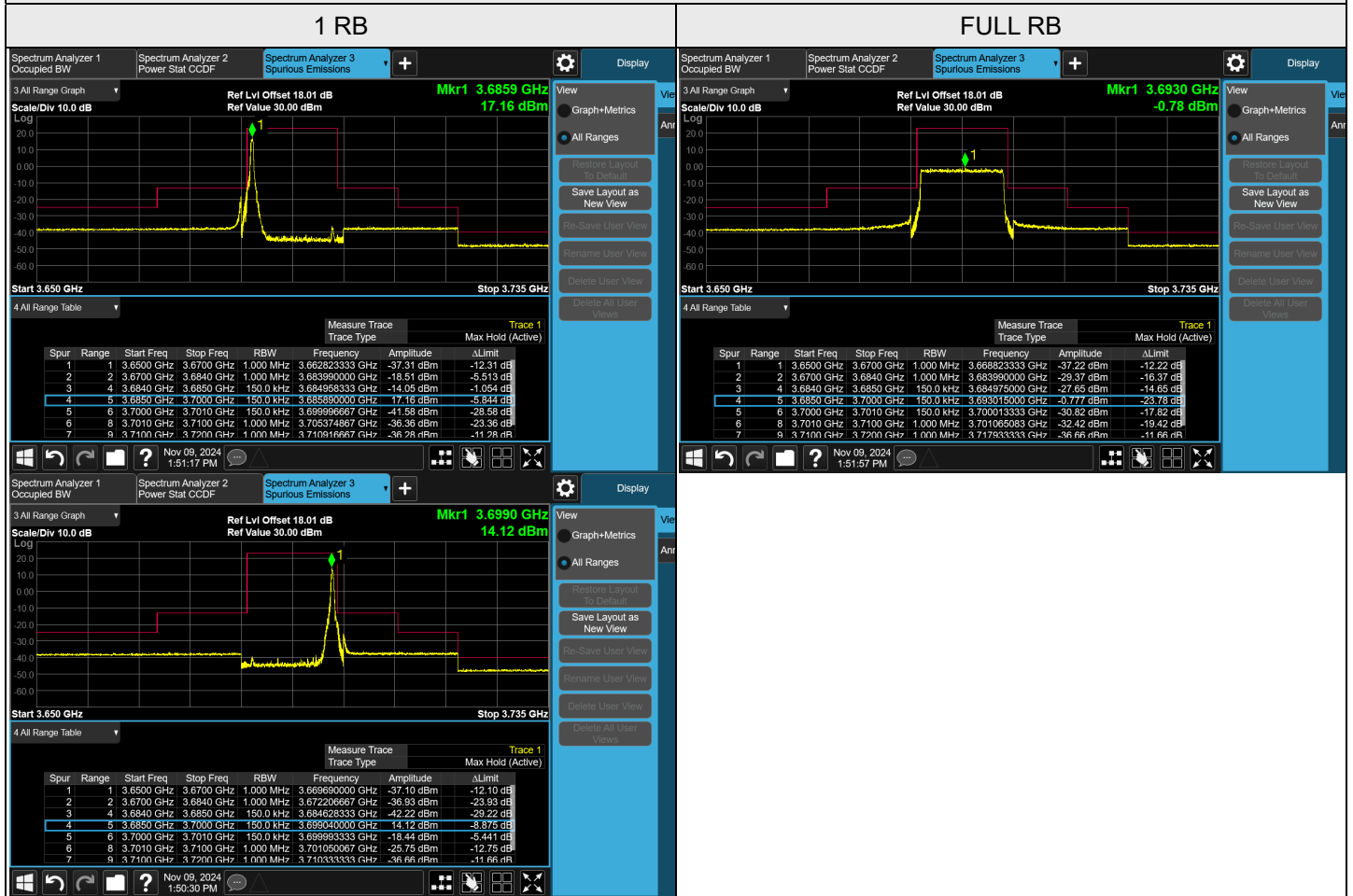
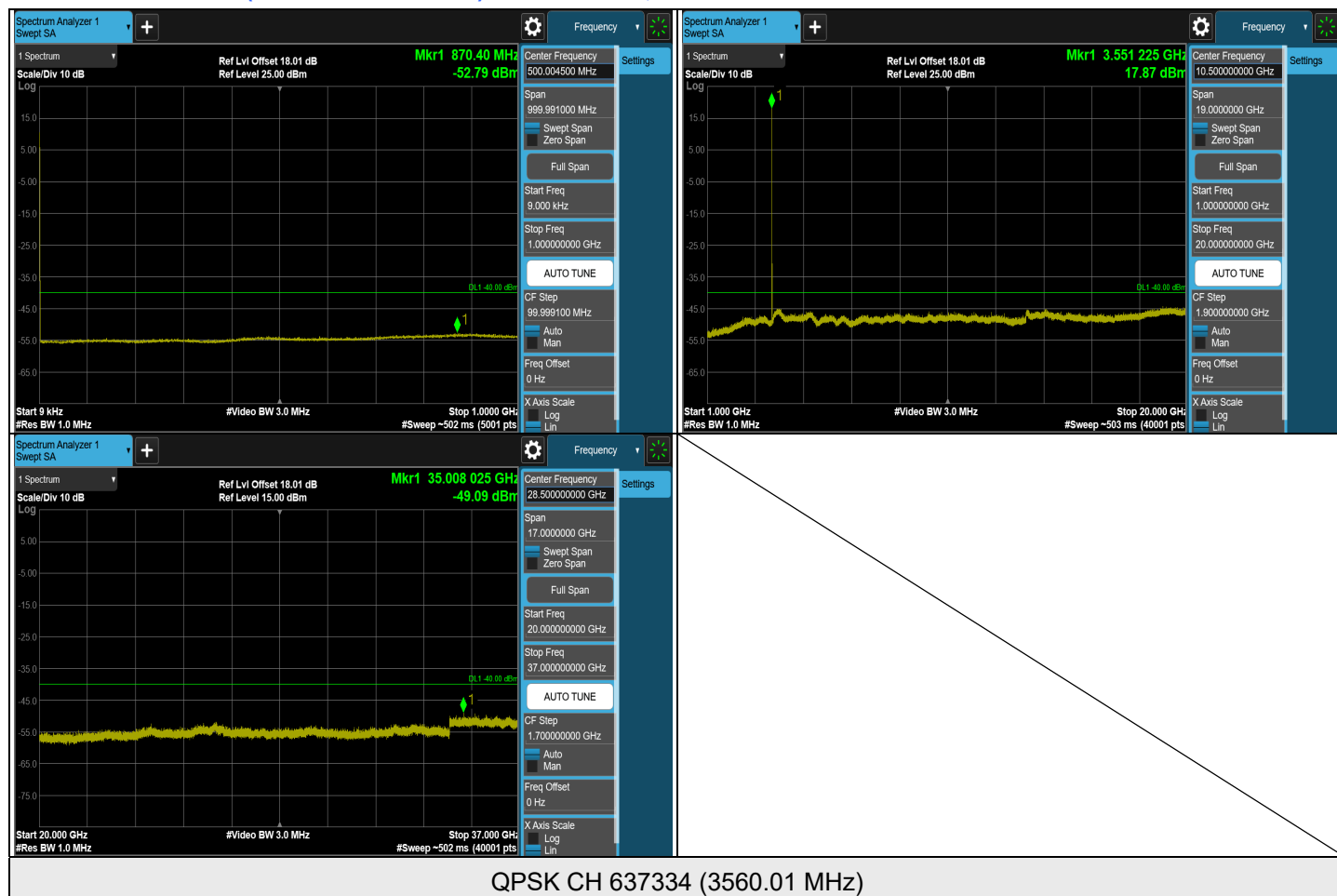
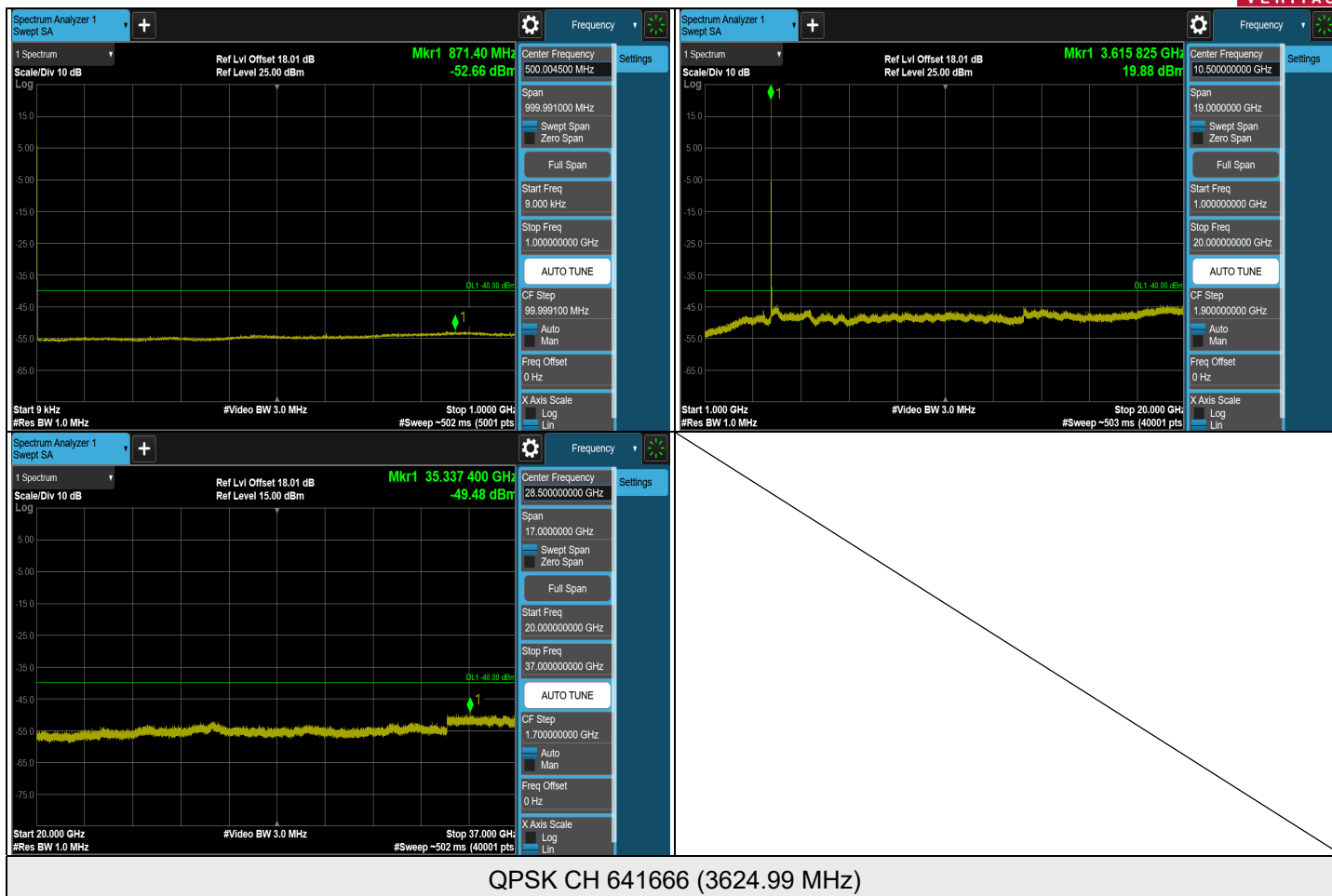


