

Channel	Port	Measurement Range	Level (dBm)				Limit (dBm)	Worst Margin (dB)
			QPSK	16QAM	64QAM	256QAM		
Low	0	30 MHz to 3.53 GHz	-56.77	-56.31	-56.37	-56.25	-46.02	-10.2
		3.72 GHz to 6.2 GHz	-52.46	-53.98	-53.21	-53.36	-46.02	-6.4
		6.2 GHz to 18 GHz	-54.98	-55.29	-55.41	-55.57	-46.02	-9.0
		18 GHz to 40 GHz	-52.63	-52.61	-52.54	-52.39	-46.02	-6.4
	1	30 MHz to 3.53 GHz	-56.35	-56.05	-55.00	-56.12	-46.02	-9.0
		3.72 GHz to 6.2 GHz	-53.07	-54.07	-54.15	-52.68	-46.02	-6.7
		6.2 GHz to 18 GHz	-54.29	-53.90	-54.63	-54.25	-46.02	-7.9
		18 GHz to 40 GHz	-52.76	-52.77	-52.87	-52.79	-46.02	-6.7
	2	30 MHz to 3.53 GHz	-56.83	-56.75	-56.79	-56.99	-46.02	-10.7
		3.72 GHz to 6.2 GHz	-54.63	-53.36	-53.90	-52.99	-46.02	-7.0
		6.2 GHz to 18 GHz	-55.13	-55.29	-55.87	-55.27	-46.02	-9.1
		18 GHz to 40 GHz	-52.53	-52.29	-52.00	-52.02	-46.02	-6.0
3	30 MHz to 3.53 GHz	-56.85	-57.58	-56.70	-57.05	-46.02	-10.7	
	3.72 GHz to 6.2 GHz	-54.84	-54.82	-53.80	-54.66	-46.02	-7.8	
	6.2 GHz to 18 GHz	-54.15	-53.41	-54.59	-53.77	-46.02	-7.4	
	18 GHz to 40 GHz	-51.58	-52.77	-52.77	-52.36	-46.02	-5.6	
Middle	0	30 MHz to 3.53 GHz	-56.22	-56.76	-56.32	-56.75	-46.02	-10.2
		3.72 GHz to 6.2 GHz	-52.59	-54.38	-53.27	-52.05	-46.02	-6.0
		6.2 GHz to 18 GHz	-54.90	-55.91	-55.43	-55.19	-46.02	-8.9
		18 GHz to 40 GHz	-52.52	-52.42	-52.55	-52.50	-46.02	-6.4
	1	30 MHz to 3.53 GHz	-56.27	-55.83	-56.66	-56.65	-46.02	-9.8
		3.72 GHz to 6.2 GHz	-53.69	-54.02	-53.93	-52.00	-46.02	-6.0
		6.2 GHz to 18 GHz	-53.35	-53.77	-54.57	-54.37	-46.02	-7.3
		18 GHz to 40 GHz	-52.87	-52.94	-52.99	-53.11	-46.02	-6.9
	2	30 MHz to 3.53 GHz	-56.57	-55.77	-56.54	-56.25	-46.02	-9.8
		3.72 GHz to 6.2 GHz	-53.87	-52.96	-53.10	-53.87	-46.02	-6.9
		6.2 GHz to 18 GHz	-55.34	-55.46	-55.51	-54.96	-46.02	-8.9
		18 GHz to 40 GHz	-52.66	-52.53	-52.30	-52.67	-46.02	-6.3
3	30 MHz to 3.53 GHz	-57.27	-57.49	-56.72	-56.80	-46.02	-10.7	
	3.72 GHz to 6.2 GHz	-54.97	-54.56	-54.88	-54.88	-46.02	-8.5	
	6.2 GHz to 18 GHz	-54.26	-53.97	-53.87	-54.48	-46.02	-7.8	
	18 GHz to 40 GHz	-53.14	-53.22	-52.54	-52.66	-46.02	-6.5	
High	0	30 MHz to 3.53 GHz	-56.13	-56.38	-55.92	-56.20	-46.02	-9.9
		3.72 GHz to 6.2 GHz	-53.97	-53.97	-52.82	-53.58	-46.02	-6.8
		6.2 GHz to 18 GHz	-55.79	-55.04	-55.41	-55.46	-46.02	-9.0
		18 GHz to 40 GHz	-52.87	-52.69	-52.41	-53.15	-46.02	-6.4
	1	30 MHz to 3.53 GHz	-56.04	-56.72	-56.15	-56.42	-46.02	-10.0
		3.72 GHz to 6.2 GHz	-53.75	-53.59	-54.30	-53.87	-46.02	-7.6
		6.2 GHz to 18 GHz	-54.42	-54.37	-54.29	-53.44	-46.02	-7.4
		18 GHz to 40 GHz	-52.83	-53.00	-53.39	-53.10	-46.02	-6.8
	2	30 MHz to 3.53 GHz	-55.07	-56.24	-57.03	-55.20	-46.02	-9.0
		3.72 GHz to 6.2 GHz	-54.03	-55.51	-52.88	-53.62	-46.02	-6.9
		6.2 GHz to 18 GHz	-55.57	-54.79	-55.28	-54.56	-46.02	-8.5
		18 GHz to 40 GHz	-52.79	-52.47	-52.76	-52.93	-46.02	-6.5
3	30 MHz to 3.53 GHz	-57.27	-57.51	-56.09	-57.32	-46.02	-10.1	
	3.72 GHz to 6.2 GHz	-54.98	-55.26	-55.28	-53.86	-46.02	-7.8	
	6.2 GHz to 18 GHz	-54.63	-54.16	-54.23	-54.28	-46.02	-8.1	
	18 GHz to 40 GHz	-52.82	-52.80	-52.79	-52.96	-46.02	-6.8	

Table 8-100. Conducted Spurious Emission Summary Data (NR_n48_1C_40M)

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)		Page 207 of 286

Channel	Port	Measurement Range	Level (dBm)	Limit (dBm)	Worst Margin (dB)
Low	0	30 MHz to 2.7 GHz	-52.50	-46.02	-5.9
		2.7 GHz to 3 GHz	-48.18	-46.02	-1.8
		3 GHz to 3.5GHz	-48.75	-46.02	-2.4
		3.5 GHz to 3.53 GHz	-50.26	-46.02	-4.1
		3.72 GHz to 3.75 GHz	-52.45	-46.02	-5.9
		3.75 GHz to 6.2 GHz	-49.93	-46.02	-3.9
		6.2 GHz to 18GHz	-53.93	-46.02	-6.9
		18 GHz to 40 GHz	-51.11	-46.02	-5.1
Middle	0	30 MHz to 2.7 GHz	-51.89	-46.02	-5.8
		2.7 GHz to 3 GHz	-47.91	-46.02	-1.7
		3 GHz to 3.5GHz	-48.80	-46.02	-2.6
		3.5 GHz to 3.53 GHz	-50.43	-46.02	-4.3
		3.72 GHz to 3.75 GHz	-51.86	-46.02	-5.8
		3.75 GHz to 6.2 GHz	-49.81	-46.02	-3.5
		6.2 GHz to 18GHz	-53.13	-46.02	-7.1
		18 GHz to 40 GHz	-51.19	-46.02	-4.7
High	0	30 MHz to 2.7 GHz	-51.72	-46.02	-5.7
		2.7 GHz to 3 GHz	-47.67	-46.02	-1.6
		3 GHz to 3.5GHz	-48.90	-46.02	-2.8
		3.5 GHz to 3.53 GHz	-50.54	-46.02	-4.4
		3.72 GHz to 3.75 GHz	-51.69	-46.02	-5.7
		3.75 GHz to 6.2 GHz	-49.90	-46.02	-3.7
		6.2 GHz to 18GHz	-54.49	-46.02	-7.8
		18 GHz to 40 GHz	-51.17	-46.02	-4.6

Table 8-101. Conducted Spurious Emission Summary Data Data (LTE_B48_4C_20M+20M+20M+20M)

Channel	Port	Measurement Range	Level (dBm)	Limit (dBm)	Worst Margin (dB)
Low	0	30 MHz to 3.53 GHz	-55.77	-46.02	-9.8
		3.72 GHz to 6.2 GHz	-54.59	-46.02	-7.0
		6.2 GHz to 18 GHz	-55.19	-46.02	-8.7
		18 GHz to 40 GHz	-52.80	-46.02	-5.8
Middle	0	30 MHz to 3.53 GHz	-56.40	-46.02	-10.0
		3.72 GHz to 6.2 GHz	-53.80	-46.02	-7.2
		6.2 GHz to 18 GHz	-55.23	-46.02	-9.0
		18 GHz to 40 GHz	-52.01	-46.02	-5.3
High	0	30 MHz to 3.53 GHz	-56.40	-46.02	-10.4
		3.72 GHz to 6.2 GHz	-53.08	-46.02	-7.1
		6.2 GHz to 18 GHz	-54.97	-46.02	-8.9
		18 GHz to 40 GHz	-52.32	-46.02	-6.1

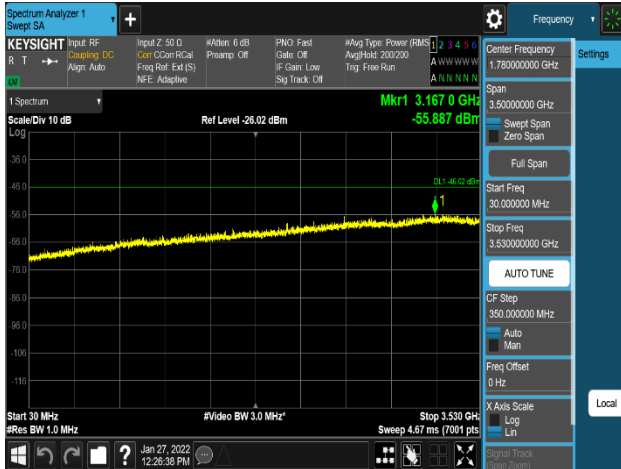
Table 8-102. Conducted Spurious Emission Summary Data (NR_n48_2C_40M+40M)

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)		Page 208 of 286

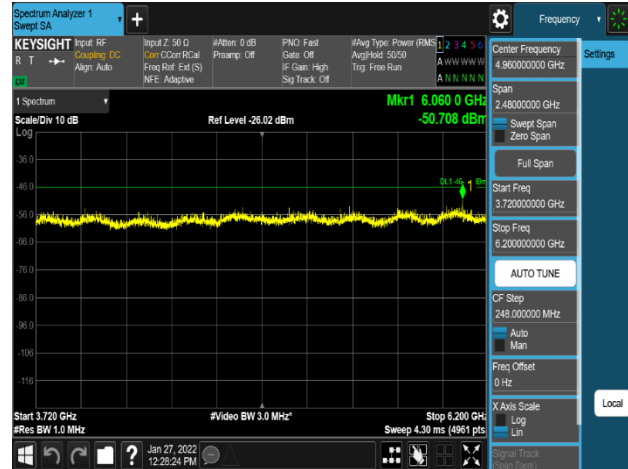
Channel	Port	Measurement Range	Level (dBm)	Limit (dBm)	Worst Margin (dB)
Low	0	30 MHz to 3.53 GHz	-48.75	-46.02	-2.7
		3.72 GHz to 6.2 GHz	-53.75	-46.02	-7.7
		6.2 GHz to 18 GHz	-51.07	-46.02	-5.1
		18 GHz to 40 GHz	-51.22	-46.02	-5.2
Middle	0	30 MHz to 3.53 GHz	-55.94	-46.02	-9.9
		3.72 GHz to 6.2 GHz	-53.79	-46.02	-7.8
		6.2 GHz to 18 GHz	-51.91	-46.02	-5.9
		18 GHz to 40 GHz	-50.10	-46.02	-4.1
High	0	30 MHz to 3.53 GHz	-56.39	-46.02	-10.4
		3.72 GHz to 6.2 GHz	-53.75	-46.02	-7.7
		6.2 GHz to 18 GHz	-52.18	-46.02	-6.2
		18 GHz to 40 GHz	-50.97	-46.02	-4.9

Table 8-103. Conducted Spurious Emission Summary Data (LTE_B48_2C + NR_n48_1C_20M+20M+40M)

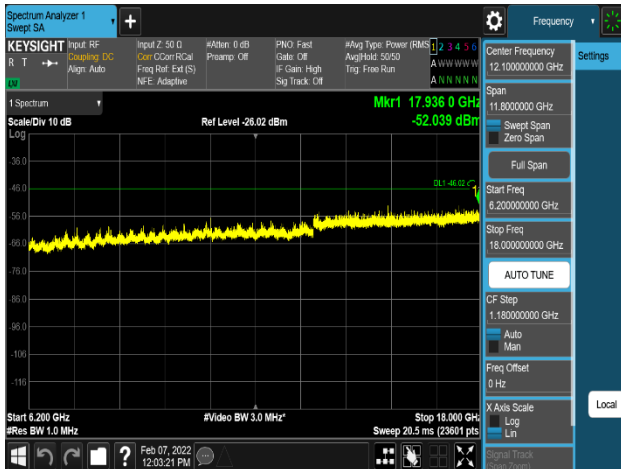
FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)	Page 209 of 286	



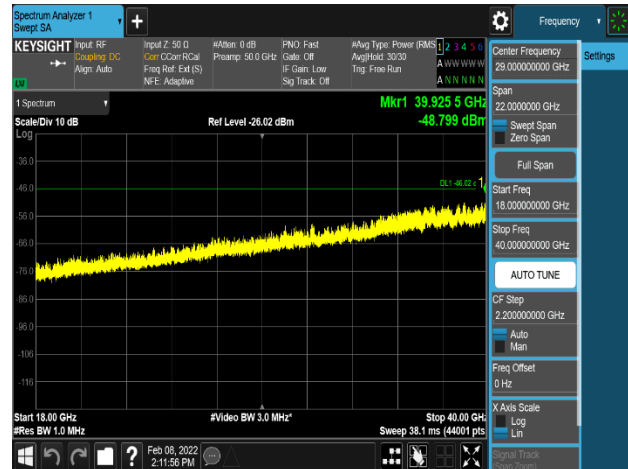
Plot 8-468. Conducted Spurious Emission Plot
30 MHz to 3.53 GHz
(LTE_B48_1C_20M_256QAM - Middle Channel, Port 1)



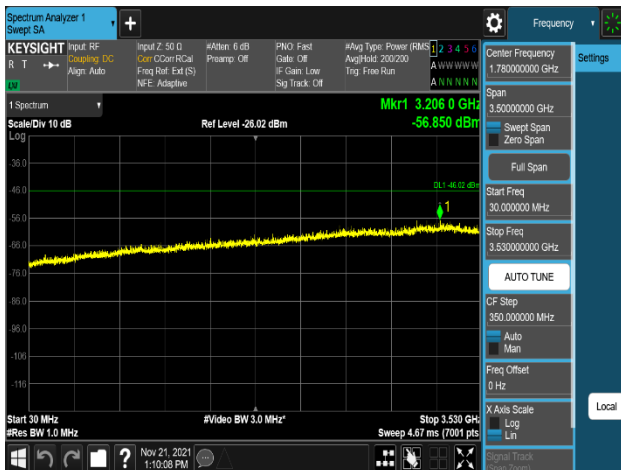
Plot 8-469. Conducted Spurious Emission Plot
3.72 GHz to 6.2 GHz
(LTE_B48_1C_20M_256QAM - Middle Channel, Port 1)



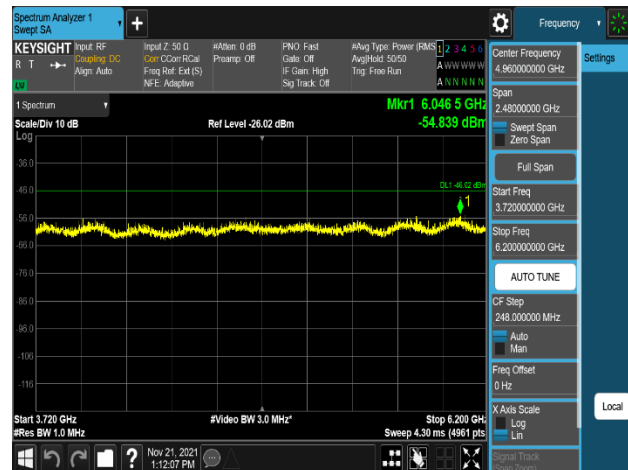
Plot 8-470. Conducted Spurious Emission Plot
6.2 GHz to 18 GHz
(LTE_B48_1C_20M_256QAM - Middle Channel, Port 1)



Plot 8-471. Conducted Spurious Emission Plot
18 GHz to 40 GHz
(LTE_B48_1C_20M_256QAM - Middle Channel, Port 1)



Plot 8-472. Conducted Spurious Emission Plot
30 MHz to 3.53 GHz
(NR_n48_1C_40M_QPSK - Low Channel, Port 3)

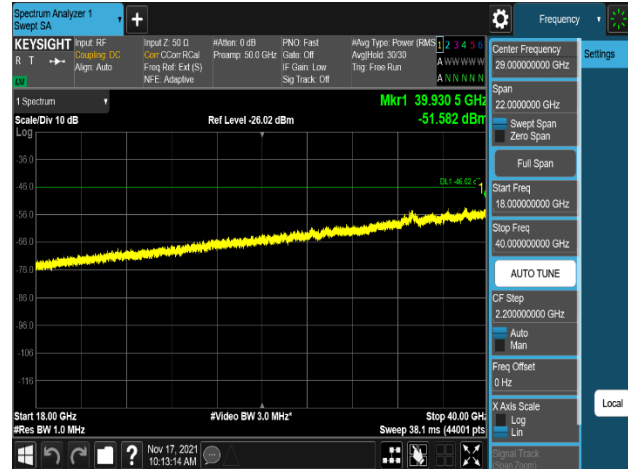


Plot 8-473. Conducted Spurious Emission Plot
3.72 GHz to 6.2 GHz
(NR_n48_1C_40M_QPSK - Low Channel, Port 3)

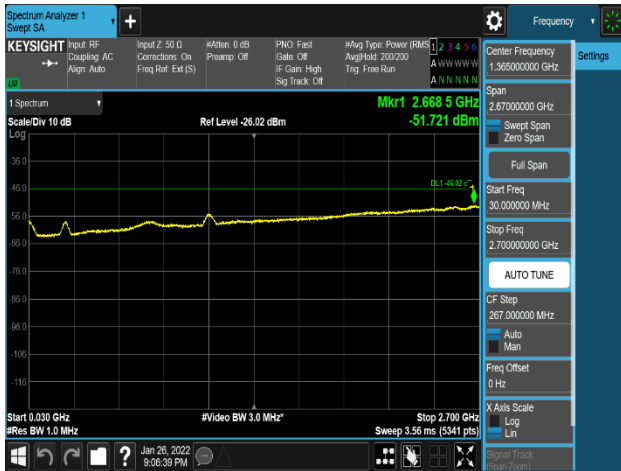
FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)	Page 210 of 286	



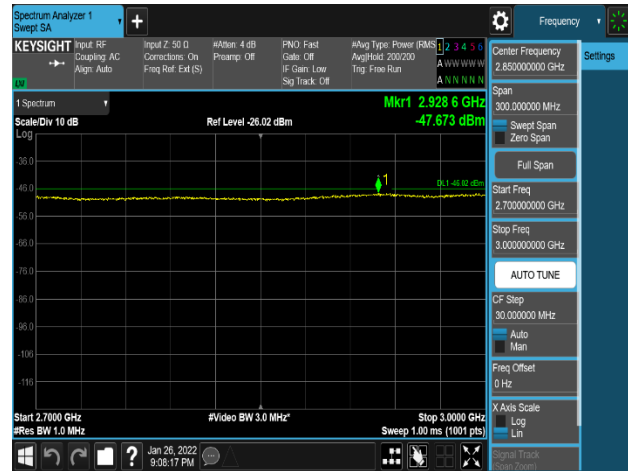
Plot 8-474. Conducted Spurious Emission Plot
6.2 GHz to 18 GHz
(NR_n48_1C_40M_QPSK - Low Channel, Port 3)



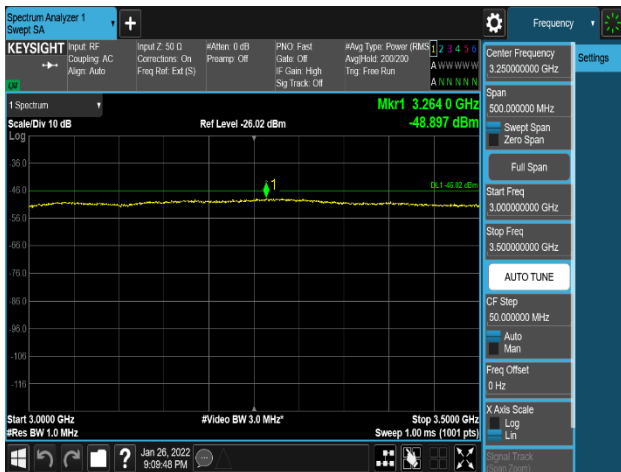
Plot 8-475. Conducted Spurious Emission Plot
18 GHz to 40 GHz
(NR_n48_1C_40M_QPSK - Low Channel, Port 3)



