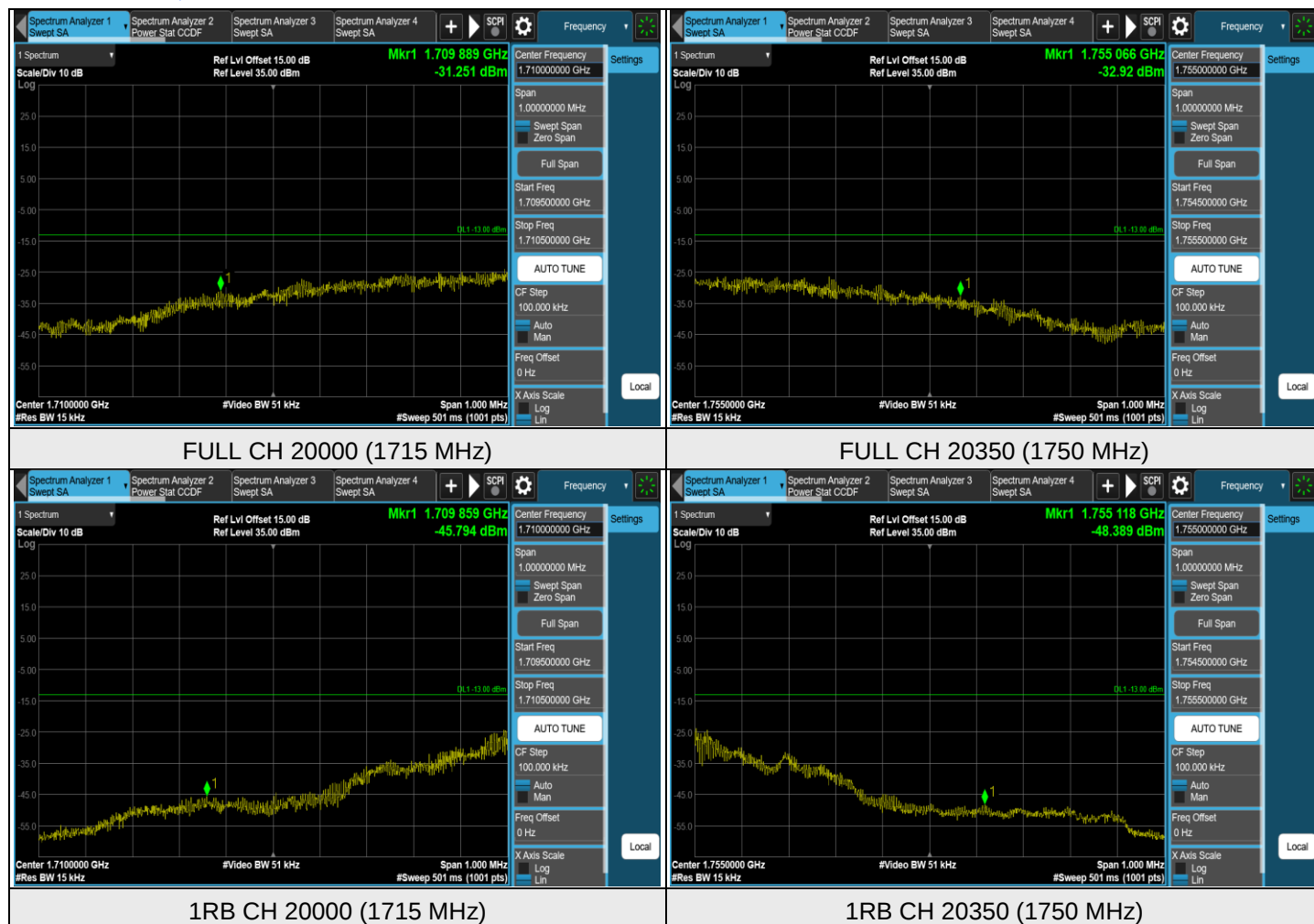
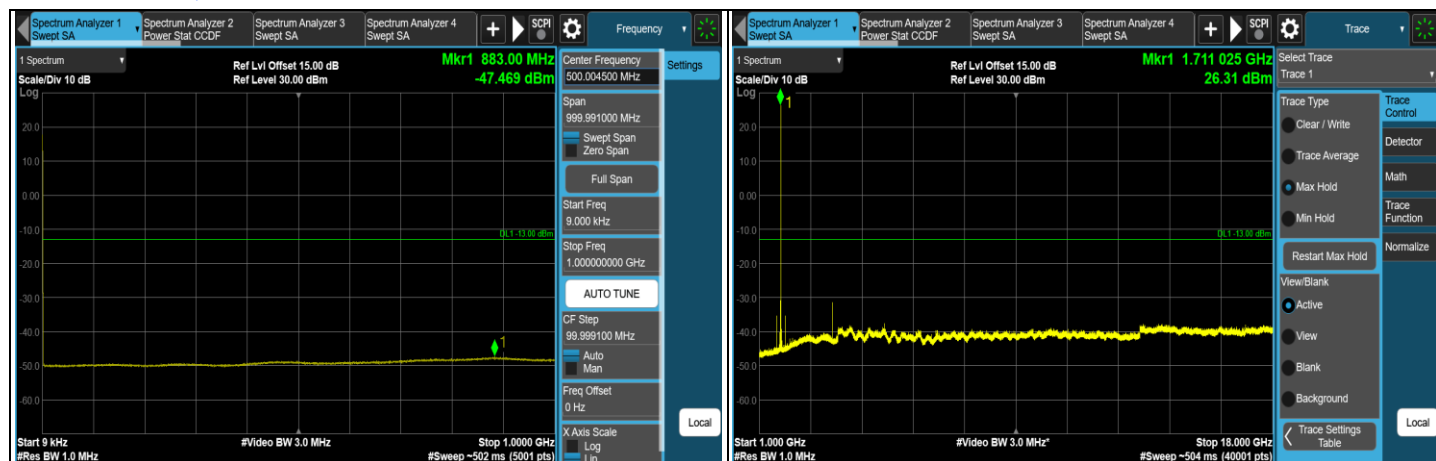