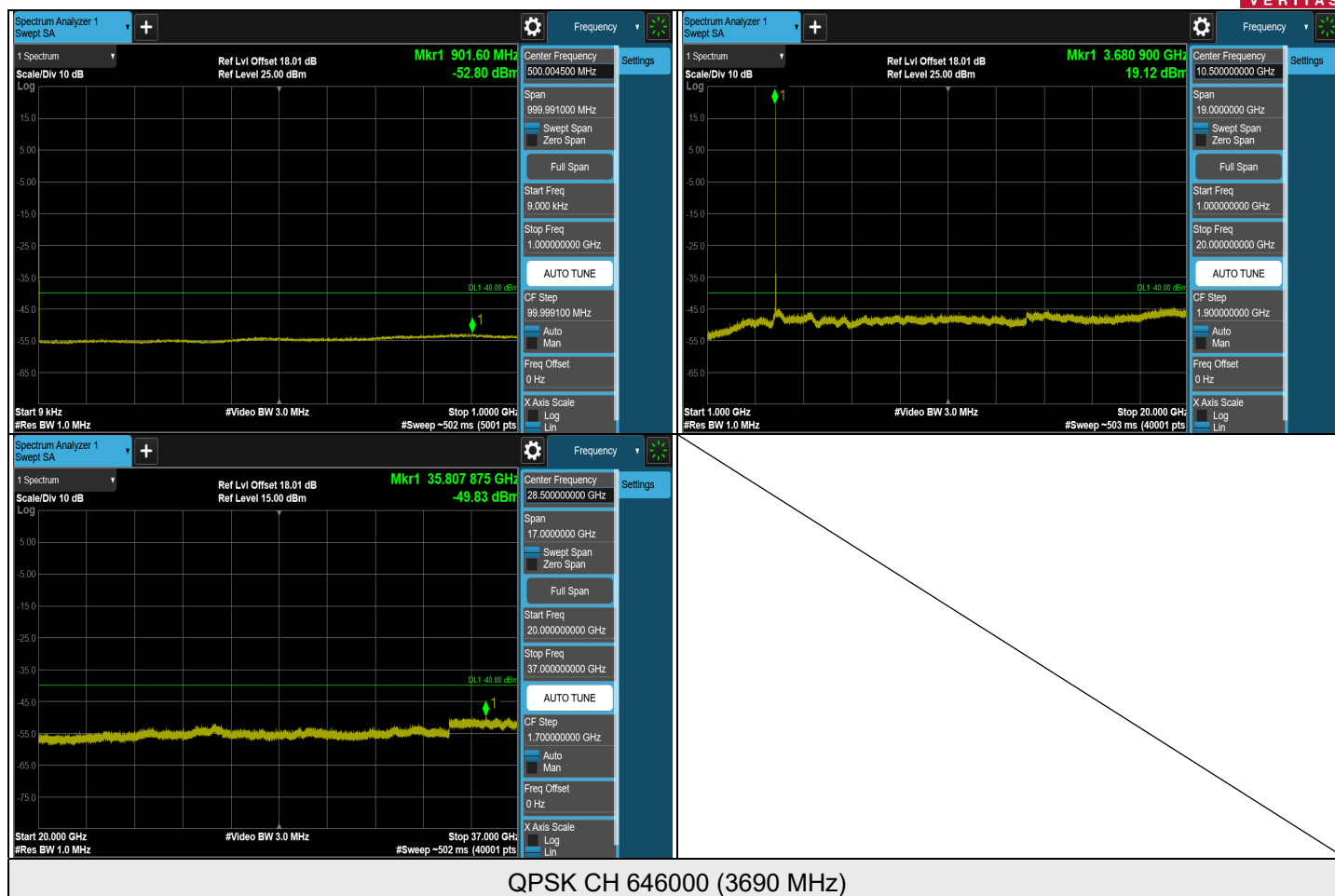
CH 646166 (3692.49 MHz)



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - MIMO-Ant 3, Channel Bandwidth: 20 MHz



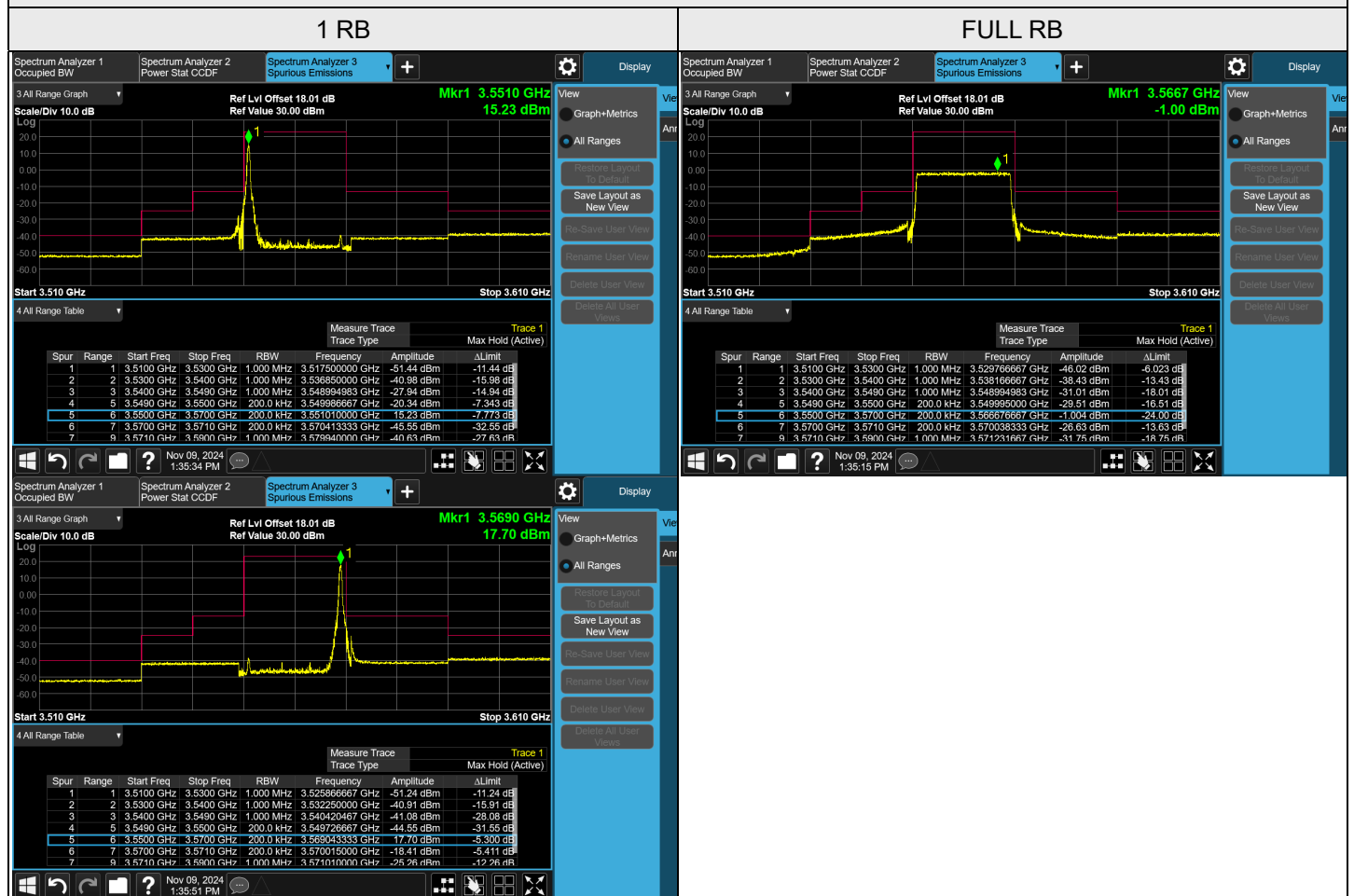




Note: The signal at 9 kHz is IF signal from spectrum analyzer.

