## 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 p	eak output power at ante	nna input t	erminal:	27.7	(dBm)		
Maximum p	Maximum peak output power at antenna input terminal						
Maximum p							
	An	enna gain		0.0	(UDI) (a		
	Maxir	num anten	na gain:	1.00	(numeric)		
	F	rediction d	istance:	20	(cm)		
	Pre	ediction fre	quency:	915	(MHz)		
MPE limit for up	controlled exposure at pr	adiction fro		0.61	$(m) M/cm^2$		
MFE IIIII IOI UII	controlled exposure at pro		quency.	0.01			
Power density at prediction frequ				0.11715	(mW/cm <sup>2</sup> )		
	Maximum allow	able anten	na gain:	7.17	(dBi)		
	Margin of Compliance at 20 cm $= 7.1$						
ALERTX AX7910 MODULE (	CONDUCTED TESTS			FEEADOL	W66 N	220 COMMERCE COUR	т
PROJECT:		2	LIDIN	ESEARCH	(262) 27	RBURG, WI 53012, USA	721
			WIRELESS	PRODUCT DEVELOPM	email: end	a@lsr.com, http://www.lsr.	com
ALERTX 7910 RADIO MODU	JLE DEVELOPMENT						
DRAWN BY:	DATE:	SIZE:	DRAWING NUM	IBER:			REVISION:
John Lofgren	November 3, 2003						
CHECKED BY:	DATE:			XF1203	-915-PCT-0 1		0.3
BRIAN PETTED, VP ENG	November 18, 2003			, <u> </u>			010
APPROVED BY:	DATE:						
BRIAN PETTED, VP ENG	November 18, 2003			-			
FILENAME, FILES AFFECTED:		SCALE:		SHEET:			
ALERTx Conducted Emis	sions Report v0.3	NOT T	O SCALE		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		





ALERTx AX7910 MODULE CONDUCTED TESTS PROJECT:		- /		RESEARCH, Inc.	W66 N220 COMMERCE COUR CEDARBURG, WI 53012, USA (262)-375-4400 FAX: (262)-375-6 email: eng@lsr.com, http://www.lsr	T A 731 .com
ALERTx 7910 RADIO MOD	ULE DEVELOPMENT					
DRAWN BY:	DATE:	SIZE:	DRAWING NUM	IBER:		REVISION:
John Lofgren	November 3, 2003	•				
CHECKED BY:	DATE:			XF1203-915-F	PCT-0 1	03
BRIAN PETTED, VP ENG	November 18, 2003			XE1200 0101		
APPROVED BY:	DATE:					
BRIAN PETTED, VP ENG	November 18, 2003					
FILENAME, FILES AFFECTED:		SCALE:		SHEET:		
ALERTx Conducted Emissions Report v0.3		NOT T	O SCALE		23 OF 27	

						_	
	<b>Agilent</b> 11:40:03 Nov 17,	2003	Mb	r1 & 3.60 MHz	Marker	ſ	
	Ref 30 dBm Atten 20 d Peak Log 10 dB/	IB Ext PG -20	0 dB	-34.88 dB	Select Marker <u>1</u> 234 Norma		
	Marker ⊿ 3.600000 MHz −34.88 dB	1	al .		Delta Delta Pair (Tracking Ref)		
	V1 S2 S3 FC AA		* WWWWWWWWWWWWW	mMull	Ref <u>Delta</u> Span Pair Span <u>Center</u>	-	
	Center 928 MHz			Span 10 MHz	Off More 1 of 2		
	Figure 19 Spurious (		Sweep 4	and edge is	-49.06 dBc		
	rigure 19. Opunous (						
ALERTX AX7910 MODULE PROJECT:			WIRELESS	PRODUCT DEVELO	H, Inc.	W66 N220 COMMERCE COUR CEDARBURG, WI 53012, USA (262)-375-4400 FAX: (262)-375-6 email: eng@lsr.com, http://www.lsr	.T \ 731 .com
ALERIX /910 RADIO MO DRAWN BY:	DOLE DEVELOPMENT	SIZE:	DRAWING NUM	MBER:			REVISION:
John Lofgren CHECKED BY: BRIAN PETTED, VP ENG	November 3, 2003 DATE: November 18, 2003	A		XE120	3-915-PC	T-0.1	0.3
APPROVED BY: BRIAN PETTED, VP ENG	DATE: November 18, 2003						
FILENAME, FILES AFFECTED: ALERTx Conducted Er	nissions Report v0.3	SCALE: NOT T	O 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				





