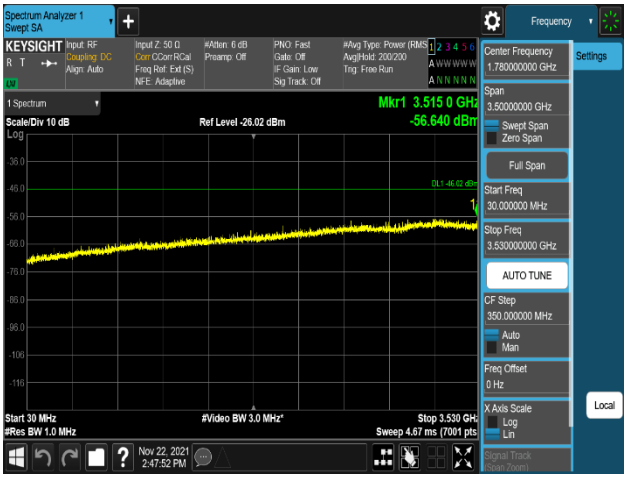
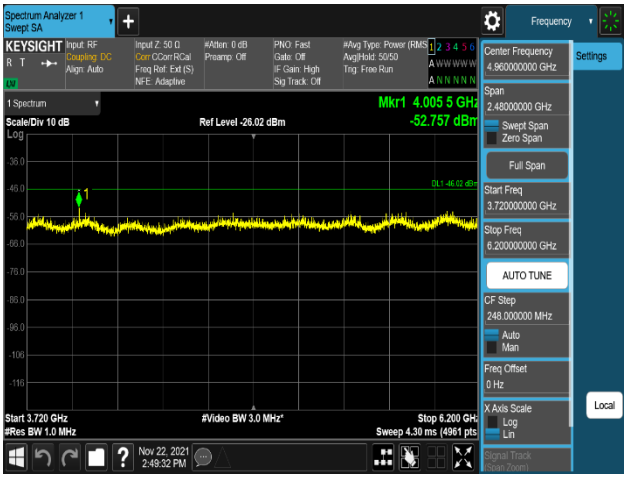
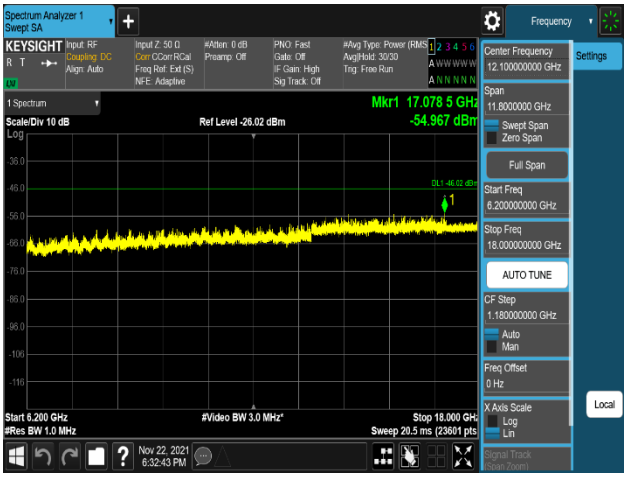


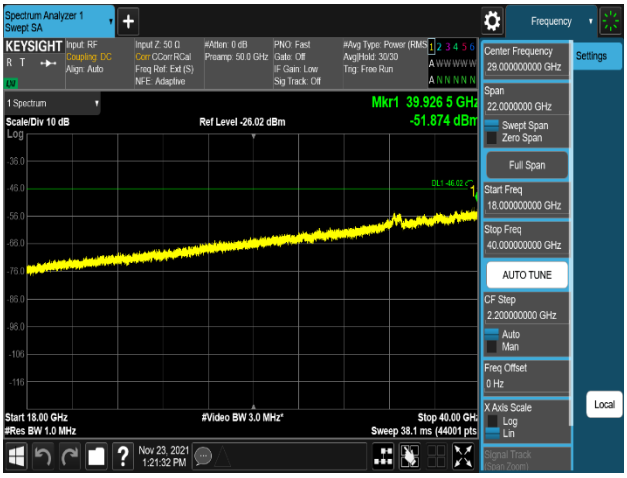
Plot 8-280. Conducted Spurious Emission Plot
30 MHz to 3530 MHz
(NR_n48_2C_40M+40M_Non-Contiguous_16QAM- Mid Channel, Port 0)



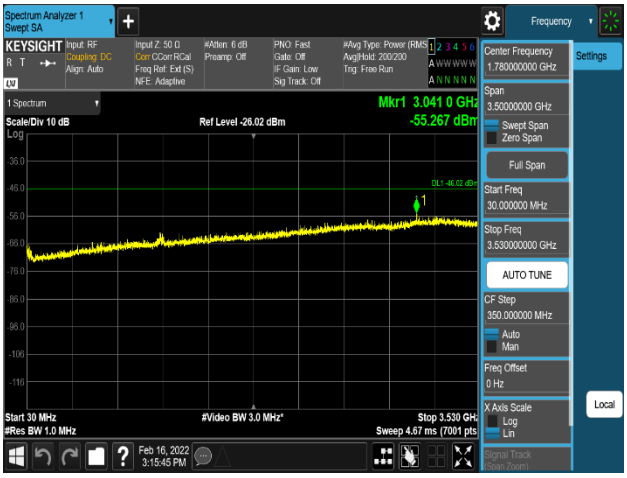
Plot 8-281. Conducted Spurious Emission Plot
3.72 GHz to 6.2 GHz
(NR_n48_2C_40M+40M_Non-Contiguous_16QAM- Mid Channel, Port 0)



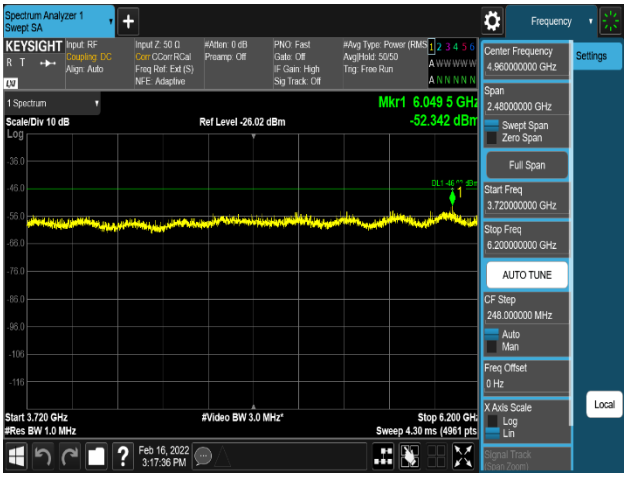
Plot 8-282. Conducted Spurious Emission Plot
6.2 GHz to 18 GHz
(NR_n48_2C_40M+40M_Non-Contiguous_16QAM- Mid Channel, Port 0)



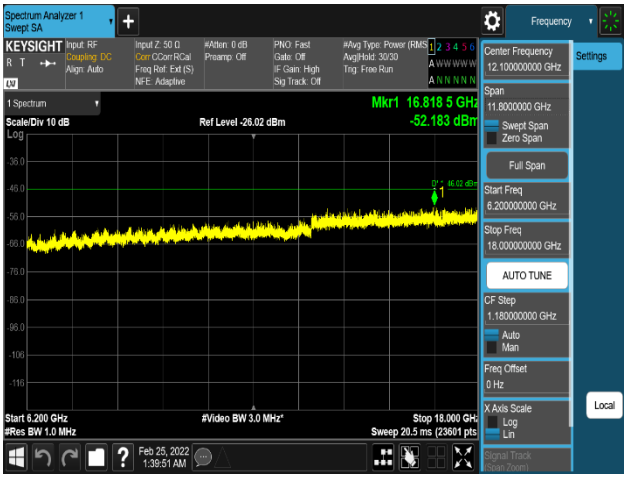
Plot 8-283. Conducted Spurious Emission Plot
18 GHz to 40 GHz
(NR_n48_2C_40M+40M_Non-Contiguous_16QAM- Mid Channel, Port 0)



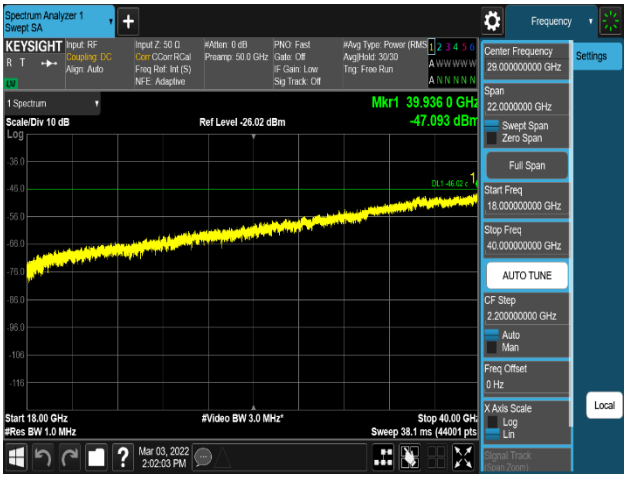
Plot 8-284. Conducted Spurious Emission Plot
30 MHz to 3530 MHz
(LTE_2C+NR_1C_20M+40M+40M_64QAM- Mid Channel, Port 3)



Plot 8-285. Conducted Spurious Emission Plot
3.72 GHz to 6.2 GHz
(LTE_2C+NR_1C_20M+40M+40M_64QAM- Mid Channel, Port 3)



Plot 8-286. Conducted Spurious Emission Plot
6.2 GHz to 18 GHz
(LTE_2C+NR_1C_20M+40M+40M_64QAM- Mid Channel, Port 3)



Plot 8-287. Conducted Spurious Emission Plot
18 GHz to 40 GHz
(LTE_2C+NR_1C_20M+40M+40M_64QAM- Mid Channel, Port 3)

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 trilog 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 ≥ 3 x RBW
4. No. of sweep points ≥ 2 x span / RBW
5. Detector = Below 1 GHz Peak for the prescan, (In cases where the level is within 2 dB of the limit, the final measurement is taken using RMS detector.)

   Above 1GHz RMS for the prescan
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 ≤ −13 dBm/MHz
- Greater than 10 MHz above and below the assigned channel ≤ −25 dBm/MHz
- Any emission below 3530 MHz and above 3720 MHz ≤ −40 dBm/MHz

Test Setup

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

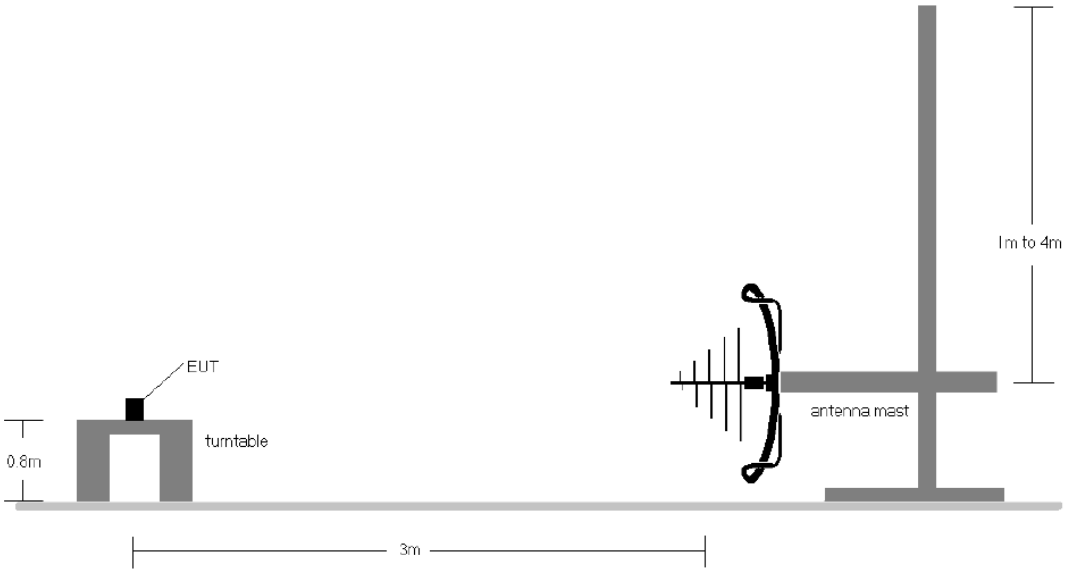


Figure 8-8. Test Instrument & Measurement Setup < 1GHz

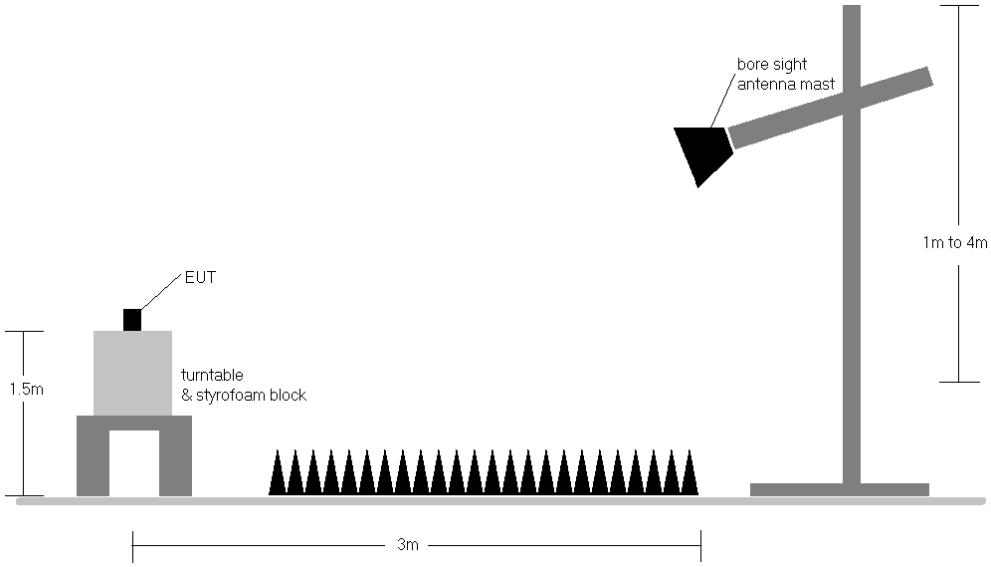


Figure 8-9. Test Instrument & Measurement Setup > 1GHz

Test Notes

1. 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

Field Strength [dBµV/m] = Measured Value [dBm] + AFCL [dB/m] + 107

= -85.42 dBm + (23.34 dBm) + 107 = 47.61 dBµV/m

e.i.r.p. [dBm] = E[dB μV/m] + 20 $\log_{10}$(d[m]) - 104.8

= 47.61 + (20*log (3)) - 104.8

= -46.85 dBm e.i.r.p.

