EXHIBIT S – Occupied Bandwidth

FCC ID# PURRFU7

NORTHWEST							
EMC		EMISSIONS	DATA SHI	EET			Rev BETA 01/30/01
EUT:	iDEN Radio				Work Ord	der: RAFI	10007
Serial Number:	148					Date:	08/22/01
Customer:	RadioFrame Networks				Temp	perature:	23 degrees C
Attendees:	Dean Busch		Tested by:	Greg Kiemel	н	lumidity:	38% RH
Customer Ref. No.:	N/A		Power:	120 V, 60 Hz (host)		Job Site:	Customer
TEST SPECIFICATION	IS						
Specification:	47 CFR 90.691	Year: Most Current	Method:	TIA / EIA - 603		Year:	Most Current
SAMPLE CALCULATI	ONS						
COMMENTS							
EUT OPERATING MO	DES						
Modulated by 16 QAM	l.						
DEVIATIONS FROM T	EST STANDARD						
None							
REQUIREMENTS							
Maximum level of any	spurious emission must be attena	auted below the specified emissi	on mask. 0 dB reference	is 11.4 dBm			
RESULTS			AMPLITUDE				
Pass							
SIGNATURE							
Tested By:	ABU.K.P						
DESCRIPTION OF TES	ST						

Emission Mask for EA-based Systems: Lowest Channel @ Highest Output Power



NORTHWEST									
EMC		EMISSIONS	DATA SHI	EET		Rev BETA 01/30/01			
EUT:	iDEN Radio				Work Order: RAF	N0007			
Serial Number:	148				Date:	08/22/01			
Customer:	RadioFrame Networks				Temperature:	23 degrees C			
Attendees:	Dean Busch		Tested by:	Greg Kiemel	Humidity:	38% RH			
Customer Ref. No.:	N/A		Power:	120 V, 60 Hz (host)	Job Site:	Customer			
TEST SPECIFICATION	IS								
Specification:	47 CFR 90.691	Year: Most Current	Method:	TIA / EIA - 603	Year:	Most Current			
SAMPLE CALCULATIONS									
COMMENTS									
EUT OPERATING MOI	DES								
Modulated by 16 QAM	l.								
DEVIATIONS FROM T	EST STANDARD								
None									
REQUIREMENTS									
Maximum level of any	spurious emission must be attena	auted below the specified emission	on mask. 0 dB reference	is 11.4 dBm					
RESULTS			AMPLITUDE						
Pass									
SIGNATURE									
Tested By:	ADU.K.P								
DESCRIPTION OF TES	ST								

Emission Mask for EA-based Systems: Lowest Channel @ Highest Output Power



NORTHWEST					
EMC		EMISSIONS	DATA SHEET		Rev BETA 01/30/01
EUT:	iDEN Radio			Work Orde	er: RAFN0007
Serial Number:	148				Date: 08/22/01
Customer:	RadioFrame Networks			Tempe	erature: 23 degrees C
Attendees:	Dean Busch		Tested by: Greg Kiemel	Hu	umidity: 38% RH
Customer Ref. No.:	N/A		Power: 120 V, 60 Hz (host)	J	ob Site: Customer
TEST SPECIFICATION	IS				
Specification:	47 CFR 90.691	Year: Most Current	Method: TIA / EIA - 603		Year: Most Current
SAMPLE CALCULATI	ONS				
COMMENTS					
EUT OPERATING MO	DES				
Modulated by 16 QAM	l.				
DEVIATIONS FROM T	EST STANDARD				
None					
REQUIREMENTS					
Maximum level of any	spurious emission must be attena	auted below the specified emission	on mask. 0 dB reference is 11.4 dBm		
RESULTS			AMPLITUDE		
Pass					
SIGNATURE					
Tested By:	ADU.K.P				
DESCRIPTION OF TES	ST				

