

5.1.10 EIRP Limit (Part15.247(b)(3))

Parts 15.247(b)(2) and 15.247(b)(3) set maximum power limit of 1 watt (+30 dBm) conducted into an antenna with 6.0 dBi of gain, or less. This gives a maximum ERP of +36.0 dBm.

The XETI 915 MHz module has a maximum conducted output power of +27.7 dBm. The specified Nearson model S321AM-915 antenna has a gain of 0 dBi yielding an ERP of +27.7 dBm which is less than the limit of +36.0 dBm.

5.1.11 Maximum Permissible Exposure (Part 15.247(b)(4))

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Maximum peak output power at antenna input terminal:	27.7 (dBm)
Maximum peak output power at antenna input terminal:	588.84 (mW)
Antenna gain(typical):	0.0 (dBi)
Maximum antenna gain:	1.00 (numeric)
Prediction distance:	20 (cm)
Prediction frequency:	915 (MHz)
MPE limit for uncontrolled exposure at prediction frequency:	0.61 (mW/cm ²)
Power density at prediction frequency:	0.11715 (mW/cm ²)
Maximum allowable antenna gain:	7.17 (dBi)
Margin of Compliance at 20 cm	= 7.17 dB

TITLE: ALERTx AX7910 MODULE CONDUCTED TESTS				W66 N220 COMMERCE COURT CEDARBURG, WI 53012, USA (262)-375-4400 FAX: (262)-375-6731 email: eng@lsr.com, http://www.lsr.com	
PROJECT: ALERTx 7910 RADIO MODULE DEVELOPMENT					
DRAWN BY: John Lofgren	DATE: November 3, 2003	SIZE: A	DRAWING NUMBER: XE1203-915-PCT-0.1		REVISION: 0.3
CHECKED BY: BRIAN PETTED, VP ENG	DATE: November 18, 2003				
APPROVED BY: BRIAN PETTED, VP ENG	DATE: November 18, 2003				
FILENAME, FILES AFFECTED: ALERTx Conducted Emissions Report v0.3		SCALE: NOT TO SCALE	SHEET: 22 OF 27		

5.1.12 Spurious Emission at Band Edges (Part 15.247(c))

Test Conditions	
EUT Mode	Hopping
Data Rate	76.8 kbps
EUT Power Setting	27 dBm
EUT Supply Voltage	+3.0 VDC
Span	10 MHz
RBW	100 kHz
VBW	100 kHz
Detector	Peak
Display Mode	Max Hold

Test Results			
Band Edge	Spur Level (dBc)	Spur Limit (dBc)	Test Indication
Lower	-48.29	-20	PASS
Upper	-34.88	-20	PASS

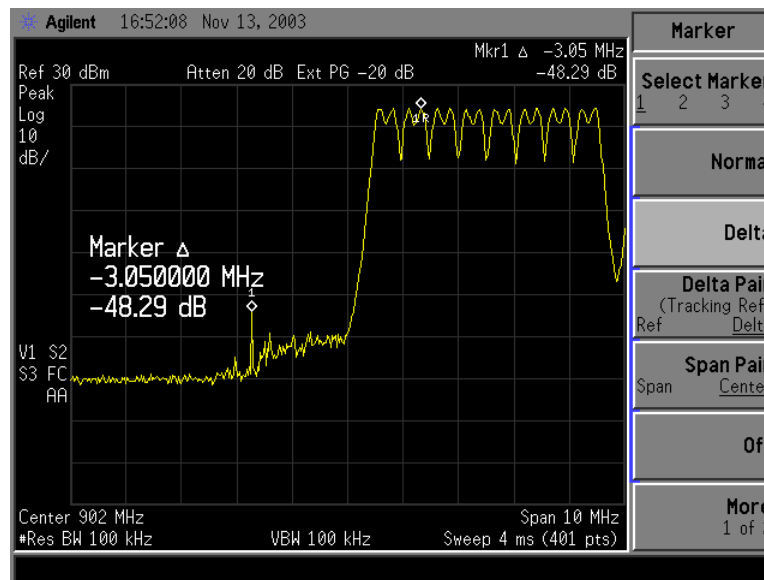


Figure 18. Spurious emission at lower band edge is -48.29 dBc.

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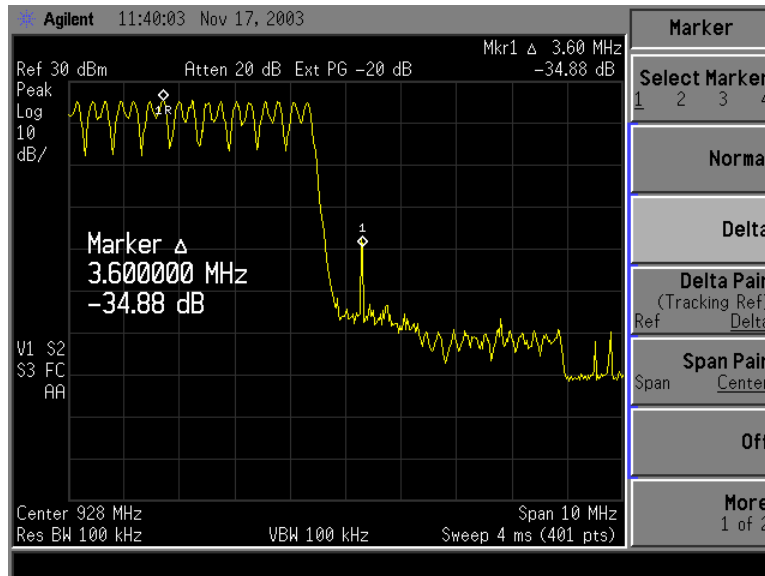


Figure 19. Spurious emission at upper band edge is -49.06 dBc.

