

## 11. RADIATED TEST RESULTS

### Radiated measurement using the Field Strength Method

Using the test configuration shown in Figure 6 below, We measure the radiated emissions directly from the EUT and convert the measured field strength or received power to ERP or EIRP, as required, for comparison to the applicable limits. As stated in 5.5.1 of ANSI C63.26-2015, the field strength measurement method using a test site validated to the requirements of ANSI C63.4 is an alternative to the substitution measurement method.

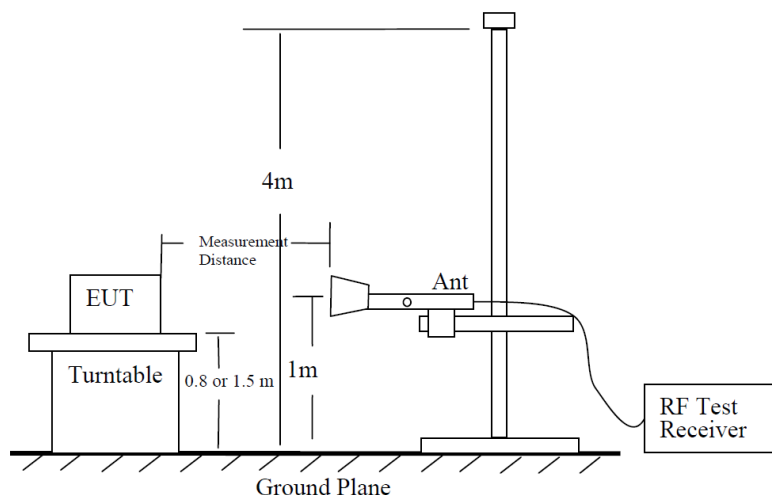


Figure 6 —Test site-up for radiated ERP and/or EIRP measurements

### Radiated Power Measurement Calculation According to ANSI C63.26-2015

- a)  $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dB}\mu\text{V)} + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$ .
- b)  $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$ .
- c)  $E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20\log(D) + 104.8$ ; where D is the measurement distance (in the far field region) in m.
- d)  $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8$ ; where D is the measurement distance (in the far field region) in m.

So, from d)

The measuring distance is usually at 3m, then  $20 \cdot \log(3) = 9.5424$

Then,  $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 9.5424 - 104.8 = E \text{ (dB}\mu\text{V/m)} - 95.2576$

Note: Confidence check of each chamber is performed daily to see if any degradation from expected/normal reading reference data. Ambient check of each chamber is performed monthly.

## 11.1. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz

### TEST PROCEDURE

KDB 971168 D01 v03r01/D02 v02/r02

All tests above 1GHz were done with a Resolution Bandwidth of 1MHz, and a Video Bandwidth of 3MHz

### RESULTS

Both QPSK and 16QAM modes are tested, and worst-case bandwidth and modulation per RF Card are reported only.

### **11.1.1. 5G NR n2**

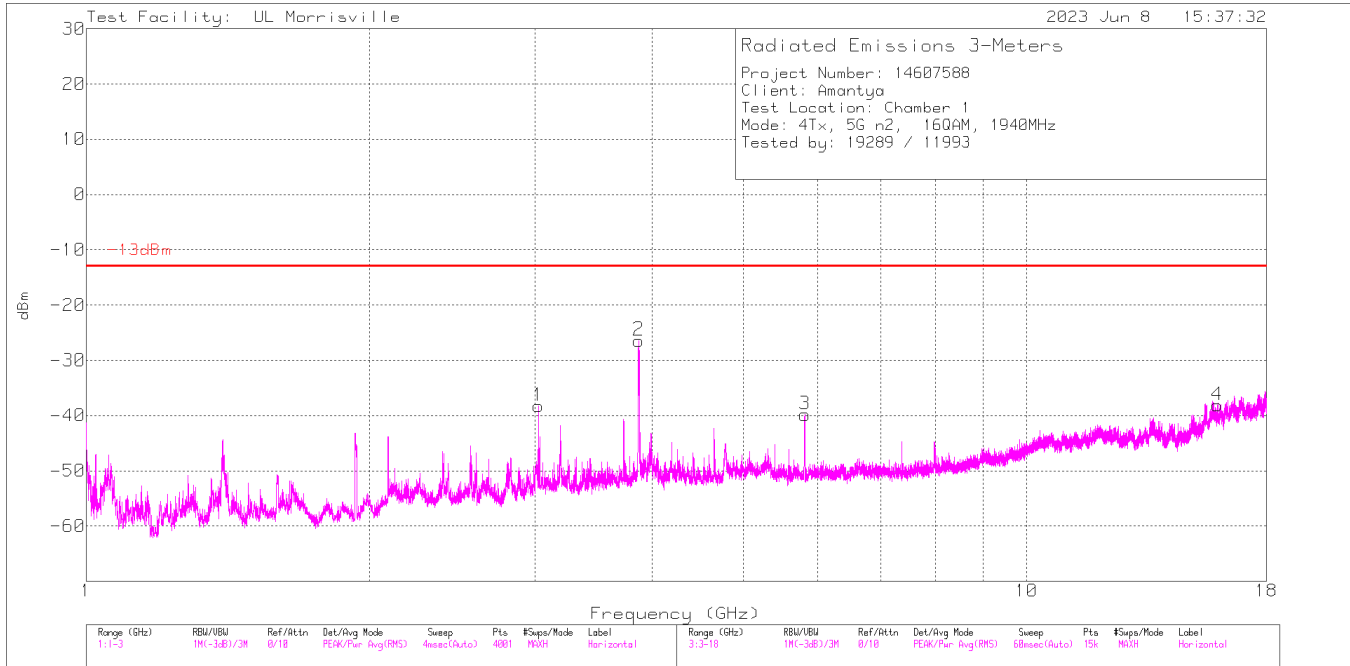
#### **LIMITS**

FCC: §24.238(a)

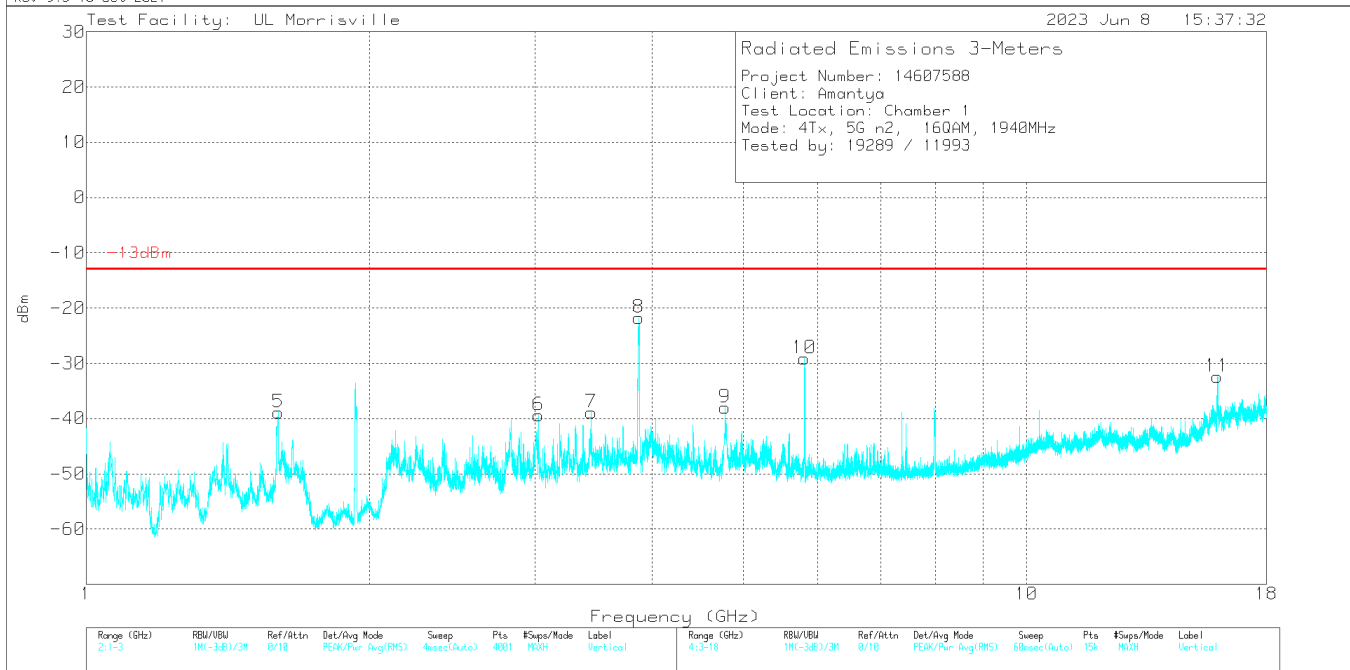
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

#### **RF1 – N310**

### 5G NR n2 16QAM (10.0MHz BANDWIDTH, LOW CHANNEL)



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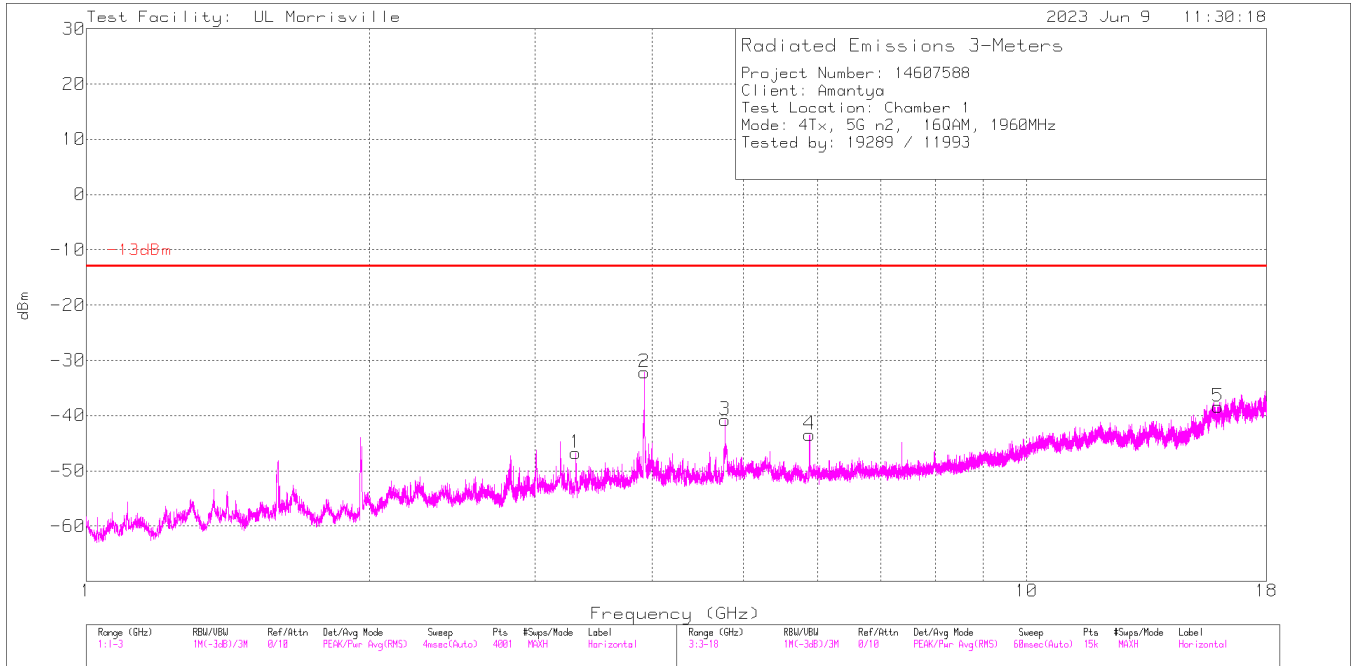


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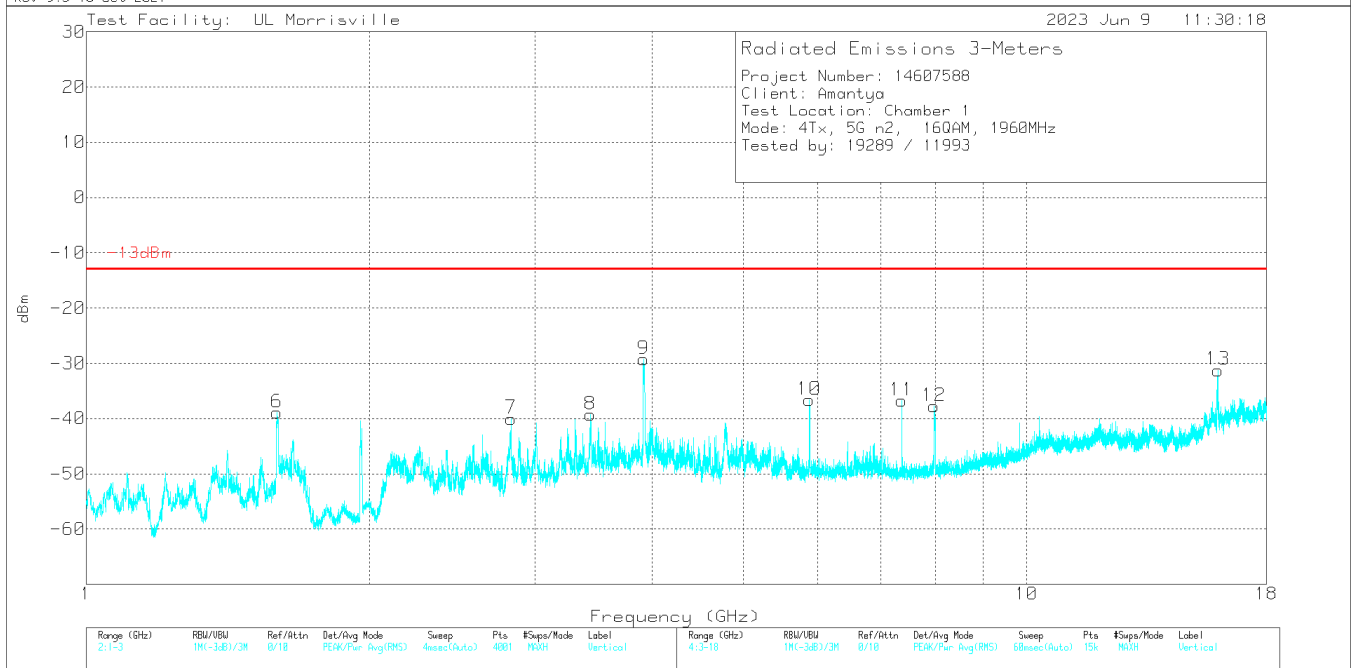
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	1.59975	-44.14	Pk	28.2	-35.8	11.8	1.1	-38.84	-13	-25.84	0-360	101	V
6	3.026	-51.08	Pk	32.9	-33	11.8	0	-39.38	-13	-26.38	0-360	300	V
1	3.028	-50.06	Pk	32.9	-32.9	11.8	0	-38.26	-13	-25.26	0-360	400	H
7	3.446	-50.66	Pk	32.6	-32.6	11.8	0	-38.86	-13	-25.86	0-360	101	V
8	3.86918	-29.5	Pk	33.4	-30.7	11.8	0	-15	-13	-2	277	102	V
2	3.87	-40.89	Pk	33.4	-30.7	11.8	0	-26.39	-13	-13.39	0-360	200	H
9	4.78	-53.37	Pk	34.1	-30.5	11.8	0	-37.97	-13	-24.97	0-360	101	V
10	5.808	-43.96	Pk	34.7	-31.6	11.8	0	-29.06	-13	-16.06	0-360	201	V
3	5.809	-54.74	Pk	34.7	-31.6	11.8	0	-39.84	-13	-26.84	0-360	301	H
11	15.958	-59.1	Pk	40.7	-25.8	11.8	0	-32.4	-13	-19.4	0-360	101	V
4	15.964	-65.17	Pk	40.7	-25.5	11.8	0	-38.17	-13	-25.17	0-360	200	H

Pk - Peak detector

### 5G NR n2 16QAM (10.0MHz BANDWIDTH, MID CHANNEL)



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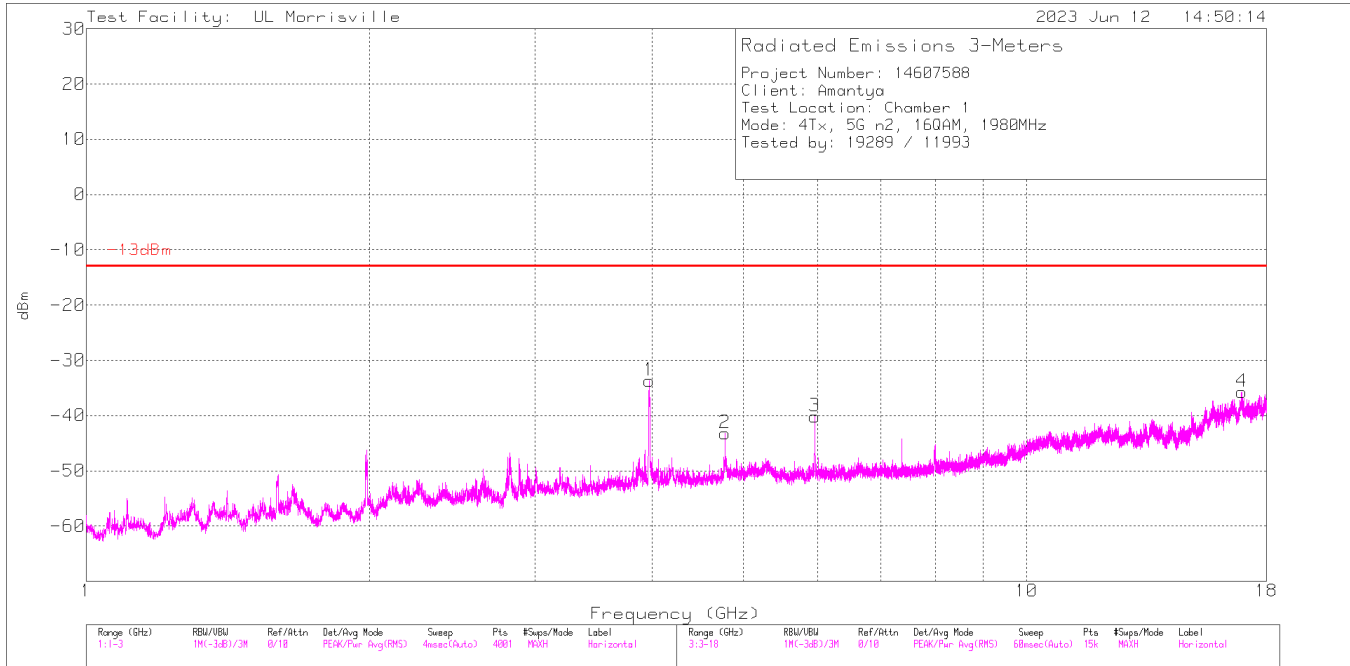


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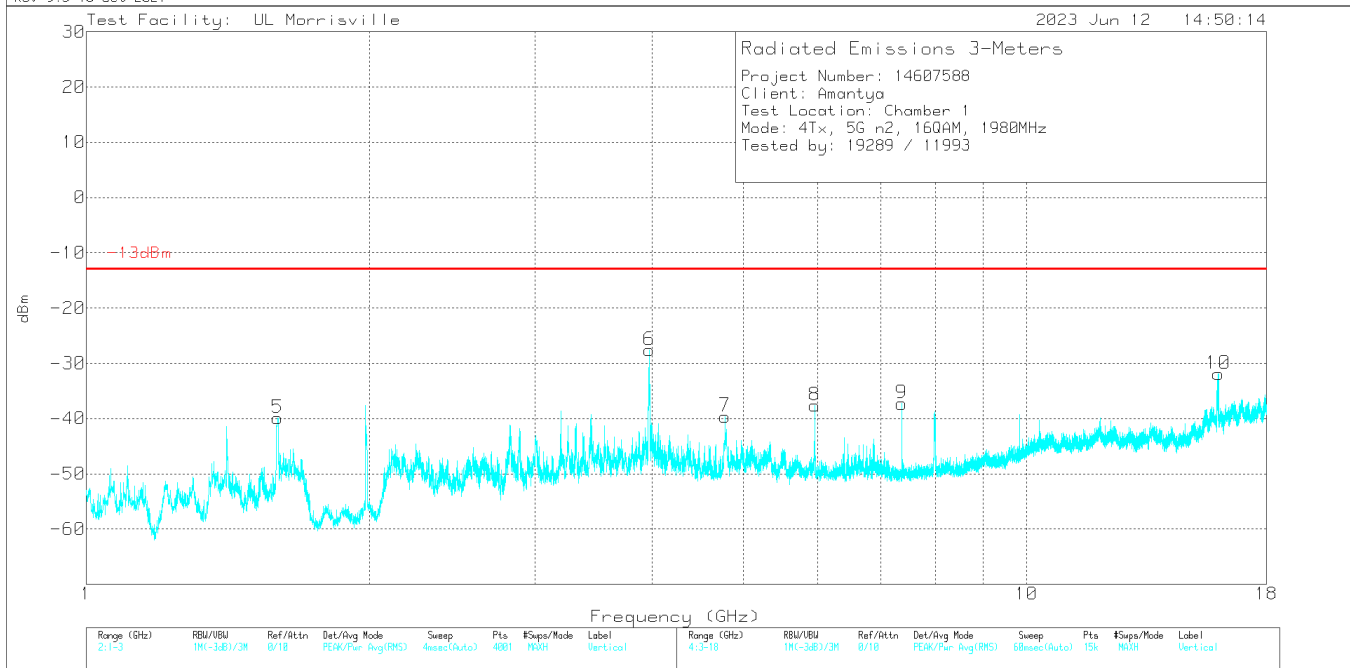
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	1.596	-43.69	Pk	28.1	-36.2	11.8	1.1	-38.89	-13	-25.89	0-360	101	V
7	2.8315	-51.07	Pk	32.4	-33.5	11.8	.4	-39.97	-13	-26.97	0-360	101	V
1	3.318	-59.1	Pk	32.8	-32.3	11.8	0	-46.8	-13	-33.8	0-360	400	H
8	3.44	-51.71	Pk	32.6	-32	11.8	0	-39.31	-13	-26.31	0-360	101	V
9	3.919	-42.61	Pk	33.4	-31.8	11.8	0	-29.21	-13	-16.21	0-360	300	V
2	3.921	-45.65	Pk	33.4	-31.7	11.8	0	-32.15	-13	-19.15	0-360	200	H
3	4.781	-56.25	Pk	34.1	-30.5	11.8	0	-40.85	-13	-27.85	0-360	400	H
10	5.878	-52.34	Pk	34.9	-31	11.8	0	-36.64	-13	-23.64	0-360	300	V
4	5.879	-59.1	Pk	34.9	-31	11.8	0	-43.4	-13	-30.4	0-360	301	H
11	7.373	-55.26	Pk	35.7	-29	11.8	0	-36.76	-13	-23.76	0-360	200	V
12	7.97	-56.23	Pk	35.8	-29.1	11.8	0	-37.73	-13	-24.73	0-360	101	V
13	15.988	-57.91	Pk	40.7	-25.8	11.8	0	-31.21	-13	-18.21	0-360	101	V
5	15.995	-65.19	Pk	40.7	-25.7	11.8	0	-38.39	-13	-25.39	0-360	200	H

