



Plot 8-173. Conducted Spurious Emission Plot 3 GHz to 8 GHz



Plot 8-174. Conducted Spurious Emission Plot 9 kHz to 150 kHz



Plot 8-176. Conducted Spurious Emission Plot 30 MHz to 700 MHz (B85_1C_10M_256QAM - Low Channel, Port 3)



Plot 8-175. Conducted Spurious Emission Plot 150 kHz to 30 MHz



700 MHz to 727.9 MHz (B85_1C_10M_256QAM - Low Channel, Port 3)

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Plot 8-178. Conducted Spurious Emission Plot 746.1 MHz to 800 MHz (B85_1C_10M_256QAM - Low Channel, Port 3)







Plot 8-180. Conducted Spurious Emission Plot 1 GHz to 3 GHz

(B85_1C_10M_256QAM - Low Channel, Port 3)



Plot 8-182. Conducted Spurious Emission Plot 9 kHz to 150 kHz (B85_2C_5M+5M_QPSK - Low Channel, Port 3)



Plot 8-181. Conducted Spurious Emission Plot 3 GHz to 8 GHz



Plot 8-183. Conducted Spurious Emission Plot 150 kHz to 30 MHz (B85_2C_5M+5M_QPSK - Low Channel, Port 3)

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Plot 8-184. Conducted Spurious Emission Plot 30 MHz to 700 MHz (B85_2C_5M+5M_QPSK - Low Channel, Port 3)



Plot 8-186. Conducted Spurious Emission Plot 746.1 MHz to 800 MHz (B85_2C_5M+5M_QPSK - Low Channel, Port 3)

Ö Frequence KEYSIGHT Input F er Frequency 10000000 GHz 2 986 50 0 Swept Spar Zero Span 000 GH: AUTO TUNE Auto Man eq Offse Local #Video BW 3.0 MHz* Start 1.000 GHz #Res BW 1.0 MHz Stop 3.000 GH Sweep 2.67 ms (8002 pts Log Lin Nov 19, 2024
3:25:03 PM X

Plot 8-188. Conducted Spurious Emission Plot 1 GHz to 3 GHz (B85 2C 5M+5M QPSK - Low Channel, Port 3)









Plot 8-187. Conducted Spurious Emission Plot 800 MHz to 1 GHz



3 GHz to 8 GHz (B85_2C_5M+5M_QPSK - Low Channel, Port 3)

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Plot 8-190. Conducted Spurious Emission Plot 9 kHz to 150 kHz



Plot 8-192. Conducted Spurious Emission Plot 30 MHz to 700 MHz (n85_1C_5M_256QAM - High Channel, Port 2)



Plot 8-194. Conducted Spurious Emission Plot 746.1 MHz to 750 MHz (n85_1C_5M_256QAM - High Channel, Port 2)









Plot 8-193. Conducted Spurious Emission Plot 700 MHz to 727.9 MHz



Plot 8-195. Conducted Spurious Emission Plot 750 MHz to 800 MHz (n85_1C_5M_256QAM - High Channel, Port 2)

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Plot 8-196. Conducted Spurious Emission Plot 800 GHz to 1 GHz



Plot 8-198. Conducted Spurious Emission Plot 3 GHz to 8 GHz

(n85_1C_5M_256QAM - High Channel, Port 2)



Plot 8-199. Conducted Spurious Emission Plot 9 kHz to 150 kHz

(n85_1C_10M_256QAM - Low Channel, Port 3)



Plot 8-197. Conducted Spurious Emission Plot 1 GHz to 3 GHz (n85_1C_5M_256QAM - High Channel, Port 2)



Plot 8-200. Conducted Spurious Emission Plot 150 kHz to 30 MHz (n85_1C_10M_256QAM - Low Channel, Port 3)

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Plot 8-201. Conducted Spurious Emission Plot 30 MHz to 700 MHz



Plot 8-203. Conducted Spurious Emission Plot 746.1 MHz to 800 MHz



Plot 8-205. Conducted Spurious Emission Plot 1 GHz to 3 GHz (n85_1C_10M_256QAM - Low Channel, Port 3)



Plot 8-202. Conducted Spurious Emission Plot 700 MHz to 727.9 MHz





Plot 8-204. Conducted Spurious Emission Plot 800 MHz to 1 GHz



3 GHz to 8 GHz

(n85_1C_10M_256QAM - Low Channel, Port 3)

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Plot 8-207. Conducted Spurious Emission Plot 9 kHz to 150 kHz (n85_2C_5M+5M_QPSK - Low Channel, Port 2)



