



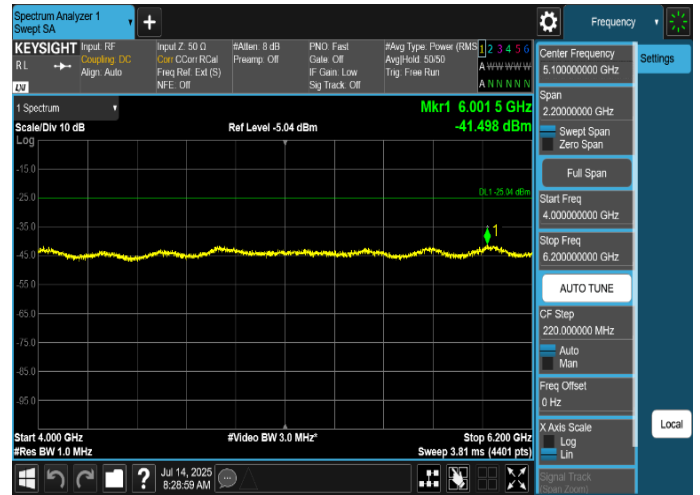
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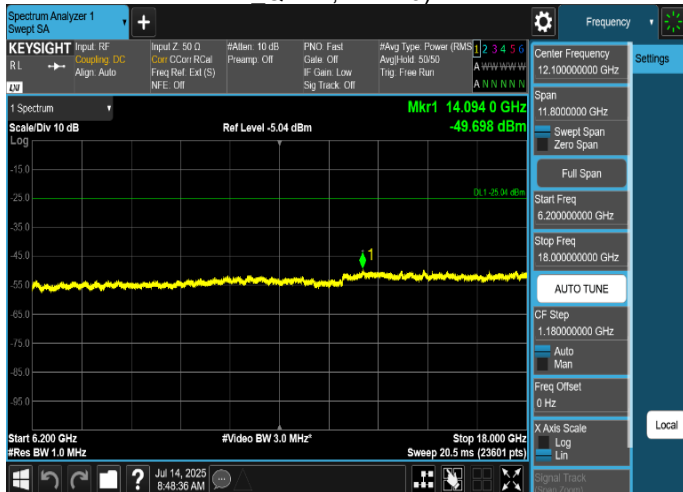
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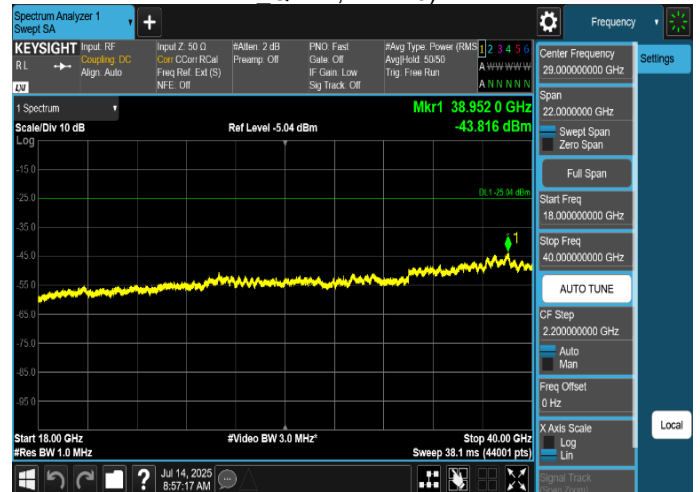
Plot 8-126. Conducted Spurious Emission Plot
3.901 GHz to 4 GHz
(n48_4C_20M+20M+20M+20M+n77_2C_100M+100M
QPSK, Port 13)



Plot 8-127. Conducted Spurious Emission Plot
4 GHz to 6.2 GHz
(n48_4C_20M+20M+20M+20M+n77_2C_100M+100M
QPSK, Port 13)



Plot 8-128. Conducted Spurious Emission Plot
6.2 GHz to 18 GHz
(n48_4C_20M+20M+20M+20M+n77_2C_100M+100M
_QPSK, Port 13)



Plot 8-129. Conducted Spurious Emission Plot
18 GHz to 40 GHz
(n48_4C_20M+20M+20M+20M+n77_2C_100M+100M
_QPSK, Port 13)



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8.9 Frequency Stability

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 to $+50^{\circ}\text{C}$ in 10°C increments 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.

Frequency measurements are made -30°C to $+50^{\circ}\text{C}$ in 10°C increments. 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 emissions stay within the authorized bands of operation.

Test Setup

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

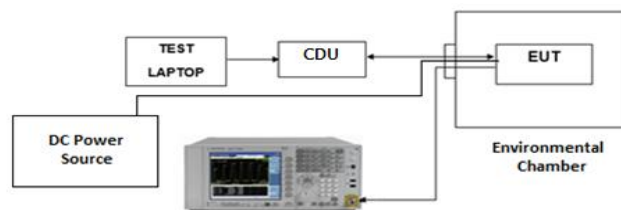


Figure 8-8. Test Instrument & Measurement Setup

Test Notes

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OPERATING FREQUENCY: 3625,000,000 Hz
REFERENCE VOLTAGE: 120.00 VAC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	120.0	- 30	3,624,999,993	-5.52	-0.0000002
100 %		- 20	3,624,999,997	-0.94	0.0000000
100 %		- 10	3,624,999,996	-1.93	-0.0000001
100 %		0	3,624,999,997	-0.95	0.0000000
100 %		+ 10	3,624,999,999	0.77	0.0000000
100 %		+ 20	3,624,999,998	0.00	0.0000000
100 %		+ 30	3,624,999,996	-2.45	-0.0000001
100 %		+ 40	3,624,999,998	-0.51	0.0000000
100 %		+ 50	3,624,999,996	-2.67	-0.0000001
85 %	102.00	+ 20	3,624,999,999	1.12	0.0000000
115 %	138.00	+ 20	3,624,999,999	0.89	0.0000000

Table 8-56. Frequency Stability Summary Data (n48_1C_10M)

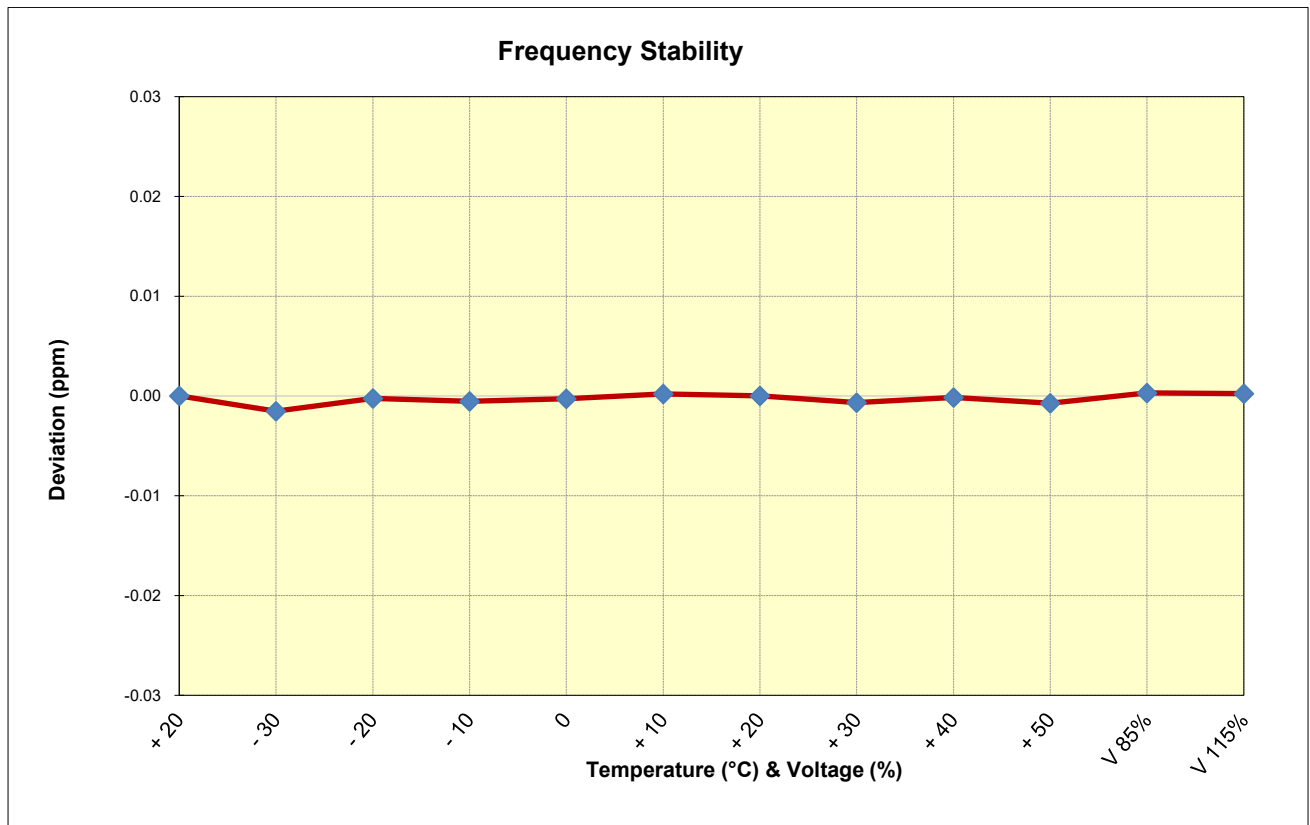


Figure 8-9. Frequency Stability Graph (n48_1C_10M)

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8.10 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 5.5.3.2

Test Setting

1. Start frequency was set to 30 MHz and stop frequency was set to at least 10 * the fundamental frequency
2. RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1GHz
3. VBW $\geq 3 \times$ RBW
4. No. of sweep points $\geq 2 \times$ 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

§ 96.41 (e)