*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)
992.19	23.34	2.69	26.03
17992.98	47.74	-23.84	23.90

Table 8-72. Adopted AFCL value in the calculation

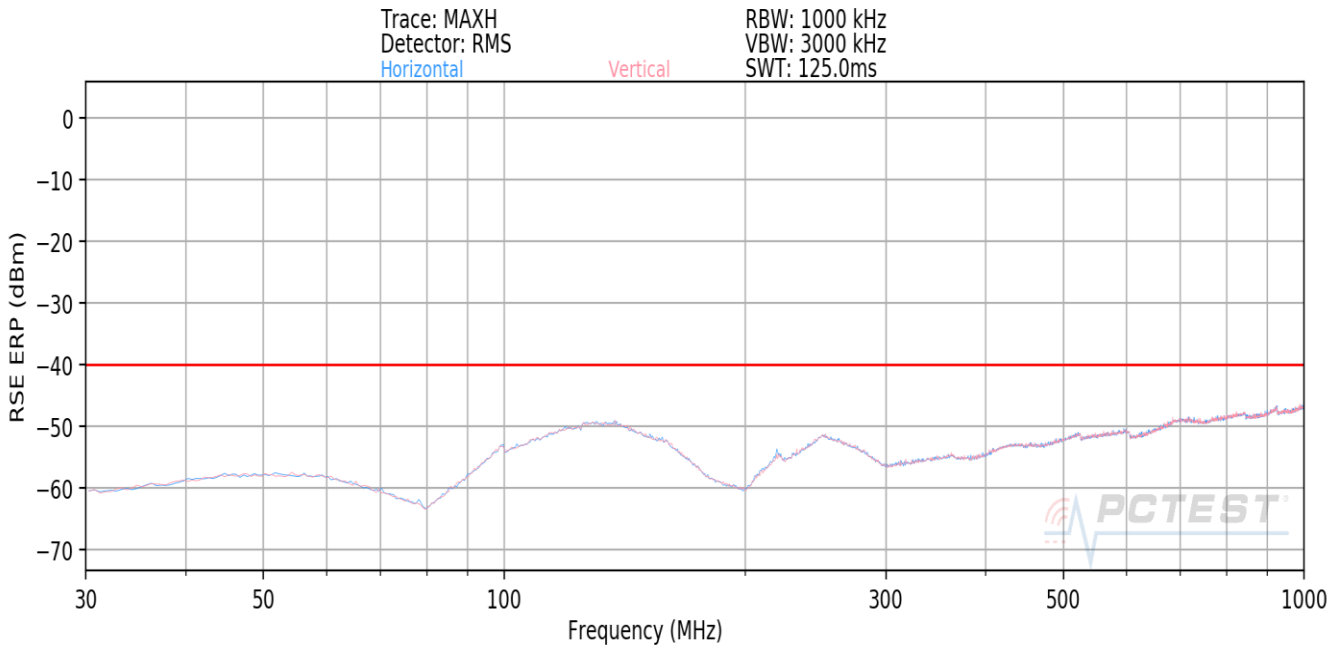
2. The EUT was tested in both horizontal and vertical antenna polarizations and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, channel bandwidth configurations shown in the tables below.

3. The spectrum is measured from 30 MHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.

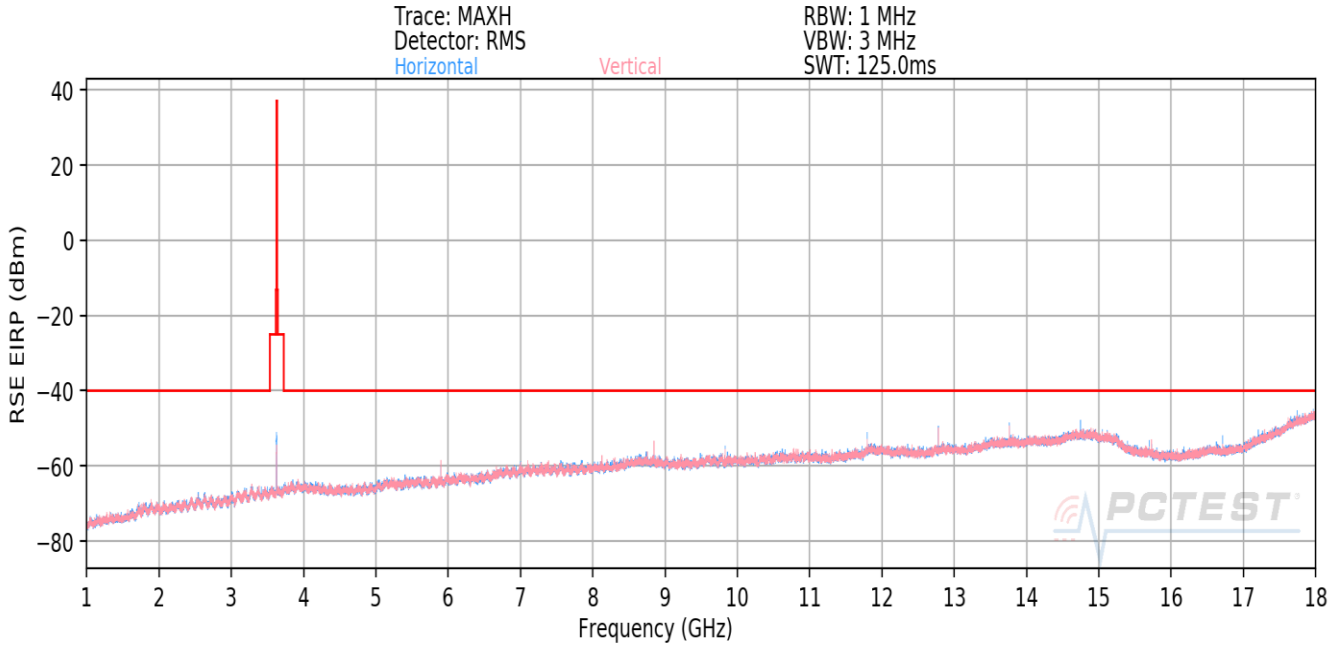
4. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.

5. Spurious emissions were measured with all EUT antennas transmitting simultaneously and all antenna ports terminated

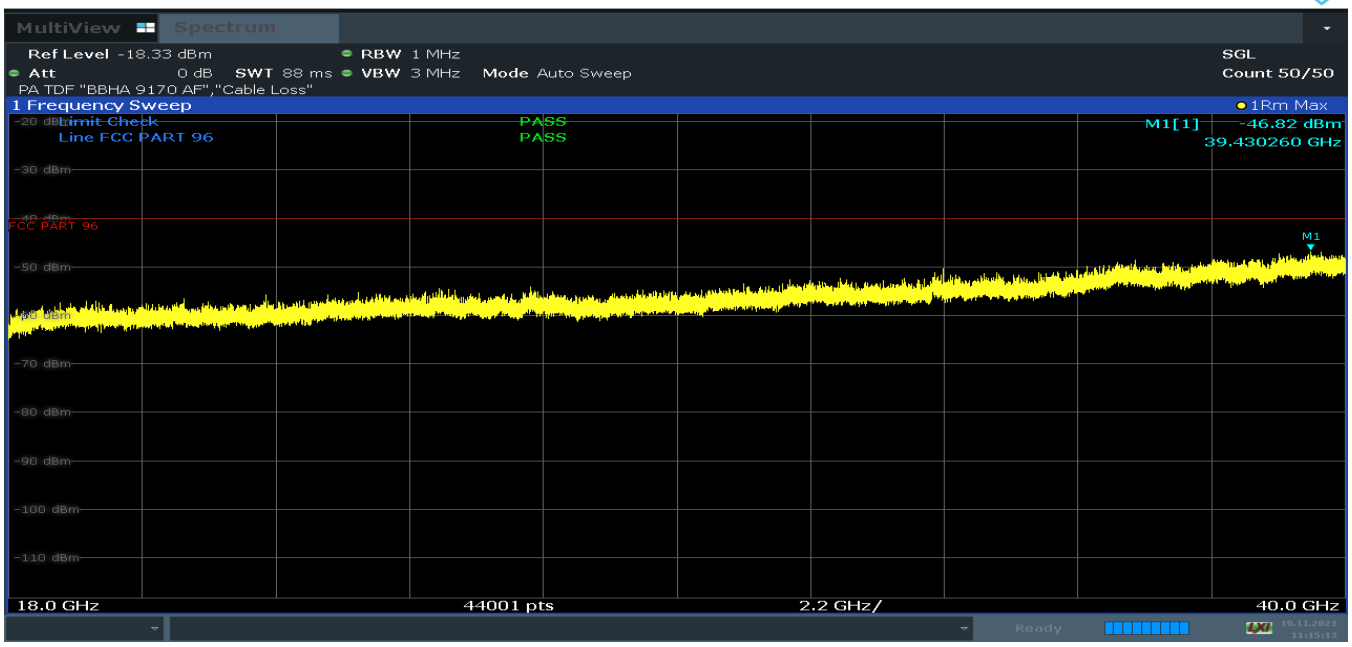
6. The "-" shown in the following RSE tables are used to denote a noise floor measurement.



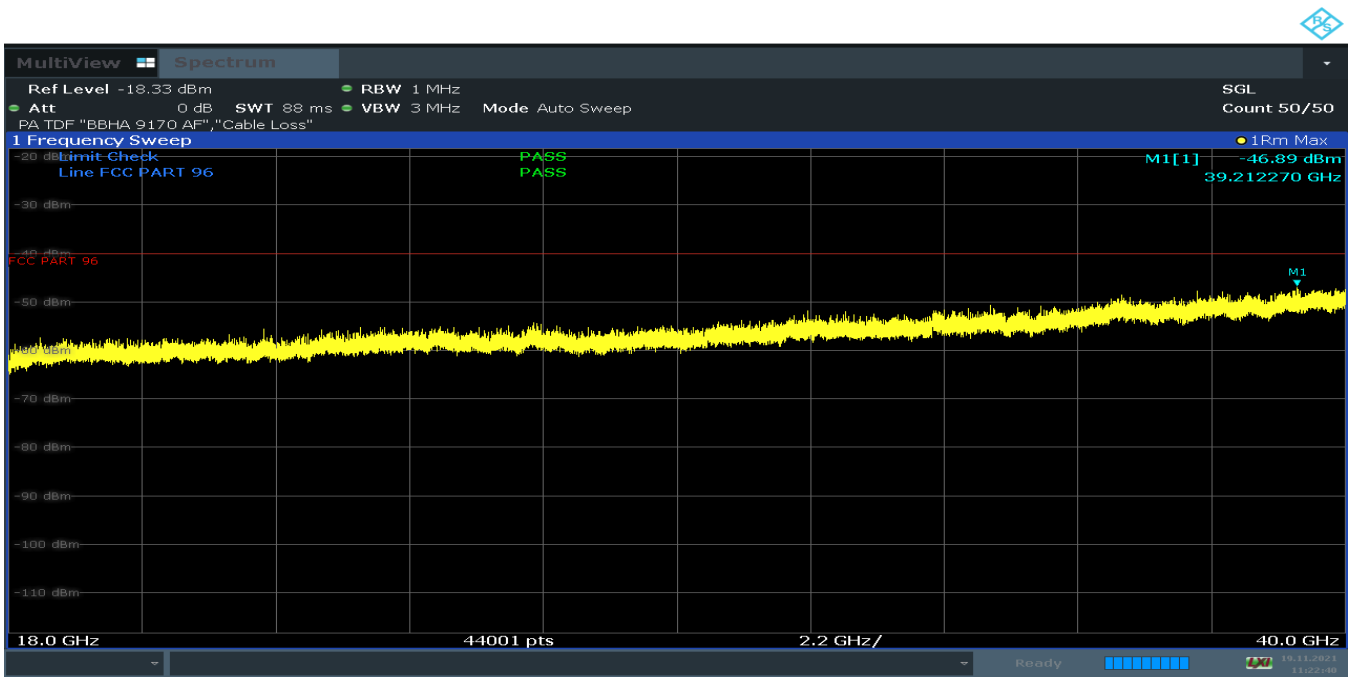
Plot 8-288. Radiated spurious emission Plot_30 MHz to 1000 MHz (LTE_B48_2C_5M+5M_QPSK - Mid Channel)