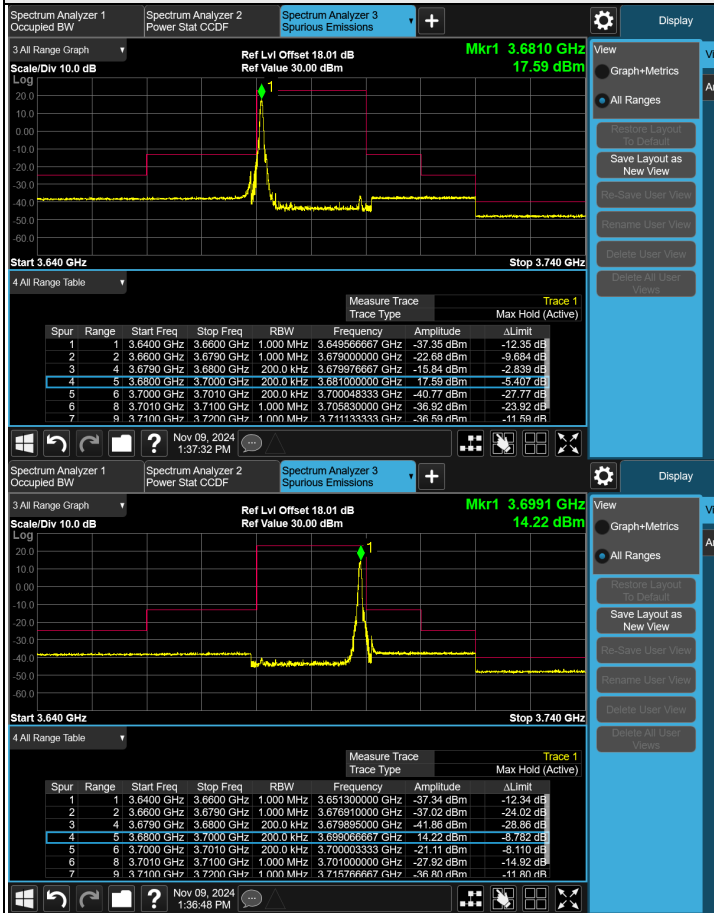
NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - MIMO-Ant 3, Channel Bandwidth: 20 MHz

CH 637334 (3560.01 MHz)

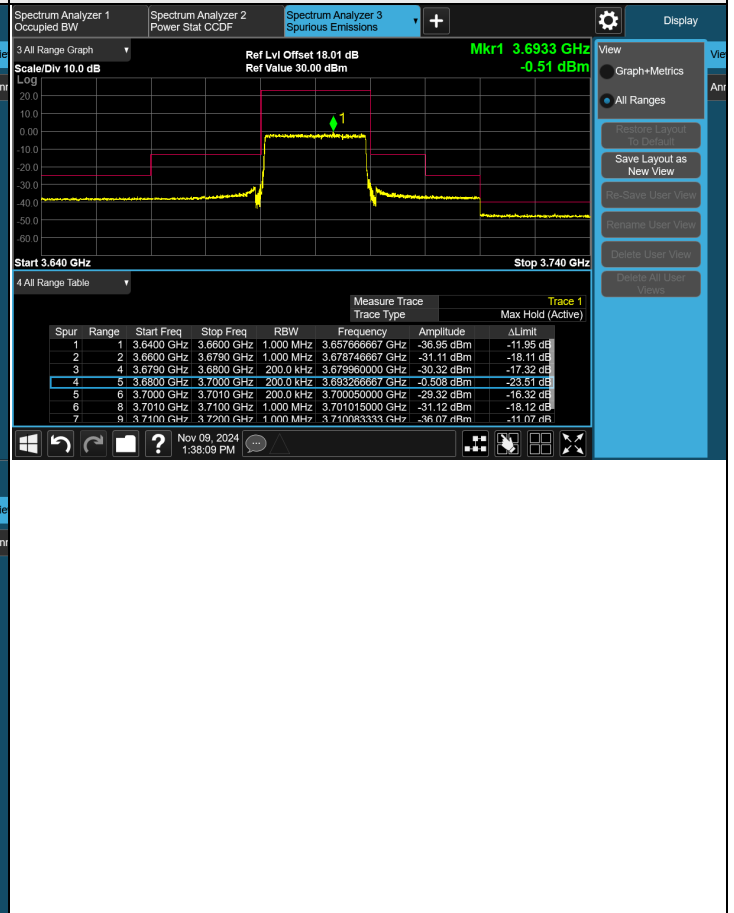


CH 646000 (3690 MHz)