Pk - Peak detector

### 5G NR n2 16QAM (10.0MHz BANDWIDTH, HIGH CHANNEL)



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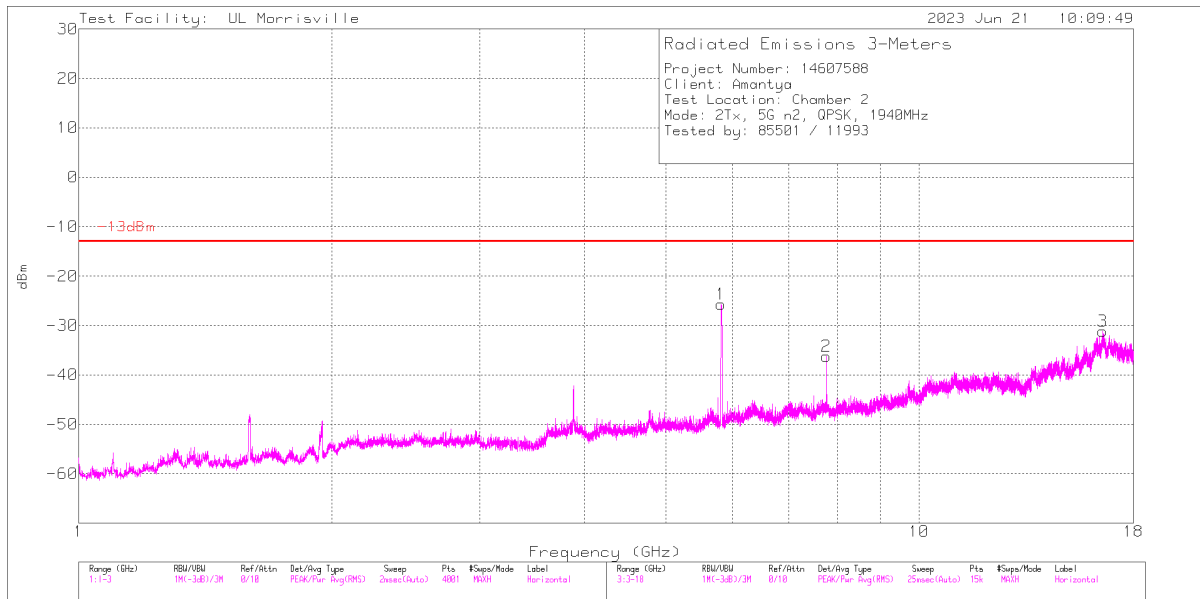


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	1.597	-44.8	Pk	28.1	-36.1	11.8	1.1	-39.9	-13	-26.9	0-360	101	V
1	3.969	-47.19	Pk	33.4	-31.7	11.8	0	-33.69	-13	-20.69	0-360	200	H
6	3.96974	-39.15	Pk	33.4	-31.7	11.8	0	-25.65	-13	-12.65	259	311	V
2	4.78	-58.61	Pk	34.1	-30.5	11.8	0	-43.21	-13	-30.21	0-360	300	H
7	4.78	-54.99	Pk	34.1	-30.5	11.8	0	-39.59	-13	-26.59	0-360	201	V
3	5.954	-57.33	Pk	35.1	-29.7	11.8	0	-40.13	-13	-27.13	0-360	300	H
8	5.959	-54.69	Pk	35.2	-29.9	11.8	0	-37.59	-13	-24.59	0-360	101	V
9	7.373	-55.8	Pk	35.7	-29	11.8	0	-37.3	-13	-24.3	0-360	101	V
10	16.0015	-58.82	Pk	40.7	-25.6	11.8	0	-31.92	-13	-18.92	0-360	101	V
4	16.939	-66.97	Pk	41.7	-22.3	11.8	0	-35.77	-13	-22.77	0-360	101	H

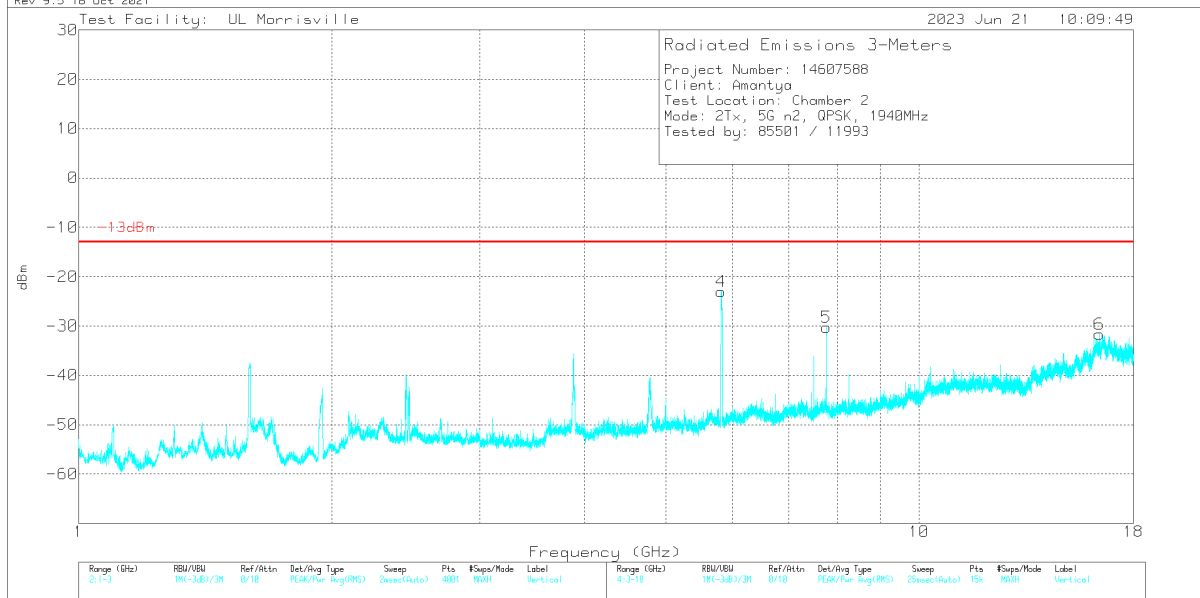
Pk - Peak detector

**RF2 – B210**

**5G NR n2 QPSK (20.0MHz BANDWIDTH, LOW CHANNEL)**



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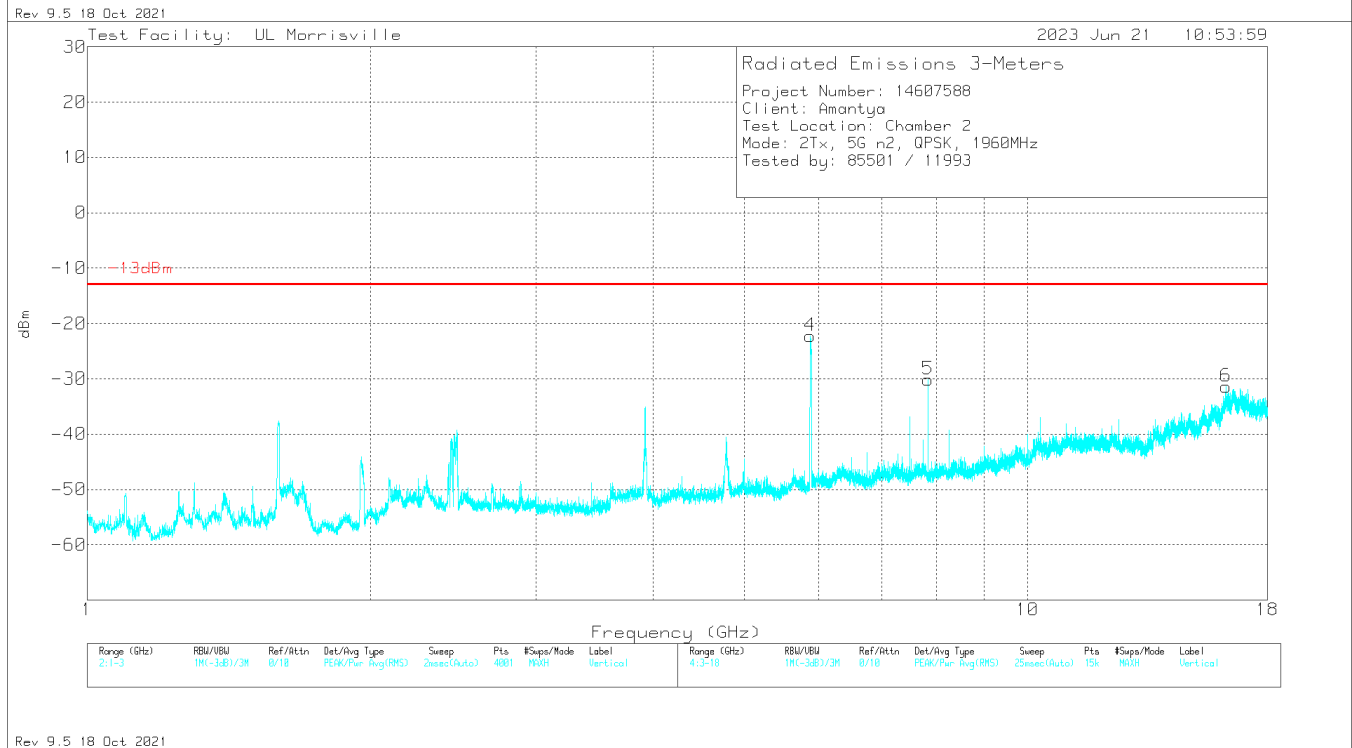
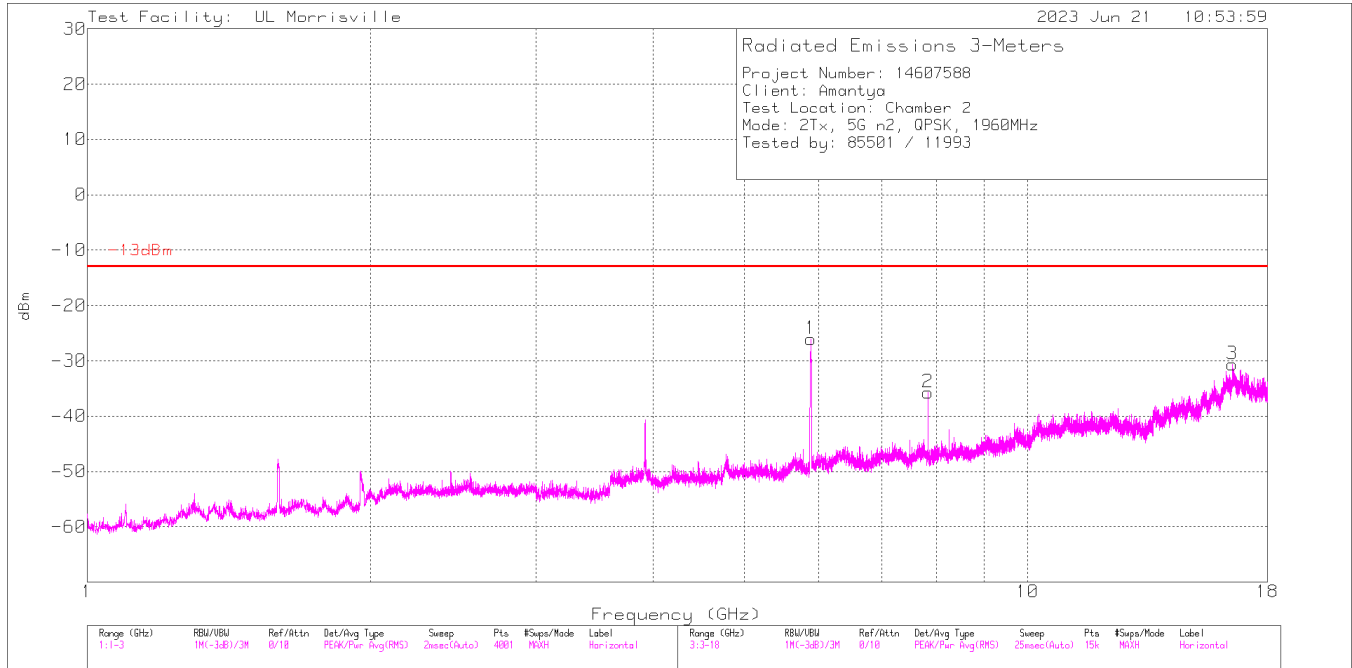


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Marker	Frequency (GHz)	Meter Reading (dBm)	Det	88761 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	5.814	-39.41	Pk	34.7	-30.1	11.8	0	-23.01	-13	-10.01	0-360	101	V
1	5.818	-42.05	Pk	34.7	-30.1	11.8	0	-25.65	-13	-12.65	0-360	200	H
2	7.76	-57.41	Pk	35.8	-26.4	11.8	0	-36.21	-13	-23.21	0-360	200	H
5	7.76	-51.44	Pk	35.8	-26.4	11.8	0	-30.24	-13	-17.24	0-360	101	V
6	16.391	-65.03	Pk	41	-19.4	11.8	0	-31.63	-13	-18.63	0-360	200	V
3	16.541	-66.41	Pk	41.3	-17.8	11.8	0	-31.11	-13	-18.11	0-360	200	H

Pk - Peak detector

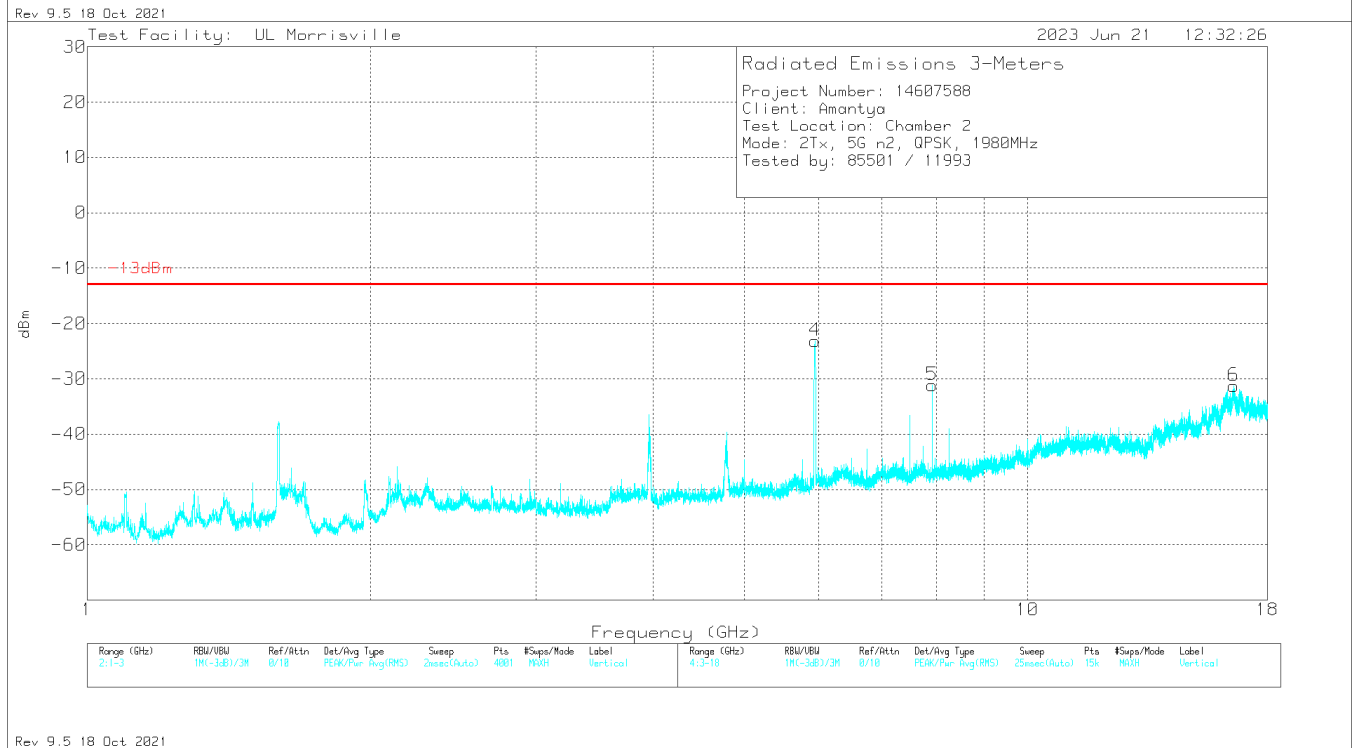
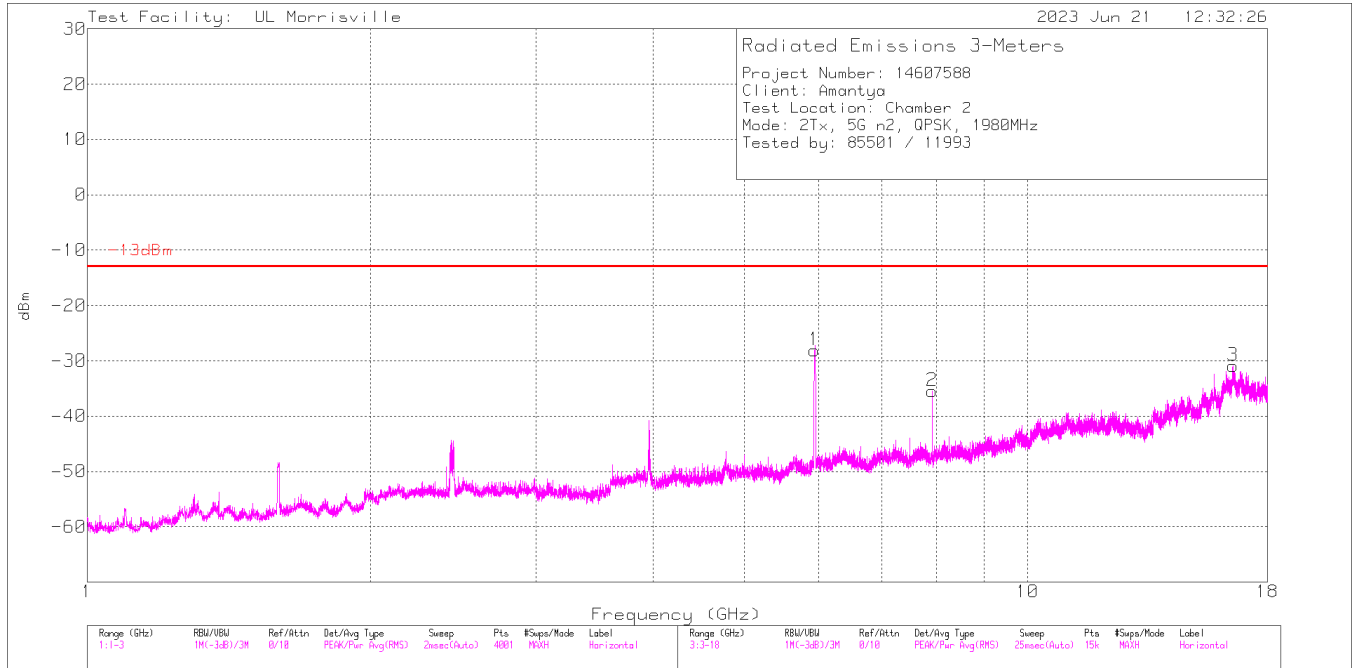
### 5G NR n2 QPSK (20.0MHz BANDWIDTH, MID CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	88761 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	5.876	-39.51	Pk	34.9	-29.4	11.8	0	-22.21	-13	-9.21	0-360	200	V
1	5.881	-43.43	Pk	34.9	-29.3	11.8	0	-26.03	-13	-13.03	0-360	200	H
2	7.84	-56.24	Pk	35.7	-27	11.8	0	-35.74	-13	-22.74	0-360	200	H
5	7.84	-50.62	Pk	35.7	-27	11.8	0	-30.12	-13	-17.12	0-360	101	V
6	16.264	-65.95	Pk	40.8	-18.1	11.8	0	-31.45	-13	-18.45	0-360	101	V
3	16.515	-65.16	Pk	41.2	-18.5	11.8	0	-30.66	-13	-17.66	0-360	200	H