Emission Mask for EA-based Systems: Middle Channel @ Highest Output Power



NORTHWEST						
EMC		EMISSIONS	DATA SHEET			Rev BETA 01/30/01
EUT:	iDEN Radio			Work O	rder: RAFI	10007
Serial Number:	148				Date:	08/22/01
Customer:	RadioFrame Networks			Ter	nperature:	23 degrees C
Attendees:	Dean Busch		Tested by: Greg Kiemel		Humidity:	38% RH
Customer Ref. No.:	N/A		Power: 120 V, 60 Hz (host)		Job Site:	Customer
TEST SPECIFICATION	IS					
Specification:	47 CFR 90.691	Year: Most Current	Method: TIA / EIA - 603		Year:	Most Current
SAMPLE CALCULATION	ONS					
COMMENTS						
EUT OPERATING MOI	DES					
Modulated by 16 QAM						
DEVIATIONS FROM T	EST STANDARD					
None						
REQUIREMENTS						
Maximum level of any	spurious emission must be attena	auted below the specified emission	on mask. 0 dB reference is 11.4 dBm			
RESULTS			AMPLITUDE			
Pass						
SIGNATURE						
Tested By:	ADU.K.P					
DESCRIPTION OF TES	ST					

Emission Mask for EA-based Systems: Middle Channel @ Highest Output Power



NORTHWEST									
EMC		EMISSIONS	DATA SHEET		Rev BETA 01/30/01				
EUT:	iDEN Radio			Work Order: RAF	N0007				
Serial Number:	148			Date:	08/22/01				
Customer:	RadioFrame Networks			Temperature:	23 degrees C				
Attendees:	Dean Busch		Tested by: Greg Kiemel	Humidity:	38% RH				
Customer Ref. No.:	N/A		Power: 120 V, 60 Hz (host)	Job Site:	Customer				
TEST SPECIFICATION	IS								
Specification:	47 CFR 90.691	Year: Most Current	Method: TIA / EIA - 603	Year:	Most Current				
SAMPLE CALCULATI	ONS								
COMMENTS									
EUT OPERATING MOI	DES								
Modulated by 16 QAM	I.								
DEVIATIONS FROM T	EST STANDARD								
None									
REQUIREMENTS									
Maximum level of any	spurious emission must be atten	auted below the specified emission	on mask. 0 dB reference is 11.4 dBm						
RESULTS			AMPLITUDE						
Pass									
SIGNATURE									
Tested By:	ADU.K.P								
DESCRIPTION OF TES	ST								

Emission Mask for EA-based Systems: Highest Channel @ Highest Output Power



NORTHWEST									
EMC		EMISSIONS	DATA SHI	EET		Rev BETA 01/30/01			
EUT:	iDEN Radio				Work Order: RAF	N0007			
Serial Number:	148				Date:	08/22/01			
Customer:	RadioFrame Networks				Temperature:	23 degrees C			
Attendees:	Dean Busch		Tested by:	Greg Kiemel	Humidity:	38% RH			
Customer Ref. No.:	N/A		Power:	120 V, 60 Hz (host)	Job Site:	Customer			
TEST SPECIFICATION	IS								
Specification:	47 CFR 90.691	Year: Most Current	Method:	TIA / EIA - 603	Year:	Most Current			
SAMPLE CALCULATION	SAMPLE CALCULATIONS								
COMMENTS									
EUT OPERATING MOI	DES								
Modulated by 16 QAM	l.								
DEVIATIONS FROM T	EST STANDARD								
None									
REQUIREMENTS									
Maximum level of any	spurious emission must be attena	auted below the specified emission	on mask. 0 dB reference	is 11.4 dBm					
RESULTS			AMPLITUDE						
Pass									
SIGNATURE									
Tested By:	* BU.K.P								
DESCRIPTION OF TES	ST								