Any emission below 3530 MHz and above 3720 MHz ≤ -40 dBm/MHz

DA 25-387 Waiver

Each radio, when operated in 3.55-3.7 GHz band (3.5 GHz band) band-only mode for equipment authorization testing, must comply with section 96.41(e)(2) in its entirety, except the radio's OOB may be limited to a conducted power level of no greater than -25 dBm/MHz for frequencies between 3.72 and 4.0 GHz;

Test Setup

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

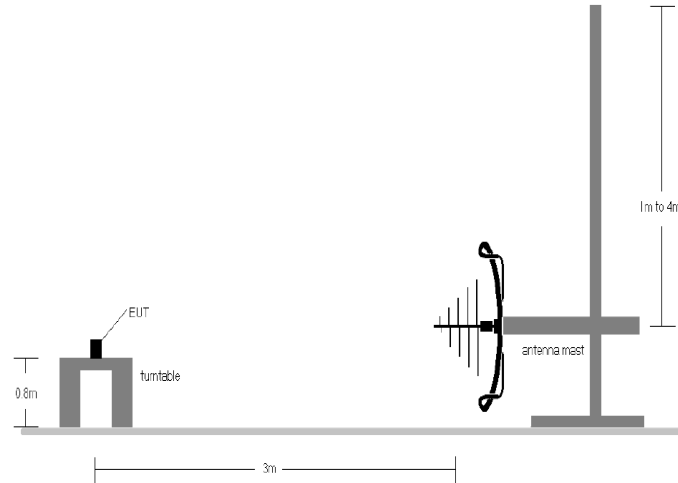


Figure 8-10. Test Instrument & Measurement Setup < 1 GHz

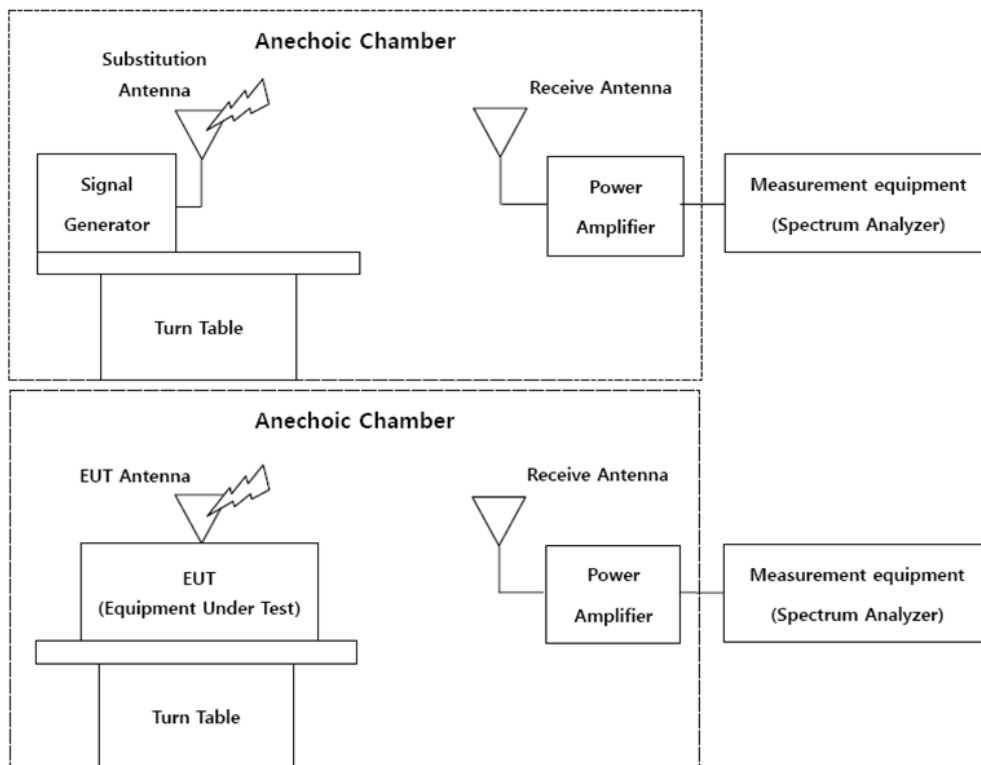


Figure 8-11. Test Instrument & Measurement Setup > 1 GHz

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Test Notes

1. The below 1GHz average EIRP reported below is calculated per 5.2.7 of ANSI C63.26-2015 which states:

The measured E-field in V/m is converted to e.i.r.p in dBm.

Effective Isotropic Radiated Power Sample Calculation

$$\begin{aligned}\text{Field Strength [dB}\mu\text{V/m]} &= \text{Measured Value [dB}\mu\text{V/m]} + \text{AFCL [dB/m]} \\ &= 59.7[\text{dB}\mu\text{V/m}] - 18.0 [\text{dB/m}] = 41.7 \text{ dB}\mu\text{V/m}\end{aligned}$$

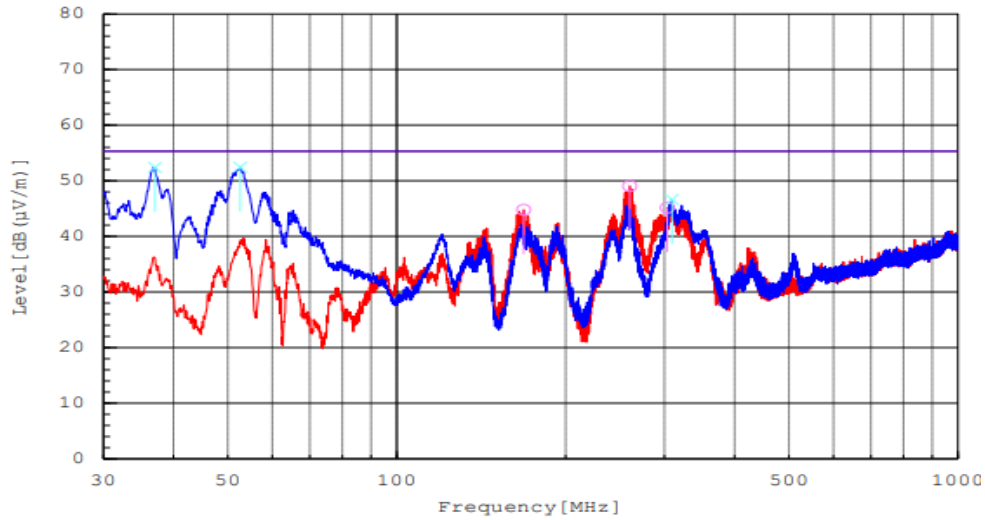
$$\begin{aligned}\text{e.i.r.p. [dBm]} &= E[\text{dB } \mu\text{V/m}] + 20 \log_{10}(d[\text{m}]) - 104.8 \\ &= 41.7 \text{ dB}[\mu\text{V/m}] + (20 * \log(3)) - 104.8 \\ &= -53.56 \text{ dBm}\end{aligned}$$

2. The above 1GHz average EIRP reported below is calculated per 5.5.3 of ANSI C63.26-2015 which states:

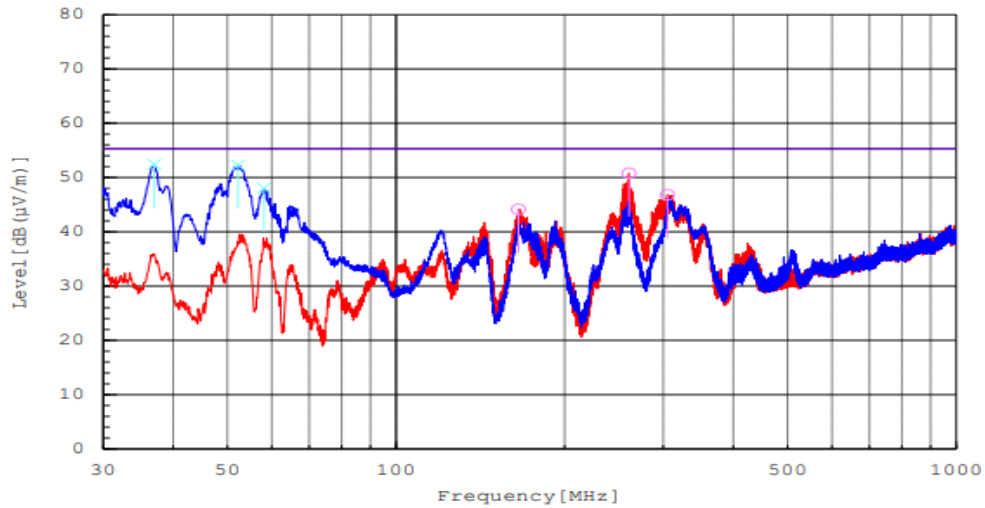
Effective Isotropic Radiated Power Sample Calculation**Substitution measurement**

$$\begin{aligned}\text{e.i.r.p. [dBm]} &= \text{EUT}_{\text{Prec}} [\text{dBm EIRP}] + P_L [\text{dB}] \\ &= -37.0 \text{ dBm} - 6.9 \text{ dB} \\ &= -43.9 \text{ dBm}\end{aligned}$$

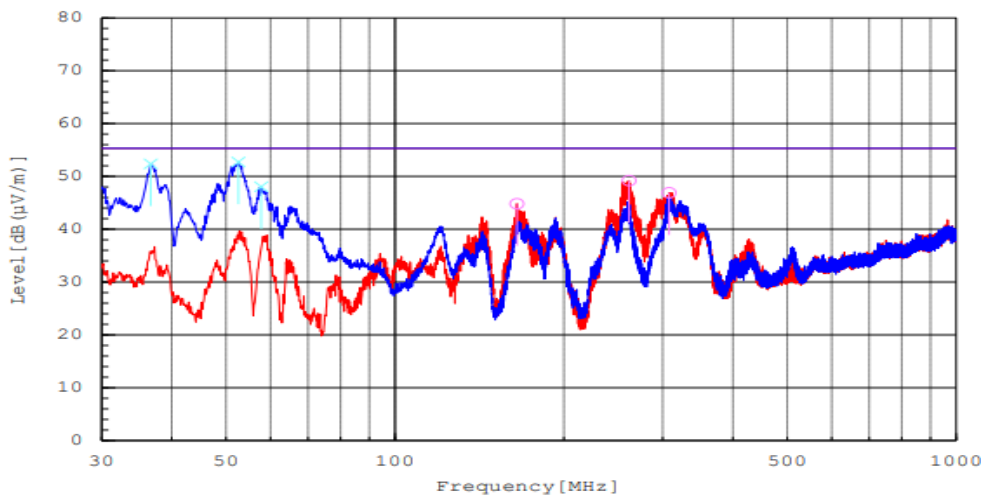
3. The EUT was tested in both horizontal and vertical antenna polarizations and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, channel bandwidth configurations shown in the tables below.
4. The spectrum is measured from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