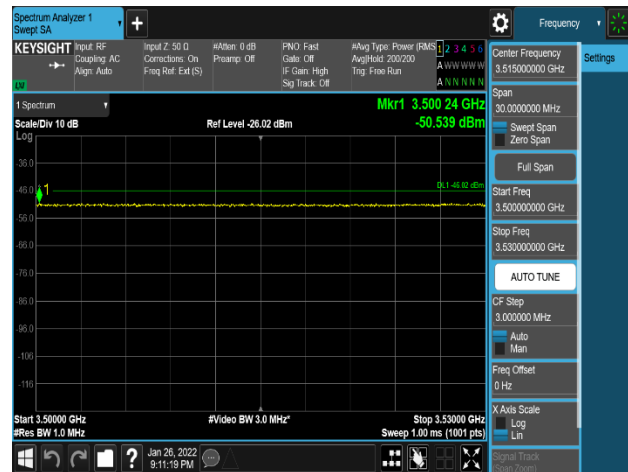
Plot 8-476. Conducted Spurious Emission Plot
30 MHz to 2.7 GHz
(LTE_B48_4C_20M+20M+20M+20M_QPSK - High Channel, Port 0)



Plot 8-477. Conducted Spurious Emission Plot
2.7 GHz to 3 GHz
(NR_n48_2C_40M+40M_256QAM - High Channel, Port 0)

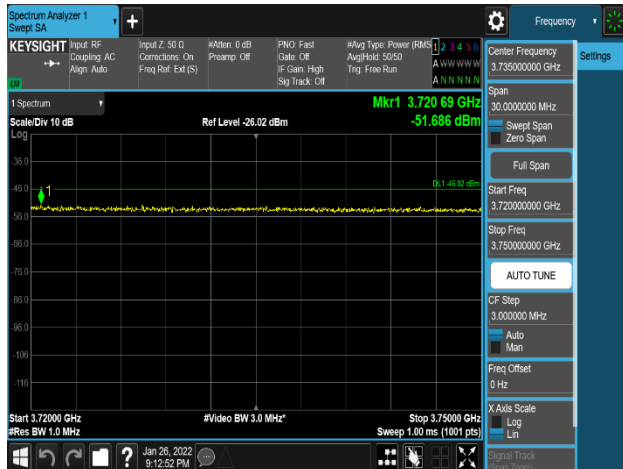


Plot 8-478. Conducted Spurious Emission Plot
3 GHz to 3.5 GHz
(LTE_B48_4C_20M+20M+20M+20M_QPSK - High Channel, Port 0)



Plot 8-479. Conducted Spurious Emission Plot
3.5 GHz to 3.53 GHz
(LTE_B48_4C_20M+20M+20M+20M_QPSK - High Channel, Port 0)

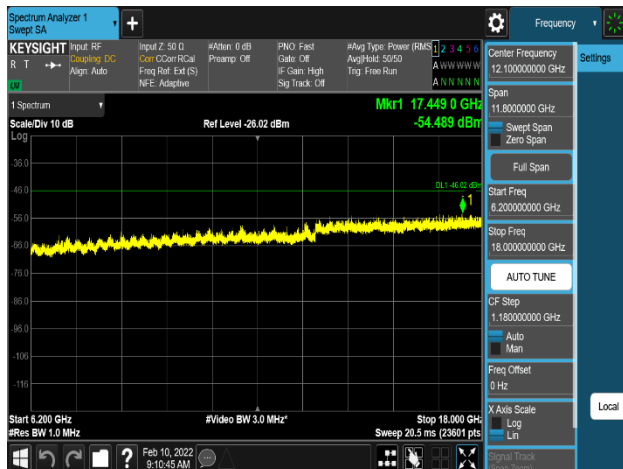
FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)	Page 211 of 286	



Plot 8-480. Conducted Spurious Emission Plot
3.72 GHz to 3.75 GHz
(LTE_B48_4C_20M+20M+20M+20M_QPSK - High Channel, Port 0)



Plot 8-481. Conducted Spurious Emission Plot
3.75 GHz to 6.2 GHz
(LTE_B48_4C_20M+20M+20M+20M_QPSK - High Channel, Port 0)



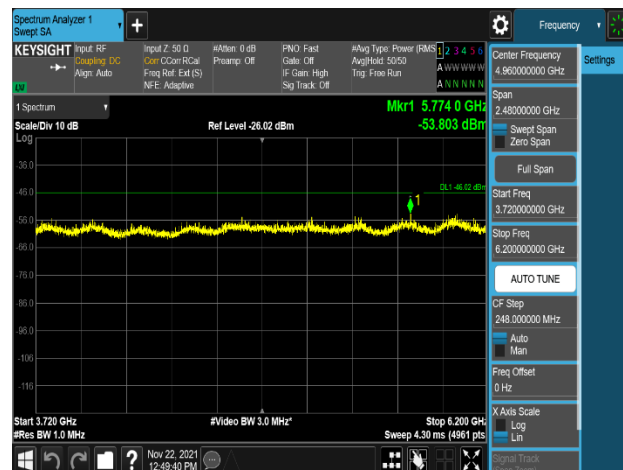
Plot 8-482. Conducted Spurious Emission Plot
6.2 GHz to 18 GHz
(LTE_B48_4C_20M+20M+20M+20M_QPSK - High Channel, Port 0)



Plot 8-483. Conducted Spurious Emission Plot
18 GHz to 40 GHz
(LTE_B48_4C_20M+20M+20M+20M_QPSK - High Channel, Port 0)

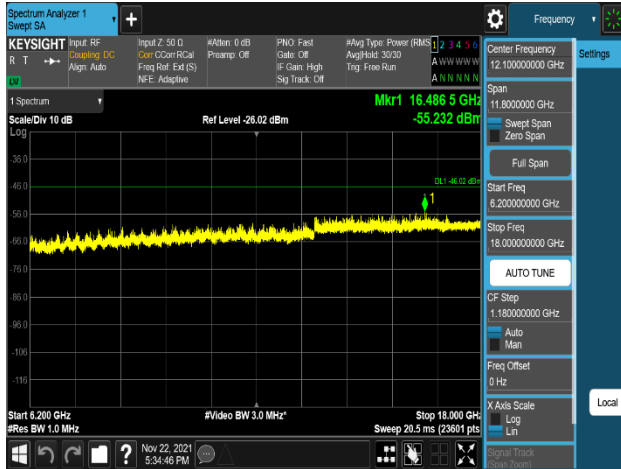


Plot 8-484. Conducted Spurious Emission Plot
30 MHz to 3.53 GHz
(NR_n48_2C_40M+40M_QPSK - Mid Channel, Port 0)

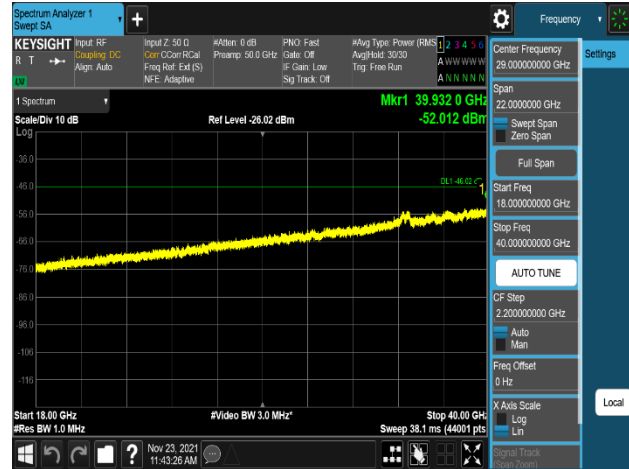


Plot 8-485. Conducted Spurious Emission Plot
3.72 GHz to 6.2 GHz
(NR_n48_2C_40M+40M_QPSK - Mid Channel, Port 0)

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)	 Approved by: Technical Manager
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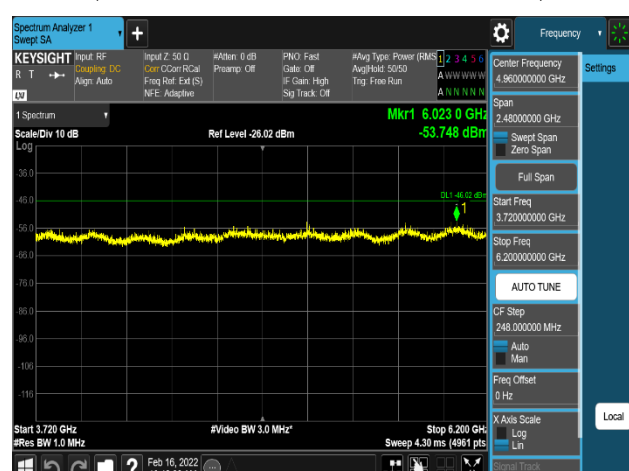
Plot 8-486. Conducted Spurious Emission Plot
6.2 GHz to 18 GHz
(NR_n48_2C_40M+40M_QPSK - Mid Channel, Port 0)



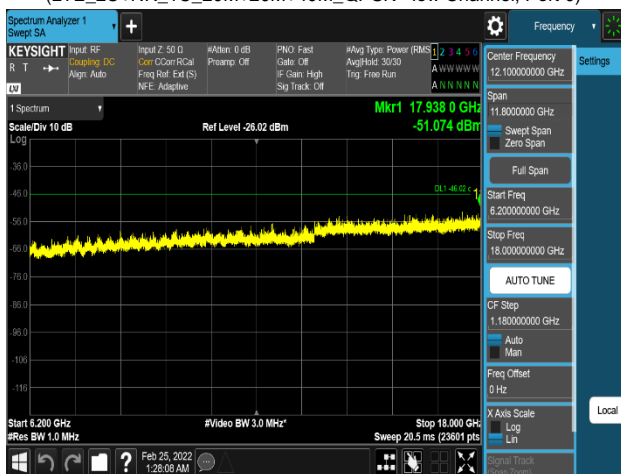
Plot 8-487. Conducted Spurious Emission Plot
18 GHz to 40 GHz
(NR_n48_2C_40M+40M_QPSK - Mid Channel, Port 0)



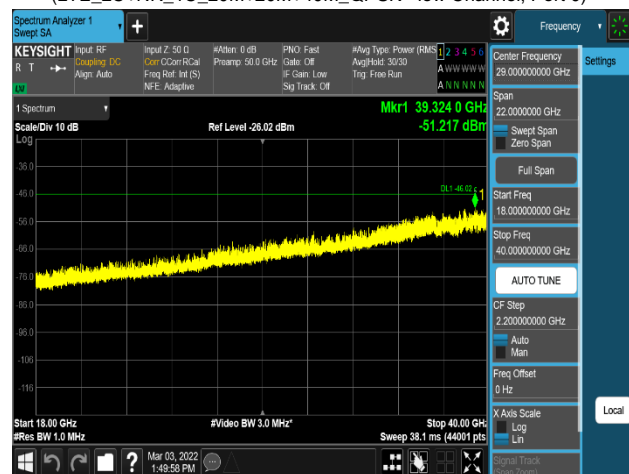
Plot 8-488. Conducted Spurious Emission Plot
30 MHz to 3.53 GHz
(LTE_2C+NR_1C_20M+20M+40M_QPSK - low Channel, Port 0)



Plot 8-489. Conducted Spurious Emission Plot
3.72 GHz to 6.2 GHz
(LTE_2C+NR_1C_20M+20M+40M_QPSK - low Channel, Port 0)



Plot 8-490. Conducted Spurious Emission Plot
6.2 GHz to 18 GHz
(LTE_2C+NR_1C_20M+20M+40M_QPSK - low Channel, Port 0)



Plot 8-491. Conducted Spurious Emission Plot
18 GHz to 40 GHz
(LTE_2C+NR_1C_20M+20M+40M_QPSK - low Channel, Port 0)

FCC: A3LRT4401-48A1



MEASUREMENT REPORT
(CERTIFICATION)



Approved by:
Technical Manager

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8.9 Radiated spurious emission

Test Overview

Radiated spurious emissions measurements are performed using the field strength method described in ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized broadband tri-log antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas.

Test Procedure Used

ANSI C63.26 - Section 5.5.4
KDB 971168 D01 v03r01 - Section 7

Test Setting

1. Start frequency was set to 30 MHz and stop frequency was set to at least 10 * the fundamental frequency
2. RBW = 1 MHz
3. VBW \geq 3 x RBW
4. No. of sweep points \geq 2 x span / RBW
5. Detector = RMS
6. Trace mode = Max Hold (In cases where the level is within 2 dB of the limit, the final measurement is taken using triggering/gating and trace averaging.)
7. The trace was allowed to stabilize.

Limit

- Within 0 MHz to 10 MHz above and below the assigned channel \leq -13 dBm/MHz
- Greater than 10 MHz above and below the assigned channel \leq -25 dBm/MHz
- Any emission below 3530 MHz and above 3720 MHz \leq -40 dBm/MHz

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Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

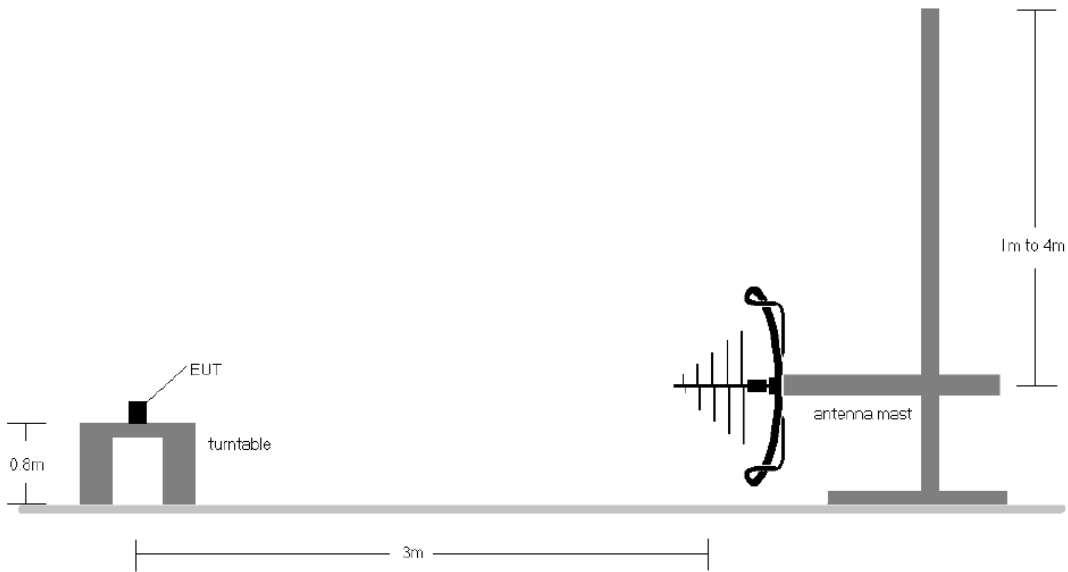


Figure 8-7. Test Instrument & Measurement Setup < 1GHz

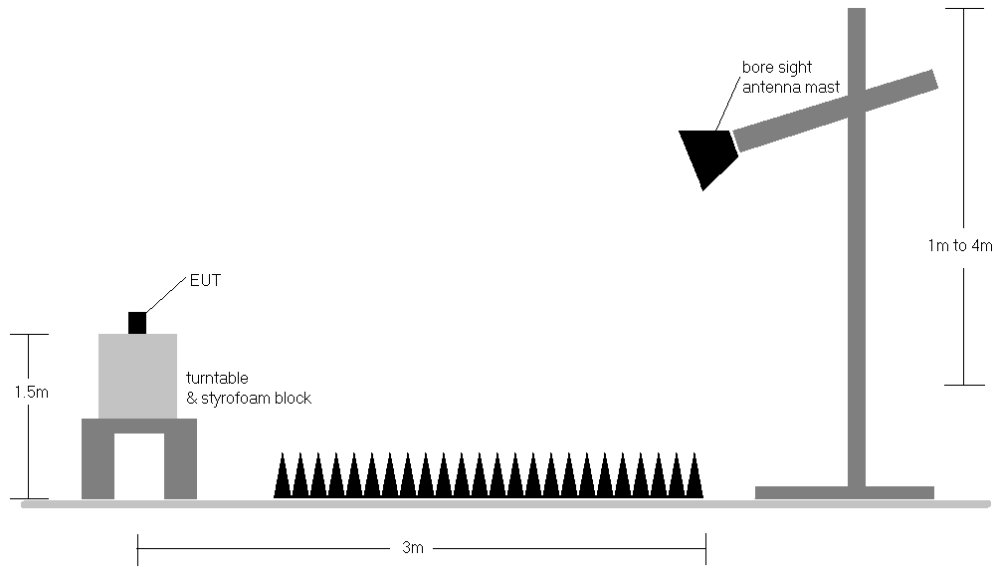


Figure 8-8. Test Instrument & Measurement Setup > 1GHz

<p>FCC: A3LRT4401-48A1</p>		<p>MEASUREMENT REPORT (CERTIFICATION)</p>	<p>Approved by: Technical Manager</p>
<p>Test Report S/N: 8K21101306-R4.A3L</p>	<p>Test Dates: 10/20/2021 – 04/05/2022</p>	<p>EUT Type: RRU(RT4401)</p>	<p>Page 215 of 286</p>

Test Notes

- The average EIRP reported below is calculated per 5.2.7 of ANSI C63.26-2015 which states:

The measured e.i.r.p is converted to E-field in V/m. Then the distance correction is applied before converted back to calculated e.i.r.p.as explained in KDB 971168 D01 D01 v03r01.

Effective Isotropic Radiated Power Sample Calculation

$$\begin{aligned} \text{Field Strength [dB}\mu\text{V/m]} &= \text{Measured Value [dBm]} + \text{AFCL [dB/m]} + 107 \\ &= -58.02 \text{ dBm} + (5.54 \text{ dBm}) + 107 = 54.52 \text{ dB}\mu\text{V/m} \end{aligned}$$

$$\begin{aligned} \text{e.i.r.p. [dBm]} &= E[\text{dB } \mu\text{V/m}] + 20 \log_{10}(d[\text{m}]) - 104.8 \\ &= 54.52 + (20 * \log (3)) - 104.8 \\ &= -40.74 \text{ dBm e.i.r.p.} \end{aligned}$$

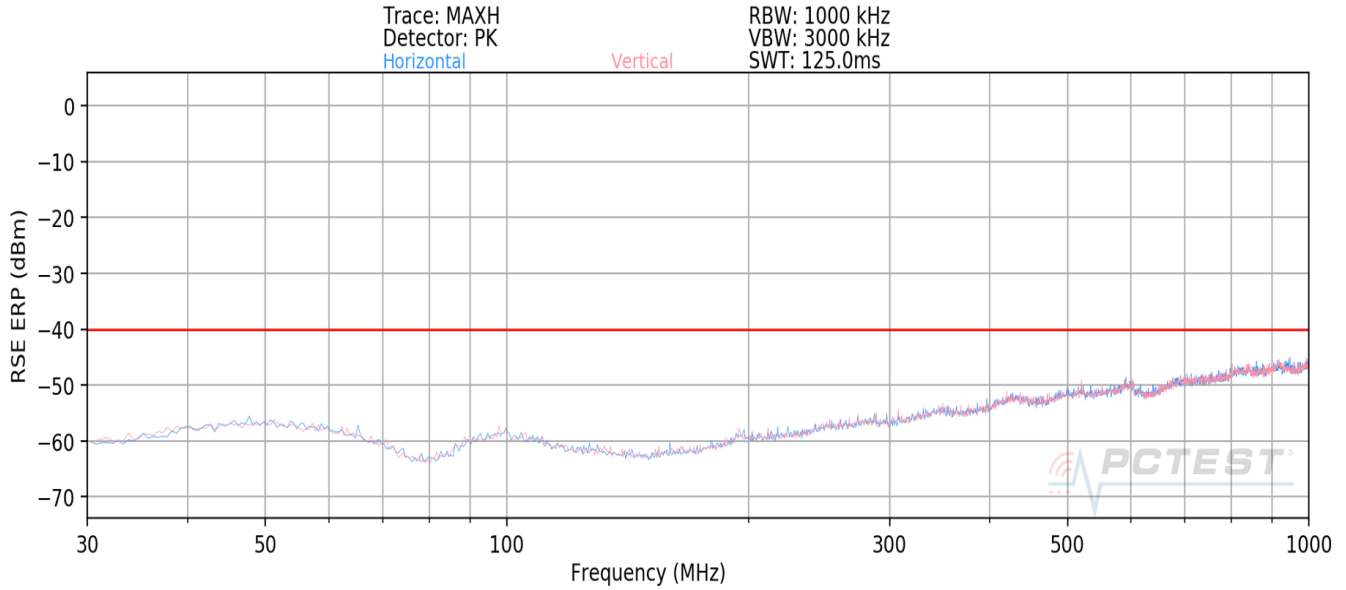
*AFCL (dB/m) contains measurement antenna factor(dB/m) and cable loss(dB) as below:

Frequency [MHz]	Antenna Factor (dB/m)	Chamber measurement cable loss + amplifier [dB]	AFCL (dB/m)
988.46	23.31	2.69	26.00
13762.52	41.13	-26.07	15.06

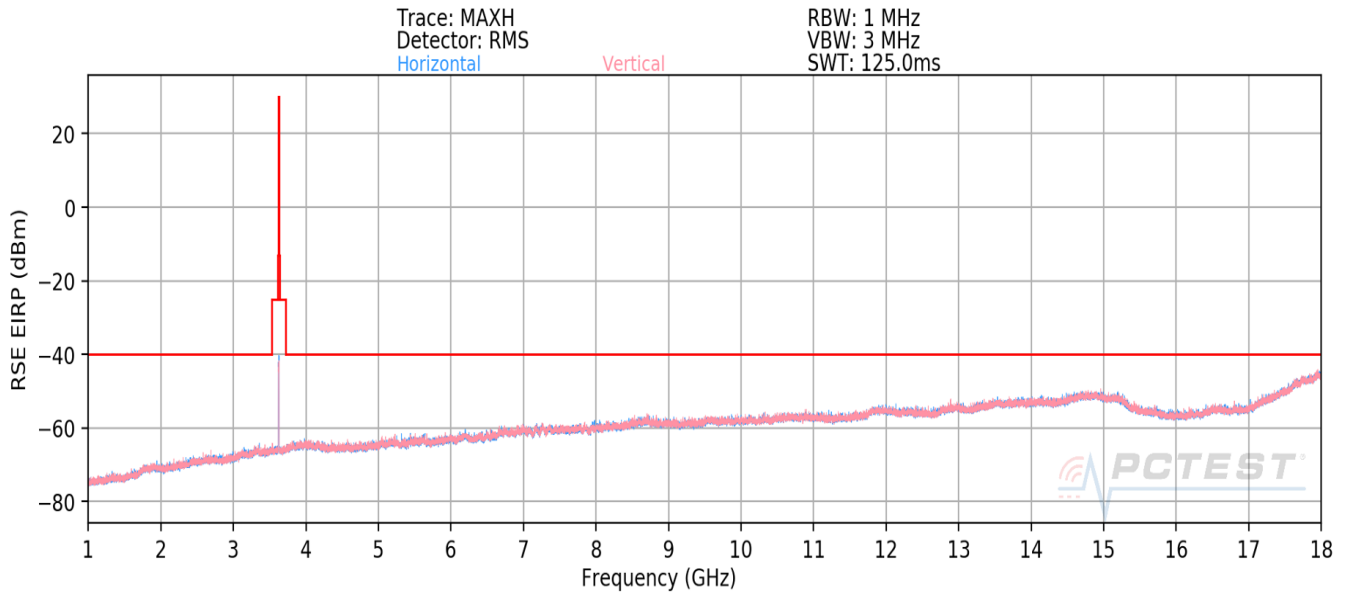
Table 8-104. Adopted AFCL value in the calculation

- The EUT was tested in both horizontal and vertical antenna polarizations and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, channel bandwidth configurations shown in the tables below.
- The spectrum is measured from 30 MHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- All emissions were measured at a 3-meter test distance.
- Spurious emissions were measured with all EUT antennas transmitting simultaneously and all antenna ports terminated.
- The "-" shown in the following RSE tables are used to denote a noise floor measurement.

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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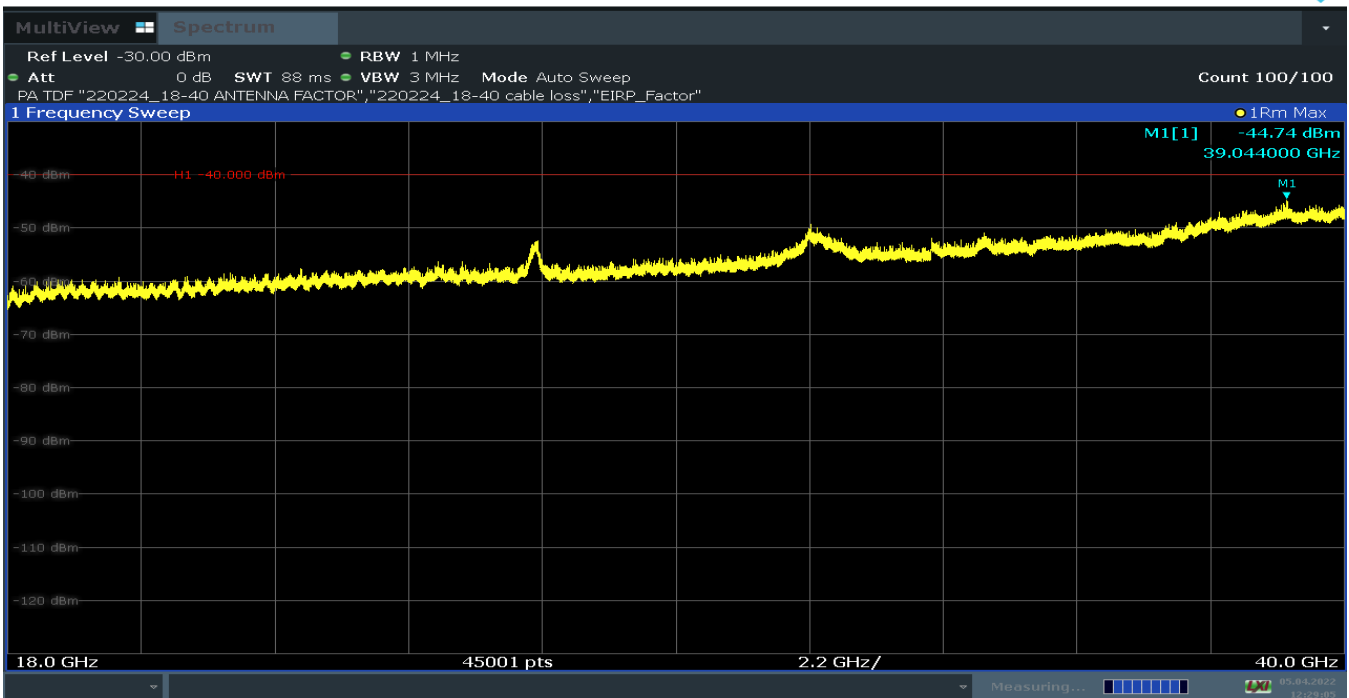


**Plot 8-492. Radiated spurious emission Plot_30 MHz to 1000 MHz
(LTE_B48_1C_10M_QPSK - Mid Channel)**

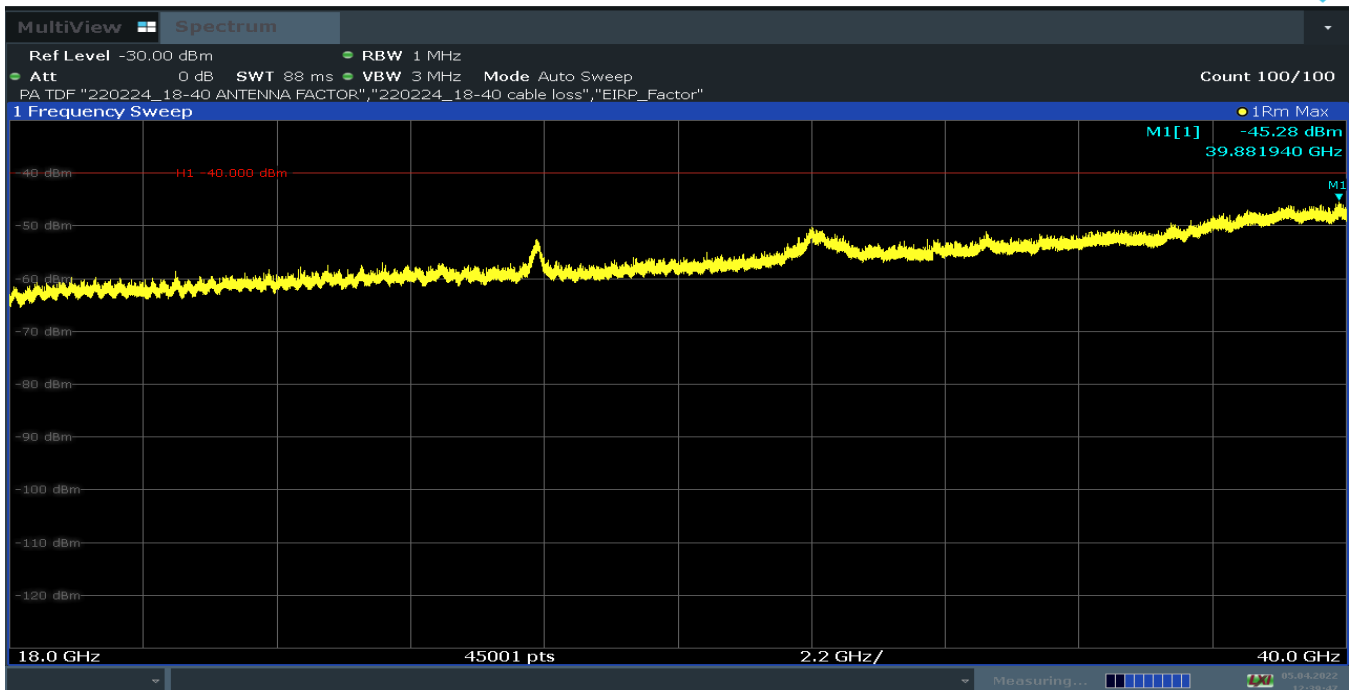


**Plot 8-493. Radiated spurious emission Plot_1 GHz to 18 GHz
(LTE_B48_1C_10M_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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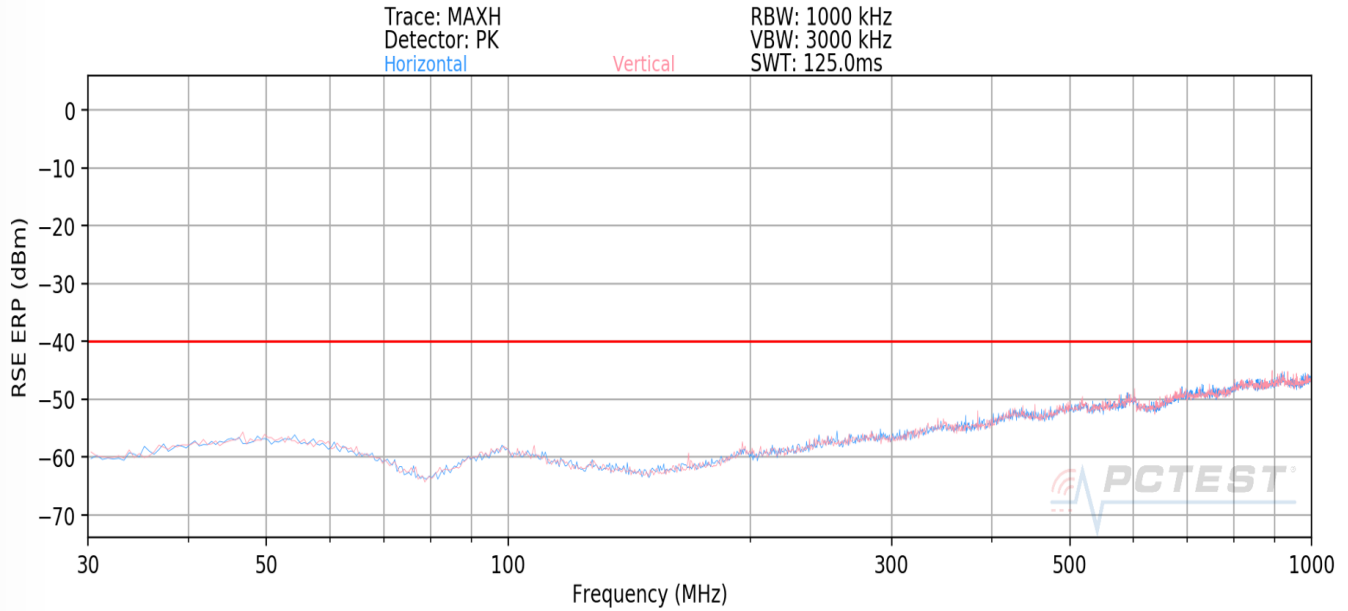


**Plot 8-494. Radiated spurious emission Plot_Horizontal 18 GHz to 40 GHz
(LTE_B48_1C_10M_QPSK - Mid Channel)**

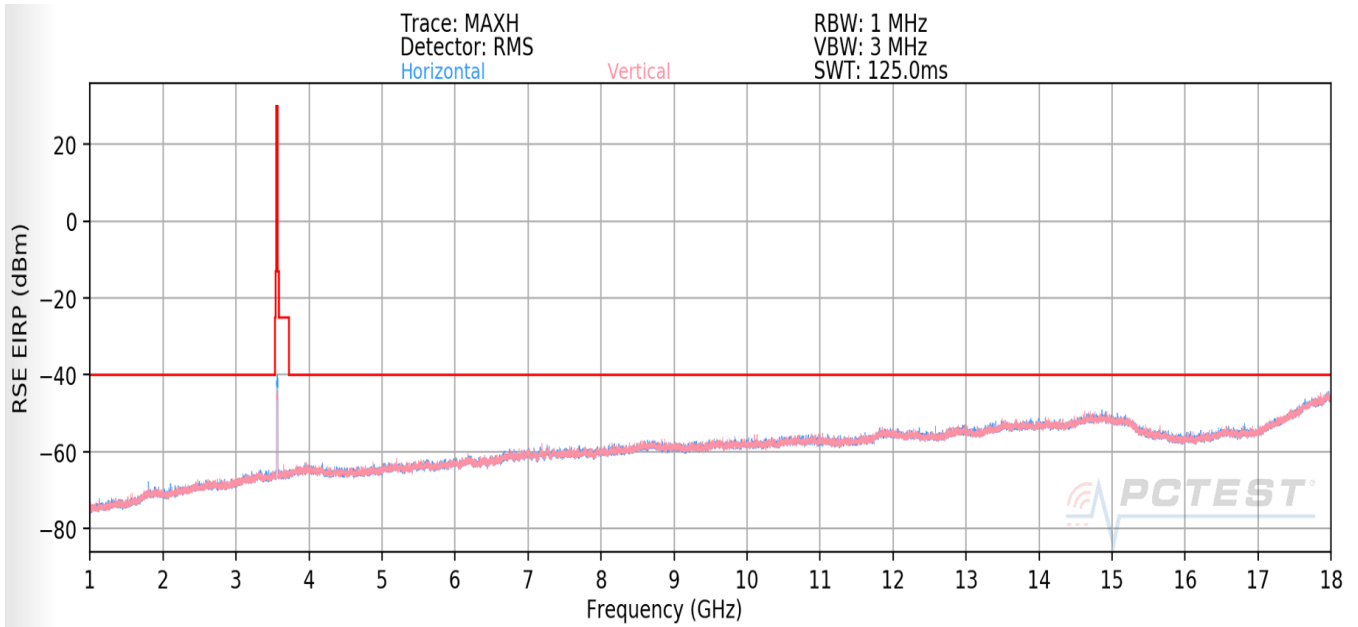


**Plot 8-495. Radiated spurious emission Plot_Vertical 18 GHz to 40 GHz
(LTE_B48_1C_10M_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)		Page 218 of 286

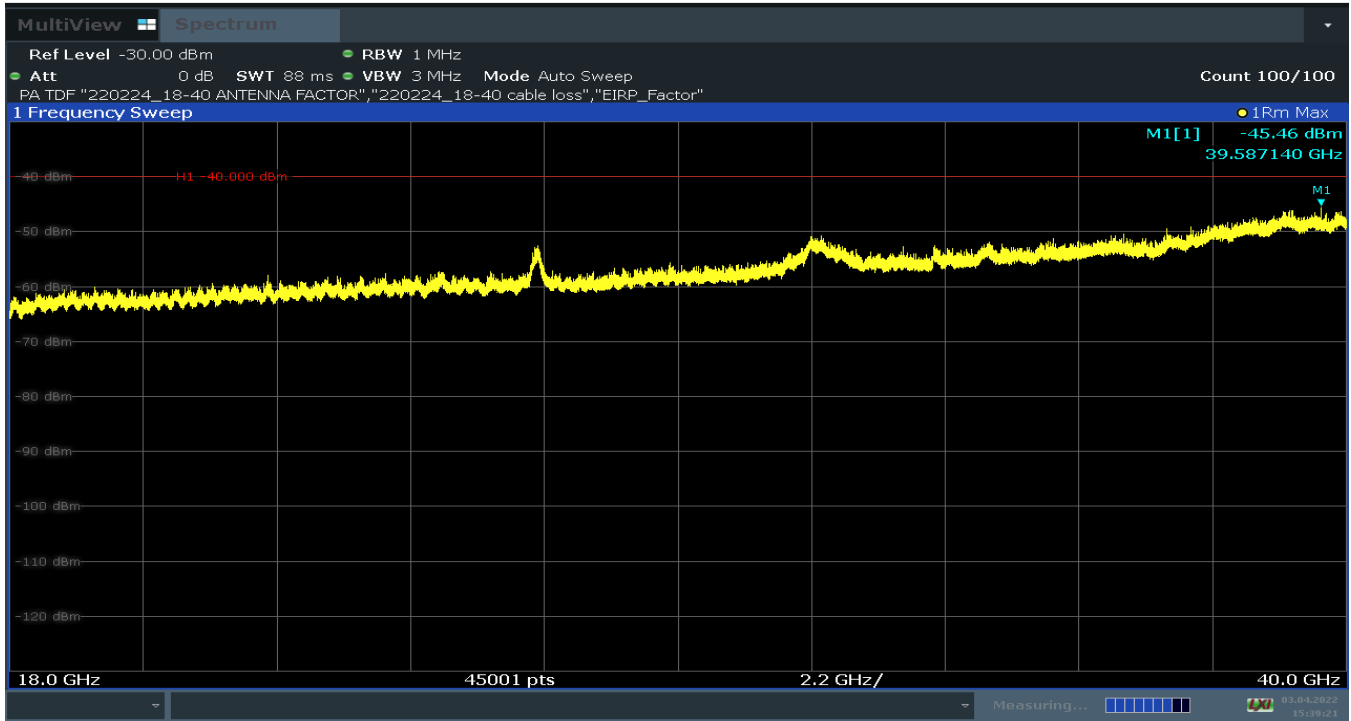


**Plot 8-496. Radiated spurious emission Plot_30 MHz to 1000 MHz
(LTE_B48_1C_20M_QPSK - Low Channel)**

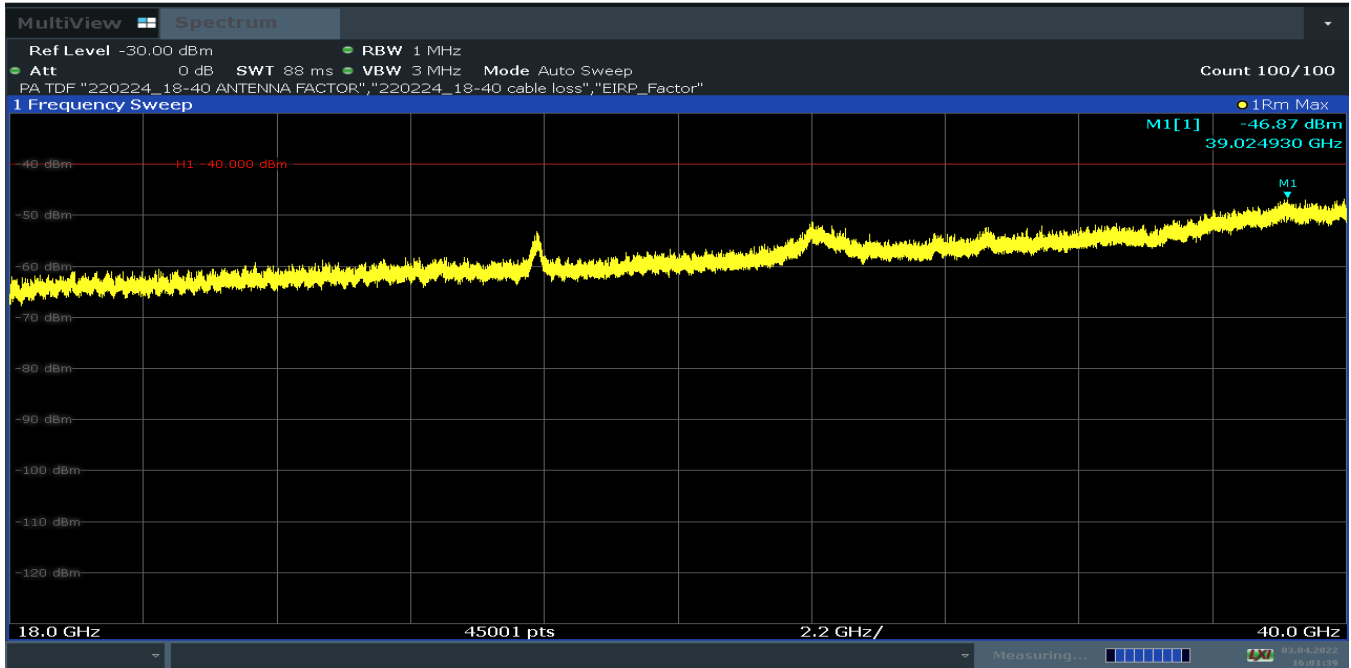


**Plot 8-497. Radiated spurious emission Plot_1 GHz to 18 GHz
(LTE_B48_1C_20M_QPSK - Low Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)		Page 219 of 286