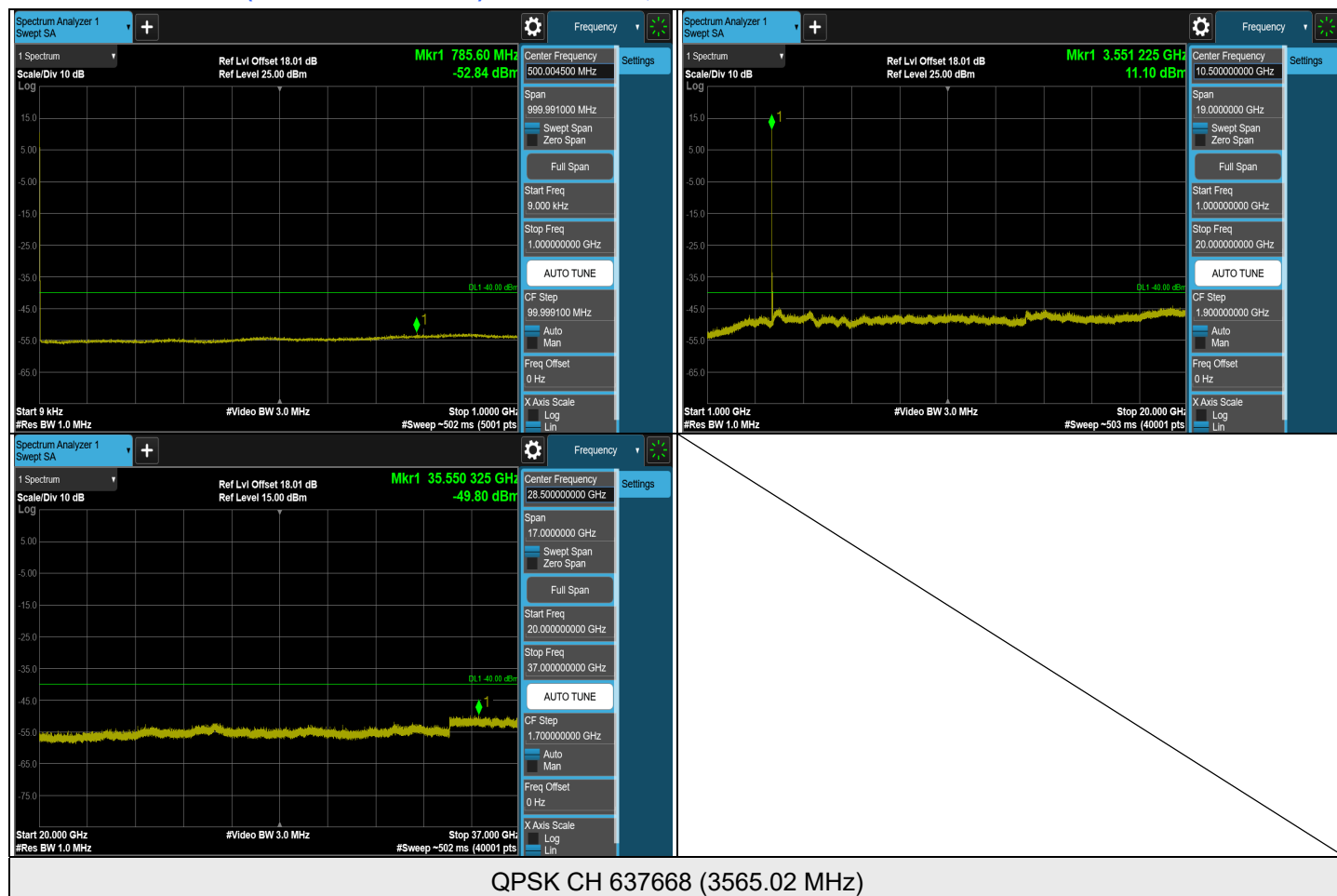
1 RB

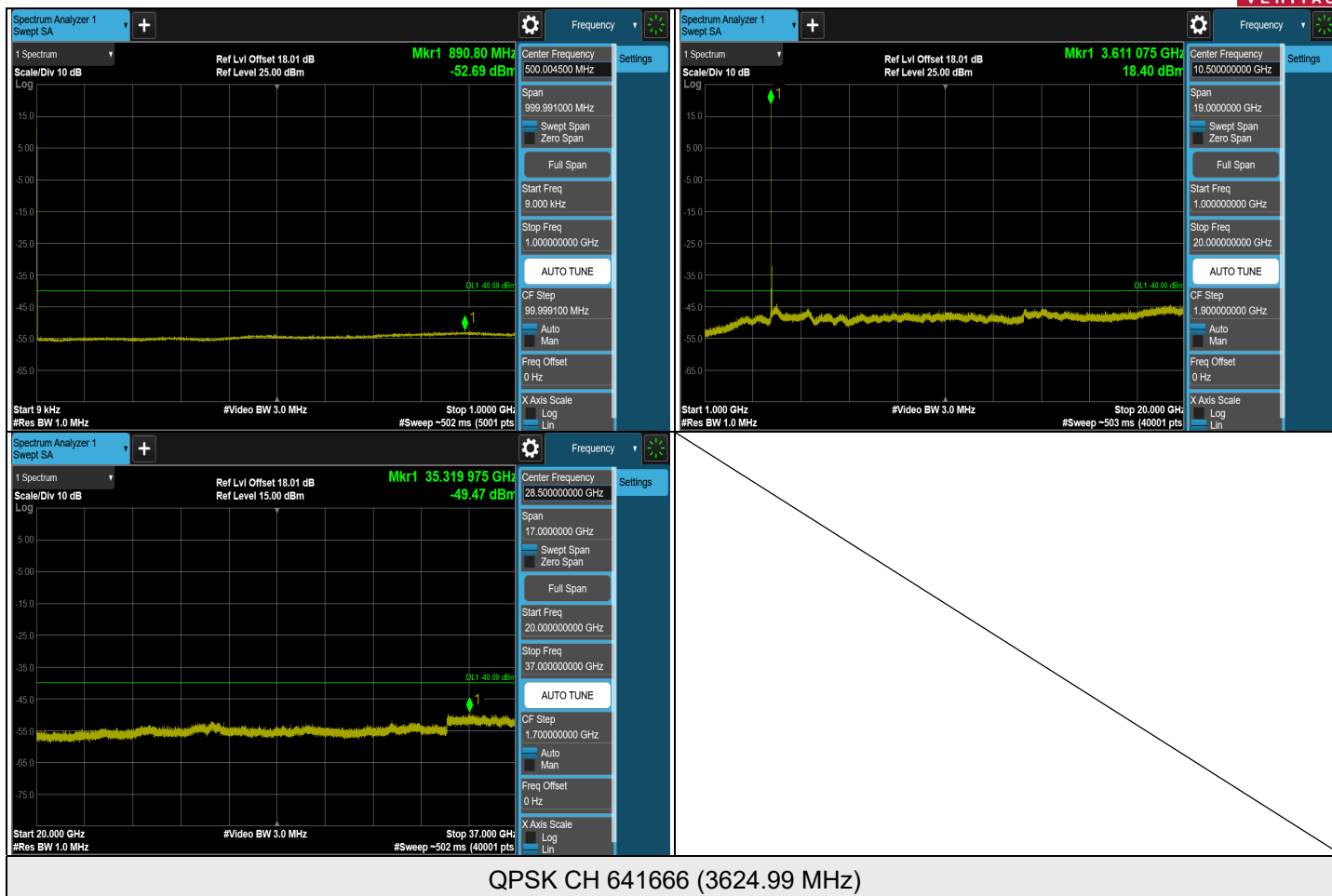


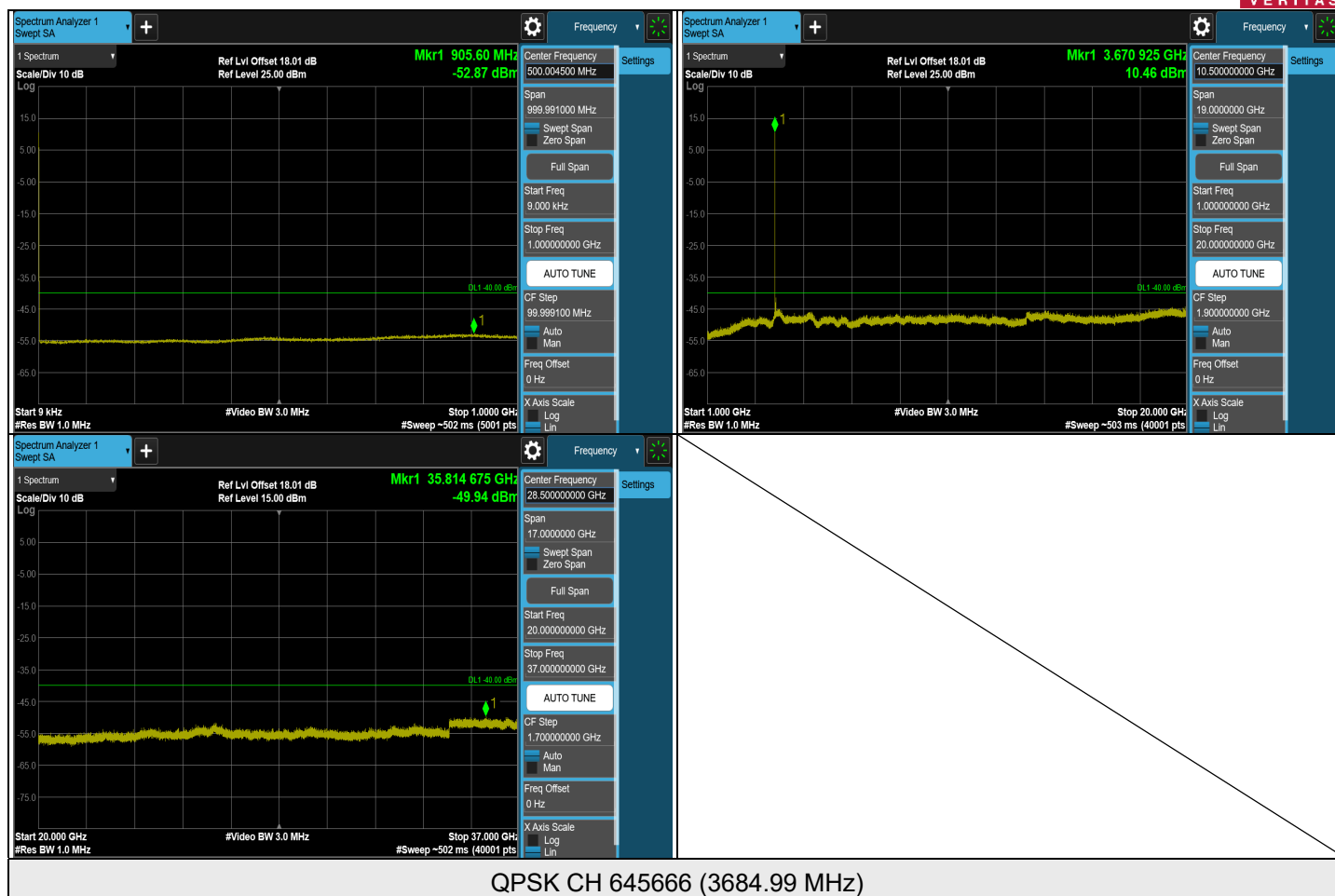
FULL RB



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - MIMO-Ant 3, Channel Bandwidth: 30 MHz