Pk - Peak detector

### 5G NR n2 QPSK (20.0MHz BANDWIDTH, HIGH CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	88761 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.932	-46.34	Pk	35	-28.6	11.8	0	-28.14	-13	-15.14	0-360	101	H
4	5.941	-41.4	Pk	35	-28.5	11.8	0	-23.1	-13	-10.1	0-360	300	V
2	7.92	-56.22	Pk	35.8	-26.9	11.8	0	-35.52	-13	-22.52	0-360	200	H
5	7.92	-51.85	Pk	35.8	-26.9	11.8	0	-31.15	-13	-18.15	0-360	101	V
3	16.542	-66.14	Pk	41.3	-17.8	11.8	0	-30.84	-13	-17.84	0-360	200	H
6	16.572	-65.94	Pk	41.3	-18.4	11.8	0	-31.24	-13	-18.24	0-360	300	V

Pk - Peak detector

## 11.1.2. 5G NR n5

### LIMITS

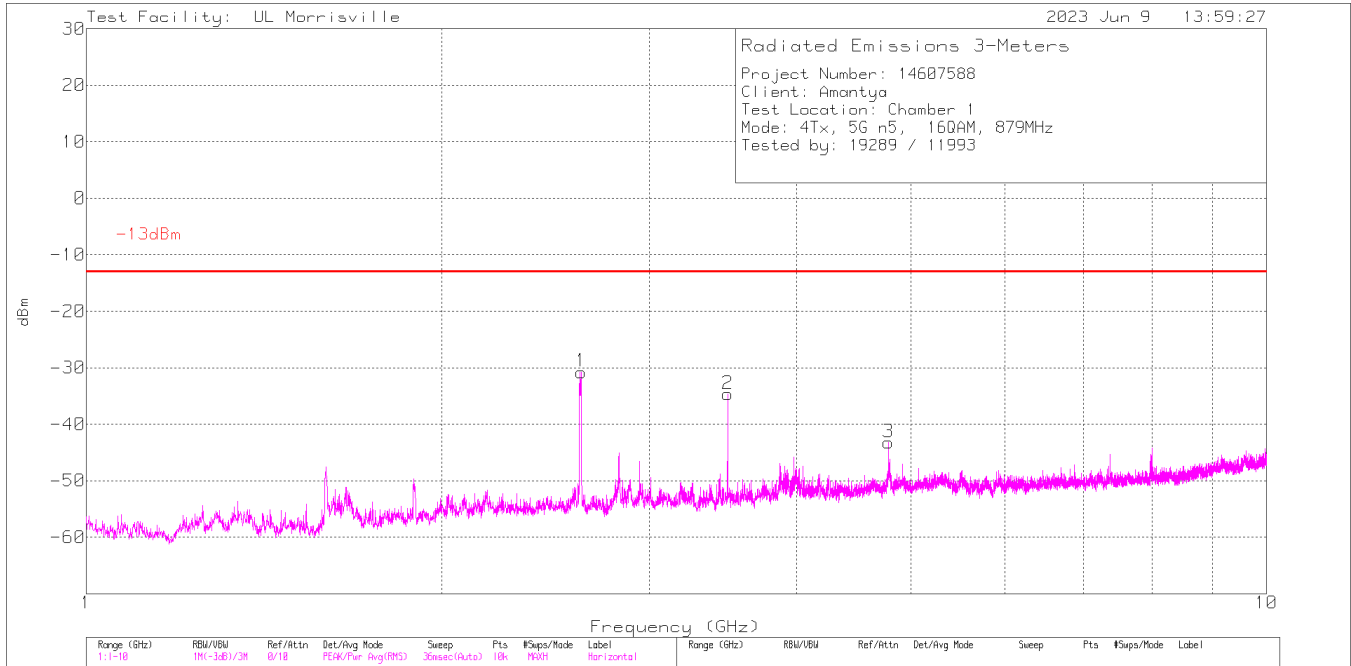
FCC: §22.917(a)

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

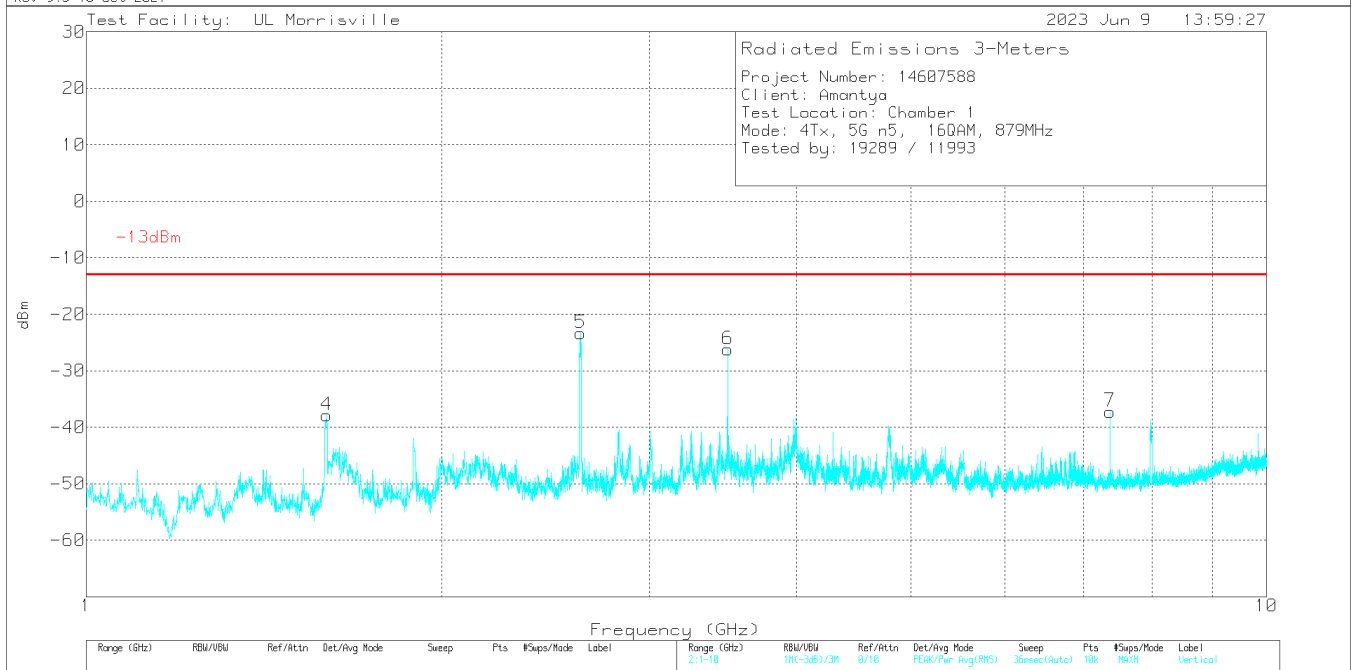
### RF1 – N310



### 5G NR n5 16QAM (10.0MHz BANDWIDTH, LOW CHANNEL)



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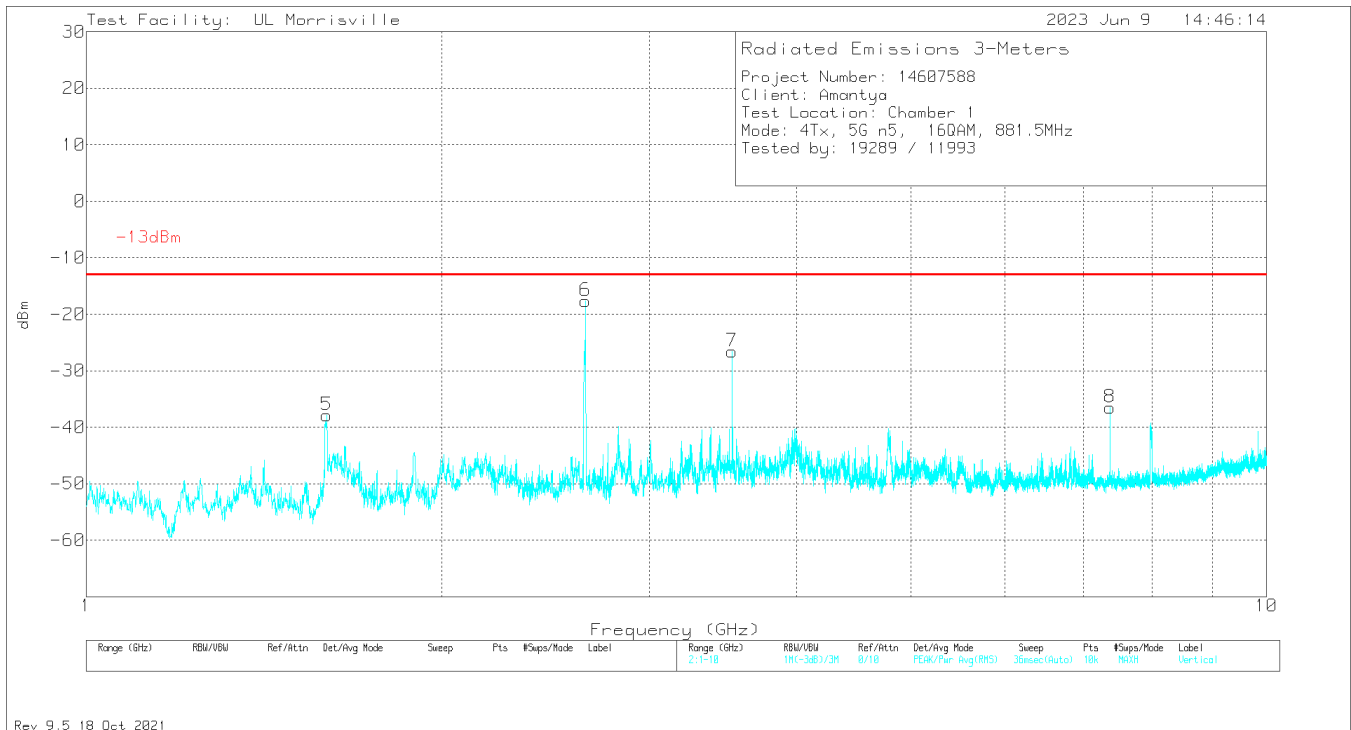
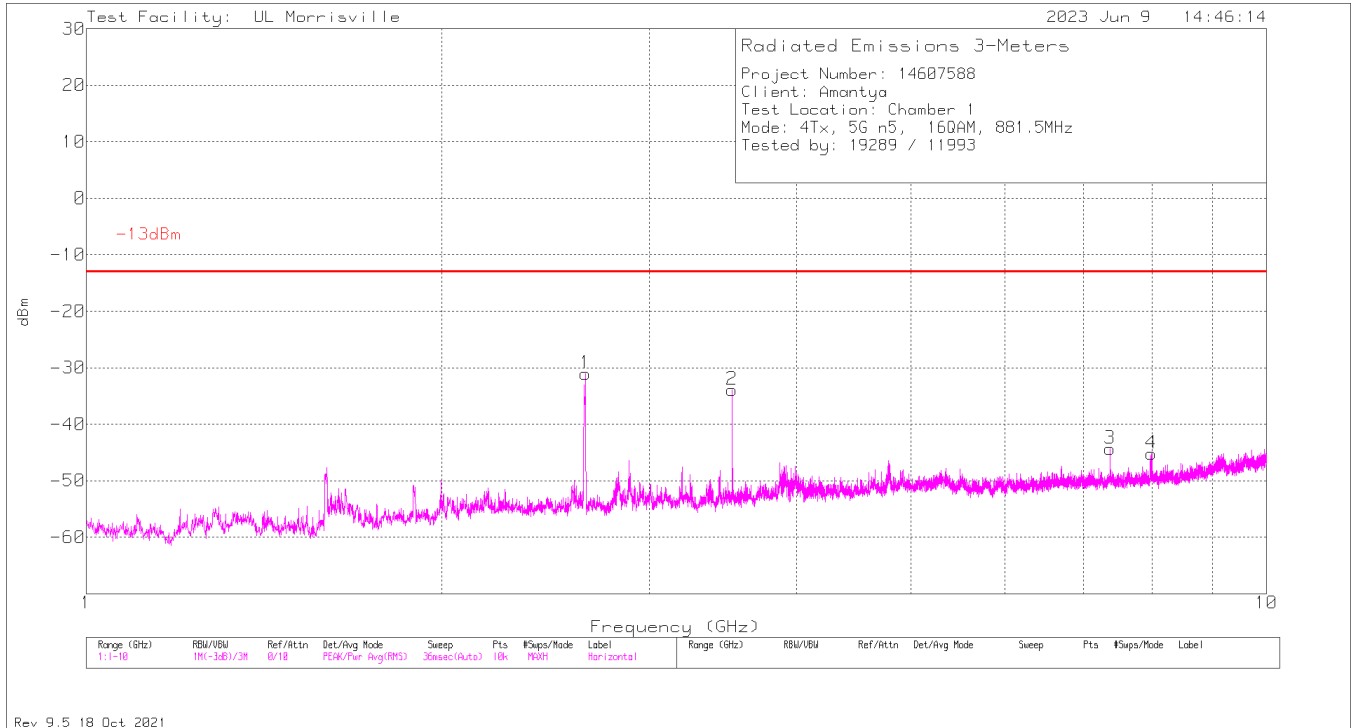


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Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	Filter (dB)	CF (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	1.5994	-42.59	Pk	28.2	-35.8	.5	11.8	-37.89	-13	-24.89	0-360	101	V
5	2.62562	-27.27	Pk	32.1	-33.9	.4	11.8	-16.87	-13	-3.87	305	105	V
1	2.6263	-41.24	Pk	32.1	-33.8	.4	11.8	-30.74	-13	-17.74	0-360	200	H
2	3.4957	-46.97	Pk	32.6	-32.6	.5	11.8	-34.67	-13	-21.67	0-360	101	H
6	3.4957	-38.55	Pk	32.6	-32.6	.5	11.8	-26.25	-13	-13.25	0-360	300	V
3	4.7818	-57.64	Pk	34.1	-31.9	.4	11.8	-43.24	-13	-30.24	0-360	299	H
7	7.3729	-55.8	Pk	35.7	-29.7	.8	11.8	-37.2	-13	-24.2	0-360	101	V

Pk - Peak detector

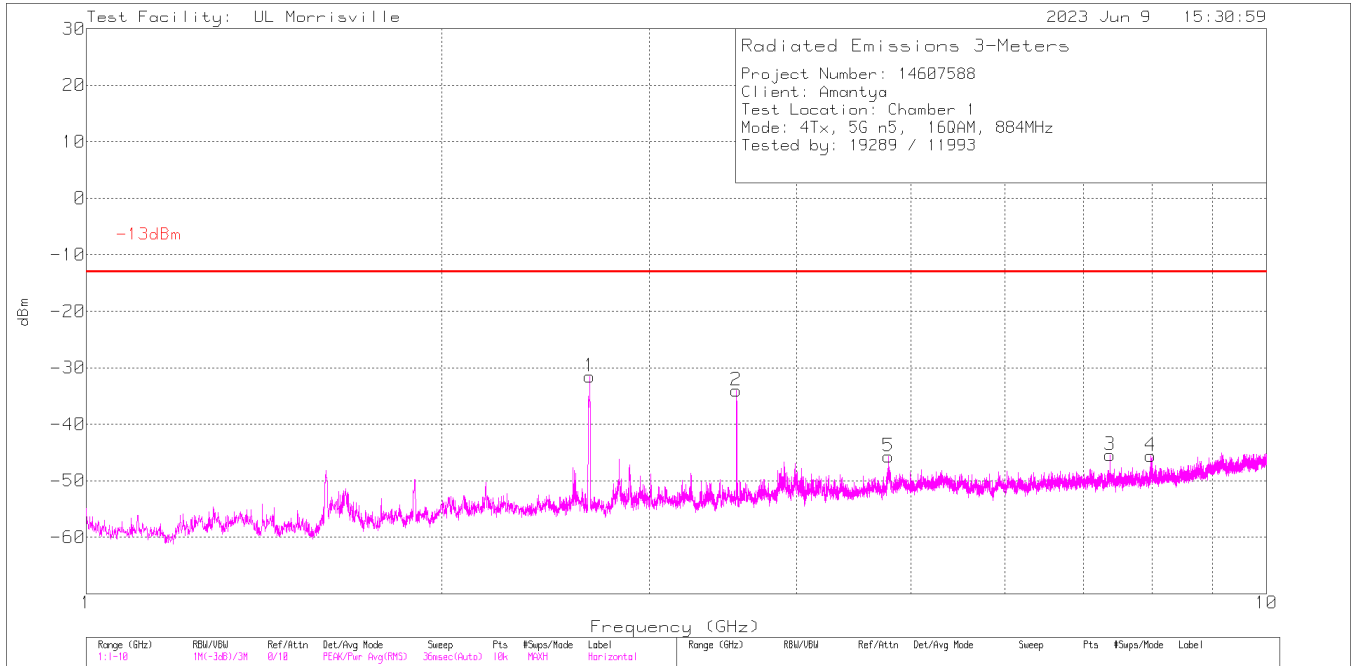
### 5G NR n5 16QAM (10.0MHz BANDWIDTH, MID CHANNEL)



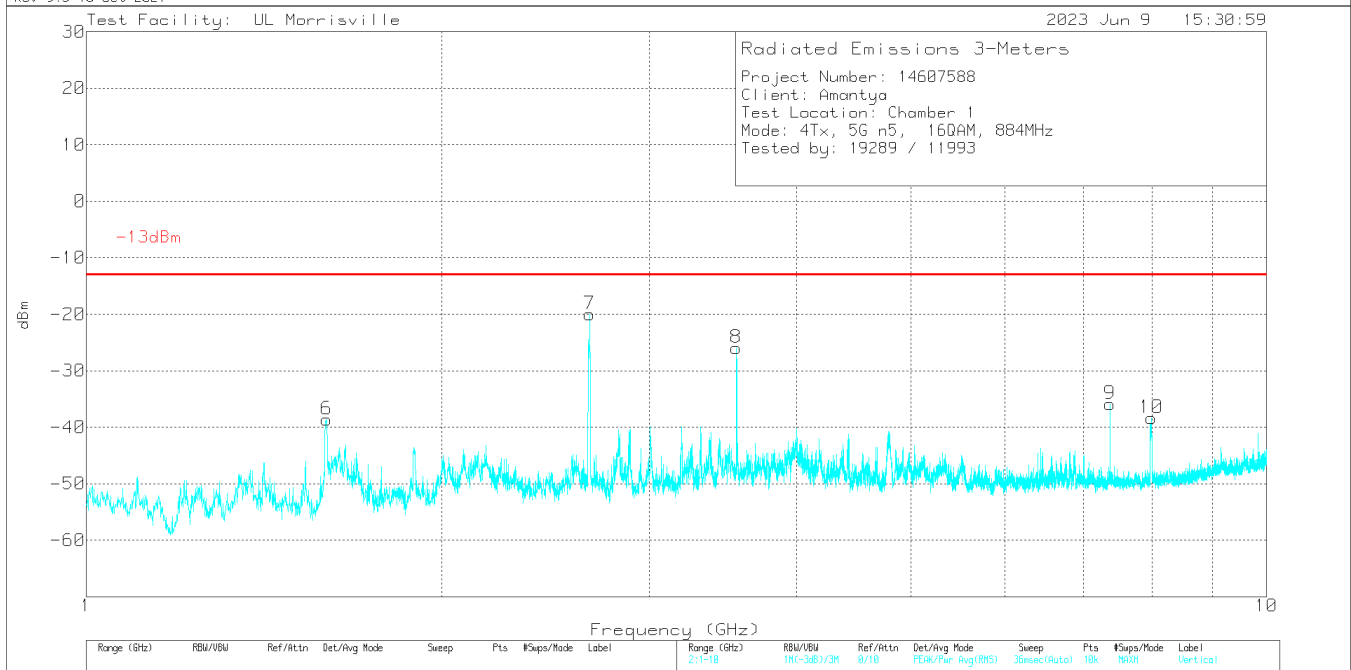
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	Filter (dB)	CF (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	1.5985	-42.4	Pk	28.1	-35.9	.5	11.8	-37.9	-13	-24.9	0-360	101	V
1	2.6479	-41.7	Pk	32.1	-33.7	.5	11.8	-31	-13	-18	0-360	101	H
6	2.64808	-27.9	Pk	32.1	-33.7	.5	11.8	-17.2	-13	-4.2	324	114	V
2	3.5254	-46.64	Pk	32.7	-32.1	.3	11.8	-33.94	-13	-20.94	0-360	200	H
7	3.5254	-39.26	Pk	32.7	-32.1	.3	11.8	-26.56	-13	-13.56	0-360	299	V
3	7.3729	-62.94	Pk	35.7	-29.7	.8	11.8	-44.34	-13	-31.34	0-360	299	H
8	7.3729	-55.15	Pk	35.7	-29.7	.8	11.8	-36.55	-13	-23.55	0-360	101	V
4	7.9858	-63.55	Pk	35.8	-29.8	.5	11.8	-45.25	-13	-32.25	0-360	299	H