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		SCALE: NOT TO SCALE	SHEET: 24 OF 27		

5.1.13 Spurious Emission, Wideband (Part 15.247(c))

Test Conditions	
EUT Mode	Hopping
Data Rate	76.8 kbps
EUT Power Setting	27 dBm
EUT Supply Voltage	+3.0 VDC
Span	As Required
RBW	100 kHz
VBW	100 kHz
Detector	Peak
Display Mode	Max Hold

Test Results			
Frequency Span	Spur Level (dBc)	Spur Limit (dBc)	Test Indication
9 kHz to 902 MHz	-53.93	-20	PASS
928 MHz to 10 GHz	-46.80	-20	PASS

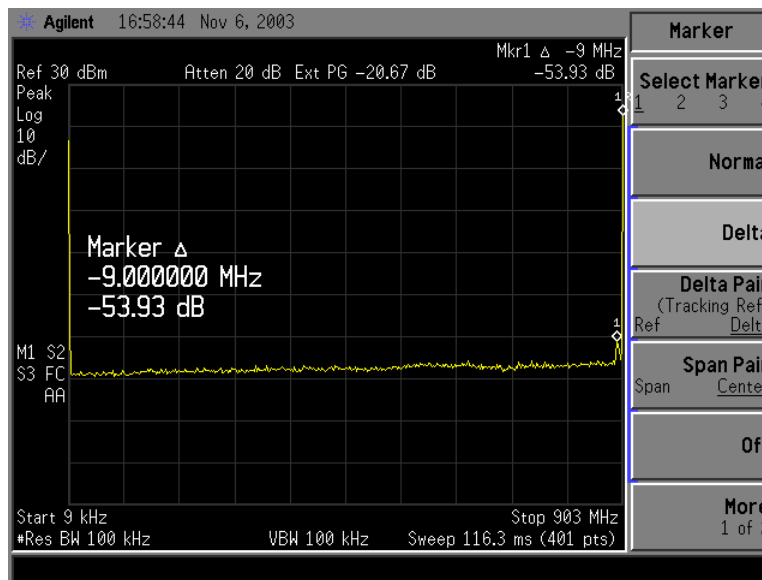


Figure 20. Spurious emission between 9 kHz and 902 MHz is -53.93 dBc.

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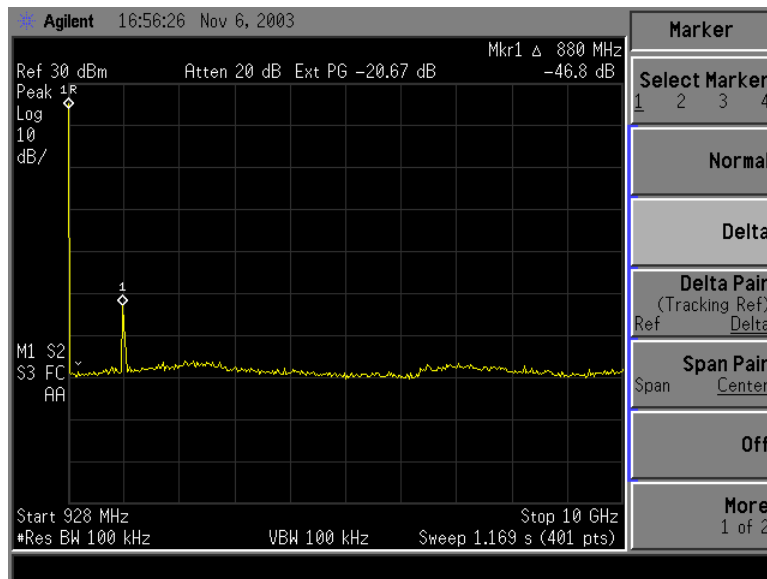


Figure 21. Spurious emission between 902 MHz and 10 GHz is -46.80 dBc.

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PROJECT: XE1202 RADIO MODULE DEVELOPMENT					
DRAWN BY: BRIAN PETTED , VP ENG	DATE: February 7, 2003	SIZE: A	DRAWING NUMBER: XE1202-915-PCT-0.0		REVISION: 0.0
CHECKED BY: BRIAN PETTED , VP ENG	DATE: February 7, 2003				
APPROVED BY: BRIAN PETTED , VP ENG	DATE: February 7, 2003				
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