Plot 8-209. Conducted Spurious Emission Plot 30 MHz to 700 MHz

(n85_2C_5M+5M_QPSK - Low Channel, Port 2)



Plot 8-211. Conducted Spurious Emission Plot 746.1 MHz to 800 MHz (n85_2C_5M+5M_QPSK - Low Channel, Port 2)



Plot 8-208. Conducted Spurious Emission Plot 150 kHz to 30 MHz





Plot 8-210. Conducted Spurious Emission Plot 700 MHz to 727.9 MHz



Plot 8-212. Conducted Spurious Emission Plot 800 MHz to 1 GHz (n85_2C_5M+5M_QPSK - Low Channel, Port 2)

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Plot 8-213. Conducted Spurious Emission Plot 1 GHz to 3 GHz



Plot 8-215. Conducted Spurious Emission Plot 9 kHz to 150 kHz

(Multi band B71_1C_10M + B85_1C_5M_QPSK - Low Channel, Port 2)



30 MHz to 600 MHz

(Multi band B71_1C_10M + B85_1C_5M_QPSK - Low Channel, Port 2)









Plot 8-216. Conducted Spurious Emission Plot 150 kHz to 30 MHz



600 MHz to 616.9 MHz

(Multi band B71_1C_10M + B85_1C_5M_QPSK - Low Channel, Port 2)

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Plot 8-219. Conducted Spurious Emission Plot 616.9 MHz to 617 MHz



Plot 8-221. Conducted Spurious Emission Plot 727.9 MHz to 728 MHz

(Multi band B71_1C_10M + B85_1C_5M_QPSK - Low Channel, Port 2) + ÷. Freq KEYSIGHT equenci 200 MH; 8.95 N 00 MH; ale/Div 10 dB Ref Level 1 00 dB Full Span art Freq op Freq AUTO TUNE P Step Auto Man Local Stop 1.0000 GH: Sweep 9.60 ms (4001 pts Start 0.8000 GHz #Res BW 100 kH Log Lin Nov 26, 2024 Plot 8-223. Conducted Spurious Emission Plot

800 MHz to 1 GHz

(Multi band B71_1C_10M + B85_1C_5M_QPSK - Low Channel, Port 2)







Plot 8-222. Conducted Spurious Emission Plot 746 MHz to 800 MHz



1 GHz to 3 GHz

(Multi band B71_1C_10M + B85_1C_5M_QPSK - Low Channel, Port 2)

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Plot 8-225. Conducted Spurious Emission Plot 1 GHz to 8 GHz (Multi band B71_1C_10M + B85_1C_5M_QPSK - Low Channel, Port 2)

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8.7 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 and horizontally polarized broadband tri-log 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 x RBW
- 4. No. of sweep points $\geq 2 \times \text{span} / \text{RBW}$
- 5. Detector = Peak for the pre-scan, (In cases where the level is within 2 dB of the limit, the final measurement is taken using RMS detector.)
- 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.

<u>Limit</u>

Part 27.53

The minimum permissible attenuation level of any spurious emission is $43 + \log_{10}(P_{[Watts]})$, where P is the transmitter power in Watts.

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



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

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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] + 107 + AFCL [dB/m]
	= -53.39 [dBm] + 107 + -5.01 [dB/m] = 48.60 dBµV/m
e.i.r.p. [dBm]	= E[dB µV/m] + 20 log ₁₀ (d[m]) - 104.8
	= 48.60 dB[µV/m] + (20*log (3)) - 104.8

= -46.66 dBm

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

(/			/			
Frequency	Antenna Factor	Chamber measurement	AFCL			
[MHz]	(dB/m)	cable loss + amplifier	(dB/m)			
		[dB]				
2210.84	28.08	-33.09	-5.01			
2211.37	28.08	-33.09	-5.01			
4424.88	32.10	-31.64	0.46			
4421.69	32.10	-31.61	0.50			

Table 8-81. 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. All emissions were measured at a 3-meter test distance.
- 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.
- 7. All modes of operation were investigated and the worst case configuration results are reported in this section.

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 $\begin{bmatrix} -20 \\ -20 \\ -30 \\ -30 \\ -40 \\ -50 \\ -60 \\ -70 \\ -80 \\ 1000 \end{bmatrix}$









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(B71_1C_5M_High Channel)

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(B71_1C_15M_Mid Channel)

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Plot 8-237. Radiated spurious emission_1 GHz to 8 GHz (B71_2C_5M+5M_ Mid Channel)

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