Pk - Peak detector

### 5G NR n5 16QAM (10.0MHz BANDWIDTH, HIGH CHANNEL)



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Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	Filter (dB)	CF (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	1.5985	-43.09	Pk	28.1	-35.9	.5	11.8	-38.59	-13	-25.59	0-360	101	V
7	2.67066	-26.22	Pk	32	-33.6	.6	11.8	-15.42	-13	-2.42	306	114	V
1	2.6713	-42.4	Pk	32	-33.5	.6	11.8	-31.5	-13	-18.5	0-360	300	H
2	3.556	-46.49	Pk	32.8	-32.5	.4	11.8	-33.99	-13	-20.99	0-360	200	H
8	3.556	-38.45	Pk	32.8	-32.5	.4	11.8	-25.95	-13	-12.95	0-360	300	V
5	4.7827	-60.14	Pk	34.1	-31.9	.4	11.8	-45.74	-13	-32.74	0-360	300	H
3	7.3729	-64.06	Pk	35.7	-29.7	.8	11.8	-45.46	-13	-32.46	0-360	300	H
9	7.3729	-54.49	Pk	35.7	-29.7	.8	11.8	-35.89	-13	-22.89	0-360	101	V
4	7.9759	-63.85	Pk	35.8	-29.7	.4	11.8	-45.55	-13	-32.55	0-360	300	H
10	7.9885	-56.69	Pk	35.8	-29.8	.5	11.8	-38.39	-13	-25.39	0-360	101	V

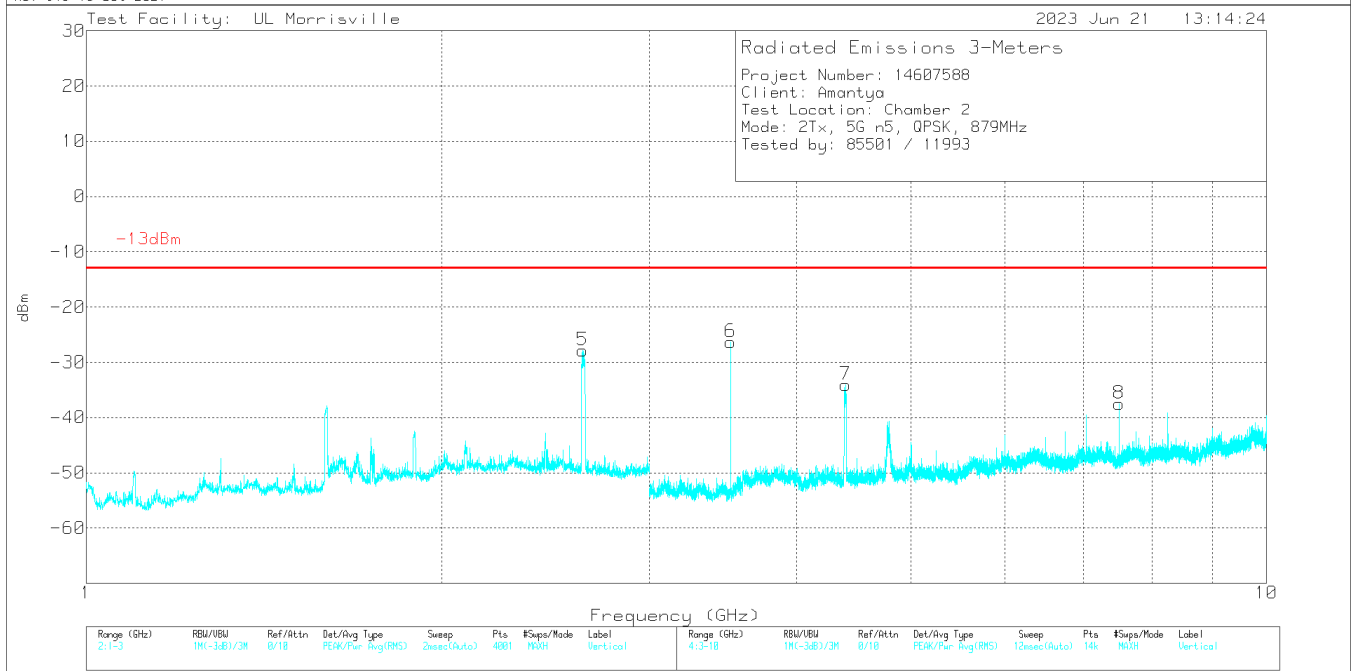
Pk - Peak detector

**RF2 – B210**

**5G NR n5 QPSK (20.0MHz BANDWIDTH, LOW CHANNEL)**



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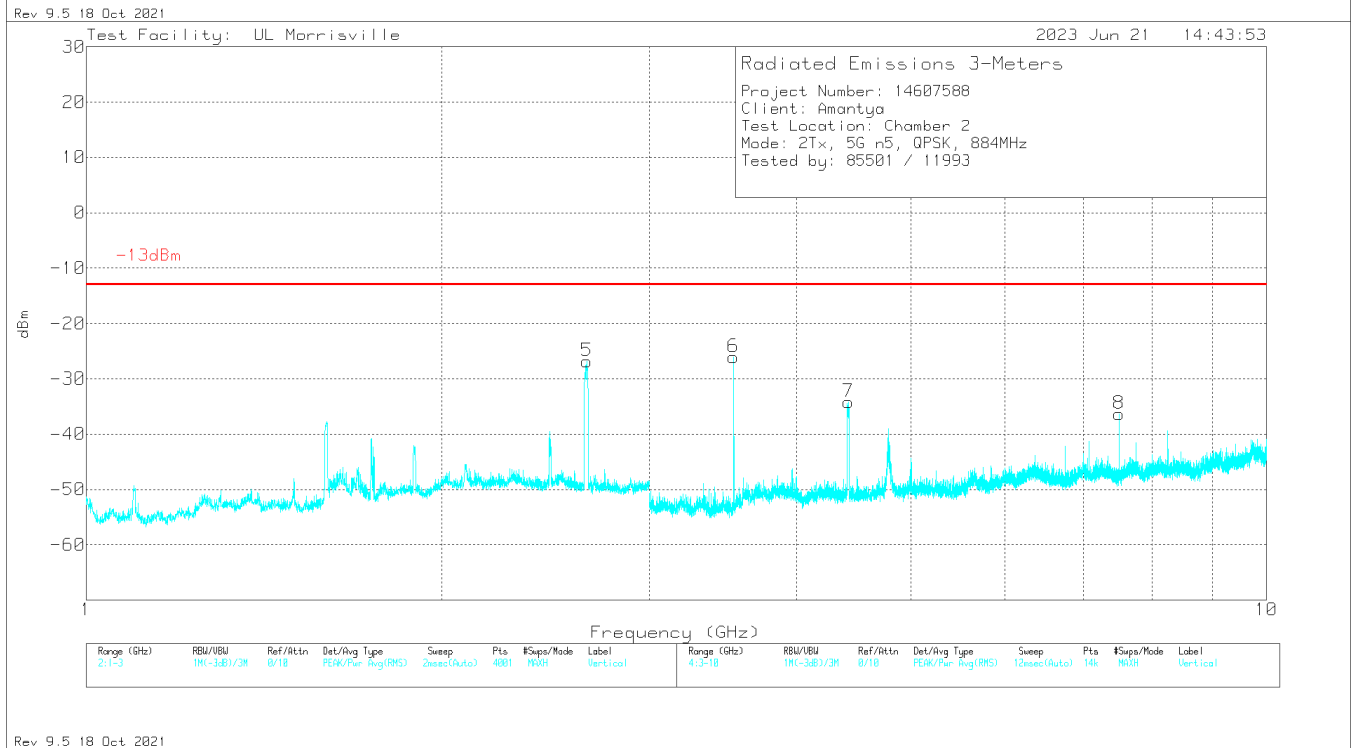
Rev 9.5 18 Oct 2021

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	88761 (dB/m)	Gain/Loss (dB)	Filter (dB)	CF (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.63	-53.64	Pk	32	-25.3	.3	11.8	-34.84	-13	-21.84	0-360	299	H
5	2.6325	-46.71	Pk	32	-25.3	.4	11.8	-27.81	-13	-14.81	0-360	101	V
2	3.516	-43.97	Pk	32.9	-32.6	.2	11.8	-31.67	-13	-18.67	0-360	200	H
6	3.516	-38.68	Pk	32.9	-32.6	.2	11.8	-26.38	-13	-13.38	0-360	299	V
3	4.3915	-53.14	Pk	33.6	-31.3	.5	11.8	-38.54	-13	-25.54	0-360	101	H
7	4.3985	-48.62	Pk	33.6	-31.4	.6	11.8	-34.02	-13	-21.02	0-360	101	V
8	7.5	-58.05	Pk	35.6	-27.3	.4	11.8	-37.55	-13	-24.55	0-360	101	V
4	9.7125	-65.33	Pk	36.8	-24.6	.7	11.8	-40.63	-13	-27.63	0-360	101	H

Pk - Peak detector



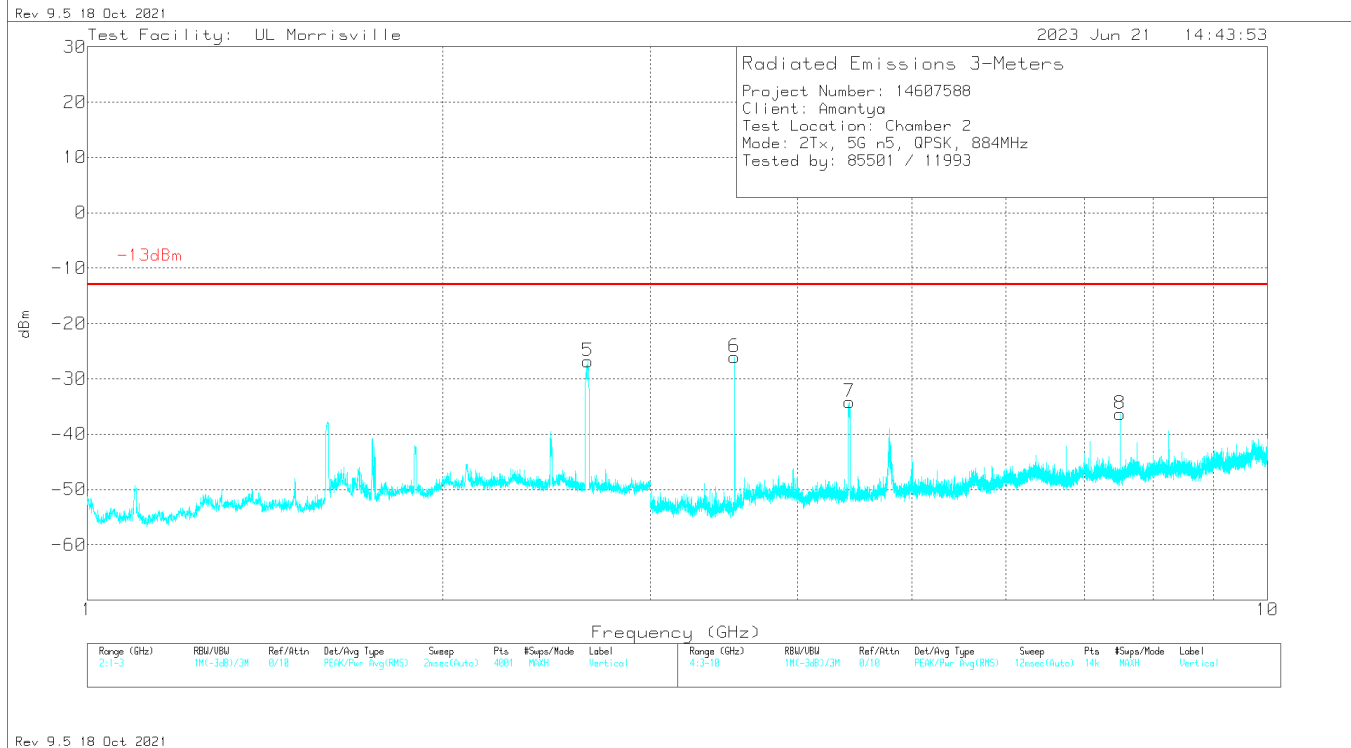
### 5G NR n5 QPSK (20.0MHz BANDWIDTH, MID CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	88761 (dB/m)	Gain/Loss (dB)	Filter (dB)	CF (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.6475	-53.08	Pk	32.1	-25.4	.4	11.8	-34.18	-13	-21.18	0-360	300	H
5	2.656	-45.85	Pk	32.2	-25.4	.4	11.8	-26.85	-13	-13.85	0-360	101	V
2	3.536	-43.17	Pk	33.1	-32.3	.3	11.8	-30.27	-13	-17.27	0-360	200	H
6	3.536	-38.94	Pk	33.1	-32.3	.3	11.8	-26.04	-13	-13.04	0-360	300	V
3	4.4115	-53.65	Pk	33.6	-31.2	.7	11.8	-38.75	-13	-25.75	0-360	101	H
7	4.426	-49.01	Pk	33.7	-31.4	.7	11.8	-34.21	-13	-21.21	0-360	300	V
8	7.5	-56.87	Pk	35.6	-27.3	.4	11.8	-36.37	-13	-23.37	0-360	101	V
4	9.7245	-66.04	Pk	36.8	-24.3	.9	11.8	-40.84	-13	-27.84	0-360	300	H

Pk - Peak detector

### 5G NR n5 QPSK (20.0MHz BANDWIDTH, HIGH CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	88761 (dB/m)	Gain/Loss (dB)	Filter (dB)	CF (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.6475	-53.08	Pk	32.1	-25.4	.4	11.8	-34.18	-13	-21.18	0-360	300	H
5	2.656	-45.85	Pk	32.2	-25.4	.4	11.8	-26.85	-13	-13.85	0-360	101	V
2	3.536	-43.17	Pk	33.1	-32.3	.3	11.8	-30.27	-13	-17.27	0-360	200	H
6	3.536	-38.94	Pk	33.1	-32.3	.3	11.8	-26.04	-13	-13.04	0-360	300	V
3	4.4115	-53.65	Pk	33.6	-31.2	.7	11.8	-38.75	-13	-25.75	0-360	101	H
7	4.426	-49.01	Pk	33.7	-31.4	.7	11.8	-34.21	-13	-21.21	0-360	300	V
8	7.5	-56.87	Pk	35.6	-27.3	.4	11.8	-36.37	-13	-23.37	0-360	101	V
4	9.7245	-66.04	Pk	36.8	-24.3	.9	11.8	-40.84	-13	-27.84	0-360	300	H

Pk - Peak detector

### **11.1.3. 5G NR n66**

#### **LIMITS**

FCC: §27.53 (h)

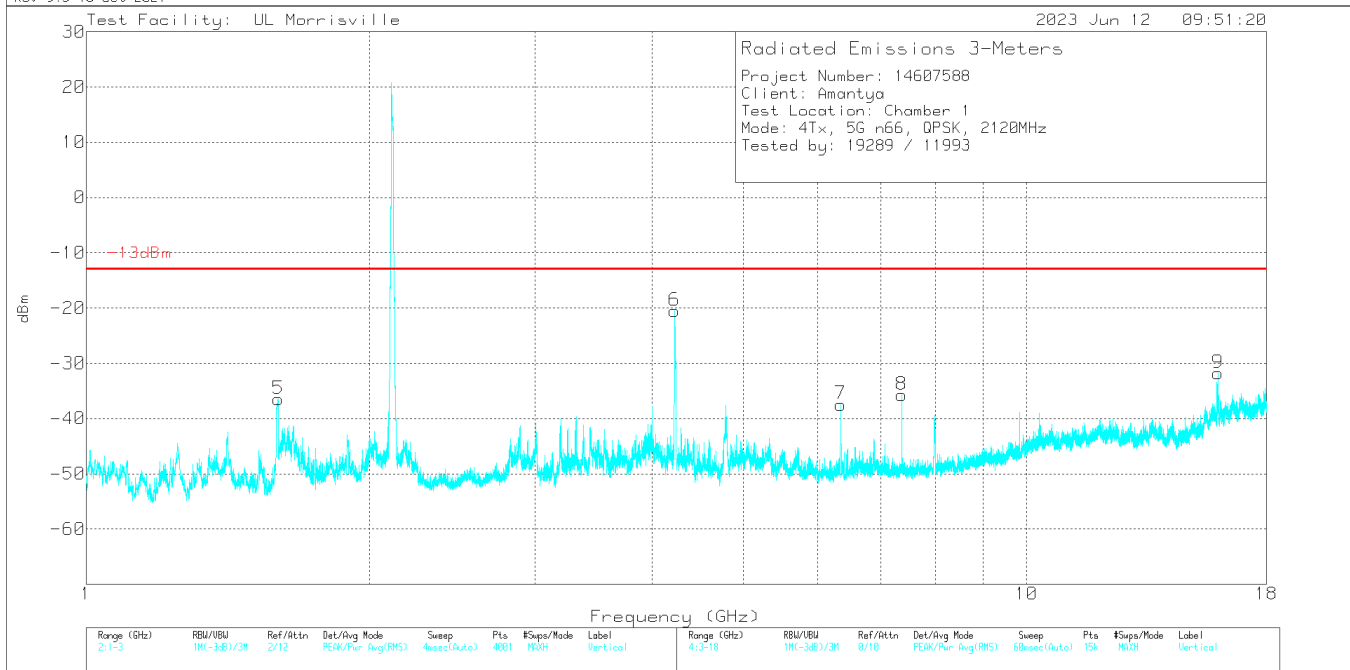
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

#### **RF1 - N310**

### 5G NR n66 QPSK (10.0MHz BANDWIDTH, LOW CHANNEL)



Rev 9.5 18 Oct 2021



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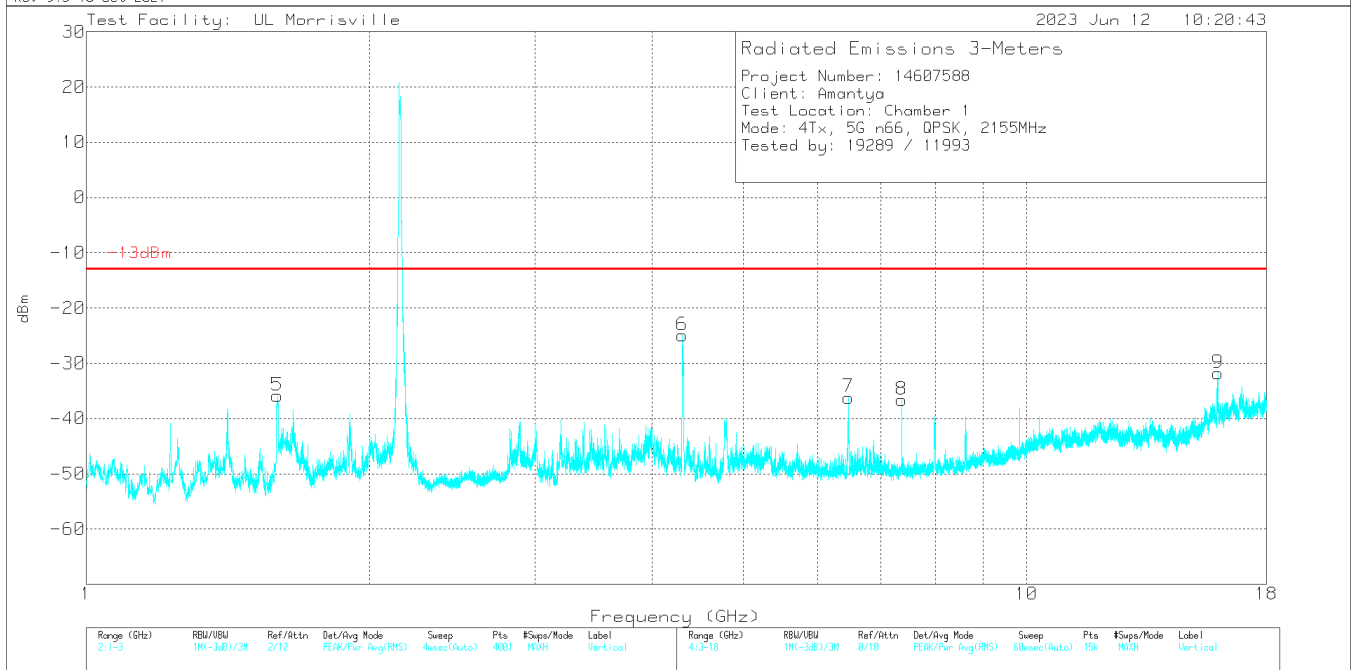
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	1.6	-53.91	Pk	28.2	-23.1	11.8	.5	-36.51	-13	-23.51	0-360	101	V
6	4.22293	-34.05	Pk	33.4	-30	11.8	.4	-18.45	-13	-5.45	273	101	V
1	4.229	-45.59	Pk	33.4	-30.3	11.8	.4	-30.29	-13	-17.29	0-360	101	H
7	6.343	-55.63	Pk	35.5	-29.5	11.8	.4	-37.43	-13	-24.43	0-360	199	V
2	6.344	-57.46	Pk	35.5	-29.5	11.8	.4	-39.26	-13	-26.26	0-360	201	H
8	7.372	-54.84	Pk	35.7	-29	11.8	.6	-35.74	-13	-22.74	0-360	101	V
3	7.977	-64.35	Pk	35.8	-28.9	11.8	.4	-45.25	-13	-32.25	0-360	300	H
4	15.995	-64.93	Pk	40.7	-25.7	11.8	.7	-37.43	-13	-24.43	0-360	300	H
9	15.996	-59.44	Pk	40.7	-25.5	11.8	.7	-31.74	-13	-18.74	0-360	101	V