**Plot 8-130. Radiated spurious emission Plot_30 MHz to 1000 MHz
(n48_1C_80M_Low Channel)**



**Plot 8-131. Radiated spurious emission Plot_30 MHz to 1000 MHz
(n48_1C_80M_Mid Channel)**

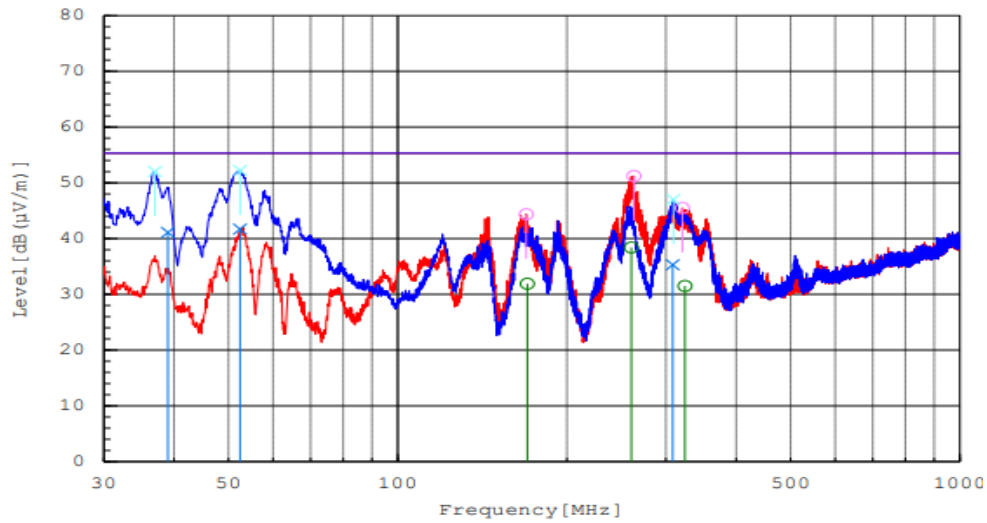


**Plot 8-132. Radiated spurious emission Plot_30 MHz to 1000 MHz
(n48_1C_80M_High Channel)**

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**Plot 8-133. Radiated spurious emission Plot_30 MHz to 1000 MHz
(Multi-Band_n48_4C_20M+20M+20M+20M+n77_2C_100M+100M)**

Mod	Frequency [MHz]	Ant. Pol. [H/V]	Analyzer Level [dBμV/m]	AFCL [dB]	Field Strength [dBμV/m]	EIRP [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]	Antenna Heigh [cm]	Turntable azimuth [degree]
Multi-Band_n48_4C_20M+20M+20M+20M+n77_2C_100M+100M	39.02	V	52.1	-11.0	41.1	-54.16	-40.0	-14.16	112.3	326.7
	52.40	V	59.7	-18.0	41.7	-53.56	-40.0	-13.56	124.5	359.2
	170.09	H	46.1	-14.2	31.9	-63.36	-40.0	-23.36	241.5	275.1
	260.40	H	47.6	-9.2	38.4	-56.86	-40.0	-16.86	112.0	343.4
	308.41	V	44.8	-9.5	35.3	-59.96	-40.0	-19.96	247.0	240.4
	324.32	H	40.8	-9.3	31.5	-63.76	-40.0	-23.76	131.0	132.7

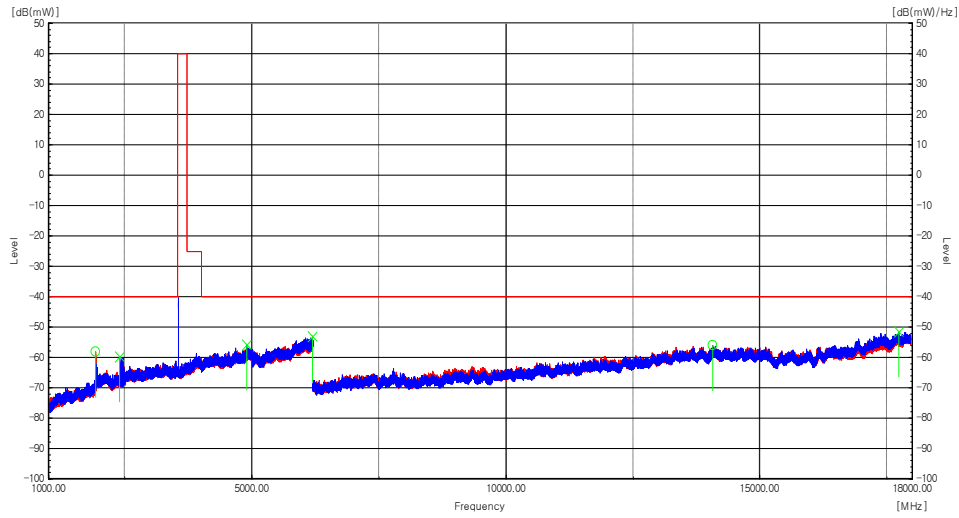
Table 8-57. Radiated spurious emission below 1GHz Worst mode Summary Data



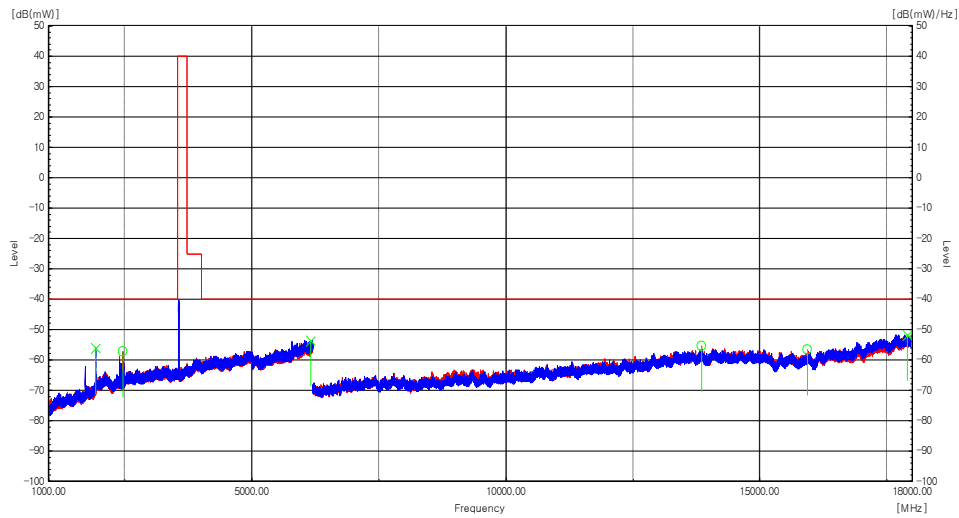
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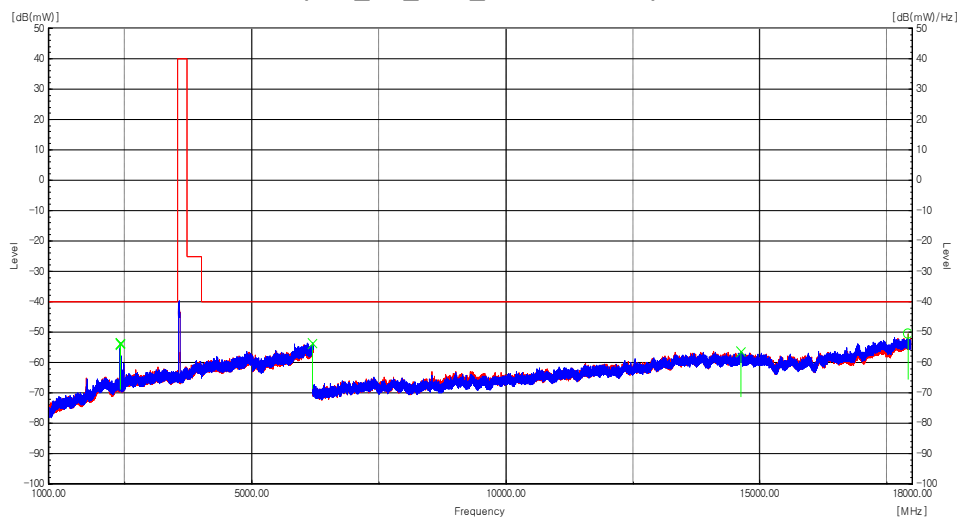
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**Plot 8-134. Radiated spurious emission Plot_1 GHz to 18 GHz
(n48_1C_10M_Low Channel)**