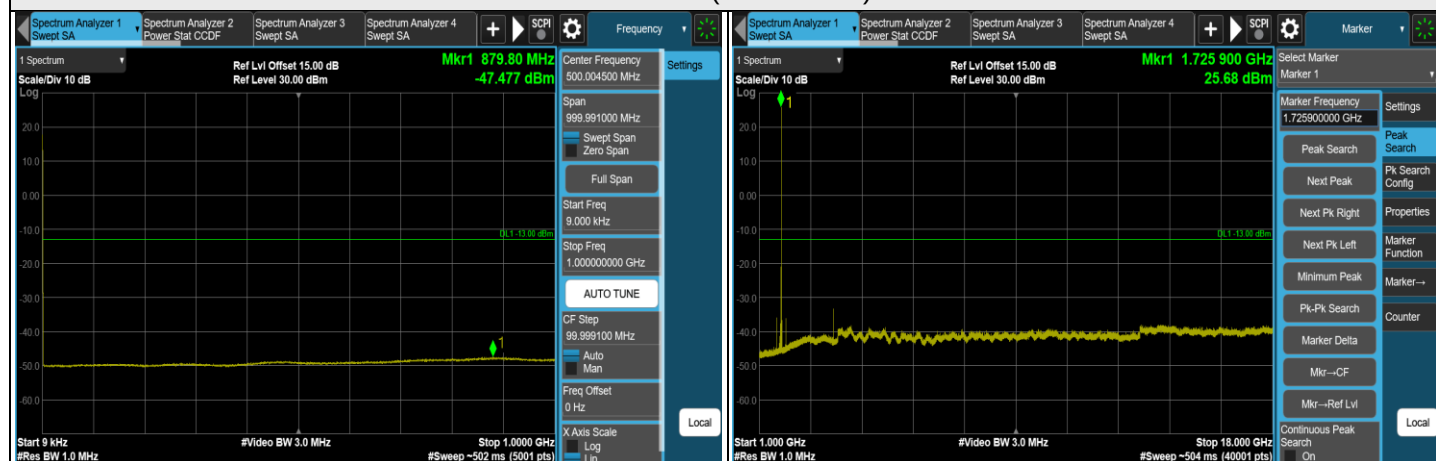
Cat-M1 Band 4, Channel Bandwidth: 10 MHz



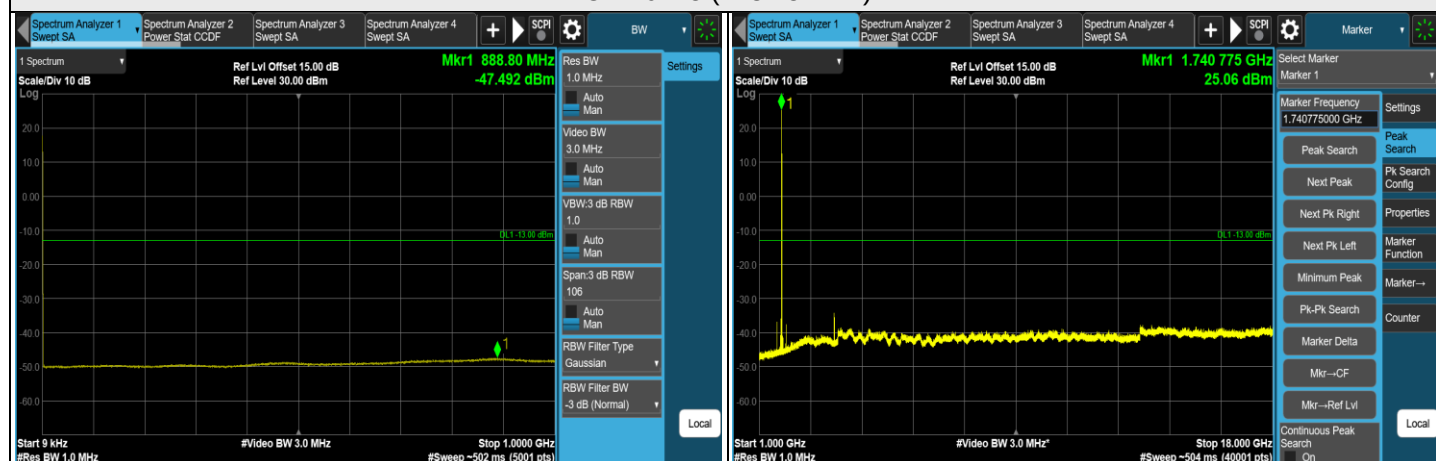
Cat-M1 Band 4, Channel Bandwidth: 15 MHz



CH 2025 (1717.5 MHz)



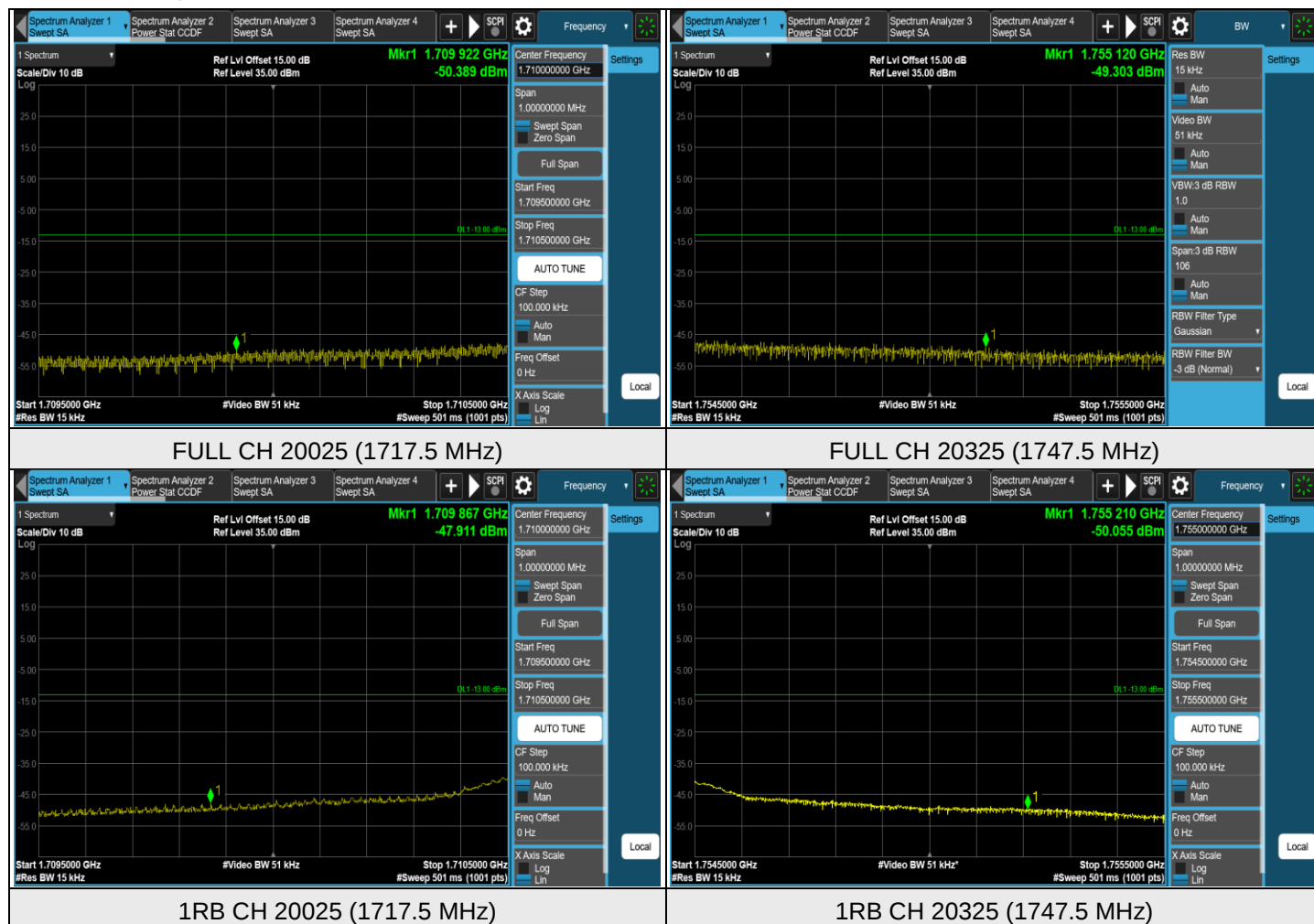
CH 20175 (1732.5 MHz)