Pk - Peak detector

### 5G NR n66 QPSK (10.0MHz BANDWIDTH, MID CHANNEL)



Rev 9.5 18 Oct 2021



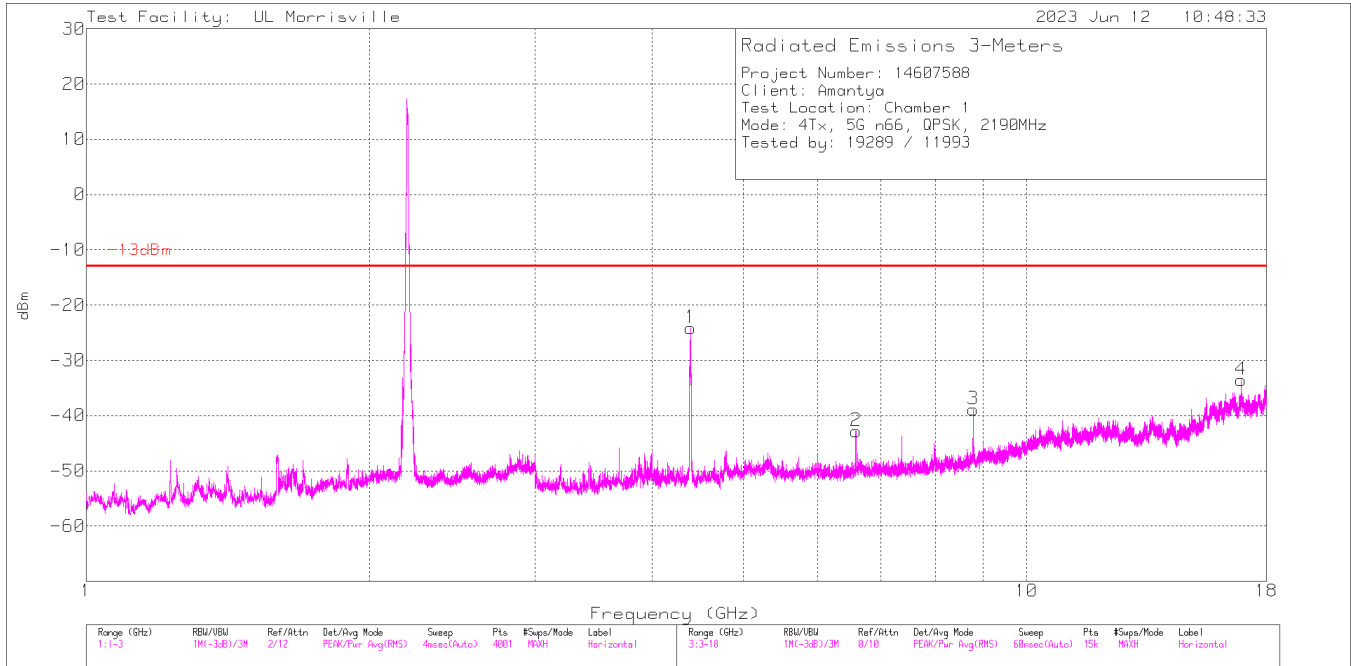
Rev 9.5 18 Oct 2021



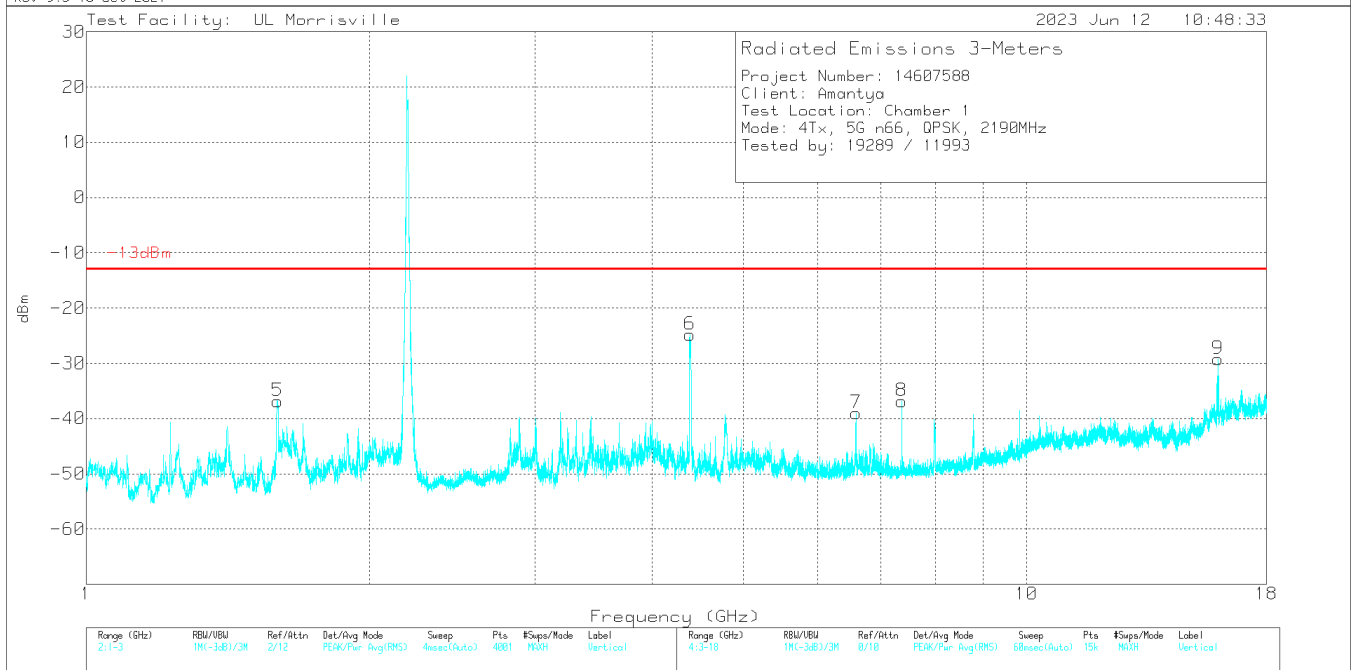
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	1.5965	-53.45	Pk	28.1	-22.8	11.8	.5	-35.85	-13	-22.85	0-360	101	V
6	4.30886	-34.14	Pk	33.5	-31.7	11.8	.3	-20.24	-13	-7.24	252	101	V
1	4.311	-44.36	Pk	33.5	-31.7	11.8	.3	-30.46	-13	-17.46	0-360	101	H
2	6.464	-54.55	Pk	35.5	-31.3	11.8	.4	-38.15	-13	-25.15	0-360	200	H
7	6.466	-52.56	Pk	35.5	-31.3	11.8	.4	-36.16	-13	-23.16	0-360	200	V
8	7.373	-55.74	Pk	35.7	-29	11.8	.6	-36.64	-13	-23.64	0-360	101	V
3	8.606	-61.94	Pk	35.8	-29.2	11.8	.6	-42.94	-13	-29.94	0-360	200	H
4	15.955	-65.64	Pk	40.7	-25.8	11.8	.6	-38.34	-13	-25.34	0-360	200	H
9	15.986	-59.4	Pk	40.7	-25.6	11.8	.7	-31.8	-13	-18.8	0-360	101	V

Pk - Peak detector

### 5G NR n66 QPSK (10.0MHz BANDWIDTH, HIGH CHANNEL)



Rev 9.5 18 Oct 2021



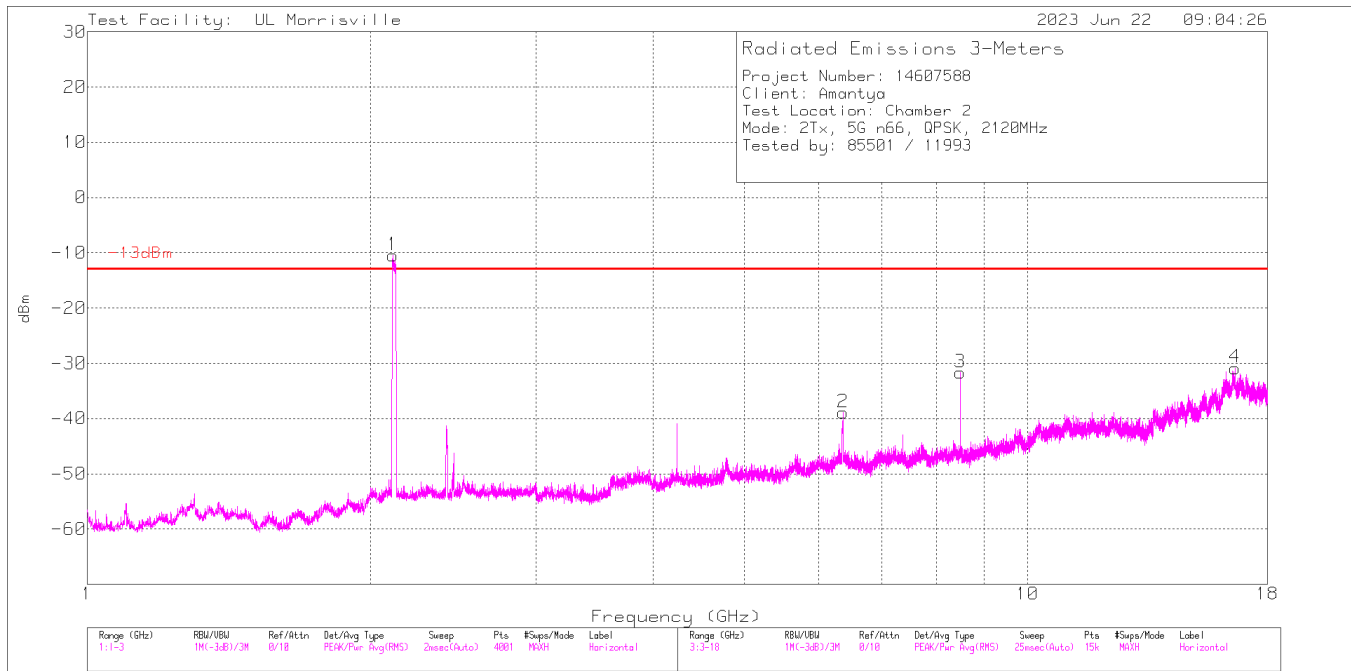
Rev 9.5 18 Oct 2021

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	1.599	-54.26	Pk	28.1	-23	11.8	.5	-36.86	-13	-23.86	0-360	101	V
6	4.39087	-32.08	Pk	33.7	-31.4	11.8	.4	-17.58	-13	-4.58	333	128	V
1	4.38275	-36.58	Pk	33.6	-31.7	11.8	.4	-22.48	-13	-9.48	264	104	H
2	6.585	-60.49	Pk	35.6	-30.1	11.8	.4	-42.79	-13	-29.79	0-360	200	H
7	6.59	-56.85	Pk	35.6	-30	11.8	.4	-39.05	-13	-26.05	0-360	200	V
8	7.372	-56	Pk	35.7	-29	11.8	.6	-36.9	-13	-23.9	0-360	101	V
3	8.781	-58.54	Pk	35.9	-28.6	11.8	.6	-38.84	-13	-25.84	0-360	101	H
9	15.997	-57.18	Pk	40.7	-25.3	11.8	.7	-29.28	-13	-16.28	0-360	101	V
4	16.923	-65.03	Pk	41.7	-22.8	11.8	.8	-33.53	-13	-20.53	0-360	200	H

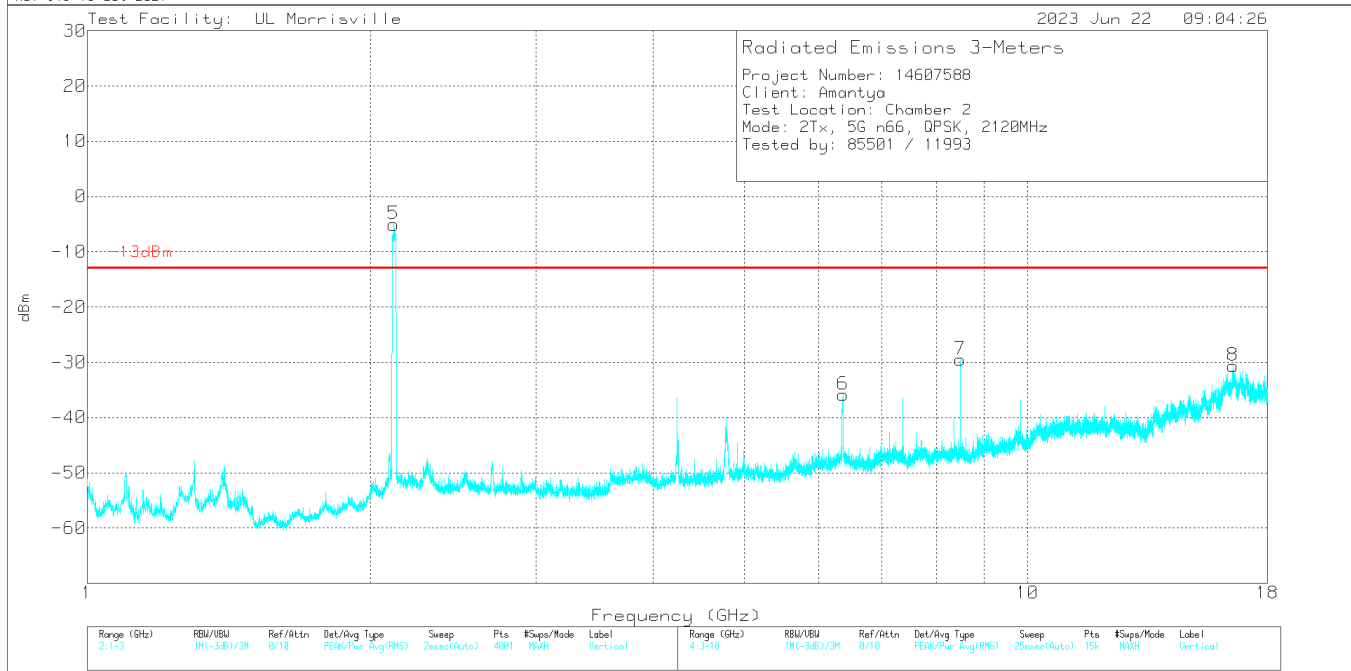
Pk - Peak detector

**RF2 – B210**

**5G NR n66 QPSK (20.0MHz BANDWIDTH, LOW CHANNEL)**



Rev 9.5 18 Oct 2021



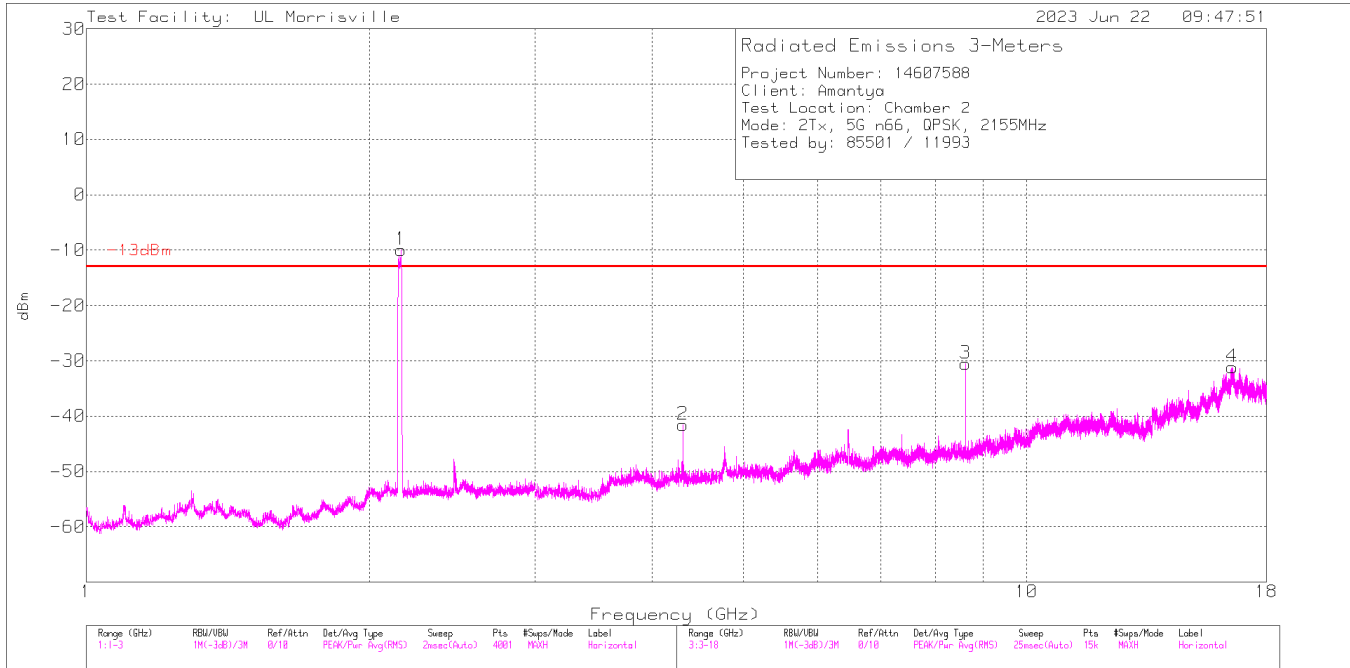
Rev 9.5 18 Oct 2021

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	88761 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.1145 (DL)	-20.91	Pk	31.6	-34.2	11.8	1.2	-10.51	-	-	0-360	101	H
5	2.1175 (DL)	-15.36	Pk	31.5	-34.2	11.8	1.2	-5.06	-	-	0-360	200	V
2	6.367	-58.55	Pk	35.5	-27.6	11.8	0	-38.85	-13	-25.85	0-360	101	H
6	6.369	-55.43	Pk	35.5	-27.7	11.8	0	-35.83	-13	-22.83	0-360	200	V
3	8.48	-53.2	Pk	35.8	-26	11.8	0	-31.6	-13	-18.6	0-360	199	H
7	8.48	-51.1	Pk	35.8	-26	11.8	0	-29.5	-13	-16.5	0-360	101	V
8	16.537	-65.75	Pk	41.3	-18	11.8	0	-30.65	-13	-17.65	0-360	101	V
4	16.618	-65.43	Pk	41.4	-18.6	11.8	0	-30.83	-13	-17.83	0-360	300	H