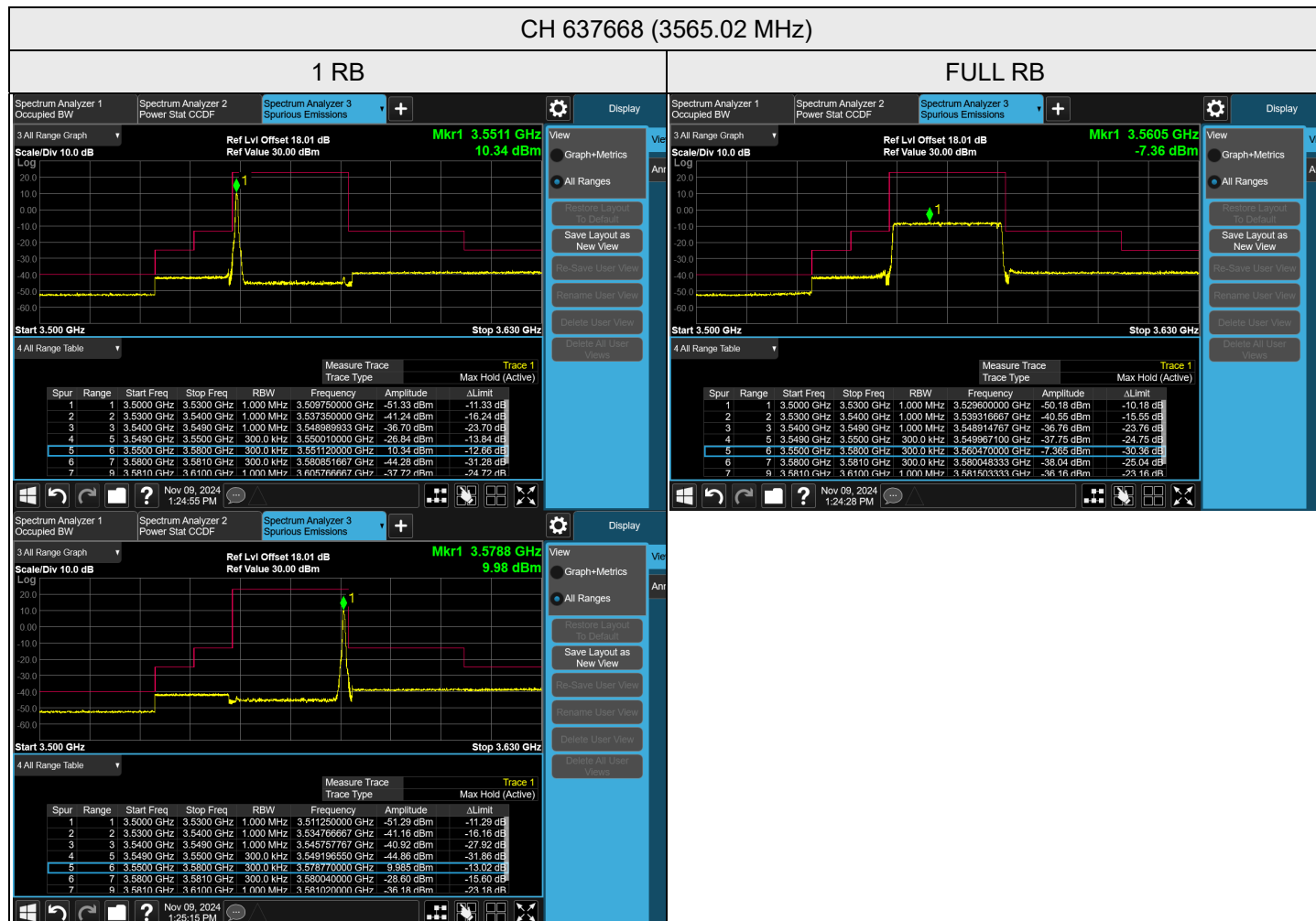




Note: The signal at 9 kHz is IF signal from spectrum analyzer.

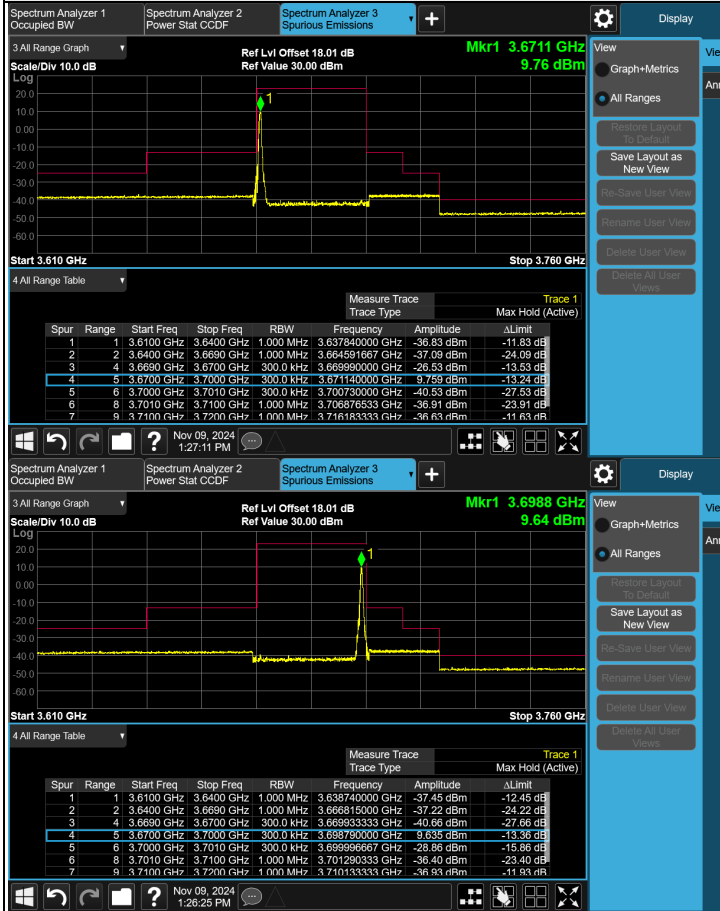
NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - MIMO-Ant 3, Channel Bandwidth: 30 MHz

CH 637668 (3565.02 MHz)

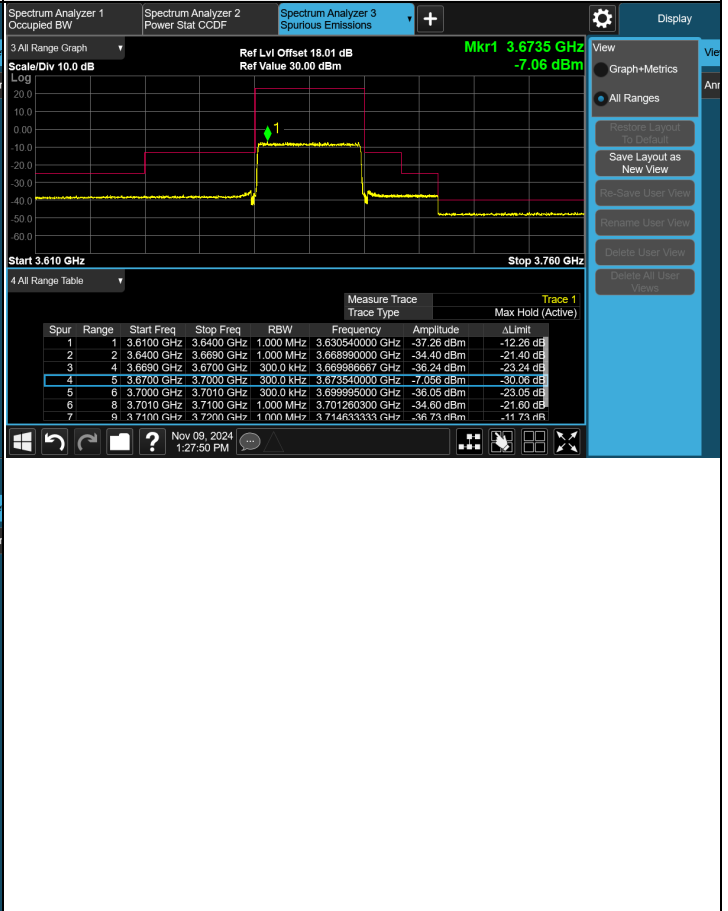


CH 645666 (3684.99 MHz)