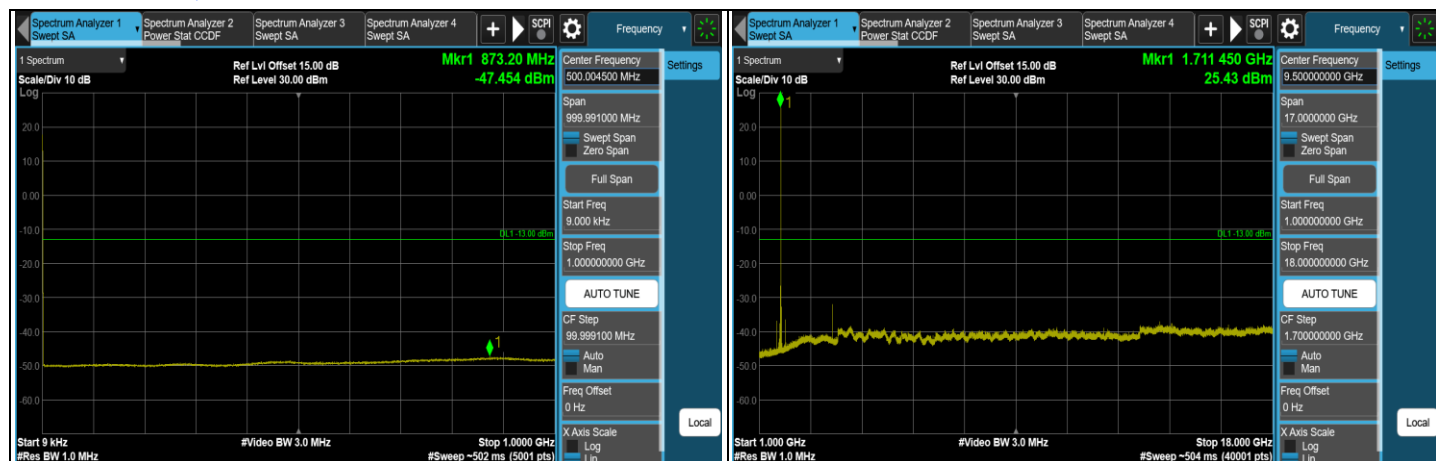
CH 20325 (1747.5 MHz)

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

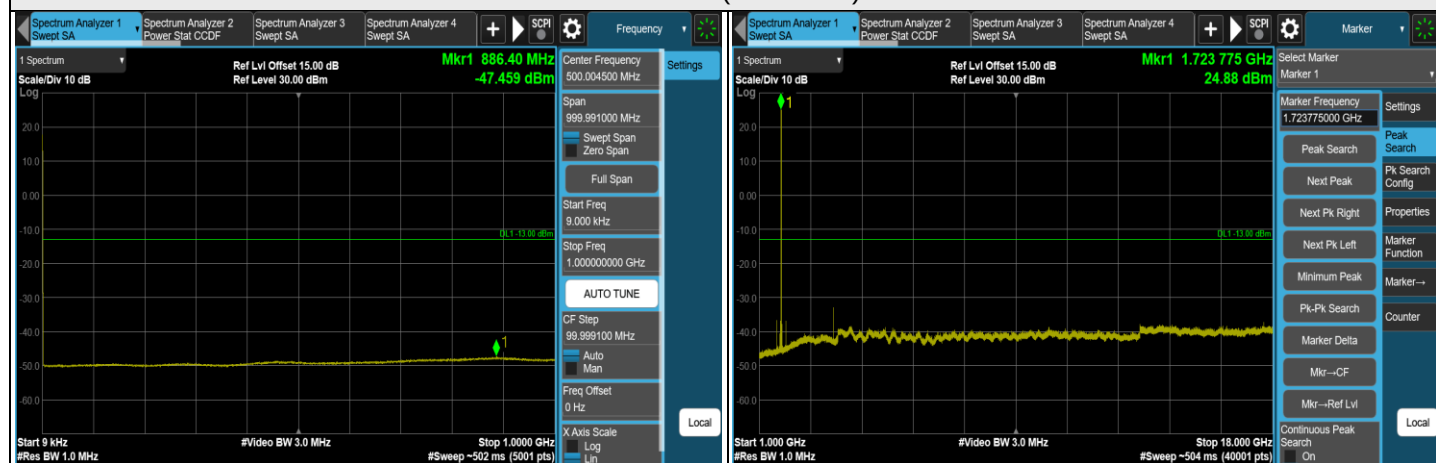
Cat-M1 Band 4, Channel Bandwidth: 15 MHz



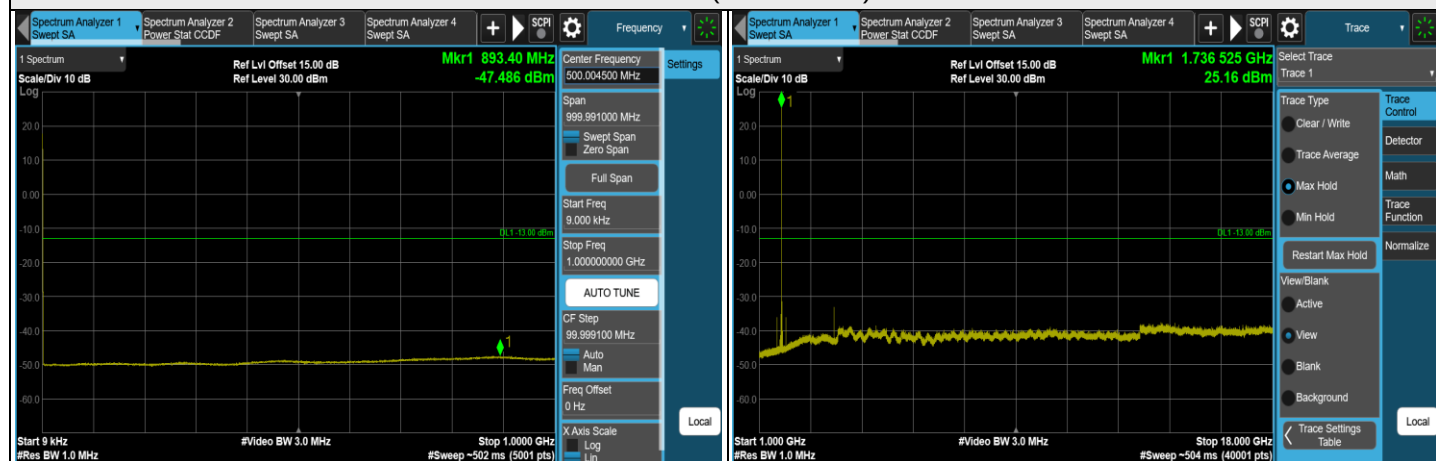
Cat-M1 Band 4, Channel Bandwidth: 20 MHz