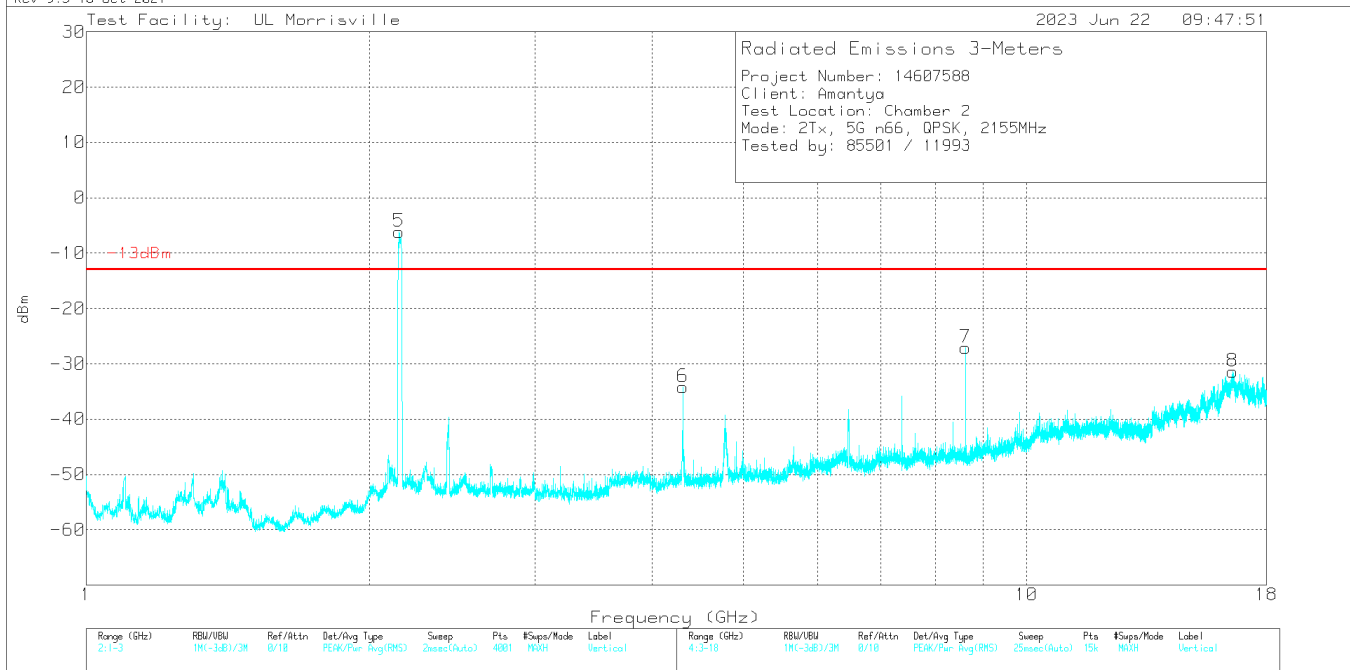
Pk - Peak detector

DL - Fundamental

### 5G NR n66 QPSK (20.0MHz BANDWIDTH, MID CHANNEL)



Rev 9.5 18 Oct 2021



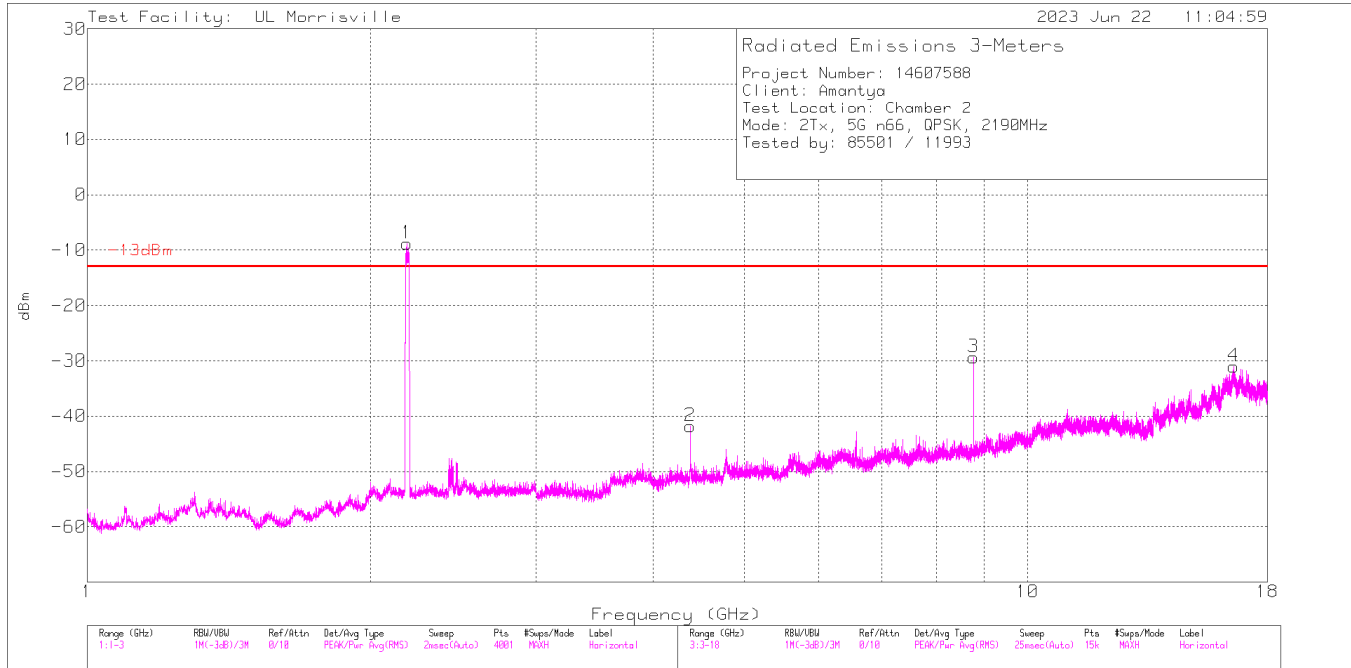
Rev 9.5 18 Oct 2021

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	88761 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	2.152 (DL)	-16.47	Pk	31.6	-34.2	11.8	1.1	-	-	-	0-360	300	V
1	2.1605 (DL)	-20	Pk	31.5	-34.3	11.8	1.1	-	-	-	0-360	101	H
2	4.31	-55.67	Pk	33.5	-31.2	11.8	0	-41.57	-13	-28.57	0-360	101	H
6	4.31	-48.27	Pk	33.5	-31.2	11.8	0	-34.17	-13	-21.17	0-360	300	V
3	8.62	-51.8	Pk	35.8	-26.3	11.8	0	-30.5	-13	-17.5	0-360	199	H
7	8.62	-48.39	Pk	35.8	-26.3	11.8	0	-27.09	-13	-14.09	0-360	101	V
4	16.56	-66.17	Pk	41.3	-18.1	11.8	0	-31.17	-13	-18.17	0-360	199	H
8	16.583	-66.08	Pk	41.4	-18.5	11.8	0	-31.38	-13	-18.38	0-360	200	V

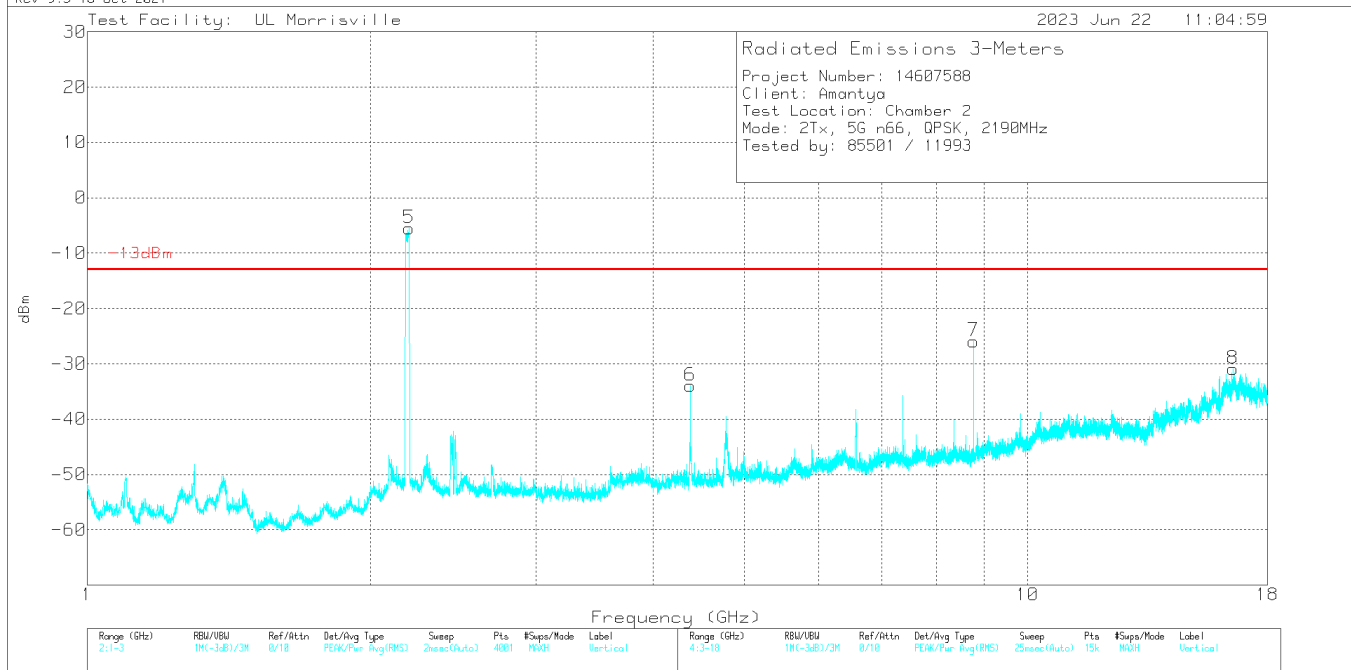
Pk - Peak detector

DL - Fundamental

### 5G NR n66 QPSK (20.0MHz BANDWIDTH, HIGH CHANNEL)



Rev 9.5 18 Oct 2021



Rev 9.5 18 Oct 2021



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	88761 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.1865 (DL)	-18.66	Pk	31.5	-34.4	11.8	.9	-	-	-	0-360	101	H
5	2.1975 (DL)	-15.46	Pk	31.5	-34.2	11.8	.9	-	-	-	0-360	200	V
2	4.38	-56.04	Pk	33.6	-31.2	11.8	0	-41.84	-13	-28.84	0-360	101	H
6	4.38	-48.1	Pk	33.6	-31.2	11.8	0	-33.9	-13	-20.9	0-360	101	V
3	8.76	-51.46	Pk	36	-25.7	11.8	0	-29.36	-13	-16.36	0-360	200	H
7	8.76	-47.98	Pk	36	-25.7	11.8	0	-25.88	-13	-12.88	0-360	300	V
8	16.536	-66.01	Pk	41.3	-18	11.8	0	-30.91	-13	-17.91	0-360	300	V
4	16.567	-65.97	Pk	41.3	-18.2	11.8	0	-31.07	-13	-18.07	0-360	300	H

Pk - Peak detector

DL - Fundamental

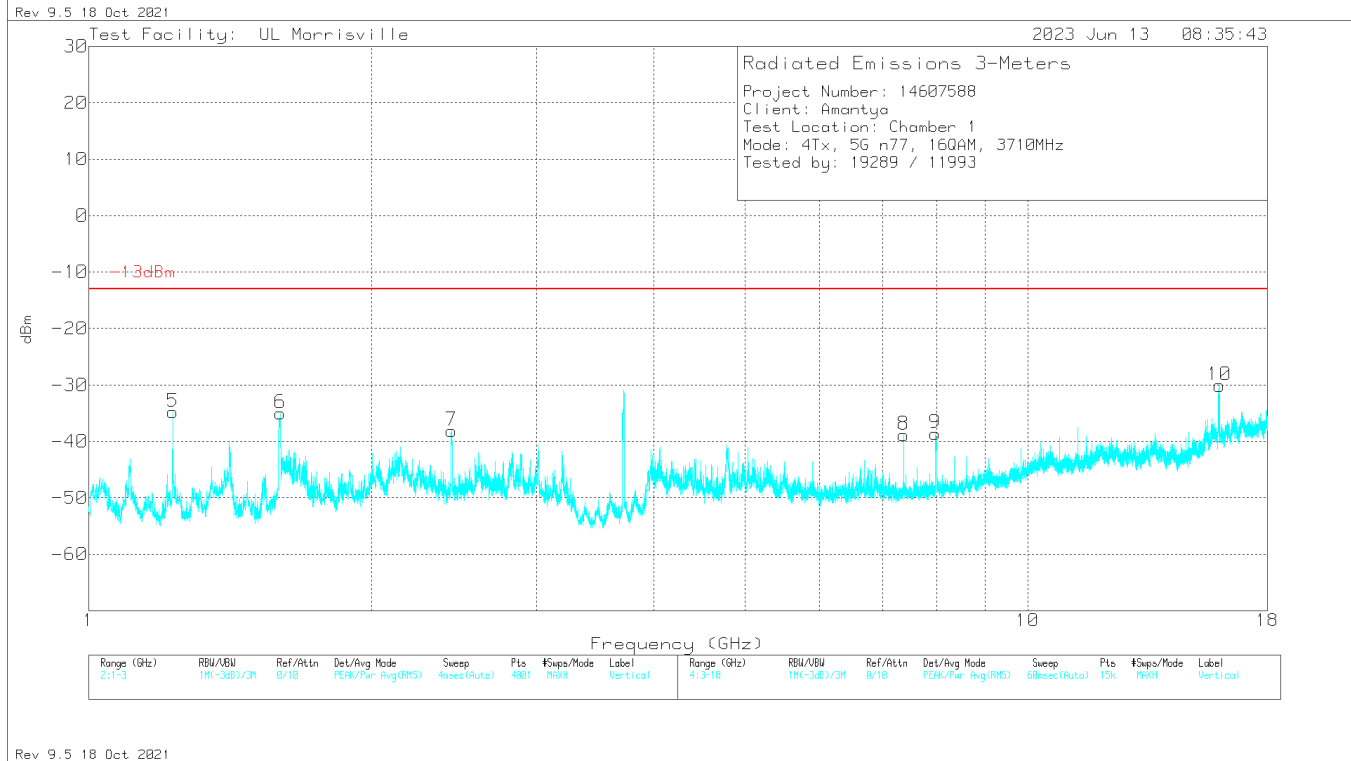
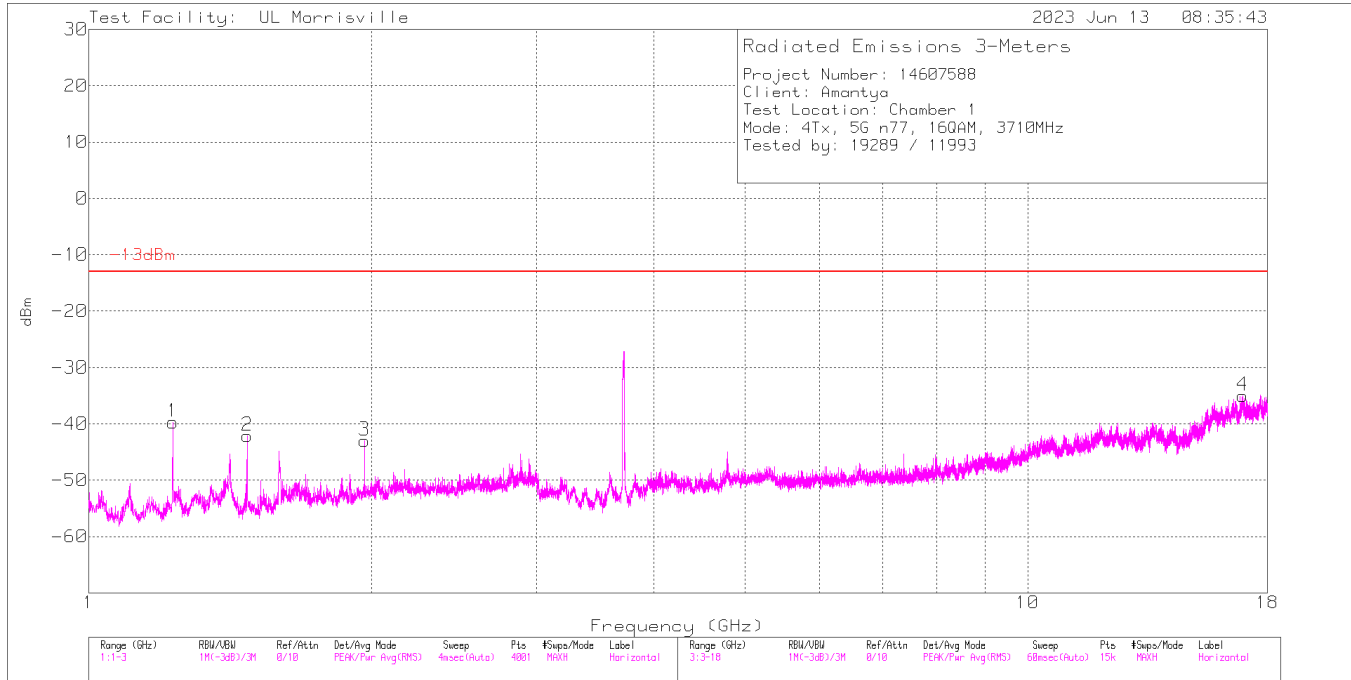
#### 11.1.4. 5G NR n77

##### LIMITS

FCC: §27.53

(I) (1) For base station 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. Compliance with this paragraph (I)(1) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

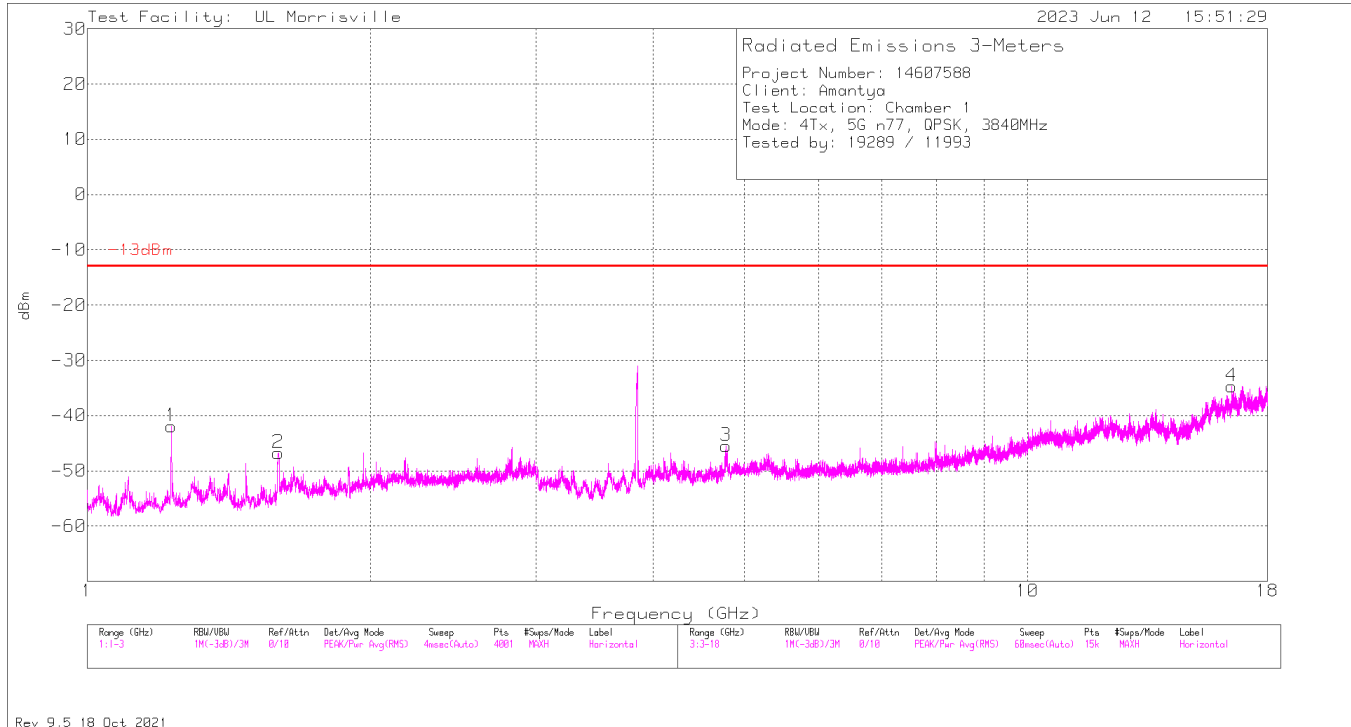
**5G NR n77 QPSK (20.0MHz BANDWIDTH, LOW CHANNEL)**



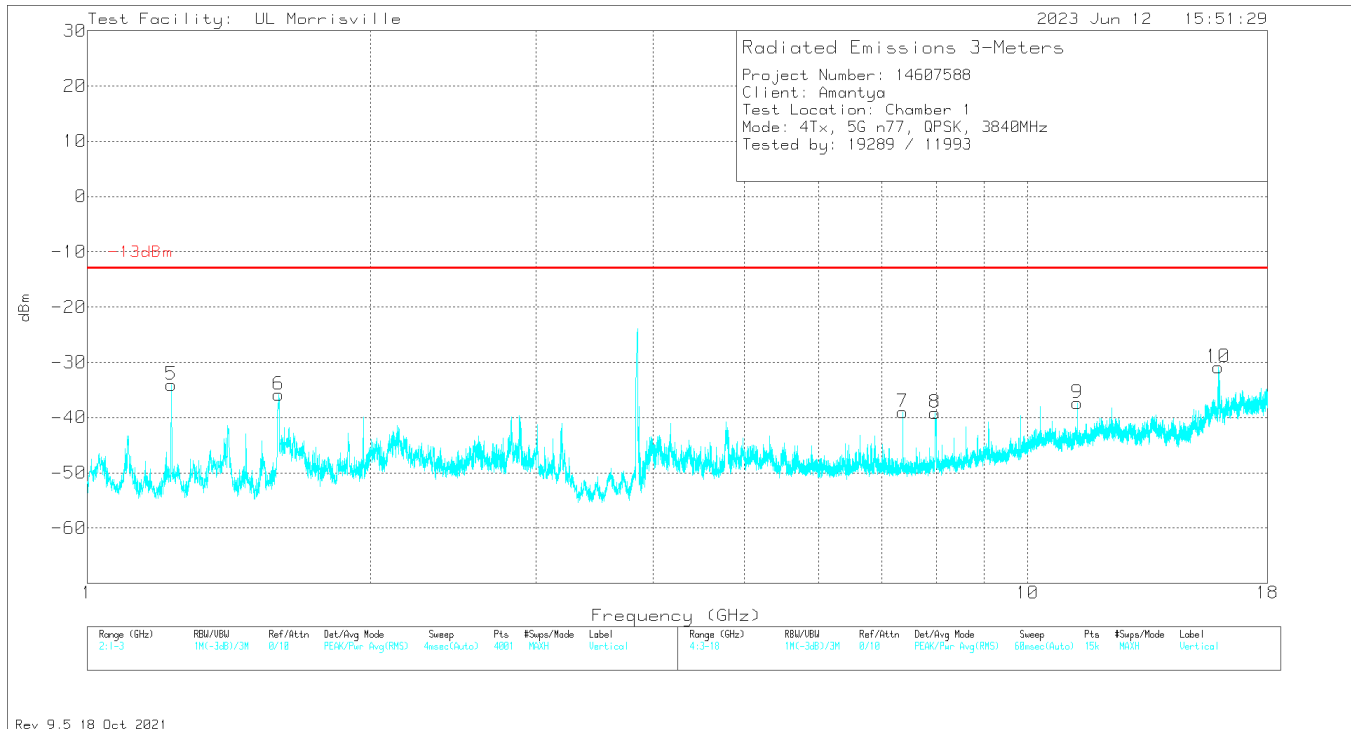
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.229	-56.38	Pk	28.6	-24.1	11.8	.4	-39.68	-13	-26.68	0-360	300	H
5	1.229	-51.5	Pk	28.6	-24.1	11.8	.4	-34.8	-13	-21.8	0-360	200	V
2	1.4745	-59.21	Pk	28	-23.2	11.8	.5	-42.11	-13	-29.11	0-360	101	H
6	1.5985	-52.48	Pk	28.1	-23	11.8	.6	-34.98	-13	-21.98	0-360	101	V
3	1.9665	-62.96	Pk	30.9	-23.5	11.8	.8	-42.96	-13	-29.96	0-360	300	H
7	2.4345	-59.21	Pk	32.2	-23.6	11.8	.7	-38.11	-13	-25.11	0-360	299	V
8	7.373	-58.04	Pk	35.7	-29	11.8	.7	-38.84	-13	-25.84	0-360	200	V
9	7.969	-57.77	Pk	35.8	-29.1	11.8	.7	-38.57	-13	-25.57	0-360	101	V
10	16.002	-58.18	Pk	40.7	-25.6	11.8	1.2	-30.08	-13	-17.08	0-360	101	V
4	16.941	-67.27	Pk	41.7	-22.6	11.8	1.4	-34.97	-13	-21.97	0-360	101	H