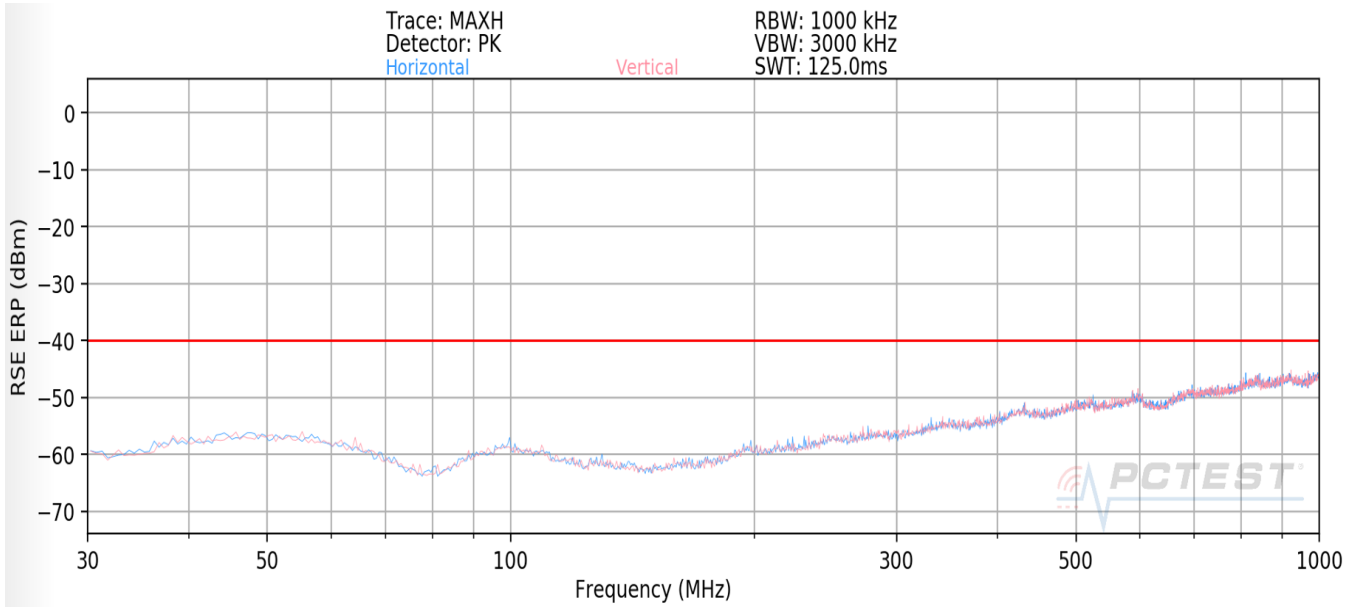


**Plot 8-498. Radiated spurious emission Plot_Horizontal 18 GHz to 40 GHz
(LTE_B48_1C_20M_QPSK - Low Channel)**

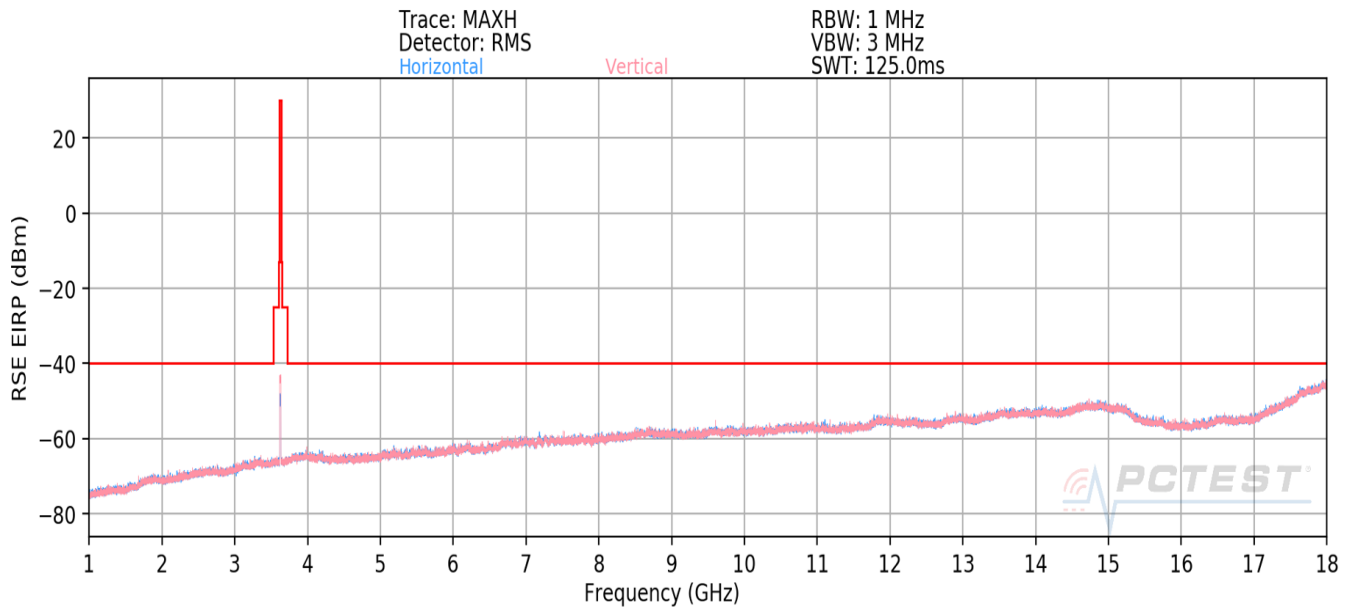


**Plot 8-499. Radiated spurious emission Plot_Vertical 18 GHz to 40 GHz
(LTE_B48_1C_20M_QPSK - Low Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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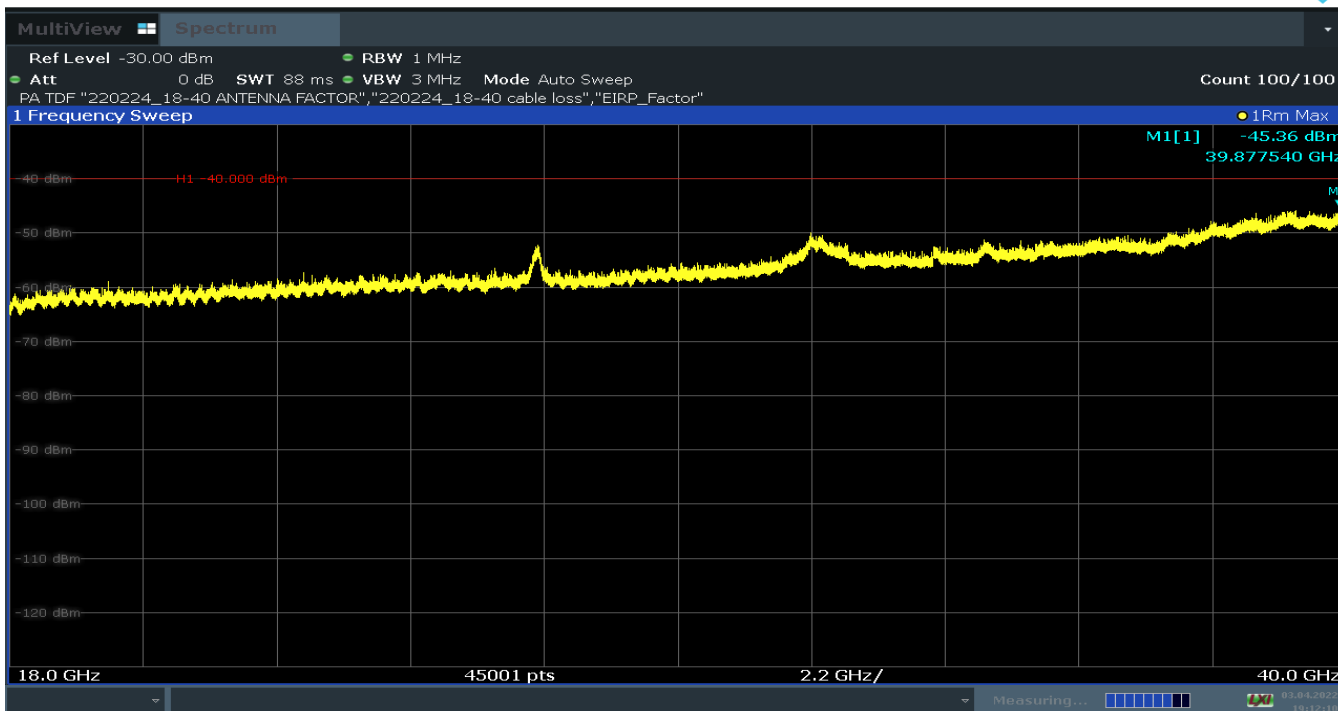


**Plot 8-500. Radiated spurious emission Plot_30 MHz to 1000 MHz
(LTE_B48_1C_20M_QPSK - Mid Channel)**

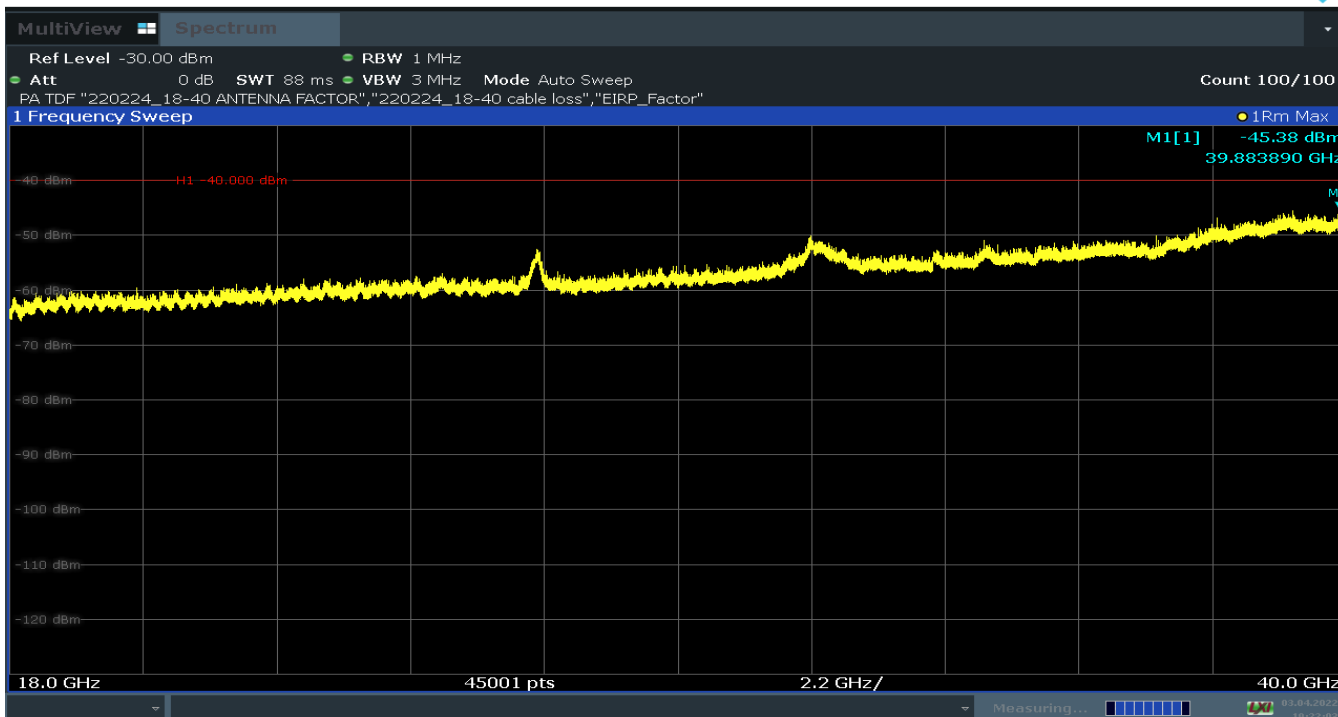


**Plot 8-501. Radiated spurious emission Plot_1 GHz to 18 GHz
(LTE_B48_1C_20M_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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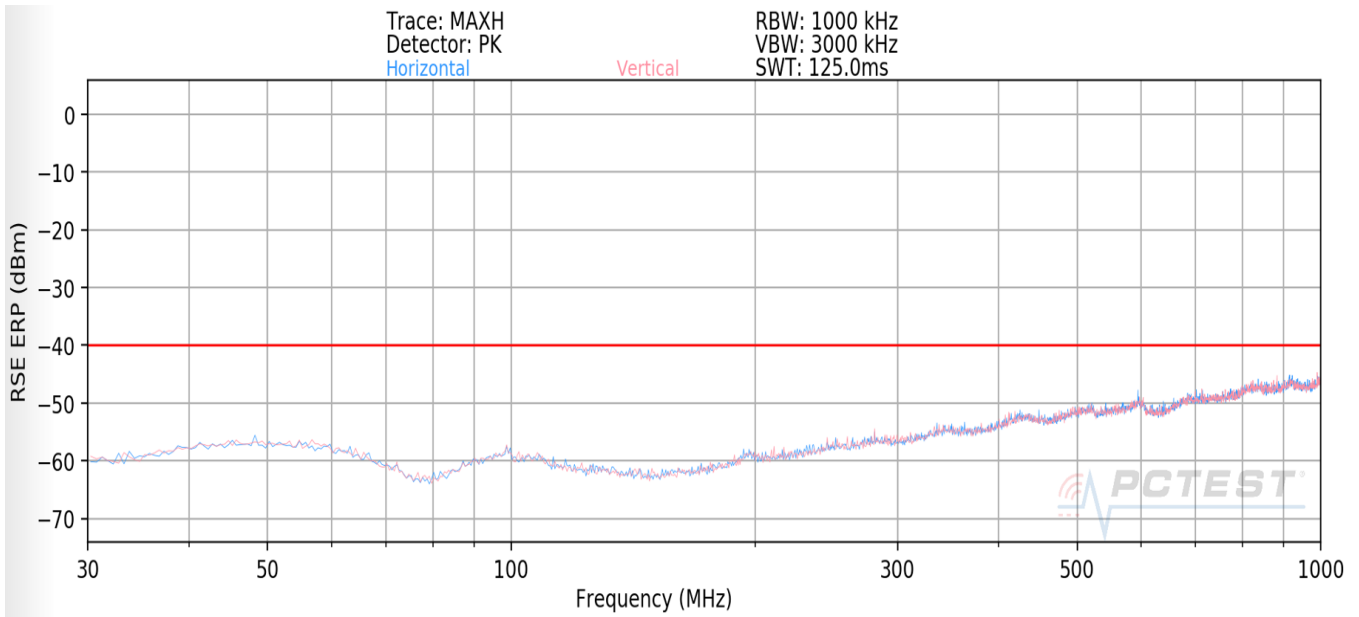


**Plot 8-502. Radiated spurious emission Plot_Horizontal 18 GHz to 40 GHz
(LTE_B48_1C_20M_QPSK - Mid Channel)**

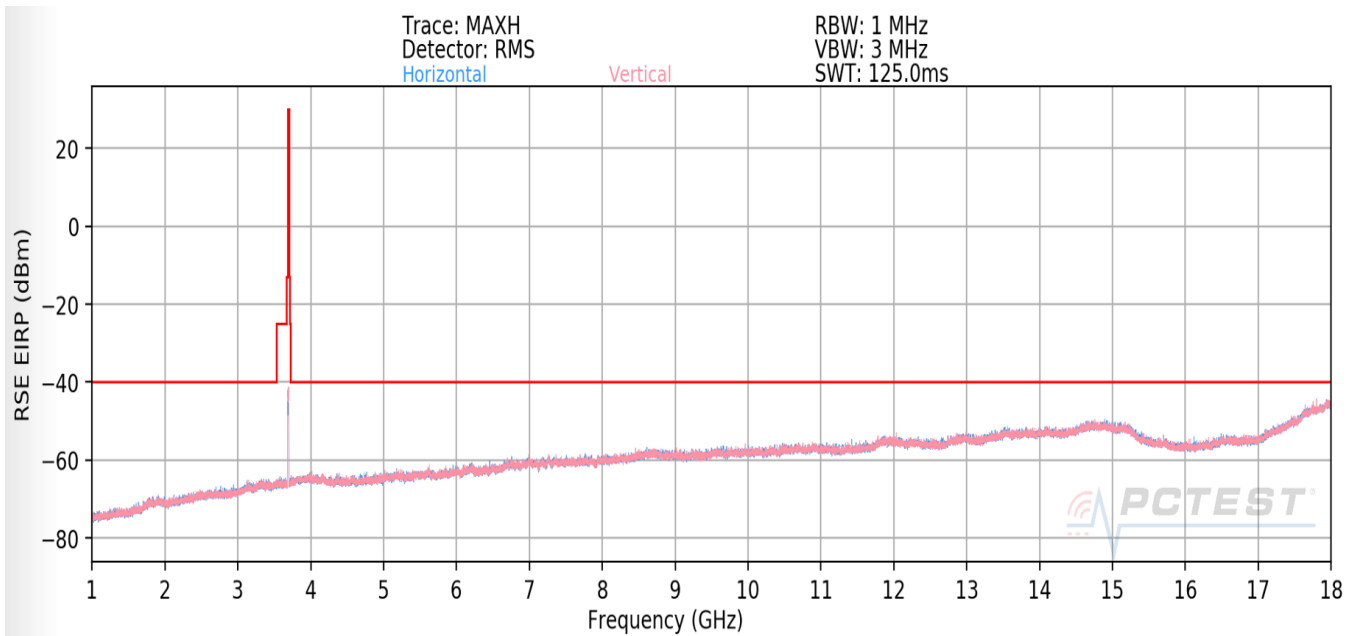


**Plot 8-503. Radiated spurious emission Plot_Vertical 18 GHz to 40 GHz
(LTE_B48_1C_20M_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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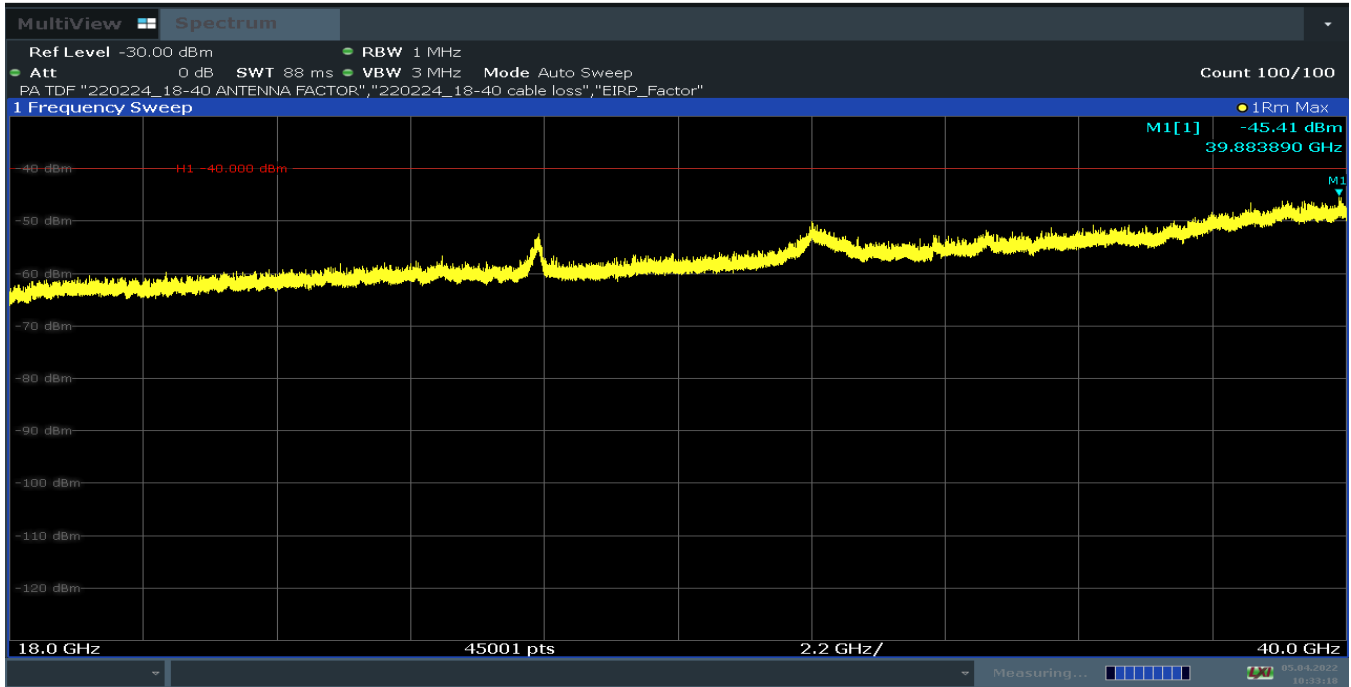