CH 20050 (1720 MHz)



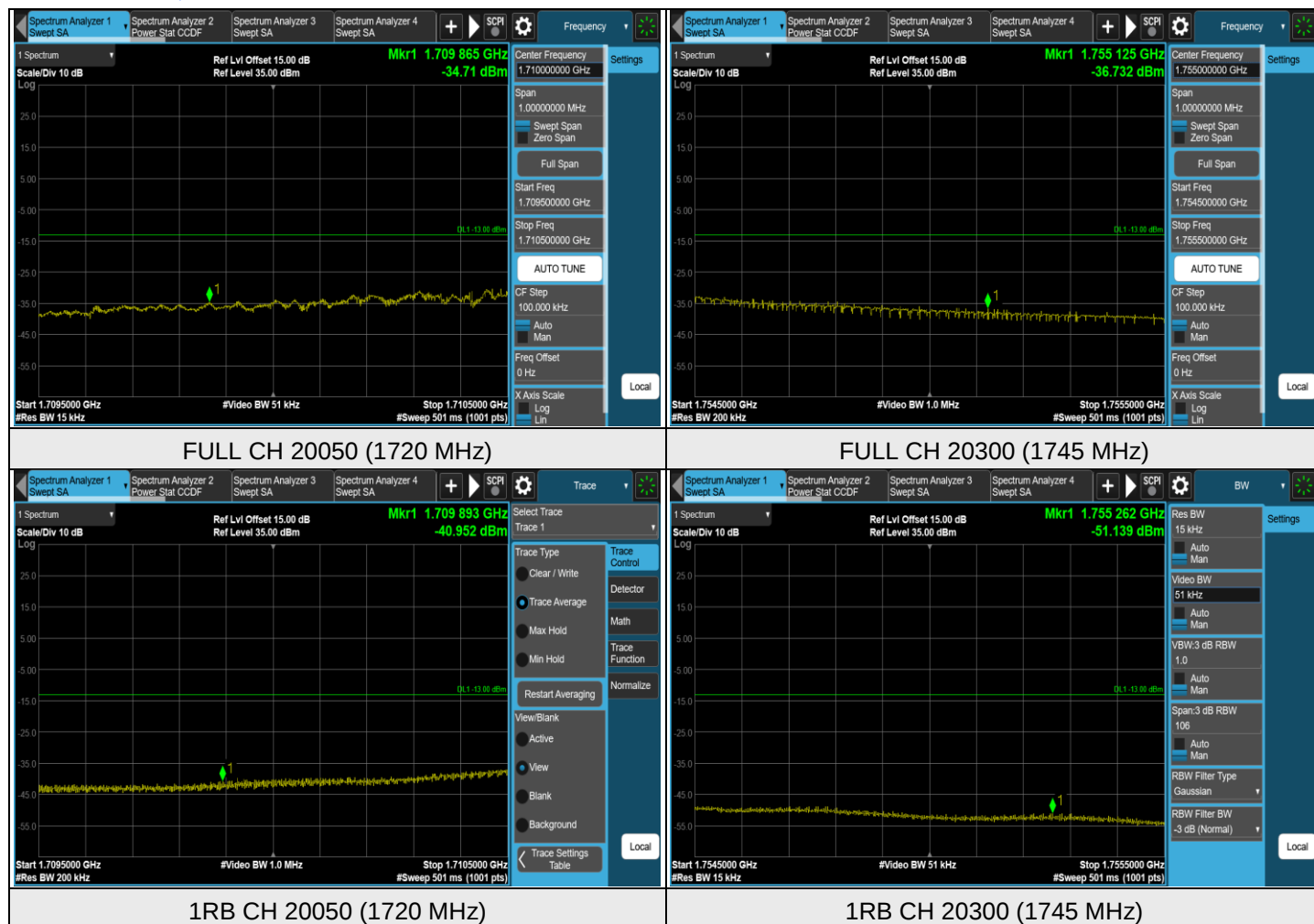
CH 20175 (1732.5 MHz)



CH 20300 (1745 MHz)

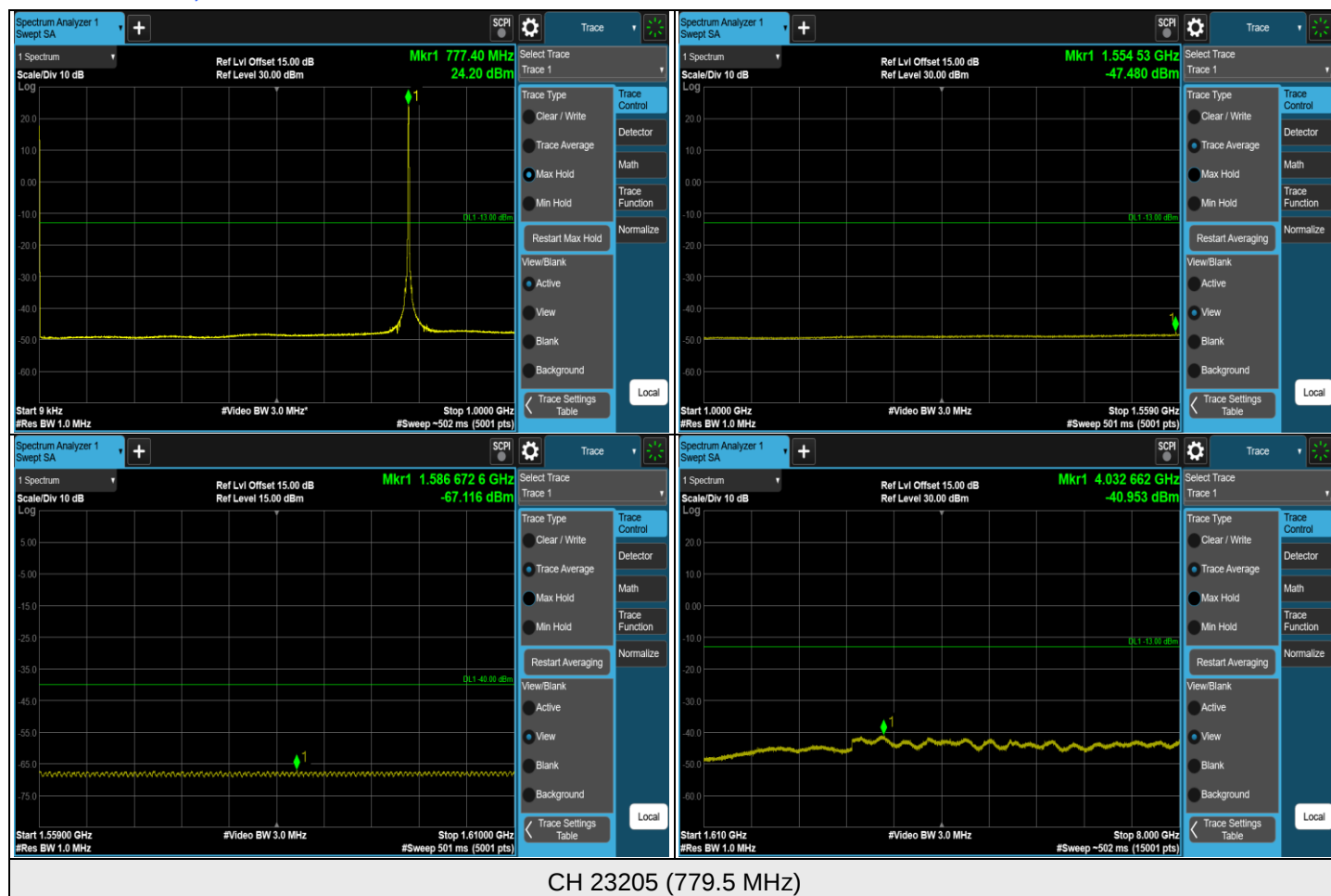
Note: The signal at 9 kHz is IF signal from spectrum analyzer.