Pk - Peak detector

**5G NR n77 QPSK (20.0MHz BANDWIDTH, MID CHANNEL)**



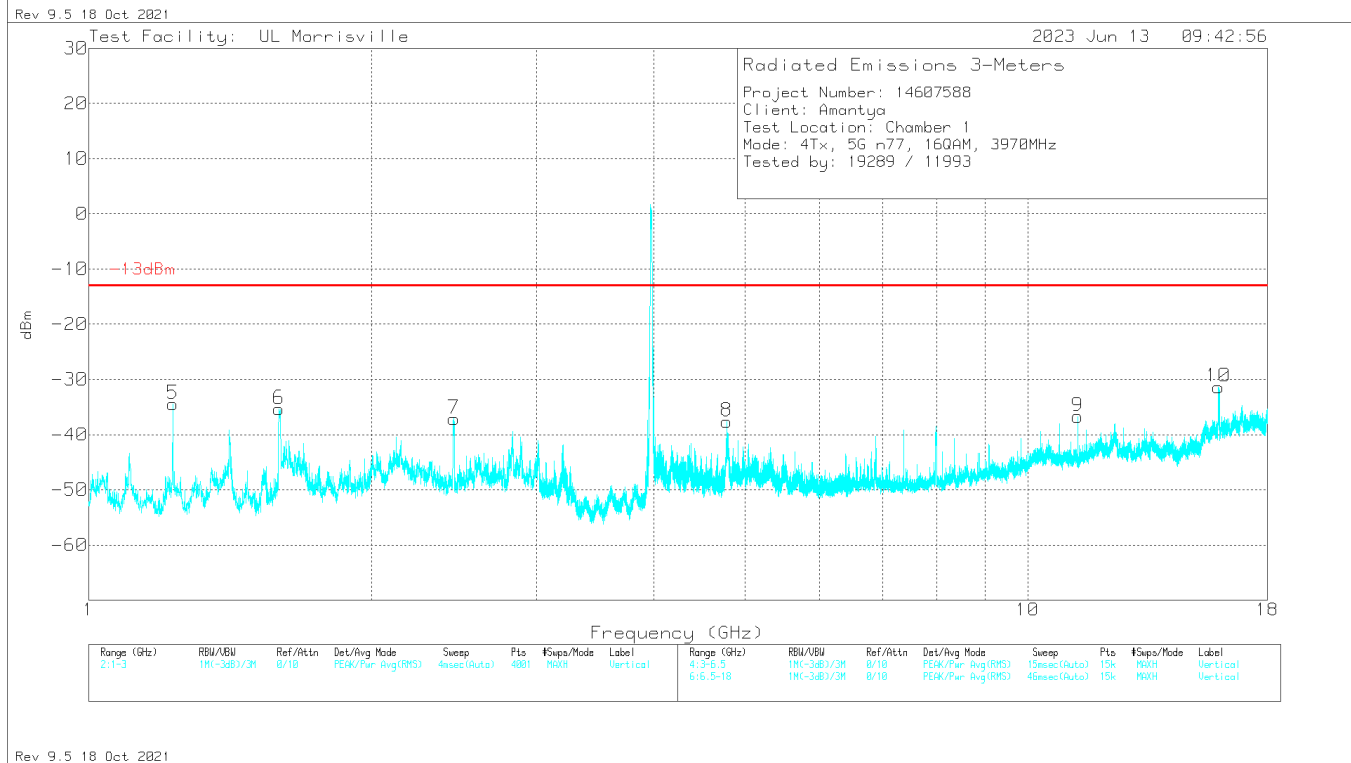
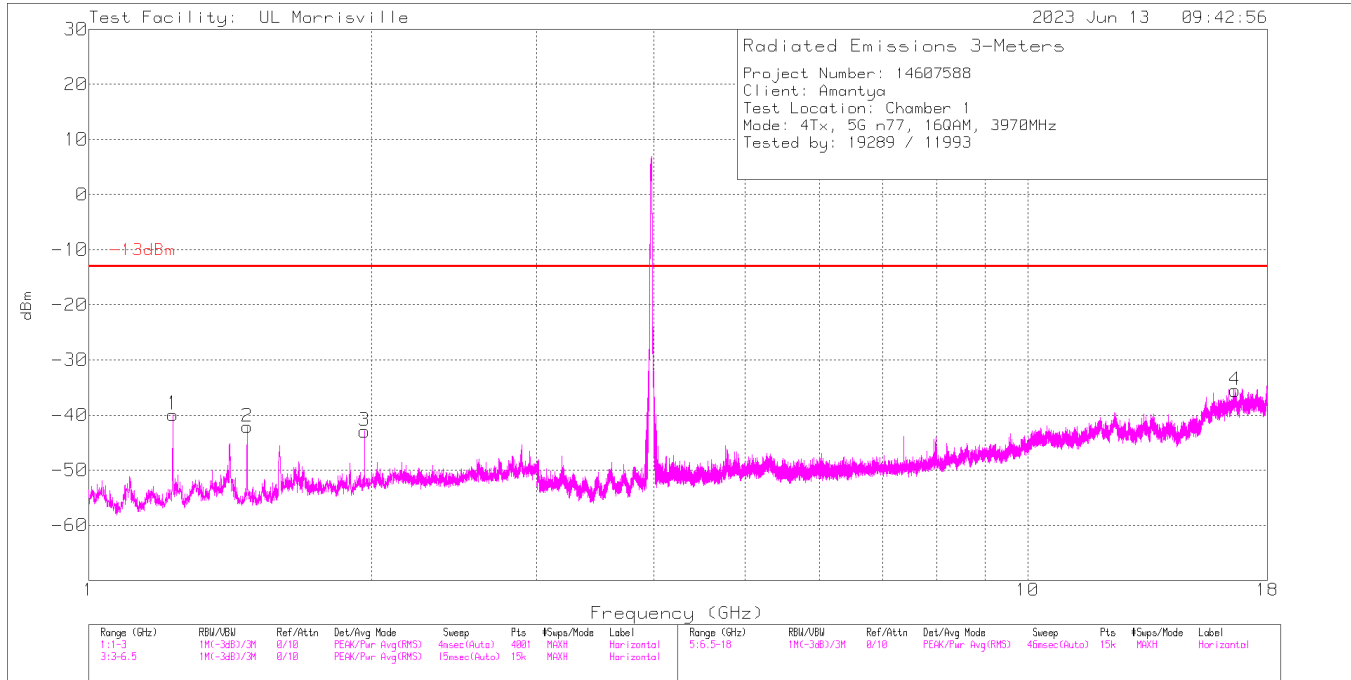
7



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.2285	-58.48	Pk	28.6	-24.2	11.8	.3	-41.98	-13	-28.98	0-360	101	H
5	1.229	-50.81	Pk	28.6	-24.1	11.8	.4	-34.11	-13	-21.11	0-360	300	V
2	1.5965	-64.44	Pk	28.1	-22.8	11.8	.6	-46.74	-13	-33.74	0-360	300	H
6	1.5985	-53.34	Pk	28.1	-23	11.8	.6	-35.84	-13	-22.84	0-360	101	V
3	4.782	-61.4	Pk	34.1	-30.5	11.8	.5	-45.5	-13	-32.5	0-360	300	H
7	7.373	-58.22	Pk	35.7	-29	11.8	.7	-39.02	-13	-26.02	0-360	200	V
8	7.971	-58.32	Pk	35.8	-29.1	11.8	.7	-39.12	-13	-26.12	0-360	200	V
9	11.305	-62.71	Pk	37.8	-24.9	11.8	.6	-37.41	-13	-24.41	0-360	200	V
10	15.97	-58.95	Pk	40.7	-25.7	11.8	1.2	-30.95	-13	-17.95	0-360	101	V
4	16.495	-64.3	Pk	41	-24.6	11.8	1.4	-34.7	-13	-21.7	0-360	200	H

Pk - Peak detector

**5G NR n77 QPSK (20.0MHz BANDWIDTH, HIGH CHANNEL)**



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.229	-56.62	Pk	28.6	-24.1	11.8	.4	-39.92	-13	-26.92	0-360	300	H
5	1.229	-51.15	Pk	28.6	-24.1	11.8	.4	-34.45	-13	-21.45	0-360	201	V
2	1.4745	-59.21	Pk	28	-23.2	11.8	.5	-42.11	-13	-29.11	0-360	100	H
6	1.5945	-53.05	Pk	28.1	-22.8	11.8	.6	-35.35	-13	-22.35	0-360	101	V
3	1.966	-63.02	Pk	30.9	-23.4	11.8	.8	-42.92	-13	-29.92	0-360	300	H
7	2.449	-58.5	Pk	32.2	-23.3	11.8	.7	-37.1	-13	-24.1	0-360	201	V
8	4.78126	-53.5	Pk	34.1	-30.5	11.8	.5	-37.6	-13	-24.6	0-360	101	V
9	11.3047	-60.39	Pk	37.8	-26.5	11.8	.6	-36.69	-13	-23.69	0-360	101	V
10	15.9645	-59.05	Pk	40.7	-26.1	11.8	1.3	-31.35	-13	-18.35	0-360	101	V
4	16.61847	-65.82	Pk	41.3	-24	11.8	1.2	-35.52	-13	-22.52	0-360	101	H

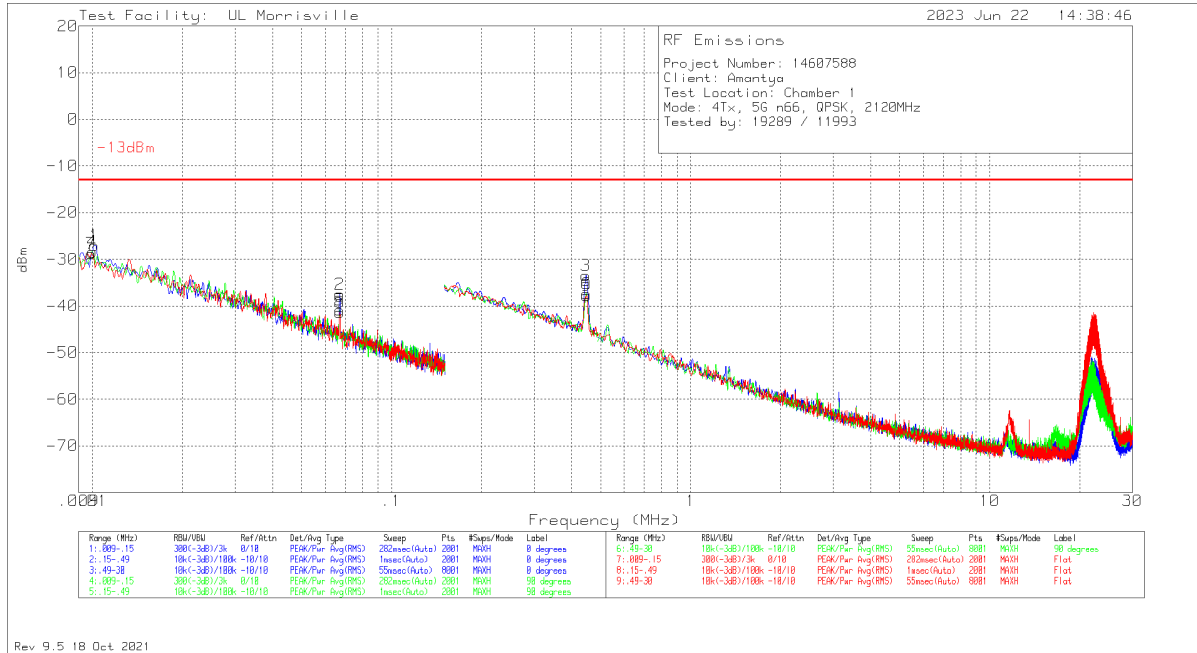
Pk - Peak detector



## 11.2. WORST CASE EMISSIONS

For radiated emissions from 9kHz-1000MHz, and Above 18GHz, RF1 has no emissions within 20dB of the limit. RF2 had no emissions from 30MHz-26.5GHz within 20dB.

### 11.2.1. Worst Case Mode – RF2 B210

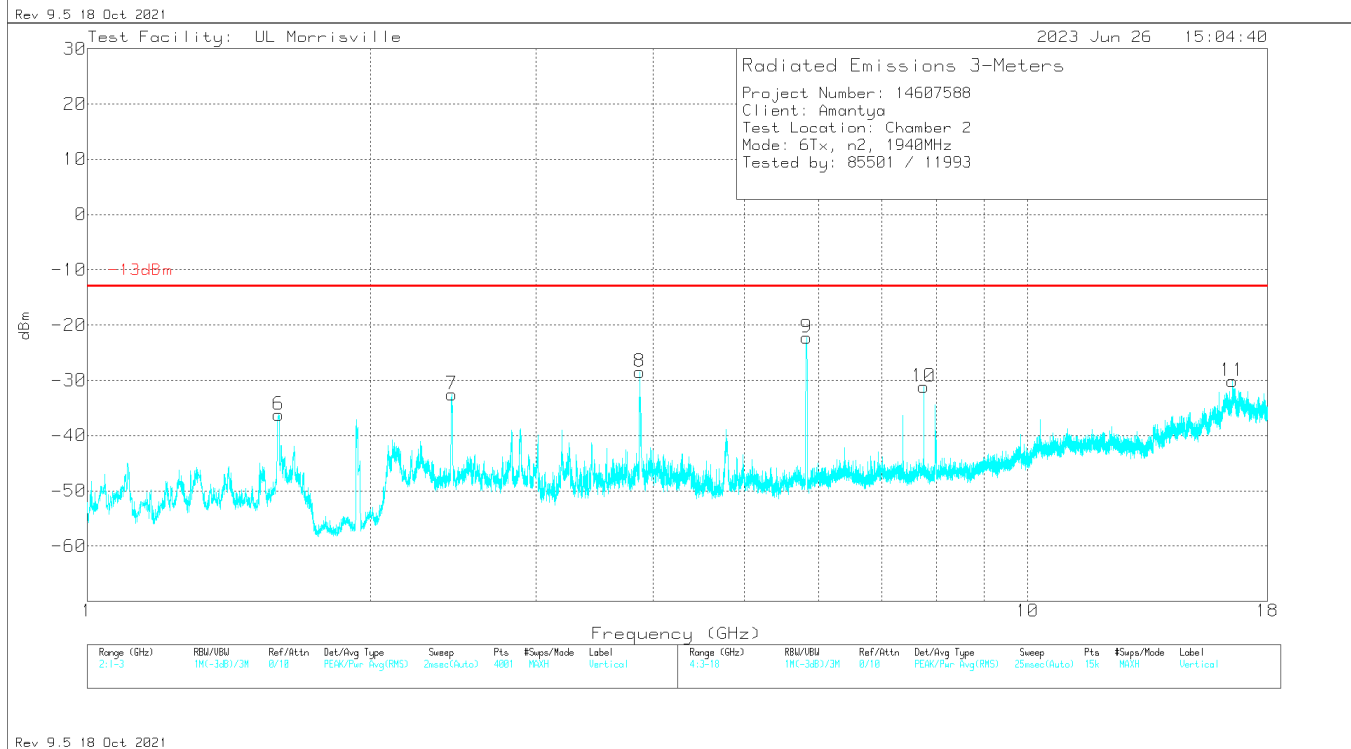
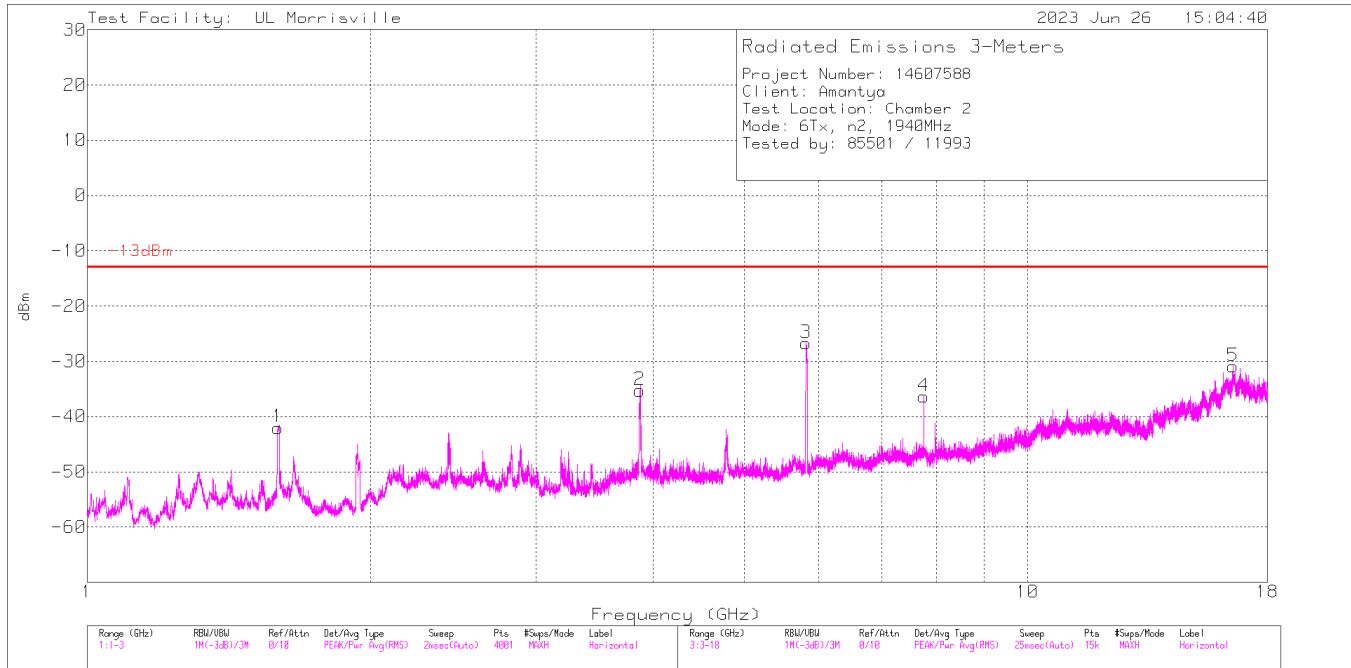


Marker	Frequency (MHz)	Meter Reading (dBm)	Det	135144 (dB/m)	Gain/Loss (dB)	Conversion Factor (dB)	Corrected Reading dBm	-13dBm	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Loop Angle
7	.00992	-60.13	Pk	19.4	.1	11.8	-28.83	-13	-15.83	0-360	101	Flat
4	.00999	-59.63	Pk	19.3	.1	11.8	-28.43	-13	-15.43	0-360	101	90 degs
1	.01017	-58.07	Pk	19.2	.1	11.8	-26.97	-13	-13.97	0-360	101	0 degs
5	.06711	-65.14	Pk	12.4	.1	11.8	-40.84	-13	-27.84	0-360	101	90 degs
2	.06715	-61.76	Pk	12.4	.1	11.8	-37.46	-13	-24.46	0-360	101	0 degs
8	.06715	-65.65	Pk	12.4	.1	11.8	-41.35	-13	-28.35	0-360	101	Flat
3	.44691	-57.6	Pk	12.2	.1	11.8	-33.5	-13	-20.5	0-360	101	0 degs
6	.44759	-61.49	Pk	12.2	.1	11.8	-37.39	-13	-24.39	0-360	101	90 degs
9	.44818	-61.86	Pk	12.2	.1	11.8	-37.76	-13	-24.76	0-360	101	Flat

