Report Number:	R14311587-E4
Issue Date:	2022-08-11
FCC ID:	PY7-53752E

Electromagnetic Compatibility Test Report

For

Sony Corporation
1-7-1 Konan Minato-ku
Tokyo, 108-0075, Japan

TEST REPORT DETAILS

Tests Performed By:	UL LLC 12 LABORATORY DR. RESEARCH TRIANGLE PARK, NC 27709, U.S.A.
Tests Performed For:	Sony Corporation 1-7-1 Konan Minato-ku Tokyo, 108-0075, Japan
Issue Date:	2022-08-11
FCC ID:	PY7-53752E
Sample Serial Number:	QV7700G9D8, QV7700DJD8
Applicable Standards:	FCC 47 CFR PART 15 SUBPART B:2022
Date Test Item Received:	2022-06-07
Testing Start Date:	2022-07-07
Date Testing Complete:	2022-08-08
Overall Results:	Compliant

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

REPORT DIRECTORY

REPORT REVISION HISTORY

Revision Date	Revision Version	Description	Revised By	Revision Reviewed By
2022-08-03	V1	Initial Issue	B. Kiewra	M. Antola
2022-08-09	V2	Added PC Peripheral data	B. Kiewra	M. Antola
2022-08-11	V3	Added clarification that downlink signal is from callbox	B. Kiewra	M. Antola

1.0 TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4:2014.

1.1 Deviations from standard test methods

None

1.2 Device Modifications Necessary for Compliance

None

1.3 TEST RESULTS SUMMARY

This product is considered Class B

Requirement – Test	Result (Compliant / Non-Compliant)
CONDUCTED EMISSIONS	Compliant
RADIATED EMISSIONS	Compliant

Approved & Released For
UL LLC. By:

Michael Antola
Staff Engineer
Consumer Technology Division
UL LLC.

Prepared By:

Brian Kiewra
Project Engineer
Consumer Technology Division
UL LLC.

2.0 DECISION RULES AND MEASUREMENT UNCERTAINTY

2.1 Metrological Traceability

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards

2.2 Decision Rules

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4: 2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement).

2.3 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U_{lab}	U_{Cispr}
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.07 db	3.4 db
Worst Case Radiated Disturbance, All ranges	6.01 db	6.3 db

Uncertainty figures are valid to a confidence level of 95%.

2.4 Sample Calculation

RADIATED EMISSIONS
Where relevant, the following sample calculation is provided:
Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

MAINS CONDUCTED EMISSIONS
Where relevant, the following sample calculation is provided:
Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.

36.5 dBuV + 0 dB +10.1 dB+ 0 dB = 46.6 dBuV

3.0 GENERAL - Product Description

3.1 Equipment Description

GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac/ax, GPS, WPT & NFC

3.2 Device Configuration During Test

3.2.1 Equipment Used During Test:

Use	Product Type	Manufacturer	Model	Comments
EUT	Cell phone	Sony	PY7-93060R	None
AE	Headphones	Sony	MDR-EX15AP	None
AE	Power Supply	Sony	XQZ-UC11-010-236-21	None
AE	Laptop	Dell	Inspiron 15 3511	Used for PC peripheral setup
AE	Laptop	HP	11-ah112dx	Used for PC peripheral setup
AE	Power Supply	Dell	DA65NM191	Used for PC peripheral setup
AE	Power Supply	HP	TPN-CA14	Used for PC peripheral setup
AE	Monitor	ViewSonic	VS15453	Used for PC peripheral setup
AE	Monitor	ViewSonic	VS15562	Used for PC peripheral setup

Note: **EUT** - Equipment Under Test, **AE** - Auxiliary/Associated Equipment, or **SIM** - Simulator (Not Subjected to Test)

3.2.2 Input/Output Ports:

Port #	Name	Type*	Cable Max. >3m (Y/N)	Cable Shielded (Y/N)	Comments
0	Enclosure	N/E	—	—	None
1	USB	DC	N	N	Connected to power supply/laptop
2	Audio	I/O	N	N	Connected to headphones
3	HDMI	I/O	N	N	Connected to monitor for support laptop population
4	Audio	I/O	N	N	Connected to monitor for support laptop population
5	Mains	I/O	N	N	Connected to support laptop power supply

*Note: AC = AC Power Port DC = DC Power Port N/E = Non-Electrical I/O = Signal Input or Output Port (Not Involved in Process Control) TP = Telecommunication Ports

3.2.3 EUT Highest Frequencies:

Frequency (MHz)	Description
5825	Highest Tx Frequency

3.2.4 Power Interface:

Mode # / Rated	Voltage (V)	Current (A)	Power (W)	Frequency (DC/AC-Hz)	Phases (#)	Comments
Rated	100-240	-	-	50/60	Single	None
1	120Vac	-	-	60Hz	Single	Power Supply
2	4.28Vdc	-	-	DC	Single	Battery

3.2.5 Subassemblies

Description	Manufacturer	Model
None		

3.2.6 Manufacturer's Description of Model Differences

None

3.2.7 Software and Firmware

The software installed during testing was 0.56 for idle sample and 0.41 for WWAN Rx sample.

3.3 Block Diagram

Refer to setup exhibit R14311587-EP4 for block diagram.

3.4 EUT Configurations

Configuration #	Description
1	Configured as table top equipment

3.5 EUT Operation Modes

Mode of Operation#	Description
1	Operating as intended on battery. Radio idle.
2	Operating as intended connected to power supply. Radio idle.
3	Operating as intended connected to power supply. Radio in Rx mode on supported LTE bands that transmit <960MHz. Note: LTE B5 covers GSM850, and WCDMA Band 5. LTE B12 covers LTE B17. Callbox was used to ensure that EUT was placed in Rx mode.
4	Operating as intended connected as PC Peripheral. Radio idle.

Supported Band(s)	Down Link Frequency Range (MHz)
GSM850, WCDMA 5, LTE B5	869-894
LTE B12, B17	729-746
LTE B13	746-756

3.6 Rationale for EUT Configurations

Configuration #	Description
1	EUT was investigated in three orientations, X, Y, and Z. It was determined that worst-case orientation for radiated testing was Y for battery and X for power supply/PC Peripheral modes. Therefore all final radiated testing performed with the EUT in the Y orientation for battery and X for power supply/PC peripheral modes.

3.7 Rationale for EUT Mode of Operation

Mode of Operation #	Description
1,2,3,4	EUT capable of operating on battery, connected to power supply, or connected as PC peripheral.

4.0 APPLICABLE EMISSIONS LIMITS AND TEST RESULTS

4.1 Test Conditions and Results - MAINS TERMINAL - CONDUCTED EMISSIONS

Test Engineer	86150/40882, 84740	
Test Date	2022-07-07, 2022-08-08	
Laboratory Parameters	Required prior to the test	During the test
Ambient Temperature	10 to 40 °C	23.7 - 23.9°C
Humidity	10 % to 90 %	45.2 - 47.0%
	Frequency range on each side of line	Measurement Point
Fully configured sample scanned over the following frequency range	150kHz to 30MHz	Mains

Limits - Class B

Frequency (MHz)	Limit (dBµV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Supplementary information: None

Conducted Emissions EUT Configuration Settings

Power Interface #	EUT Configurations #	EUT Mode of Operation#
1	1	2,4

Supplementary information: None

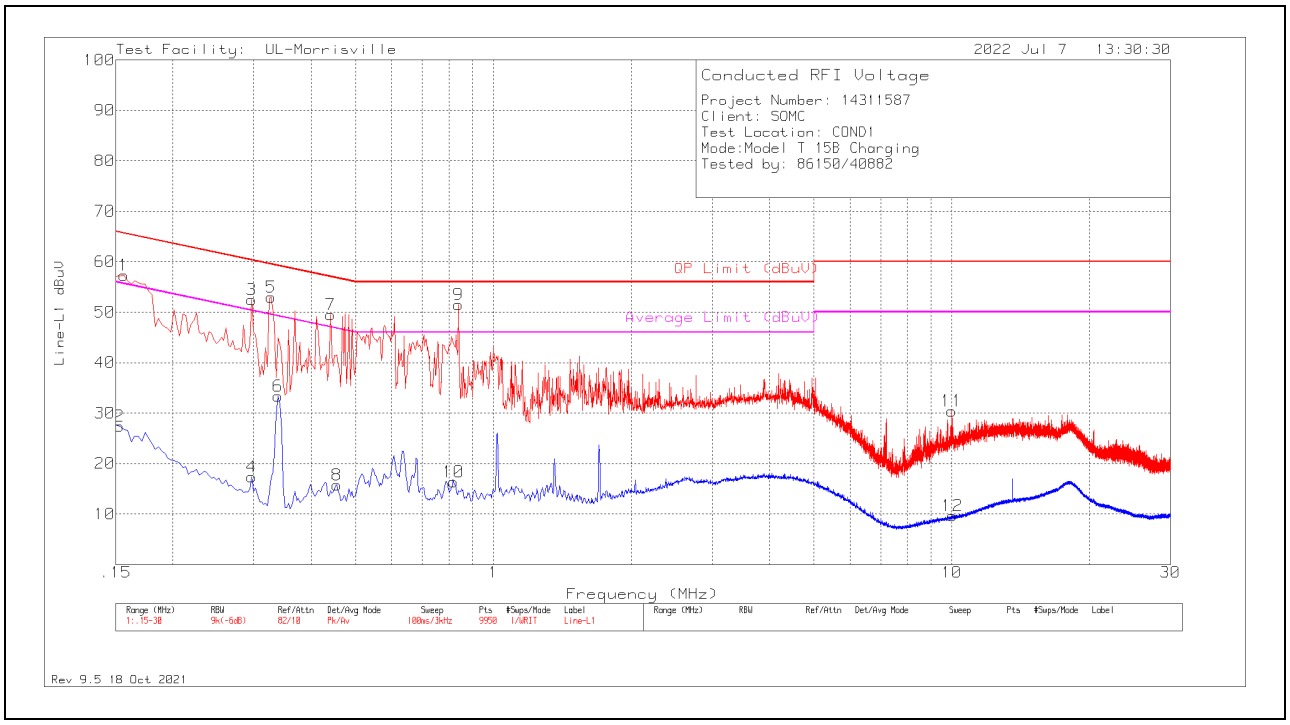
Refer to setup exhibit R14311587-EP4 for setup photos.

Conducted Emissions Test Equipment

Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2022-04-05	2023-04-05
HI0096	Environmental Meter	Fisher Scientific	14-650-118	2021-09-21	2022-09-21
HI0091	Environmental Meter	Fisher Scientific	15-077-963	2022-07-20	2023-07-20
LISN003	LISN, 50-ohm/50-uH, 250uH 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50/250-25-2-01	2021-08-16	2022-08-16
75141	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2021-08-17	2022-08-17
ATA222	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2022-04-05	2023-04-05
PS214	AC Power Source	Elgar	CW2501M (s/n 1523A02396)	NA	NA
PS216	AC Power Source	Elgar	CW2501M-1 (s/n 1045A04231)	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
CDECABLE001	ANSI C63.4 1m extension cable.	UL	Per Annex B of ANSI C63.4	2021-09-13	2022-09-13
LISN008	LISN, 50-ohm/50-uH, 2-conductor, 25A (For support gear only.)	Solar Electronics	8012-50-R-24-BNC	NA	NA

Conducted Emissions Graph – Line 1

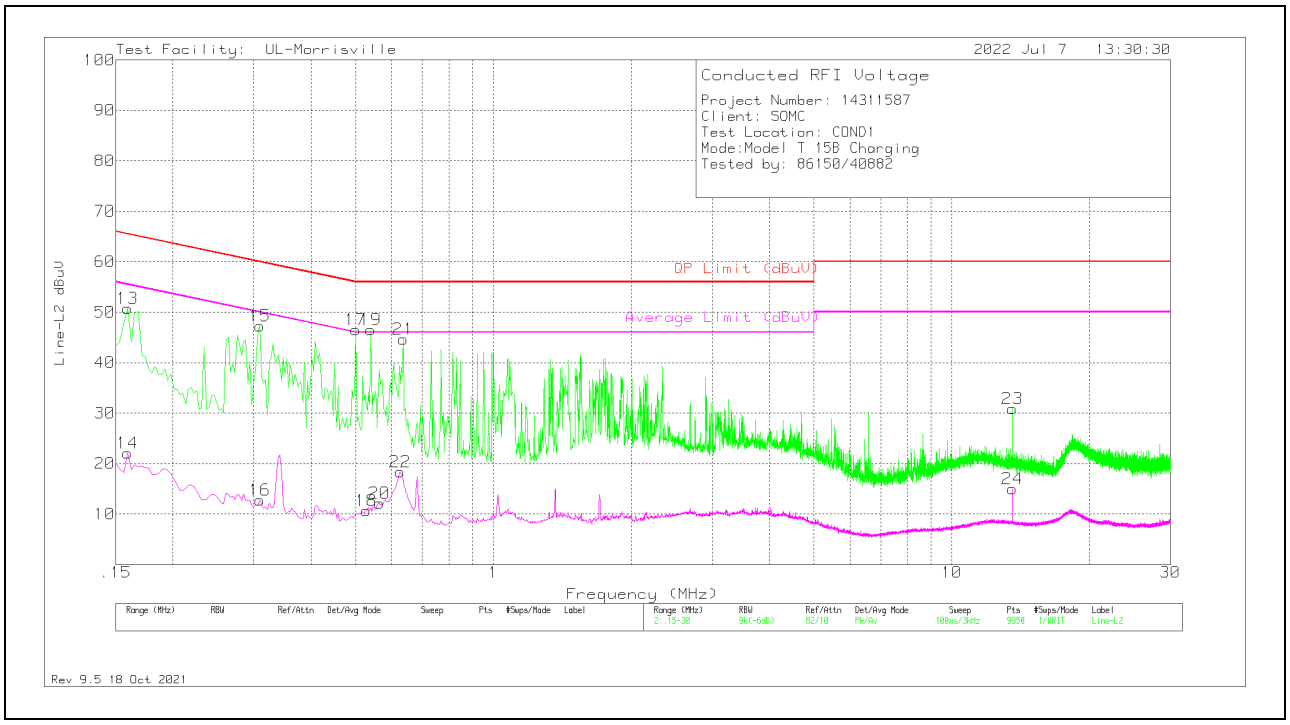


Conducted Emissions Data Points – Line 1

Range 1: Line-L1 .15 - 30MHz										
Marker	**Frequency (MHz)**	**Meter Reading (dBuV)**	**Det**	**LISN VCF (dB)**	**Cbl/Limiter (dB)**	**Corrected Reading dBuV**	**QP Limit (dBuV)**	**Margin (dB)**	**Average Limit (dBuV)**	**Margin (dB)**
2	.153	17.36	Av	.2	9.8	27.36	-	-	55.84	-28.48
1	.156	47.31	Pk	.2	9.8	57.31	65.67	-8.36	-	-
3	.297	42.54	Pk	.1	9.8	52.44	60.33	-7.89	-	-
4	.297	7.47	Av	.1	9.8	17.37	-	-	50.33	-32.96
5	.327	43.04	Pk	.1	9.8	52.94	59.53	-6.59	-	-
6	.339	23.49	Av	.1	9.8	33.39	-	-	49.23	-15.84
7	.441	39.63	Pk	.1	9.8	49.53	57.04	-7.51	-	-
8	.456	5.88	Av	0	9.8	15.68	-	-	46.77	-31.09
10	.819	6.53	Av	0	9.8	16.33	-	-	46	-29.67
9	.83507	1.51	Qp	0	9.8	11.31	56	-44.69	-	-
11	9.99	20.34	Pk	.1	10	30.44	60	-29.56	-	-
12	10.017	-.44	Av	.1	10	9.66	-	-	50	-40.34

Pk - Peak detector
Qp - Quasi-Peak detector
Av - Average detection

Conducted Emissions Graph – Line 2

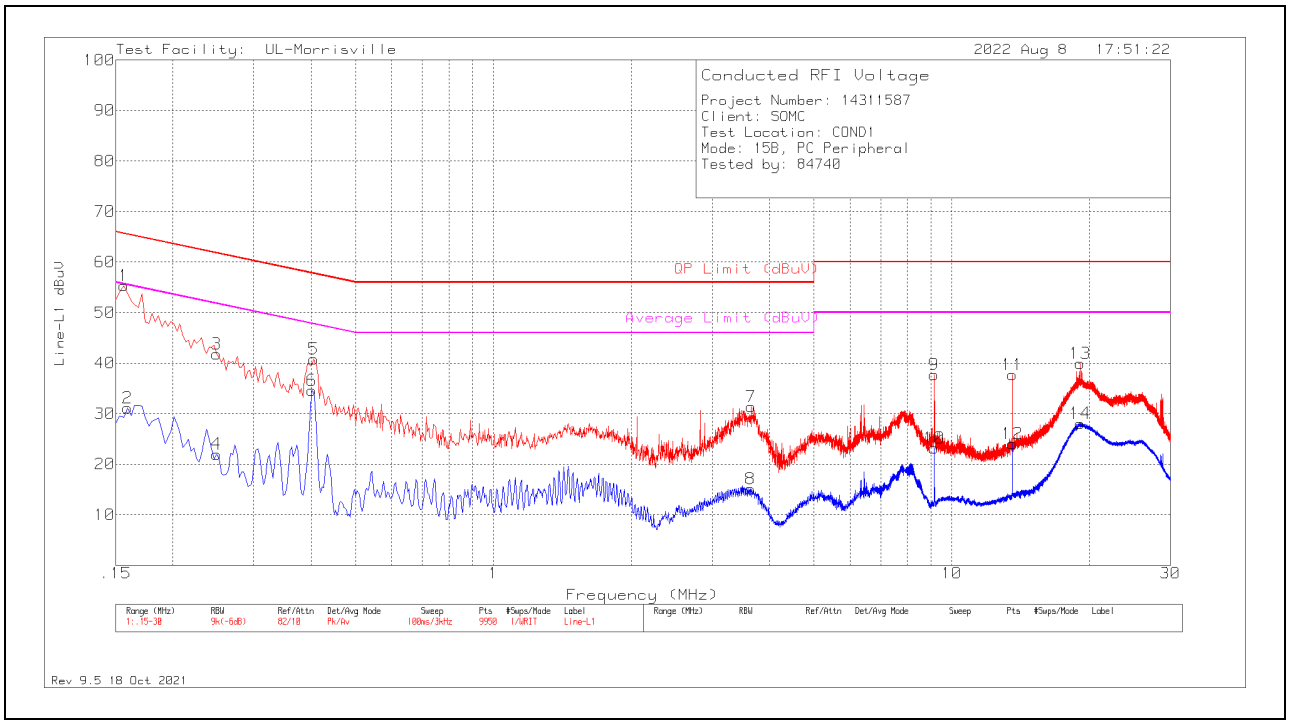


Conducted Emissions Data Points – Line 2

Range 2: Line-L2 .15 - 30MHz										
Marker	**Frequency (MHz)**	**Meter Reading (dBuV)**	**Det**	**LISN VCF (dB)**	**Cbl/Limiter (dB)**	**Corrected Reading dBuV**	**QP Limit (dBuV)**	**Margin (dB)**	**Average Limit (dBuV)**	**Margin (dB)**
13	.159	40.73	Pk	.2	9.8	50.73	65.52	-14.79	-	-
14	.159	12.12	Av	.2	9.8	22.12	-	-	55.52	-33.4
15	.309	37.38	Pk	.1	9.8	47.28	60	-12.72	-	-
16	.309	2.87	Av	.1	9.8	12.77	-	-	50	-37.23
17	.501	36.71	Pk	0	9.8	46.51	56	-9.49	-	-
18	.528	.89	Av	0	9.8	10.69	-	-	46	-35.31
19	.54	36.7	Pk	0	9.8	46.5	56	-9.5	-	-
20	.564	2.35	Av	0	9.8	12.15	-	-	46	-33.85
22	.627	8.49	Av	0	9.8	18.29	-	-	46	-27.71
21	.636	34.89	Pk	0	9.8	44.69	56	-11.31	-	-
24	13.56	4.89	Av	.1	10	14.99	-	-	50	-35.01
23	13.563	20.73	Pk	.1	10	30.83	60	-29.17	-	-

Pk - Peak detector
Qp - Quasi-Peak detector
Av - Average detection

Conducted Emissions Graph – PC Peripheral Line 1

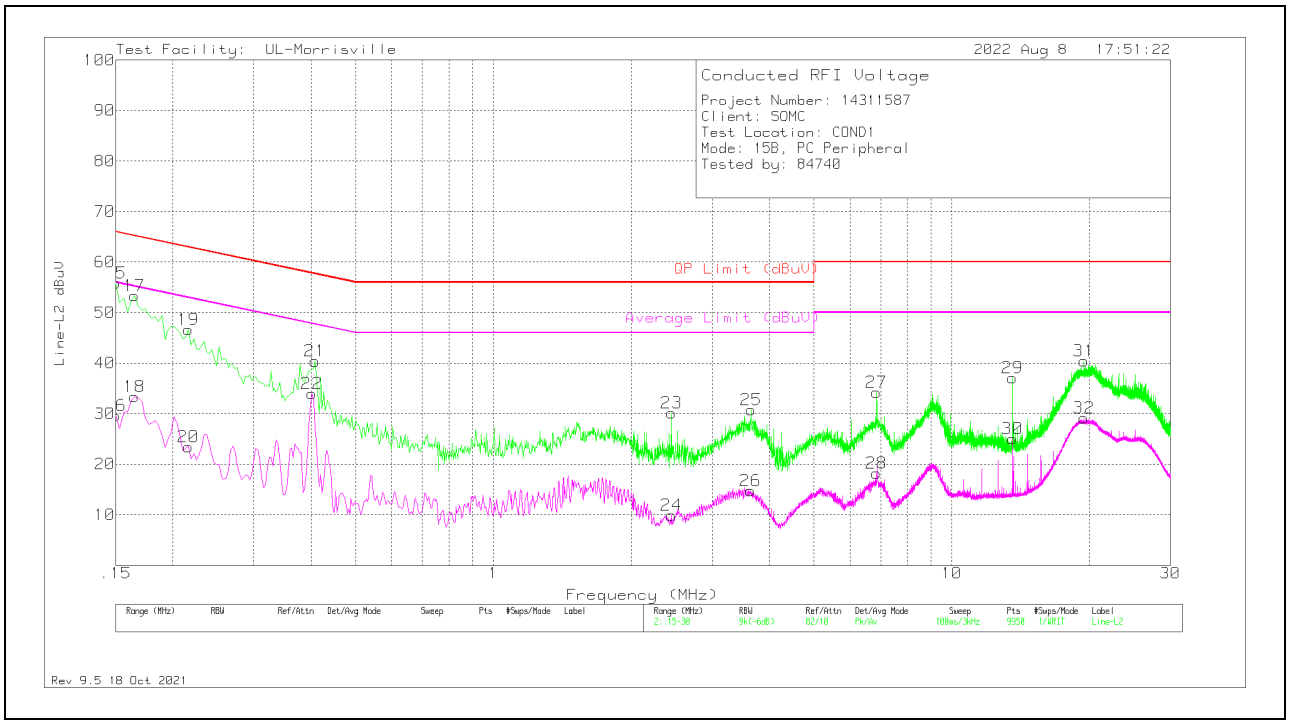


Conducted Emissions Data Points – PC Peripheral Line 1

Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.156	45.34	Pk	.2	9.8	55.34	65.67	-10.33	-	-
2	.159	21.16	Av	.2	9.8	31.16	-	-	55.52	-24.36
3	.249	31.89	Pk	.1	9.8	41.79	61.79	-20	-	-
4	.249	12.1	Av	.1	9.8	22	-	-	51.79	-29.79
6	.402	24.66	Av	.1	9.8	34.56	-	-	47.81	-13.25
5	.405	30.92	Pk	.1	9.8	40.82	57.75	-16.93	-	-
8	3.636	5.26	Av	0	9.9	15.16	-	-	46	-30.84
7	3.651	21.52	Pk	0	9.9	31.42	56	-24.58	-	-
9	9.156	27.59	Pk	.1	10	37.69	60	-22.31	-	-
10	9.156	13.04	Av	.1	10	23.14	-	-	50	-26.86
12	13.56	13.98	Av	.1	10	24.08	-	-	50	-25.92
11	13.563	27.61	Pk	.1	10	37.71	60	-22.29	-	-
13	19.062	29.69	Pk	.2	10.1	39.99	60	-20.01	-	-
14	19.071	17.78	Av	.2	10.1	28.08	-	-	50	-21.92

Pk - Peak detector
Av - Average detection

Conducted Emissions Graph – PC Peripheral Line 2



Conducted Emissions Data Points – PC Peripheral Line 2

Range 2: Line-L2 .15 - 30MHz										
Marker	**Frequency (MHz)**	**Meter Reading (dBuV)**	**Det**	**LISN VCF (dB)**	**Cbl/Limiter (dB)**	**Corrected Reading dBuV**	**QP Limit (dBuV)**	**Margin (dB)**	**Average Limit (dBuV)**	**Margin (dB)**
15	.15	45.7	Pk	.3	9.8	55.8	66	-10.2	-	-
16	.15	19.5	Av	.3	9.8	29.6	-	-	56	-26.4
17	.165	43.35	Pk	.2	9.8	53.35	65.21	-11.86	-	-
18	.165	23.31	Av	.2	9.8	33.31	-	-	55.21	-21.9
19	.216	36.79	Pk	.1	9.8	46.69	62.97	-16.28	-	-
20	.216	13.51	Av	.1	9.8	23.41	-	-	52.97	-29.56
22	.402	24.12	Av	.1	9.8	34.02	-	-	47.81	-13.79
21	.408	30.48	Pk	.1	9.8	40.38	57.69	-17.31	-	-
23	2.445	20.28	Pk	0	9.8	30.08	56	-25.92	-	-
24	2.445	.1	Av	0	9.8	9.9	-	-	46	-36.1
26	3.642	4.89	Av	0	9.9	14.79	-	-	46	-31.21
25	3.651	20.83	Pk	0	9.9	30.73	56	-25.27	-	-
27	6.858	24.18	Pk	.1	9.9	34.18	60	-25.82	-	-
28	6.861	8.23	Av	.1	9.9	18.23	-	-	50	-31.77
29	13.56	26.97	Pk	.1	10	37.07	60	-22.93	-	-
30	13.56	14.98	Av	.1	10	25.08	-	-	50	-24.92
31	19.44	30.17	Pk	.2	10.1	40.47	60	-19.53	-	-
32	19.44	18.83	Av	.2	10.1	29.13	-	-	50	-20.87

Pk - Peak detector
Av - Average detection

4.2 Test Conditions and Results - RADIATED EMISSIONS

Test Engineer	86150/11993, 19289/11993, 85501/11993, 23567/11993	
Test Date	2022-07-21 to 2022-08-08	
Laboratory Parameters	Required prior to the test	During the test
Ambient Temperature	10 to 40 °C	21.5 – 24.8°C
Humidity	10 % to 90 %	52.0 – 57.6%
	Frequency range	Measurement Point
Fully configured sample scanned over the following frequency range	30-40000MHz	3m

Limits - Class B		
Frequency (MHz)	Limit (dBµV/m)	
30-88	40	NA
88-216	43.5	NA
216-960	46	NA
Above 960	54	NA
	Peak	Average
Above 1 GHz	74	54
Supplementary information: None		

Radiated Emissions EUT Configuration Settings

Power Interface #	EUT Configurations #	EUT Mode of Operation#
1,2	1	1,2,3,4
Supplementary information: None		

Refer to setup exhibit R14311587-EP4 for setup photos.