**Plot 8-135. Radiated spurious emission Plot_1 GHz to 18 GHz
(n48_1C_20M_Low Channel)**



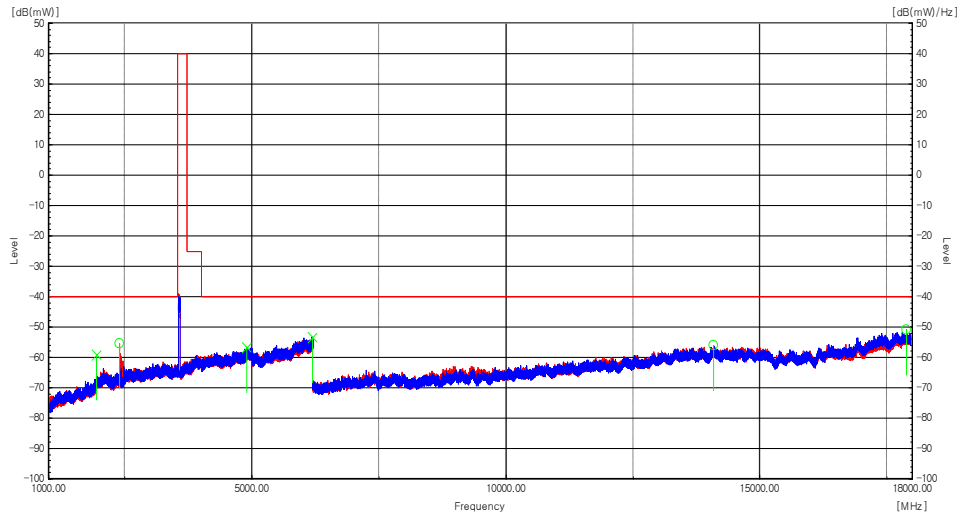
**Plot 8-136. Radiated spurious emission Plot_1 GHz to 18 GHz
(n48_1C_30M_Low Channel)**



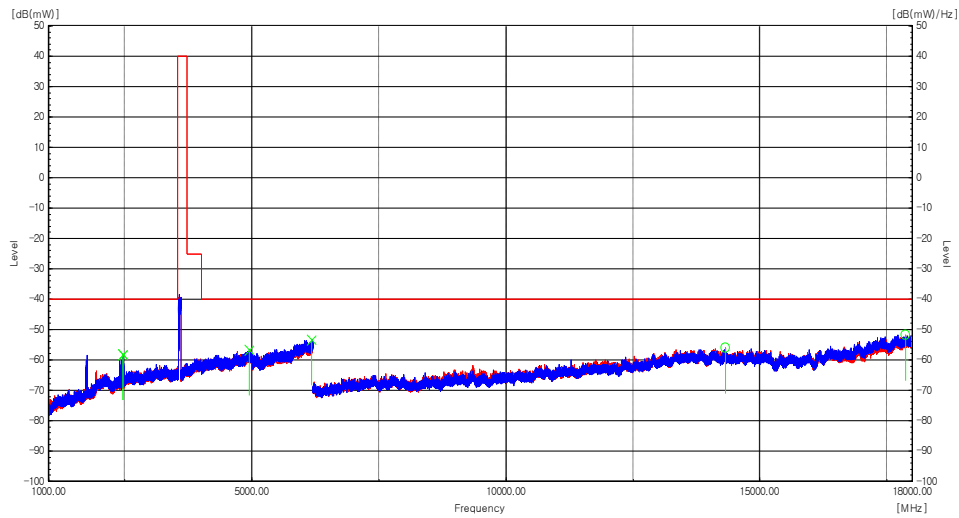
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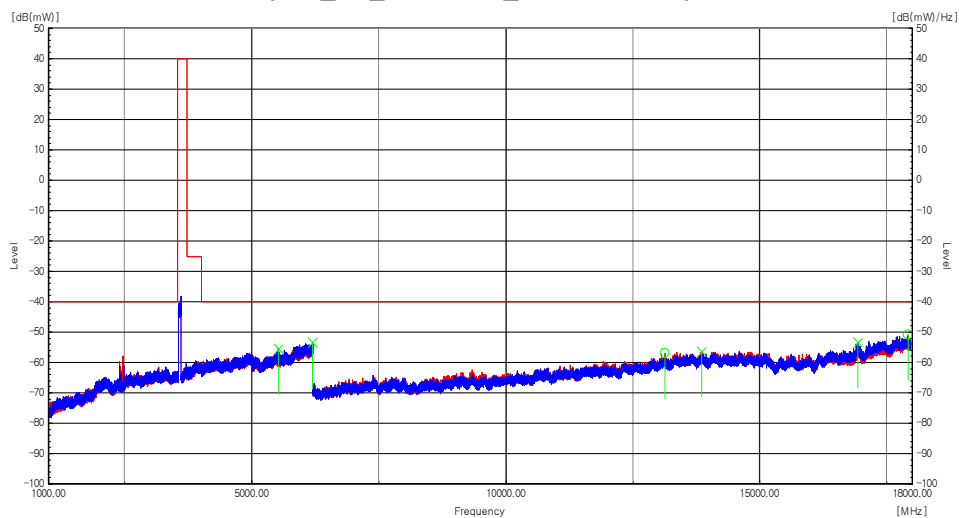
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**Plot 8-137. Radiated spurious emission Plot_1 GHz to 18 GHz
(n48_1C_40M_Low Channel)**



**Plot 8-138. Radiated spurious emission Plot_1 GHz to 18 GHz
(n48_2C_20M+30M_Low Channel)**



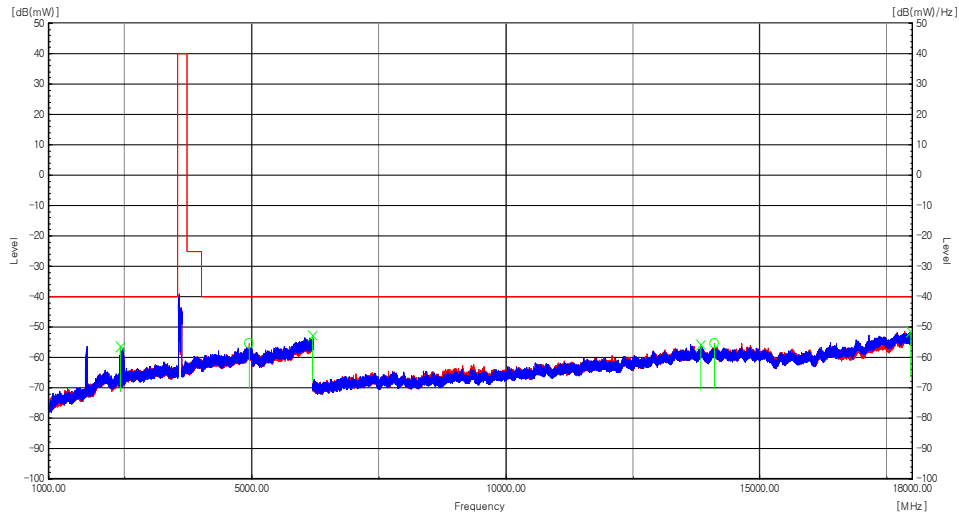
**Plot 8-139. Radiated spurious emission Plot_1 GHz to 18 GHz
(n48_1C_60M_Low Channel)**



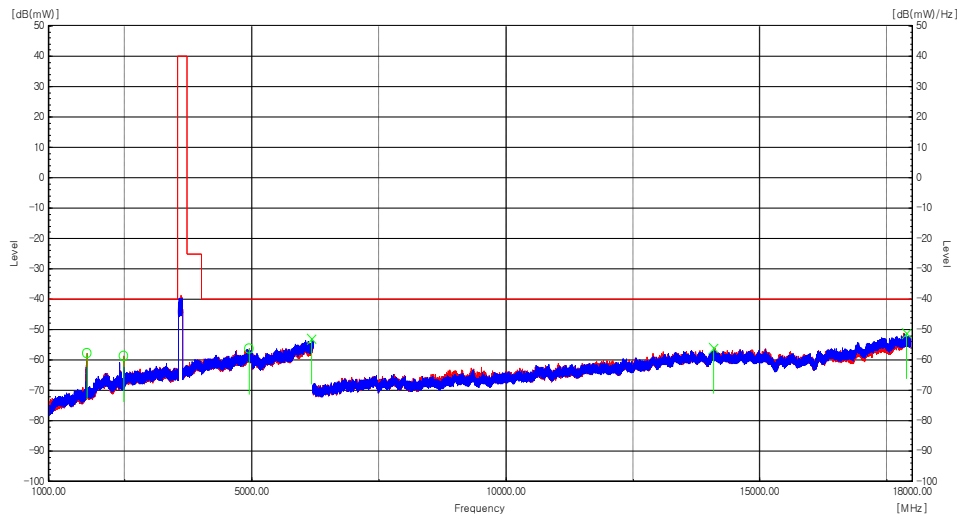
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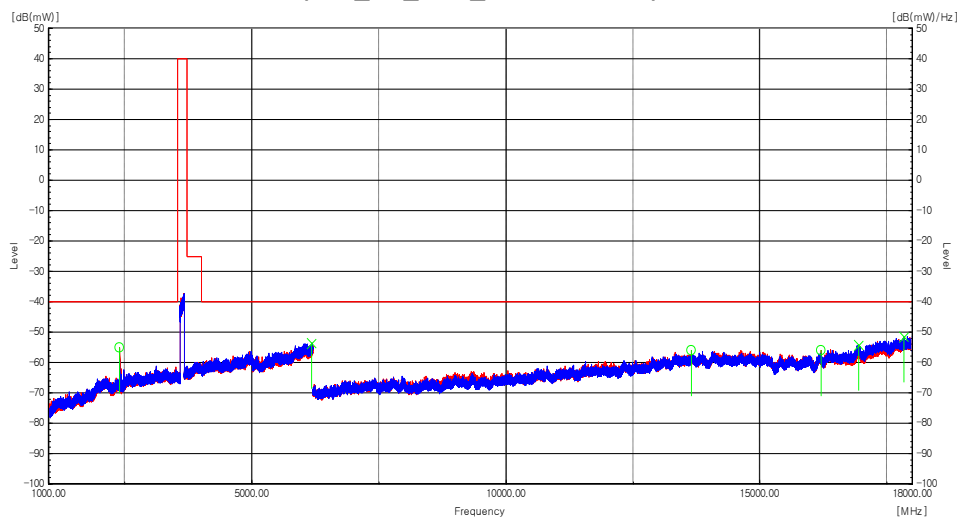
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**Plot 8-140. Radiated spurious emission Plot_1 GHz to 18 GHz
(n48_4C_10M+10M+10M+40M_Low Channel)**