Cat-M1 Band 4, Channel Bandwidth: 20 MHz



7.5.2 Cat-M1 Band 13

Cat-M1 Band 13, Channel Bandwidth: 5 MHz





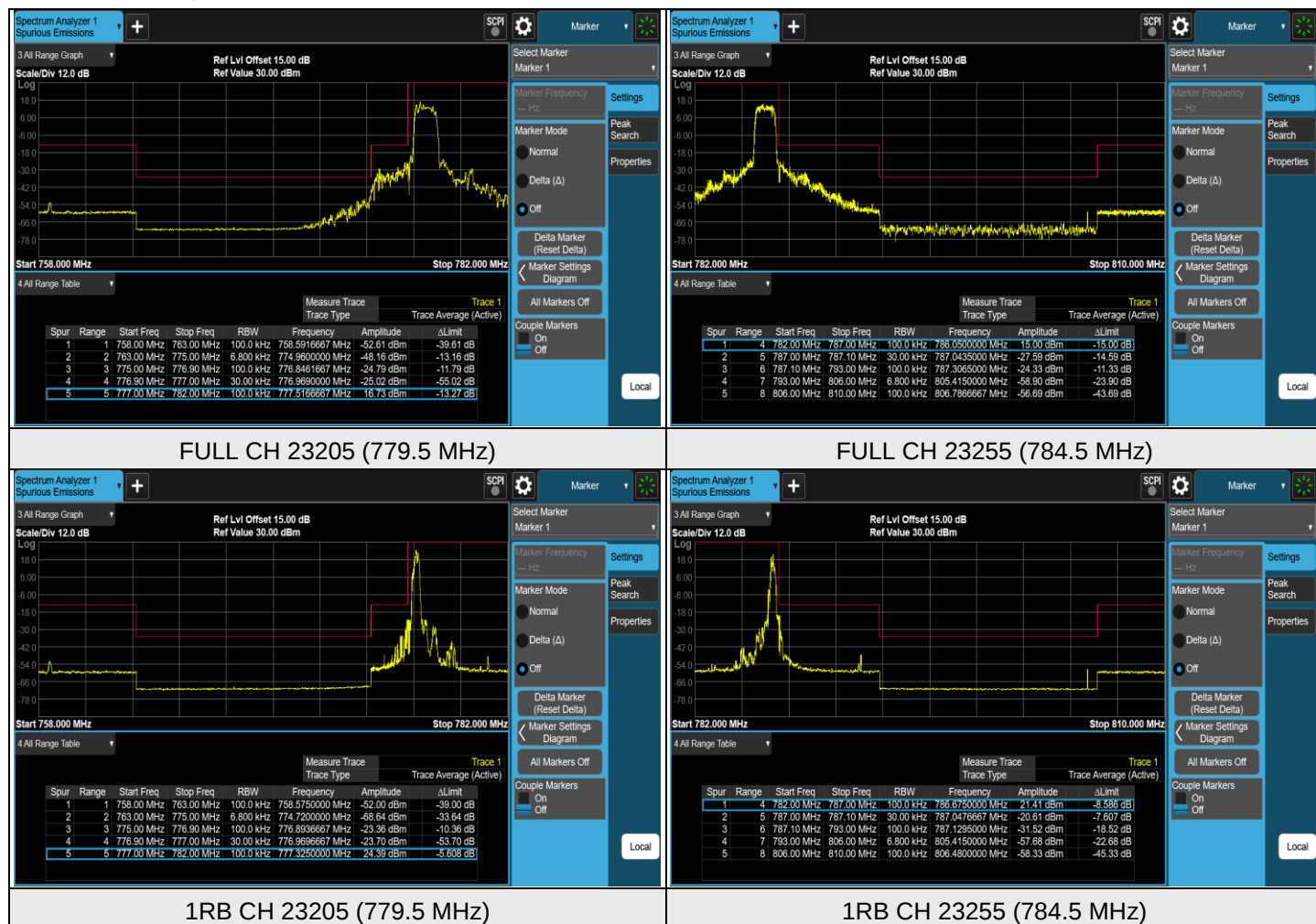
CH 23230 (782 MHz)