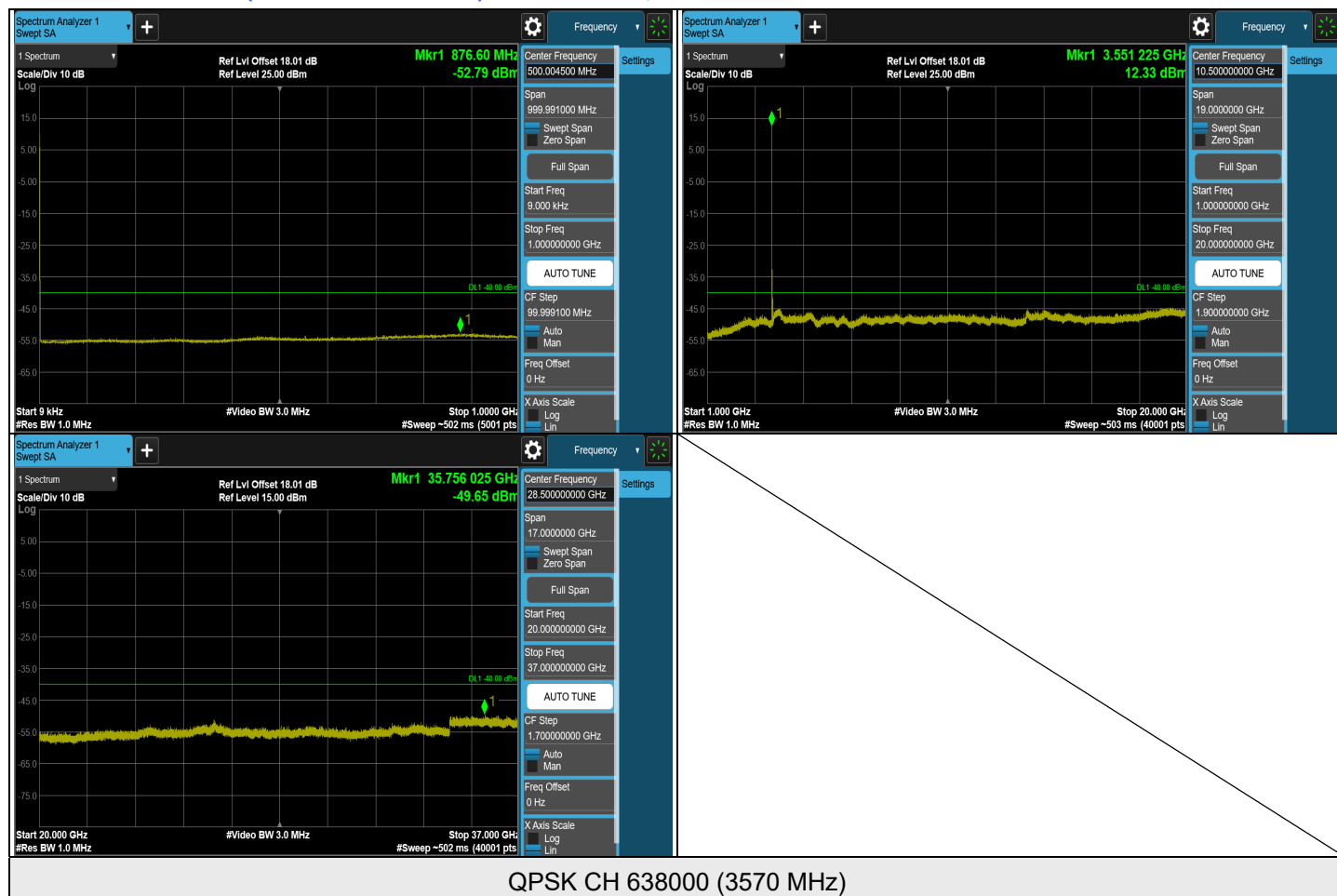
1 RB

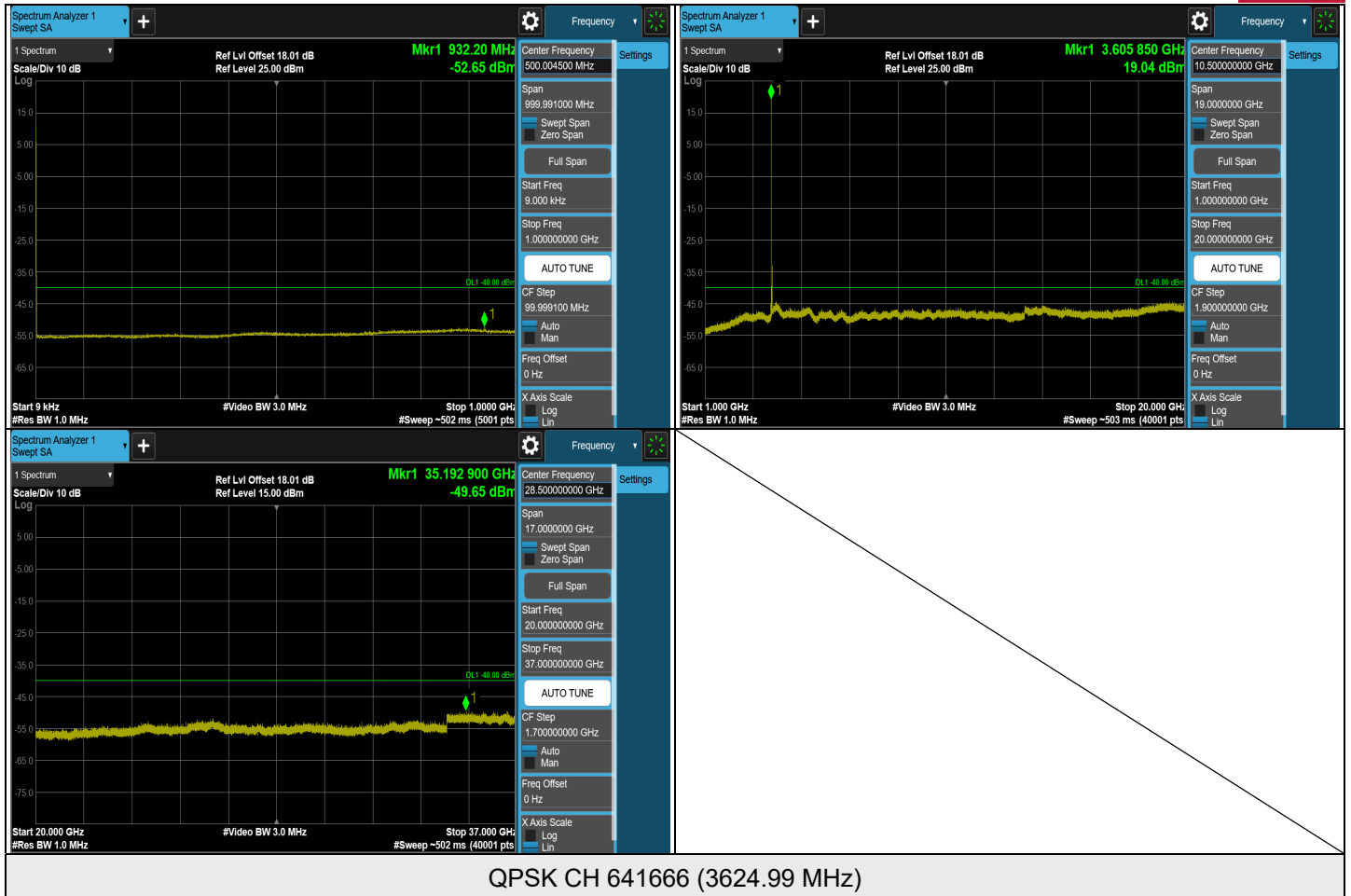


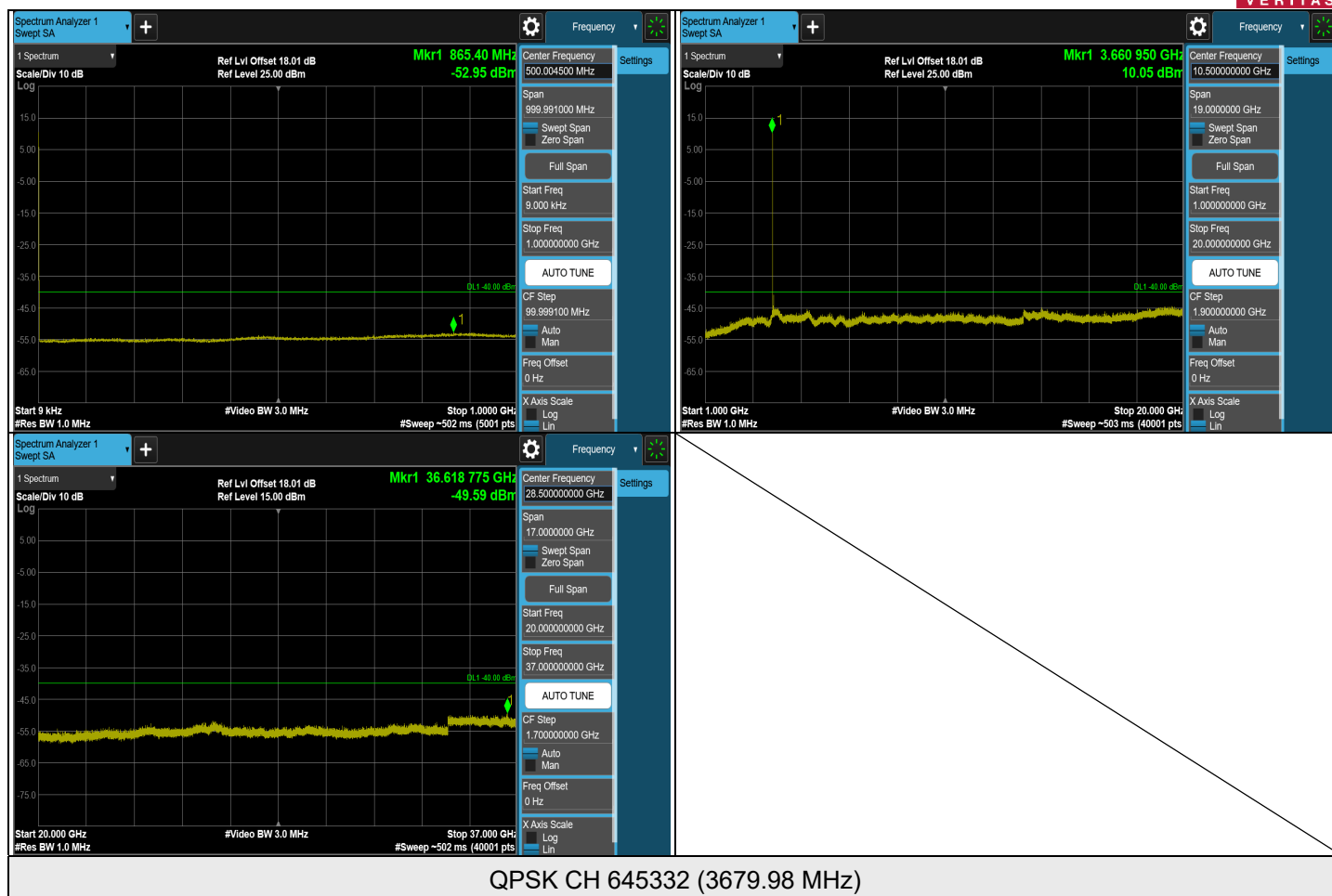
FULL RB



NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - MIMO-Ant 3, Channel Bandwidth: 40 MHz