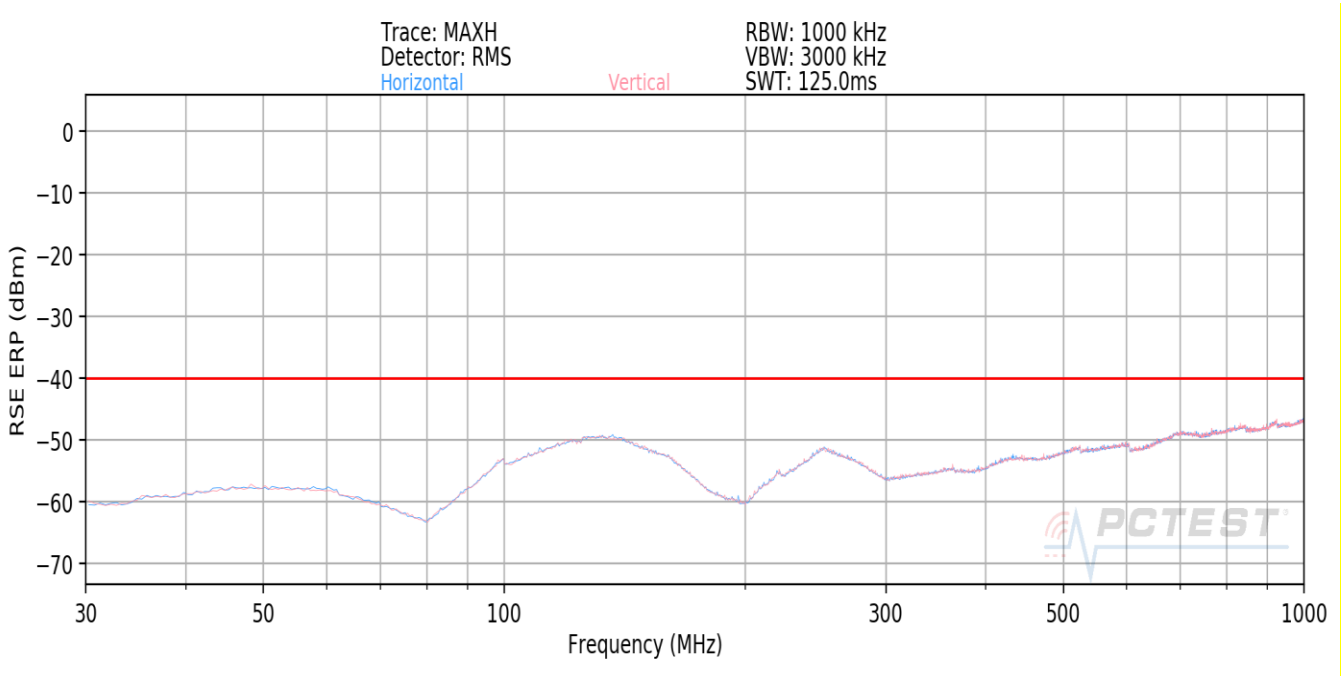
Plot 8-289. Radiated spurious emission Plot_1 GHz to 18 GHz (LTE_B48_2C_5M+5M_QPSK - Mid Channel)



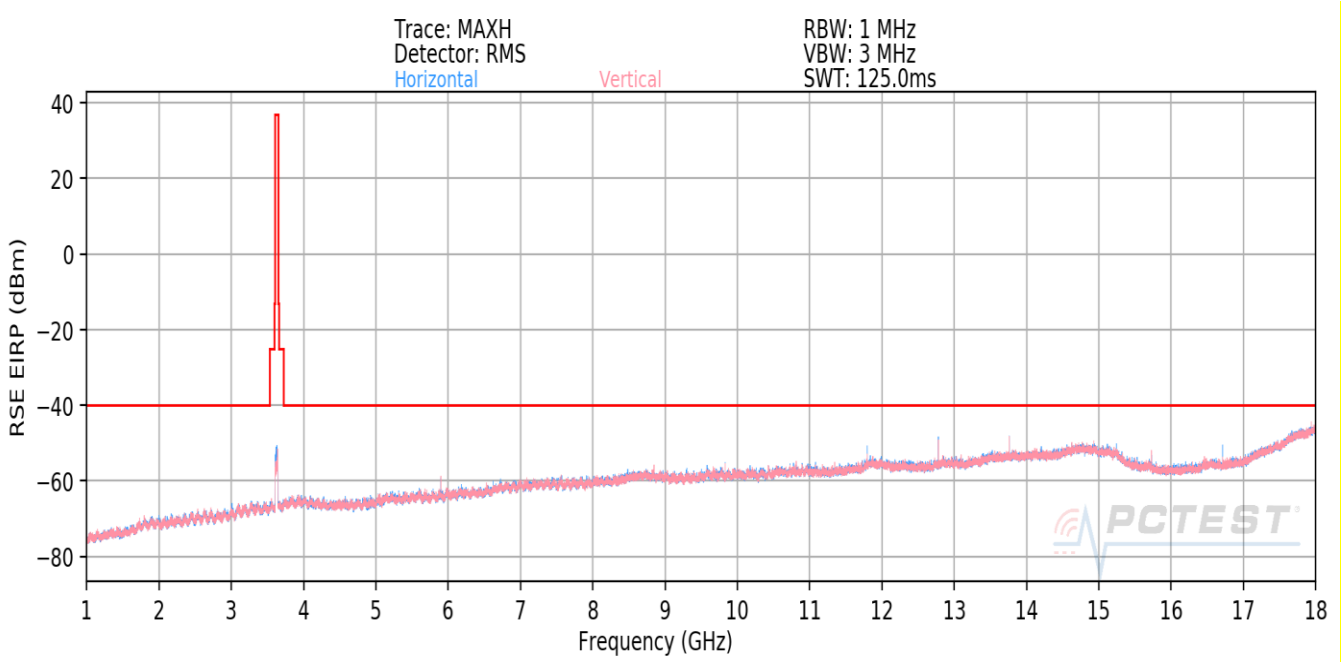
Plot 8-290. Radiated spurious emission Plot_horizontal 18 GHz to 40 GHz (LTE_B48_2C_5M+5M_QPSK - Mid Channel)



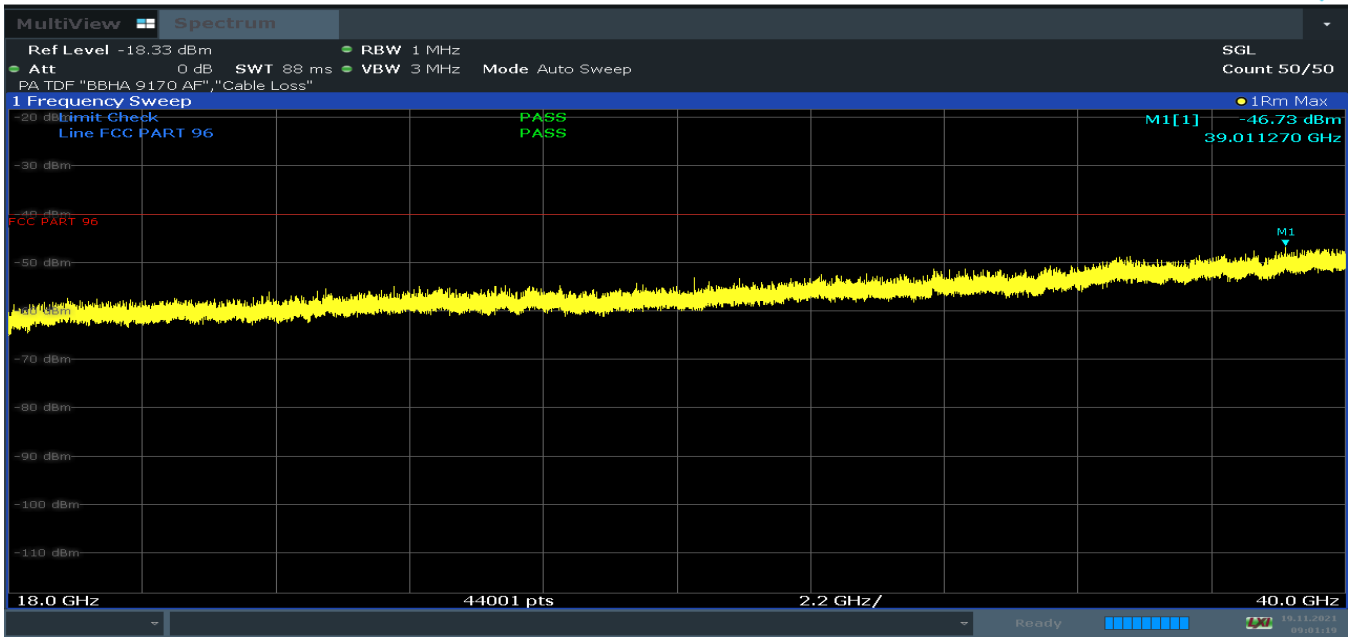
Plot 8-291. Radiated spurious emission Plot_vertical 18 GHz to 40 GHz (LTE_B48_2C_5M+5M_QPSK - Mid Channel)



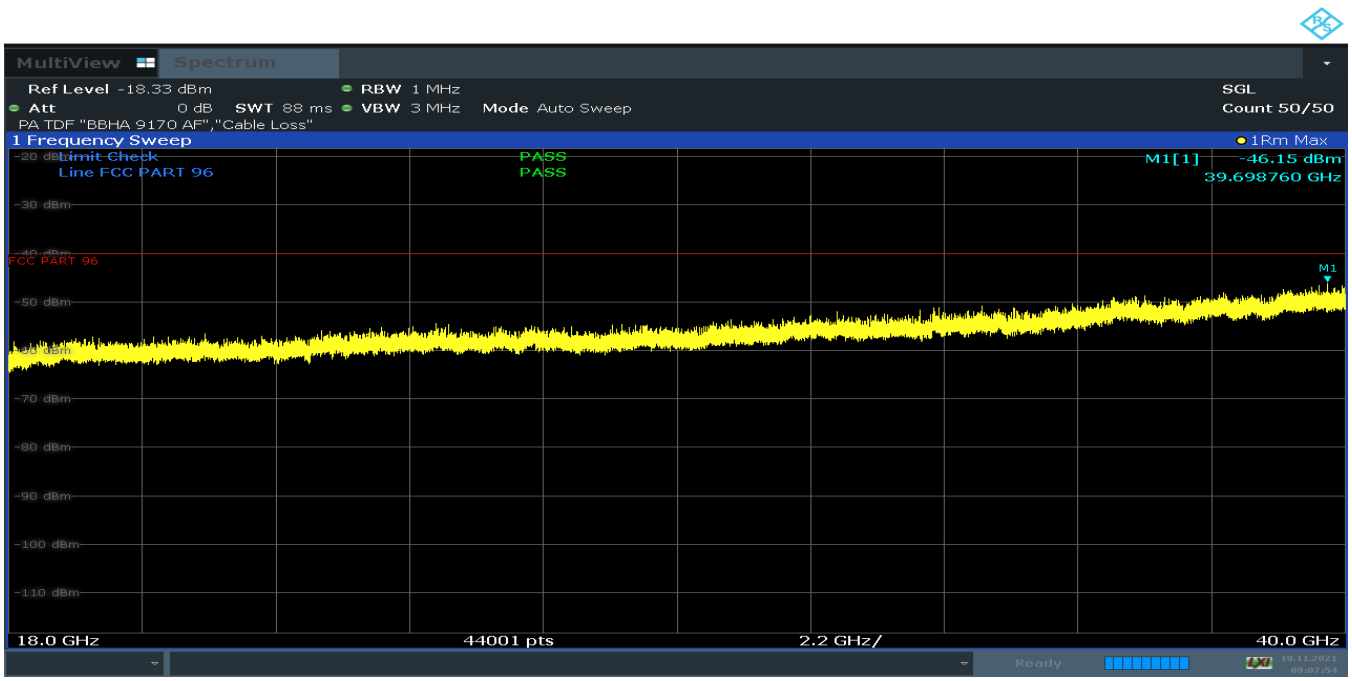
Plot 8-292. Radiated spurious emission Plot_30 MHz to 1000 MHz (NR_n48_1C_40M_QPSK - Mid Channel)



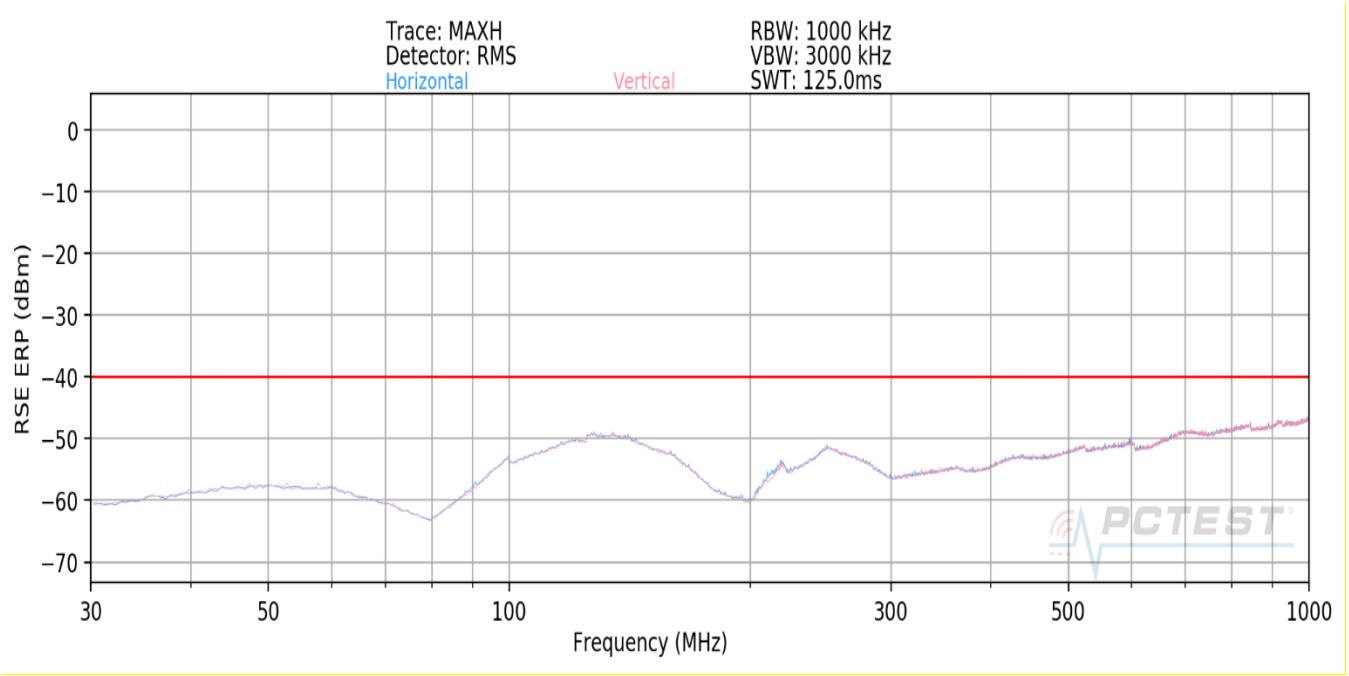
Plot 8-293. Radiated spurious emission Plot_1 GHz to 18 GHz (NR_n48_1C_40M_QPSK - Mid Channel)



