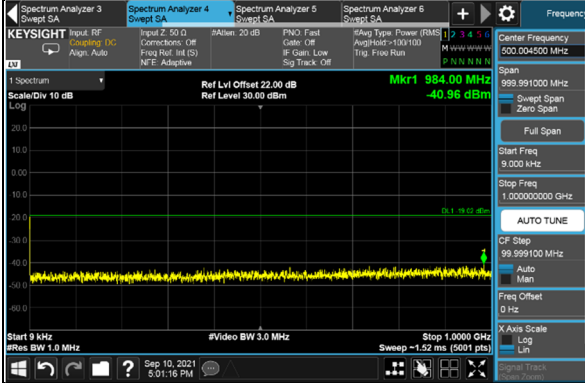


Ant. TX 2

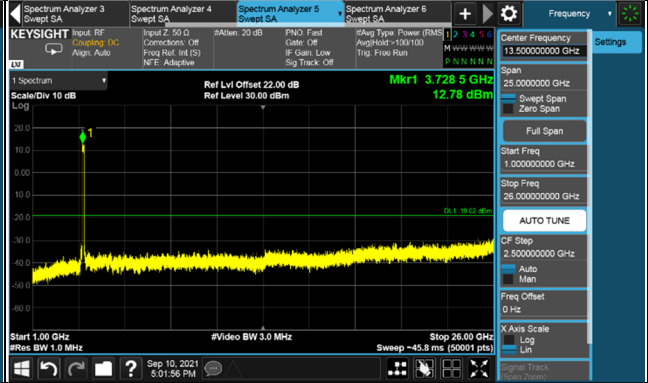
5GNR n78, Channel Bandwidth 100MHz

Channel 650000 (3750MHz)

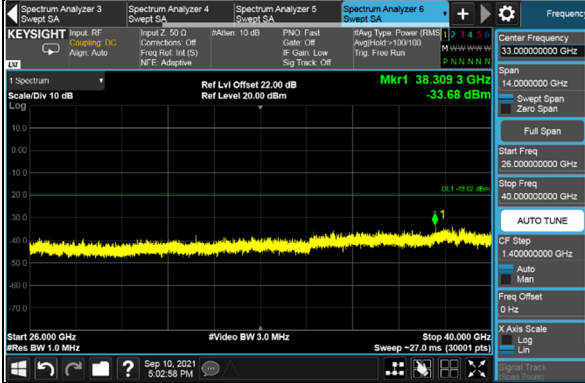
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 26GHz



Frequency Range : 26GHz ~ 40GHz



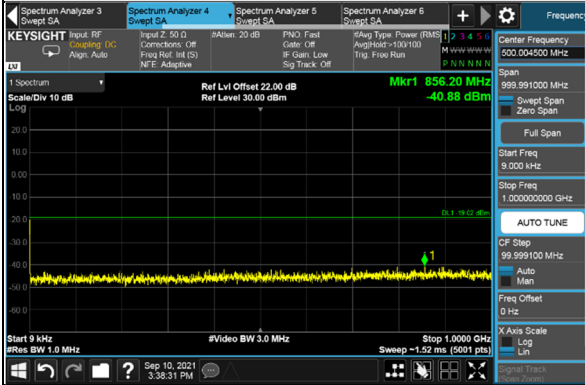
*The 9 kHz tone is from the spectrum analyzer.

Ant. TX 3

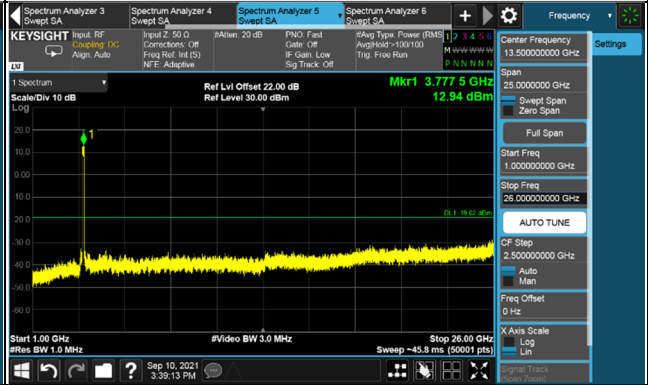
5GNR n78, Channel Bandwidth 100MHz

Channel 650000 (3750MHz)