Radiated Emissions Test Equipment

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 1)

Equipment ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
30-1000 MHz					
AT0066	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB1	2022-03-01	2023-03-01
1-18 GHz					
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2022-05-11	2023-05-11
Gain-Loss Chains					
C1-SAC02	Gain-loss string: 25-1000MHz	Various	Various	2022-05-05	2023-05-05
C1-SAC03	Gain-loss string: 1-18GHz	Various	Various	2022-05-05	2023-05-05
Receiver & Software					
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2022-04-14	2023-04-14
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
210922	Environmental Meter	Fisher Scientific	181474341	2021-09-27	2022-09-27

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 2)

Equipment ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
18-40 GHz					
AT0063	Horn Antenna, 18-26.5GHz	ARA	MWH-1826/B	2021-11-04	2022-11-04
AT0061	Horn Antenna, 26-40GHz	ARA	MWH-2640/B	2021-11-04	2022-11-04
Gain-Loss Chains					
C2-SAC04	Gain-loss string: 18-40GHz	Various	Various	2022-05-10	2023-05-10
Receiver & Software					
SA0020	Spectrum Analyzer	Agilent	E4446A	2022-06-08	2023-06-08
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
200540	Environmental Meter	Fisher Scientific	15-077-963	2021-09-27	2022-09-27

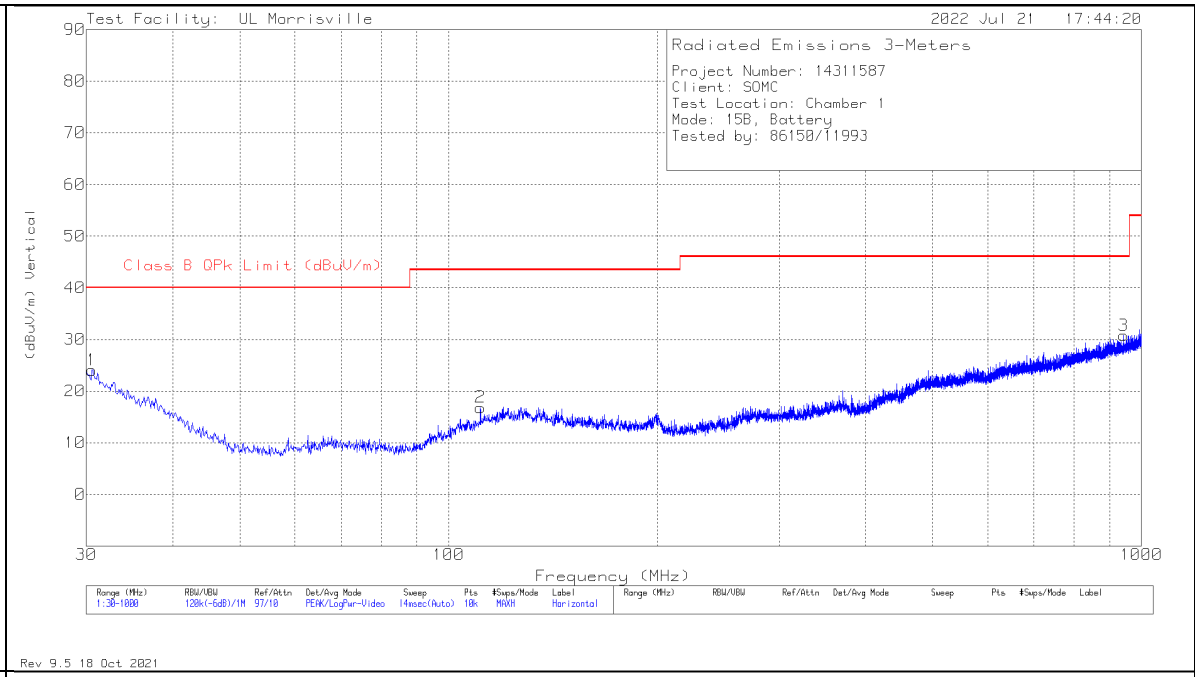
Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 4)

Equipment ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
30-1000 MHz					
AT0081	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2021-12-08	2022-12-08
1-18 GHz					
AT0067	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2022-05-24	2023-05-24
Gain-Loss Chains					
C4-SAC02	Gain-loss string: 25-1000MHz	Various	Various	2022-05-20	2023-05-20
C4-SAC03	Gain-loss string: 1-18GHz	Various	Various	2022-05-20	2023-05-20
Receiver & Software					
206496	Spectrum Analyzer	Rohde & Schwarz	ESW44	2022-02-15	2023-02-15
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
210642	Environmental Meter	Fisher Scientific	15-077-963	2021-08-16	2023-08-16
207620	Wideband Radio Communications Tester	Anritsu	MT8821C	2022-07-08	2023-07-08

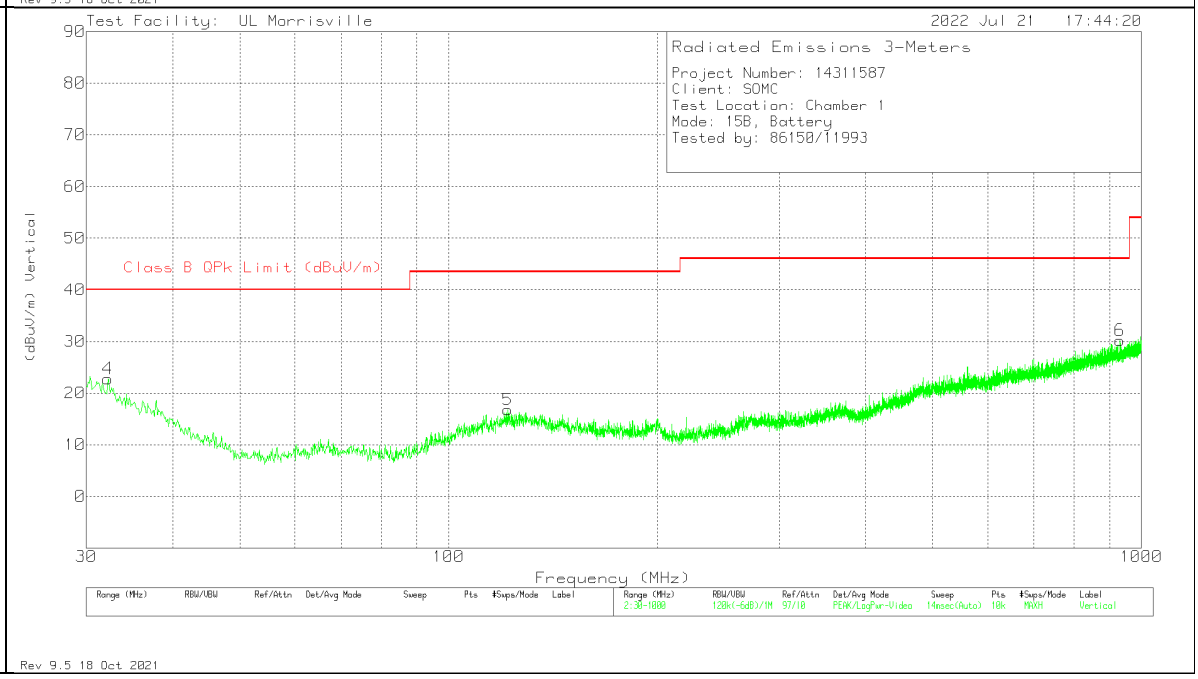
RADIATED EMISSIONS 30 TO 1000 MHz - Battery

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

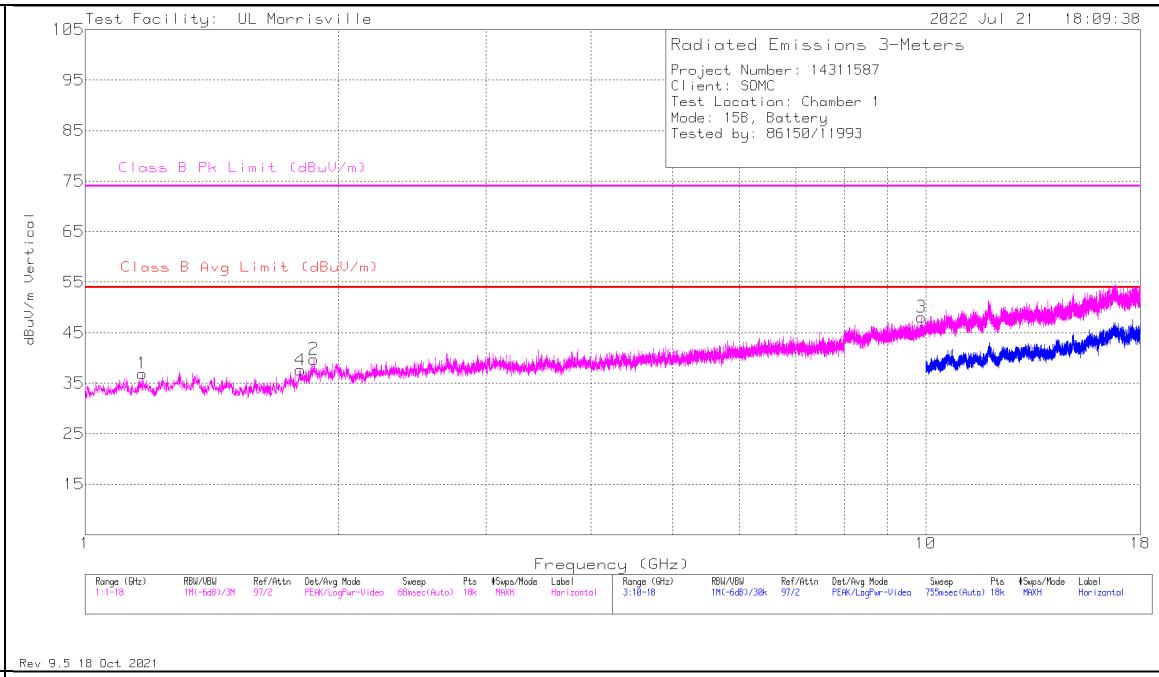
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0066 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.582	28.74	Pk	26.6	-31.3	24.04	40	-15.96	0-360	199	H
4	32.231	28.47	Pk	25.6	-31.3	22.77	40	-17.23	0-360	100	V
2	111.189	28.84	Pk	18.4	-30.4	16.84	43.52	-26.68	0-360	199	H
5	121.762	27.38	Pk	19.5	-30.1	16.78	43.52	-26.74	0-360	100	V
6	931.809	26.09	Pk	28.5	-24.4	30.19	46.02	-15.83	0-360	100	V
3	942.673	26.56	Pk	28.5	-24.3	30.76	46.02	-15.26	0-360	100	H

Pk - Peak detector

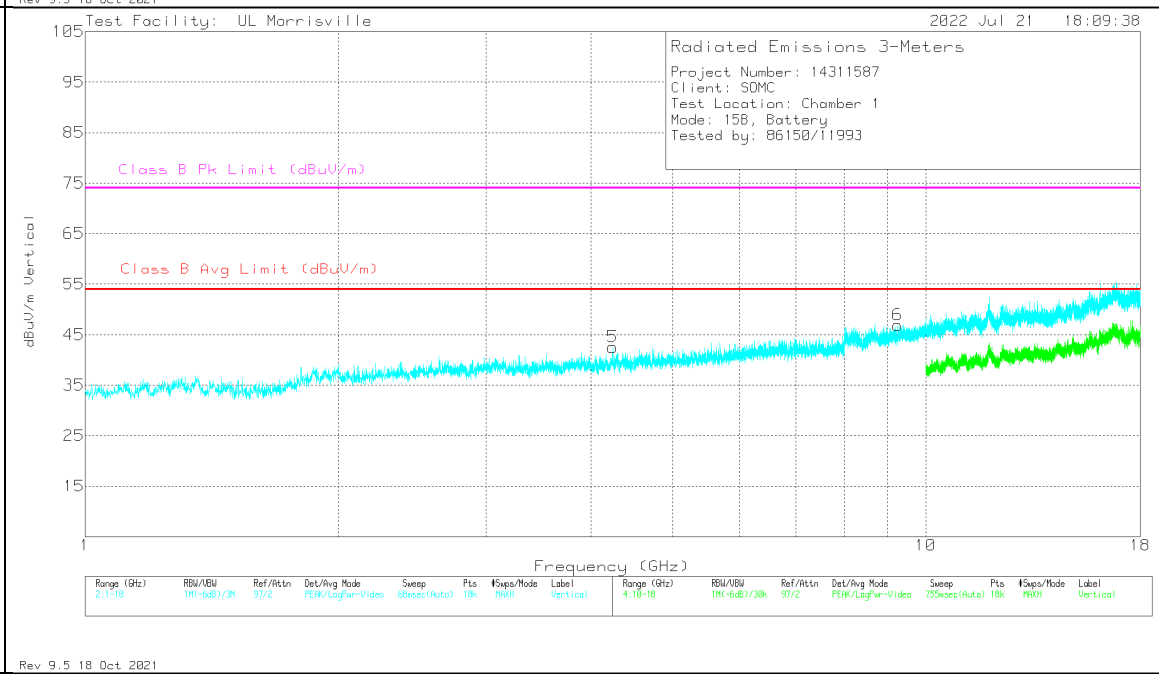
RADIATED EMISSIONS 1000 TO 18,000 MHz – Battery

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

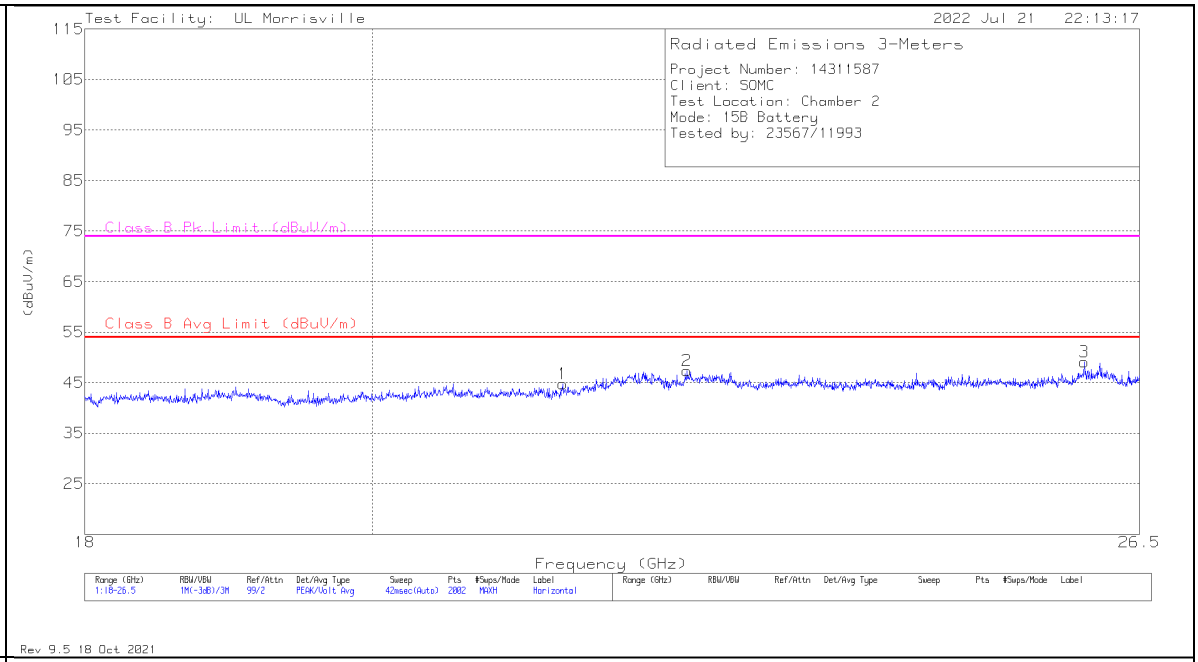
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.16906	44.32	Pk	28.3	-35.7	36.92	54	-17.08	74	-37.08	0-360	199	H
4	1.80278	42.39	Pk	30.4	-35.2	37.59	54	-16.41	74	-36.41	0-360	199	H
2	1.87172	42.98	Pk	31.4	-34.6	39.78	54	-14.22	74	-34.22	0-360	101	H
5	4.24228	41.34	Pk	33.5	-32.3	42.54	54	-11.46	74	-31.46	0-360	101	V
6	9.25633	39.6	Pk	36.3	-29	46.9	54	-7.1	74	-27.1	0-360	101	V
3	9.88978	40.38	Pk	37	-28.5	48.88	-	-	74	-25.12	147	213	H
	9.88978	26.65	Av	37	-28.5	35.15	54	-18.85	-	-	147	213	H

Pk - Peak detector
Av - Average detection

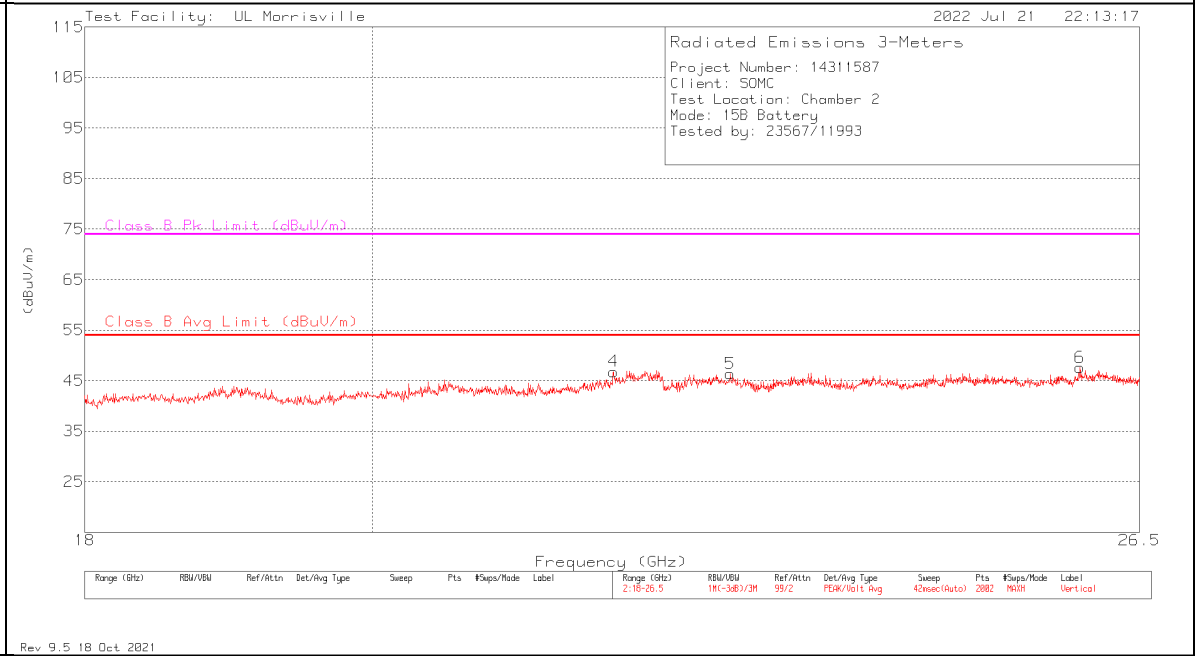
RADIATED EMISSIONS 18,000 TO 26,000 MHz – Battery

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

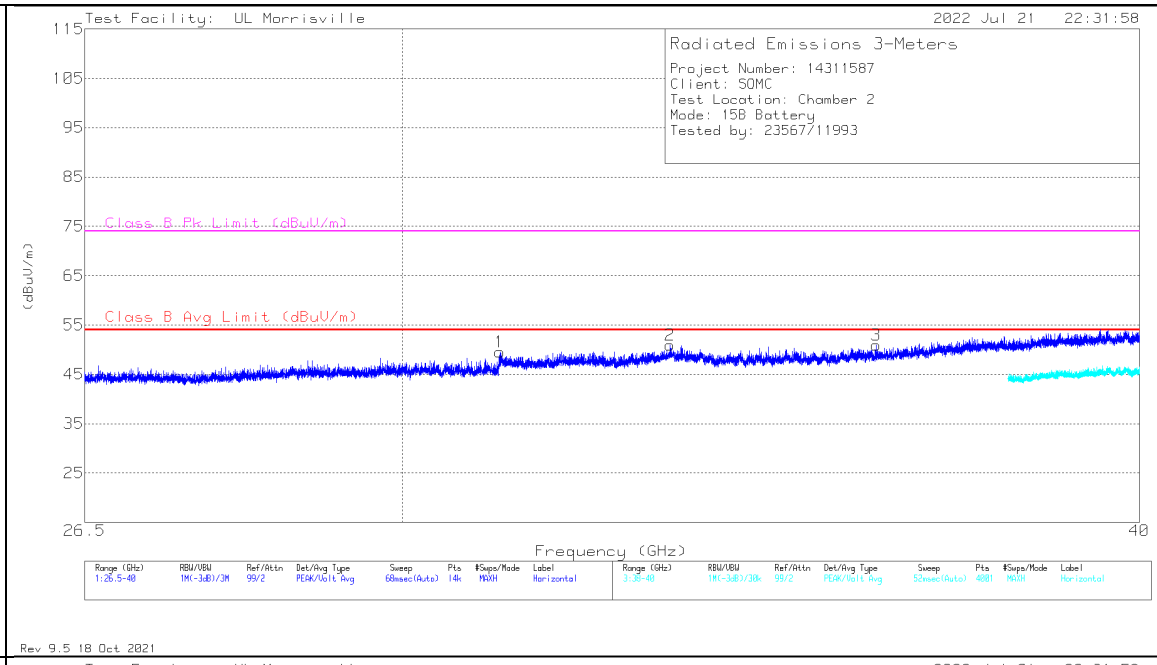
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0063 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	21.44928	48.58	Pk	34.6	-38.4	44.78	54	-9.22	74	-29.22	0-360	199	H
4	21.85282	49.11	Pk	36.2	-38.5	46.81	54	-7.19	74	-27.19	0-360	150	V
2	22.44753	49.03	Pk	36.5	-38.2	47.33	54	-6.67	74	-26.67	0-360	250	H
5	22.8086	48.84	Pk	35.8	-38.3	46.34	54	-7.66	74	-27.66	0-360	300	V
6	25.92654	48.56	Pk	35.3	-36.2	47.66	54	-6.34	74	-26.34	0-360	250	V
3	25.96865	42.9	Pk	35.4	-36.1	42.2	-	-	74	-31.8	106	282	H
	25.96865	35.64	Av	35.4	-36.1	34.94	54	-19.06	-	-	106	282	H