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

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz) - MIMO-Ant 3, Channel Bandwidth: 40 MHz

CH 638000 (3570 MHz)



CH 645332 (3679.98 MHz)



7.6 Radiated Spurious Emissions below 1GHz

MIMO

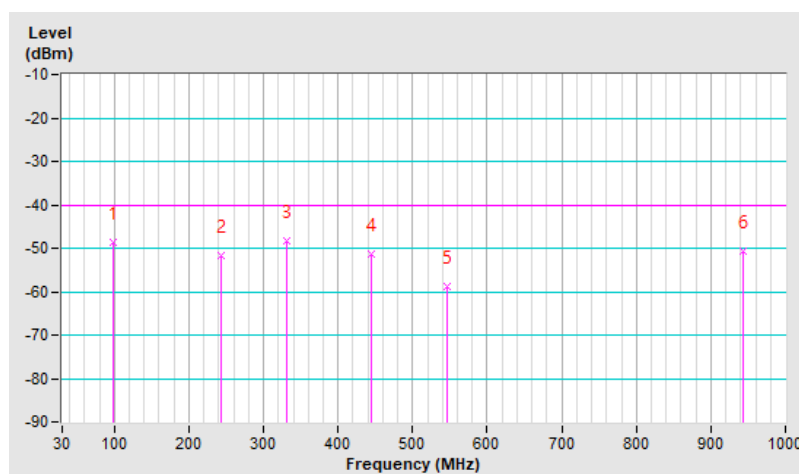
7.6.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz)

RF Mode	NR n48 Channel Bandwidth: 10MHz	Channel	CH 641666 : 3624.99 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 68 % 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	97.90	-48.55	-40.00	-8.55	1.50 H	112	64.75	-113.30
2	242.43	-51.76	-40.00	-11.76	1.00 H	244	57.79	-109.55
3	330.70	-48.37	-40.00	-8.37	1.25 H	114	58.42	-106.79
4	444.19	-51.21	-40.00	-11.21	1.00 H	325	52.66	-103.87
5	547.01	-58.77	-40.00	-18.77	1.00 H	157	43.25	-102.02
6	942.77	-50.56	-40.00	-10.56	1.50 H	5	45.02	-95.58

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.

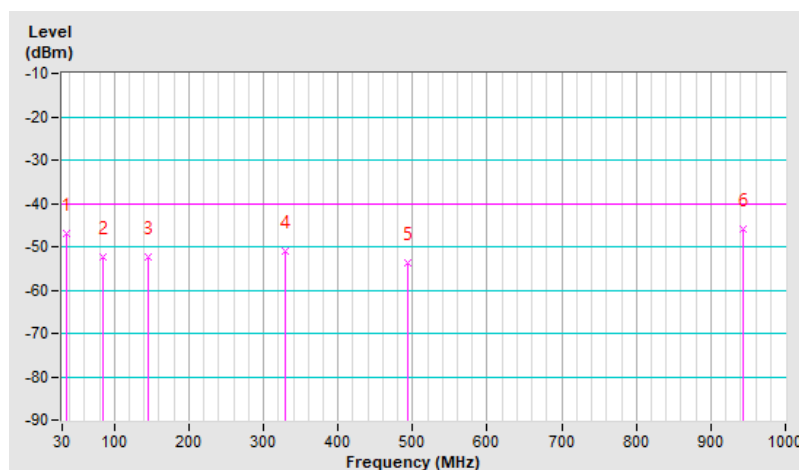


RF Mode	NR n48 Channel Bandwidth: 10MHz	Channel	CH 641666 : 3624.99 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 68 % RH
Tested By	Greg Lin		

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	36.79	-46.96	-40.00	-6.96	1.00 V	338	62.21	-109.17
2	85.29	-52.51	-40.00	-12.51	1.00 V	203	61.65	-114.16
3	145.43	-52.51	-40.00	-12.51	1.25 V	65	55.93	-108.44
4	329.73	-50.89	-40.00	-10.89	1.00 V	31	55.92	-106.81
5	492.69	-53.74	-40.00	-13.74	1.50 V	148	49.25	-102.99
6	942.77	-46.03	-40.00	-6.03	1.25 V	286	49.55	-95.58

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

MIMO

7.7.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz)

RF Mode	NR n48 Channel Bandwidth: 10MHz	Channel	CH 637000 : 3555 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Karl 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	7110.00	-59.70	-40.00	-19.70	1.35 H	38	27.96	-87.66
2	10665.00	-58.99	-40.00	-18.99	1.04 H	193	28.49	-87.48
3	14220.00	-54.59	-40.00	-14.59	1.58 H	211	31.43	-86.02
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	7110.00	-59.45	-40.00	-19.45	2.42 V	108	28.21	-87.66
2	10665.00	-59.45	-40.00	-19.45	1.33 V	214	28.03	-87.48
3	14220.00	-54.74	-40.00	-14.74	1.91 V	105	31.28	-86.02

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	NR n48 Channel Bandwidth: 10MHz	Channel	CH 641666 : 3624.99 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Karl 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	7249.98	-59.48	-40.00	-19.48	1.67 H	120	28.23	-87.71
2	10874.97	-58.80	-40.00	-18.80	1.96 H	224	28.55	-87.35
3	14499.96	-54.56	-40.00	-14.56	1.83 H	105	31.21	-85.77
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	7249.98	-60.47	-40.00	-20.47	2.30 V	74	27.24	-87.71
2	10874.97	-59.01	-40.00	-19.01	1.23 V	59	28.34	-87.35
3	14499.96	-54.03	-40.00	-14.03	2.05 V	142	31.74	-85.77

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	NR n48 Channel Bandwidth: 10MHz	Channel	CH 646332 : 3694.98 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Karl 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	7389.96	-60.84	-40.00	-20.84	1.86 H	155	26.59	-87.43
2	11084.94	-58.14	-40.00	-18.14	1.81 H	225	28.60	-86.74
3	14779.92	-55.19	-40.00	-15.19	2.27 H	164	30.65	-85.84
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	7389.96	-59.69	-40.00	-19.69	1.24 V	15	27.74	-87.43
2	11084.94	-58.37	-40.00	-18.37	1.06 V	137	28.37	-86.74
3	14779.92	-55.00	-40.00	-15.00	1.69 V	121	30.84	-85.84

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	NR n48 Channel Bandwidth: 20MHz	Channel	CH 637334 : 3560.01 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Karl 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	7120.02	-59.70	-40.00	-19.70	2.11 H	49	27.98	-87.68
2	10680.03	-59.13	-40.00	-19.13	2.04 H	179	28.46	-87.59
3	14240.04	-54.63	-40.00	-14.63	2.08 H	194	31.43	-86.06
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	7120.02	-59.66	-40.00	-19.66	2.49 V	184	28.02	-87.68
2	10680.03	-59.63	-40.00	-19.63	1.15 V	273	27.96	-87.59
3	14240.04	-55.22	-40.00	-15.22	1.12 V	231	30.84	-86.06

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	NR n48 Channel Bandwidth: 20MHz	Channel	CH 641666 : 3624.99 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Karl 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	7249.98	-60.26	-40.00	-20.26	1.37 H	235	27.45	-87.71
2	10874.97	-58.31	-40.00	-18.31	2.06 H	117	29.04	-87.35
3	14499.96	-54.42	-40.00	-14.42	1.90 H	61	31.35	-85.77
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	7249.98	-60.05	-40.00	-20.05	1.26 V	18	27.66	-87.71
2	10874.97	-58.81	-40.00	-18.81	1.57 V	223	28.54	-87.35
3	14499.96	-54.60	-40.00	-14.60	1.58 V	194	31.17	-85.77

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	NR n48 Channel Bandwidth: 20MHz	Channel	CH 646000 : 3690 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Karl 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	7380.00	-59.17	-40.00	-19.17	2.05 H	149	28.30	-87.47
2	11070.00	-59.17	-40.00	-19.17	1.94 H	136	27.54	-86.71
3	14760.00	-54.23	-40.00	-14.23	1.28 H	205	31.67	-85.90
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	7380.00	-58.95	-40.00	-18.95	1.87 V	110	28.52	-87.47
2	11070.00	-58.59	-40.00	-18.59	2.04 V	284	28.12	-86.71
3	14760.00	-54.35	-40.00	-14.35	2.29 V	19	31.55	-85.90