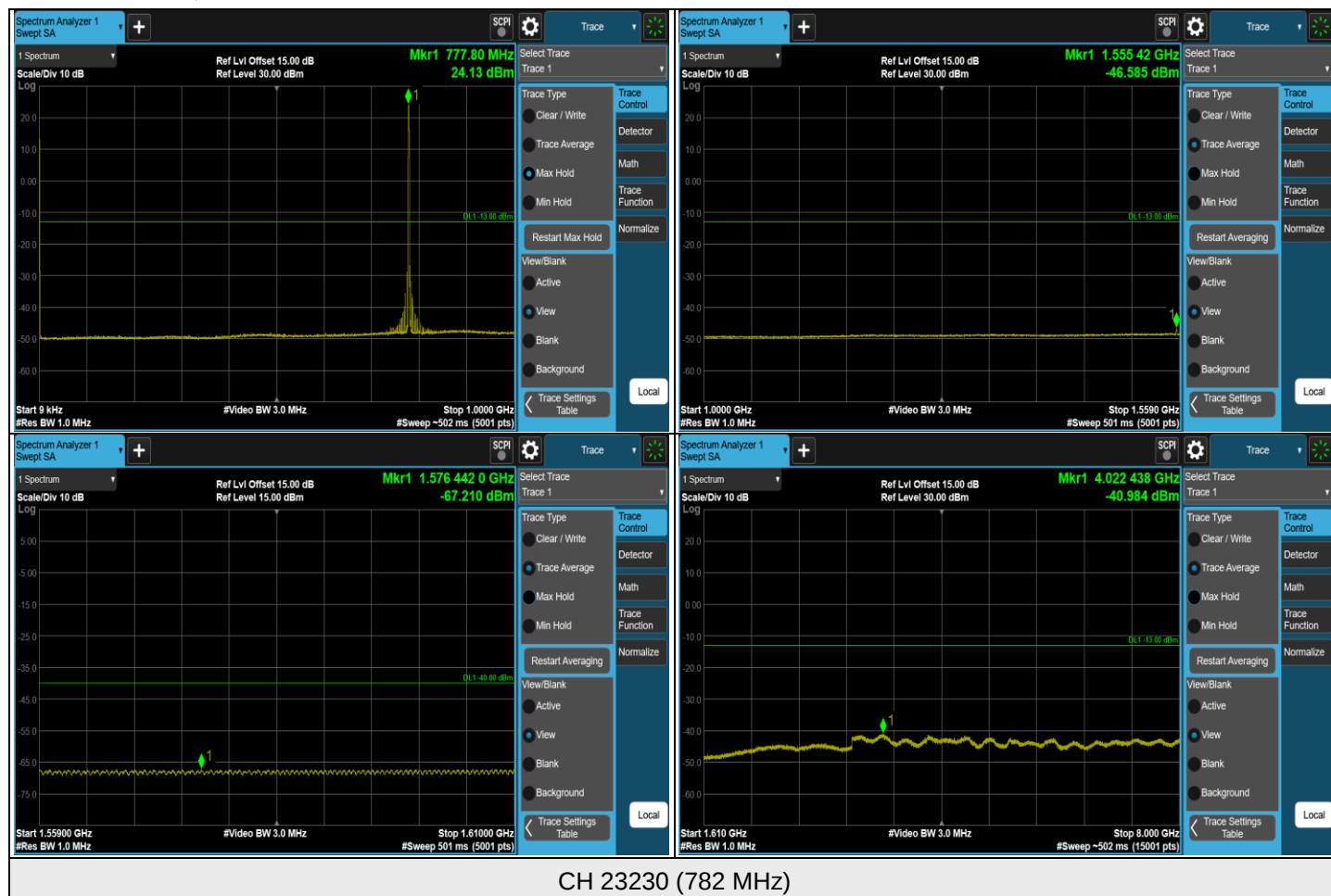
CH 23255 (784.5 MHz)

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

Cat-M1 Band 13, Channel Bandwidth: 5 MHz



Cat-M1 Band 13, Channel Bandwidth: 10 MHz

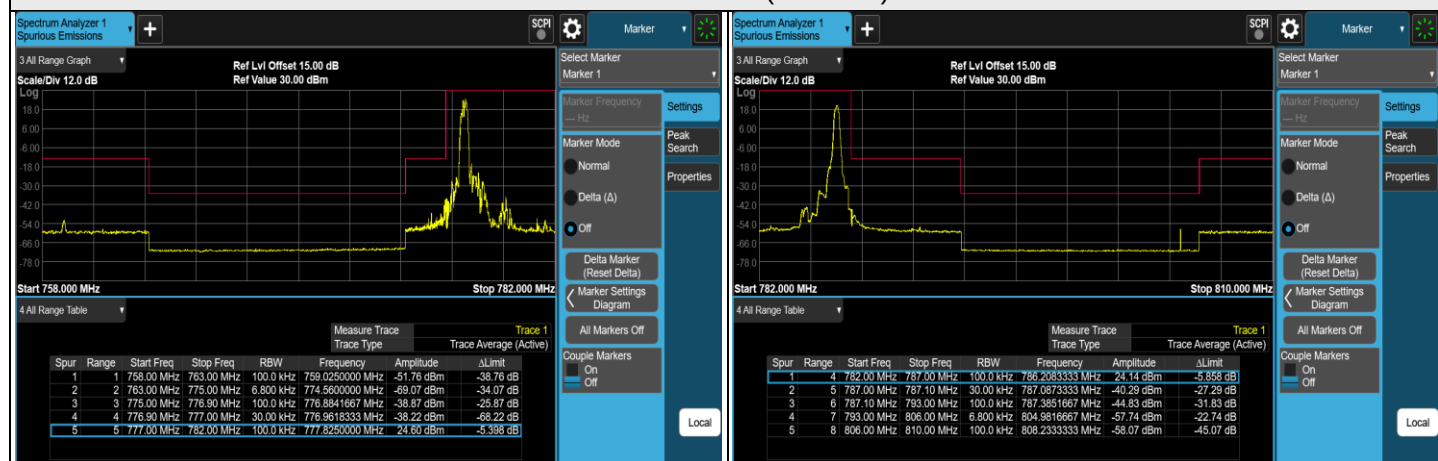


Note: The signal at 9 kHz is IF signal from spectrum analyzer.

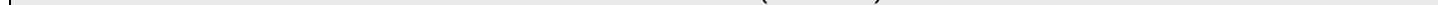
Cat-M1 Band 13, Channel Bandwidth: 10 MHz



FULL CH 23230 (782 MHz)



1RB CH 23230 (782 MHz)



7.6 Radiated Spurious Emissions below 1GHz

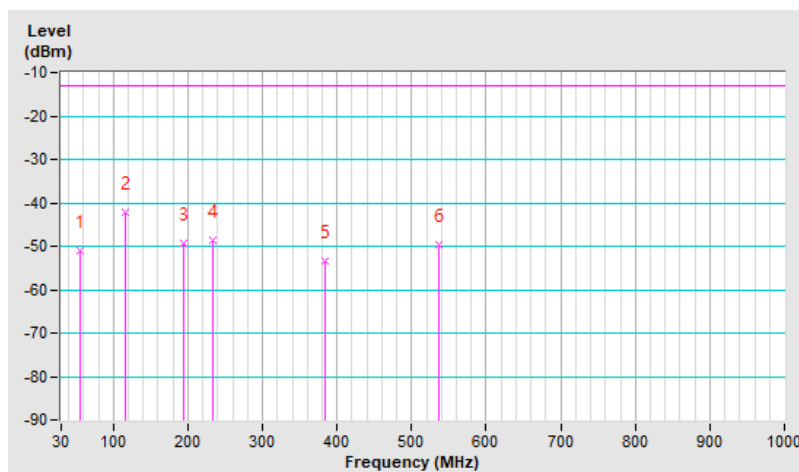
7.6.1 Cat-M1 Band 4

RF Mode	Cat-M1 Band 4 Channel Bandwidth: 5MHz	Channel	CH 20375 : 1752.5 MHz
Frequency Range	30 MHz ~ 1 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	55.22	-50.94	-13.00	-37.94	2.11 H	148	57.53	-108.47
2	115.36	-42.23	-13.00	-29.23	1.73 H	169	68.39	-110.62
3	194.90	-49.39	-13.00	-36.39	1.55 H	23	61.92	-111.31
4	232.73	-48.75	-13.00	-35.75	1.85 H	124	61.29	-110.04
5	383.08	-53.24	-13.00	-40.24	1.56 H	201	51.96	-105.20
6	537.31	-49.70	-13.00	-36.70	1.58 H	154	52.01	-101.71

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.