Pk - Peak detector
Av - Average detection

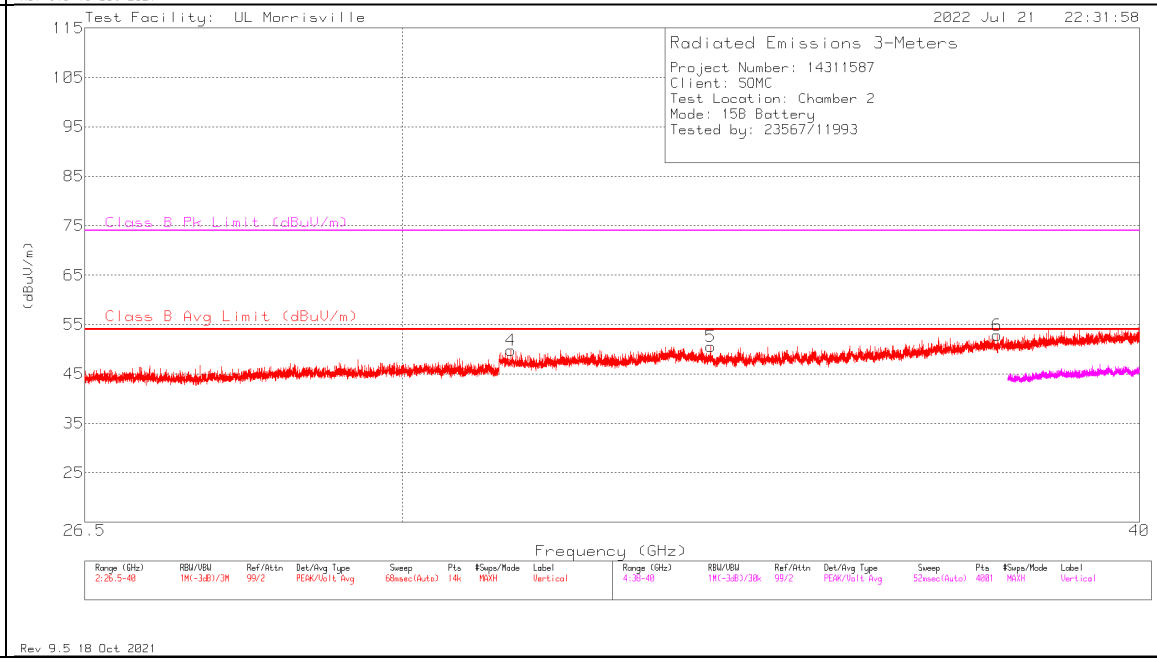
RADIATED EMISSIONS 26,000 TO 40,000 MHz – Battery

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

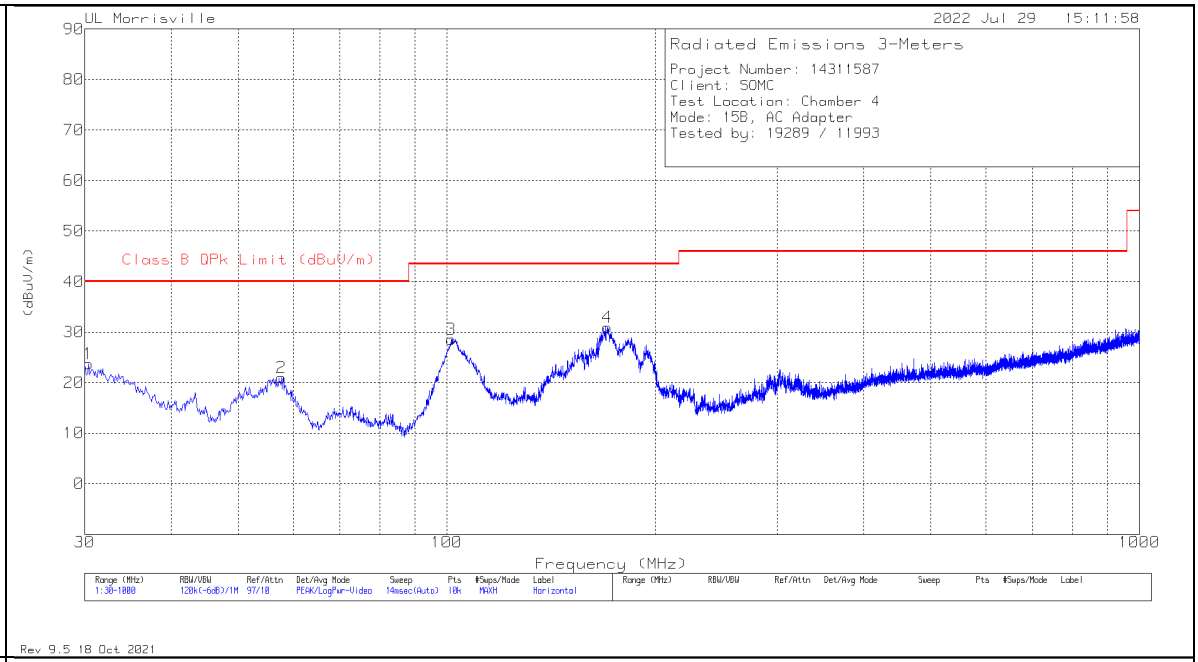
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0061 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	31.16351	42.98	Pk	36.8	-34.1	45.68	-	-	74	-28.32	340	139	H
	31.16351	35.33	Av	36.8	-34.1	38.03	54	-15.97	-	-	340	139	H
4	31.29861	40.34	Pk	36.9	-33.9	43.34	-	-	74	-30.66	89	344	V
	31.29861	35.99	Av	36.9	-33.9	38.99	54	-15.01	-	-	89	344	V
2	33.29968	45.13	Pk	37.3	-34.5	47.93	-	-	74	-26.07	32	385	H
	33.29968	37.57	Av	37.3	-34.5	40.37	54	-13.63	-	-	32	385	H
5	33.83684	44.2	Pk	37.4	-35	46.6	-	-	74	-27.4	79	104	V
	33.83684	37.58	Av	37.4	-35	39.98	54	-14.02	-	-	79	104	V
3	36.09559	45.53	Pk	37.9	-36.8	46.63	-	-	74	-27.37	175	155	H
	36.09559	38.15	Av	37.9	-36.8	39.25	54	-14.75	-	-	175	155	H
6	37.83695	46.9	Pk	38.6	-36.7	48.8	-	-	74	-25.2	124	323	V
	37.83695	40.18	Av	38.6	-36.7	42.08	54	-11.92	-	-	124	323	V

Pk - Peak detector
Av - Average detection

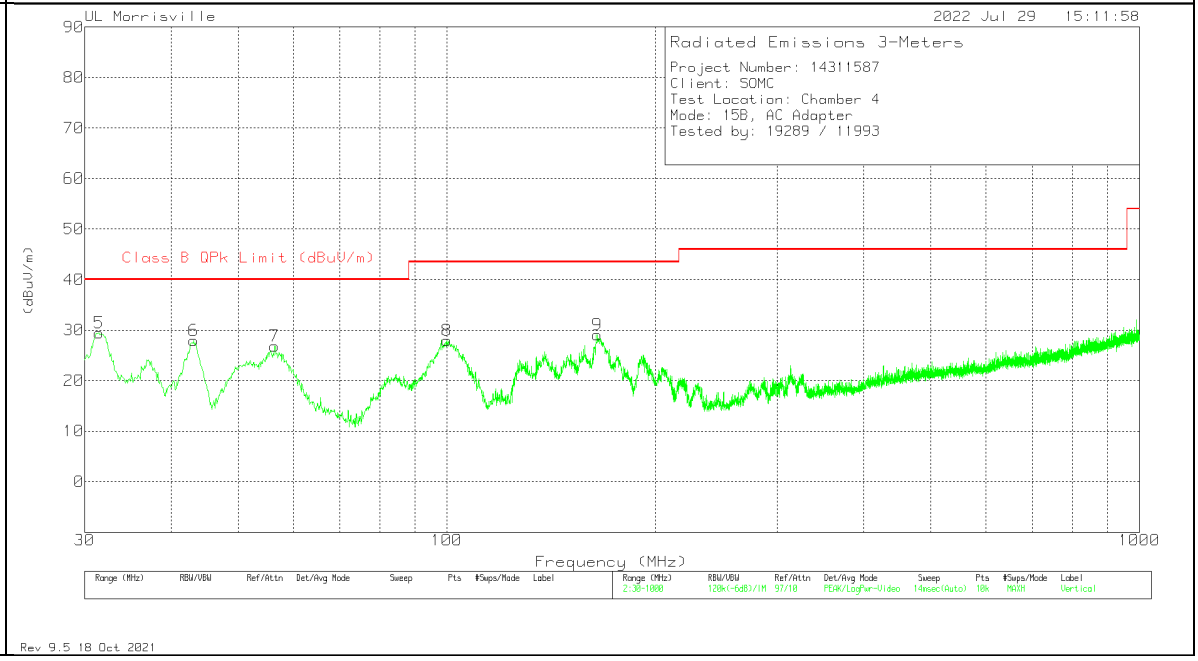
RADIATED EMISSIONS 30 TO 1000 MHz – Power Supply

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

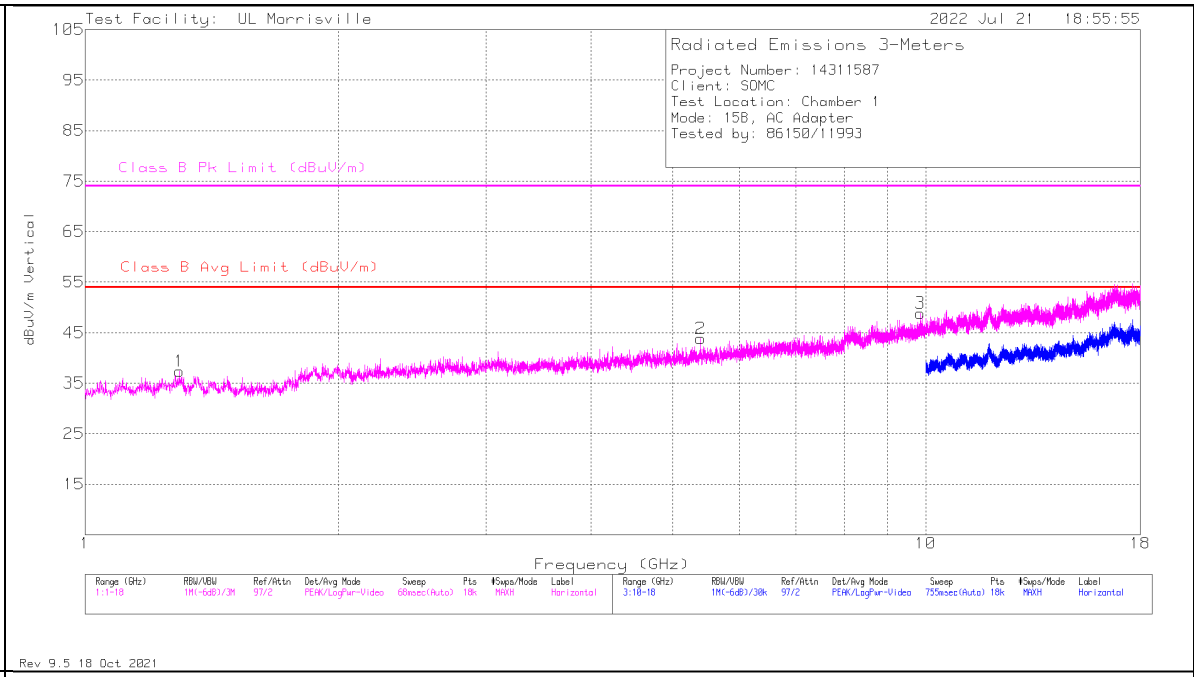
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.388	28.57	Pk	26.9	-31.7	23.77	40	-16.23	0-360	300	H
5	31.455	35.13	Pk	26.1	-31.8	29.43	40	-10.57	0-360	100	V
6	43.095	41.74	Pk	17.6	-31.4	27.94	40	-12.06	0-360	100	V
7	56.384	44.93	Pk	13.3	-31.4	26.83	40	-13.17	0-360	100	V
2	57.742	39.03	Pk	13.4	-31.4	21.03	40	-18.97	0-360	300	H
8	100.034	42.13	Pk	16.5	-30.7	27.93	43.52	-15.59	0-360	100	V
3	101.489	42.38	Pk	16.8	-30.6	28.58	43.52	-14.94	0-360	200	H
9	164.927	40.76	Pk	18.4	-30.1	29.06	43.52	-14.46	0-360	100	V
4	170.553	42.87	Pk	18	-29.9	30.97	43.52	-12.55	0-360	100	H

Pk - Peak detector

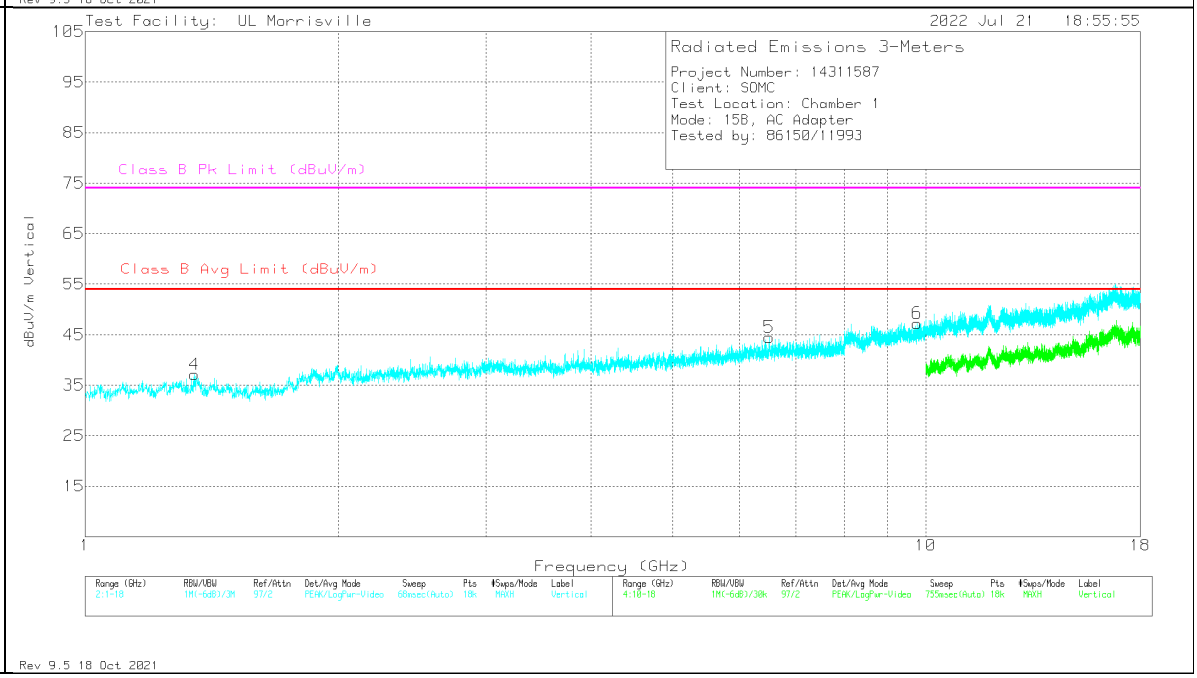
RADIATED EMISSIONS 1000 TO 18,000 MHz – Power Supply

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

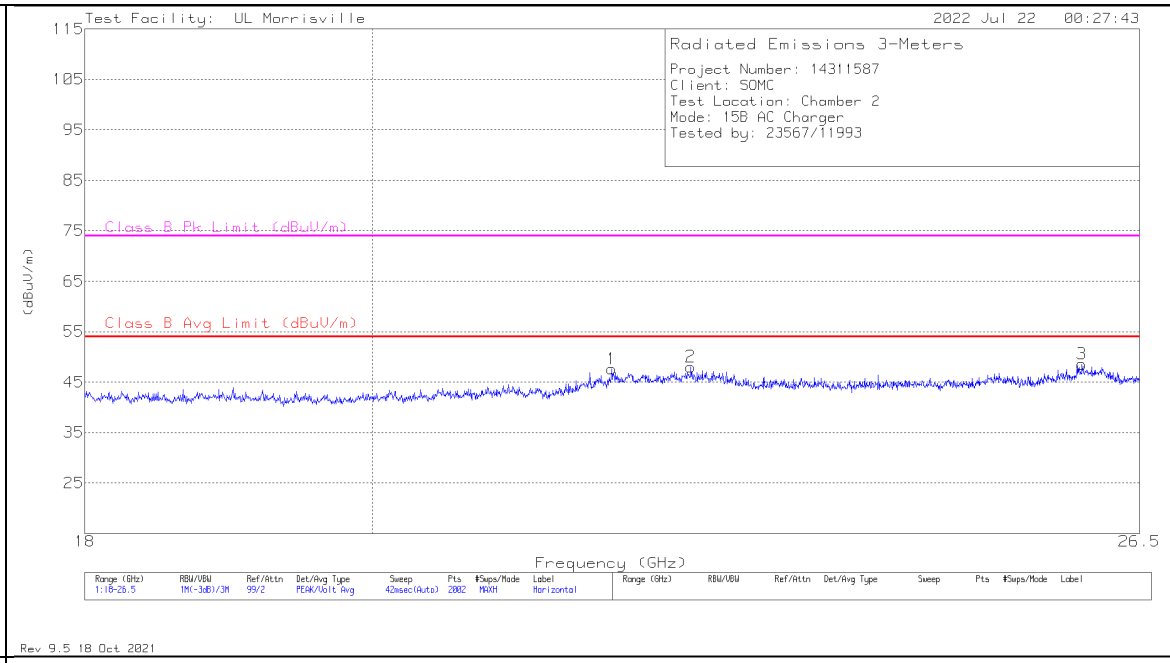
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.29372	44.06	Pk	29.6	-36.3	37.36	54	-16.64	74	-36.64	0-360	200	H
4	1.34944	43.2	Pk	29.6	-35.7	37.1	54	-16.9	74	-36.9	0-360	101	V
2	5.39733	41.51	Pk	34.4	-32.1	43.81	54	-10.19	74	-30.19	0-360	200	H
5	6.51178	39.77	Pk	35.6	-30.9	44.47	54	-9.53	74	-29.53	0-360	101	V
6	9.7635	39.15	Pk	36.9	-28.8	47.25	54	-6.75	74	-26.75	0-360	101	V
3	9.84908	40.5	Pk	36.9	-28	49.4	-	-	74	-24.6	220	336	H
	9.84908	26.47	Av	36.9	-28	35.37	54	-18.63	-	-	220	336	H

Pk - Peak detector
Av - Average detection

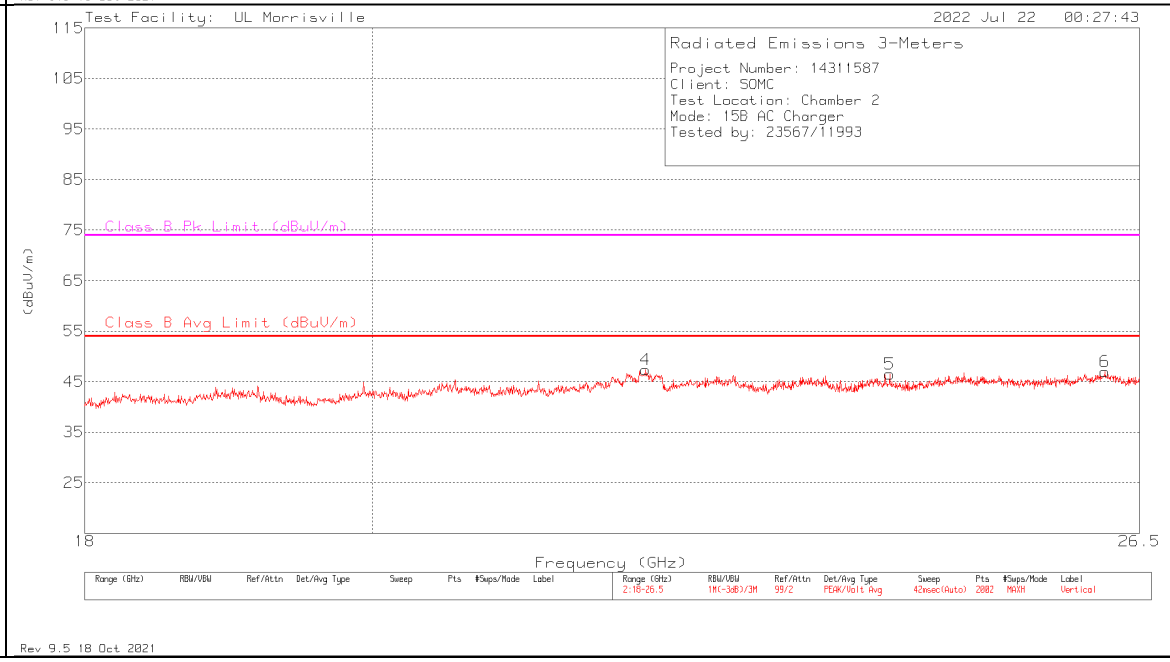
RADIATED EMISSIONS 18,000 TO 26,000 MHz – Power Supply

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

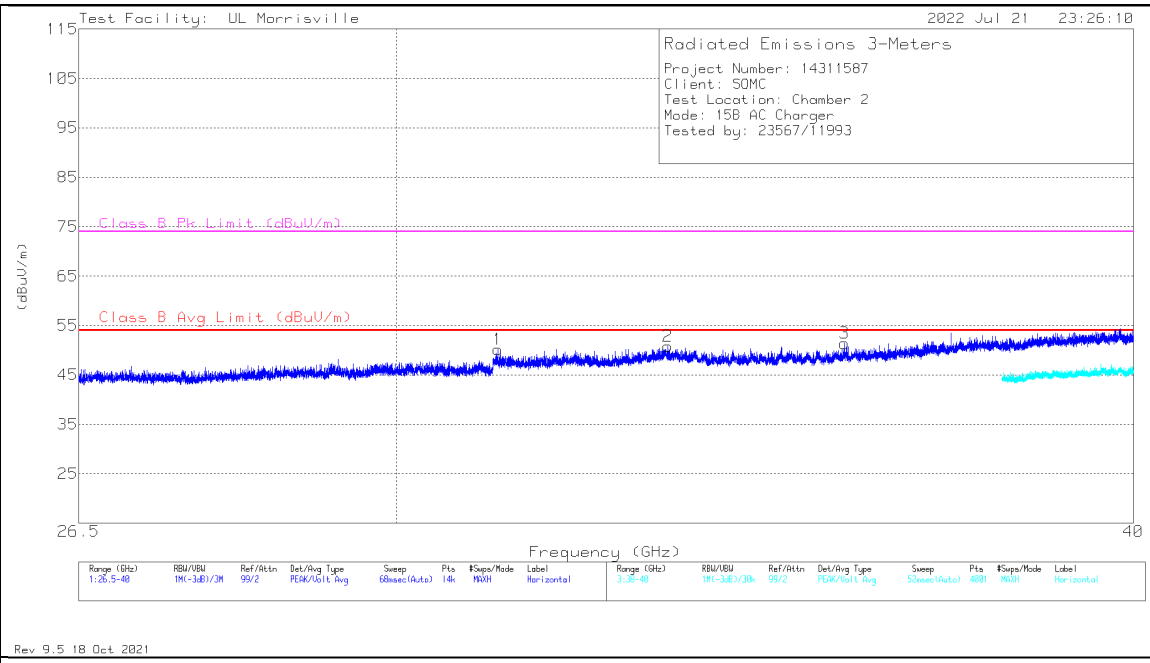
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0063 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	21.83583	50.06	Pk	36.1	-38.5	47.66	54	-6.34	74	-26.34	0-360	100	H
4	22.11194	48.53	Pk	37	-38.2	47.33	54	-6.67	74	-26.67	0-360	150	V
2	22.48212	45	Pk	36.4	-38.1	43.3	-	-	74	-30.7	347	108	H
	22.48212	38.09	Av	36.4	-38.1	36.39	54	-17.61	-	-	347	108	H
5	24.18066	49.02	Pk	34.9	-37.4	46.52	54	-7.48	74	-27.48	0-360	249	V
3	25.94896	42.88	Pk	35.4	-36.1	42.18	-	-	74	-31.82	82	290	H
	25.94896	35.86	Av	35.4	-36.1	35.16	54	-18.84	-	-	82	290	H
6	26.16867	47.79	Pk	35.4	-36.2	46.99	54	-7.01	74	-27.01	0-360	200	V