**Plot 8-141. Radiated spurious emission Plot_1 GHz to 18 GHz
(n48_1C_80M_Low Channel)**



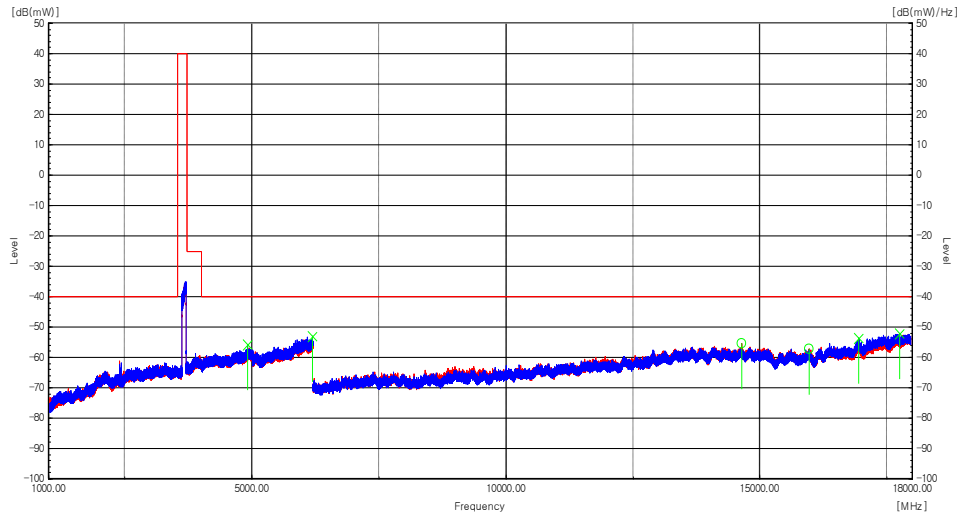
**Plot 8-142. Radiated spurious emission Plot_1 GHz to 18 GHz
(n48_1C_80M_Mid Channel)**



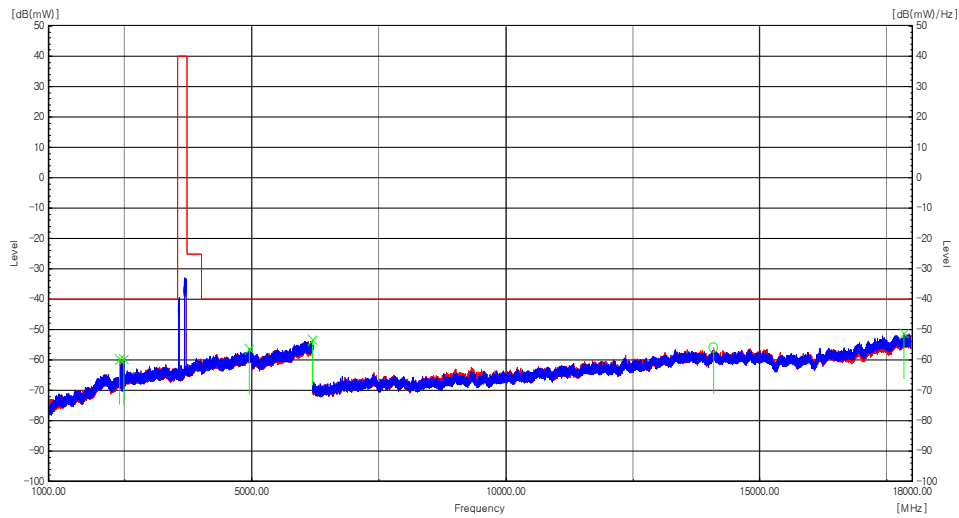
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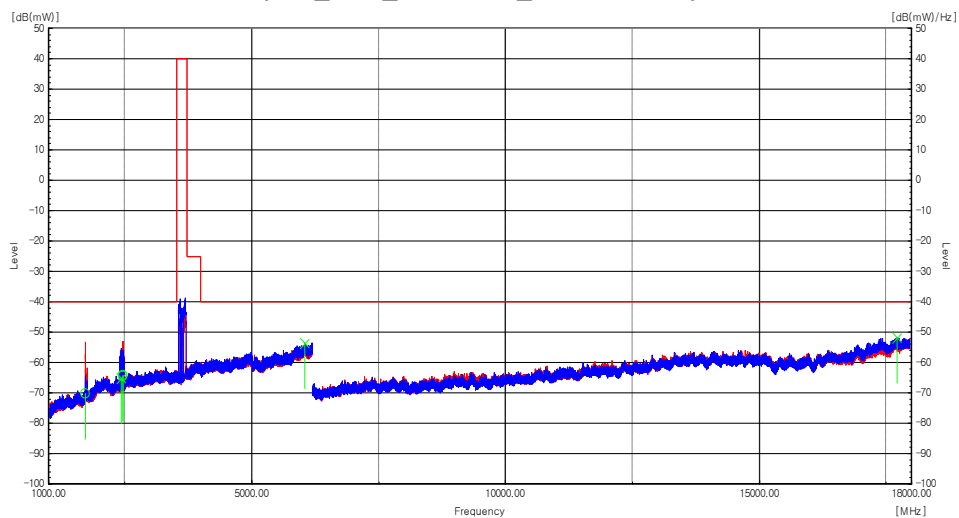
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**Plot 8-143. Radiated spurious emission Plot_1 GHz to 18 GHz
(n48_1C_80M_High Channel)**



**Plot 8-144. Radiated spurious emission Plot_1 GHz to 18 GHz
(n48_2NC_20M+30M_Mid Channel)**

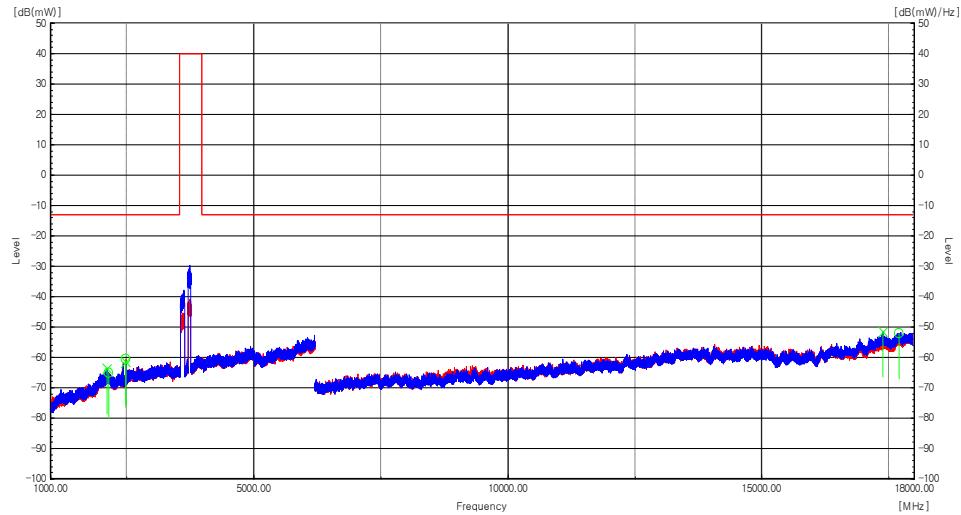


**Plot 8-145. Radiated spurious emission Plot_1 GHz to 18 GHz
(n48_4NC_10M+10M+10M+40M_Mid Channel)**

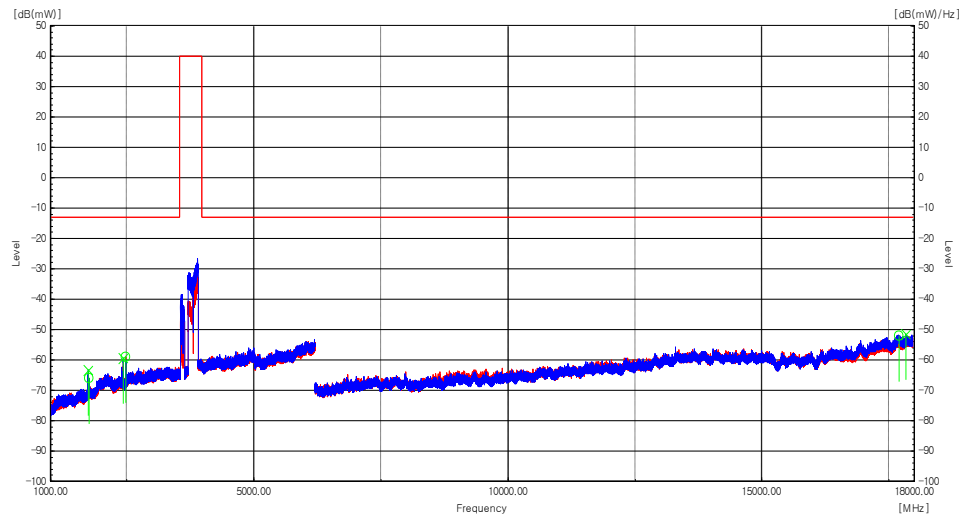
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**Plot 8-146. Radiated spurious emission Plot_1 GHz to 18 GHz
(Multi -Band_n48_1C_80M + n77_1C_60M)**



**Plot 8-147. Radiated spurious emission Plot_1 GHz to 18 GHz
(Multi -Band_n48_4C_20M+20M+20M+20M + n77_2C_100M+100M)**

Mode	Frequency [MHz]	Ant. Pol. [H/V]	Analyzer Level [dBm]	Path loss [dB]	RSE EIRP [dBm]	Limit [dBm/MHz]	Margin [dB]	Turntable azimuth [degree]
n48_4NC_10M+10M+10M+40M	1724.53	H	-76.9	6.6	-70.3	-40	- 30.3	7.6
	2436.06	V	-74.4	9.3	-65.1	-40	- 25.1	268.5
	2461.89	H	-73.7	9.3	-64.4	-40	- 24.4	243.2
	2465.88	H	-73.5	9.4	-64.1	-40	- 24.1	258.2
	6052.84	V	-73.3	19.7	-53.6	-40	- 13.6	323.2
	17715.62	V	-69.6	17.6	-52	-40	- 12.0	96.7