**Plot 8-504. Radiated spurious emission Plot_30 MHz to 1000 MHz
(LTE_B48_1C_20M_QPSK - High Channel)**

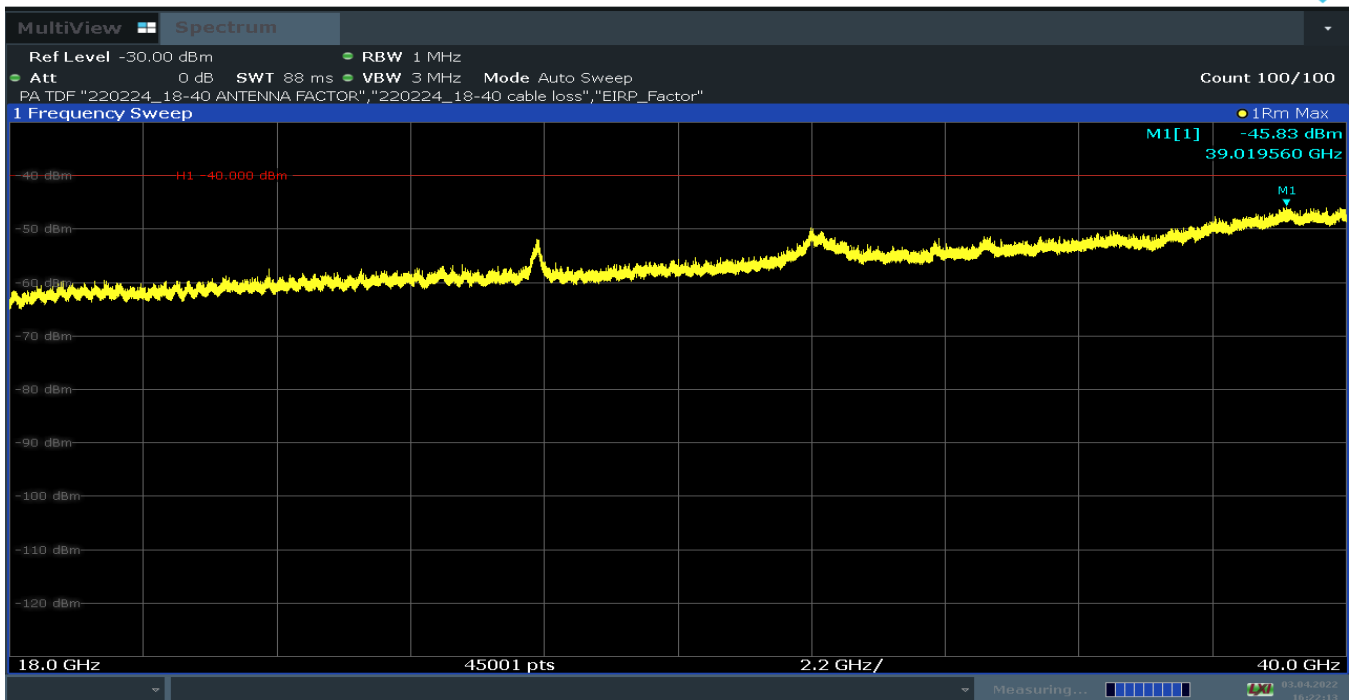


**Plot 8-505. Radiated spurious emission Plot_1 GHz to 18 GHz
(LTE_B48_1C_20M_QPSK - High Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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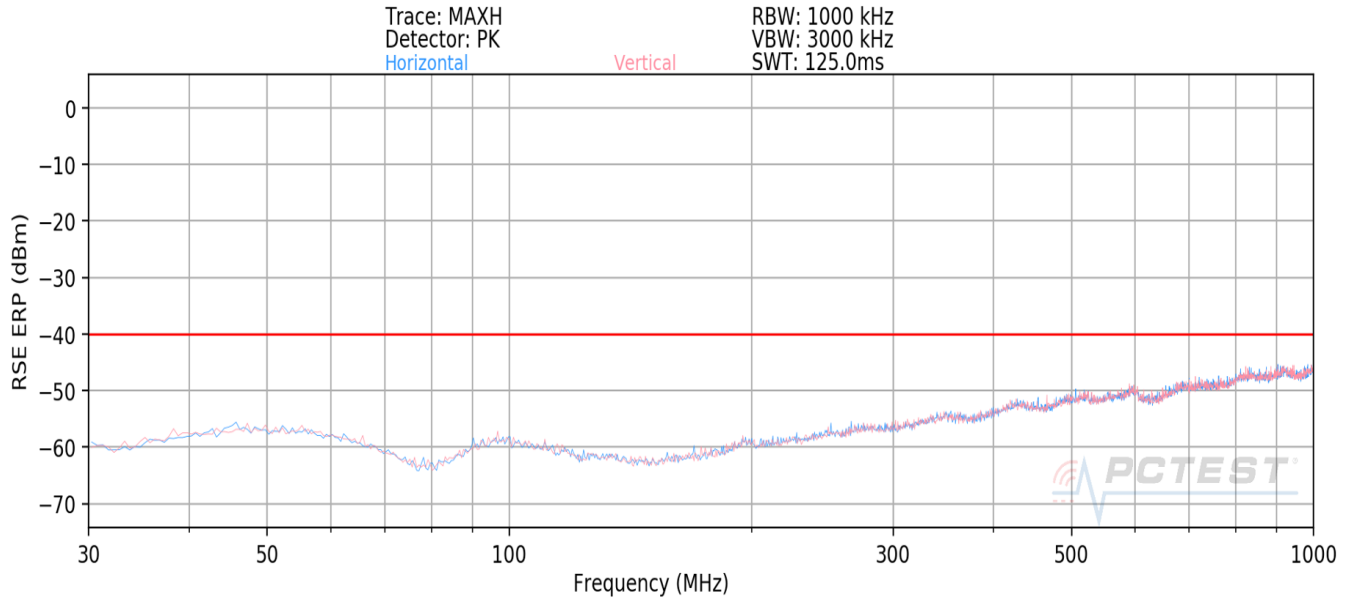


**Plot 8-506. Radiated spurious emission Plot_Horizontal 18 GHz to 40 GHz
(LTE_B48_1C_20M_QPSK - High Channel)**

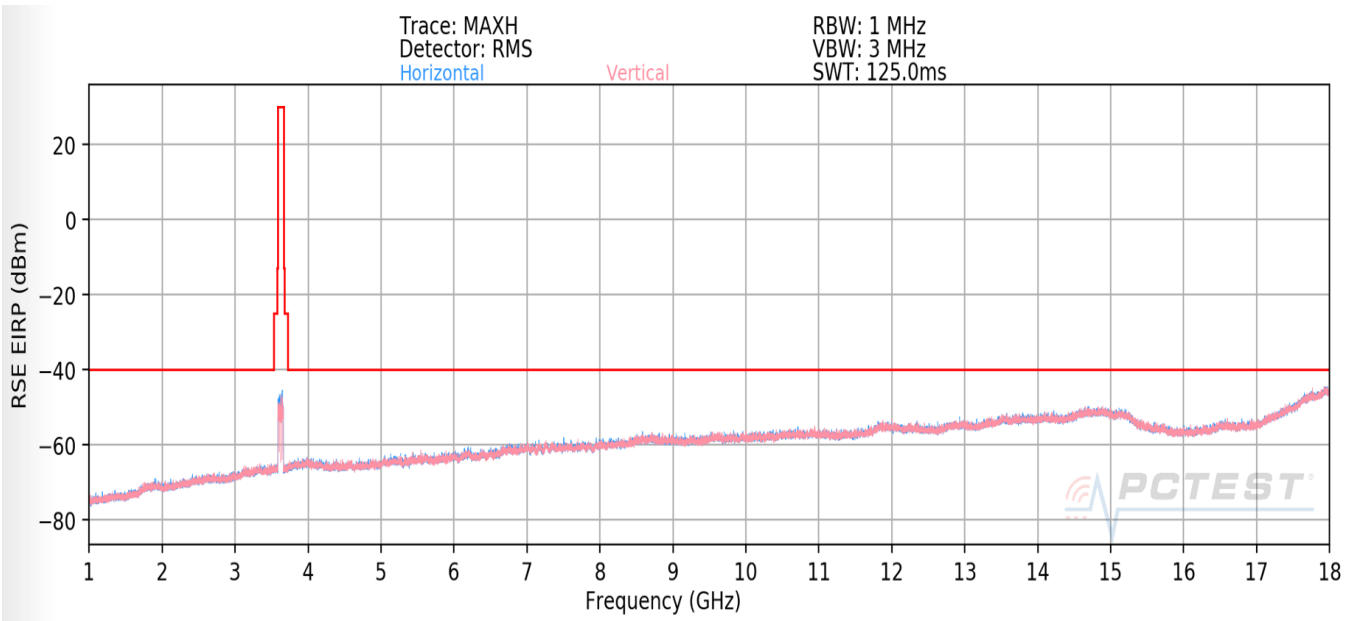


**Plot 8-507. Radiated spurious emission Plot_Vertical 18 GHz to 40 GHz
(LTE_B48_1C_20M_QPSK - High Channel)**

FCC: A3LRT4401-48A1	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)		Page 224 of 286

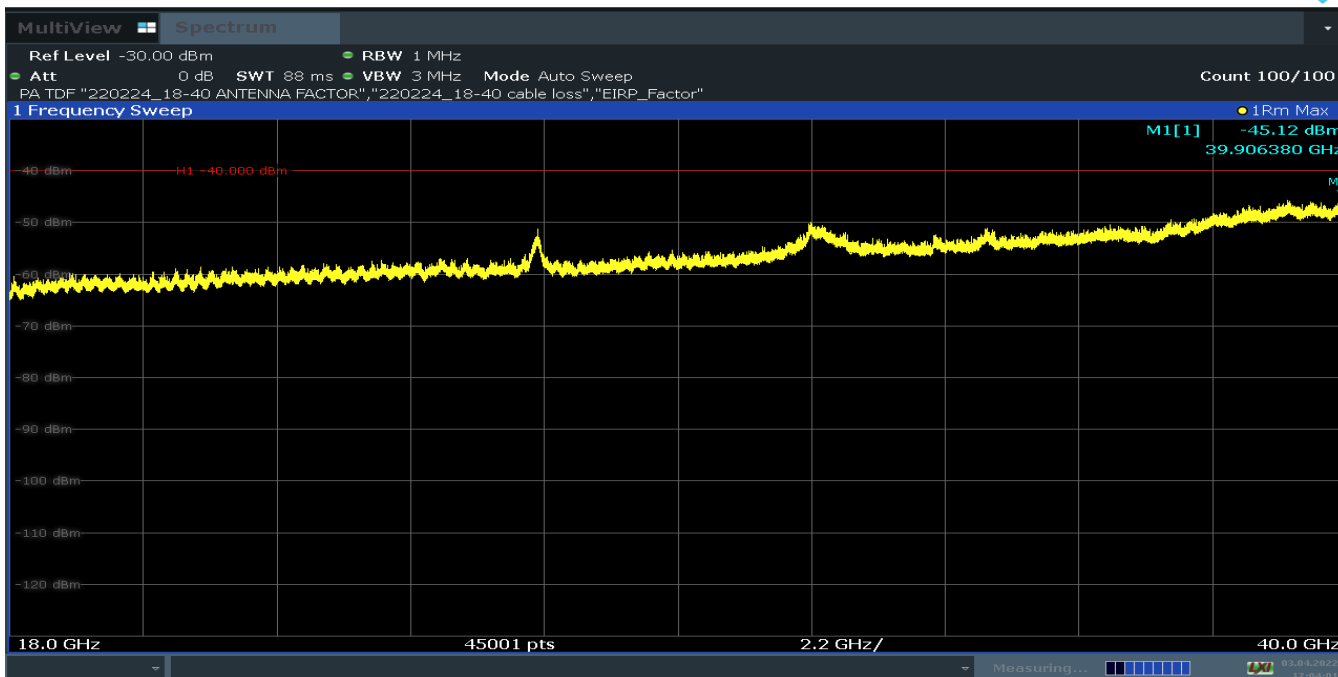


**Plot 8-508. Radiated spurious emission Plot_30 MHz to 1000 MHz
(LTE_B48_4C_20M+20M+20M+20M_QPSK - Mid Channel)**

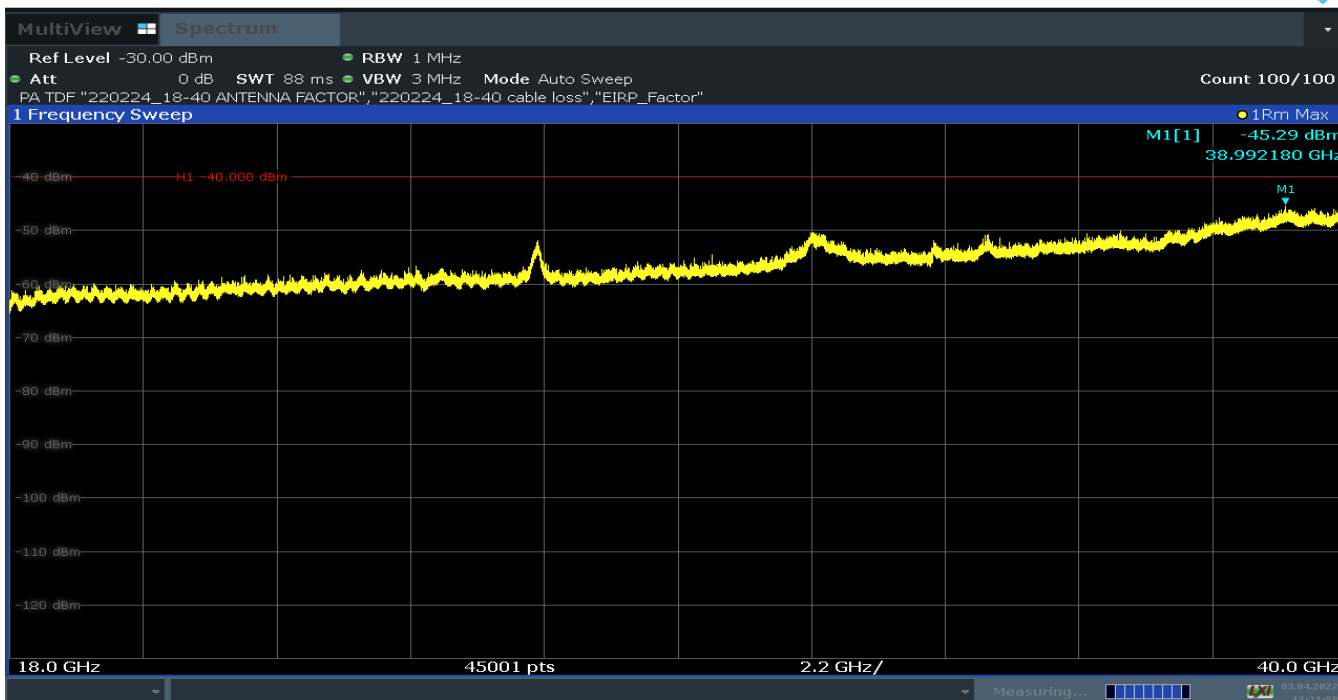


**Plot 8-509. Radiated spurious emission Plot_1 GHz to 18 GHz
(LTE_B48_4C_20M+20M+20M+20M_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)		Page 225 of 286



**Plot 8-510. Radiated spurious emission Plot_Horizontal 18 GHz to 40 GHz
(LTE_B48_4C_20M+20M+20M+20M_QPSK - Mid Channel)**



**Plot 8-511. Radiated spurious emission Plot_Vertical 18 GHz to 40 GHz
(LTE_B48_4C_20M+20M+20M+20M_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)		Page 226 of 286

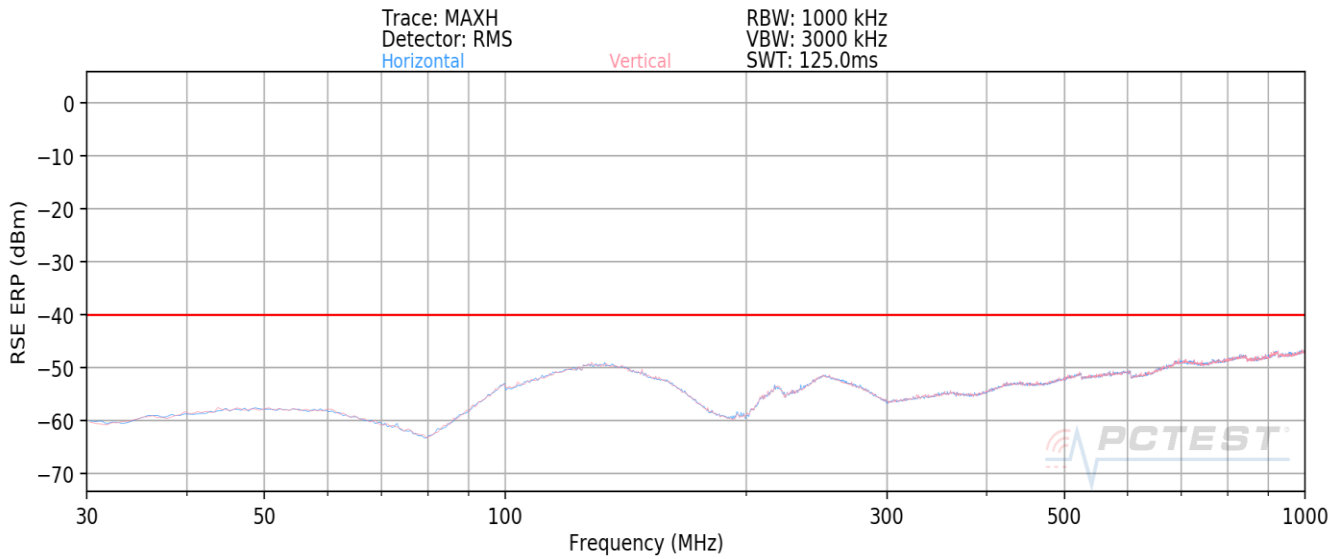
30 MHz – 40 GHz

Bandwidth (MHz):	Single Band_LTE_B48_1C_20M_Middle Channel
Frequency (MHz):	3625 MHz
Modulation Signal:	QPSK

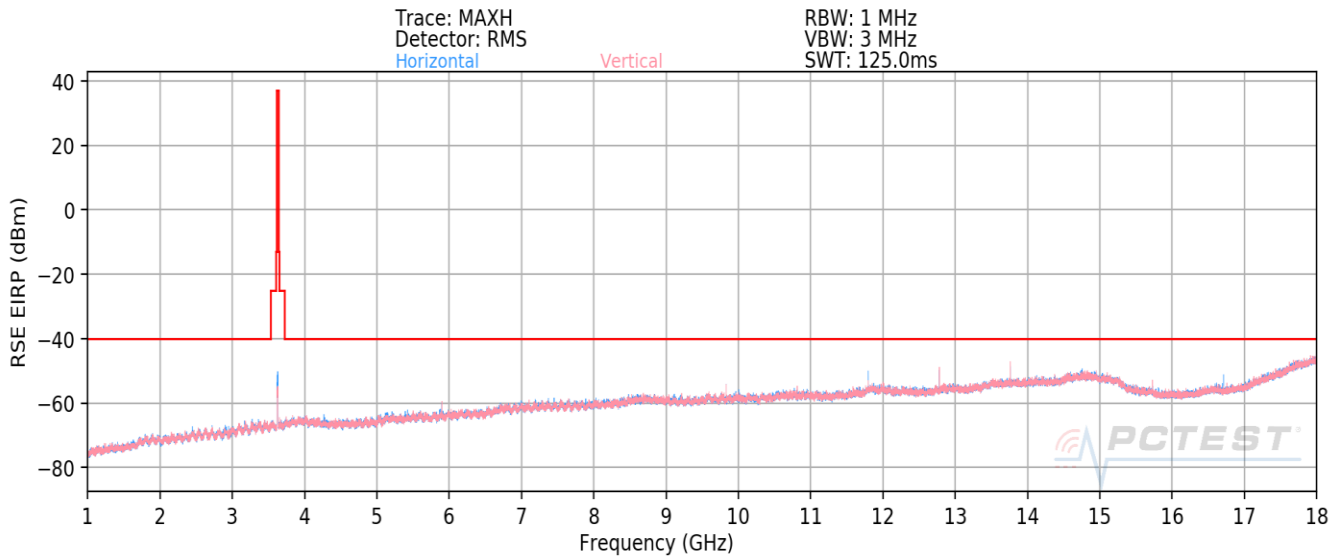
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Heigh [cm]	Turntable azimuth [degree]	Analyzer Level [dBm/MHz]	AFCL [dBm]	Field Strength [dBμV/m]	RSE EIRP [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
993.25	H	150	40	-85.47	26.04	46.90	-47.56	-40.00	-7.56
994.42	V	120	80	-85.62	26.05	47.23	-47.23	-40.00	-7.23
17898.85	H	120	55	-83.39	23.31	47.24	-47.21	-40.00	-7.21
17897.96	V	140	160	-83.24	23.30	47.39	-47.06	-40.00	-7.06