Pk - Peak detector
Av - Average detection

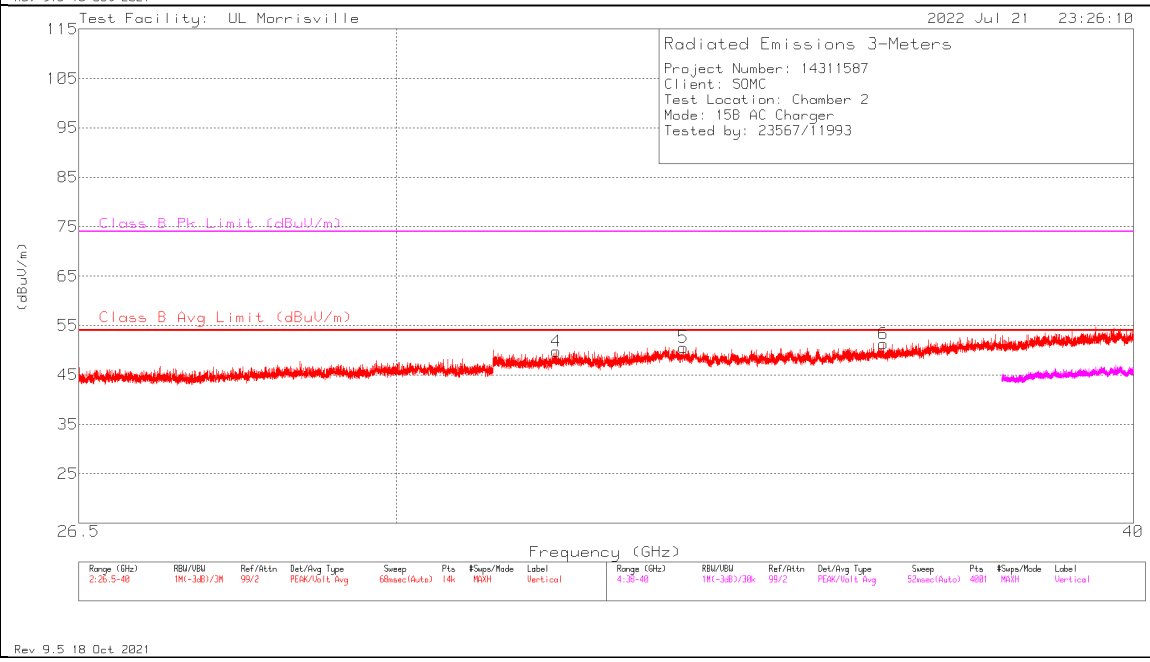
RADIATED EMISSIONS 26,000 TO 40,000 MHz – Power Supply

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

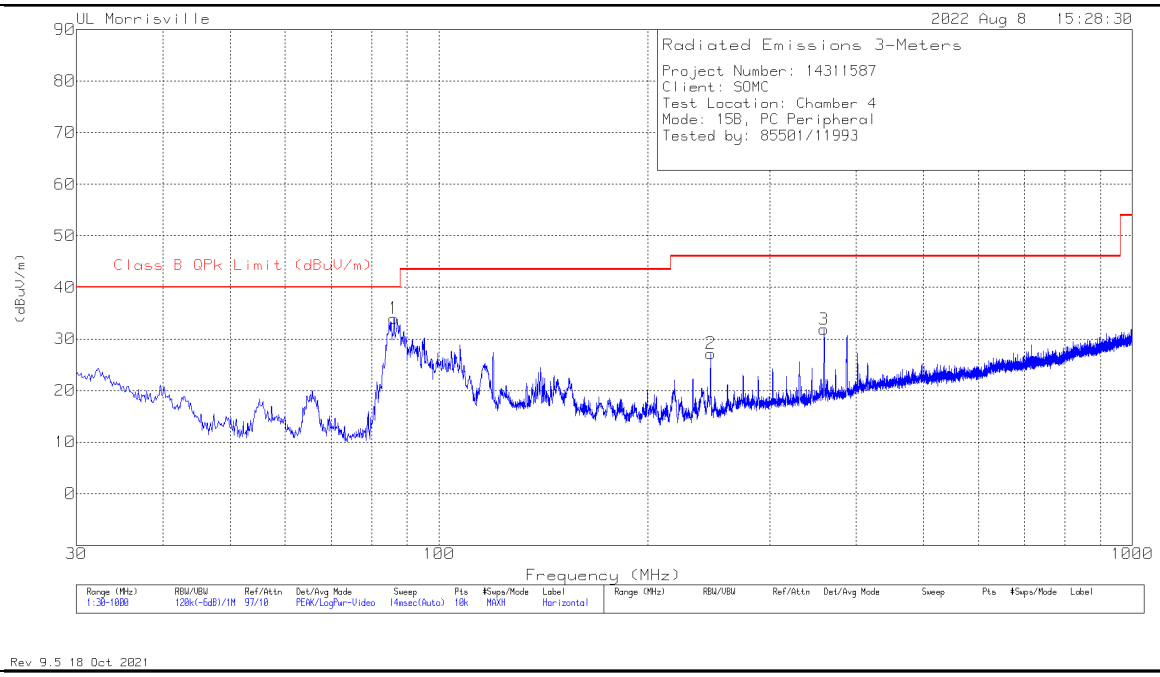
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0061 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	31.20844	43.35	Pk	36.9	-34.1	46.15	-	-	74	-27.85	90	365	H
	31.20844	36.04	Av	36.9	-34.1	38.84	54	-15.16	-	-	90	365	H
4	31.93327	42.06	Pk	37	-34.3	44.76	-	-	74	-29.24	237	178	V
	31.93327	36.35	Av	37	-34.3	39.05	54	-14.95	-	-	237	178	V
2	33.35133	43.83	Pk	37.3	-34.7	46.43	-	-	74	-27.57	335	124	H
	33.35133	36.33	Av	37.3	-34.7	38.93	54	-15.07	-	-	335	124	H
5	33.55566	42.86	Pk	37.2	-34.7	45.36	-	-	74	-28.64	119	161	V
	33.55566	37.53	Av	37.2	-34.7	40.03	54	-13.97	-	-	119	161	V
3	35.73597	45.82	Pk	38	-36.5	47.32	-	-	74	-26.68	58	275	H
	35.73597	39.71	Av	38	-36.5	41.21	54	-12.79	-	-	58	275	H
6	36.28269	45.88	Pk	37.8	-36.8	46.88	-	-	74	-27.12	344	377	V
	36.28269	39.39	Av	37.8	-36.8	40.39	54	-13.61	-	-	344	377	V

Pk-Peak detection
Av - Average detection

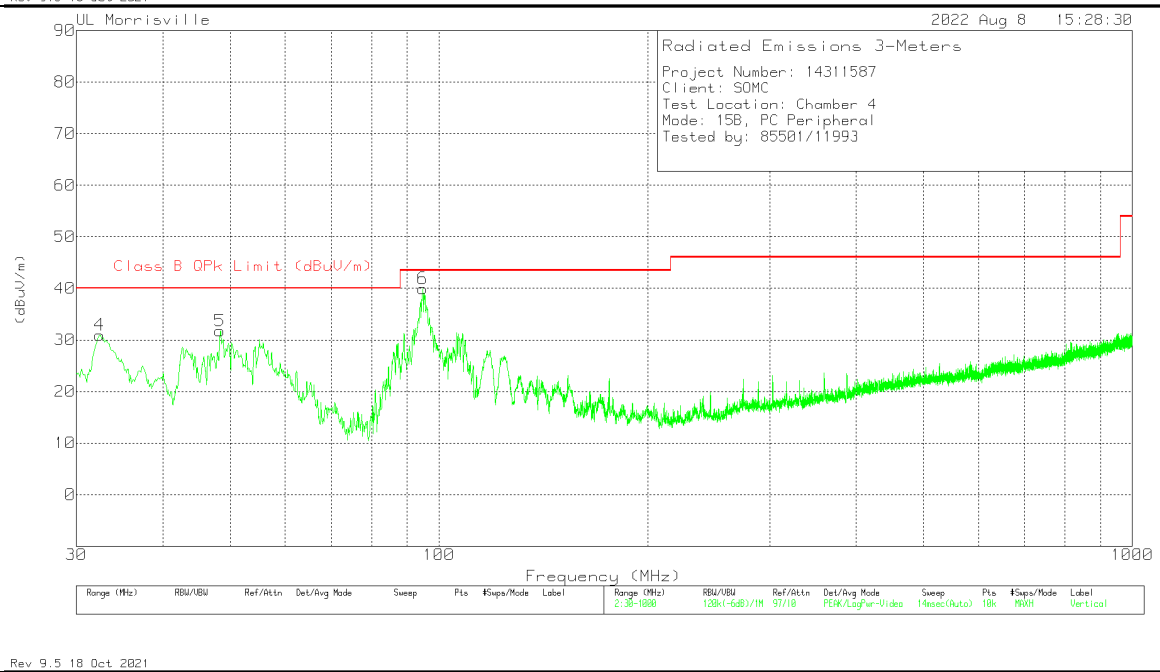
RADIATED EMISSIONS 30 TO 1000 MHz – PC Peripheral

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

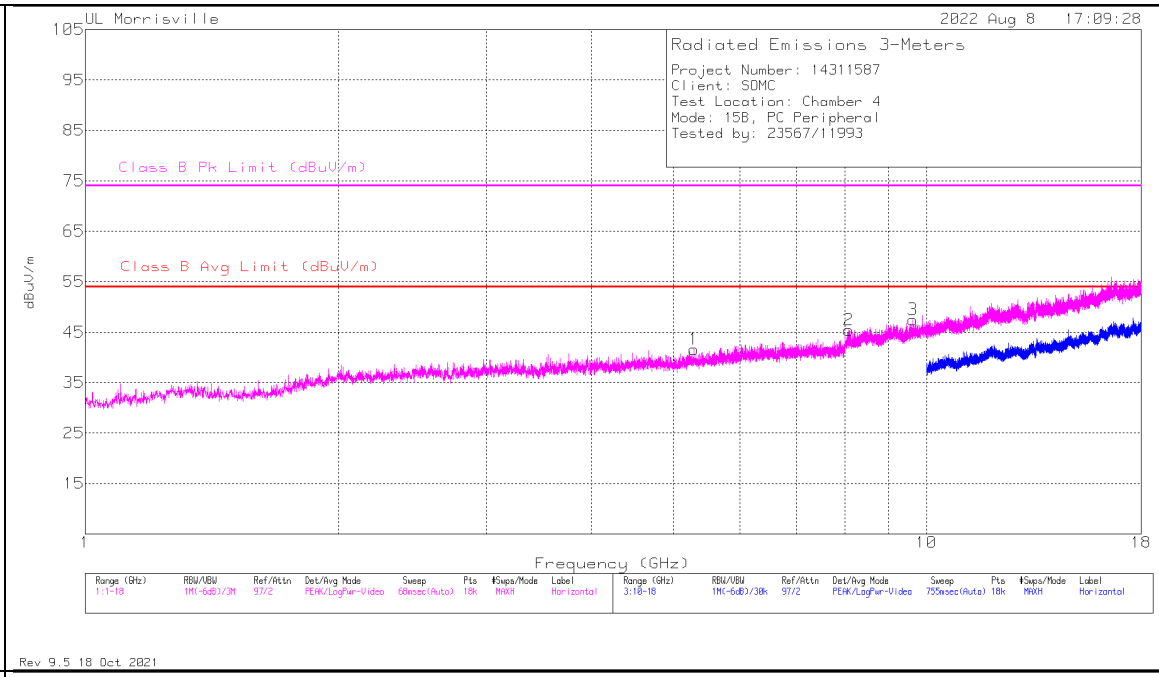
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	32.425	37.05	Pk	25.6	-31.7	30.95	40	-9.05	0-360	100	V
5	48.333	48.56	Pk	14.7	-31.5	31.76	40	-8.24	0-360	100	V
1	86.163	51.5	Pk	13.5	-31	34	40	-6	0-360	200	H
6	94.7174	49.99	Qp	15	-30.8	34.19	43.52	-9.33	59	102	V
2	246.601	38.76	Pk	18	-29.6	27.16	46.02	-18.86	0-360	100	H
3	359.412	39.48	Pk	21.1	-28.7	31.88	46.02	-14.14	0-360	100	H

Pk - Peak detector
Qp - Quasi-Peak detector

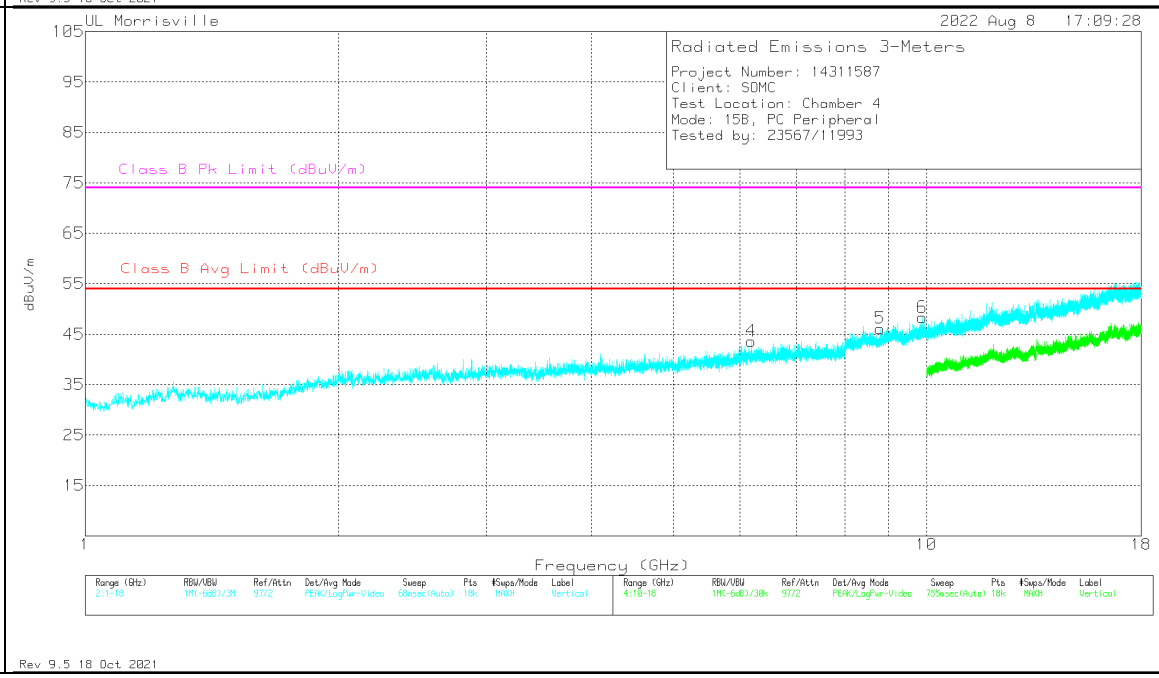
RADIATED EMISSIONS 1000 TO 18,000 MHz – PC Peripheral

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

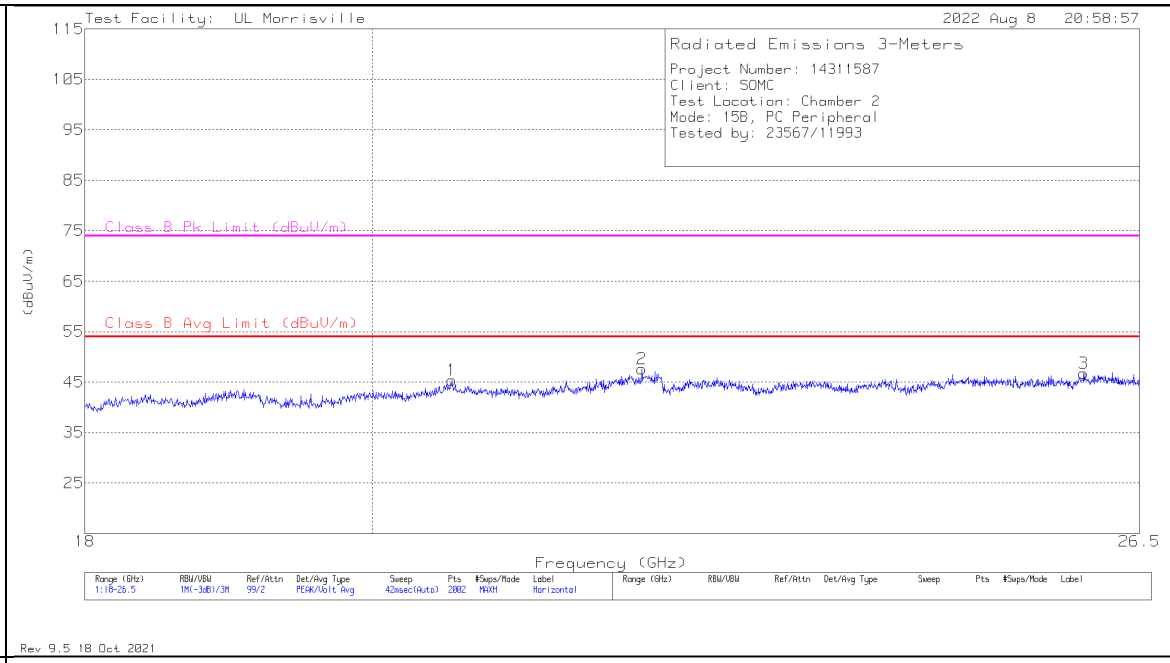
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.29439	39.22	Pk	34.4	-32	41.62	54	-12.38	74	-32.38	0-360	100	H
4	6.18783	38.24	Pk	35.5	-30.1	43.64	54	-10.36	74	-30.36	0-360	200	V
2	8.08239	37.92	Pk	35.8	-28.3	45.42	54	-8.58	74	-28.58	0-360	100	H
5	8.81008	37.04	Pk	36	-26.9	46.14	54	-7.86	74	-27.86	0-360	200	V
3	9.62844	37.27	Pk	36.7	-26.5	47.47	54	-6.53	74	-26.53	0-360	100	H
6	9.88774	33.28	Pk	37	-26.7	43.58	-	-	74	-30.42	318	345	V
	9.88774	28.07	Av	37	-26.7	38.37	54	-15.63	-	-	318	345	V

Pk - Peak detector
Av - Average detection

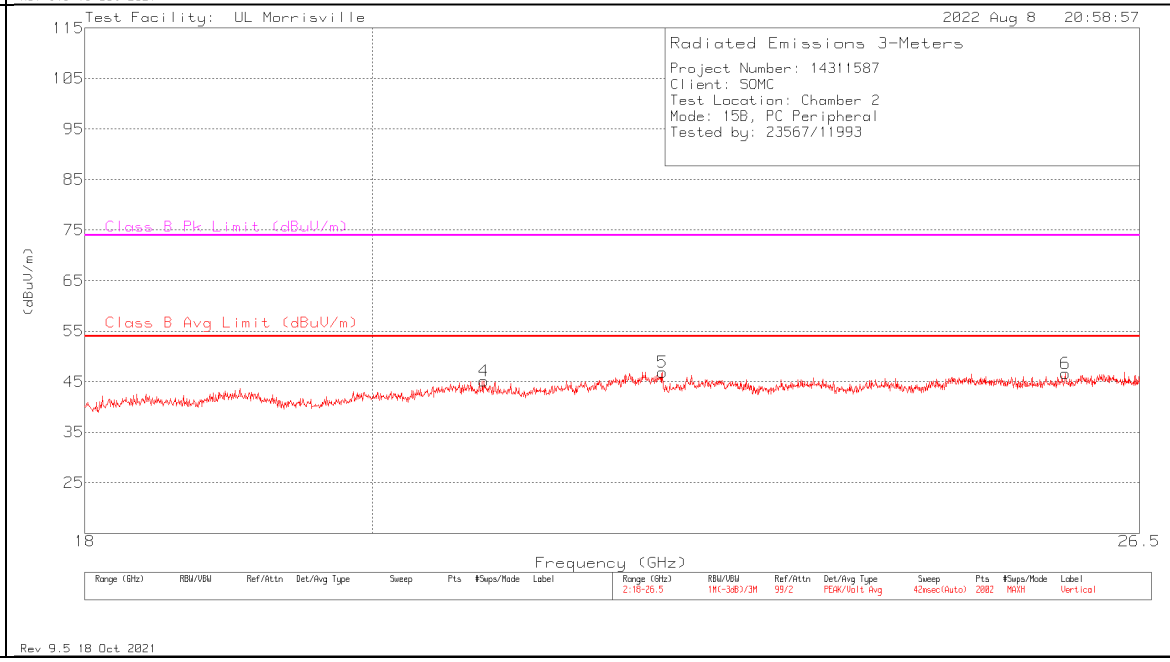
RADIATED EMISSIONS 18,000 TO 26,000 MHz – PC Peripheral

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

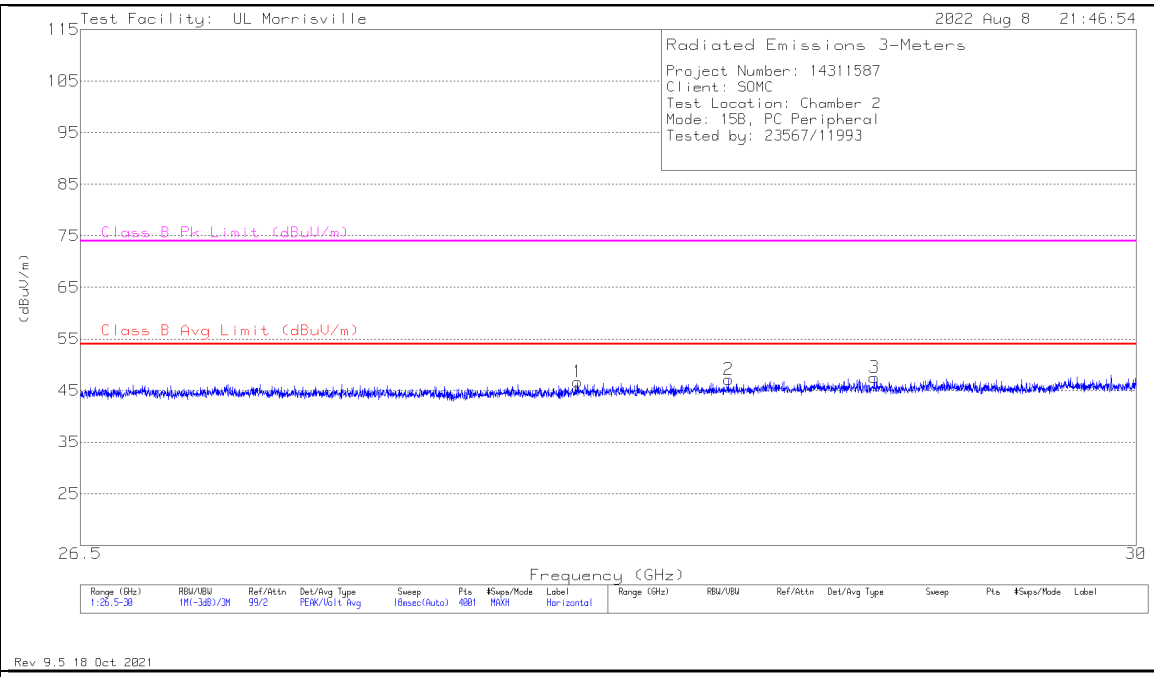
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0063 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	20.59545	49.98	Pk	33.9	-38.5	45.38	54	-8.62	74	-28.62	0-360	300	H
4	20.83758	49.57	Pk	34.1	-38.5	45.17	54	-8.83	74	-28.83	0-360	101	V
2	22.07796	48.96	Pk	37	-38.3	47.66	54	-6.34	74	-26.34	0-360	200	H
5	22.24788	48.4	Pk	36.8	-38.3	46.9	54	-7.1	74	-27.1	0-360	250	V
6	25.7906	47.74	Pk	35.2	-36.3	46.64	54	-7.36	74	-27.36	0-360	250	V
3	25.96477	47.45	Pk	35.4	-36.1	46.75	54	-7.25	74	-27.25	0-360	101	H

Pk - Peak detector

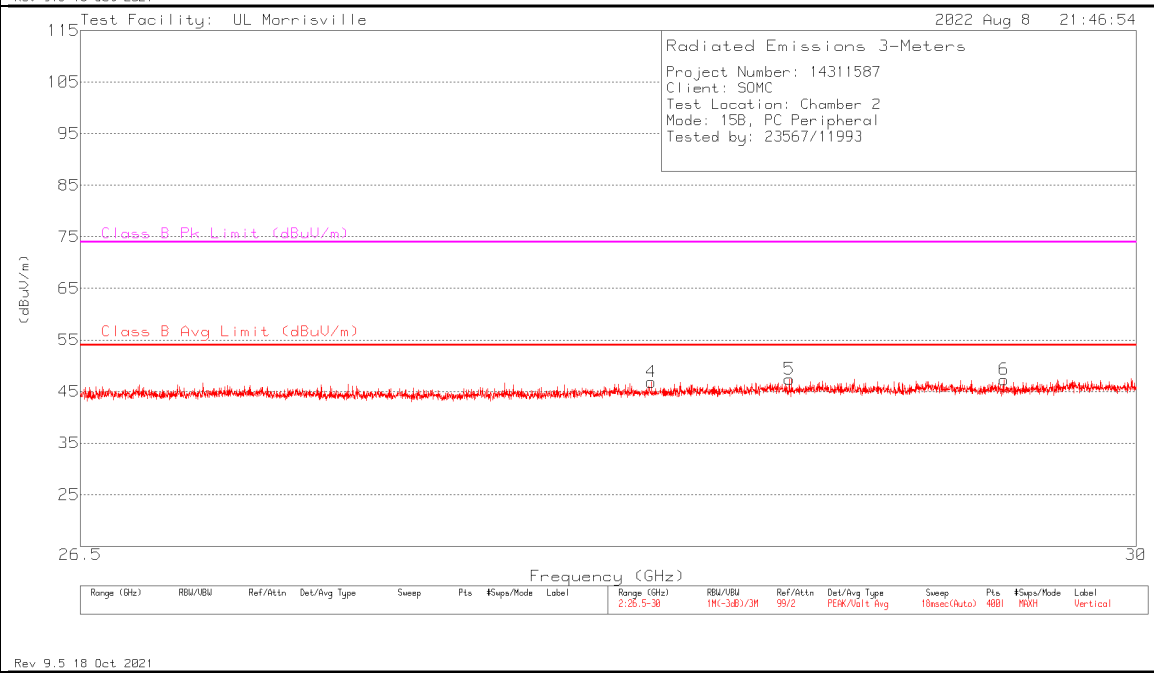
RADIATED EMISSIONS 26,000 TO 30,000 MHz – PC Peripheral