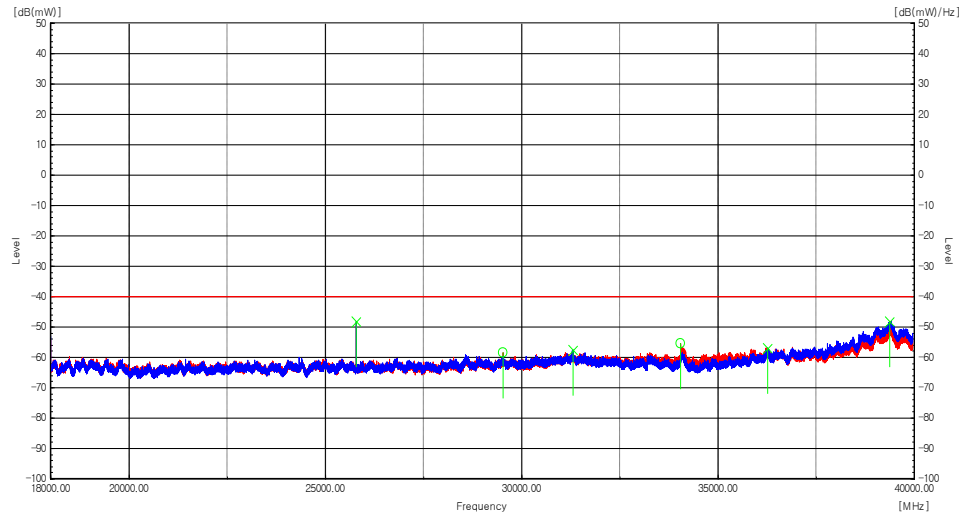
Table 8-58. Radiated spurious emission above 1GHz to 18GHz Worst mode Summary Data



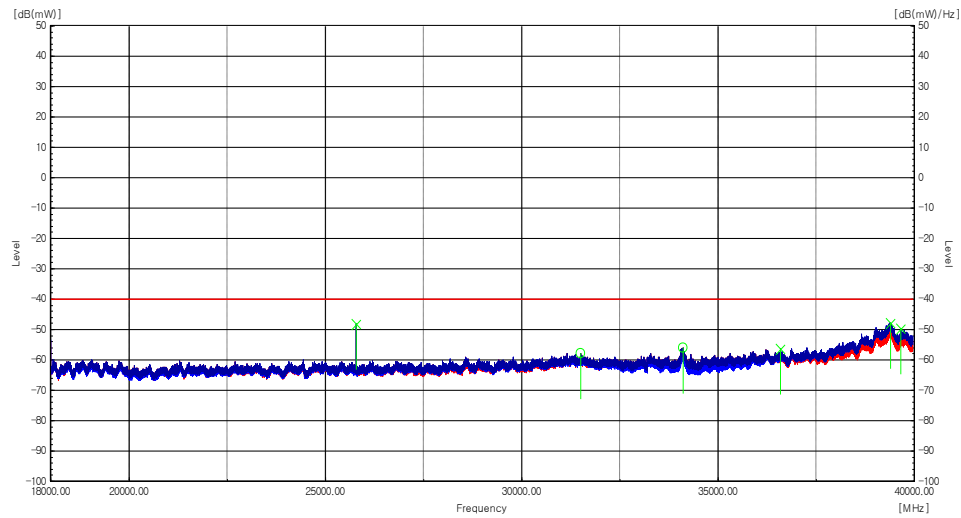
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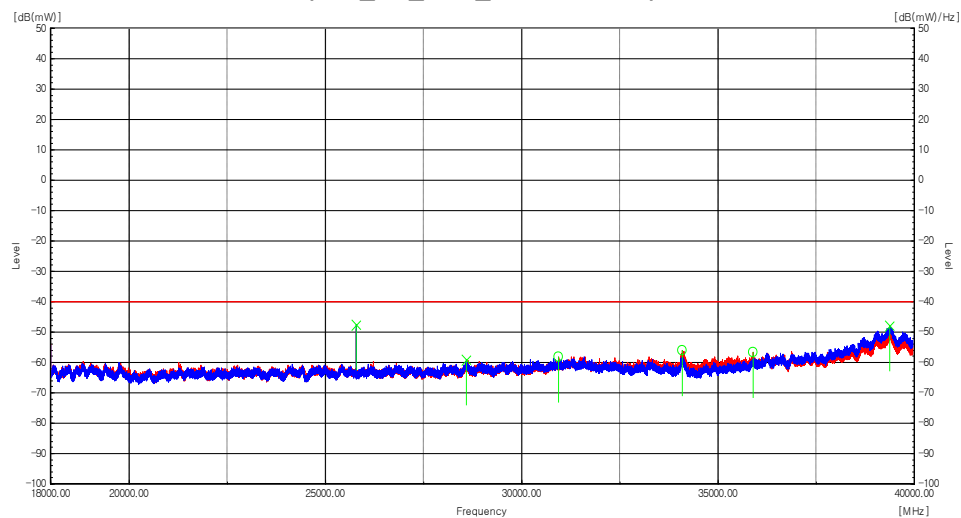
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**Plot 8-148. Radiated spurious emission Plot_18 GHz to 40 GHz
(n48_1C_80M_Low Channel)**



**Plot 8-149. Radiated spurious emission Plot_18 GHz to 40 GHz
(n48_1C_80M_Mid Channel)**

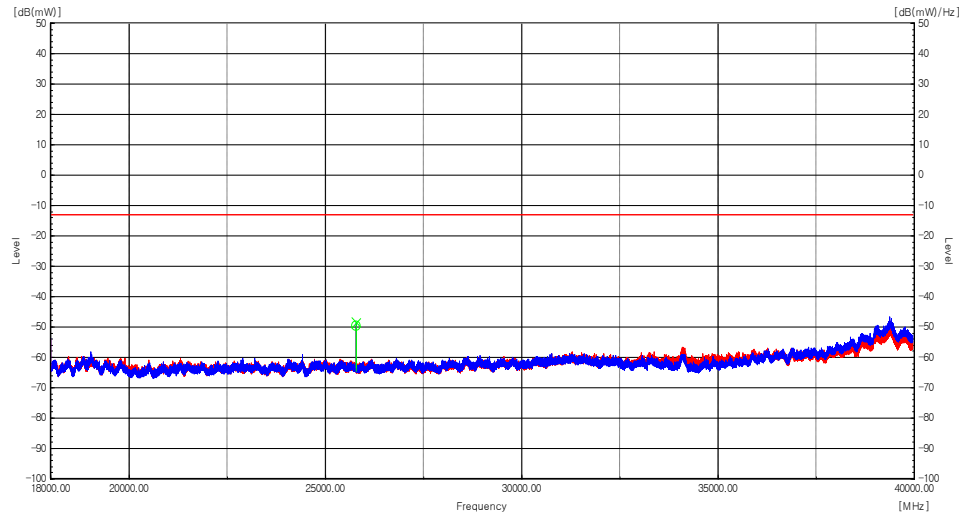


**Plot 8-150. Radiated spurious emission Plot_18 GHz to 40 GHz
(n48_1C_80M_High Channel)**

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**Plot 8-151. Radiated spurious emission Plot_18 GHz to 40 GHz
(Multi-Band_n48_4C_20M+20M+20M+20M + n77_2C_100M+100M)**

Channel	Frequency [MHz]	Ant. Pol. [H/V]	Analyzer Level [dBm]	Path loss [dB]	RSE EIRP [dBm]	Limit [dBm/MHz]	Margin [dB]	Turntable azimuth [degree]
n48_1C_80M_High	25781.12	V	-39.9	-7.1	-47	-40	- 7.0	274.9
	28581.54	V	-52.4	-6.2	-58.6	-40	- 18.6	194.5
	30940.11	H	-50.7	-8.3	-59	-40	- 19.0	0.5
	30942.21	H	-45.3	-8.3	-53.6	-40	- 13.6	199.3
	35884.00	H	-42.8	-14.4	-57.2	-40	- 17.2	0.5
	39374.93	V	-50.5	2.1	-48.4	-40	- 8.4	331.6

Table 8-59. Radiated spurious emission above 18GHz Worst mode Summary Data

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9.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung MMU(MT1602d) FCC ID: A3LMT1602D-48B** complies with all of the requirements of Part 96 of the FCC Rules.

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10.0 APPENDIX. A

10.1 Conducted Average Output Power

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

KDB 662911 D01 v02r01 – Section E)1) In-Band Power Measurements

ANSI C63.26-2015 – Section 5.2.4.4.1

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 $\geq 3 \times$ RBW
4. Span = 2 ~ 3 x OBW
5. No. of sweep points $\geq 2 \times$ 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.