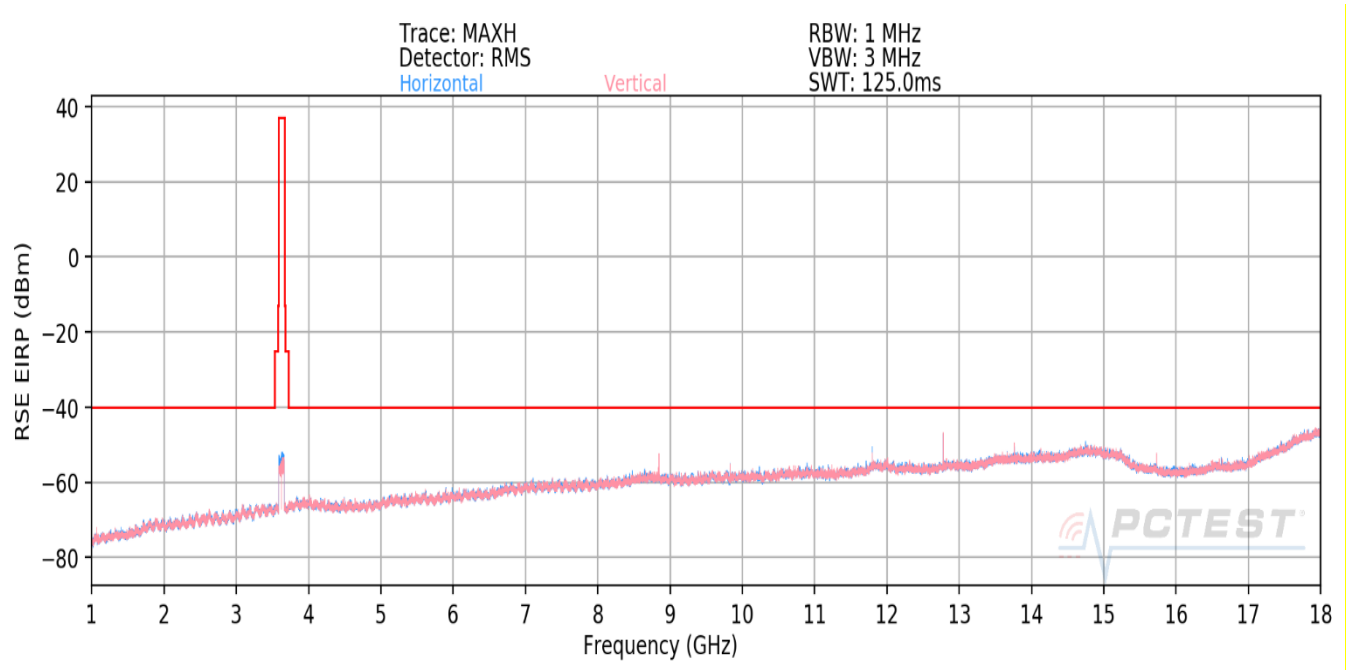
Plot 8-294. Radiated spurious emission Plot_horizontal 18 GHz to 40 GHz (NR_n48_1C_40M_QPSK - Mid Channel)



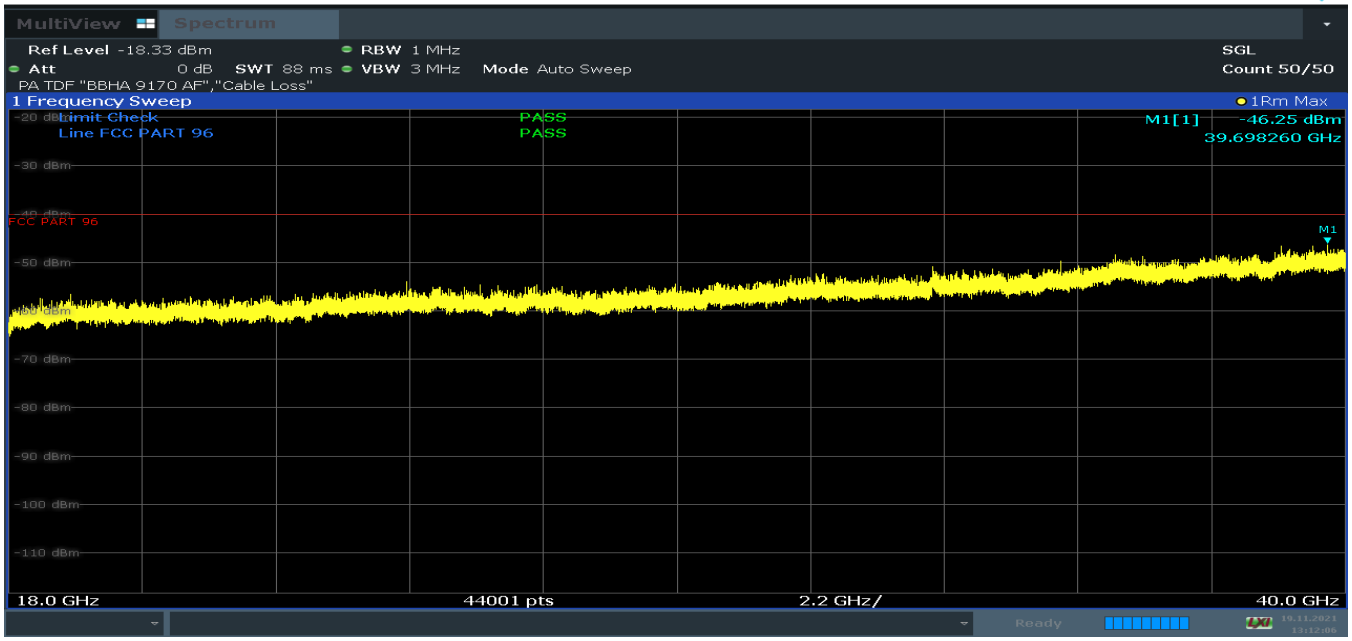
Plot 8-295. Radiated spurious emission Plot_vertical 18 GHz to 40 GHz (NR_n48_1C_40M_QPSK - Mid Channel)



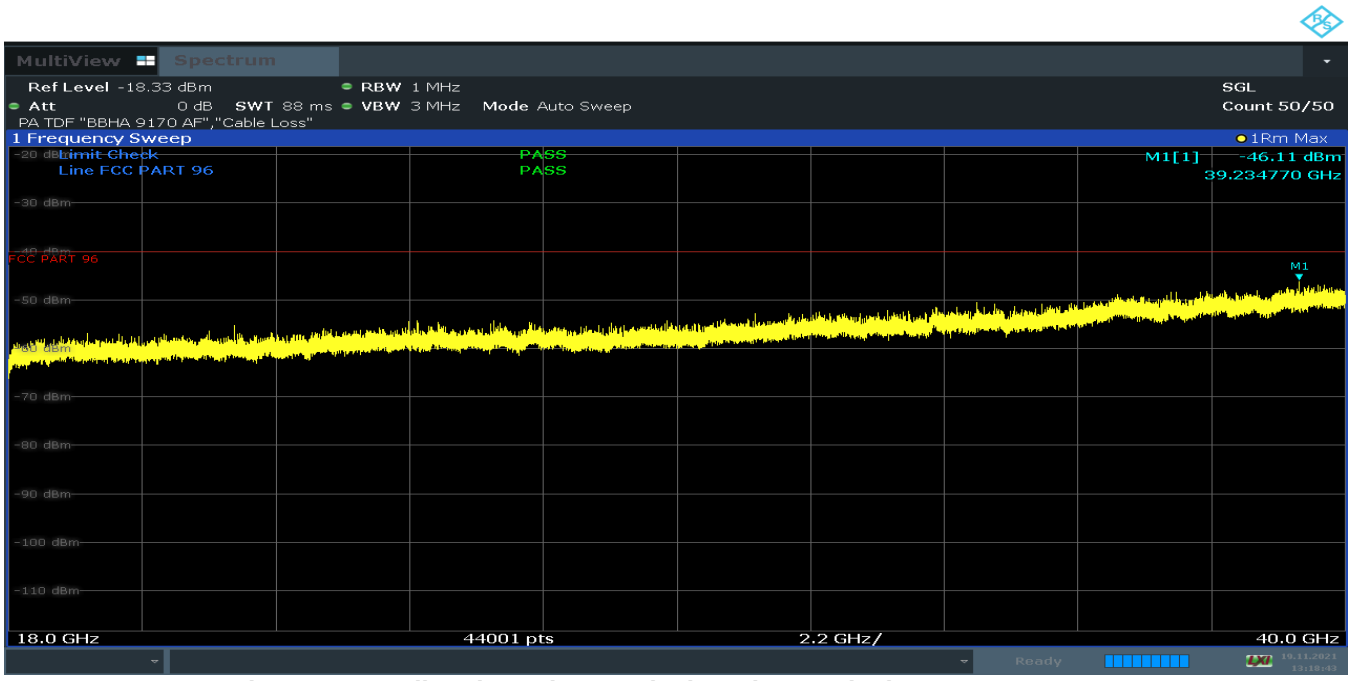
Plot 8-296. Radiated spurious emission Plot_30 MHz to 1000 MHz (NR_n48_2C_40M+40M_QPSK - Mid Channel)



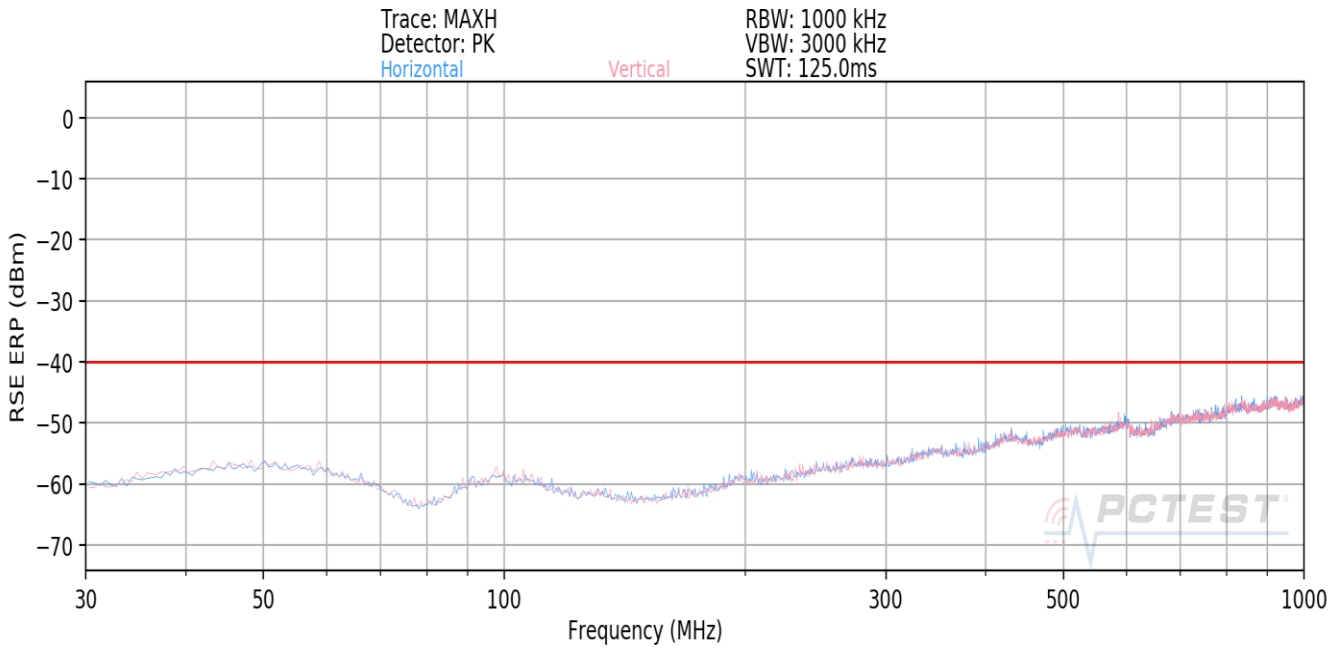
Plot 8-297. Radiated spurious emission Plot_1 GHz to 18 GHz (NR_n48_2C_40M+40M_QPSK - Mid Channel)