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

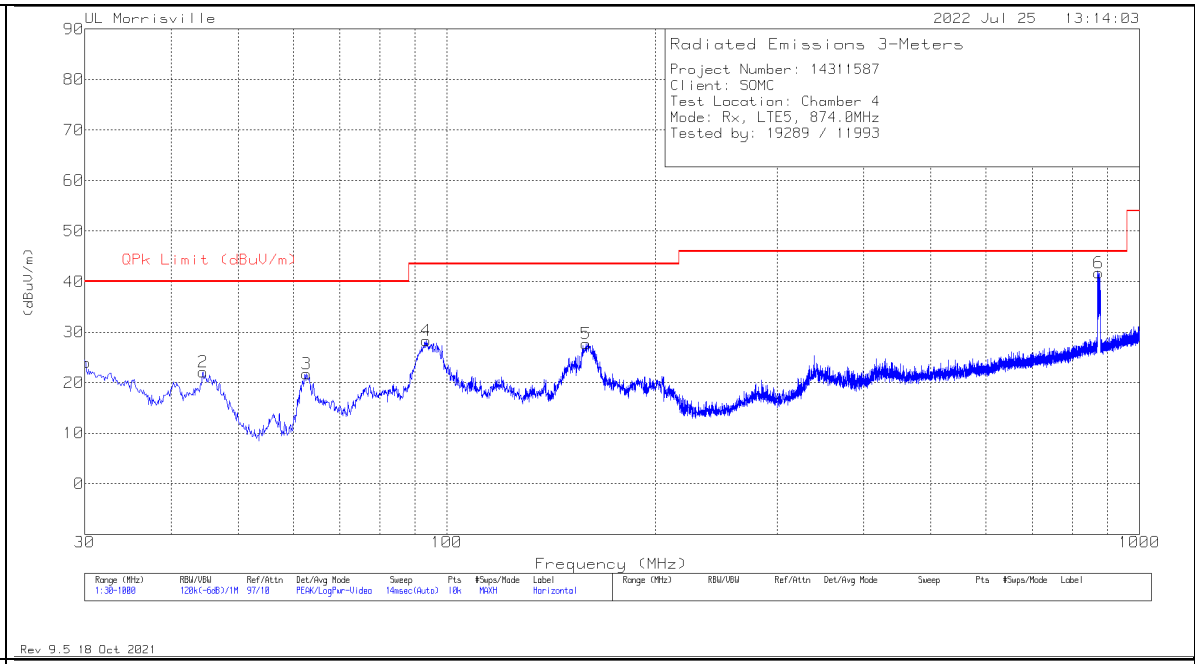
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0061 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	28.09425	45.87	Pk	36.1	-35.3	46.67	54	-7.33	74	-27.33	0-360	250	H
4	28.33838	45.85	Pk	36.3	-35.3	46.85	54	-7.15	74	-27.15	0-360	150	V
2	28.5965	45.76	Pk	36.3	-34.9	47.16	54	-6.84	74	-26.84	0-360	250	H
5	28.80213	45.81	Pk	36.3	-34.7	47.41	54	-6.59	74	-26.59	0-360	300	V
3	29.09088	45.75	Pk	36.3	-34.5	47.55	54	-6.45	74	-26.45	0-360	149	H
6	29.53713	45.52	Pk	36.2	-34.4	47.32	54	-6.68	74	-26.68	0-360	300	V

Pk - Peak detector

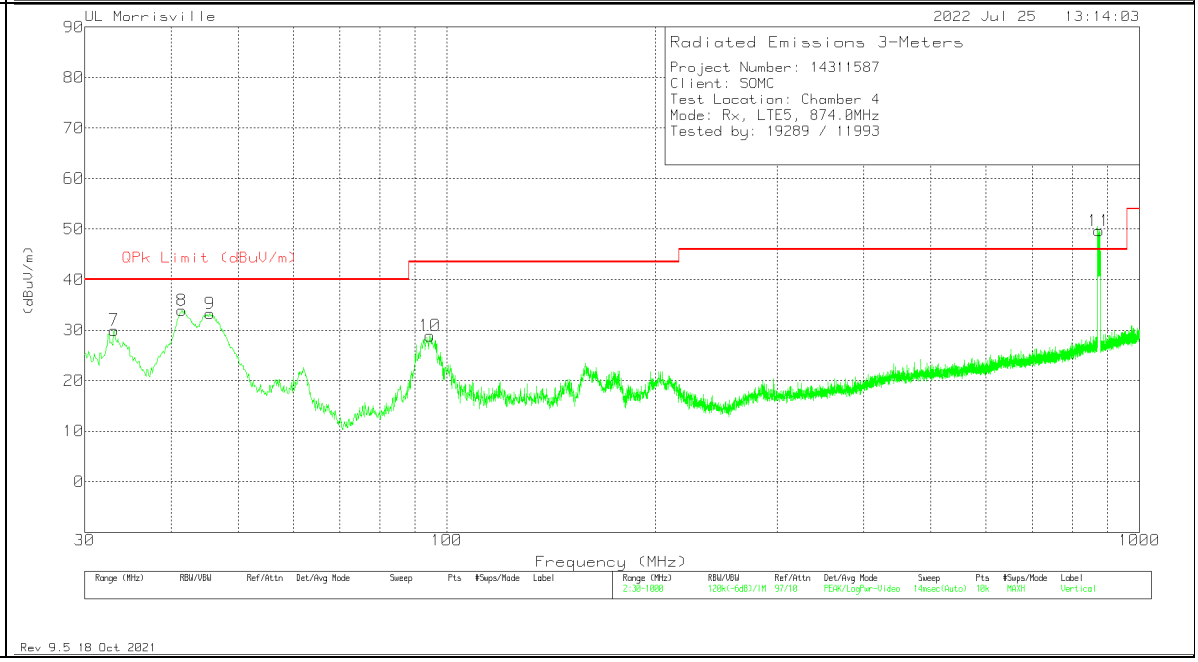
RADIATED EMISSIONS 30 TO 1000 MHz – LTE B5 Rx 874.0MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

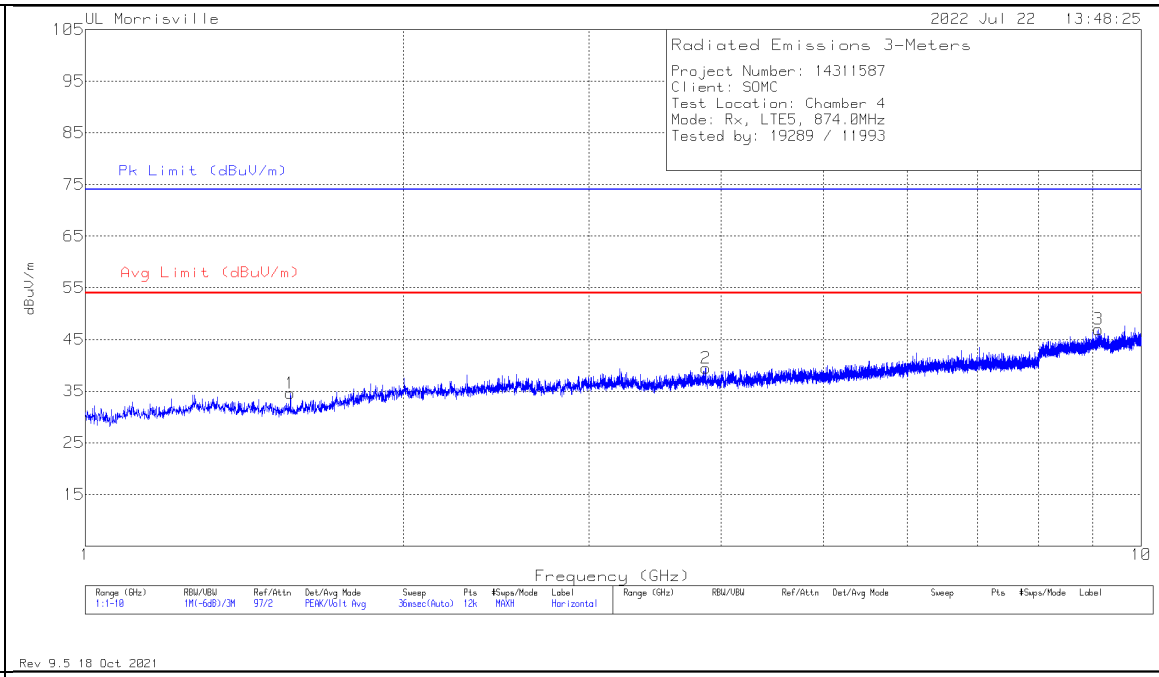
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.097	28.61	Pk	27.2	-31.8	24.01	40	-15.99	0-360	100	H
7	33.104	36.7	Pk	25	-31.7	30	40	-10	0-360	100	V
8	41.446	46.6	Pk	18.8	-31.5	33.9	40	-6.1	0-360	100	V
2	44.453	36.79	Pk	16.8	-31.5	22.09	40	-17.91	0-360	300	H
9	45.52	48.78	Pk	16.1	-31.6	33.28	40	-6.72	0-360	100	V
3	62.689	39.05	Pk	13.9	-31.2	21.75	40	-18.25	0-360	300	H
4	93.341	44.42	Pk	14.7	-30.8	28.32	43.52	-15.2	0-360	100	H
10	94.505	44.69	Pk	15	-30.8	28.89	43.52	-14.63	0-360	100	V
5	158.719	39.19	Pk	18.7	-30.2	27.69	43.52	-15.83	0-360	100	H
6^{DL}	873.609	39.1	Pk	28.5	-25.9	41.7	-	-	0-360	100	H
11^{DL}	874.191	47.11	Pk	28.5	-25.9	49.71	-	-	0-360	100	V

Pk - Peak detector
DL - Downlink from Callbox

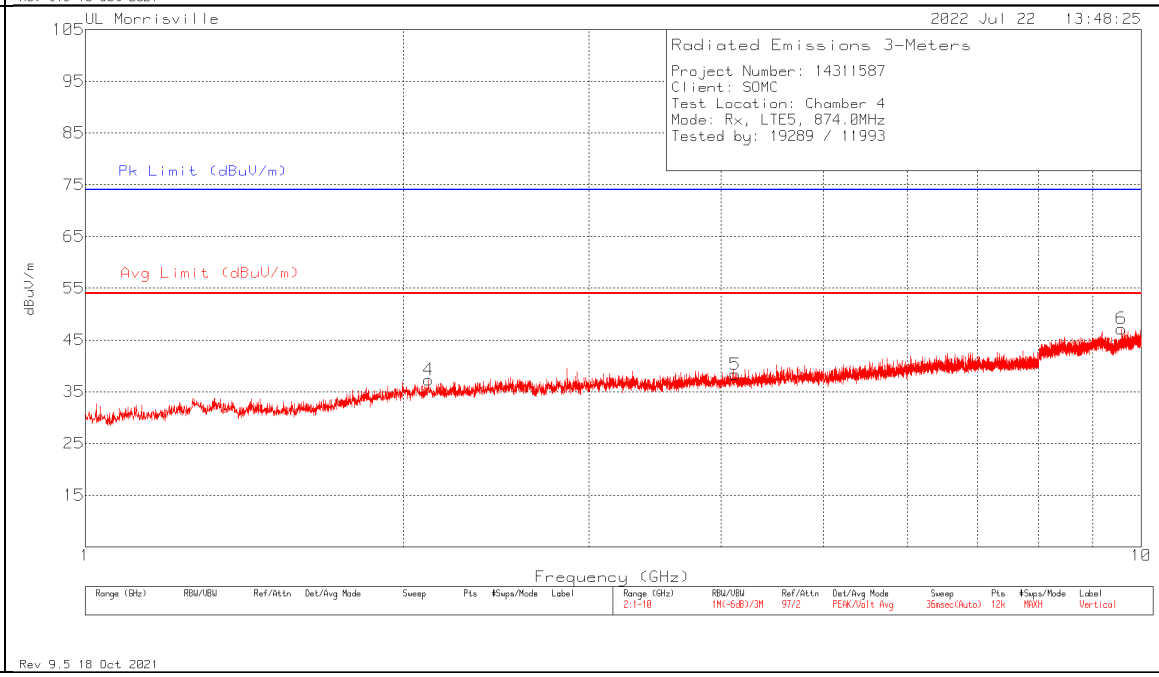
RADIATED EMISSIONS 1000 TO 10,000 MHz – LTE B5 Rx 874.0MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

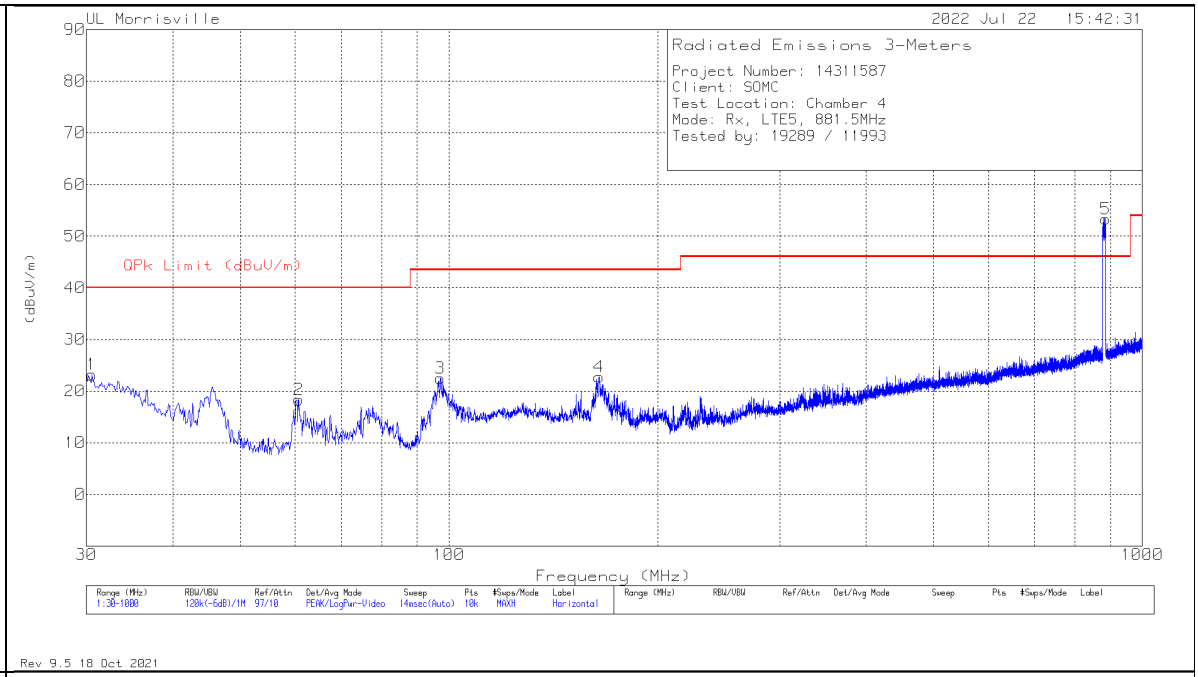
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.564	42.27	Pk	28.4	-36.1	34.57	54	-19.43	74	-39.43	0-360	100	H
4	2.11375	41.67	Pk	31.9	-36.3	37.27	54	-16.73	74	-36.73	0-360	200	V
2	3.86875	39.25	Pk	33.5	-33.3	39.45	54	-14.55	74	-34.55	0-360	100	H
5	4.12525	37.86	Pk	33.4	-32.9	38.36	54	-15.64	74	-35.64	0-360	200	V
3	9.10525	37.45	Pk	36.2	-26.7	46.95	54	-7.05	74	-27.05	0-360	100	H
6	9.577	36.68	Pk	36.7	-26.2	47.18	54	-6.82	74	-26.82	0-360	200	V

Pk - Peak detector

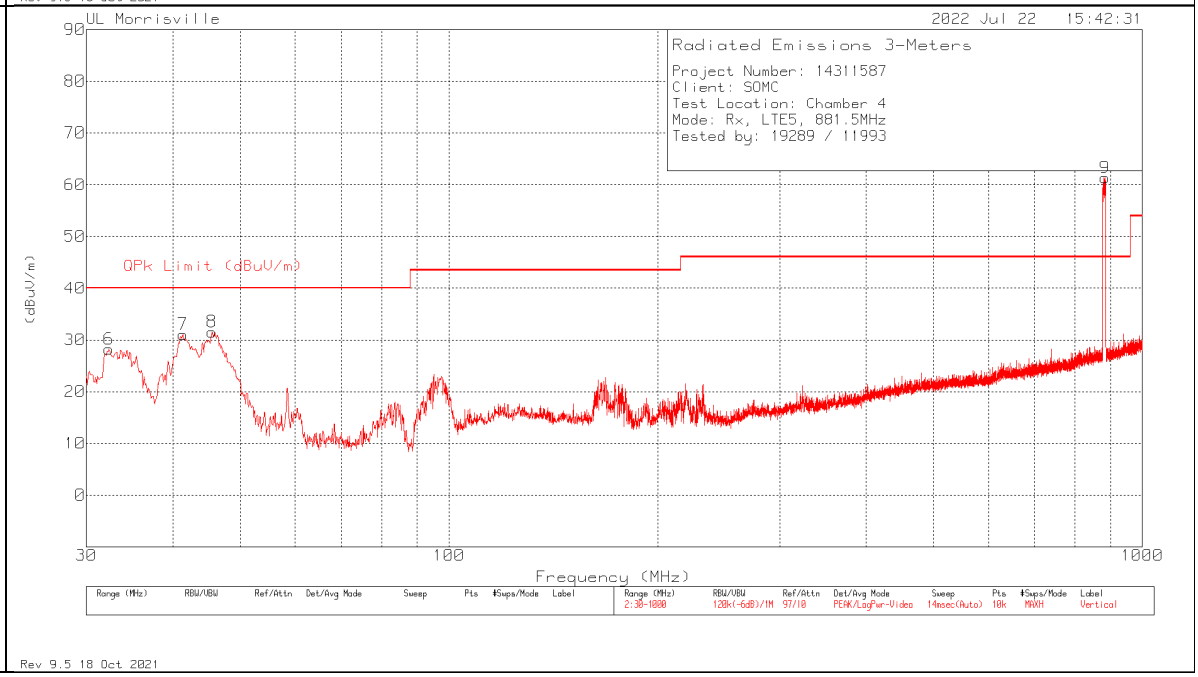
RADIATED EMISSIONS 30 TO 1000 MHz – LTE B5 Rx 881.5MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

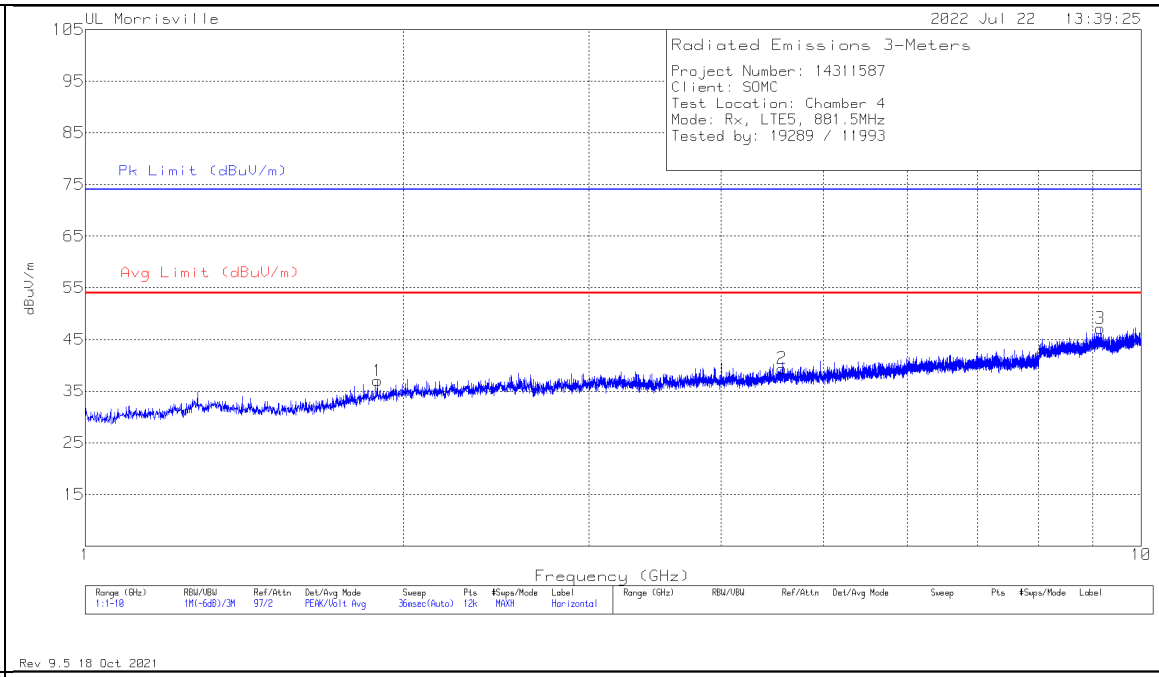
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.582	28.18	Pk	26.7	-31.7	23.18	40	-16.82	0-360	200	H
6	32.328	34.33	Pk	25.6	-31.7	28.23	40	-11.77	0-360	100	V
7	41.349	43.64	Pk	18.9	-31.5	31.04	40	-8.96	0-360	100	V
8	45.52	47.05	Pk	16.1	-31.6	31.55	40	-8.45	0-360	100	V
2	60.749	35.93	Pk	13.6	-31.2	18.33	40	-21.67	0-360	300	H
3	97.221	37.69	Pk	15.7	-30.9	22.49	43.52	-21.03	0-360	200	H
4	164.733	34.42	Pk	18.4	-30.1	22.72	43.52	-20.8	0-360	100	H
9^{DL}	884.376	58.23	Pk	28.7	-25.6	61.33	-	-	0-360	100	V
5^{DL}	885.249	50.21	Pk	28.7	-25.6	53.31	-	-	0-360	100	H

Pk - Peak detector
DL - Downlink from Callbox

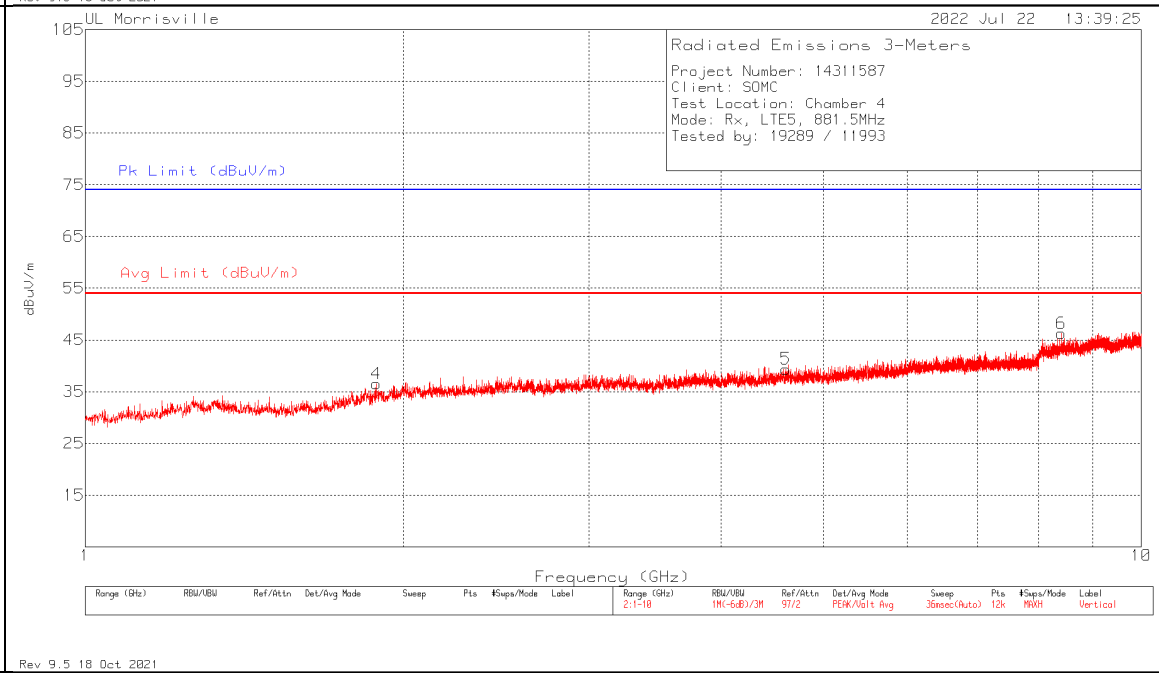
RADIATED EMISSIONS 1000 TO 10,000 MHz – LTE B5 Rx 881.5MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