Emission Mask for EA-based Systems: Highest Channel @ Highest Output Power



NORTHWEST					
EMC		EMISSIONS	DATA SHEET		Rev BETA 01/30/01
EUT:	iDEN Radio			Work Order: RAF	N0007
Serial Number:	148			Date	: 08/22/01
Customer:	RadioFrame Networks			Temperature	: 23 degrees C
Attendees:	Dean Busch		Tested by: Greg Kiemel	Humidity	: 38% RH
Customer Ref. No.:	N/A		Power: 120 V, 60 Hz (host)	Job Site	: Customer
TEST SPECIFICATION	15				
Specification:	47 CFR 90.691	Year: Most Current	Method: TIA / EIA - 603	Year	: Most Current
SAMPLE CALCULATI	ONS				
COMMENTS					
EUT OPERATING MOI	DES				
Modulated by 16 QAM	I.				
DEVIATIONS FROM T	EST STANDARD				
None					
REQUIREMENTS					
Maximum level of any	spurious emission must be atten	auted below the specified emission	on mask. 0 dB reference is -24.6 dBm		
RESULTS			AMPLITUDE		
Pass					
SIGNATURE					
Tested By:	ABU.K.P				
DESCRIPTION OF TES	ST				

Emission Mask for EA-based Systems: Lowest Channel @ Lowest Output Power



		EMISSIONS	DATA SHEET	Rev BETA
	LIDEN Dadia			01/30/01
EUT: Carial Number				Work Order: KAFINUUU/
Serial Number:	148 BadioEramo Notworko			Temperature: 22 degrees C
Attendees:	Dean Busch		Tested by: Greg Kiemel	Humidity: 38% PH
Customer Ref. No :	· N/A		Power: 120 V 60 Hz (host)	Job Site: Customer
TEST SPECIFICATION	NS		F OWER. 120 V, 00 Hz (1000)	Job Olle. Joustomer
Specification:	47 CER 90 691	Year: Most Current	Method: TIA / FIA - 603	Year: Most Current
SAMPLE CALCULATI	IONS	Tour most carrent		lour moor current
COMMENTS				
EUT OPERATING MO	DES			
Modulated by 16 QAN	<u> </u>			
DEVIATIONS FROM T	EST STANDARD			
None				
REQUIREMENTS				
Maximum level of any	/ spurious emission must be attena	auted below the specified emissio	n mask. 0 dB reference is -24.6 dBm	
RESULTS			AMPLITUDE	
Pass				
SIGNATURE				
Tested By	* DU.K.P			
DESCRIPTION OF TE	ST			
I	Emission Mask for E	A-based Systems:	Lowest Channel @ Lowest	t Output Power

Emission Mask for EA-based Systems: Lowest Channel @ Lowest Output Power

											Ték
-14.6	Ref Lvl'	*-14.6dH	3m			10d	в/		Atten Odi	В	
24 6						-					
-24.0						-					
-34.6						1 MM					
-44.6						11 : 1 :					
-54.6						:					
-64.6					/						
-74.6							$\left(\right)$				
_84 6						:					
-04.0	HY44ANAA HAWAA	ylether weekler	NHH MANANA WWW	umpulkulty.	We will be	:	WhyγL	n halaman hala a	Wanduphangland	annia manyakatak	HHUMMAN AND
-94.6		<u> </u>									
-104.6						•					
-114.6						:					
	Freq 851	1.012 51	IHz					\$	3pan 370kH	Iz	
	ResBW 30	DOHz		V	idBW 300)Hz			SWP	245	
	LEVEL		SPAN	s	pan 370}	tHz					
	KNOB 2		KNOB 1	K	EYPAD		Te	ktronix	2784		

NORTHWEST					
EMC		EMISSIONS	DATA SHEET		Rev BETA 01/30/01
EUT:	iDEN Radio			Work Order: RAF	N0007
Serial Number:	148			Date:	08/22/01
Customer:	RadioFrame Networks			Temperature:	23 degrees C
Attendees:	Dean Busch		Tested by: Greg Kiemel	Humidity:	38% RH
Customer Ref. No.:	N/A		Power: 120 V, 60 Hz (host)	Job Site:	Customer
TEST SPECIFICATION	IS				
Specification:	47 CFR 90.691	Year: Most Current	Method: TIA / EIA - 603	Year:	Most Current
SAMPLE CALCULATI	ONS				
COMMENTS					
EUT OPERATING MO	DES				
Modulated by 16 QAM	1.				
DEVIATIONS FROM T	EST STANDARD				
None					
REQUIREMENTS					
Maximum level of any	spurious emission must be attena	auted below the specified emission	on mask. 0 dB reference is -24.6 dBm		
RESULTS			AMPLITUDE		
Pass					
SIGNATURE					
Tested By:	* BU.K.P				
DESCRIPTION OF TES	ST				