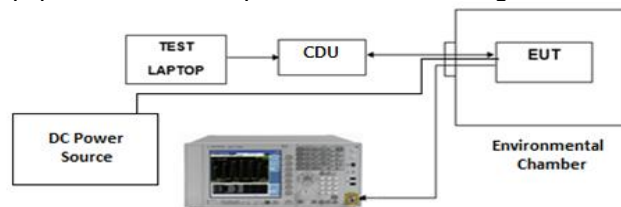


Figure 10-1. Test Instrument & Measurement Setup

Limit

N/A

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Note

1. Result for reference maximum output power of Grant of Authorization is under section 10.1.
2. Periodic trigger was used with gating ON. Gate sweep time, 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. Tested for Common beam mode to perform RF testing that can get maximum Tx power setting.
6. Applied antenna gain as below:

Mode	NR 10MHz			NR 20MHz			NR 30MHz		
	SU	MU	Common	SU	MU	Common	SU	MU	Common
Tx Power Max(dBm)	25.2	21.7	30.7	28.2	24.7	33.7	29.9	26.4	35.4
Max. Gain (dBi)	20.3	20.3	14.8	20.3	20.3	14.8	20.3	14.8	14.45
Beam EIRP Sum (dB)	0	3	0	0	3	0	0	3	0
Max. EIRP (dBm)	45.5	45	45.5	48.5	48	48.5	50.2	44.2	49.9
Mode	NR 40MHz			NR 60MHz			NR 80MHz		
	SU	MU	Common	SU	MU	Common	SU	MU	Common
Tx Power Max(dBm)	31.2	27.7	36.7	33	29.5	38.5	34.2	30.7	39.7
Max. Gain (dBi)	20.3	20.3	14.8	20.3	20.3	14.8	20.3	20.3	14.8
Beam EIRP Sum (dB)	0	3	0	0	3	0	0	3	0
Max. EIRP (dBm)	51.5	51	51.5	53.3	52.8	53.3	54.5	54	54.5

7. Sample Calculation:
Let us assume the following numbers:
 - a) Total MIMO Conducted Power as 955.45 mW
 - b) Antenna Gain = 14.80 dBi

Factors	Value	Unit
Summed MIMO Conducted Power (linear sum)	955.45	mW
Summed MIMO Conducted Power (dBm) = $10 * \log(955.45) =$	29.80	dBm
Antenna Gain	14.80	dBi
Total MIMO EIRP	44.60	dBm

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Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	17.34	17.36	17.36	17.49
	1	17.61	17.62	17.62	17.75
	2	17.93	17.95	17.98	18.08
	3	17.66	17.65	17.70	17.83
	4	17.78	17.79	17.76	17.90
	5	17.67	17.72	17.73	17.86
	6	18.14	18.19	18.19	18.33
	7	18.06	18.18	18.14	18.25
	8	17.79	17.81	17.83	18.00
	9	17.52	17.57	17.59	17.73
	10	18.16	18.21	18.21	18.35
	11	17.62	17.69	17.69	17.84
	12	17.56	17.56	17.58	17.67
	13	17.86	17.80	17.81	17.95
	14	17.82	17.78	17.73	17.88
	15	17.56	17.56	17.51	17.67
Total Conducted Power (mW)		955.45	960.58	960.41	990.58
Total Conducted Power (dBm)		29.80	29.83	29.82	29.96
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		44.60	44.63	44.62	44.76
Channel	Port	QPSK	16QAM	64QAM	256QAM
Mid	0	17.67	17.64	17.44	17.58
	1	17.76	17.94	17.70	17.84
	2	18.08	18.26	18.02	18.15
	3	17.82	18.00	17.74	17.87
	4	17.89	18.05	17.83	17.97
	5	17.93	18.11	17.88	18.02
	6	18.46	18.64	18.40	18.54
	7	18.24	18.50	18.24	18.37
	8	17.91	18.15	17.87	17.99
	9	17.79	17.98	17.74	17.86
	10	18.27	18.49	18.29	18.38
	11	17.84	18.06	17.87	17.92
	12	17.73	17.93	17.77	17.82
	13	18.12	18.30	18.14	18.19
	14	17.86	18.14	17.93	17.99
	15	17.68	17.93	17.85	17.79
Total Conducted Power (mW)		997.16	1042.51	992.47	1015.22
Total Conducted Power (dBm)		29.99	30.18	29.97	30.07
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		44.79	44.98	44.77	44.87

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Channel	Port	QPSK	16QAM	64QAM	256QAM
high	0	17.48	17.19	17.45	17.40
	1	17.98	17.68	17.93	17.86
	2	18.16	17.86	18.10	18.07
	3	18.00	17.72	17.95	17.90
	4	17.94	17.70	17.90	17.84
	5	18.01	17.76	17.99	17.91
	6	18.49	18.24	18.46	18.38
	7	18.39	18.18	18.37	18.29
	8	17.92	17.68	17.89	17.82
	9	18.00	17.77	17.95	17.88
	10	18.44	18.21	18.39	18.32
	11	17.94	17.79	17.89	17.82
	12	17.68	17.43	17.65	17.58
	13	18.18	17.90	18.14	18.08
	14	17.85	17.59	17.81	17.72
	15	17.82	17.56	17.73	17.72
Total Conducted Power (mW)		1015.43	958.48	1005.57	990.99
Total Conducted Power (dBm)		30.07	29.82	30.02	29.96
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		44.87	44.62	44.82	44.76

Table 10-1. Conducted Average Output Power Table (n48_1C_10M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	20.57	20.53	20.76	20.66
	1	20.83	20.92	21.04	20.95
	2	21.08	21.02	21.27	21.18
	3	20.94	20.92	21.12	21.03
	4	20.95	20.88	21.16	21.06
	5	20.96	20.96	21.17	21.07
	6	21.32	21.20	21.51	21.41
	7	21.34	21.27	21.53	21.44
	8	21.04	20.95	21.21	21.13
	9	20.87	20.79	20.98	20.89
	10	21.02	20.88	21.18	21.07
	11	20.95	20.83	21.11	21.01
	12	20.79	20.67	20.99	20.88
	13	20.99	20.89	21.24	21.11
	14	21.00	20.87	21.18	21.07
	15	20.71	20.66	20.90	20.78
Total Conducted Power (mW)		1997.70	1965.58	2085.60	2037.88
Total Conducted Power (dBm)		33.01	32.93	33.19	33.09
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		47.81	47.73	47.99	47.89

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Channel	Port	QPSK	16QAM	64QAM	256QAM
Mid	0	20.74	20.85	20.67	20.68
	1	21.00	21.12	20.96	20.91
	2	21.23	21.35	21.14	21.16
	3	21.05	21.14	21.01	20.99
	4	21.14	21.21	21.05	21.05
	5	21.18	21.27	21.11	21.11
	6	21.62	21.71	21.58	21.56
	7	21.56	21.66	21.51	21.50
	8	21.19	21.28	21.15	21.12
	9	21.00	21.16	21.05	21.00
	10	21.18	21.26	21.17	21.12
	11	21.10	21.19	21.07	21.06
	12	20.97	21.06	20.93	20.91
	13	21.36	21.40	21.27	21.25
	14	21.19	21.27	21.15	21.10
	15	20.95	21.02	20.90	20.87
Total Conducted Power (mW)		2089.46	2134.62	2067.26	2057.47
Total Conducted Power (dBm)		33.20	33.29	33.15	33.13
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		48.00	48.09	47.95	47.93
Channel	Port	QPSK	16QAM	64QAM	256QAM
high	0	20.23	20.33	20.20	20.56
	1	20.70	20.79	20.65	21.00
	2	20.83	20.93	20.80	21.19
	3	20.77	20.82	20.68	21.07
	4	20.74	20.78	20.65	21.03
	5	20.78	20.84	20.71	21.09
	6	21.22	21.24	21.10	21.50
	7	21.24	21.26	21.09	21.53
	8	20.78	20.77	20.65	21.01
	9	20.74	20.76	20.68	21.07
	10	20.87	20.88	20.75	21.15
	11	20.83	20.83	20.69	21.07
	12	20.51	20.53	20.38	20.79
	13	21.05	21.04	20.89	21.26
	14	20.71	20.70	20.57	20.96
	15	20.65	20.63	20.50	20.90
Total Conducted Power (mW)		1922.32	1935.41	1876.57	2051.65
Total Conducted Power (dBm)		32.84	32.87	32.73	33.12
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		47.64	47.67	47.53	47.92

Table 10-2. Conducted Average Output Power Table (n48_1C_20M)

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Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	22.59	22.47	22.15	22.34
	1	22.88	22.74	22.40	22.60
	2	23.12	22.99	22.63	22.86
	3	22.95	22.81	22.49	22.69
	4	22.96	22.88	22.54	22.68
	5	22.98	22.88	22.56	22.76
	6	23.39	23.24	22.94	23.11
	7	23.38	23.25	22.90	23.10
	8	23.08	22.95	22.60	22.80
	9	22.90	22.77	22.36	22.56
	10	23.06	22.93	22.58	22.77
	11	22.97	22.84	22.49	22.67
	12	22.85	22.73	22.38	22.54
	13	23.07	22.94	22.59	22.80
	14	23.09	22.93	22.57	22.79
	15	22.76	22.62	22.29	22.47
Total Conducted Power (mW)		3197.05	3103.53	2867.43	2997.05
Total Conducted Power (dBm)		35.05	34.92	34.57	34.77
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		49.85	49.72	49.37	49.57
Channel	Port	QPSK	16QAM	64QAM	256QAM
Mid	0	22.69	22.60	22.49	22.68
	1	22.98	22.85	22.98	22.92
	2	23.15	23.07	23.11	23.13
	3	23.04	22.89	22.96	22.96
	4	23.05	22.97	22.94	22.98
	5	23.12	23.00	22.89	23.08
	6	23.55	23.47	23.30	23.50
	7	23.51	23.43	23.16	23.43
	8	23.14	23.05	22.77	23.08
	9	23.00	22.92	22.70	22.90
	10	23.09	23.02	22.80	23.10
	11	23.08	22.98	22.71	23.10
	12	22.89	22.88	22.49	22.91
	13	23.28	23.23	22.89	23.34
	14	23.10	23.05	22.70	23.11
	15	22.87	22.81	22.44	22.92
Total Conducted Power (mW)		3267.80	3206.40	3076.68	3248.84
Total Conducted Power (dBm)		35.14	35.06	34.88	35.12
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		49.94	49.86	49.68	49.92

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Channel	Port	QPSK	16QAM	64QAM	256QAM
high	0	22.11	22.08	22.21	21.95
	1	22.50	22.48	22.60	22.32
	2	22.65	22.66	22.79	22.56
	3	22.53	22.51	22.64	22.41
	4	22.49	22.50	22.62	22.40
	5	22.60	22.61	22.70	22.45
	6	22.99	22.96	23.06	22.86
	7	22.99	23.03	23.11	22.81
	8	22.53	22.53	22.64	22.41
	9	22.50	22.48	22.59	22.34
	10	22.62	22.61	22.73	22.54
	11	22.57	22.54	22.68	22.42
	12	22.24	22.20	22.34	22.10
	13	22.81	22.79	22.90	22.60
	14	22.43	22.40	22.56	22.31
	15	22.37	22.38	22.49	22.20
Total Conducted Power (mW)		2887.51	2880.77	2960.20	2795.48
Total Conducted Power (dBm)		34.61	34.60	34.71	34.46
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		49.41	49.40	49.51	49.26