**Table 8-105. Radiated spurious emission Summary Data
(Single Band_LTE_B48_1C_20M_Middle Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)	Page 227 of 286	

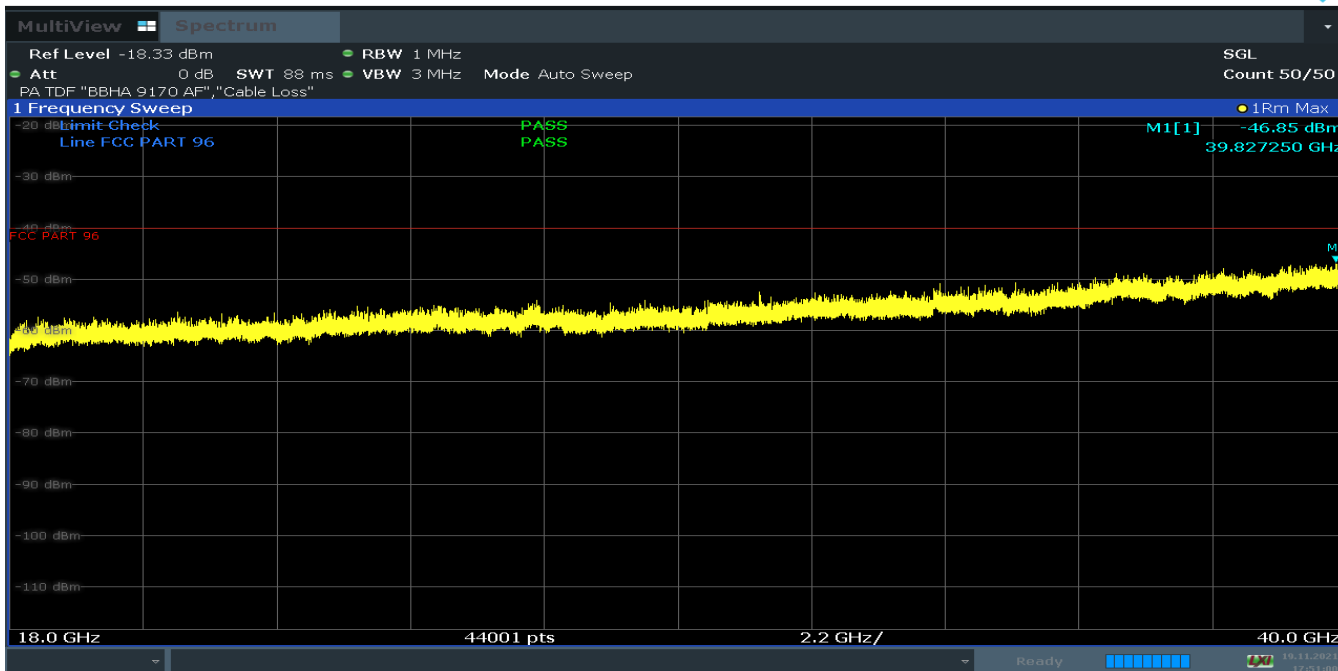


**Plot 8-512. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n48_1C_20M_QPSK - Mid Channel)**

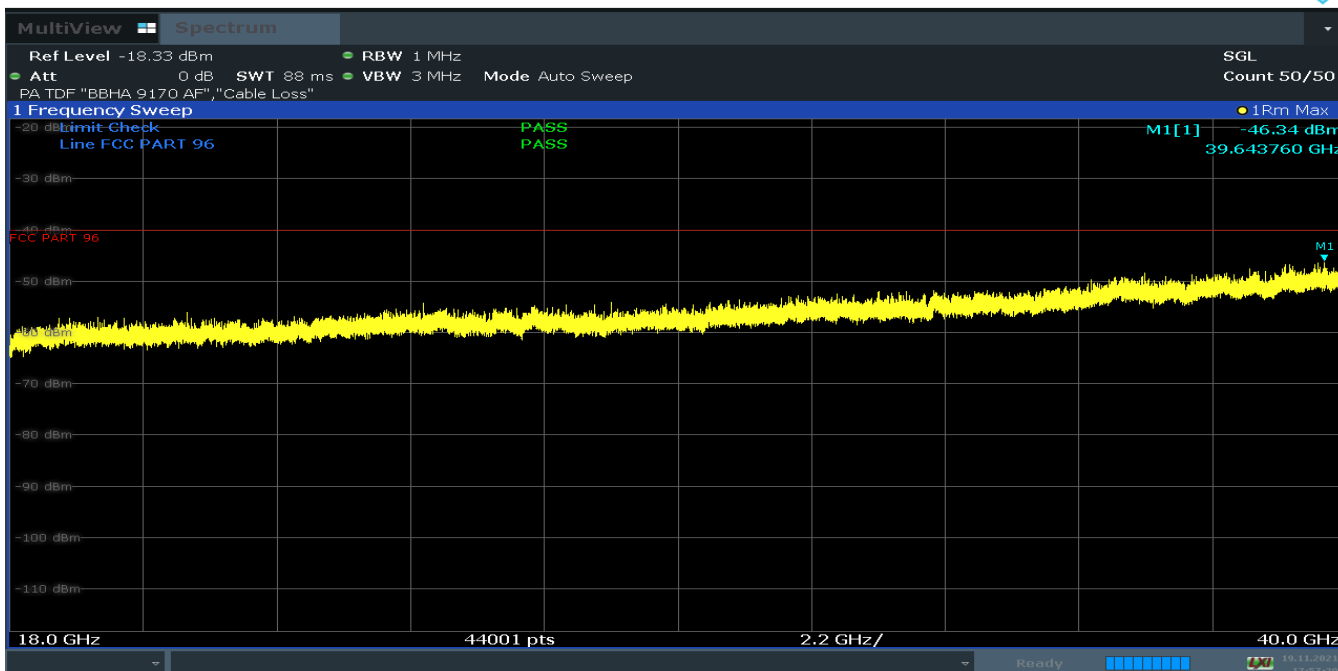


**Plot 8-513. Radiated spurious emission Plot_1 GHz to 18 GHz
(NR_n48_1C_20M_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)	Page 228 of 286	

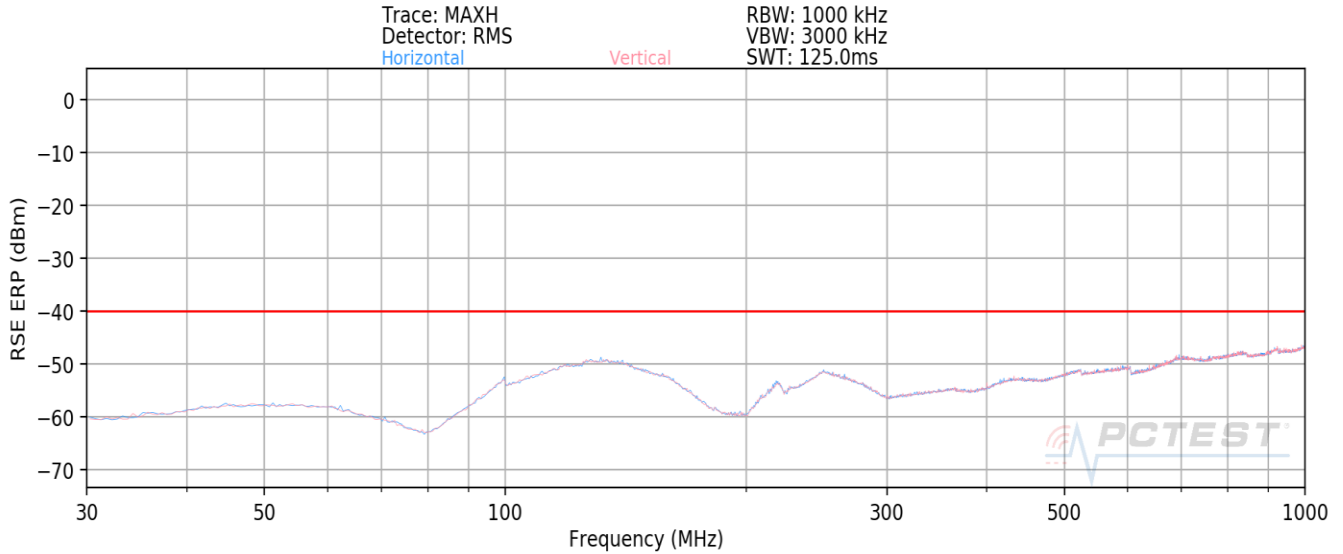


**Plot 8-514. Radiated spurious emission Plot_Horizontal 18 GHz to 40 GHz
(NR_n48_1C_20M_QPSK - Mid Channel)**

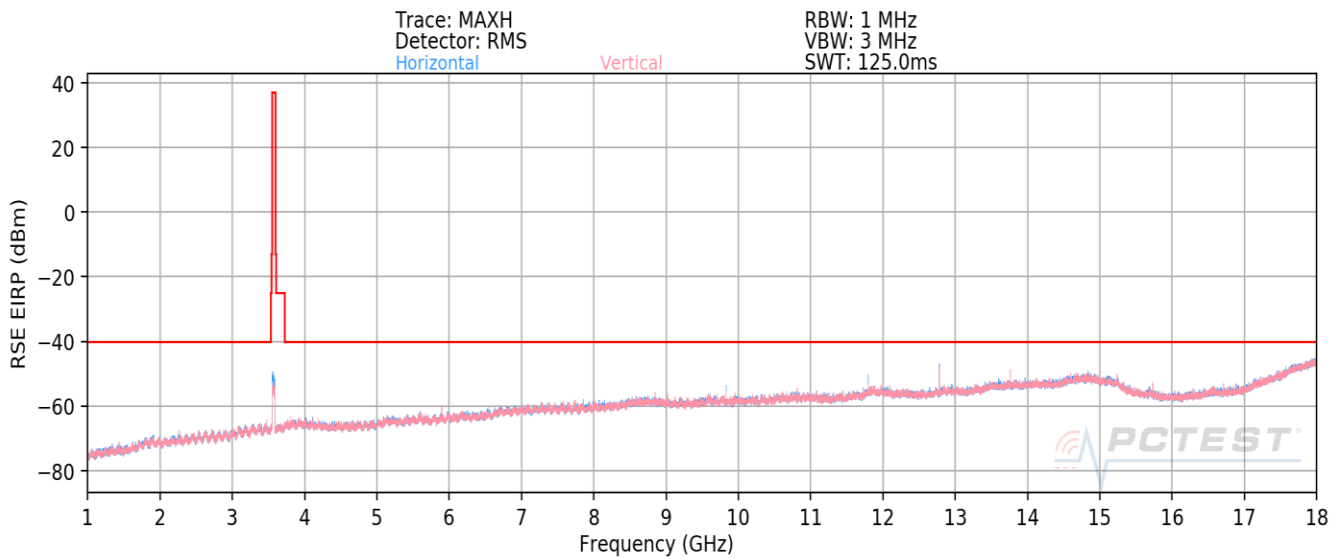


**Plot 8-515. Radiated spurious emission Plot_Vertical 18 GHz to 40 GHz
(NR_n48_1C_20M_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)		Page 229 of 286

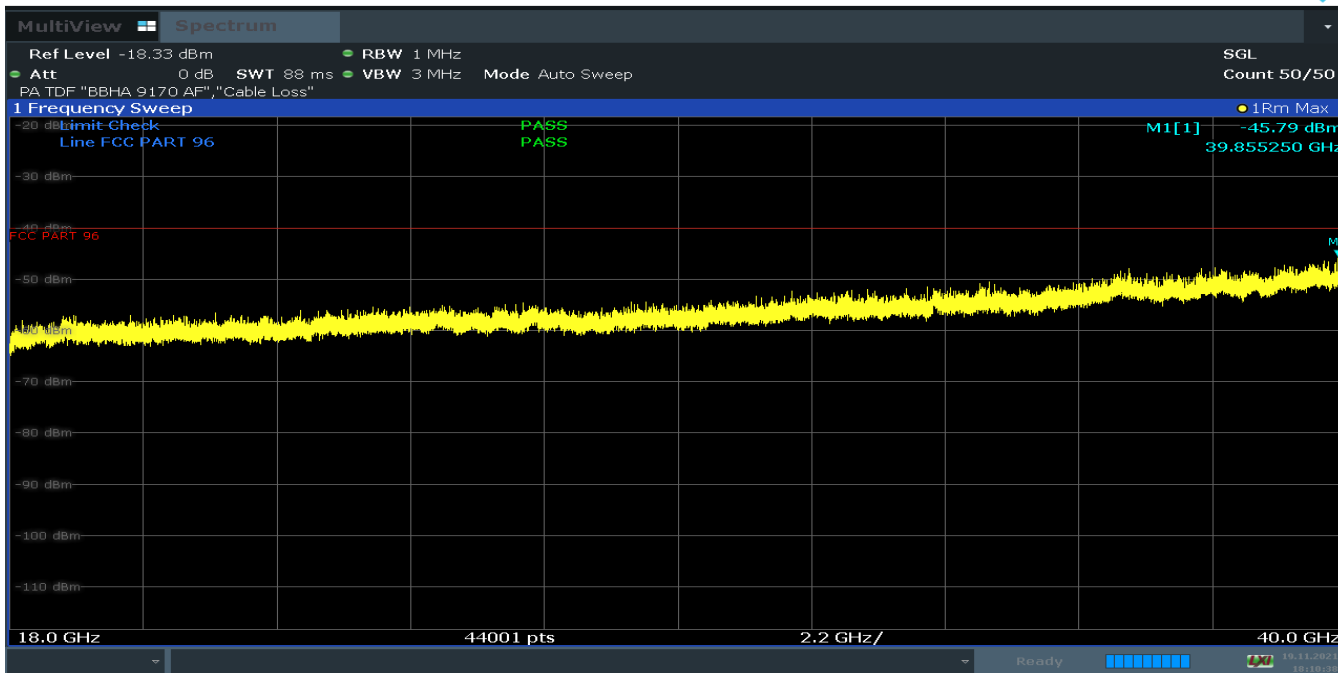


**Plot 8-516. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n48_1C_40M_QPSK - Low Channel)**

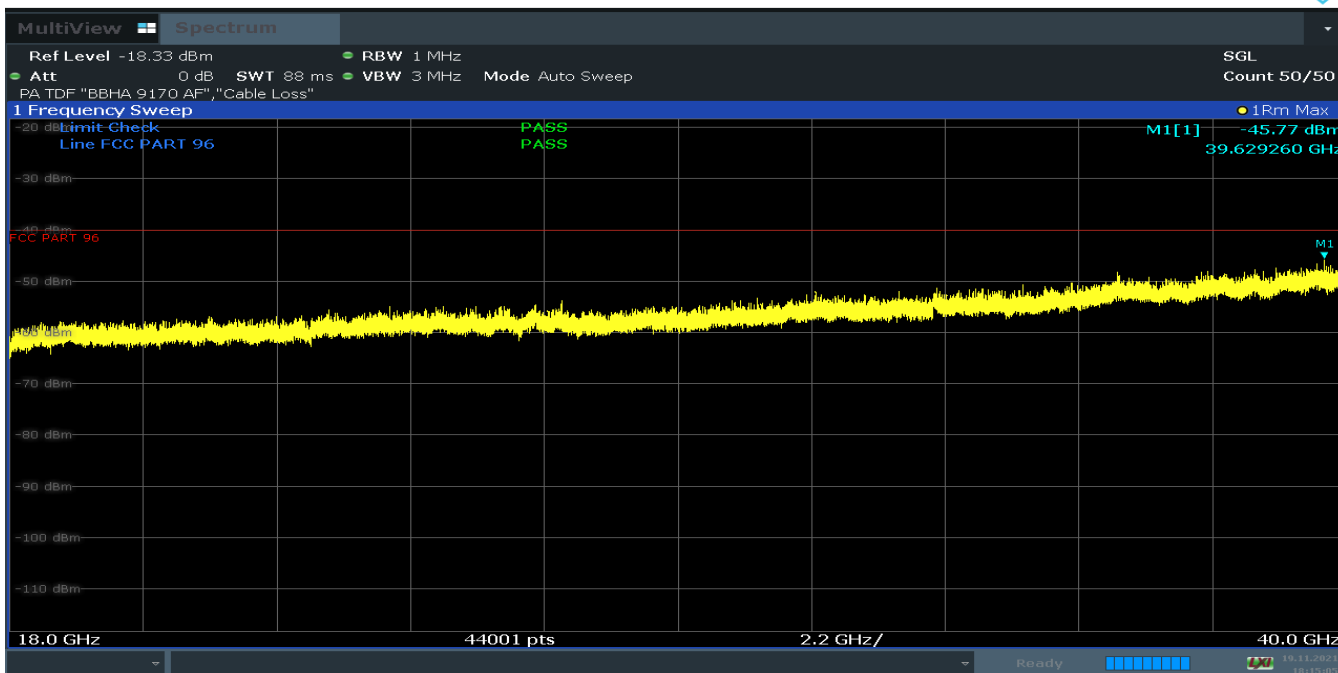


**Plot 8-517. Radiated spurious emission Plot_1 GHz to 18 GHz
(NR_n48_1C_40M_QPSK - Low Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)	 Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)	Page 230 of 286

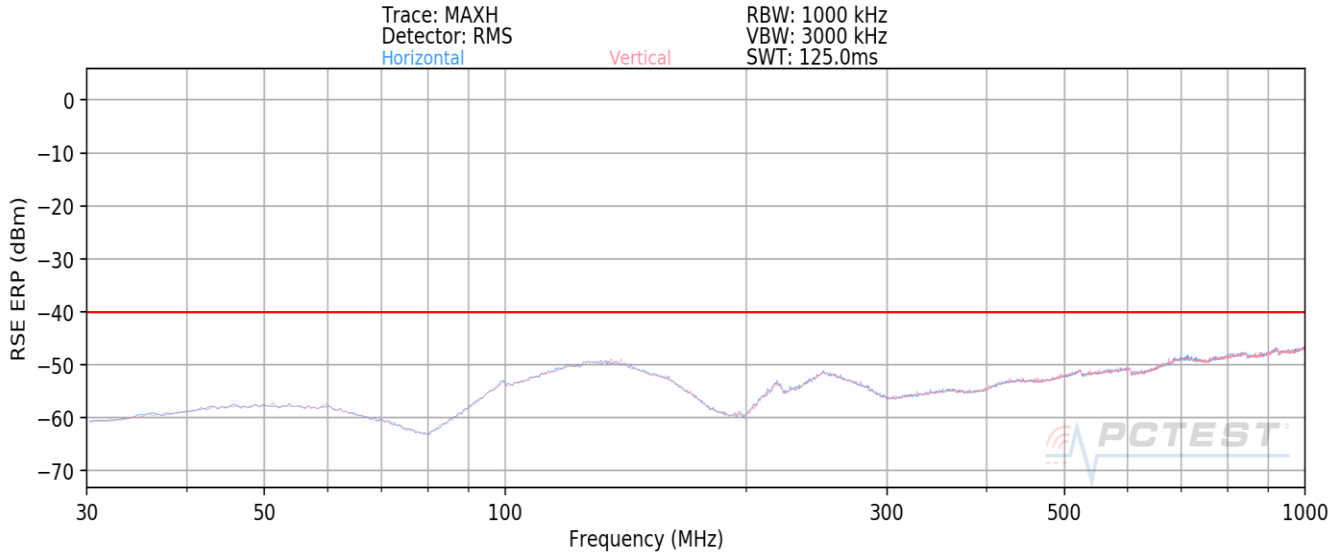


**Plot 8-518. Radiated spurious emission Plot_Horizontal 18 GHz to 40 GHz
(NR_n48_1C_40M_QPSK - Low Channel)**

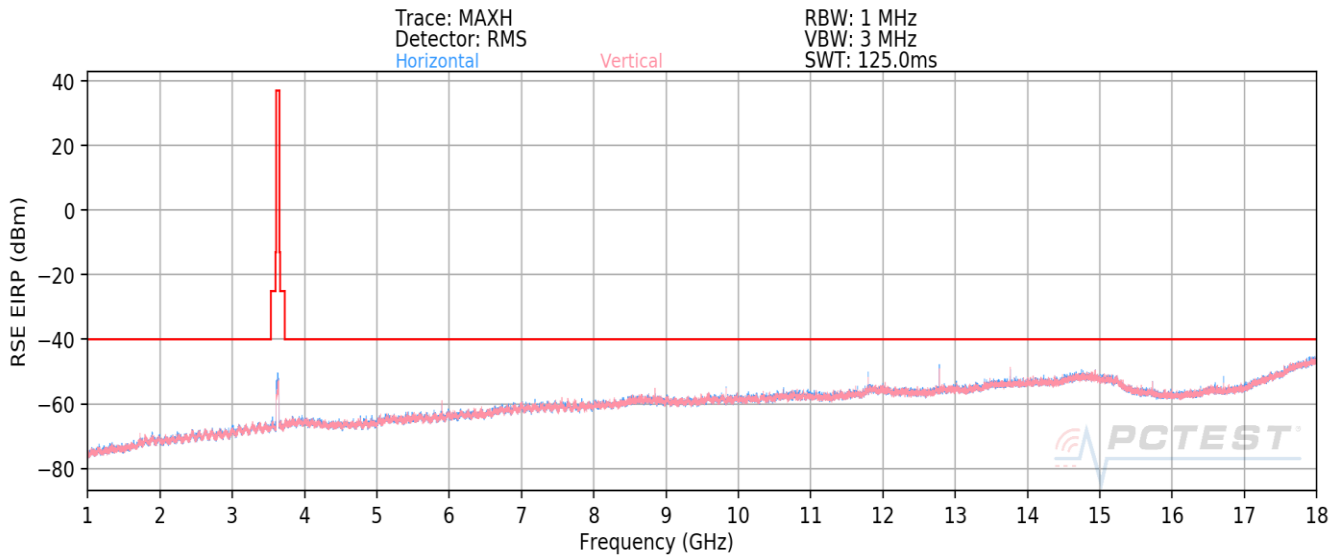


**Plot 8-519. Radiated spurious emission Plot_Vertical 18 GHz to 40 GHz
(NR_n48_1C_40M_QPSK - Low Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)	Page 231 of 286	