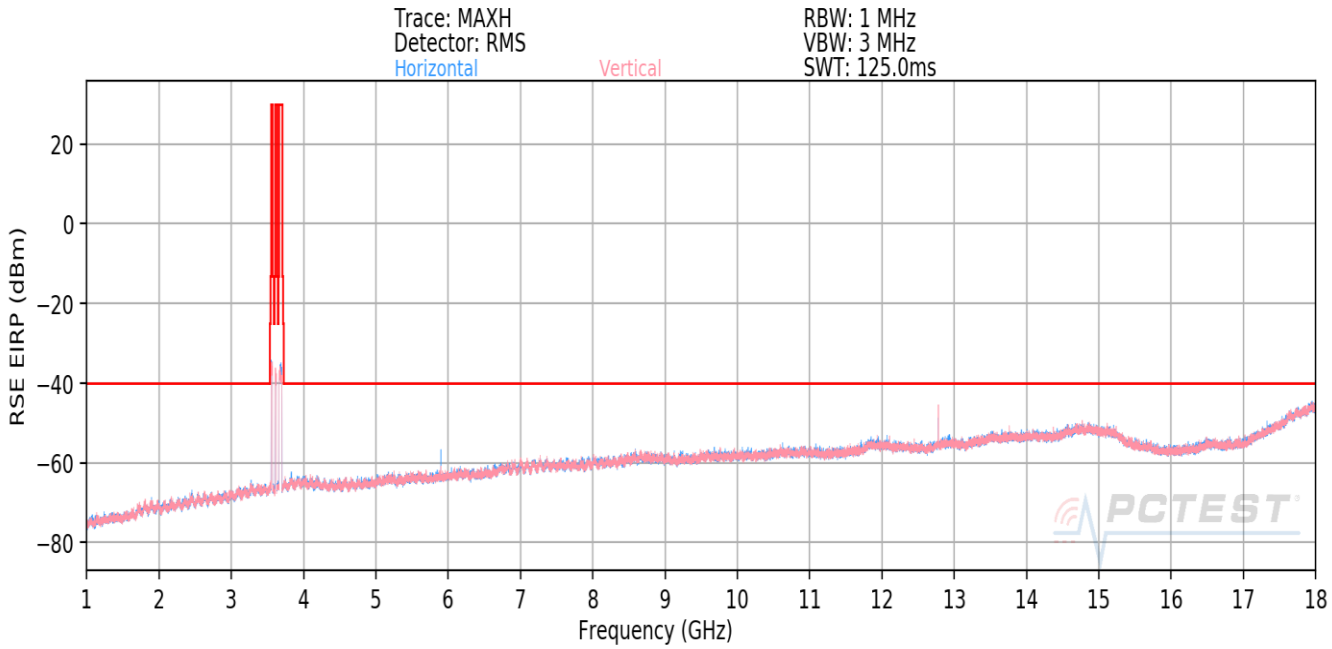
Plot 8-298. Radiated spurious emission Plot_horizontal 18 GHz to 40 GHz (NR_n48_2C_40M+40M_QPSK - Mid Channel)



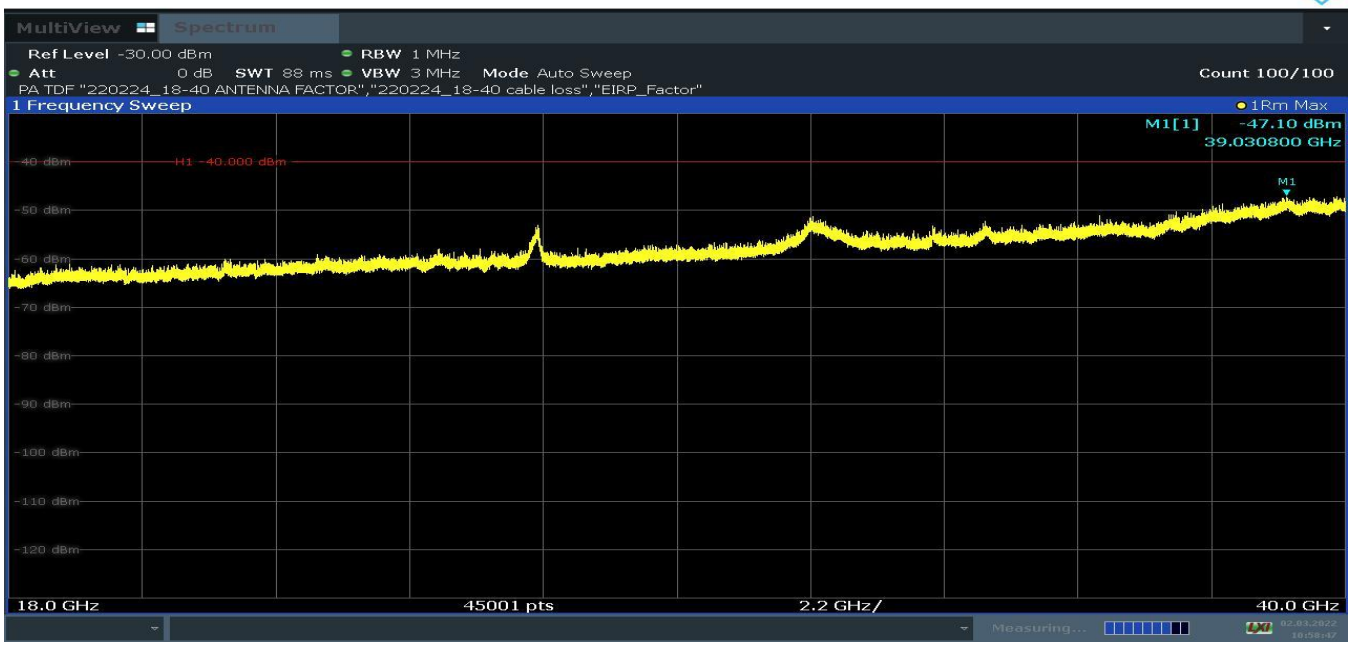
Plot 8-299. Radiated spurious emission Plot_vertical 18 GHz to 40 GHz (NR_n48_2C_40M+40M_QPSK - Mid Channel)



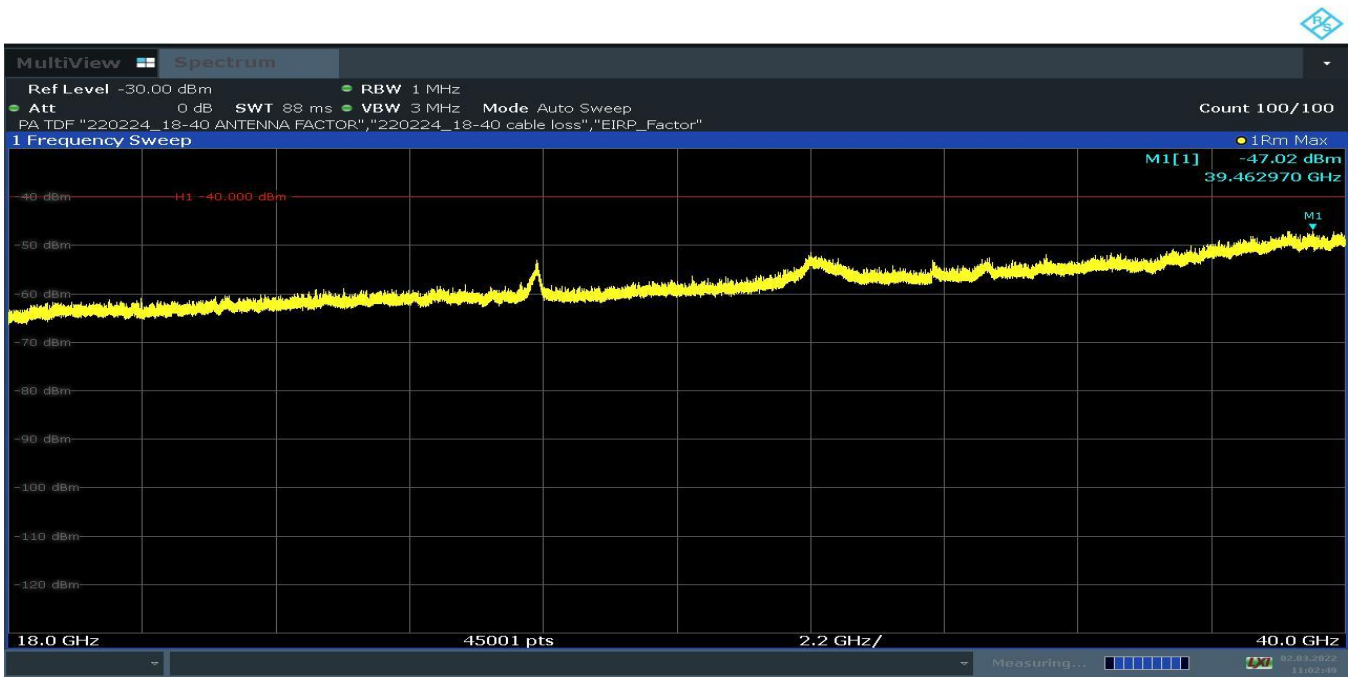
Plot 8-300. Radiated spurious emission Plot_30 MHz to 1000 MHz (LTE_2C+NR_1C_20M+20M+40M_QPSK - Mid Channel)



Plot 8-301. Radiated spurious emission Plot_1 GHz to 18 GHz (LTE_2C+NR_1C_20M+20M+40M_QPSK - Mid Channel)



Plot 8-302. Radiated spurious emission Plot_horizontal 18 GHz to 40 GHz (LTE_2C+NR_1C_20M+20M+40M_QPSK - Mid Channel)



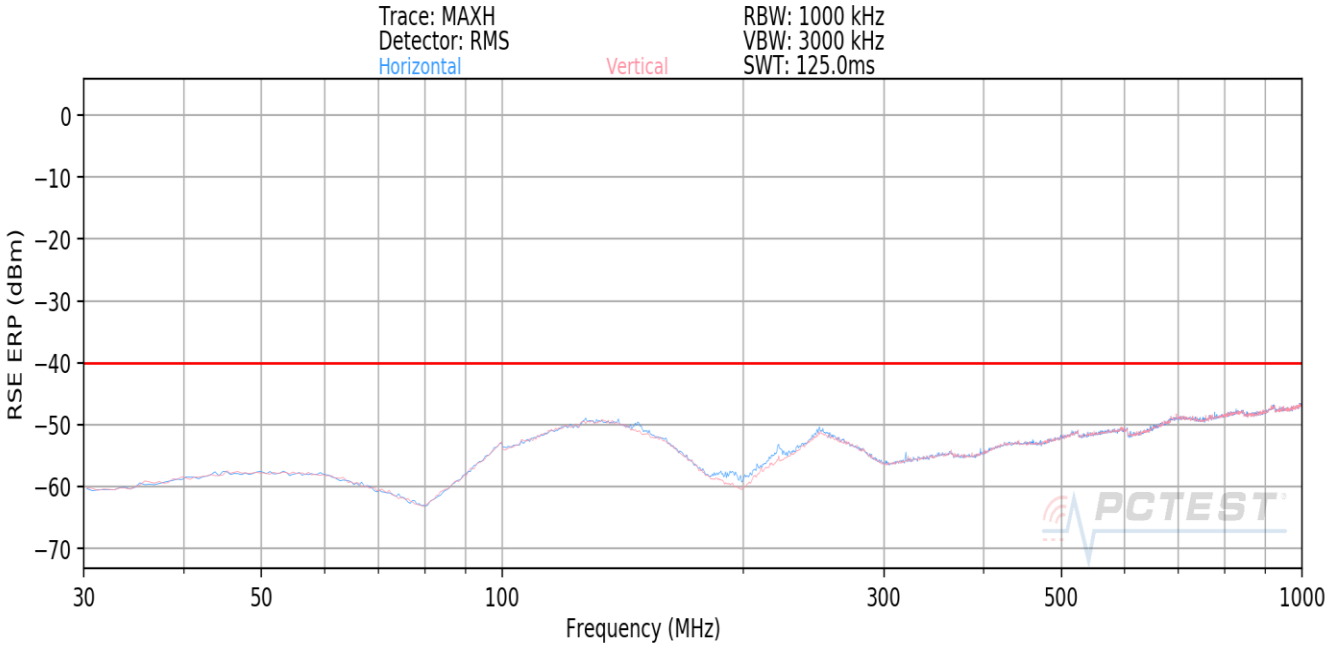
Plot 8-303. Radiated spurious emission Plot_vertical 18 GHz to 40 GHz (LTE_2C+NR_1C_20M+20M+40M_QPSK - Mid Channel)

Bandwidth (MHz):	NR_n48_1C_40M_QPSK - Mid Channel
Frequency (MHz):	1st Carrier :3625.0
Modulation Signal:	QPSK

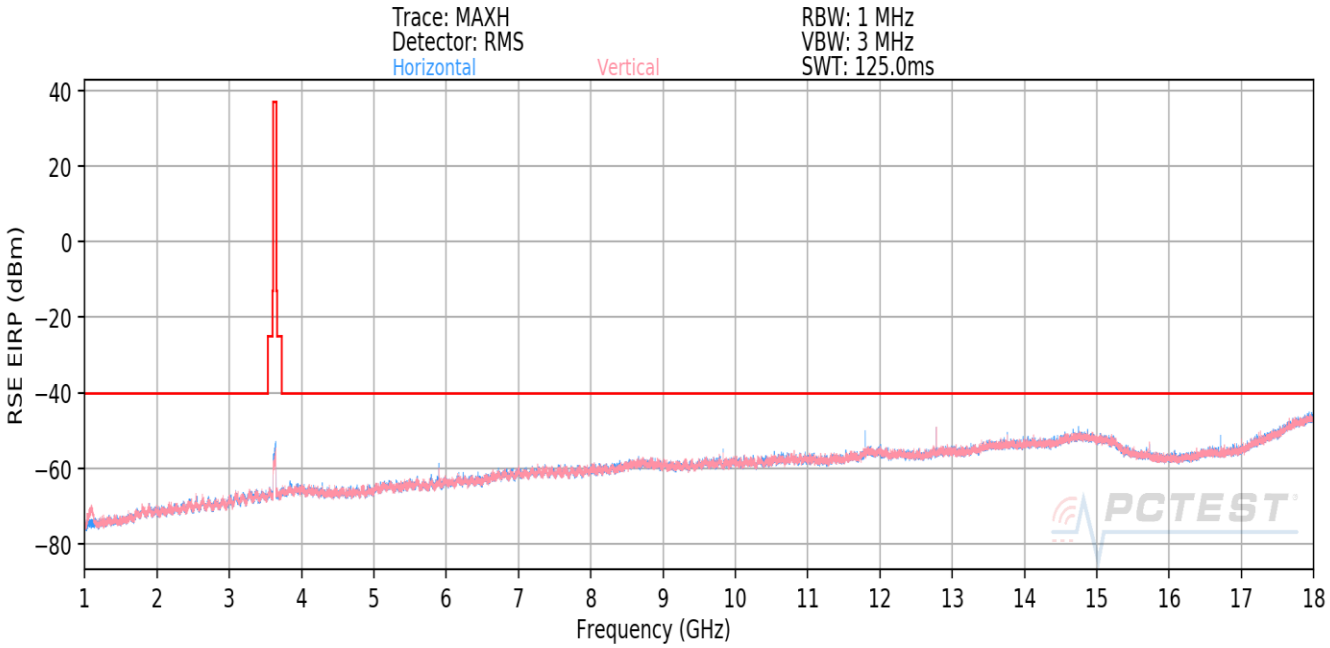
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Heigh [cm]	Turntable azimuth [degree]	Analyzer Level [dBm/MHz]	AFCL [dBm]	Field Strength [dBµV/m]	RSE EIRP [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
992.19	H	100	50	-85.42	23.34	47.61	-46.85	-40.00	-6.85
992.82	V	100	120	-85.24	23.35	47.80	-46.66	-40.00	-6.66
17992.98	H	160	201	-82.29	47.74	48.62	-45.84	-40.00	-5.84
17993.51	V	150	178	-82.47	47.74	48.43	-46.03	-40.00	-6.03