Table 10-3. Conducted Average Output Power Table (n48_1C_30M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	24.02	24.02	24.06	23.91
	1	24.22	24.27	24.29	24.15
	2	24.51	24.55	24.55	24.41
	3	24.32	24.45	24.40	24.26
	4	24.39	24.45	24.42	24.28
	5	24.40	24.19	24.43	24.29
	6	24.81	24.63	24.85	24.73
	7	24.64	24.59	24.82	24.68
	8	24.35	24.30	24.52	24.38
	9	24.14	24.06	24.27	24.19
	10	24.30	24.25	24.46	24.35
	11	24.22	24.17	24.39	24.28
	12	24.12	24.07	24.27	24.16
	13	24.37	24.32	24.56	24.44
	14	24.33	24.26	24.48	24.36
	15	24.20	23.98	24.20	24.07
Total Conducted Power (mW)		4344.33	4296.05	4447.76	4319.70
Total Conducted Power (dBm)		36.38	36.33	36.48	36.35
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		51.18	51.13	51.28	51.15

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Channel	Port	QPSK	16QAM	64QAM	256QAM
Mid	0	23.97	23.80	23.65	23.87
	1	24.21	24.03	23.91	24.11
	2	24.44	24.26	24.15	24.36
	3	24.25	24.08	23.97	24.17
	4	24.30	24.15	24.04	24.22
	5	24.37	24.19	24.09	24.27
	6	24.82	24.62	24.55	24.70
	7	24.77	24.59	24.48	24.66
	8	24.38	24.20	24.09	24.26
	9	24.24	24.08	23.97	24.13
	10	24.38	24.19	24.08	24.23
	11	24.32	24.15	24.03	24.18
	12	24.15	24.00	23.86	24.01
	13	24.57	24.40	24.27	24.42
	14	24.37	24.22	24.11	24.21
	15	24.17	24.01	23.95	24.01
Total Conducted Power (mW)		4368.47	4199.21	4094.02	4250.64
Total Conducted Power (dBm)		36.40	36.23	36.12	36.28
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		51.20	51.03	50.92	51.08
Channel	Port	QPSK	16QAM	64QAM	256QAM
high	0	23.46	23.45	23.48	23.59
	1	23.82	23.83	23.87	23.96
	2	24.03	24.04	23.97	24.16
	3	23.89	23.90	23.90	24.06
	4	23.88	23.87	23.78	24.01
	5	23.94	23.95	23.91	24.06
	6	24.36	24.36	24.22	24.44
	7	24.38	24.38	24.28	24.48
	8	23.92	23.92	23.79	24.02
	9	23.91	23.90	23.81	23.96
	10	24.02	24.00	23.85	24.09
	11	23.95	23.93	23.82	24.04
	12	23.63	23.55	23.47	23.70
	13	24.14	24.04	24.03	24.26
	14	23.84	23.80	23.65	23.93
	15	23.74	23.65	23.58	23.84
Total Conducted Power (mW)		3961.88	3943.02	3876.98	4059.29
Total Conducted Power (dBm)		35.98	35.96	35.88	36.08
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		50.78	50.76	50.68	50.88

Table 10-4. Conducted Average Output Power Table (n48_1C_40M)

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Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	24.50	24.58	24.39	24.77
	1	24.74	24.87	24.64	25.03
	2	24.97	25.12	24.87	25.32
	3	24.82	25.01	24.77	25.17
	4	24.88	25.04	24.80	25.27
	5	24.82	25.03	24.80	25.21
	6	25.32	25.45	25.29	25.67
	7	25.31	25.46	25.25	25.67
	8	24.98	25.15	24.90	25.32
	9	24.75	24.94	24.72	25.13
	10	24.95	25.11	24.86	25.27
	11	24.85	25.02	24.78	25.24
	12	24.82	24.89	24.65	25.07
	13	25.08	25.28	25.00	25.37
	14	24.99	25.13	24.91	25.30
	15	24.80	24.85	24.62	25.01
Total Conducted Power (mW)		4962.57	5134.10	4869.46	5352.43
Total Conducted Power (dBm)		36.96	37.10	36.87	37.29
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		51.76	51.90	51.67	52.09
Channel	Port	QPSK	16QAM	64QAM	256QAM
Mid	0	24.47	24.56	24.29	24.66
	1	24.72	24.87	24.59	24.92
	2	24.92	25.08	24.83	25.15
	3	24.87	24.98	24.72	25.04
	4	24.86	25.04	24.77	25.11
	5	24.85	25.04	24.78	25.10
	6	25.37	25.51	25.24	25.59
	7	25.33	25.50	25.25	25.60
	8	24.91	25.10	24.85	25.16
	9	24.78	24.94	24.74	25.07
	10	24.90	25.11	24.88	25.14
	11	24.82	25.03	24.78	25.08
	12	24.70	24.86	24.62	24.89
	13	25.17	25.36	25.01	25.31
	14	24.98	25.15	24.88	25.18
	15	24.70	24.89	24.68	24.94
Total Conducted Power (mW)		4947.61	5141.95	4846.16	5210.22
Total Conducted Power (dBm)		36.94	37.11	36.85	37.17
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		51.74	51.91	51.65	51.97



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Channel	Port	QPSK	16QAM	64QAM	256QAM
high	0	24.51	24.31	24.37	24.51
	1	24.76	24.72	24.55	24.90
	2	24.97	24.88	24.74	25.09
	3	24.89	24.80	24.63	25.00
	4	24.81	24.77	24.58	24.96
	5	24.82	24.76	24.58	24.96
	6	25.31	25.19	24.97	25.41
	7	25.35	25.24	25.08	25.46
	8	24.91	24.81	24.61	24.98
	9	24.88	24.74	24.59	24.97
	10	25.03	24.87	24.74	25.07
	11	24.88	24.77	24.59	24.98
	12	24.56	24.44	24.31	24.62
	13	25.18	25.05	24.88	25.18
	14	24.90	24.75	24.61	24.95
	15	24.80	24.62	24.50	24.81
Total Conducted Power (mW)		4962.33	4833.06	4667.89	5055.96
Total Conducted Power (dBm)		36.96	36.84	36.69	37.04
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		51.76	51.64	51.49	51.84

Table 10-5. Conducted Average Output Power Table (n48_2C_20M + 30M)

Channel	Port	QPSK	16QAM	64QAM	256QAM
Low	0	25.54	25.69	25.50	25.65
	1	25.79	25.97	25.74	25.82
	2	25.97	26.17	26.01	26.12
	3	25.82	26.00	25.84	25.96
	4	25.86	26.25	25.92	26.04
	5	25.92	26.26	25.94	26.05
	6	26.35	26.71	26.38	26.47
	7	26.29	26.59	26.26	26.46
	8	25.97	26.25	25.91	26.14
	9	25.71	26.04	25.71	25.94
	10	25.91	26.12	25.87	26.08
	11	25.87	26.08	25.81	26.04
	12	25.77	26.10	25.69	25.93
	13	26.07	26.33	25.97	26.11
	14	25.94	26.24	25.90	26.00
	15	25.69	25.97	25.62	25.74
Total Conducted Power (mW)		6237.70	6638.64	6202.80	6427.88
Total Conducted Power (dBm)		37.95	38.22	37.93	38.08
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		52.75	53.02	52.73	52.88



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Channel	Port	QPSK	16QAM	64QAM	256QAM
Mid	0	25.53	25.47	25.52	25.47
	1	25.78	25.76	25.74	25.74
	2	26.01	25.98	26.02	25.98
	3	25.82	25.80	25.87	25.77
	4	25.94	25.87	25.94	25.84
	5	25.92	25.93	25.95	25.89
	6	26.41	26.38	26.45	26.36
	7	26.35	26.33	26.43	26.29
	8	25.96	25.93	26.02	25.91
	9	25.83	25.80	25.91	25.78
	10	25.94	25.89	25.99	25.87
	11	25.89	25.86	25.93	25.83
	12	25.73	25.69	25.78	25.67
	13	26.12	26.08	26.15	26.05
	14	25.95	25.90	25.99	25.88
	15	25.71	25.73	25.76	25.65
Total Conducted Power (mW)		6276.60	6232.60	6328.30	6194.97
Total Conducted Power (dBm)		37.98	37.95	38.01	37.92
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		52.78	52.75	52.81	52.72
Channel	Port	QPSK	16QAM	64QAM	256QAM
high	0	25.33	25.22	25.43	25.25
	1	25.66	25.57	25.75	25.55
	2	25.88	25.79	25.98	25.77
	3	25.75	25.64	25.82	25.54
	4	25.74	25.66	25.82	25.52
	5	25.77	25.69	25.87	25.55
	6	26.21	26.11	26.30	26.20
	7	26.20	26.13	26.31	26.15
	8	25.74	25.65	25.87	25.69
	9	25.74	25.62	25.82	25.51
	10	25.80	25.71	25.92	25.70
	11	25.74	25.67	25.85	25.52
	12	25.45	25.36	25.57	25.24
	13	25.94	25.84	26.06	25.76
	14	25.69	25.58	25.80	25.63
	15	25.56	25.49	25.67	25.42
Total Conducted Power (mW)		6038.60	5912.40	6182.79	5853.03
Total Conducted Power (dBm)		37.81	37.72	37.91	37.67
Ant. Gain (dBi)		14.80	14.80	14.80	14.80
e.i.r.p (dBm)		52.61	52.52	52.71	52.47

Table 10-6. Conducted Average Output Power Table (n48_1C_60M)