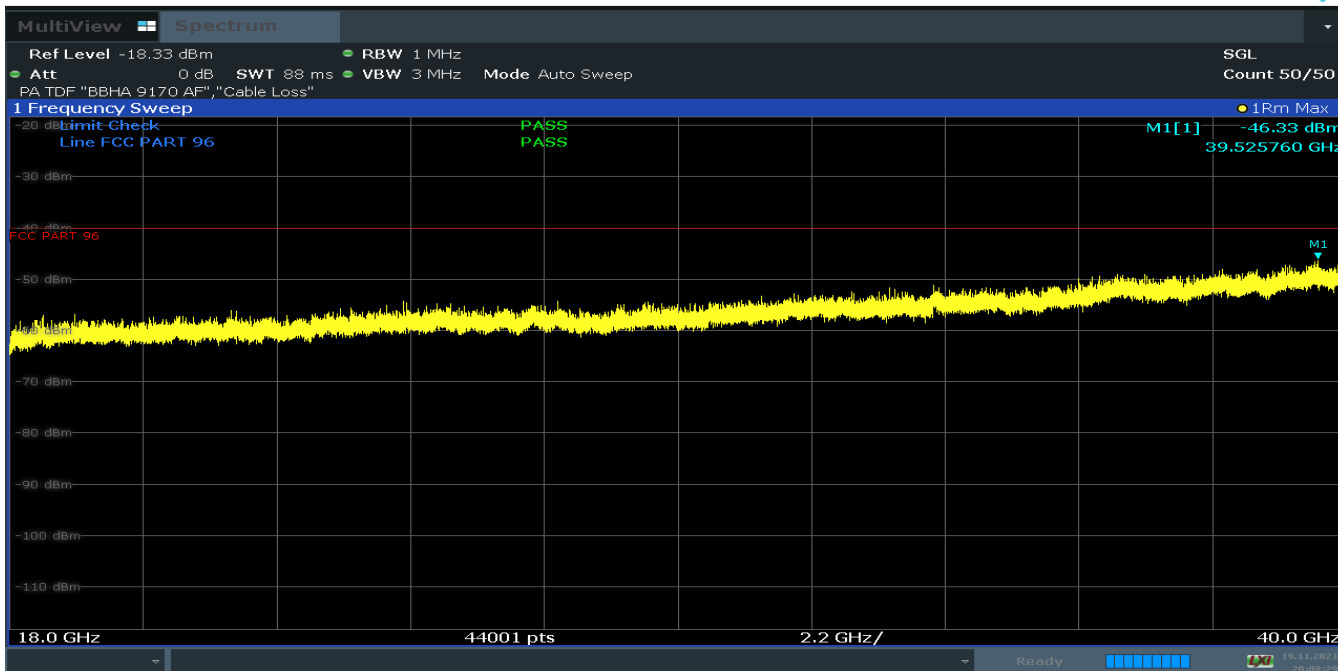


**Plot 8-520. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n48_1C_40M_QPSK - Mid Channel)**

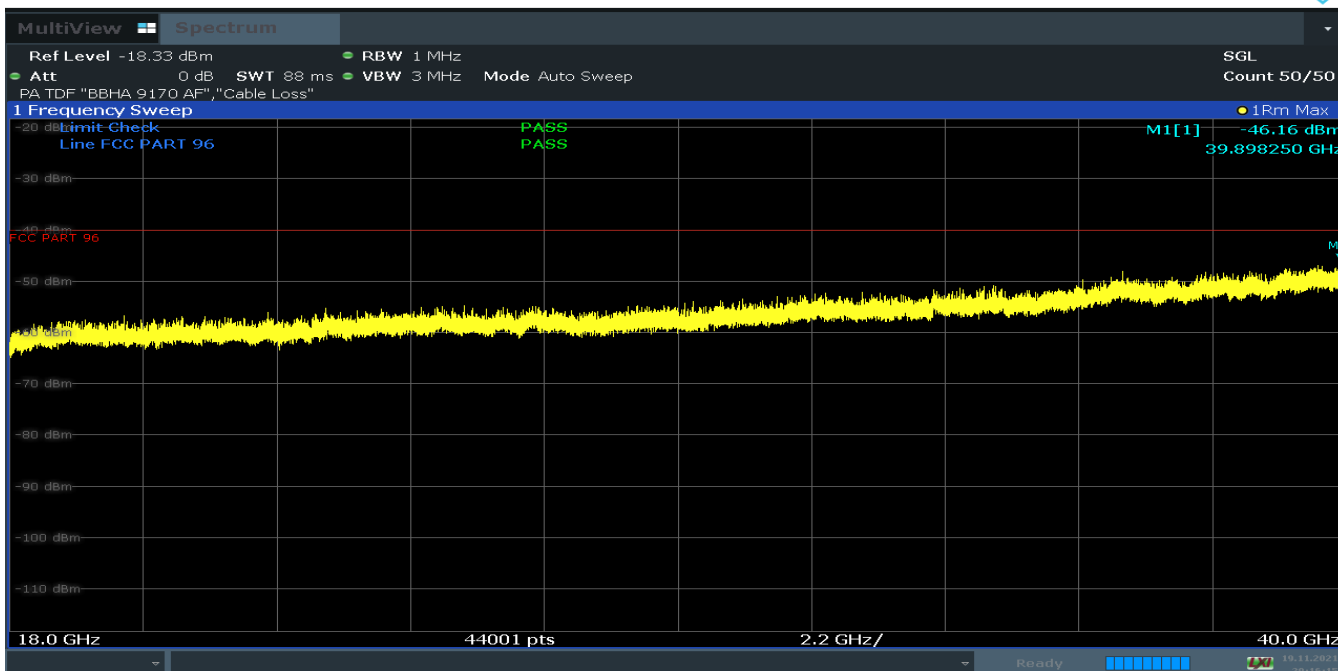


**Plot 8-521. Radiated spurious emission Plot_1 GHz to 18 GHz
(NR_n48_1C_40M_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)	 Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)	Page 232 of 286

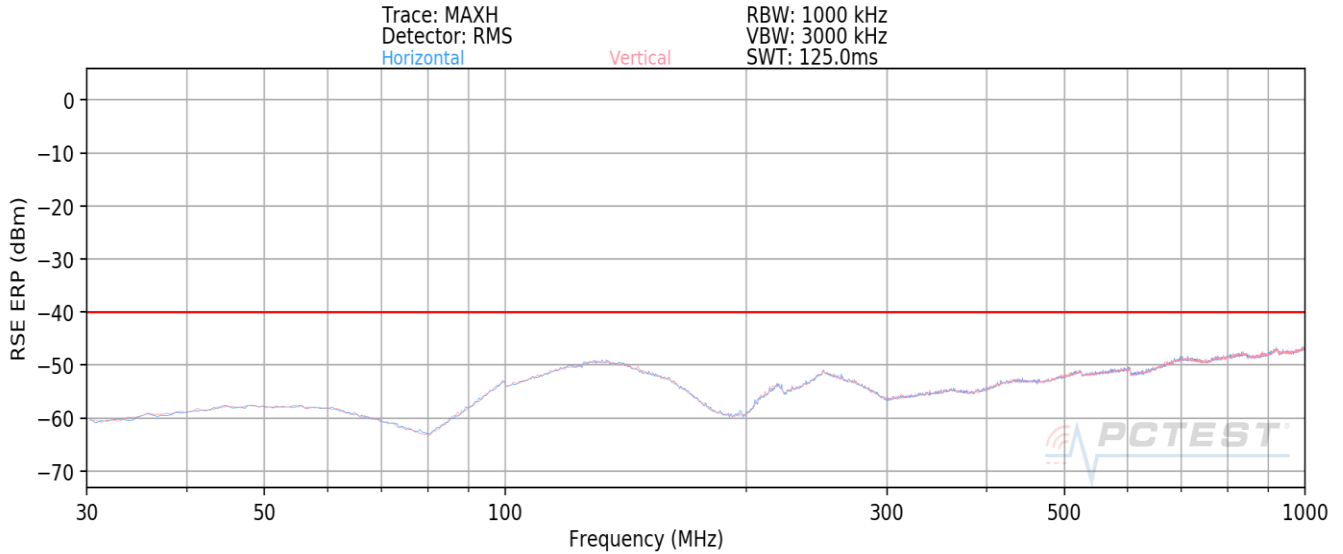


**Plot 8-522. Radiated spurious emission Plot_Horizontal 18 GHz to 40 GHz
(NR_n48_1C_40M_QPSK - Mid Channel)**

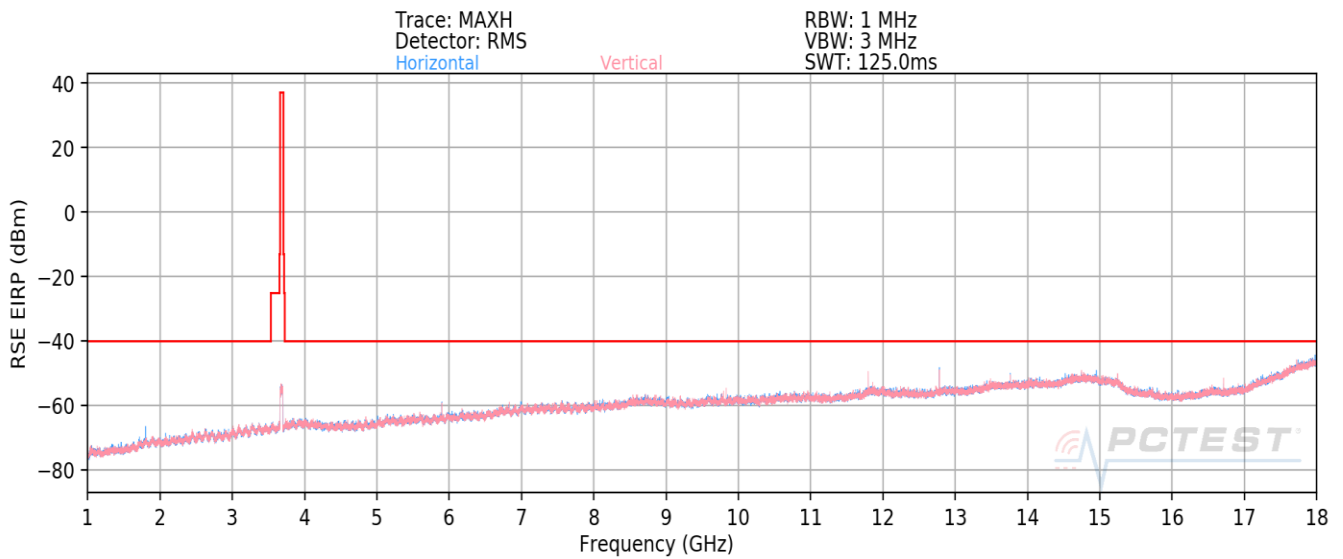


**Plot 8-523. Radiated spurious emission Plot_Vertical 18 GHz to 40 GHz
(NR_n48_1C_40M_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)	Page 233 of 286	

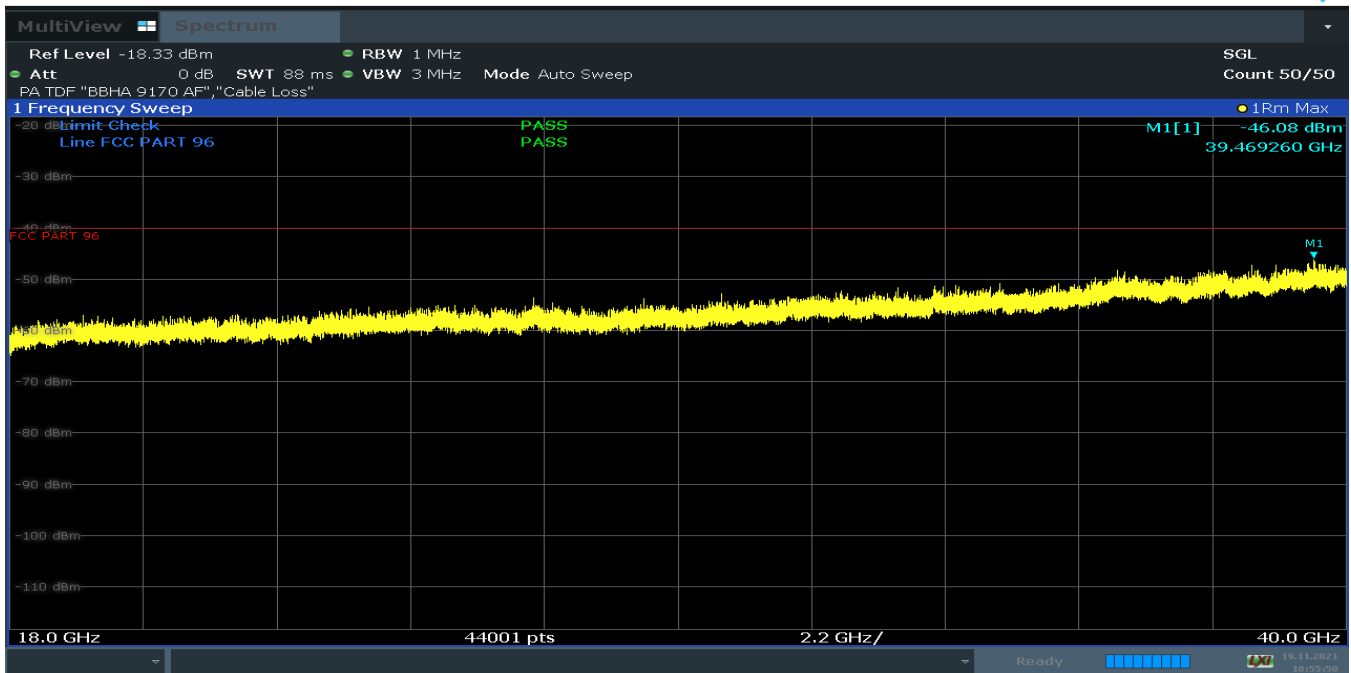


**Plot 8-524. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n48_1C_40M_QPSK - High Channel)**

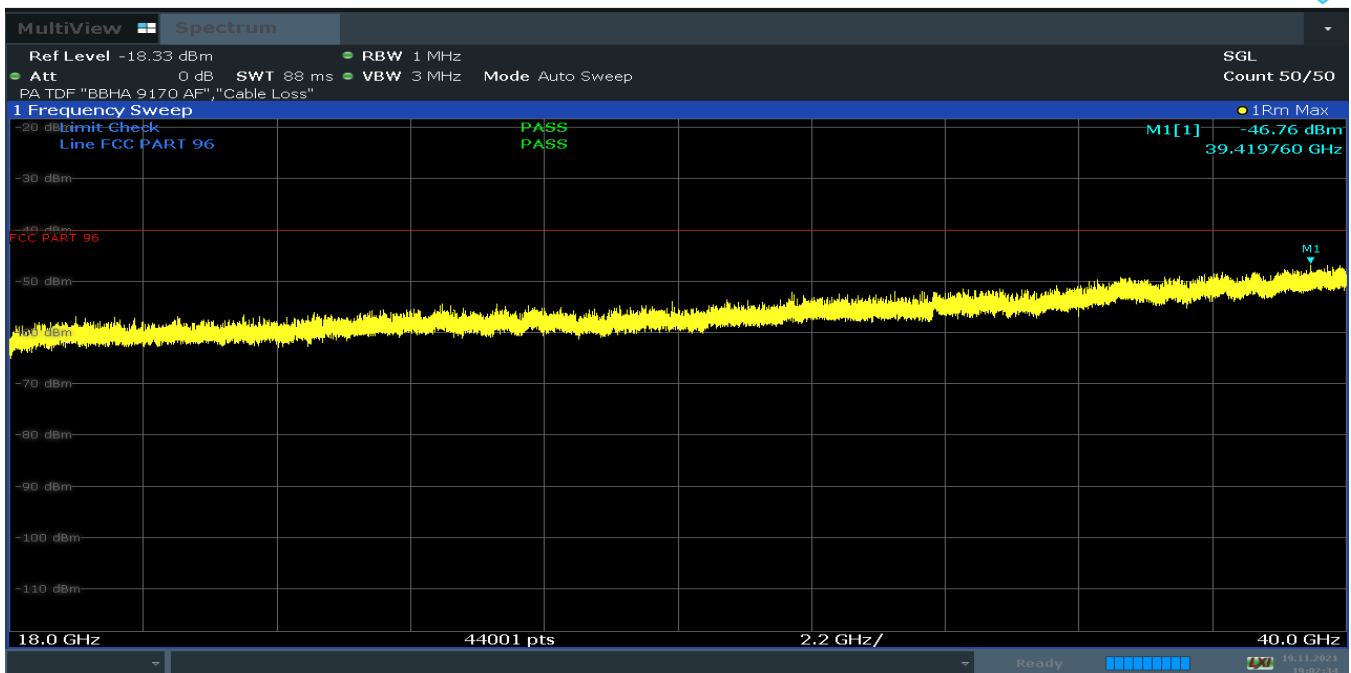


**Plot 8-525. Radiated spurious emission Plot_1 GHz to 18 GHz
(NR_n48_1C_40M_QPSK - High Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)	 Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)	Page 234 of 286

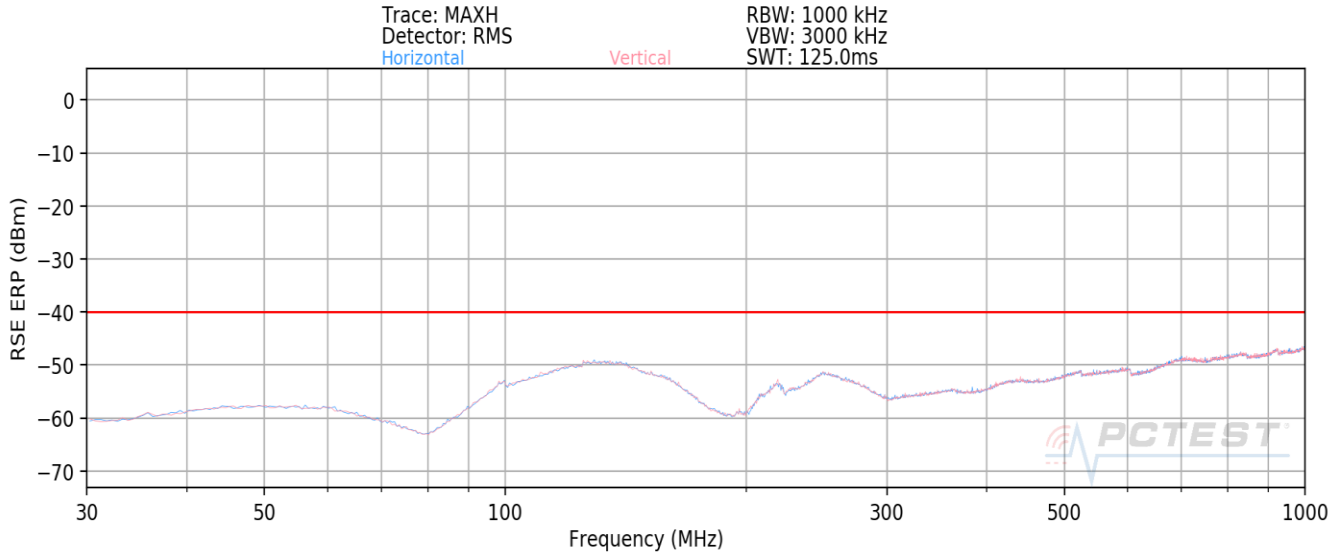


**Plot 8-526. Radiated spurious emission Plot_Horizontal 18 GHz to 40 GHz
(NR_n48_1C_40M_QPSK - High Channel)**

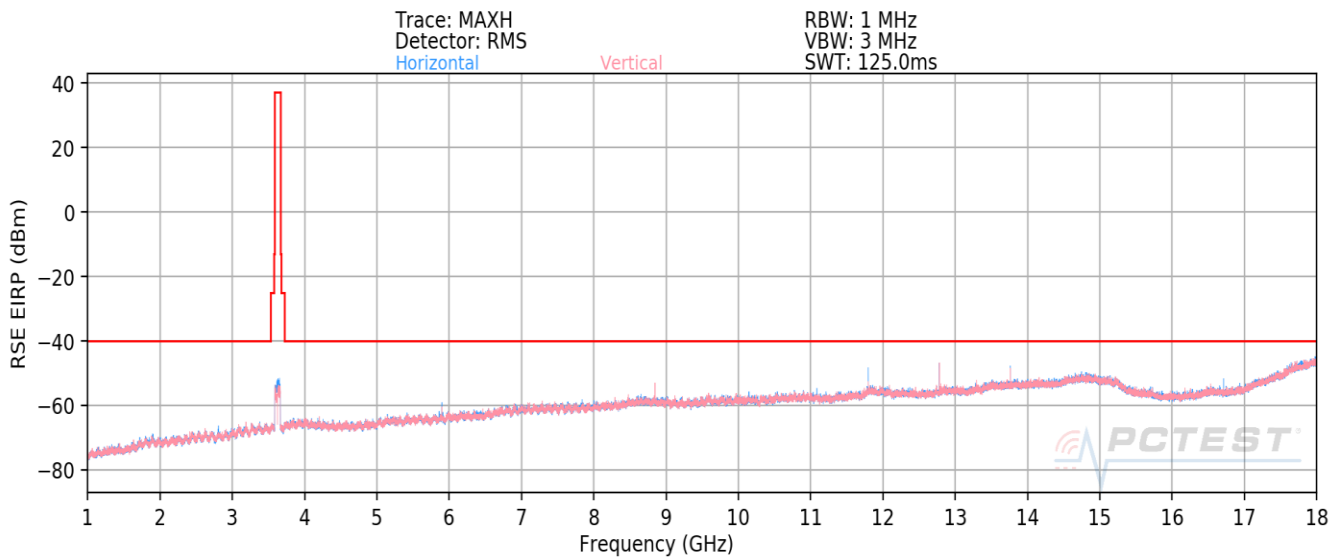


**Plot 8-527. Radiated spurious emission Plot_Vertical 18 GHz to 40 GHz
(NR_n48_1C_40M_QPSK - High Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)	Page 235 of 286	