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	NR n48 Channel Bandwidth: 40MHz	Channel	CH 638000 : 3570 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Karl 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	7140.00	-59.41	-40.00	-19.41	1.66 H	214	28.32	-87.73
2	10710.00	-59.48	-40.00	-19.48	1.83 H	159	28.25	-87.73
3	14280.00	-55.30	-40.00	-15.30	1.18 H	264	30.83	-86.13
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	7140.00	-59.57	-40.00	-19.57	1.74 V	165	28.16	-87.73
2	10710.00	-59.91	-40.00	-19.91	1.41 V	182	27.82	-87.73
3	14280.00	-54.53	-40.00	-14.53	2.06 V	145	31.60	-86.13

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	NR n48 Channel Bandwidth: 40MHz	Channel	CH 641666 : 3624.99 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Karl 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	7249.98	-60.10	-40.00	-20.10	1.53 H	184	27.61	-87.71
2	10874.97	-58.74	-40.00	-18.74	1.35 H	208	28.61	-87.35
3	14499.96	-54.51	-40.00	-14.51	2.51 H	184	31.26	-85.77
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	7249.98	-59.70	-40.00	-19.70	1.31 V	36	28.01	-87.71
2	10874.97	-58.61	-40.00	-18.61	2.26 V	174	28.74	-87.35
3	14499.96	-54.63	-40.00	-14.63	2.37 V	166	31.14	-85.77

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	NR n48 Channel Bandwidth: 40MHz	Channel	CH 645332 : 3679.98 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Karl 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	7359.96	-59.32	-40.00	-19.32	1.64 H	55	28.21	-87.53
2	11039.94	-58.37	-40.00	-18.37	1.66 H	284	28.29	-86.66
3	14719.92	-54.72	-40.00	-14.72	1.93 H	226	31.27	-85.99
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	7359.96	-59.64	-40.00	-19.64	1.45 V	172	27.89	-87.53
2	11039.94	-59.24	-40.00	-19.24	2.04 V	178	27.42	-86.66
3	14719.92	-54.61	-40.00	-14.61	2.18 V	134	31.38	-85.99

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:	20°C, 73% RH	Tested By:	James Yang
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7.8.1 NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz)

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 10 MHz

Frequency Stability Versus Voltage				
Voltage (Vdc)	CH 637000 (3555 MHz)		CH 646332 (3694.98 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.3	3554.999996	-0.0011	3694.979995	-0.0014
3.8	3555.000003	0.0008	3694.979999	-0.0003
4.4	3554.999992	-0.0023	3694.979999	-0.0027

Note: The applicant defined the normal working voltage is from 3.3 to 4.4 Vdc.

Frequency Stability Versus Temperature				
Temperature (°C)	CH 637000 (3555 MHz)		CH 646332 (3694.98 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3555.000004	0.0011	3694.979999	-0.0003
-20	3555.000009	0.0025	3694.980006	0.0016
-10	3555.000002	0.0006	3694.980007	0.0019
0	3554.999997	-0.0008	3694.979995	-0.0014
10	3554.999991	-0.0025	3694.979993	-0.0019
20	3555.000007	0.002	3694.98001	0.0027
30	3555.000006	0.0017	3694.98001	0.0027
40	3555.000002	0.0006	3694.980002	0.0005
50	3555.000003	0.0008	3694.979992	-0.0022
60	3554.999999	-0.0003	3694.979998	-0.0005
70	3555.000005	0.0014	3694.980008	0.0022
75	3555.000008	0.0023	3694.98001	0.0027

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 15 MHz

Frequency Stability Versus Voltage				
Voltage (Vdc)	CH 637168 (3557.52 MHz)		CH 646166 (3692.49 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.3	3557.519994	-0.0017	3692.489994	-0.0016
3.8	3557.519997	-0.0008	3692.489992	-0.0022
4.4	3557.520004	0.0011	3692.490006	0.0016

Note: The applicant defined the normal working voltage is from 3.3 to 4.4 Vdc.

Frequency Stability Versus Temperature				
Temperature (°C)	CH 637168 (3557.52 MHz)		CH 646166 (3692.49 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3557.519993	-0.002	3692.489995	-0.0014
-20	3557.520005	0.0014	3692.490006	0.0016
-10	3557.519995	-0.0014	3692.489996	-0.0011
0	3557.520008	0.0022	3692.490001	0.0027
10	3557.519998	-0.0006	3692.490002	0.0005
20	3557.519997	-0.0008	3692.489995	-0.0014
30	3557.520007	0.002	3692.490007	0.0019
40	3557.520007	0.002	3692.490008	0.0022
50	3557.520003	0.0008	3692.489999	-0.0003
60	3557.520003	0.0008	3692.490007	0.0019
70	3557.520005	0.0014	3692.490001	0.0003
75	3557.519991	-0.0025	3692.489991	-0.0024

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 20 MHz

Frequency Stability Versus Voltage				
Voltage (Vdc)	CH 637334 (3560.01 MHz)		CH 646000 (3690 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.3	3560.010008	0.0022	3690.000007	0.0019
3.8	3560.009994	-0.0017	3689.99999	-0.0027
4.4	3560.009997	-0.0008	3689.999999	-0.0003

Note: The applicant defined the normal working voltage is from 3.3 to 4.4 Vdc.

Frequency Stability Versus Temperature				
Temperature (°C)	CH 637334 (3560.01 MHz)		CH 646000 (3690 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3560.01001	0.0028	3690.000009	0.0024
-20	3560.009993	-0.002	3689.999991	-0.0024
-10	3560.010006	0.0017	3690.000008	0.0022
0	3560.009995	-0.0014	3689.999993	-0.0019
10	3560.010009	0.0025	3690.000007	0.0019
20	3560.009998	-0.0006	3689.999999	-0.0003
30	3560.010006	0.0017	3690.000005	0.0014
40	3560.010001	0.0003	3690.000002	0.0005
50	3560.010001	0.0003	3690.000002	0.0005
60	3560.009992	-0.0022	3689.999993	-0.0019
70	3560.010009	0.0025	3690.000006	0.0016
75	3560.009993	-0.002	3689.999993	-0.0019

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 30 MHz

Frequency Stability Versus Voltage				
Voltage (Vdc)	CH 637668 (3565.02 MHz)		CH 645666 (3684.99 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.3	3565.020001	0.0003	3684.990002	0.0005
3.8	3565.019999	-0.0003	3684.990003	0.0008
4.4	3565.019994	-0.0017	3684.98999	-0.0027

Note: The applicant defined the normal working voltage is from 3.3 to 4.4 Vdc.

Frequency Stability Versus Temperature				
Temperature (°C)	CH 637668 (3565.02 MHz)		CH 645666 (3684.99 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3565.020005	0.0014	3684.990004	0.0011
-20	3565.019999	-0.0003	3684.990003	0.0008
-10	3565.019998	-0.0006	3684.989998	-0.0005
0	3565.020005	0.0014	3684.990007	0.0019
10	3565.019997	-0.0008	3684.989998	-0.0005
20	3565.019992	-0.0022	3684.989994	-0.0016
30	3565.020006	0.0017	3684.990001	0.0003
40	3565.020002	0.0006	3684.990007	0.0019
50	3565.020001	0.0003	3684.989996	-0.0011
60	3565.019997	-0.0008	3684.990001	0.0003
70	3565.019997	-0.0008	3684.989998	-0.0005
75	3565.019999	-0.0003	3684.990002	0.0005

NR n48 SCS 30 kHz (3.55 GHz ~ 3.7 GHz), Channel Bandwidth: 40 MHz

Frequency Stability Versus Voltage				
Voltage (Vdc)	CH 638000 (3570 MHz)		CH 645332 (3679.98 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.3	3569.999996	-0.0011	3679.980004	0.0011
3.8	3570.000003	0.0008	3679.980006	0.0016
4.4	3570.000009	0.0025	3679.98001	0.0027

Note: The applicant defined the normal working voltage is from 3.3 to 4.4 Vdc.

Frequency Stability Versus Temperature				
Temperature (°C)	CH 638000 (3570 MHz)		CH 645332 (3679.98 MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3570.000004	0.0011	3679.980008	0.0022
-20	3570.000008	0.0022	3679.980004	0.0011
-10	3570.000003	0.0008	3679.979999	-0.0003
0	3570.00001	0.0028	3679.980005	0.0014
10	3570.000003	0.0008	3679.980006	0.0016
20	3569.999993	-0.002	3679.979991	-0.0024
30	3569.999992	-0.0022	3679.979994	-0.0016
40	3570.000002	0.0006	3679.980003	0.0008
50	3570.000002	0.0006	3679.980004	0.0011
60	3569.999998	-0.0006	3679.979998	-0.0005
70	3570.000003	0.0008	3679.980008	0.0022
75	3570.000007	0.002	3679.979995	-0.0014

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.

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

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