TITLE: ALERTX AX7910 MODULE CONDUCTED TESTS PROJECT:			WIRELESS	RESEARCH, Inc.	W66 N220 COMMERCE COUR CEDARBURG, WI 53012, USA (262)-375-4400 FAX: (262)-375-6 email: eng@lsr.com, http://www.lsr	T 731 .com
ALERTX 7910 RADIO MOD	ULE DEVELOPMENT					
DRAWN BY:	DATE:	SIZE:	DRAWING NUM	/BER:		REVISION:
John Lofgren	November 3, 2003	•				
CHECKED BY:	DATE:			XE1203-915-	PCT-0 1	0.3
BRIAN PETTED, VP ENG	November 18, 2003	/ \		XE 1200 0101	01 0.1	0.0
APPROVED BY:	DATE:					
BRIAN PETTED, VP ENG	November 18, 2003					
FILENAME, FILES AFFECTED:		SCALE:		SHEET:		
ALERTx Conducted Emi	ssions Report v0.3	NOT T	O SCALE		25 OF 27	



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

ALERTX AX7910 MODULE CONDUCTED TESTS			1.5.6	ESEARCH Toc	W66 N220 COMMERCE COUR	т
PROJECT:			WIRELESS	PRODUCT DEVELOPMENT	CEDARBURG, WI 53012, USA (262)-375-4400 FAX; (262)-375-6	731
				PRODUCT DEVELOPMENT	email: eng@lsr.com, http://www.lsr	com
ALERTx 7910 RADIO MOD	ULE DEVELOPMENT					-
DRAWN BY:	DATE:	SIZE:	DRAWING NUM	ABER:		REVISION:
John Lofgren	November 3, 2003	<b>^</b>				0.2
CHECKED BY:	DATE:			XE1203-915-H	PCI-0.1	0.3
BRIAN PETTED, VP ENG	November 18, 2003	<i>,</i> ,				
APPROVED BY:	DATE:					
BRIAN PETTED, VP ENG	November 18, 2003					
FILENAME, FILES AFFECTED:		SCALE:		SHEET:		
ALERTx Conducted Emi	ssions Report v0.3	NOT T	O SCALE		26 OF 27	

XE1202 RADIO MODULE PRE PROJECT: XE1202 RADIO MODULI	E-COMPLIANCE TESTS	<b>~</b>	L.S. RESEARCH, Inc.	W66 N220 COMMERCE COURT CEDARBURG, WI 53012, USA (262)-375-4400 FAX: (262)-375-6731 email: eng@lsr.com, http://www.lsr.com		
DRAWN BY:	DATE:	SIZE:	DRAWING NUMBER:			REVISION:
BRIAN PETTED, VP ENG	February 7, 2003	∧		XE1202-915-PCT-0.0		
CHECKED BY:	DATE:					10.0
BRIAN PETTED , VP ENG	February 7, 2003	<i>,</i> , ,				0.0
APPROVED BY:	DATE:					
BRIAN PETTED , VP ENG	February 7, 2003					
FILENAME, FILES AFFECTED:		SCALE:			SHEET:	
ALERTx Conducted Emi			NOT TO SCALE	27	OF 27	
XE1202 RADIO MODULE DRAWN BY: BRIAN PETTED , VP ENG CHECKED BY: BRIAN PETTED , VP ENG APPROVED BY: BRIAN PETTED , VP ENG FILENAME, FILES AFFECTED: ALERTX Conducted Emi	E DEVELOPMENT DATE: February 7, 2003 DATE: February 7, 2003 DATE: February 7, 2003 ssions Report v0.3	SIZE: A SCALE:	DRAWING NUMBER:	(262)-375-4400 FAX: (262)-375-6731 email: eng@lsr.com, http://www.lsr.com XE1202-915-PCT-0.0 NOT TO SCALE	SHEET: 27	OF 27