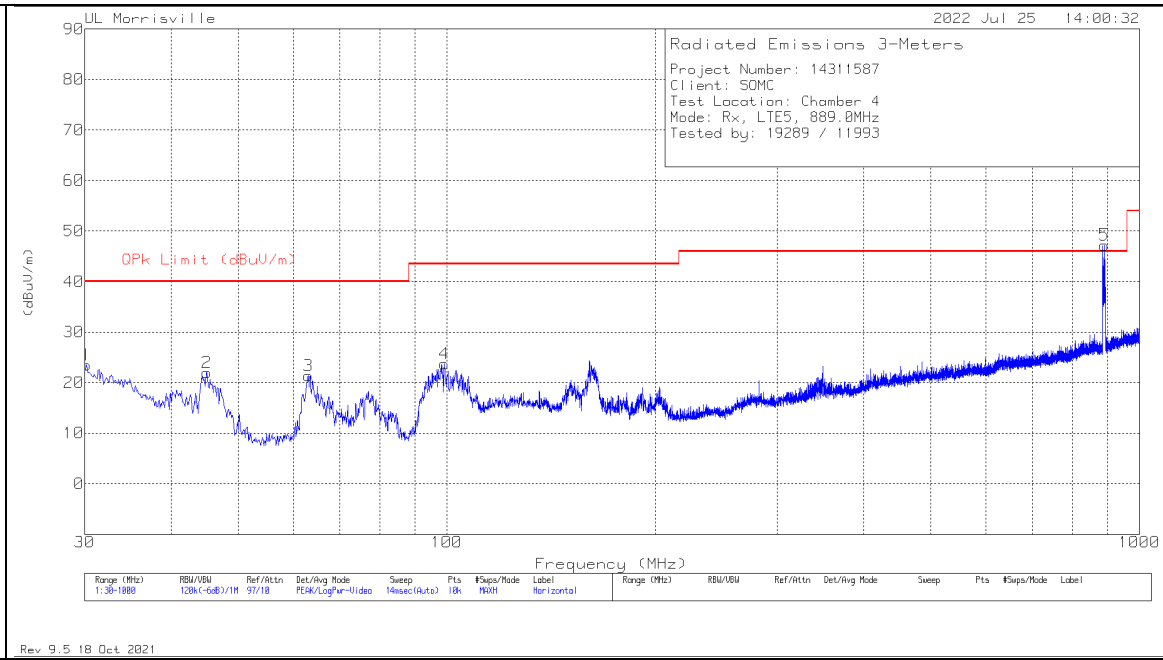
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	1.88575	41.3	Pk	31.3	-36.1	36.5	54	-17.5	74	-37.5	0-360	200	V
1	1.89175	41.99	Pk	31.2	-36.2	36.99	54	-17.01	74	-37.01	0-360	100	H
2	4.567	37.67	Pk	34.1	-32.4	39.37	54	-14.63	74	-34.63	0-360	100	H
5	4.609	37.58	Pk	34.1	-32.3	39.38	54	-14.62	74	-34.62	0-360	200	V
6	8.40175	37.86	Pk	35.7	-27.3	46.26	54	-7.74	74	-27.74	0-360	200	V
3	9.142	37.34	Pk	36.2	-26.4	47.14	54	-6.86	74	-26.86	0-360	100	H

Pk - Peak detector

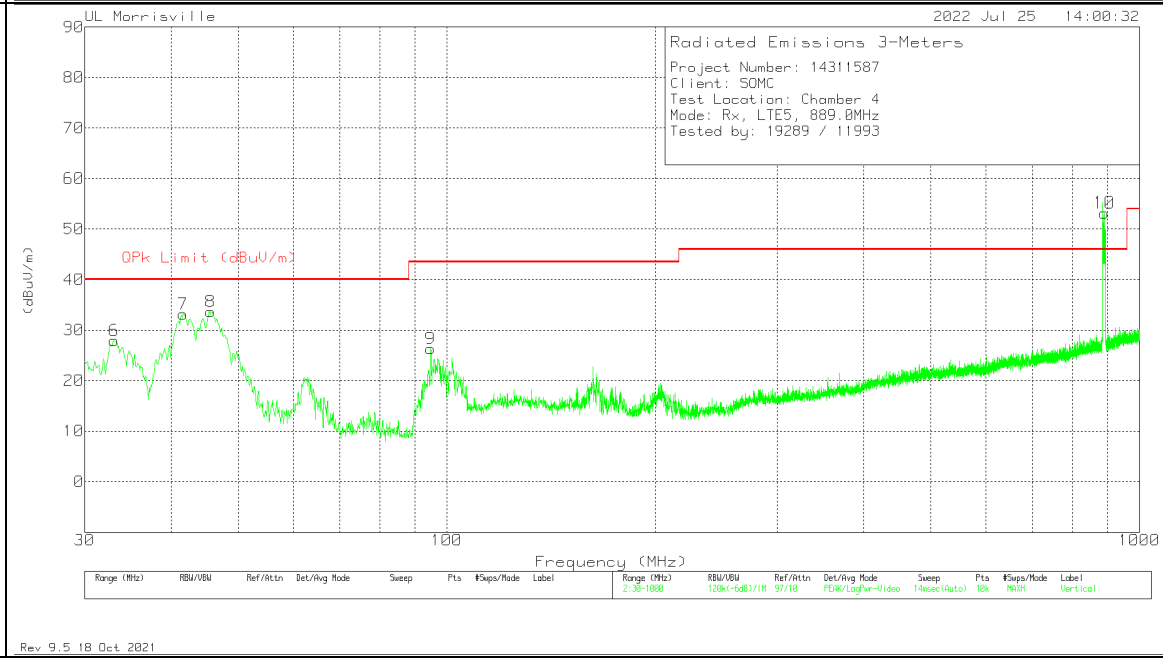
RADIATED EMISSIONS 30 TO 1000 MHz – LTE B5 Rx 889.0MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

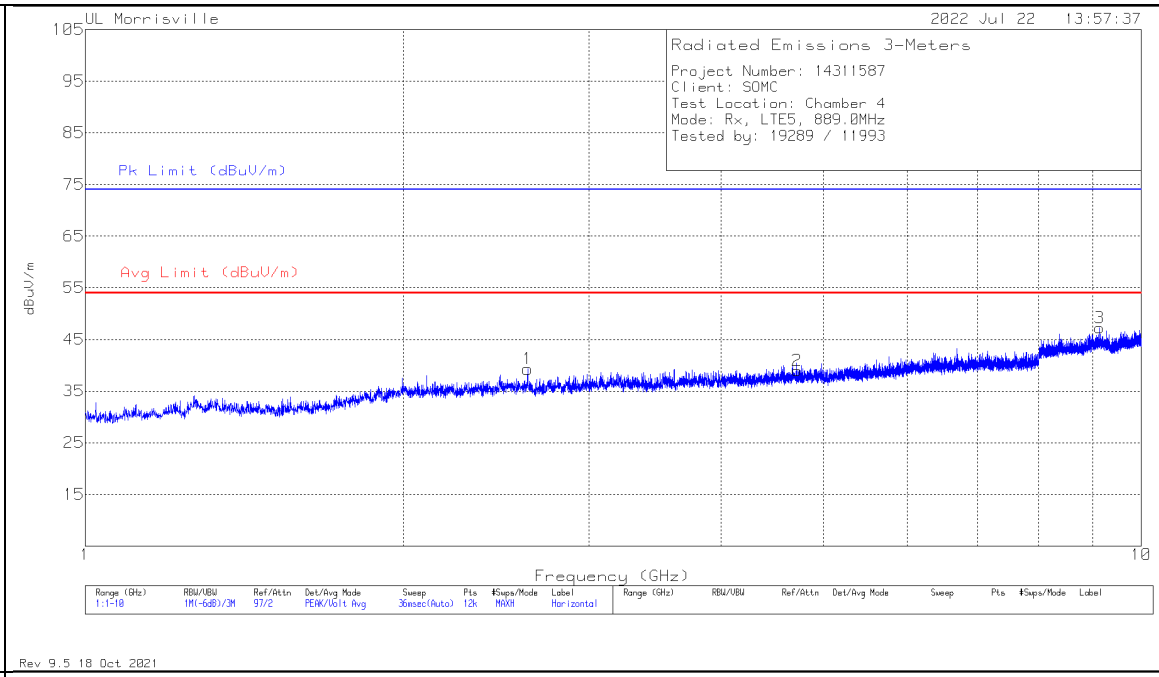
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.194	28.12	Pk	27.1	-31.7	23.52	40	-16.48	0-360	200	H
6	33.104	34.71	Pk	25	-31.7	28.01	40	-11.99	0-360	100	V
7	41.64	45.98	Pk	18.7	-31.5	33.18	40	-6.82	0-360	100	V
2	44.9865	37.07	Pk	16.4	-31.5	21.97	40	-18.03	0-360	300	H
8	45.617	49.29	Pk	16	-31.6	33.69	40	-6.31	0-360	100	V
3	63.077	38.74	Pk	13.9	-31.3	21.34	40	-18.66	0-360	300	H
9	94.796	42	Pk	15.1	-30.8	26.3	43.52	-17.22	0-360	100	V
4	99.258	38.33	Pk	16.3	-30.9	23.73	43.52	-19.79	0-360	200	H
10^{DL}	888.935	49.92	Pk	28.7	-25.4	53.22	-	-	0-360	100	V
5^{DL}	889.42	44.06	Pk	28.7	-25.5	47.26	-	-	0-360	100	H

Pk - Peak detector
DL - Downlink from Callbox

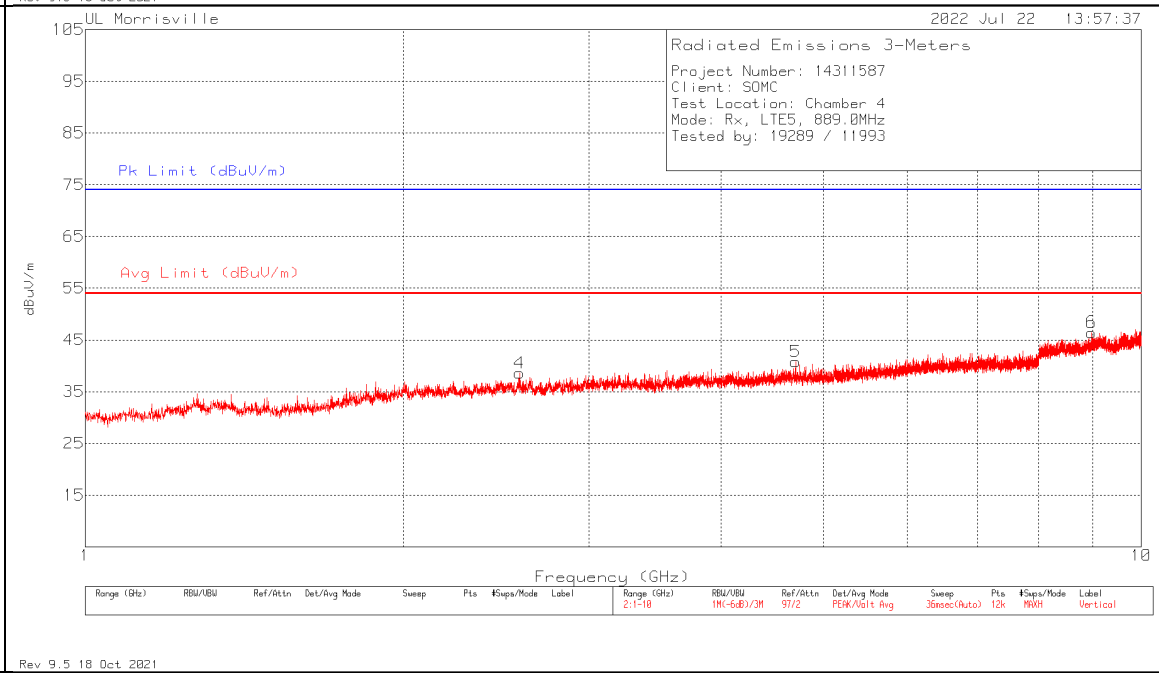
RADIATED EMISSIONS 1000 TO 10,000 MHz – LTE B5 Rx 889.0MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

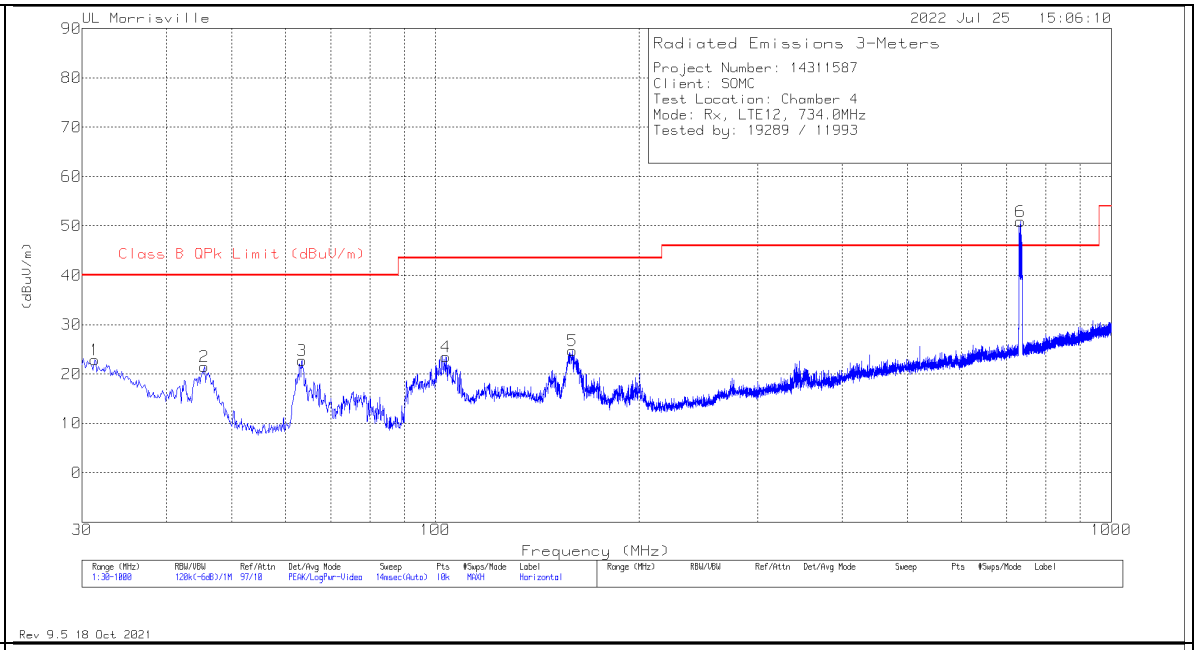
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	2.57725	42	Pk	32.7	-36.1	38.6	54	-15.4	74	-35.4	0-360	200	V
1	2.62375	42.89	Pk	32.5	-36.1	39.29	54	-14.71	74	-34.71	0-360	100	H
5	4.7065	39.09	Pk	34	-32.3	40.79	54	-13.21	74	-33.21	0-360	200	V
2	4.72375	37.14	Pk	34	-32.2	38.94	54	-15.06	74	-35.06	0-360	100	H
6	8.974	36.53	Pk	36.1	-26.2	46.43	54	-7.57	74	-27.57	0-360	200	V
3	9.133	37.52	Pk	36.2	-26.5	47.22	54	-6.78	74	-26.78	0-360	100	H

Pk - Peak detector

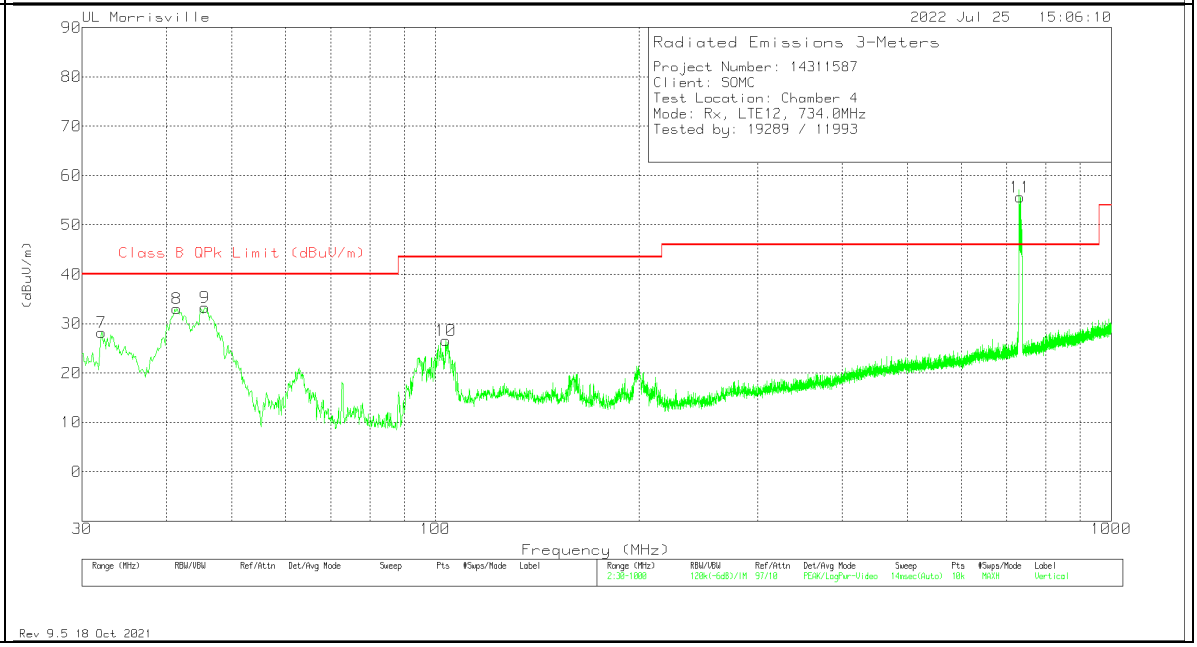
RADIATED EMISSIONS 30 TO 1000 MHz – LTE B12 Rx 734.0MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

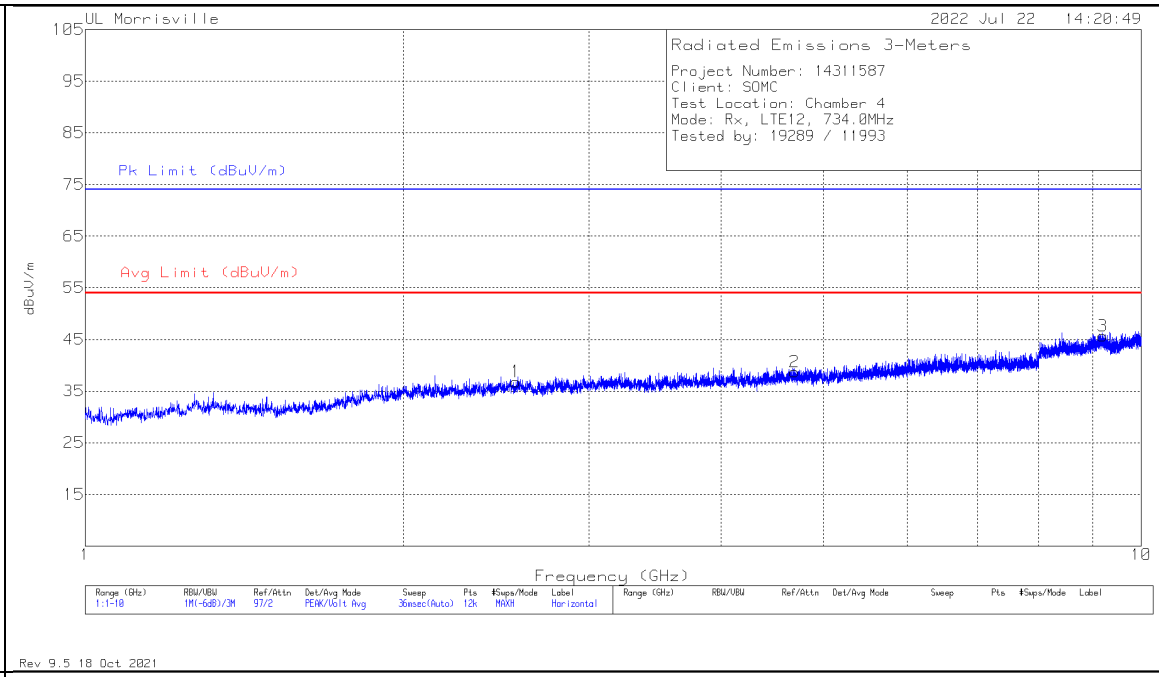
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	31.358	28.43	Pk	26.2	-31.8	22.83	40	-17.17	0-360	200	H
7	32.037	34.12	Pk	25.9	-31.8	28.22	40	-11.78	0-360	100	V
8	41.446	45.77	Pk	18.8	-31.5	33.07	40	-6.93	0-360	100	V
2	45.52	37.01	Pk	16.1	-31.6	21.51	40	-18.49	0-360	200	H
9	45.617	48.94	Pk	16	-31.6	33.34	40	-6.66	0-360	100	V
3	63.465	40.12	Pk	13.9	-31.3	22.72	40	-17.28	0-360	300	H
10	103.526	39.88	Pk	17.5	-30.8	26.58	43.52	-16.94	0-360	100	V
4	103.72	36.74	Pk	17.5	-30.7	23.54	43.52	-19.98	0-360	200	H
5	159.398	36.25	Pk	18.7	-30.2	24.75	43.52	-18.77	0-360	100	H
11^{DL}	733.638	55.46	Pk	27.2	-27	55.66	-	-	0-360	100	V
6^{DL}	733.832	50.68	Pk	27.2	-27	50.88	-	-	0-360	100	H

Pk - Peak detector
DL - Downlink from Callbox

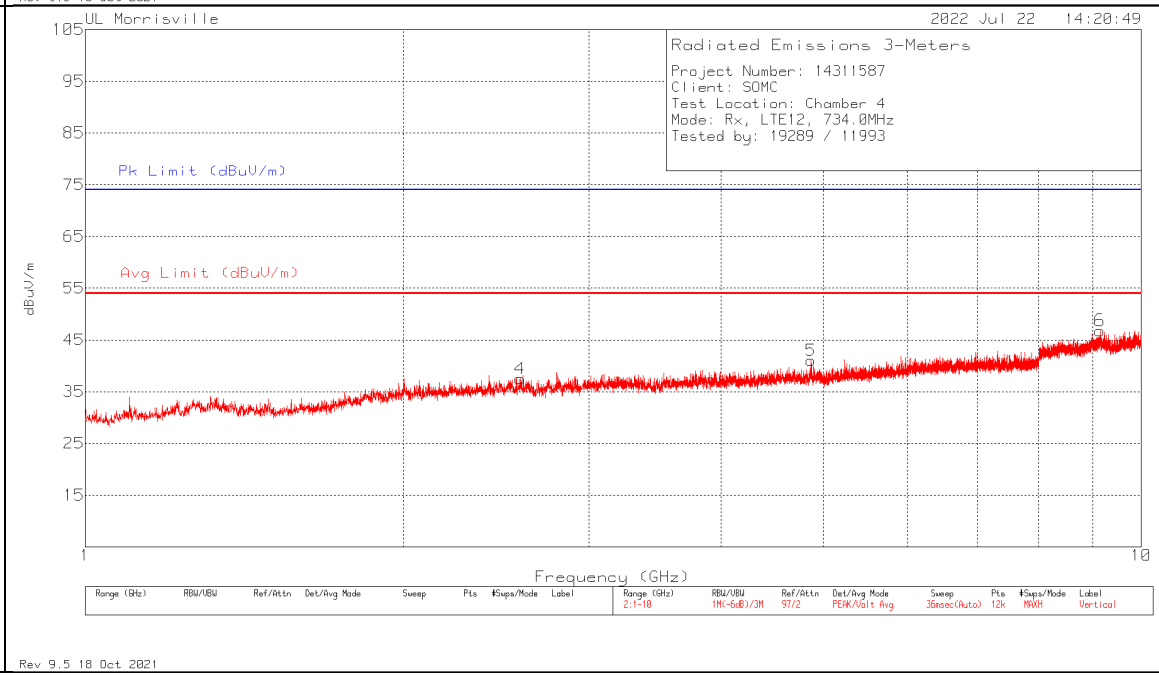
RADIATED EMISSIONS 1000 TO 10,000 MHz – LTE B12 Rx 734.0MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