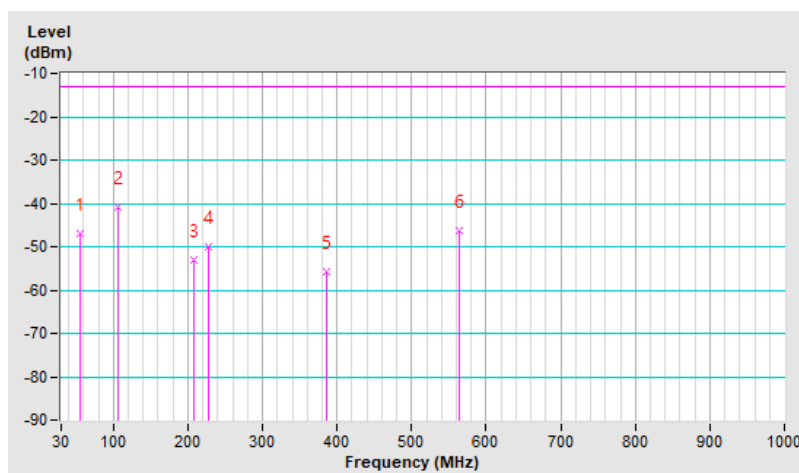


RF Mode	Cat-M1 Band 4 Channel Bandwidth: 5MHz	Channel	CH 20375 : 1752.5 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : 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	56.19	-46.88	-13.00	-33.88	2.51 V	118	61.63	-108.51
2	105.66	-40.90	-13.00	-27.90	1.73 V	52	70.72	-111.62
3	207.51	-53.10	-13.00	-40.10	1.61 V	54	58.51	-111.61
4	227.88	-50.10	-13.00	-37.10	1.53 V	149	60.61	-110.71
5	385.02	-55.88	-13.00	-42.88	1.52 V	81	49.28	-105.16
6	563.50	-46.29	-13.00	-33.29	1.42 V	112	54.69	-100.98

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.



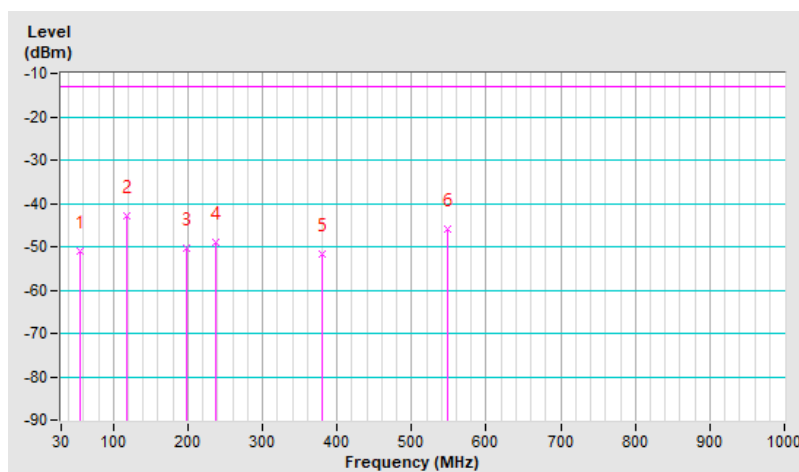
7.6.2 Cat-M1 Band 13

RF Mode	Cat-M1 Band 13 Channel Bandwidth: 10MHz	Channel	CH 23230 : 782 MHz
Frequency Range	30 MHz ~ 1 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)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	55.22	-51.10	-13.00	-38.10	1.35 H	26	59.52	-110.62
2	118.27	-42.78	-13.00	-29.78	1.96 H	221	69.74	-112.52
3	197.81	-50.44	-13.00	-37.44	1.84 H	155	63.21	-113.65
4	237.58	-49.00	-13.00	-36.00	1.74 H	132	62.75	-111.75
5	380.17	-51.83	-13.00	-38.83	1.69 H	206	55.59	-107.42
6	548.95	-45.82	-13.00	-32.82	1.51 H	140	57.76	-103.58

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP 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.

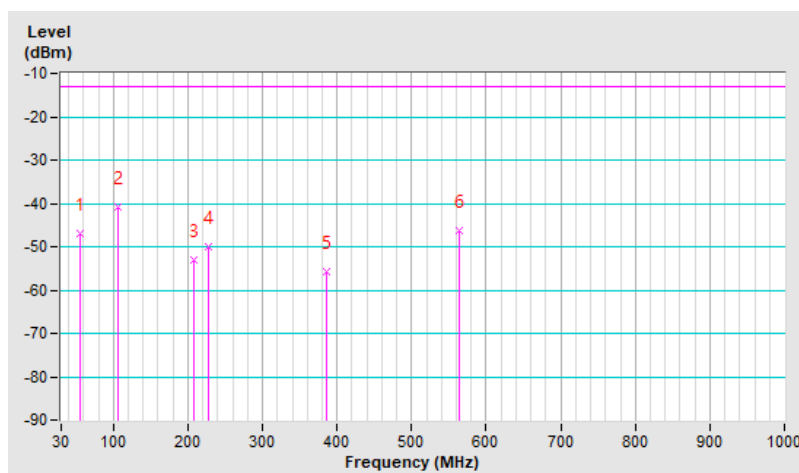


RF Mode	Cat-M1 Band 13 Channel Bandwidth: 10MHz	Channel	CH 23230 : 782 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	56.19	-46.92	-13.00	-33.92	1.62 V	214	63.74	-110.66
2	105.66	-40.85	-13.00	-27.85	1.80 V	263	72.92	-113.77
3	207.51	-53.11	-13.00	-40.11	1.64 V	58	60.65	-113.76
4	227.88	-50.14	-13.00	-37.14	1.60 V	150	62.72	-112.86
5	385.02	-55.85	-13.00	-42.85	1.51 V	46	51.46	-107.31
6	563.50	-46.32	-13.00	-33.32	1.51 V	108	56.81	-103.13

Remarks:

- ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + $20\log(D) - 104.8 - 2.15$
- Margin value = ERP – Limit value
- The other ERP 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.