Table 8-73. Worst Radiated spurious emission Summary Data (NR_n48_1C_40M_QPSK - Mid Channel)

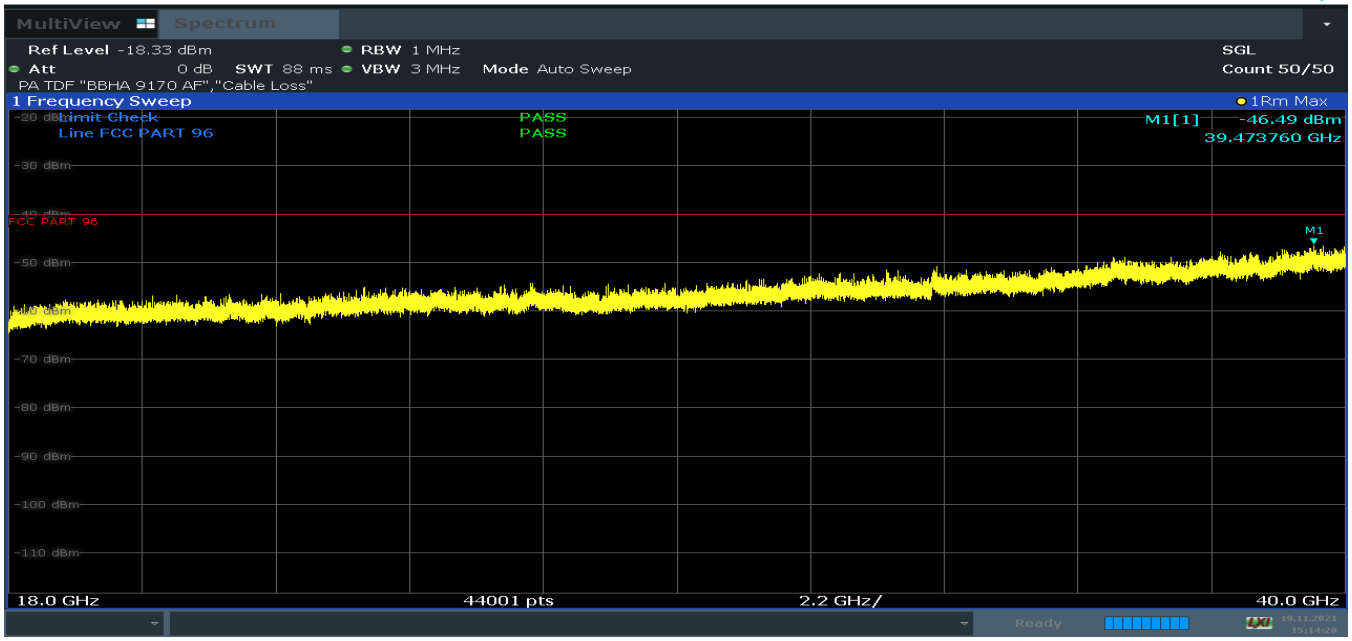
※ Additionally test for AC voltage source



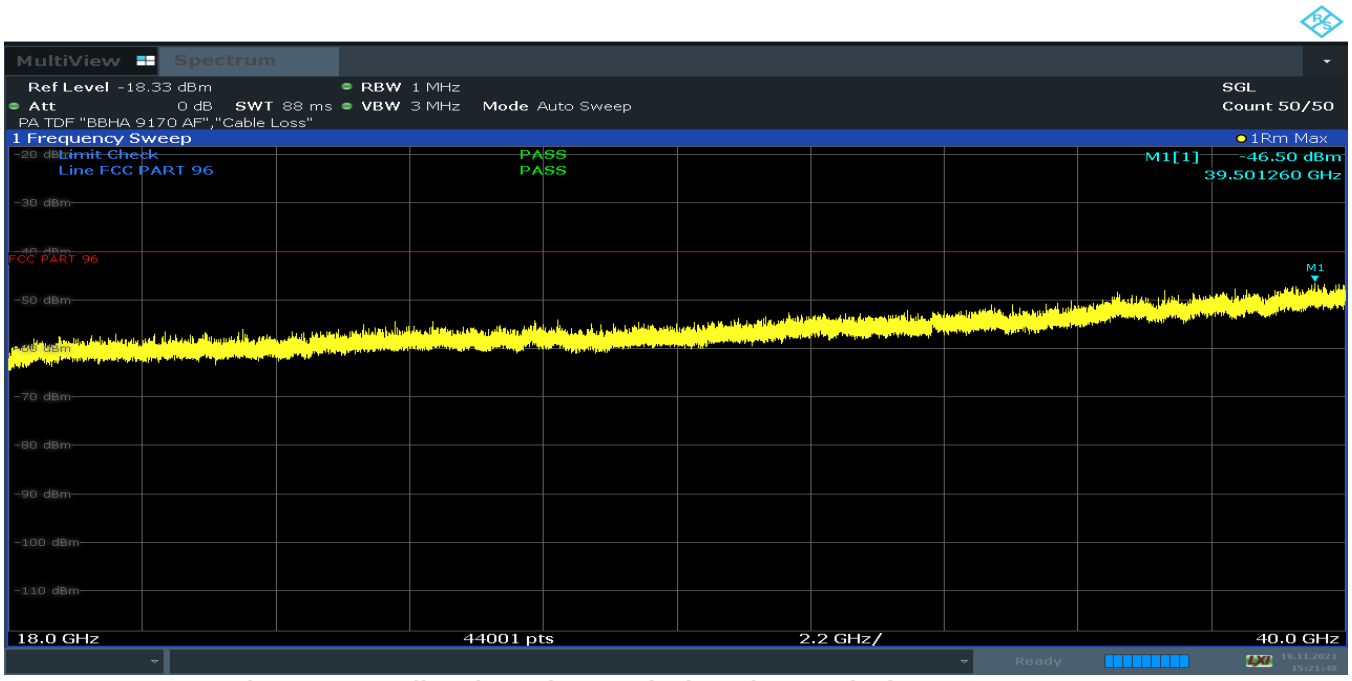
Plot 8-304. Radiated spurious emission Plot_30 MHz to 1000 MHz (NR_n48_1C_40M_QPSK - Mid Channel)



Plot 8-305. Radiated spurious emission Plot_1 GHz to 18 GHz (NR_n48_1C_40M_QPSK - Mid Channel)



Plot 8-306. Radiated spurious emission Plot_Horizontal 18 GHz to 40 GHz (NR_n48_1C_40M_QPSK - Mid Channel)



Plot 8-307. Radiated spurious emission Plot_Vertical 18 GHz to 40 GHz (NR_n48_1C_40M_QPSK - Mid Channel)

Bandwidth (MHz):	NR_n48_1C_40M_QPSK - Mid Channel
Frequency (MHz):	1st Carrier :3625.0
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]
993.27	H	150	0	-85.36	26.04	47.68	-46.78	-40.00	-6.78
991.88	V	100	100	-85.19	26.03	47.84	-46.62	-40.00	-6.62
12779.42	H	163	202	-72.36	13.35	47.99	-46.47	-40.00	-6.47
12779.39	V	150	182	-73.89	13.35	46.46	-48.00	-40.00	-8.00

Table 8-74. Worst Radiated spurious emission Summary Data (NR_n48_1C_40M_QPSK - Mid Channel)

8.10 Frequency Stability

§ 2.1055

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of KDB 971168 D01 v03r01.
The frequency stability of the transmitter is measured by:

a.) **Temperature:** The temperature is varied from -30°C, +20°C and +50°C using an environmental chamber.

b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for DC powered equipment.

Test Description

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).

2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.

3. Frequency measurements are made -30°C, +20°C and +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Limit

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

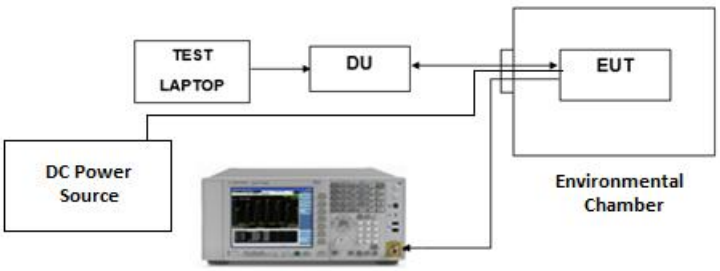


Figure 8-10.Test Instrument & Measurement Setup

Test Notes

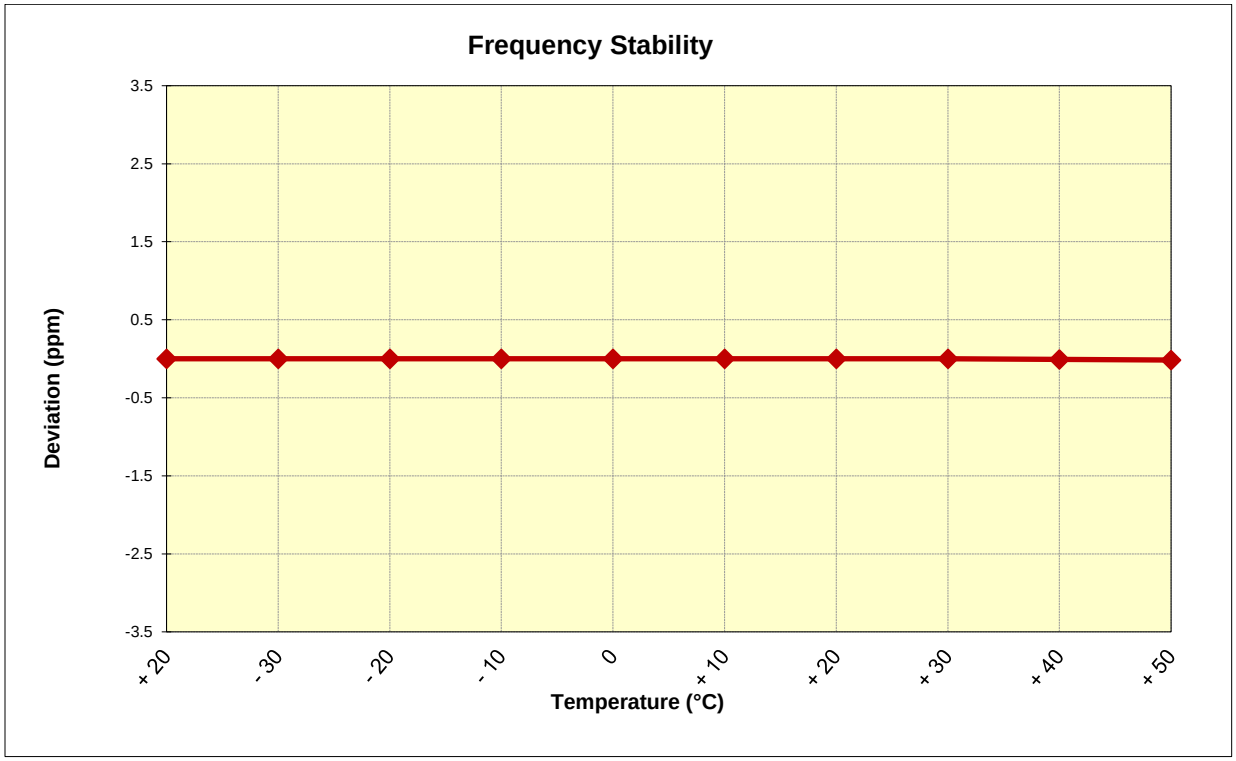
None.

OPERATING FREQUENCY: 3,625,005,000 Hz

REFERENCE VOLTAGE: 48.00 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	48.00	+ 20(Ref)	3,625,004,998.99	0.00	0.0000000
100 %		- 30	3,625,004,997.60	-1.39	0.0000000
100 %		- 20	3,625,005,000.46	1.47	0.0000000
100 %		- 10	3,625,004,996.48	-2.51	-0.0000001
100 %		0	3,625,004,997.57	-1.42	0.0000000
100 %		+ 10	3,625,004,999.48	0.49	0.0000000
100 %		+ 20	3,625,004,998.99	0.00	0.0000000
100 %		+ 30	3,625,004,998.11	-0.88	0.0000000
100 %		+ 40	3,625,004,963.53	-35.46	-0.0000010
100 %		+ 50	3,625,004,940.88	-58.11	-0.0000016
85 %	40.80	+ 20	3,625,004,997.14	-1.85	-0.0000001
115 %	55.20	+ 20	3,625,004,997.63	-1.36	0.0000000

Table 8-75. Frequency Stability Summary Data (NR_n48_1C_10M)



Plot 8-308. Frequency Stability Graph (NR_n48_1C_10M)

9.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Electronics Co., Ltd. RRU(RT4401) FCC ID: A3LRT4401-48A.** complies with all of the requirements of Part 96 of the FCC Rules.