Pk - Peak detector

### 11.3. SIMULTANEOUS TRANSMISSION

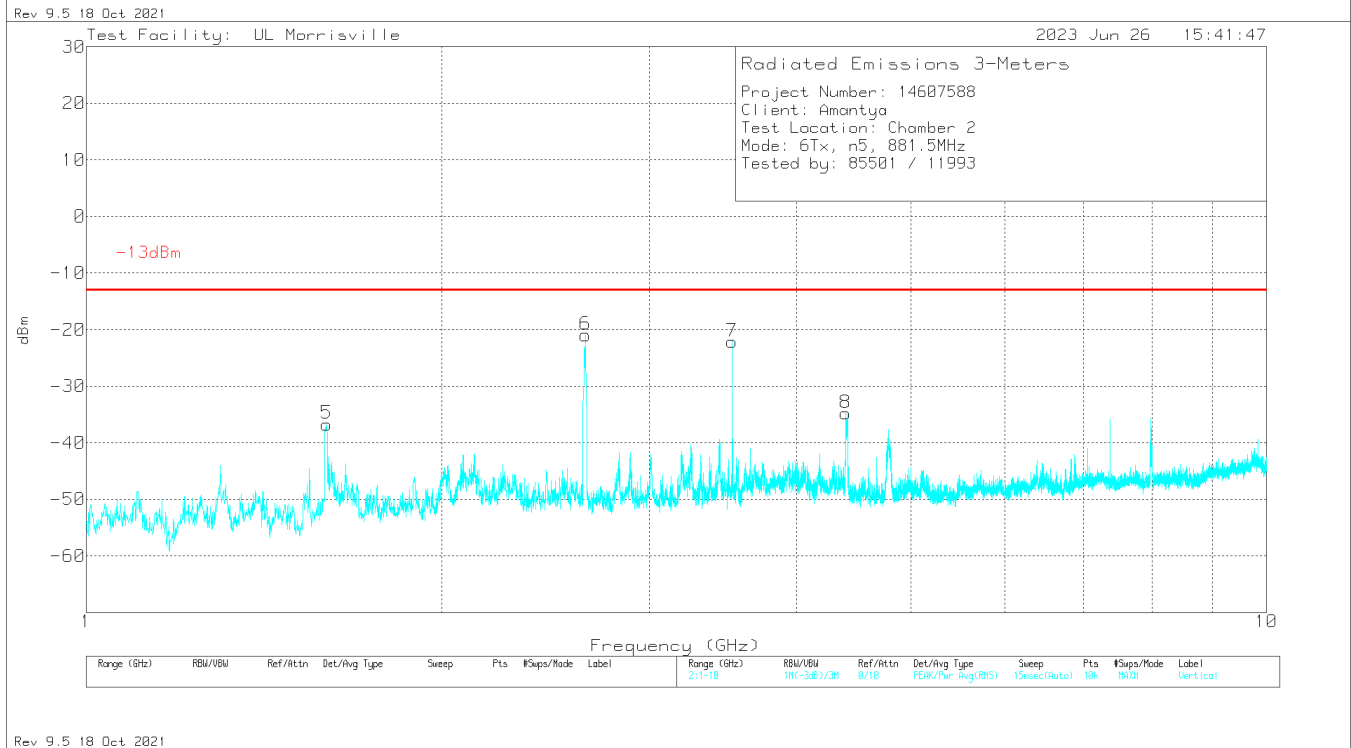
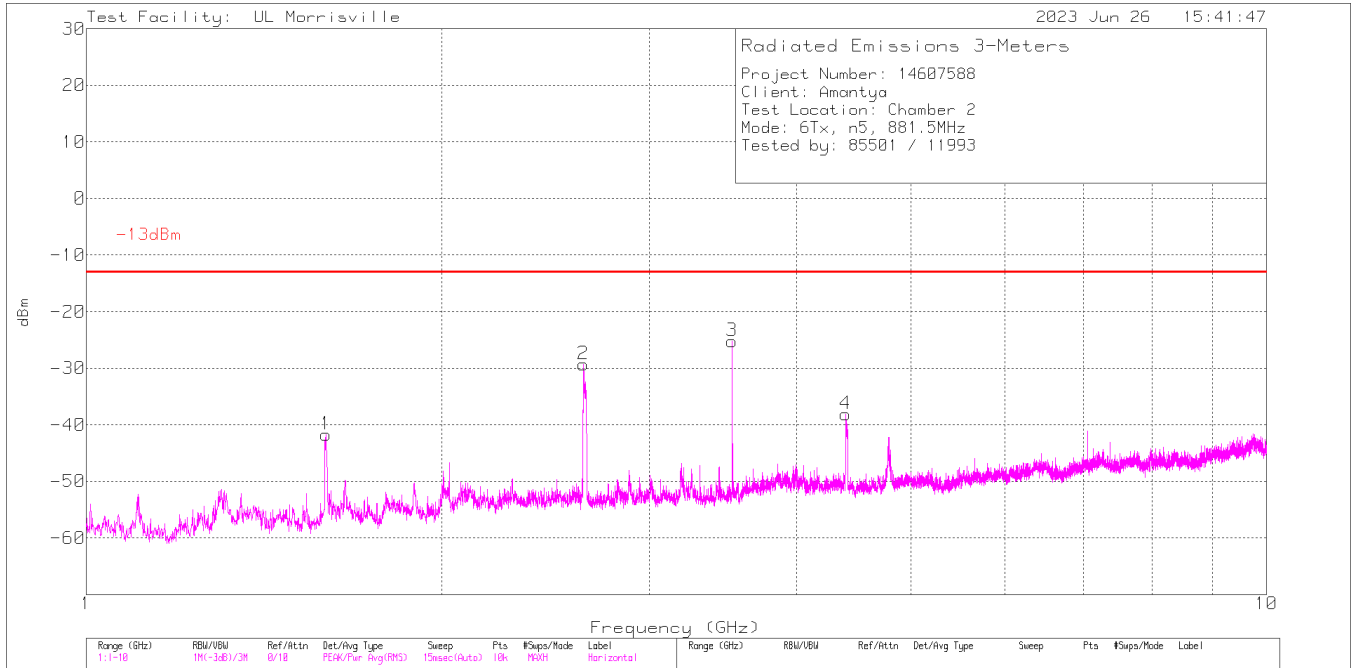
#### 11.3.1. SCAN 1



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	88761 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.5945	-48.5	Pk	28.3	-34.7	11.8	1.1	-42	-13	-29	0-360	299	H
6	1.5975	-42.63	Pk	28.2	-34.7	11.8	1.1	-36.23	-13	-23.23	0-360	200	V
7	2.4405	-42.86	Pk	32	-34	11.8	.5	-32.56	-13	-19.56	0-360	200	V
2	3.87	-48.77	Pk	33.4	-31.7	11.8	0	-35.27	-13	-22.27	0-360	199	H
8	3.87	-42.01	Pk	33.4	-31.7	11.8	0	-28.51	-13	-15.51	0-360	300	V
3	5.813	-43.15	Pk	34.7	-30.1	11.8	0	-26.75	-13	-13.75	0-360	101	H
9	5.819	-38.69	Pk	34.7	-30.1	11.8	0	-22.29	-13	-9.29	0-360	300	V
4	7.76	-57.56	Pk	35.8	-26.4	11.8	0	-36.36	-13	-23.36	0-360	199	H
10	7.76	-52.38	Pk	35.8	-26.4	11.8	0	-31.18	-13	-18.18	0-360	101	V
11	16.53	-64.95	Pk	41.3	-18.3	11.8	0	-30.15	-13	-17.15	0-360	300	V
5	16.546	-66.01	Pk	41.3	-18	11.8	0	-30.91	-13	-17.91	0-360	199	H

Pk - Peak detector

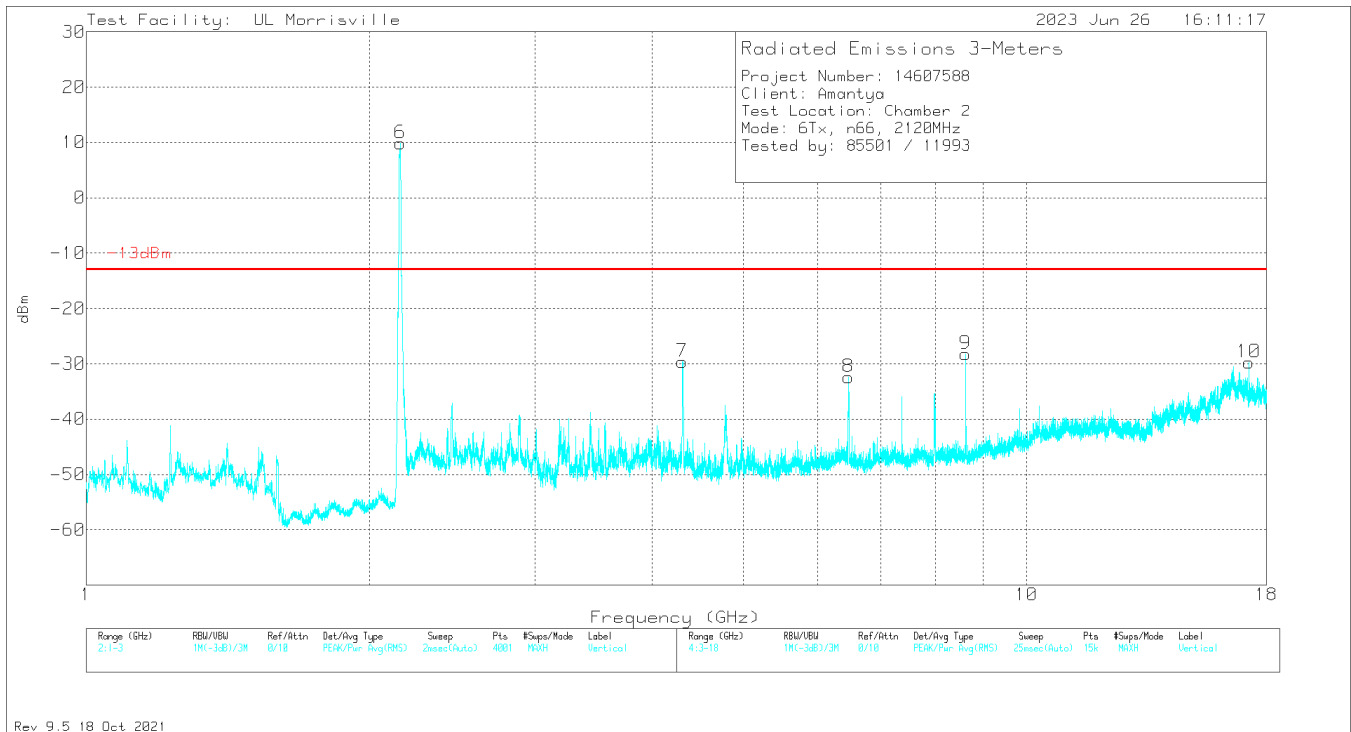
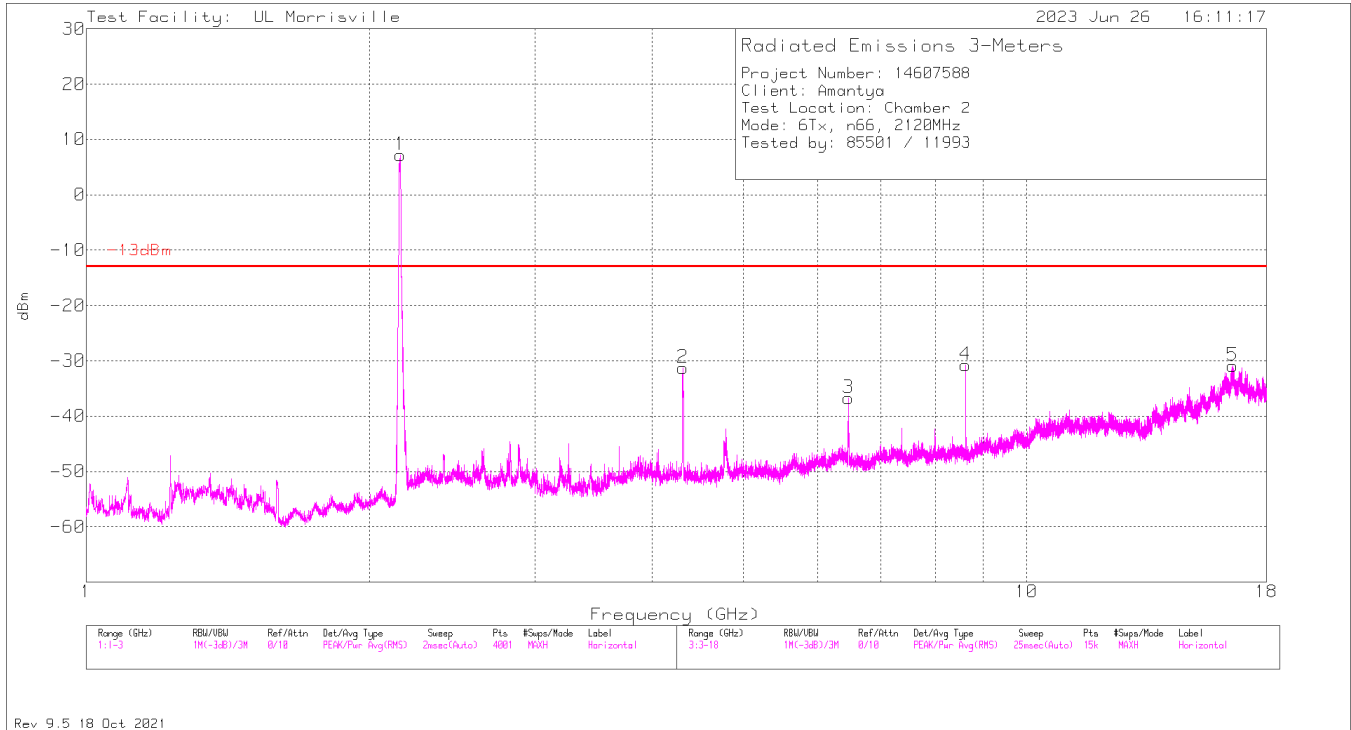
### 11.3.2. SCAN 2



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	88761 (dB/m)	Gain/Loss (dB)	Filter (dB)	CF (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.5958	-47.58	Pk	28.2	-34.7	.5	11.8	-41.78	-13	-28.78	0-360	299	H
5	1.5985	-42.5	Pk	28.2	-34.7	.5	11.8	-36.7	-13	-23.7	0-360	101	V
2	2.6389	-39.86	Pk	32.1	-33.8	.4	11.8	-29.36	-13	-16.36	0-360	101	H
6	2.64835	-31.63	Pk	32.1	-33.7	.5	11.8	-20.93	-13	-7.93	0-360	101	V
7	3.5254	-34.21	Pk	33	-33	.3	11.8	-22.11	-13	-9.11	0-360	300	V
3	3.5263	-37.37	Pk	33	-33	.3	11.8	-25.27	-13	-12.27	0-360	200	H
4	4.4011	-52.67	Pk	33.6	-31.3	.4	11.8	-38.17	-13	-25.17	0-360	101	H
8	4.402	-49.33	Pk	33.6	-31.3	.4	11.8	-34.83	-13	-21.83	0-360	101	V

Pk - Peak detector

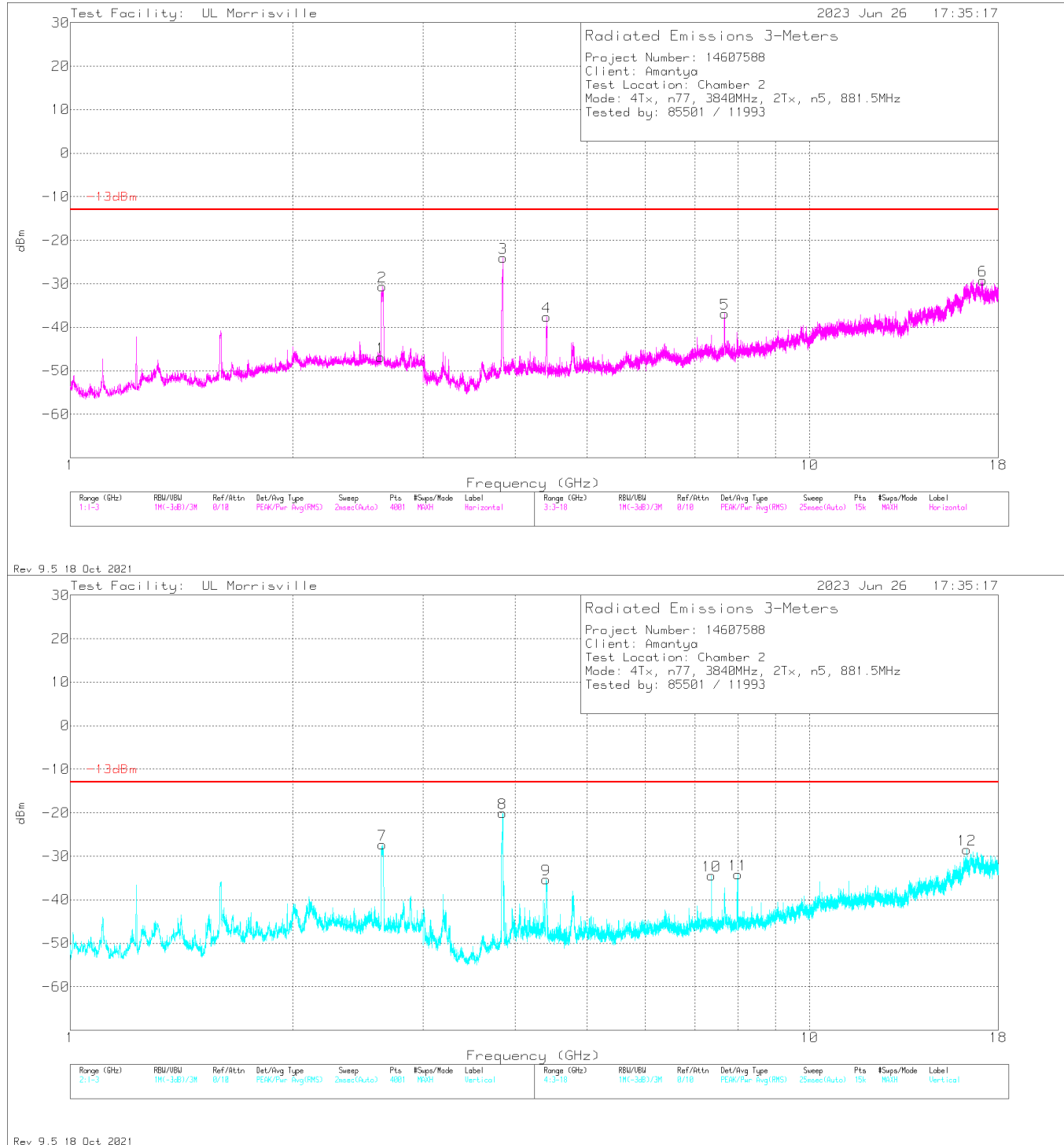
### 11.3.3. SCAN 3



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	88761 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.1575 (DL)	-3.01	Pk	31.5	-34.3	11.8	1.2	-	-	-	0-360	200	H
6	2.1585 (DL)	-.37	Pk	31.5	-34.3	11.8	1.2	-	-	-	0-360	200	V
7	4.307	-43.57	Pk	33.5	-31.3	11.8	0	-29.57	-13	-16.57	0-360	300	V
2	4.311	-45.38	Pk	33.5	-31.2	11.8	0	-31.28	-13	-18.28	0-360	300	H
3	6.465	-55.42	Pk	35.5	-28.6	11.8	0	-36.72	-13	-23.72	0-360	300	H
8	6.467	-51.14	Pk	35.5	-28.6	11.8	0	-32.44	-13	-19.44	0-360	200	V
4	8.62	-52.03	Pk	35.8	-26.3	11.8	0	-30.73	-13	-17.73	0-360	300	H
9	8.62	-49.55	Pk	35.8	-26.3	11.8	0	-28.25	-13	-15.25	0-360	101	V
5	16.564	-65.94	Pk	41.3	-18.1	11.8	0	-30.94	-13	-17.94	0-360	300	H
10	17.24	-61.77	Pk	41.2	-21	11.8	0	-29.77	-13	-16.77	0-360	200	V

Pk - Peak detector  
 DL - Fundamental

### 11.3.4. SCAN 4





Marker	Frequency (GHz)	Meter Reading (dBm)	Det	88761 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.631	-66.53	Pk	32	-25.3	11.8	.7	.4	-46.93	-13	-33.93	0-360	200	H
2	2.641	-50.39	Pk	32.1	-25.4	11.8	.7	.5	-30.69	-13	-17.69	0-360	101	H
7	2.642	-47.15	Pk	32.1	-25.4	11.8	.8	.5	-27.35	-13	-14.35	0-360	101	V
8	3.846 (DL)	-35.16	Pk	33.4	-31.8	11.8	1.2	.5	-	-	-	0-360	300	V
3	3.848 (DL)	-39.14	Pk	33.4	-31.8	11.8	1.2	.5	-	-	-	0-360	200	H
9	4.402	-50.21	Pk	33.6	-31.4	11.8	.5	.4	-35.31	-13	-22.31	0-360	199	V
4	4.41	-52.7	Pk	33.6	-31.2	11.8	.5	.4	-37.6	-13	-24.6	0-360	200	H
10	7.373	-56.54	Pk	35.5	-26.7	11.8	.7	.8	-34.44	-13	-21.44	0-360	101	V
5	7.679	-58.99	Pk	35.7	-26.7	11.8	.7	.6	-36.89	-13	-23.89	0-360	101	H
11	7.996	-56.23	Pk	35.8	-26.8	11.8	.7	.5	-34.23	-13	-21.23	0-360	199	V
12	16.326	-64.51	Pk	41	-19	11.8	1.2	1	-28.51	-13	-15.51	0-360	300	V
6	17.149	-65.59	Pk	41.2	-19.4	11.8	1.3	1.5	-29.19	-13	-16.19	0-360	200	H

Pk - Peak detector

DL - Fundamental

## 12. SETUP PHOTOS

See R14607588-EP2 for Setup Photos.

**END OF REPORT**