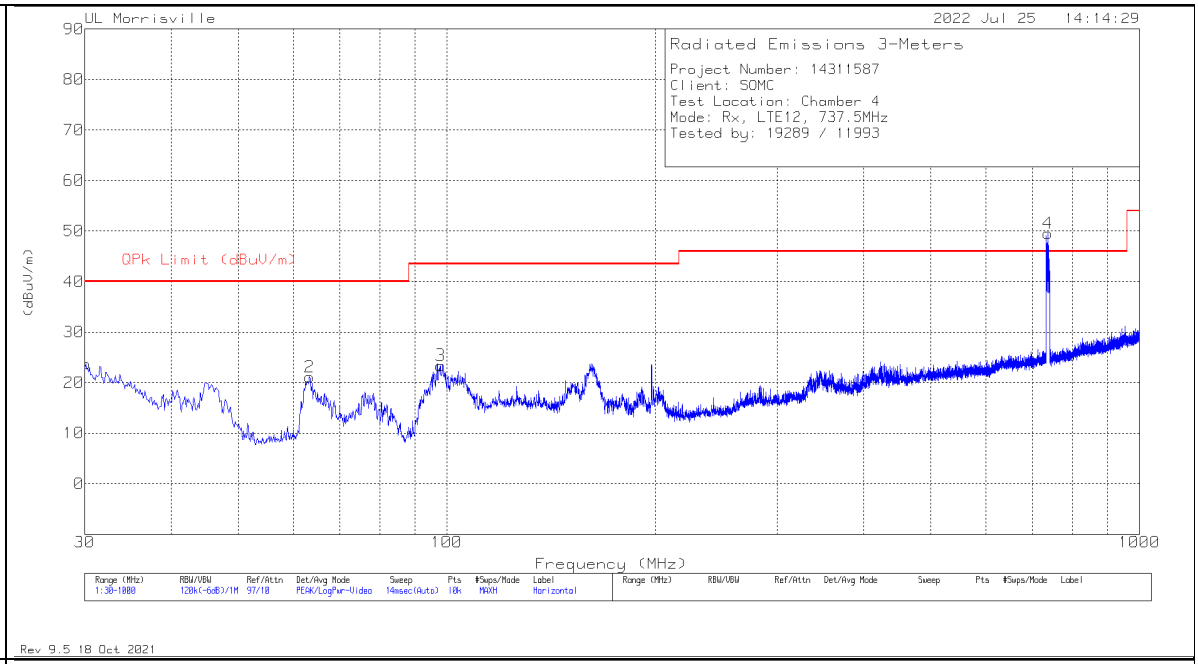
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.55775	40.19	Pk	32.7	-36.1	36.79	54	-17.21	74	-37.21	0-360	100	H
4	2.581	40.9	Pk	32.7	-36.1	37.5	54	-16.5	74	-36.5	0-360	200	V
2	4.69675	37.01	Pk	34	-32.3	38.71	54	-15.29	74	-35.29	0-360	100	H
5	4.86625	39.24	Pk	34.1	-32.3	41.04	54	-12.96	74	-32.96	0-360	200	V
6	9.13975	36.97	Pk	36.2	-26.4	46.77	54	-7.23	74	-27.23	0-360	200	V
3	9.19825	35.84	Pk	36.2	-26.4	45.64	54	-8.36	74	-28.36	0-360	100	H

Pk - Peak detector

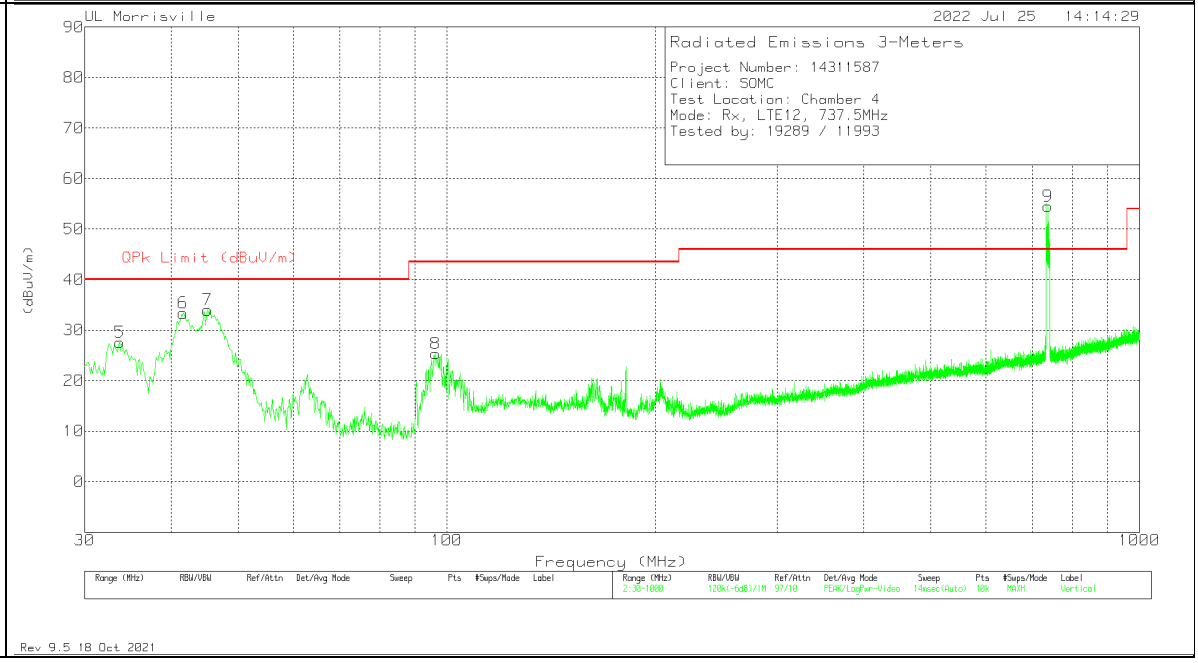
RADIATED EMISSIONS 30 TO 1000 MHz – LTE B12 Rx 737.5MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

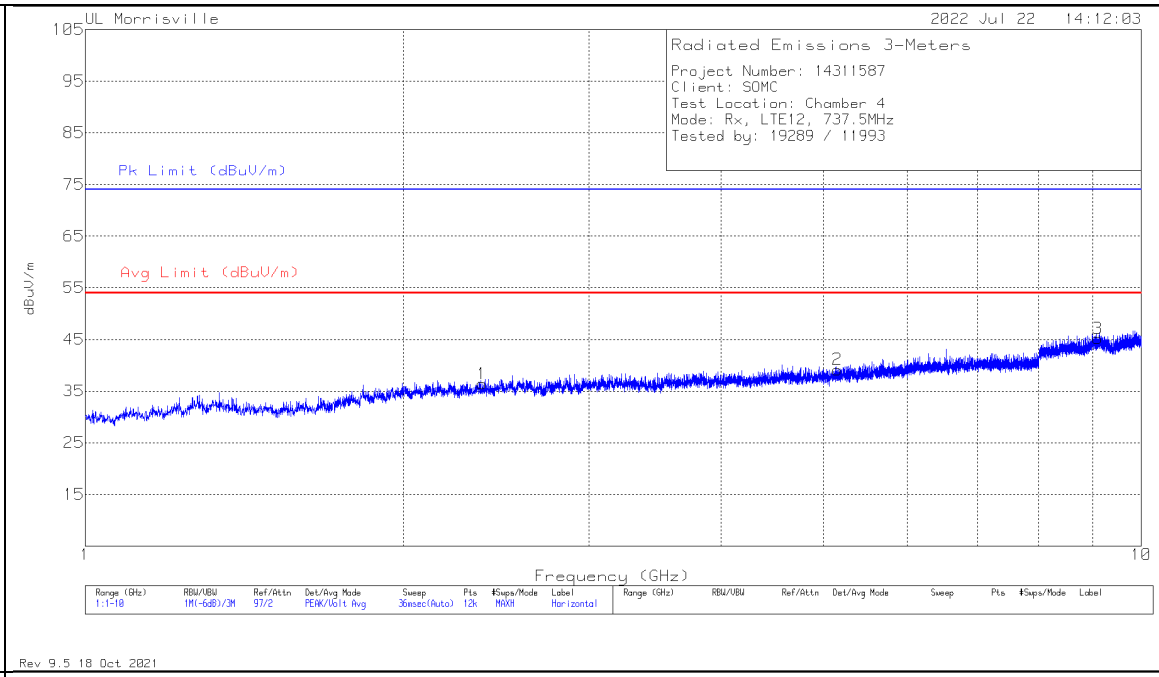
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.097	28.39	Pk	27.2	-31.8	23.79	40	-16.21	0-360	100	H
5	33.686	34.65	Pk	24.7	-31.8	27.55	40	-12.45	0-360	100	V
6	41.64	46.16	Pk	18.7	-31.5	33.36	40	-6.64	0-360	100	V
7	45.132	49.08	Pk	16.3	-31.4	33.98	40	-6.02	0-360	100	V
2	63.368	38.49	Pk	13.9	-31.3	21.09	40	-18.91	0-360	300	H
8	96.2995	40.54	Pk	15.5	-30.7	25.34	43.52	-18.18	0-360	100	V
3	97.9	38.22	Pk	15.9	-30.7	23.42	43.52	-20.1	0-360	100	H
9^{DL}	737.615	54.12	Pk	27.3	-26.9	54.52	-	-	0-360	100	V
4^{DL}	737.809	49.2	Pk	27.3	-26.9	49.6	-	-	0-360	200	H

Pk - Peak detector
DL - Downlink from Callbox

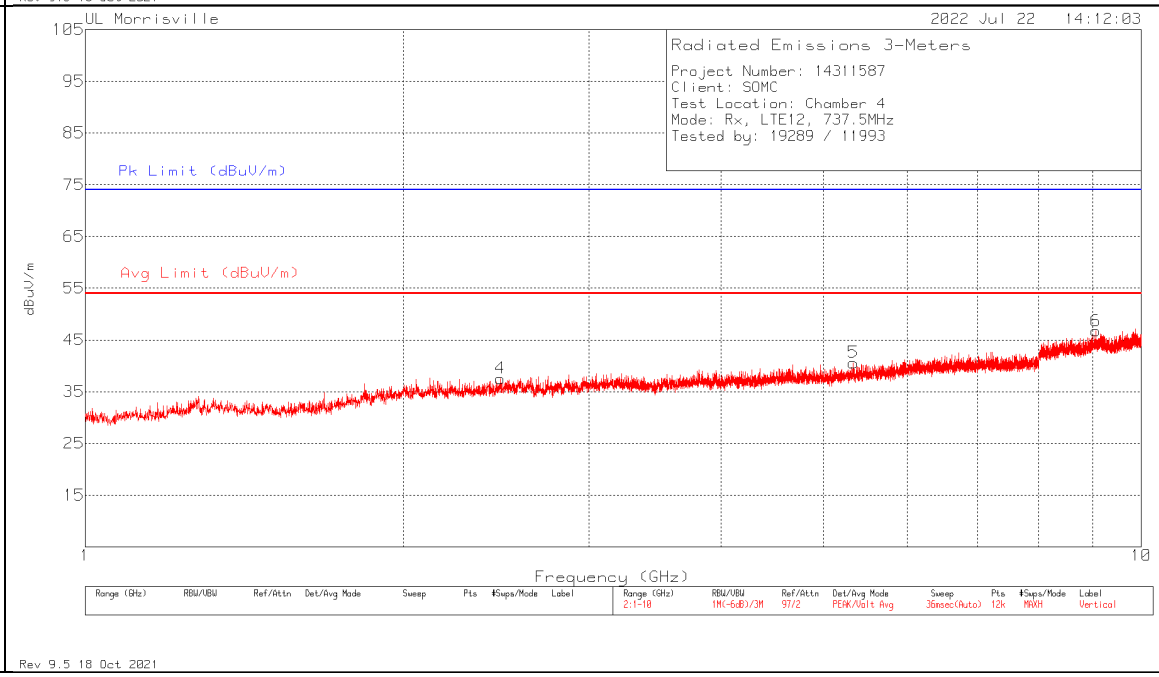
RADIATED EMISSIONS 1000 TO 10,000 MHz – LTE B12 Rx 737.5MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

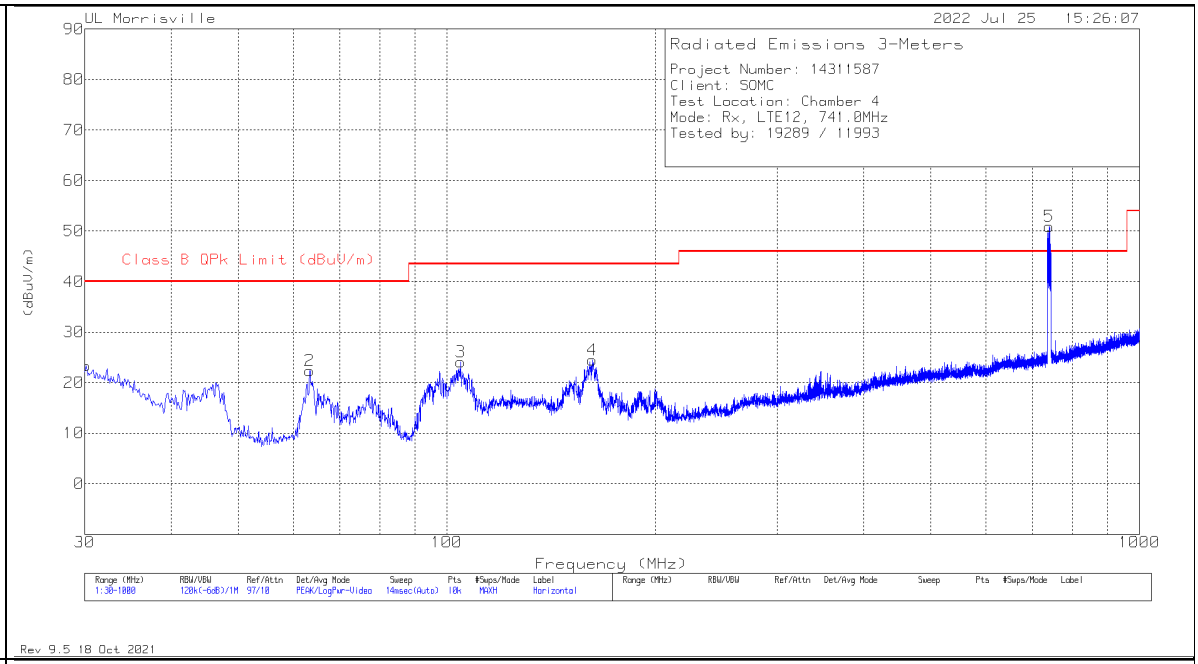
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.3755	40.38	Pk	32.2	-36.2	36.38	54	-17.62	74	-37.62	0-360	100	H
4	2.47075	41.07	Pk	32.6	-36.1	37.57	54	-16.43	74	-36.43	0-360	200	V
2	5.15275	37.24	Pk	34.2	-32.3	39.14	54	-14.86	74	-34.86	0-360	100	H
5	5.338	37.91	Pk	34.5	-31.8	40.61	54	-13.39	74	-33.39	0-360	200	V
6	9.0565	37.15	Pk	36.1	-26.5	46.75	54	-7.25	74	-27.25	0-360	200	V
3	9.09625	35.66	Pk	36.2	-26.7	45.16	54	-8.84	74	-28.84	0-360	100	H

Pk - Peak detector

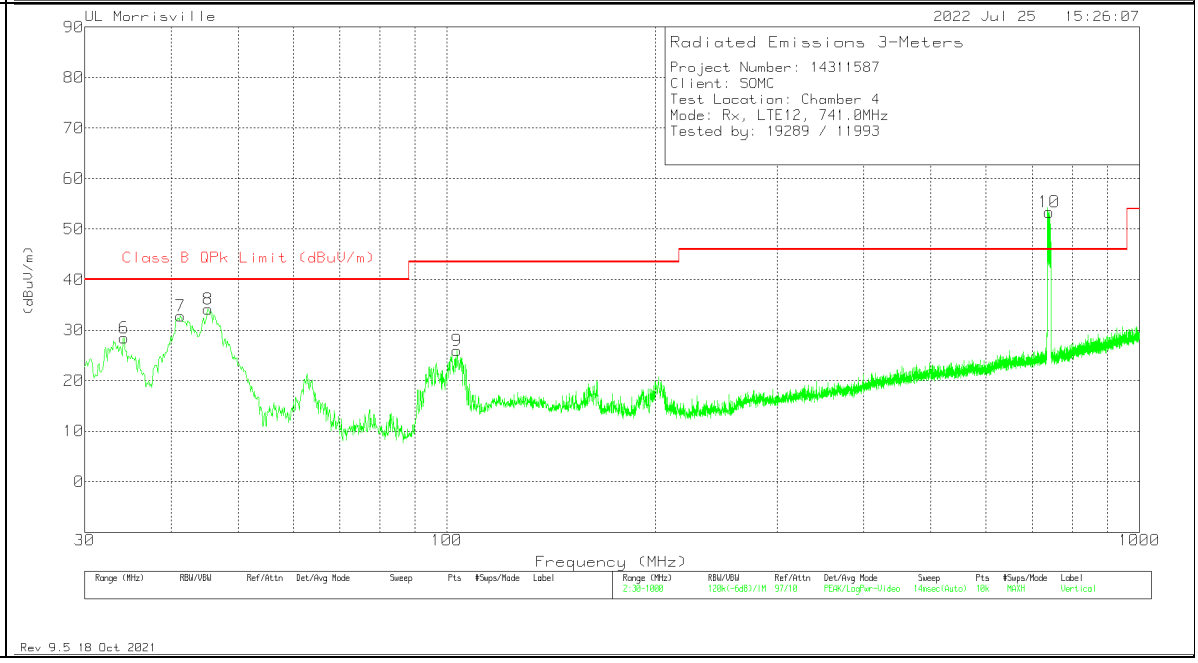
RADIATED EMISSIONS 30 TO 1000 MHz – LTE B12 Rx 741.0MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

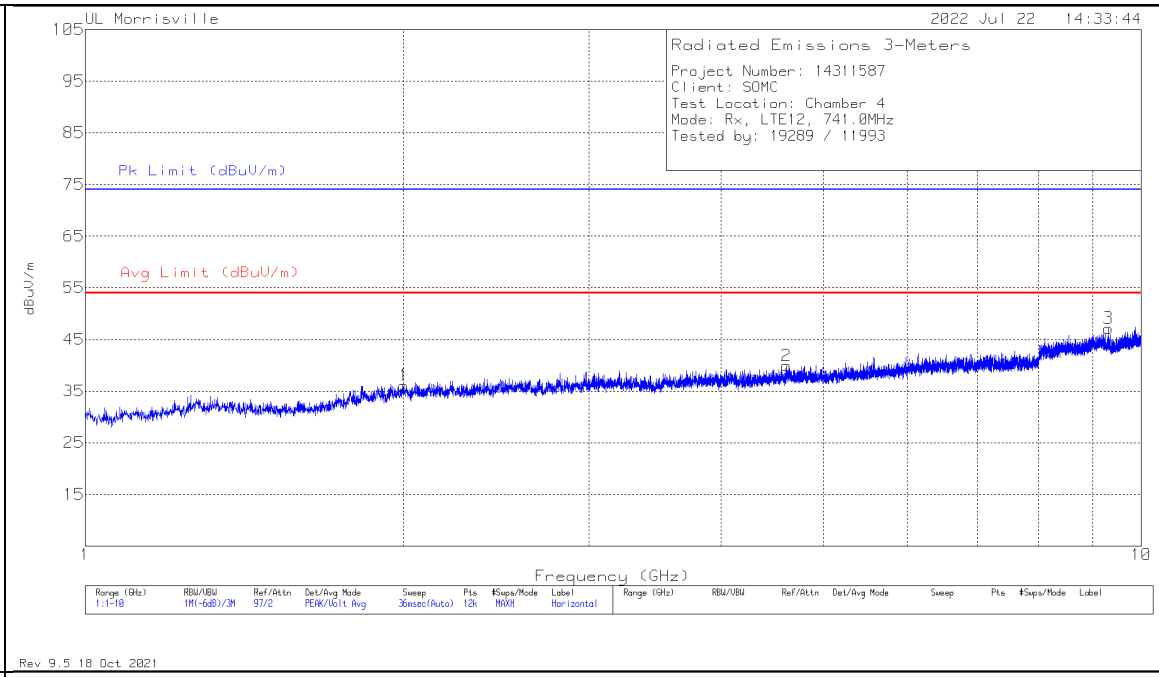
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.097	27.92	Pk	27.2	-31.8	23.32	40	-16.68	0-360	300	H
6	34.171	35.71	Pk	24.4	-31.7	28.41	40	-11.59	0-360	100	V
7	41.252	45.3	Pk	19	-31.5	32.8	40	-7.2	0-360	100	V
8	45.599	46.37	Qp	16	-31.6	30.77	40	-9.23	7	102	V
2	63.368	39.76	Pk	13.9	-31.3	22.36	40	-17.64	0-360	300	H
9	103.429	39.39	Pk	17.4	-30.8	25.99	43.52	-17.53	0-360	100	V
3	104.69	37.2	Pk	17.7	-30.8	24.1	43.52	-19.42	0-360	200	H
4	162.211	36.14	Pk	18.5	-30.2	24.44	43.52	-19.08	0-360	100	H
10^{DL}	741.301	52.95	Pk	27.3	-26.9	53.35	-	-	0-360	100	V
5^{DL}	741.398	50.68	Pk	27.3	-27	50.98	-	-	0-360	100	H

Pk - Peak detector
Qp - Quasi-Peak detector
DL - Downlink from Callbox

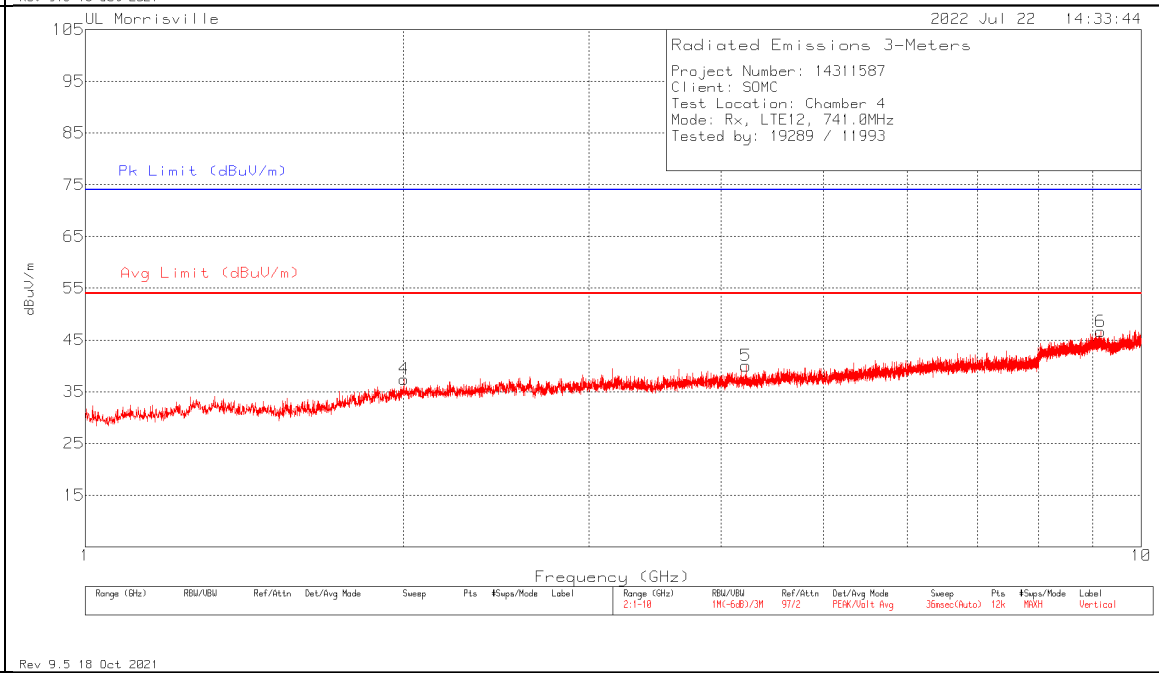
RADIATED EMISSIONS 1000 TO 10,000 MHz – LTE B12 Rx 741.0MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