10.0 APPENDIX. A

10.1 Conducted Average Output Power (EIRP)

Test Overview

A transmitter port of EUT is connected to the input of a signal analyzer. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Description

KDB 971168 D01 v03r01 – Section 5.4
KDB 662911 D01 v02r01 – Section E)1) In-Band Power Measurements
ANSI C63.26-2015 – Section 5.2.4
ANSI C63.26 - Section 5.2.5

The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The spectrum analyzer settings were as follows:

1. Conducted power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 ~ 5% of the expected OBW
3. VBW ≥ 3 x RBW
4. Span = 2 ~ 3 x OBW
5. No. of sweep points ≥ 2 x span / RBW
6. Detector = RMS
7. Trigger Settings is set to "RF Power" for signals with non-continuous operation with the sweep times set to "auto". Refer test note 3 for details.
8. Trace mode = Trace-Averaging (RMS) set to average over 100 sweeps
9. The trace was allowed to stabilize

Test Setup

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

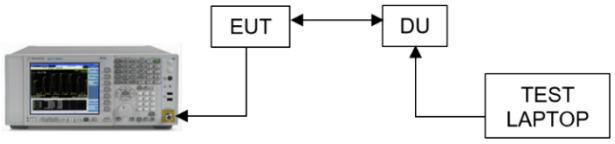


Figure 10-1. Test Instrument & Measurement Setup

Limit

N/A

Note

1. Conducted Average Output Power test result used to Grant of Authorization power and MPE.

2. Periodic trigger was used with gating ON. Gate sweeptime, Gate delay and gate length were set accordingly to capture ON time of the transmission.

3. MIMO Calculations are done considering output channel power for all ports and respective margins are calculated according to procedures in section 6.4 of ANSI C63.26 and section D of KDB 971168 D01 v03r01.

4. Consider the following factors for MIMO Power:
   Conducted power for each port is measured in dBm.
   Powers are summed up in linear using the measure-and-sum technique defined in KDB 971168 D01 v03r01- Section D.
   Conducted power per port (dBm) is converted to a linear value (mW). A summation of linear powers for all ports gives us the total MIMO conducted power in milliWatts (mW).

5. The EUT have multiple antennas transmitting correlated signals with the equal antenna gains and two outputs driving a cross-polarized antennas with N_{ANT}=2.
   Directional gain is to be computed as follows;
   * Directional gain = G_{ANT} + 10 log(N_{ANT}) dBi

6. Worst e.i.r.p Case Scenario gain antenna was selected to perform all RF testing that can got maximum power setting. And High gain antenna power setting will be reduced according to difference value of antenna gain declared by applicant.

7. Applied antenna gain as below:

Bandwidth	Antenna gain (dBi)	Directional gain (dBi)
All Bandwidth	9.0	12.0

8. Sample Calculation:
   Let us assume the following numbers:
   e) Total MIMO Conducted Power as 2597.54 mW
   f) Antenna Gain = 11.50 dBi

Factors		Value	Unit
Summed MIMO Conducted Power (linear sum)		2597.54	mW
Summed MIMO Conducted Power (dBm)	= 10 * log (2597.54) =	34.15	dBm/10MHz
Antenna Gain		12.00	dBi
Total MIMO EIRP		46.15	dBm/10MHz

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	**28.10**	28.06	**28.14**	28.02
	1	**28.13**	27.99	**28.17**	28.02
	2	**28.13**	28.23	**28.19**	28.19
	3	**28.14**	28.20	**28.38**	28.15
	Total Conducted Power (mW)	**2597.54**	2595.21	**2655.60**	2580.04
	Total Conducted Power(dBm)	**34.15**	34.14	**34.24**	34.12
	Ant. Gain (dBi)	**12.00**	12.00	**12.00**	12.00
	e.i.r.p(dBm/MHz)	**46.15**	46.14	**46.24**	46.12
Mid	0	28.14	28.22	28.07	28.08
	1	27.97	27.98	27.91	27.96
	2	27.98	28.01	27.93	27.97
	3	28.18	28.18	28.02	28.00
	Total Conducted Power (mW)	2563.96	2581.87	2513.96	2525.43
	Total Conducted Power(dBm)	34.09	34.12	34.00	34.02
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	46.09	46.12	46.00	46.02
High	0	28.11	28.16	28.23	28.17
	1	28.03	28.12	28.26	28.00
	2	28.18	28.09	28.22	28.07
	3	28.17	28.19	28.14	28.07
	Total Conducted Power (mW)	2596.28	2606.61	2650.53	2569.52
	Total Conducted Power(dBm)	34.14	34.16	34.23	34.10
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	46.14	46.16	46.23	46.10

Table 10-1. Conducted Average Output Power Table (NR_n48_1C_10M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	30.91	31.03	31.06	31.01
	1	30.86	31.02	31.06	31.02
	2	30.94	31.06	31.00	31.05
	3	30.82	31.01	30.95	31.21
	Total Conducted Power (mW)	4901.56	5070.65	5056.32	5121.36
	Total Conducted Power(dBm)	36.90	37.05	37.04	37.09
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	48.90	49.05	49.04	49.09
Mid	0	**31.05**	31.06	31.01	31.01
	1	**31.04**	31.11	31.15	31.05
	2	**31.02**	31.09	31.12	31.03
	3	**31.03**	30.92	31.02	31.15
	Total Conducted Power (mW)	**5076.47**	5088.89	5123.93	5106.15
	Total Conducted Power(dBm)	**37.06**	37.07	37.10	37.08
	Ant. Gain (dBi)	**12.00**	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	**49.06**	49.07	49.10	49.08
High	0	31.04	30.97	**31.10**	30.99
	1	30.99	31.03	**31.06**	30.97
	2	30.97	31.09	**31.04**	31.02
	3	31.12	31.17	**31.10**	30.99
	Total Conducted Power (mW)	5071.06	5112.38	**5123.51**	5027.06
	Total Conducted Power(dBm)	37.05	37.09	**37.10**	37.01
	Ant. Gain (dBi)	12.00	12.00	**12.00**	12.00
	e.i.r.p(dBm/MHz)	49.05	49.09	**49.10**	49.01

Table 10-2. Conducted Average Output Power Table (NR_n48_1C_20M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	**32.97**	**33.06**	33.03	32.79
	1	**33.01**	**33.07**	33.07	32.82
	2	**32.96**	**33.02**	33.02	32.78
	3	**32.68**	**32.92**	32.74	32.50
	Total Conducted Power (mW)	**7811.89**	**8014.02**	7920.56	7490.32
	Total Conducted Power(dBm)	**38.93**	**39.04**	38.99	38.75
	Ant. Gain (dBi)	**12.00**	**12.00**	12.00	12.00
	e.i.r.p(dBm/MHz)	**50.93**	**51.04**	50.99	50.75
Mid	0	32.88	33.06	33.00	32.98
	1	33.03	33.10	33.05	33.03
	2	32.85	33.00	32.84	32.83
	3	32.75	32.88	32.79	32.77
	Total Conducted Power (mW)	7761.15	8000.91	7837.80	7806.20
	Total Conducted Power(dBm)	38.90	39.03	38.94	38.92
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	50.90	51.03	50.94	50.92
High	0	32.79	32.66	32.61	32.64
	1	32.83	32.71	32.66	32.70
	2	32.65	32.71	32.55	32.69
	3	32.57	32.51	32.48	32.51
	Total Conducted Power (mW)	7467.69	7360.15	7237.89	7338.81
	Total Conducted Power(dBm)	38.73	38.67	38.60	38.66
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	50.73	50.67	50.60	50.66

Table 10-3. Conducted Average Output Power Table (NR_n48_1C_30M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	**34.12**	**34.09**	33.93	33.88
	1	**34.09**	**34.17**	33.90	33.97
	2	**34.19**	**34.13**	33.90	33.94
	3	**34.08**	**34.15**	33.92	33.88
	Total Conducted Power (mW)	**10329.55**	**10365.02**	9847.18	9858.88
	Total Conducted Power(dBm)	**40.14**	**40.16**	39.93	39.94
	Ant. Gain (dBi)	**12.00**	**12.00**	12.00	12.00
	e.i.r.p(dBm/MHz)	**52.14**	**52.16**	51.93	51.94
Mid	0	33.84	34.01	33.86	33.89
	1	33.81	33.94	33.78	33.80
	2	33.84	34.19	33.78	33.79
	3	33.87	34.15	33.84	33.83
	Total Conducted Power (mW)	9684.23	10219.48	9628.86	9656.67
	Total Conducted Power(dBm)	39.86	40.09	39.84	39.85
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	51.86	52.09	51.84	51.85
High	0	33.77	33.96	33.75	33.80
	1	33.68	34.15	33.68	33.71
	2	33.78	33.92	33.88	33.92
	3	33.82	33.95	33.77	33.81
	Total Conducted Power (mW)	9513.49	10038.19	9530.58	9618.87
	Total Conducted Power(dBm)	39.78	40.02	39.79	39.83
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	51.78	52.02	51.79	51.83

Table 10-4. Conducted Average Output Power Table (NR_n48_1C_40M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	27.88	27.63	27.79	27.70
	1	27.87	27.71	27.79	27.72
	2	28.07	27.81	27.89	27.84
	3	28.03	27.86	27.82	27.88
	Total Conducted Power (mW)	2502.65	2384.52	2422.87	2402.30
	Total Conducted Power(dBm)	33.98	33.77	33.84	33.81
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	45.98	45.77	45.84	45.81
Mid	0	27.90	27.65	27.86	27.87
	1	27.87	27.64	27.71	27.76
	2	27.89	27.62	27.74	27.79
	3	27.87	27.74	27.80	27.83
	Total Conducted Power (mW)	2456.47	2335.26	2397.99	2417.30
	Total Conducted Power(dBm)	33.90	33.68	33.80	33.83
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	45.90	45.68	45.80	45.83
High	0	**27.88**	**28.01**	27.97	27.74
	1	**28.01**	**28.04**	28.03	28.03
	2	**27.99**	**28.07**	27.94	28.02
	3	**28.09**	**28.14**	28.04	28.07
	Total Conducted Power (mW)	**2519.85**	**2562.05**	2521.04	2504.70
	Total Conducted Power(dBm)	**34.01**	**34.09**	34.02	33.99
	Ant. Gain (dBi)	**12.00**	**12.00**	12.00	12.00
	e.i.r.p(dBm/MHz)	**46.01**	**46.09**	46.02	45.99

Table 10-5. Conducted Average Output Power Table (LTE_B48_2C_5M+5M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	30.58	30.36	30.58	30.62
	1	30.61	30.48	30.69	30.66
	2	30.65	30.46	30.88	30.52
	3	30.62	30.45	30.93	30.60
	Total Conducted Power (mW)	4608.58	4424.20	4778.49	4592.93
	Total Conducted Power(dBm)	36.64	36.46	36.79	36.62
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	48.64	48.46	48.79	48.62
Mid	0	**31.56**	30.21	**31.02**	30.97
	1	**31.54**	30.59	**31.52**	31.06
	2	**31.35**	31.09	**31.68**	31.13
	3	**31.00**	30.82	**31.67**	31.58
	Total Conducted Power (mW)	**5481.30**	4688.16	**5625.03**	5262.68
	Total Conducted Power(dBm)	**37.39**	36.71	**37.50**	37.21
	Ant. Gain (dBi)	**12.00**	12.00	**12.00**	12.00
	e.i.r.p(dBm/MHz)	**49.39**	48.71	**49.50**	49.21
High	0	30.80	30.63	30.41	30.57
	1	31.29	30.71	30.34	30.29
	2	31.14	30.56	30.35	30.47
	3	30.59	30.28	30.50	30.75
	Total Conducted Power (mW)	4993.81	4537.94	4386.39	4512.10
	Total Conducted Power(dBm)	36.98	36.57	36.42	36.54
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	48.98	48.57	48.42	48.54

Table 10-6. Conducted Average Output Power Table (NR_n48_2C_10M+10M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	32.96	33.04	**33.28**	32.83
	1	33.03	33.03	**33.06**	32.81
	2	32.93	32.87	**33.11**	32.78
	3	32.89	32.93	**33.00**	32.87
	Total Conducted Power (mW)	7894.78	7922.60	**8192.87**	7661.65
	Total Conducted Power(dBm)	38.97	38.99	**39.13**	38.84
	Ant. Gain (dBi)	12.00	12.00	**12.00**	12.00
	e.i.r.p(dBm/MHz)	50.97	50.99	**51.13**	50.84
Mid	0	**33.14**	32.95	32.82	32.66
	1	**33.04**	32.89	32.74	32.59
	2	**32.85**	32.67	32.56	32.39
	3	**33.07**	32.88	32.75	32.58
	Total Conducted Power (mW)	**8029.56**	7707.94	7480.24	7205.68
	Total Conducted Power(dBm)	**39.05**	38.87	38.74	38.58
	Ant. Gain (dBi)	**12.00**	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	**51.05**	50.87	50.74	50.58
High	0	33.04	32.85	32.81	32.68
	1	33.00	32.77	32.73	32.58
	2	32.85	32.69	32.64	32.60
	3	32.94	32.75	32.69	32.64
	Total Conducted Power (mW)	7904.40	7561.32	7479.19	7321.11
	Total Conducted Power(dBm)	38.98	38.79	38.74	38.65
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	50.98	50.79	50.74	50.65

Table 10-7. Conducted Average Output Power Table (NR_n48_2C_10M+20M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	34.09	34.06	34.10	**34.14**
	1	34.19	34.30	34.25	**34.37**
	2	34.07	34.29	34.23	**34.32**
	3	33.85	34.01	34.04	**34.05**
	Total Conducted Power (mW)	10168.01	10441.39	10414.75	**10574.38**
	Total Conducted Power(dBm)	40.07	40.19	40.18	**40.24**
	Ant. Gain (dBi)	12.00	12.00	12.00	**12.00**
	e.i.r.p(dBm/MHz)	52.07	52.19	52.18	**52.24**
Mid	0	**34.15**	34.05	34.12	33.99
	1	**34.31**	34.10	34.24	34.14
	2	**34.18**	33.97	34.18	34.04
	3	**33.90**	33.80	33.96	33.87
	Total Conducted Power (mW)	**10370.79**	10004.80	10343.91	10073.23
	Total Conducted Power(dBm)	**40.16**	40.00	40.15	40.03
	Ant. Gain (dBi)	**12.00**	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	**52.16**	52.00	52.15	52.03
High	0	33.81	33.86	33.91	33.88
	1	33.88	33.88	33.97	33.89
	2	33.75	33.78	33.82	33.73
	3	33.61	33.68	33.73	33.67
	Total Conducted Power (mW)	9515.32	9596.90	9725.35	9581.06
	Total Conducted Power(dBm)	39.78	39.82	39.88	39.81
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	51.78	51.82	51.88	51.81