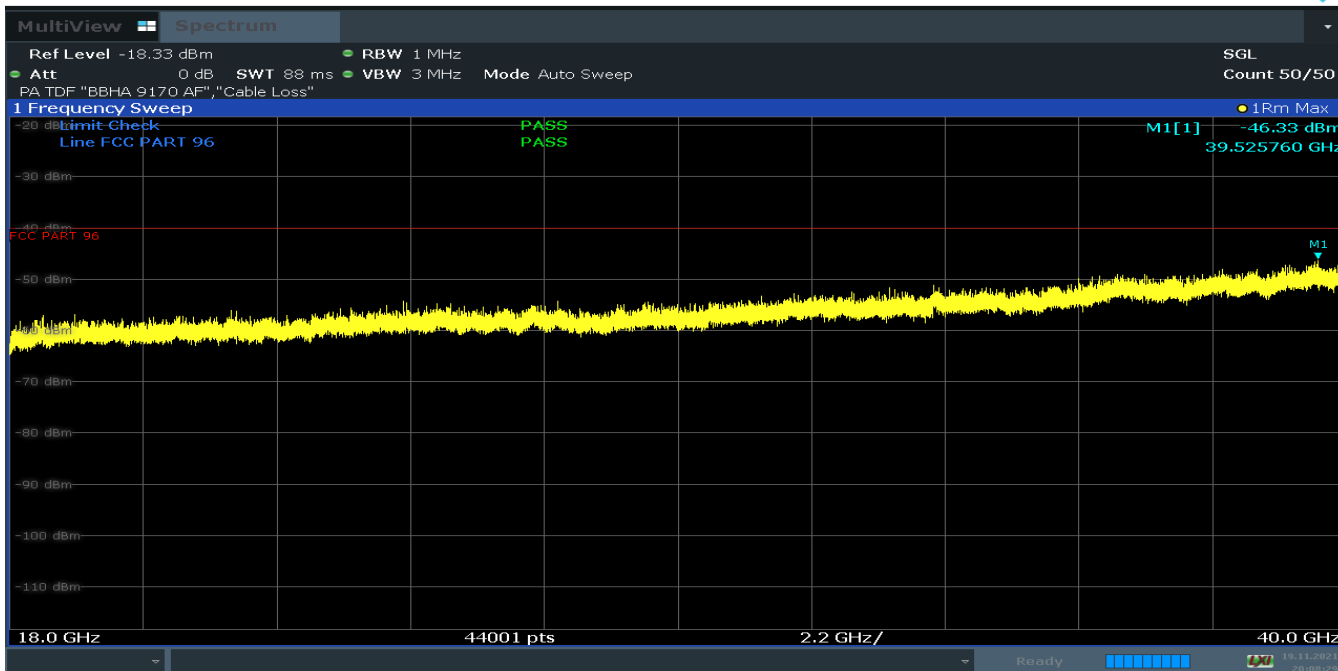


**Plot 8-528. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n48_2C_40M+40M_QPSK - Mid Channel)**

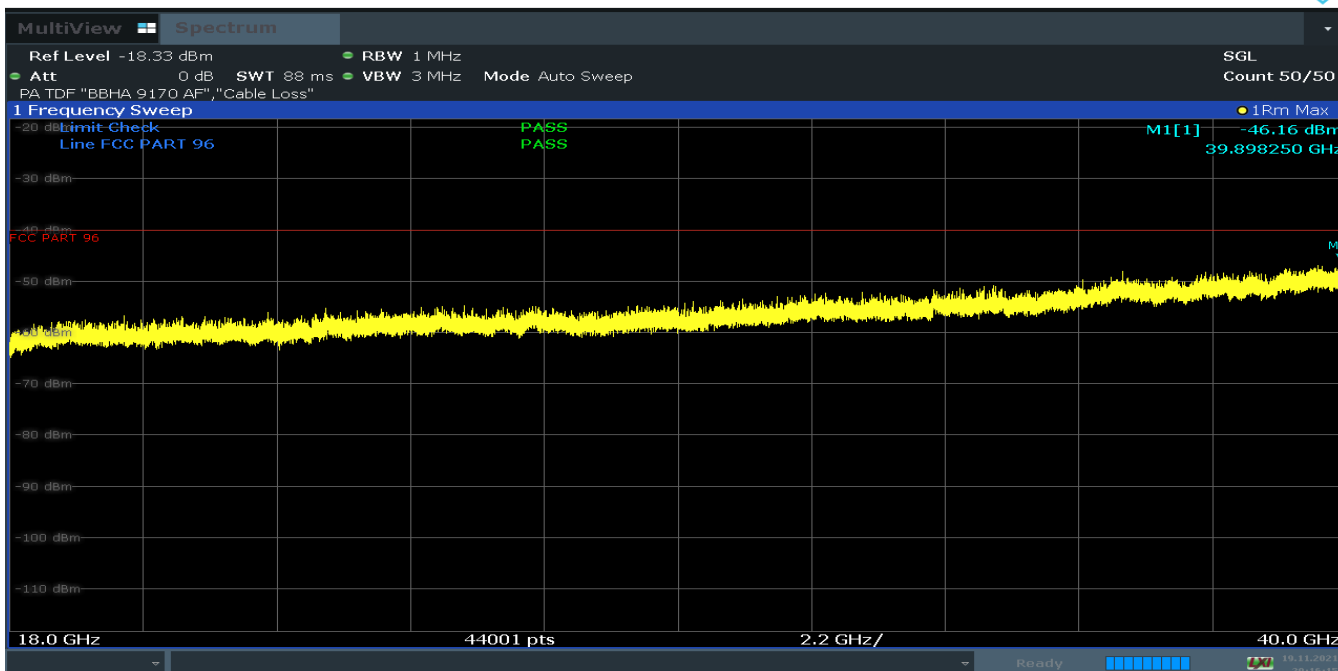


**Plot 8-529. Radiated spurious emission Plot_1 GHz to 18 GHz
(NR_n48_2C_40M+40M_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)	 Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)	Page 236 of 286

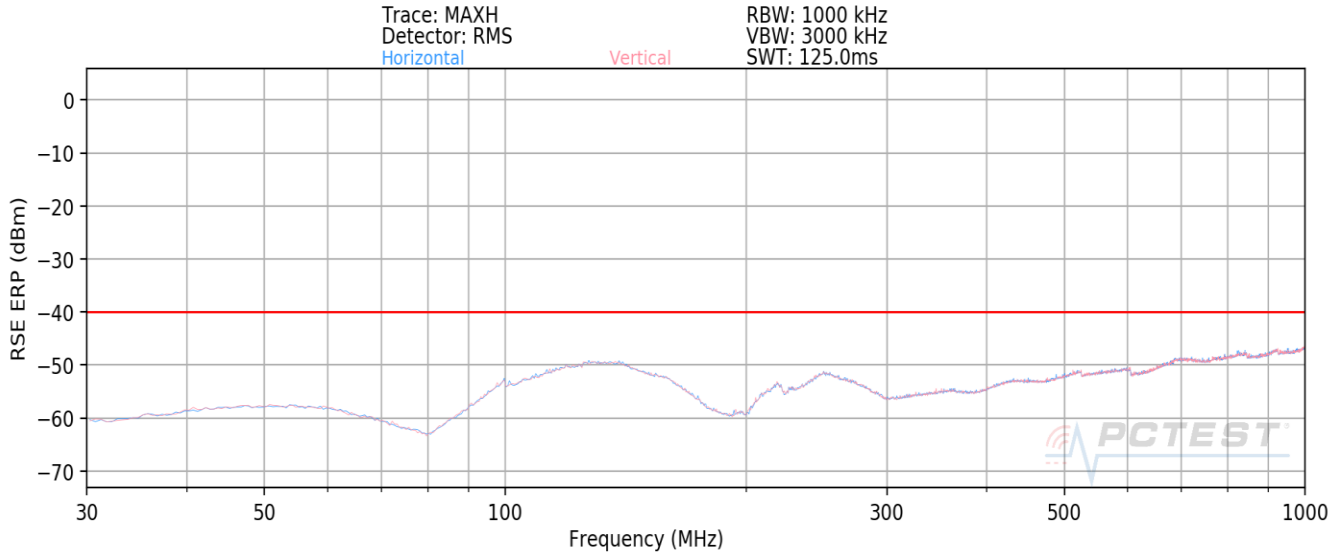


**Plot 8-530. Radiated spurious emission Plot_Horizontal 18 GHz to 40 GHz
(NR_n48_2C_40M+40M_QPSK - Mid Channel)**

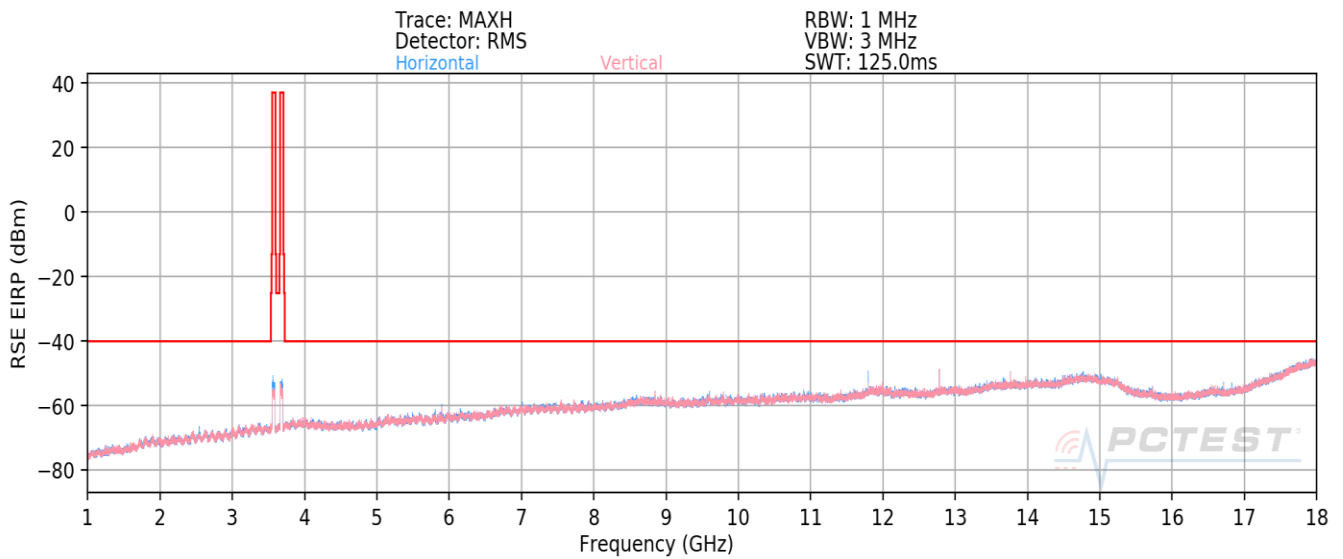


**Plot 8-531. Radiated spurious emission Plot_Vertical 18 GHz to 40 GHz
(NR_n48_2C_40M+40M_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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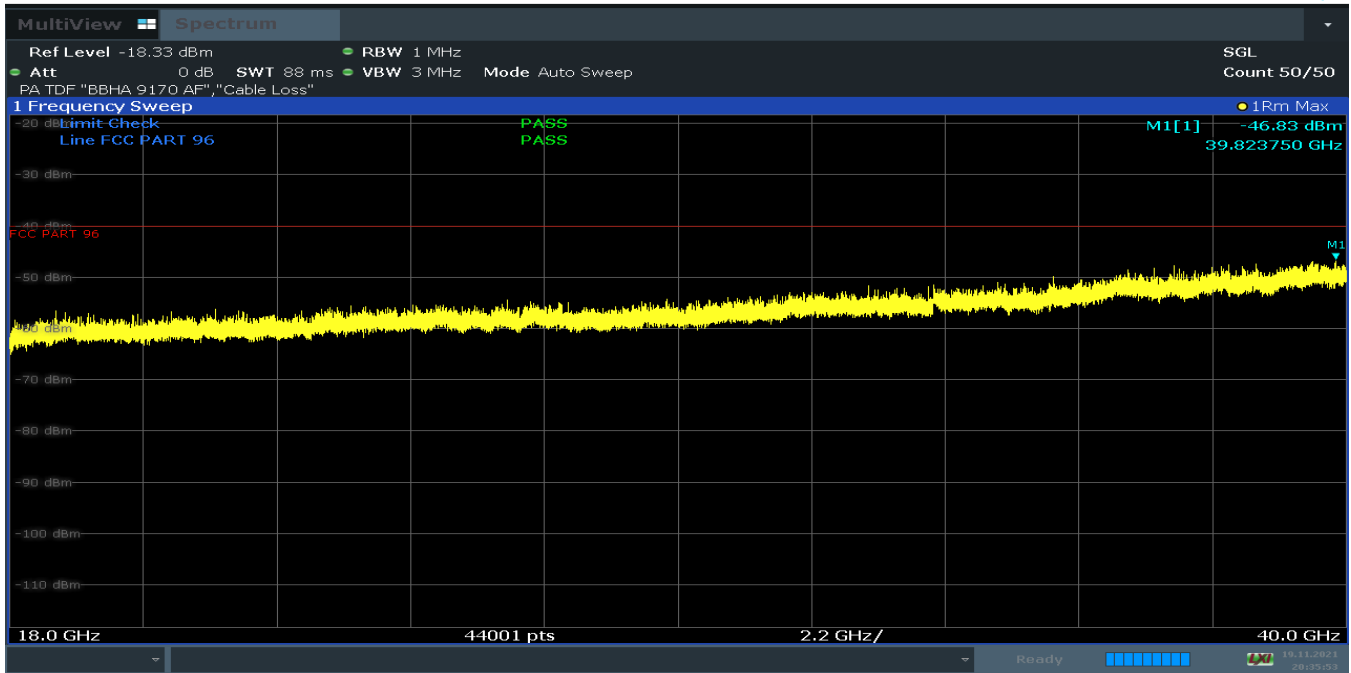


**Plot 8-532. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n48_2C_40M+40M_Non-Contiguous_QPSK - Mid Channel)**

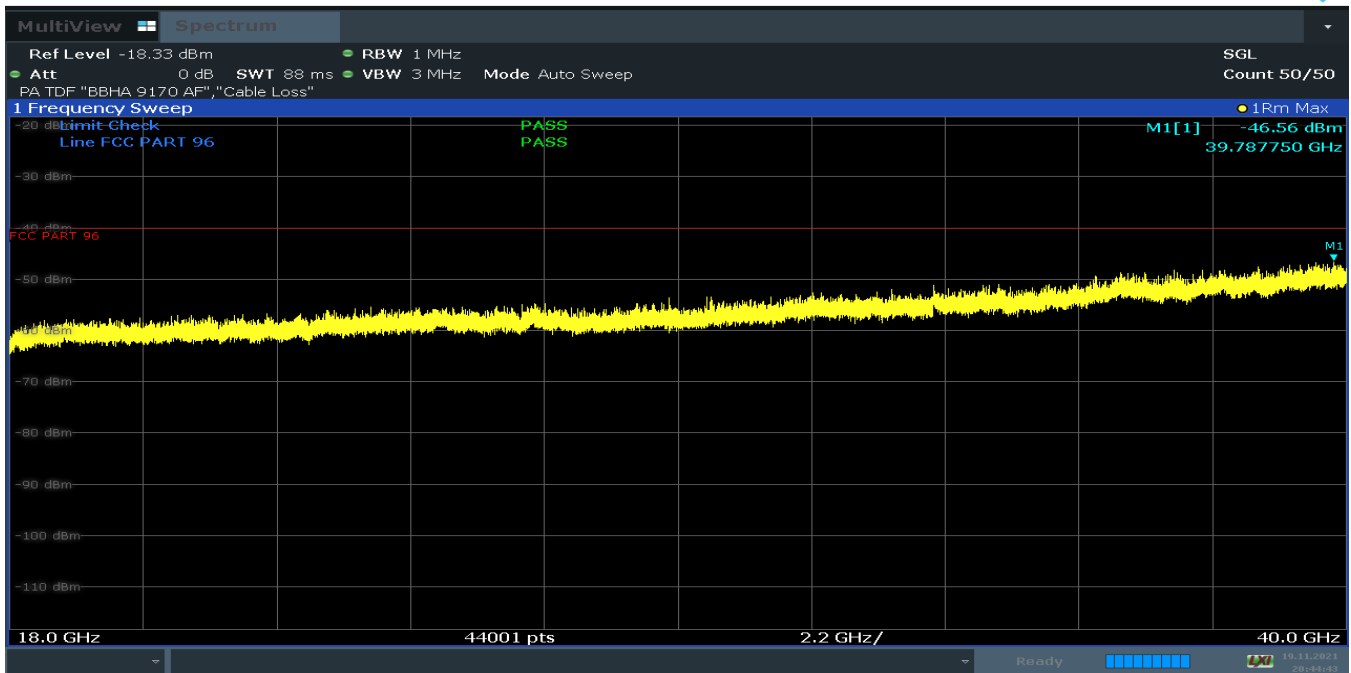


**Plot 8-533. Radiated spurious emission Plot_1 GHz to 18 GHz
(NR_n48_2C_40M+40M_Non-Contiguous_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)	 Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)	Page 238 of 286



**Plot 8-534. Radiated spurious emission Plot_Horizontal 18 GHz to 40 GHz
(NR_n48_2C_40M+40M_Non-Contiguous_QPSK - Mid Channel)**



**Plot 8-535. Radiated spurious emission Plot_Vertical 18 GHz to 40 GHz
(NR_n48_2C_40M+40M_Non-Contiguous_QPSK - Mid Channel)**

FCC: A3LRT4401-48A1	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)		Page 239 of 286

- 30 MHz – 40 GHz

Bandwidth (MHz):	Single Band_NR_n48_1C_40M_Middle Channel
Frequency (MHz):	3625 MHz
Modulation Signal:	QPSK

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Heigh [cm]	Turntable azimuth [degree]	Analyzer Level [dBm/MHz]	AFCL [dBm]	Field Strength [dB μ V/m]	RSE EIRP [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
988.46	H	150	20	-85.47	26.00	47.53	-46.93	-40.00	-6.93
991.58	V	100	140	-85.62	26.02	47.40	-47.05	-40.00	-7.05
13762.52	H	152	199	-74.61	15.07	47.46	-47.00	-40.00	-7.00
13762.29	V	164	218	-74.29	15.07	47.36	-46.68	-40.00	-6.68

**Table 8-106. Radiated spurious emission Summary Data
(_NR_n48_1C_40M_Middle Channel)**

FCC: A3LRT4401-48A1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21101306-R4.A3L	Test Dates: 10/20/2021 – 04/05/2022	EUT Type: RRU(RT4401)		Page 240 of 286