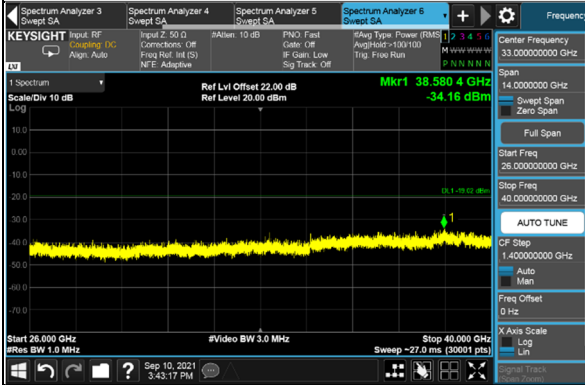
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 26GHz



Frequency Range : 26GHz ~ 40GHz



*The 9 kHz tone is from the spectrum analyzer.

4.8 Radiated Emission Measurement

4.8.1 Limits of Radiated Emission Measurement

According to FCC 27.53(l), for operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

4.8.2 Test Procedure

- a. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) 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 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.
- d. Following C63.26 section 5.5 and 5.2.7
 - $EIRP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.
 - $ERP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8 - 2.15$; where D is the measurement distance (in the far field region) in m.

Note:

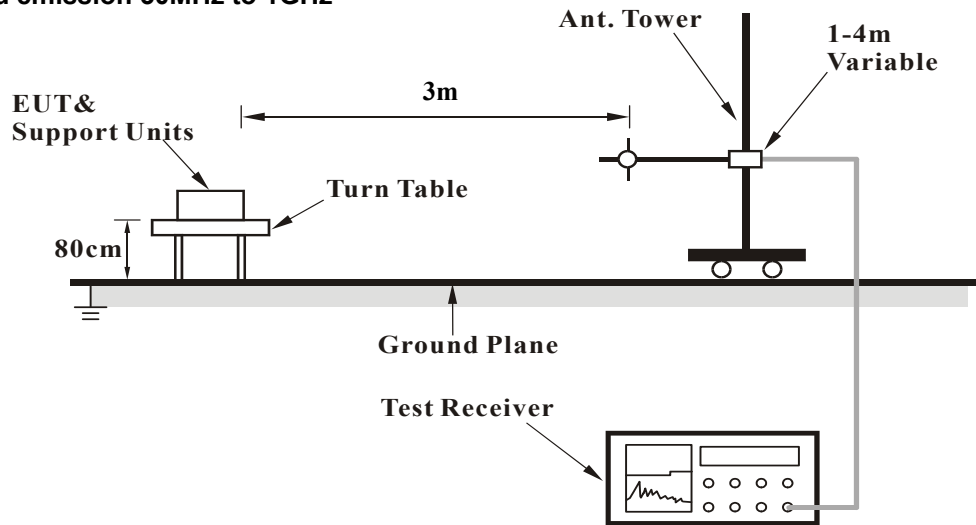
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz:
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.8.3 Deviation from Test Standard

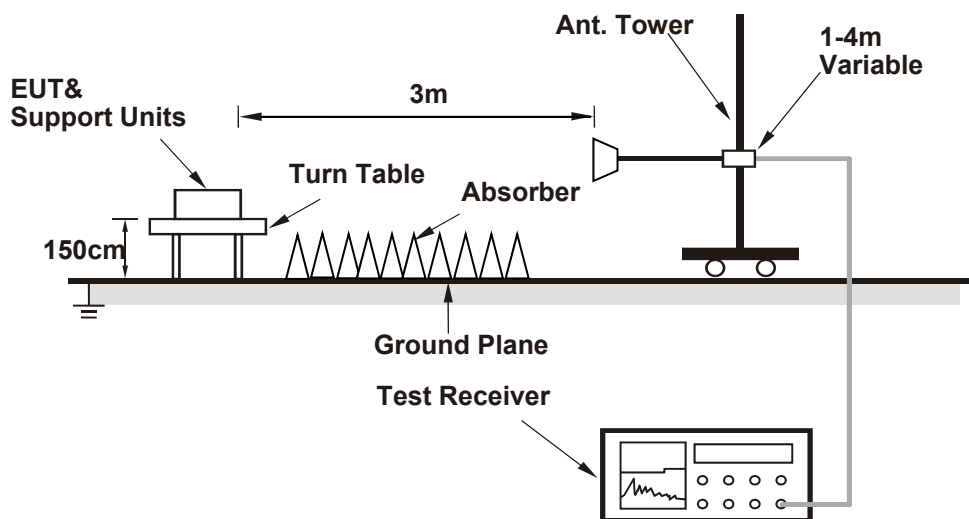
No deviation.