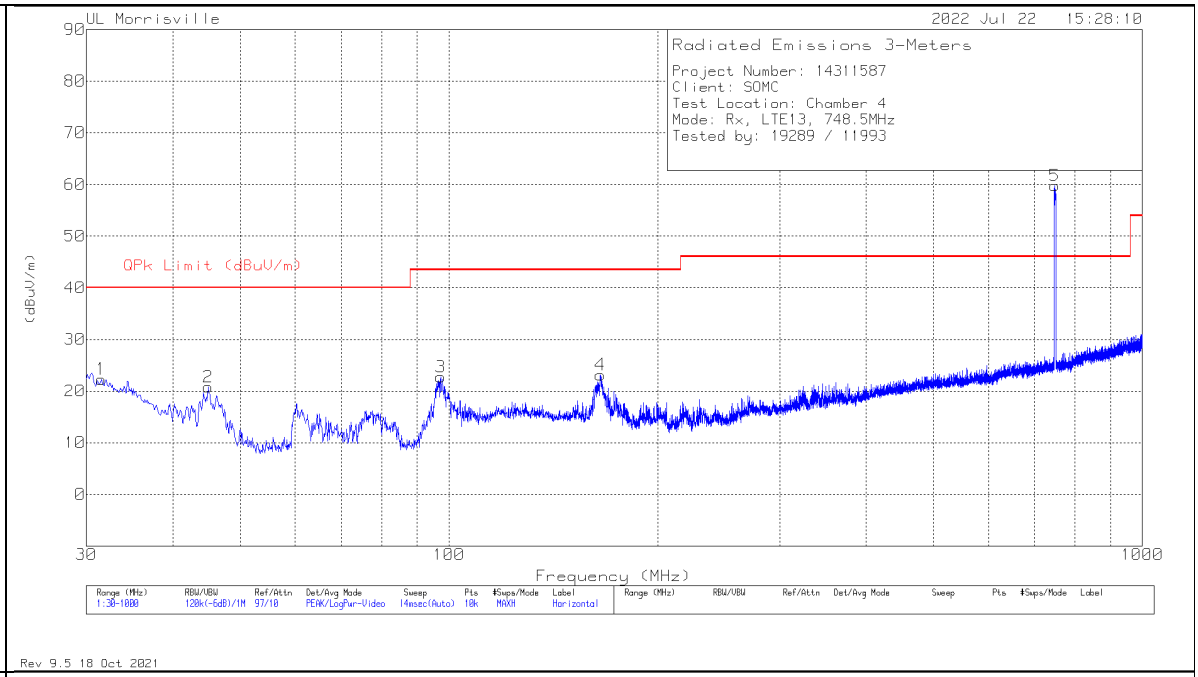
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.00275	40.46	Pk	31.9	-36.3	36.06	54	-17.94	74	-37.94	0-360	100	H
4	2.00425	41.82	Pk	31.9	-36.3	37.42	54	-16.58	74	-36.58	0-360	200	V
5	4.22275	39.32	Pk	33.3	-32.6	40.02	54	-13.98	74	-33.98	0-360	200	V
2	4.61425	38.03	Pk	34.1	-32.2	39.93	54	-14.07	74	-34.07	0-360	100	H
6	9.1525	37.11	Pk	36.2	-26.7	46.61	54	-7.39	74	-27.39	0-360	200	V
3	9.3145	36.97	Pk	36.4	-26.2	47.17	54	-6.83	74	-26.83	0-360	100	H

Pk - Peak detector

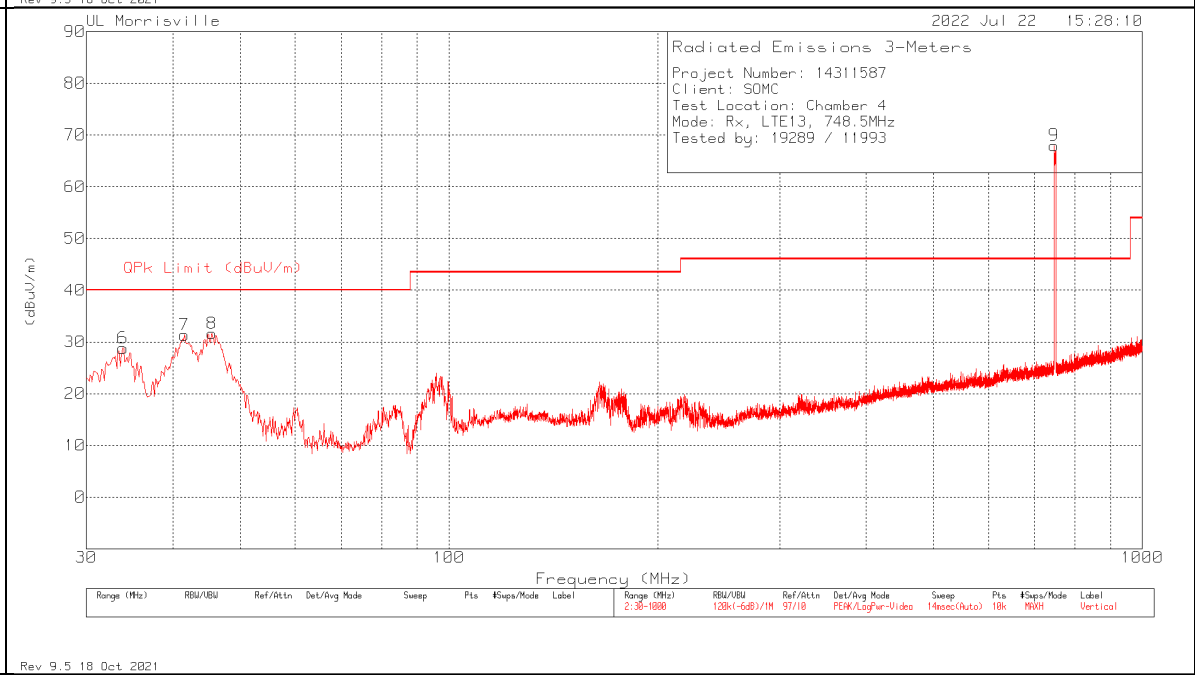
RADIATED EMISSIONS 30 TO 1000 MHz – LTE B13 Rx 748.5MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

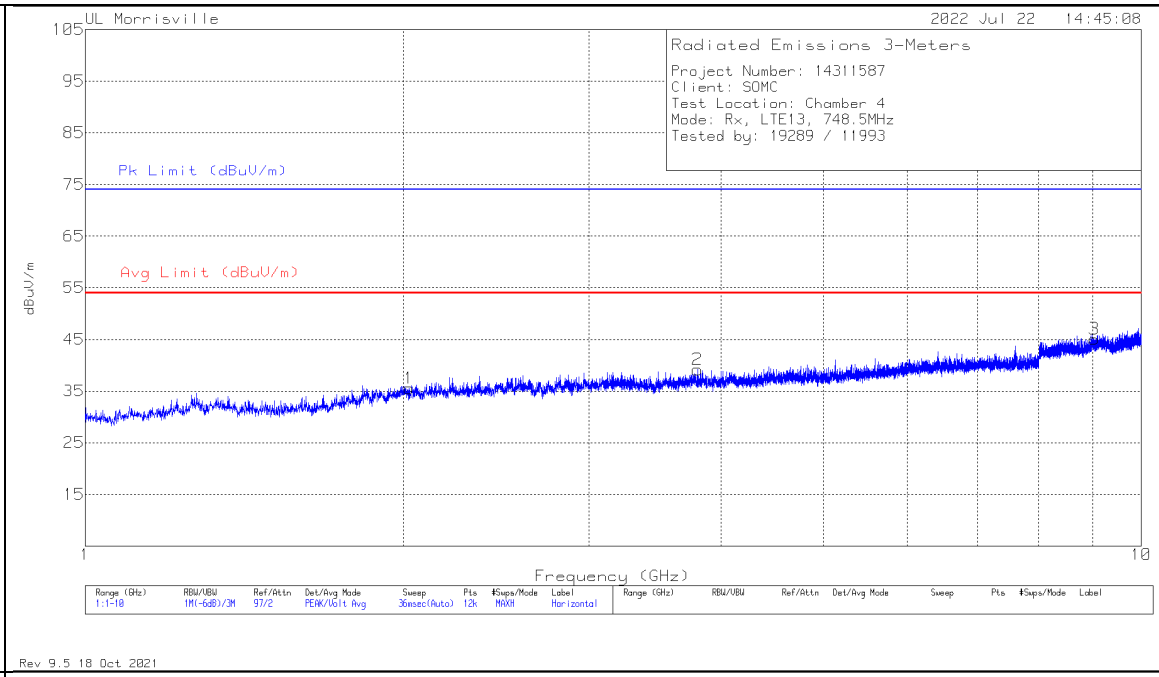
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	31.552	27.98	Pk	26.1	-31.8	22.28	40	-17.72	0-360	300	H
6	33.88	35.99	Pk	24.6	-31.8	28.79	40	-11.21	0-360	100	V
7	41.543	44.05	Pk	18.8	-31.5	31.35	40	-8.65	0-360	100	V
2	44.938	35.88	Pk	16.4	-31.5	20.78	40	-19.22	0-360	200	H
8	45.52	47.13	Pk	16.1	-31.6	31.63	40	-8.37	0-360	100	V
3	97.318	37.74	Pk	15.8	-30.8	22.74	43.52	-20.78	0-360	200	H
4	165.412	34.93	Pk	18.4	-30.2	23.13	43.52	-20.39	0-360	100	H
9^{DL}	746.442	67.37	Pk	27.3	-26.7	67.97	-	-	0-360	100	V
5^{DL}	747.509	59.46	Pk	27.3	-27	59.76	-	-	0-360	100	H

Pk - Peak detector
DL - Downlink from Callbox

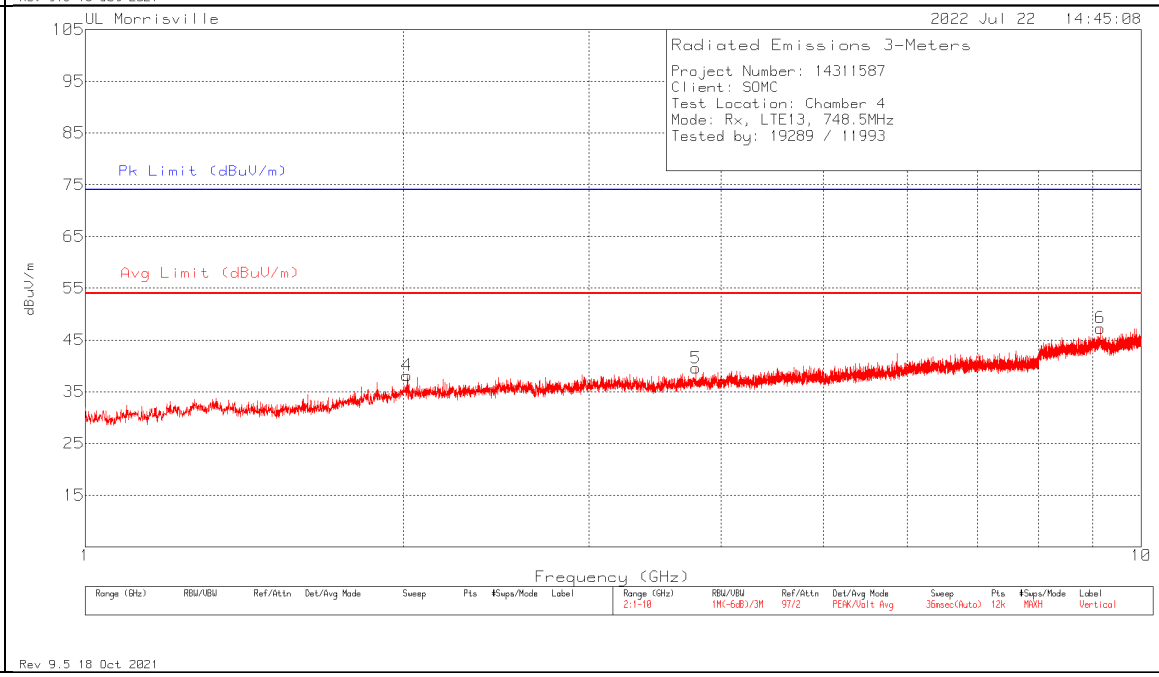
RADIATED EMISSIONS 1000 TO 10,000 MHz – LTE B13 Rx 748.5MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

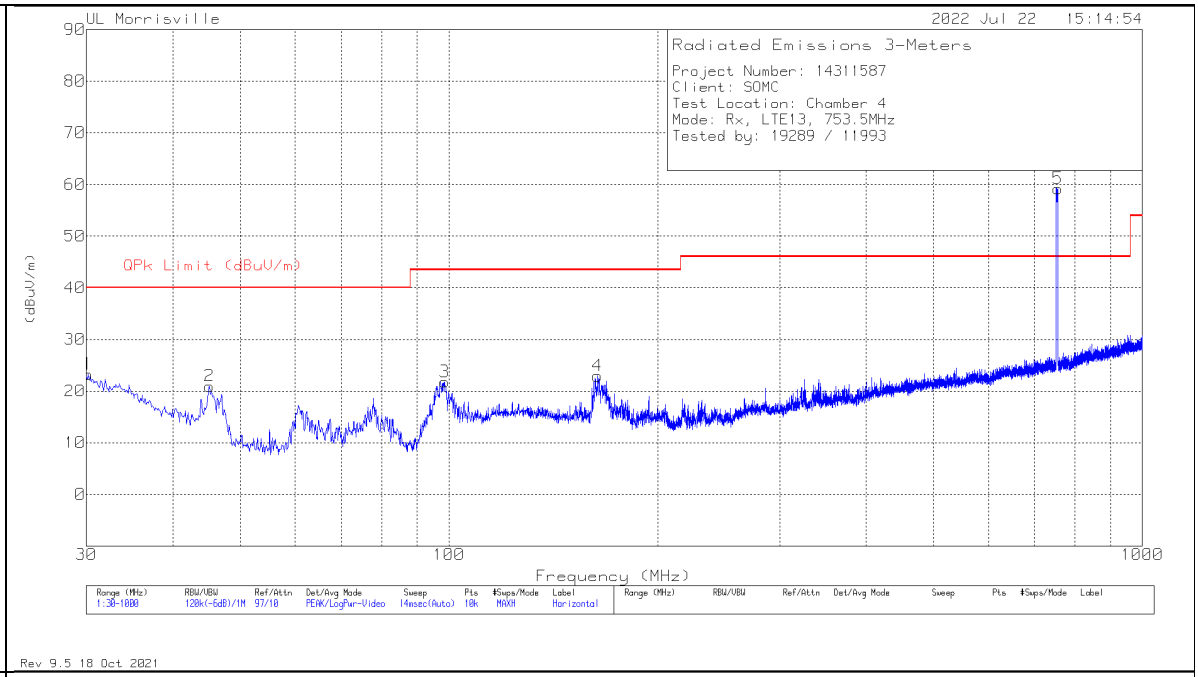
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	2.01625	42.53	Pk	31.9	-36.3	38.13	54	-15.87	74	-35.87	0-360	200	V
1	2.02675	39.91	Pk	31.9	-36.3	35.51	54	-18.49	74	-38.49	0-360	100	H
5	3.7855	39.88	Pk	33.5	-33.8	39.58	54	-14.42	74	-34.42	0-360	200	V
2	3.79975	39.56	Pk	33.5	-33.9	39.16	54	-14.84	74	-34.84	0-360	100	H
3	9.0265	35.17	Pk	36.1	-26.2	45.07	54	-8.93	74	-28.93	0-360	100	H
6	9.1495	37.7	Pk	36.2	-26.6	47.3	54	-6.7	74	-26.7	0-360	200	V

Pk - Peak detector

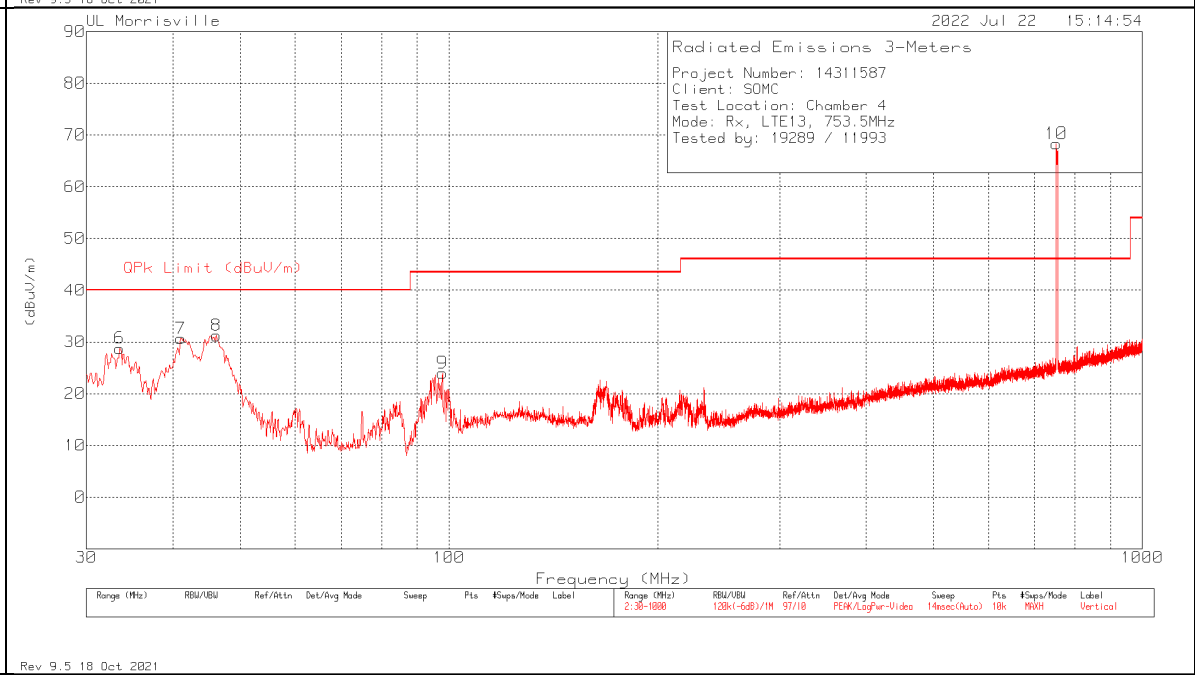
RADIATED EMISSIONS 30 TO 1000 MHz – LTE B13 Rx 753.5MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

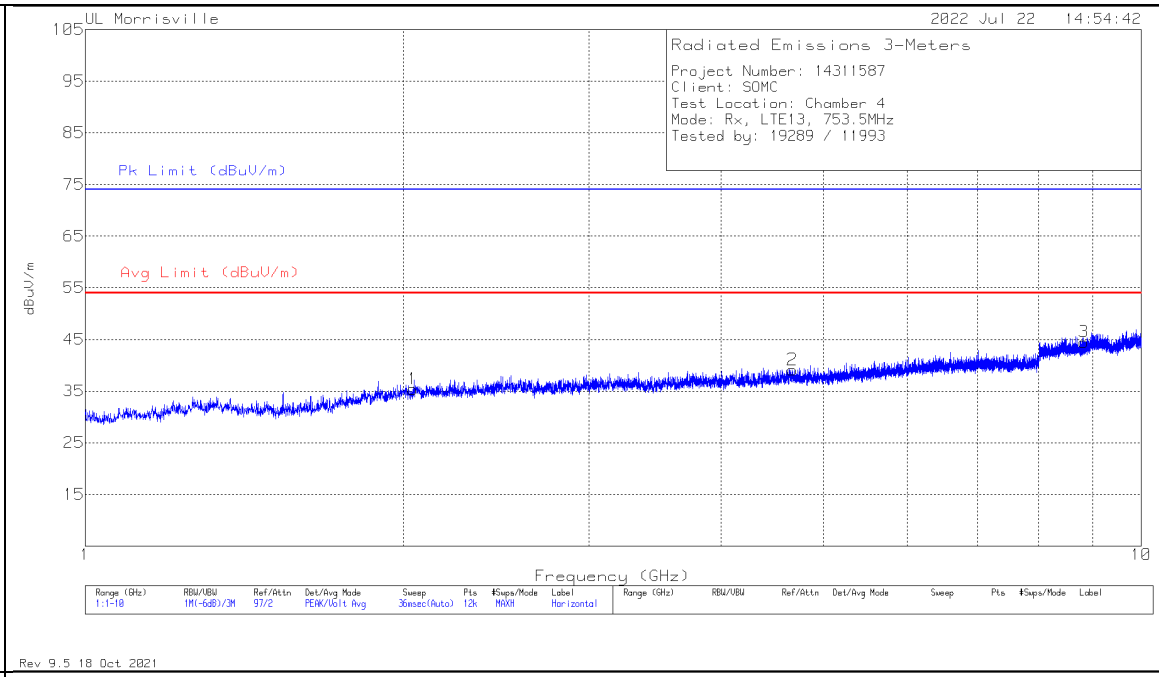
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.194	27.88	Pk	27.1	-31.7	23.28	40	-16.72	0-360	100	H
6	33.492	35.78	Pk	24.8	-31.8	28.78	40	-11.22	0-360	100	V
7	41.058	43.06	Pk	19.2	-31.6	30.66	40	-9.34	0-360	100	V
2	45.132	36.08	Pk	16.3	-31.4	20.98	40	-19.02	0-360	300	H
8	46.199	47.14	Pk	15.7	-31.6	31.24	40	-8.76	0-360	100	V
9	97.9	38.79	Pk	15.9	-30.7	23.99	43.52	-19.53	0-360	100	V
3	98.579	36.48	Pk	16.1	-30.8	21.78	43.52	-21.74	0-360	200	H
4	163.86	34.65	Pk	18.4	-30.1	22.95	43.52	-20.57	0-360	100	H
10^{DL}	751.68	67.81	Pk	27.4	-26.9	68.31	-	-	0-360	100	V
5^{DL}	755.463	58.79	Pk	27.3	-26.9	59.19	-	-	0-360	200	H

Pk - Peak detector
DL - Downlink from Callbox

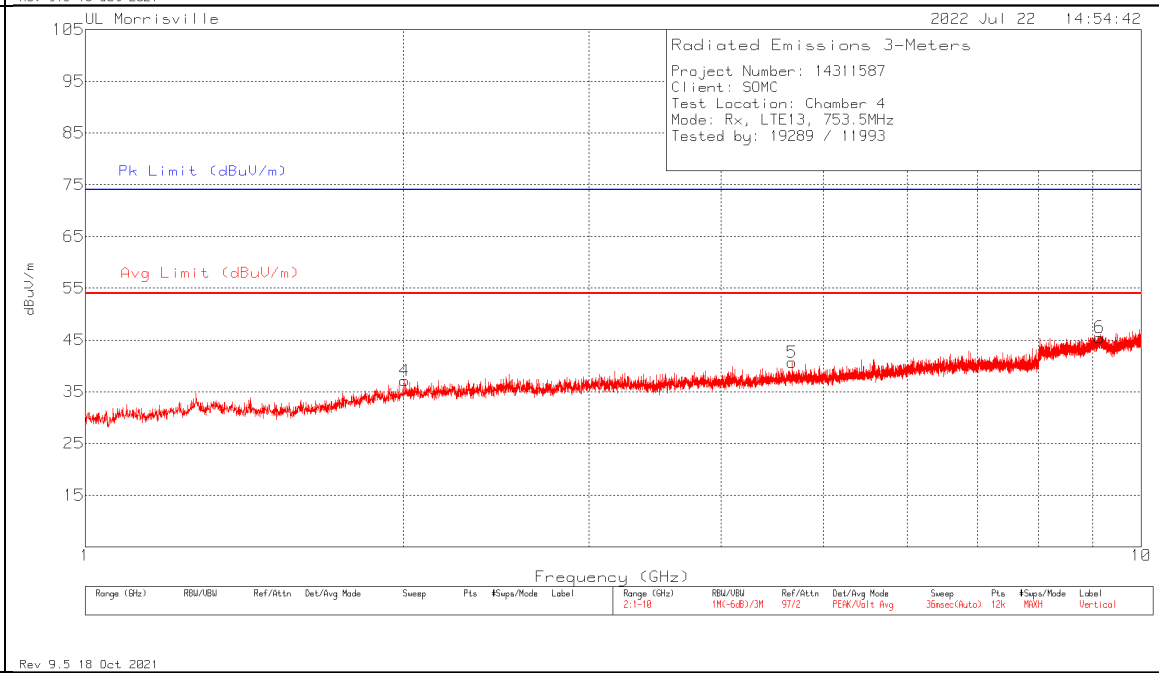
RADIATED EMISSIONS 1000 TO 10,000 MHz – LTE B13 Rx 753.5MHz

Radiated Emissions Graph

HORIZONTAL



VERTICAL



Radiated Emissions Data Points

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	2.00725	41.51	Pk	31.9	-36.3	37.11	54	-16.89	74	-36.89	0-360	200	V
1	2.04175	39.78	Pk	32	-36.4	35.38	54	-18.62	74	-38.62	0-360	100	H
5	4.67275	38.85	Pk	34	-32.2	40.65	54	-13.35	74	-33.35	0-360	200	V
2	4.6735	37.31	Pk	34	-32.2	39.11	54	-14.89	74	-34.89	0-360	100	H
3	8.82775	35.31	Pk	36	-26.8	44.51	54	-9.49	74	-29.49	0-360	100	H
6	9.13075	35.87	Pk	36.2	-26.6	45.47	54	-8.53	74	-28.53	0-360	200	V

Pk - Peak detector

Appendix A

Facilities, Accreditations and Authorizations

UL LLC is accredited by A2LA, certification # 0751.06, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☐	Building: 12 Laboratory Dr RTP, NC 27709, U.S.A	US0067	2180C	825374
☒	Building: 2800 Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A		27265	

END OF TEST REPORT