Table 10-8. Conducted Average Output Power Table (NR_n48_2C_10M+30M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	34.08	34.15	33.62	34.10
	1	34.12	34.23	33.71	34.18
	2	34.30	34.18	33.59	34.06
	3	34.32	34.22	33.61	34.09
	Total Conducted Power (mW)	10536.34	10509.25	9232.82	10299.89
	Total Conducted Power(dBm)	40.23	40.22	39.65	40.13
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	52.23	52.22	51.65	52.13
Mid	0	**34.21**	**34.29**	33.94	33.88
	1	**34.27**	**34.44**	33.99	33.98
	2	**34.21**	**34.31**	33.94	33.90
	3	**34.23**	**34.41**	33.99	33.94
	Total Conducted Power (mW)	**10594.17**	**10923.38**	9967.06	9875.91
	Total Conducted Power(dBm)	**40.25**	**40.38**	39.99	39.95
	Ant. Gain (dBi)	**12.00**	**12.00**	12.00	12.00
	e.i.r.p(dBm/MHz)	**52.25**	**52.38**	51.99	51.95
High	0	33.87	33.75	33.59	33.44
	1	33.96	33.86	33.67	33.54
	2	33.93	33.89	33.62	33.49
	3	33.90	33.87	33.59	33.54
	Total Conducted Power (mW)	9853.10	9690.45	9200.73	8960.45
	Total Conducted Power(dBm)	39.94	39.86	39.64	39.52
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	51.94	51.86	51.64	51.52

Table 10-9. Conducted Average Output Power Table (NR_n48_2C_20M+20M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	34.97	34.98	35.00	34.99
	1	35.10	35.14	34.95	35.02
	2	35.08	34.97	34.63	35.07
	3	34.91	34.86	34.85	34.82
	Total Conducted Power (mW)	12694.93	12616.10	12247.30	12579.43
	Total Conducted Power(dBm)	41.04	41.01	40.88	41.00
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	53.04	53.01	52.88	53.00
Mid	0	**35.10**	35.09	35.04	**35.08**
	1	**35.06**	35.15	35.08	**35.25**
	2	**35.24**	34.95	34.88	**35.03**
	3	**35.05**	34.59	34.52	**34.79**
	Total Conducted Power (mW)	**12983.05**	12505.38	12320.10	**12767.93**
	Total Conducted Power(dBm)	**41.13**	40.97	40.91	**41.06**
	Ant. Gain (dBi)	**12.00**	12.00	12.00	**12.00**
	e.i.r.p(dBm/MHz)	**53.13**	52.97	52.91	**53.06**
High	0	35.13	34.75	34.80	34.66
	1	34.86	34.76	34.81	34.69
	2	**35.15**	34.62	34.71	34.57
	3	35.03	34.52	34.46	34.60
	Total Conducted Power (mW)	12777.93	11706.38	11797.42	11616.78
	Total Conducted Power(dBm)	41.06	40.68	40.72	40.65
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	53.06	52.68	52.72	52.65

Table 10-10. Conducted Average Output Power Table (NR_n48_2C_10M+40M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	**36.11**	35.95	**36.15**	36.19
	1	**36.24**	35.91	**36.32**	36.19
	2	**36.08**	35.82	**36.07**	36.16
	3	**35.80**	35.56	**35.86**	35.69
	Total Conducted Power (mW)	**16147.44**	15251.86	**16307.00**	16155.49
	Total Conducted Power(dBm)	**42.08**	41.83	**42.12**	42.08
	Ant. Gain (dBi)	**12.00**	12.00	**12.00**	12.00
	e.i.r.p(dBm/MHz)	**54.08**	53.83	**54.12**	54.08
Mid	0	35.78	35.77	35.73	35.72
	1	35.92	35.84	35.74	35.79
	2	35.80	35.79	35.77	35.89
	3	35.45	35.58	35.45	35.61
	Total Conducted Power (mW)	15002.25	15020.04	14774.08	15046.31
	Total Conducted Power(dBm)	41.76	41.77	41.70	41.77
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	53.76	53.77	53.70	53.77
High	0	35.63	36.04	35.87	35.81
	1	35.67	36.03	35.77	35.86
	2	35.71	36.05	35.91	35.89
	3	35.58	35.90	35.75	35.74
	Total Conducted Power (mW)	14683.74	15944.20	15297.19	15296.68
	Total Conducted Power(dBm)	41.67	42.03	41.85	41.85
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	53.67	54.03	53.85	53.85

Table 10-11. Conducted Average Output Power Table (NR_n48_2C_20M+40M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	36.68	36.59	36.62	**36.62**
	1	36.61	36.66	36.79	**36.72**
	2	36.73	36.55	36.66	**36.71**
	3	36.37	36.30	36.42	**36.50**
	Total Conducted Power (mW)	18282.16	17979.19	18387.05	**18445.89**
	Total Conducted Power(dBm)	42.62	42.55	42.65	**42.66**
	Ant. Gain (dBi)	12.00	12.00	12.00	**12.00**
	e.i.r.p(dBm/MHz)	54.62	54.55	54.65	**54.66**
Mid	0	**36.80**	36.65	36.44	36.29
	1	**36.70**	36.67	36.51	36.31
	2	**36.62**	36.50	36.54	36.42
	3	**36.51**	36.28	36.32	36.25
	Total Conducted Power (mW)	**18532.77**	17981.99	17676.33	17133.89
	Total Conducted Power(dBm)	**42.68**	42.55	42.47	42.34
	Ant. Gain (dBi)	**12.00**	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	**54.68**	54.55	54.47	54.34
High	0	36.25	36.44	36.24	36.35
	1	36.12	36.25	36.12	36.21
	2	36.23	36.27	36.18	36.18
	3	36.17	36.17	36.11	36.21
	Total Conducted Power (mW)	16647.16	16998.94	16532.61	16821.34
	Total Conducted Power(dBm)	42.21	42.30	42.18	42.26
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	54.21	54.30	54.18	54.26

Table 10-12. Conducted Average Output Power Table (NR_n48_2C_30M+40M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	**37.07**	37.08	**37.19**	37.07
	1	**37.03**	37.16	**37.18**	37.07
	2	**37.32**	37.35	**37.32**	37.17
	3	**37.28**	37.33	**37.29**	37.23
	Total Conducted Power (mW)	**20880.67**	21145.06	**21213.04**	20683.02
	Total Conducted Power(dBm)	**43.20**	43.25	**43.27**	43.16
	Ant. Gain (dBi)	**12.00**	12.00	**12.00**	12.00
	e.i.r.p(dBm/MHz)	**55.20**	55.25	**55.27**	55.16
Mid	0	36.91	37.01	36.94	37.01
	1	37.02	36.97	37.14	36.99
	2	37.29	37.27	37.33	37.26
	3	37.24	37.35	37.22	37.19
	Total Conducted Power (mW)	20598.69	20766.65	20799.02	20580.86
	Total Conducted Power(dBm)	43.14	43.17	43.18	43.13
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	55.14	55.17	55.18	55.13
High	0	36.97	37.03	37.06	36.97
	1	36.98	37.07	37.09	37.00
	2	37.23	37.38	37.26	37.28
	3	37.24	37.32	37.29	37.31
	Total Conducted Power (mW)	20547.30	21005.19	20877.46	20717.58
	Total Conducted Power(dBm)	43.13	43.22	43.20	43.16
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	55.13	55.22	55.20	55.16

Table 10-13. Conducted Average Output Power Table (NR_n48_2C_40M+40M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	**31.15**	30.87	30.90	30.93
	1	**31.09**	30.76	30.93	30.88
	2	**31.12**	31.01	31.13	31.19
	3	**31.10**	30.96	31.10	31.15
	Total Conducted Power (mW)	**5170.90**	4922.25	5054.49	5081.80
	Total Conducted Power(dBm)	**37.14**	36.92	37.04	37.06
	Ant. Gain (dBi)	**12.00**	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	**49.14**	48.92	49.04	49.06
Mid	0	31.05	30.99	**31.10**	31.07
	1	31.18	31.00	**31.15**	31.10
	2	30.97	31.01	**31.11**	31.07
	3	30.97	30.96	**31.05**	31.02
	Total Conducted Power (mW)	5086.22	5024.17	**5156.14**	5111.75
	Total Conducted Power(dBm)	37.06	37.01	**37.12**	37.09
	Ant. Gain (dBi)	12.00	12.00	**12.00**	12.00
	e.i.r.p(dBm/MHz)	49.06	49.01	**49.12**	49.09
High	0	31.02	30.90	31.04	31.08
	1	31.07	30.84	31.09	31.04
	2	31.15	31.07	31.06	31.08
	3	31.16	30.95	31.10	31.11
	Total Conducted Power (mW)	5153.46	4967.55	5120.55	5126.45
	Total Conducted Power(dBm)	37.12	36.96	37.09	37.10
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	49.12	48.96	49.09	49.10

Table 10-14. Conducted Average Output Power Table (LTE_1C+NR_1C_10M+10M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	35.92	35.63	35.41	**35.78**
	1	35.61	35.69	35.56	**35.90**
	2	36.14	35.99	36.12	**36.36**
	3	36.04	35.91	35.98	**36.29**
	Total Conducted Power (mW)	15676.96	15234.09	15128.24	**16256.00**
	Total Conducted Power(dBm)	41.95	41.83	41.80	**42.11**
	Ant. Gain (dBi)	12.00	12.00	12.00	**12.00**
	e.i.r.p(dBm/MHz)	53.95	53.83	53.80	**54.11**
Mid	0	**35.91**	35.58	35.61	35.76
	1	**35.93**	35.86	35.65	35.81
	2	**36.47**	36.19	36.17	36.34
	3	**36.41**	36.03	36.10	36.18
	Total Conducted Power (mW)	**16628.15**	15636.66	15525.77	16032.50
	Total Conducted Power(dBm)	**42.21**	41.94	41.91	42.05
	Ant. Gain (dBi)	**12.00**	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	**54.21**	53.94	53.91	54.05
High	0	35.25	35.38	35.46	35.51
	1	35.34	35.46	35.52	35.57
	2	35.96	35.99	35.94	36.20
	3	36.08	35.88	36.06	36.02
	Total Conducted Power (mW)	14769.11	14811.53	15043.02	15330.24
	Total Conducted Power(dBm)	41.69	41.71	41.77	41.86
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	53.69	53.71	53.77	53.86

Table 10-15. Conducted Average Output Power Table (LTE_1C+NR_1C_20M+40M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	**32.80**	32.87	32.78	**32.91**
	1	**32.81**	32.69	32.80	**32.94**
	2	**32.93**	32.71	32.97	**33.04**
	3	**32.96**	32.83	32.98	**33.09**
	Total Conducted Power (mW)	**7755.64**	7579.27	7769.79	**7972.99**
	Total Conducted Power(dBm)	**38.90**	38.80	38.90	**39.02**
	Ant. Gain (dBi)	**12.00**	12.00	12.00	**12.00**
	e.i.r.p(dBm/MHz)	**50.90**	50.80	50.90	**51.02**
Mid	0	32.76	32.94	32.79	32.74
	1	32.79	32.90	32.83	32.54
	2	32.78	32.97	32.87	32.72
	3	32.80	32.93	32.83	32.71
	Total Conducted Power (mW)	7591.24	7862.62	7674.84	7411.11
	Total Conducted Power(dBm)	38.80	38.96	38.85	38.70
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	50.80	50.96	50.85	50.70
High	0	32.79	32.84	32.80	32.78
	1	32.72	32.78	32.76	32.74
	2	32.95	32.83	32.90	32.74
	3	32.94	32.88	32.87	32.71
	Total Conducted Power (mW)	7712.07	7679.35	7679.72	7521.72
	Total Conducted Power(dBm)	38.87	38.85	38.85	38.76
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	50.87	50.85	50.85	50.76

Table 10-16. Conducted Average Output Power Table (LTE_2C+NR_1C_10M+10M+10M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	36.66	36.95	36.73	36.32
	1	36.71	36.91	36.79	36.38
	2	37.15	37.38	37.32	36.92
	3	37.16	37.33	37.25	36.84
	Total Conducted Power (mW)	19710.56	20741.28	20189.02	18381.57
	Total Conducted Power(dBm)	42.95	43.17	43.05	42.64
	Ant. Gain (dBi)	12.00	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	54.95	55.17	55.05	54.64
Mid	0	36.61	**37.10**	36.80	36.95
	1	36.66	**37.01**	36.85	37.01
	2	37.23	**37.36**	37.22	37.06
	3	37.13	**37.37**	37.22	36.98
	Total Conducted Power (mW)	19664.50	**21054.64**	20172.62	20048.37
	Total Conducted Power(dBm)	42.94	**43.23**	43.05	43.02
	Ant. Gain (dBi)	12.00	**12.00**	12.00	12.00
	e.i.r.p(dBm/MHz)	54.94	**55.23**	55.05	55.02
High	0	**36.73**	36.71	36.67	36.50
	1	**36.81**	36.81	36.65	36.56
	2	**37.33**	37.14	37.24	37.07
	3	**37.34**	37.09	37.29	37.04
	Total Conducted Power (mW)	**20334.66**	19778.35	19923.56	19147.37
	Total Conducted Power(dBm)	**43.08**	42.96	42.99	42.82
	Ant. Gain (dBi)	**12.00**	12.00	12.00	12.00
	e.i.r.p(dBm/MHz)	**55.08**	54.96	54.99	54.82

Table 10-17. Conducted Average Output Power Table (LTE_2C+NR_1C_20M+20M+40M)