4.8.4 Test Setup

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



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

4.8.5 Test Results

Below 1GHz

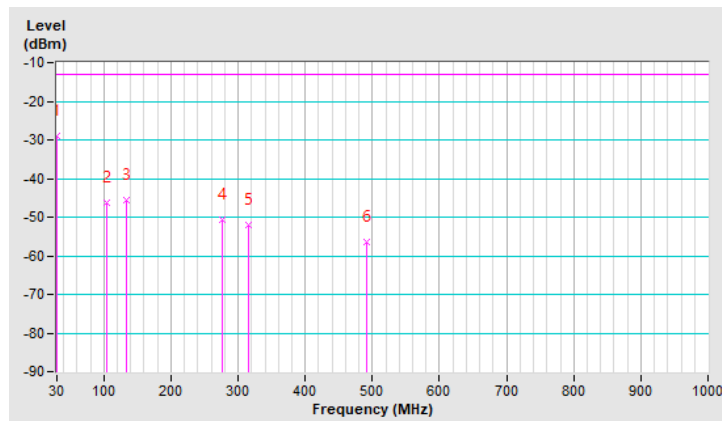
5GNR n78, Channel Bandwidth 100MHz

Mode	TX channel 650000 (3750.00MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	21deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Rex Wang	Test Mode	A

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	-28.82	-13.00	-15.82	1.00 H	15	76.91	-105.73
2	103.72	-46.20	-13.00	-33.20	1.50 H	182	61.79	-107.99
3	132.82	-45.48	-13.00	-32.48	2.00 H	165	59.47	-104.95
4	277.35	-50.62	-13.00	-37.62	1.00 H	288	52.01	-102.63
5	316.15	-52.03	-13.00	-39.03	1.50 H	196	49.45	-101.48
6	491.72	-56.50	-13.00	-43.50	1.00 H	102	41.23	-97.73

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.

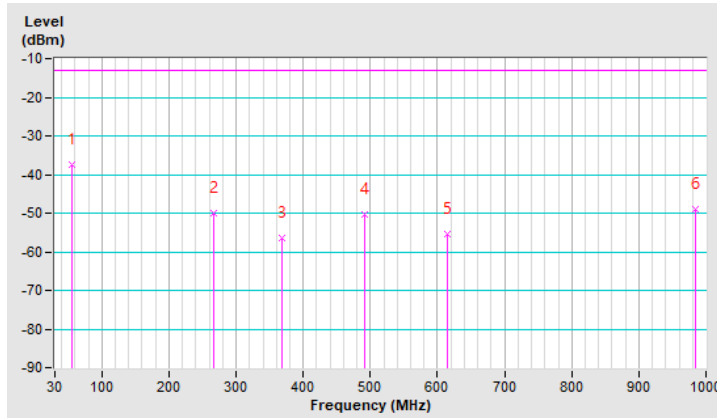


Mode	TX channel 650000 (3750.00MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	21deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Rex Wang	Test Mode	A

Antenna Polarity & Test Distance : Vertical at 3m								
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	-37.44	-13.00	-24.44	1.25 V	122	66.88	-104.32
2	265.71	-50.12	-13.00	-37.12	1.00 V	212	53.14	-103.26
3	368.53	-56.46	-13.00	-43.46	1.25 V	266	44.14	-100.60
4	491.72	-50.30	-13.00	-37.30	1.50 V	32	47.43	-97.73
5	614.91	-55.38	-13.00	-42.38	1.50 V	68	39.81	-95.19
6	983.51	-48.98	-13.00	-35.98	2.00 V	322	39.65	-88.63

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.