7.7 Radiated Spurious Emissions above 1GHz

RF Mode	Cat-M1 Band 4 Channel Bandwidth: 1.4MHz	Channel	CH 19957 : 1710.7 MHz
Frequency Range	1 GHz ~ 18 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	3421.40	-29.60	-13.00	-16.60	1.08 H	151	66.72	-96.32
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	3421.40	-30.46	-13.00	-17.46	1.46 V	31	65.86	-96.32

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	Cat-M1 Band 4 Channel Bandwidth: 1.4MHz	Channel	CH 20175 : 1732.5 MHz
Frequency Range	1 GHz ~ 18 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	3465.00	-28.57	-13.00	-15.57	1.04 H	155	67.71	-96.28
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	3465.00	-29.46	-13.00	-16.46	1.53 V	29	66.82	-96.28

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	Cat-M1 Band 4 Channel Bandwidth: 1.4MHz	Channel	CH 20393 : 1754.3 MHz
Frequency Range	1 GHz ~ 18 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	3508.60	-28.21	-13.00	-15.21	1.10 H	152	68.03	-96.24
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	3508.60	-29.31	-13.00	-16.31	1.58 V	14	66.93	-96.24

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	Cat-M1 Band 4 Channel Bandwidth: 5MHz	Channel	CH 19975 : 1712.5 MHz
Frequency Range	1 GHz ~ 18 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	3425.00	-29.18	-13.00	-16.18	1.08 H	152	67.13	-96.31
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	3425.00	-30.06	-13.00	-17.06	1.42 V	25	66.25	-96.31

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	Cat-M1 Band 4 Channel Bandwidth: 5MHz	Channel	CH 20175 : 1732.5 MHz
Frequency Range	1 GHz ~ 18 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	3465.00	-28.44	-13.00	-15.44	1.04 H	155	67.84	-96.28
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	3465.00	-29.26	-13.00	-16.26	1.53 V	29	67.02	-96.28

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	Cat-M1 Band 4 Channel Bandwidth: 5MHz	Channel	CH 20375 : 1752.5 MHz
Frequency Range	1 GHz ~ 18 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	3505.00	-27.80	-13.00	-14.80	1.12 H	160	68.46	-96.26
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	3505.00	-28.87	-13.00	-15.87	1.48 V	22	67.39	-96.26

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	Cat-M1 Band 4 Channel Bandwidth: 20MHz	Channel	CH 20050 : 1720 MHz
Frequency Range	1 GHz ~ 18 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	3440.00	-29.15	-13.00	-16.15	1.32 H	157	67.15	-96.30
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	3440.00	-30.18	-13.00	-17.18	1.56 V	18	66.12	-96.30

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	Cat-M1 Band 4 Channel Bandwidth: 20MHz	Channel	CH 20175 : 1732.5 MHz
Frequency Range	1 GHz ~ 18 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	3465.00	-28.18	-13.00	-15.18	1.04 H	155	68.10	-96.28
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	3465.00	-29.18	-13.00	-16.18	1.53 V	29	67.10	-96.28

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	Cat-M1 Band 4 Channel Bandwidth: 20MHz	Channel	CH 20300 : 1745 MHz
Frequency Range	1 GHz ~ 18 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	3490.00	-28.43	-13.00	-15.43	1.07 H	148	67.85	-96.28
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	3490.00	-28.77	-13.00	-15.77	1.59 V	45	67.51	-96.28

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	Cat-M1 Band 13 Channel Bandwidth: 5MHz	Channel	CH 23205 : 779.5 MHz
Frequency Range	1 GHz ~ 18 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	1559.00	-47.07	-40.00	-7.07	1.54 H	42	54.96	-102.03
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	1559.00	-48.85	-40.00	-8.85	1.75 V	204	53.18	-102.03

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	Cat-M1 Band 13 Channel Bandwidth: 5MHz	Channel	CH 23230 : 782 MHz
Frequency Range	1 GHz ~ 18 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	1564.00	-46.74	-40.00	-6.74	1.55 H	37	55.28	-102.02
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	1564.00	-48.73	-40.00	-8.73	1.68 V	201	53.29	-102.02

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	Cat-M1 Band 13 Channel Bandwidth: 5MHz	Channel	CH 23255 : 784.5 MHz
Frequency Range	1 GHz ~ 18 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	1569.00	-46.67	-40.00	-6.67	1.53 H	22	55.35	-102.02
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	1569.00	-48.60	-40.00	-8.60	1.71 V	196	53.42	-102.02

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	Cat-M1 Band 13 Channel Bandwidth: 10MHz	Channel	CH 23230 : 782 MHz
Frequency Range	1 GHz ~ 18 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	1564.00	-46.29	-40.00	-6.29	1.55 H	37	55.73	-102.02
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	1564.00	-48.14	-40.00	-8.14	1.68 V	201	53.88	-102.02

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.

7.8 Frequency Stability

Environmental Conditions:	25°C, 60% RH	Tested By:	Noah Chang
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7.8.1 Cat-M1 Band 4

Cat-M1 Band 4, Channel Bandwidth: 20 MHz

Frequency Stability Versus Voltage					
Voltage (Vac)	CH 20050 (1720 MHz)		CH 20300 (1745 MHz)		Test Result
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
102	1720.000007	0.0041	1745.000004	0.0023	Pass
120	1720.000001	0.0058	1745.000009	0.0052	Pass
138	1719.999994	-0.0035	1744.999995	-0.0029	Pass

Note: The applicant defined the normal working voltage is from 102 to 138 Vac.

Frequency Stability Versus Temperature					
Temperature (°C)	CH 20050 (1720 MHz)		CH 20300 (1745 MHz)		Test Result
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	1720	0	1744.999997	-0.0017	Pass
-20	1719.999993	-0.0041	1744.999997	-0.0017	Pass
-10	1720.000003	0.0017	1745	0	Pass
0	1720.000002	0.0012	1745.000005	0.0029	Pass
10	1719.999992	-0.0047	1744.999995	-0.0029	Pass
20	1719.999992	-0.0047	1744.999995	-0.0029	Pass
30	1720.000008	0.0047	1745.000007	0.0041	Pass
40	1719.999993	-0.0041	1744.999993	-0.0041	Pass
50	1719.999997	-0.0017	1744.999995	-0.0029	Pass

7.8.2 Cat-M1 Band 13

Cat-M1 Band 13, Channel Bandwidth: 10 MHz

Frequency Stability Versus Voltage			
Voltage (Vac)	CH 23230 (782 MHz)		Test Result
	Frequency (MHz)	Frequency Error (ppm)	
102	782.000005	0.0064	Pass
120	781.999993	-0.009	Pass
138	782.000003	0.0038	Pass

Note: The applicant defined the normal working voltage is from 102 to 138 Vac.

Frequency Stability Versus Temperature			
Temperature (°C)	CH 23230 (782 MHz)		Test Result
	Frequency (MHz)	Frequency Error (ppm)	
-30	782.000005	0.0064	Pass
-20	782.000003	0.0038	Pass
-10	782.000008	0.0102	Pass
0	782.000009	0.0115	Pass
10	781.999995	-0.0064	Pass
20	782.000003	0.0038	Pass
30	782.000004	0.0051	Pass
40	782.000007	0.009	Pass
50	781.999991	-0.0115	Pass

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

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