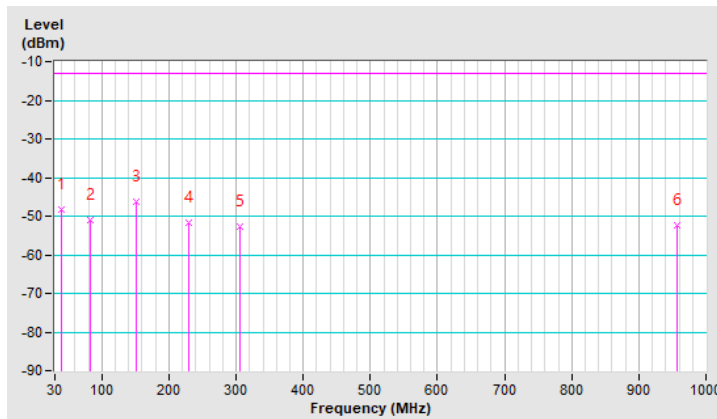


Mode	TX channel 650000 (3750.00MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	21deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Rex Wang	Test Mode	B

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	39.70	-48.47	-13.00	-35.47	1.25 H	9	56.43	-104.90
2	83.35	-51.14	-13.00	-38.14	1.00 H	6	58.21	-109.35
3	151.25	-46.31	-13.00	-33.31	1.50 H	267	57.58	-103.89
4	229.82	-51.82	-13.00	-38.82	1.25 H	220	53.97	-105.79
5	305.48	-52.83	-13.00	-39.83	1.00 H	211	48.91	-101.74
6	957.32	-52.52	-13.00	-39.52	2.00 H	248	36.27	-88.79

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.

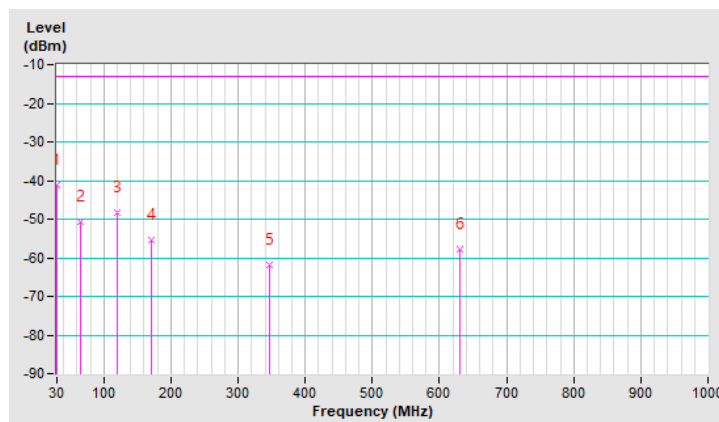


Mode	TX channel 650000 (3750.00MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	21deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Rex Wang	Test Mode	B

Antenna Polarity & Test Distance : Vertical at 3m								
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	-41.34	-13.00	-28.34	1.00 V	129	64.39	-105.73
2	64.92	-50.73	-13.00	-37.73	1.50 V	225	54.77	-105.50
3	119.24	-48.40	-13.00	-35.40	1.25 V	225	57.92	-106.32
4	171.62	-55.49	-13.00	-42.49	1.00 V	126	48.81	-104.30
5	347.19	-61.85	-13.00	-48.85	1.00 V	144	39.25	-101.10
6	629.46	-57.84	-13.00	-44.84	1.50 V	358	37.05	-94.89

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.



Above 1GHz

5GNR n78, Channel Bandwidth 100MHz

Mode	TX channel 650000 (3750.00MHz)	Frequency Range	1GHz ~ 40GHz
Environmental Conditions	21deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Rex Wang	Test Mode	A

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	7500.00	-37.93	-13.00	-24.93	1.01 H	320	44.63	-82.56
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7500.00	-35.36	-13.00	-22.36	1.00 V	240	47.20	-82.56

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.

Mode	TX channel 650000 (3750.00MHz)	Frequency Range	1GHz ~ 40GHz
Environmental Conditions	21deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Rex Wang	Test Mode	B

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	7500.00	-39.39	-13.00	-26.39	1.00 H	157	43.17	-82.56
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	7500.00	-35.46	-13.00	-22.46	1.91 V	215	47.10	-82.56

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.

5 Pictures of Test Arrangements

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

Appendix – 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 and approved 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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