Emission Mask for EA-based Systems: Middle Channel @ Lowest Output Power



EMISSIONS DATA SHEET									
EUT	IDEN Radio			Work Order: BAE	01/30/01				
Serial Number:	148			Date:	08/22/01				
Customer:	RadioFrame Networks			Temperature:	23 degrees C				
Attendees:	Dean Busch		Tested by: Greg Kiemel	Humidity:	38% RH				
Customer Ref. No.:	N/A		Power: 120 V, 60 Hz (host)	Job Site:	Customer				
TEST SPECIFICATION	IS								
Specification:	47 CFR 90.691	Year: Most Current	Method: TIA / EIA - 603	Year:	Most Current				
SAMPLE CALCULATI	ONS								
COMMENTS									
EUT OPERATING MOL	DES								
Modulated by 16 QAM									
DEVIATIONS FROM TH	EST STANDARD								
REQUIREMENTS									
REQUIREMENTS Maximum level of any	sourious amission must be attens	auted below the specified emissio	n mask 0 dB reference is -24.6 dBm						
DESIILTS	spurious emission must be attend	suled below the specified emissio							
Pass			AMPENODE						
SIGNATURE									
oronarona	. 0								
	An V.K.P								
	~ 04								
lested By:	55								
DESCRIPTION OF TES	ST								
	Emission Mask for F	-A-based Systems	Middle Channel @ Lowes		or				
L		-A-Daseu Systems.	Milule Channel & Lowes	i Output Fowe	51				

Emission Mask for EA-based Systems: Middle Channel @ Lowest Output Power

											Tek
-14.6	Ref Lvl	*-14.6dBm	I			10d	в/		Atten Odl	В	
						:					
-24.6											
-34.6						MAN					
-44.6						₩P:N]1					
-54.6											
-64.6						:					
					17		N.				
-74.0						÷	\uparrow				
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-94.6	այիս դոլու գ	,	The second se	· · · · · · · · · · · · · · · · · · ·		:		·· · · ·	1	r kurdha.	ייז חייי
-104.6											
-114.6											
	Freq 86	5.987 SMH	z					\$	Span 370kH	Iz	
	ResBW 30	OOHz		v	idBW 300)Hz			SWP	245	
	LEVEL		SPAN	s	pan 370k	tHz					
	KINOB 2		KNOB 1	KI	EYPAD		Te	ktronix	2784		

NORTHWEST									
EMC		EMISSIONS	DATA SHI	EET			Rev BETA 01/30/01		
EUT:	iDEN Radio				Work Ord	ler: RAFN	0007		
Serial Number:	148	Date: 08/22/01		08/22/01					
Customer:	RadioFrame Networks	Temp	erature:	23 degrees C					
Attendees:	Dean Busch Tested by: Greg Kiemel					umidity:	38% RH		
Customer Ref. No.:	N/A		Power:	120 V, 60 Hz (host)	J	Job Site:	Customer		
TEST SPECIFICATION	IS								
Specification:	47 CFR 90.691	Year: Most Current	Method:	TIA / EIA - 603		Year:	Most Current		
SAMPLE CALCULATI	ONS								
COMMENTS									
EUT OPERATING MO	EUT OPERATING MODES								
Modulated by 16 QAM	Modulated by 16 QAM.								
DEVIATIONS FROM TEST STANDARD									
None									
REQUIREMENTS									
Maximum level of any	spurious emission must be attena	auted below the specified emissi	on mask. 0 dB reference	is -24.6 dBm					
RESULTS AMPLITUDE									
Pass									
SIGNATURE									
Tested By:									
DESCRIPTION OF TES	ST								

Emission Mask for EA-based Systems: Highest Channel @ Highest Output Power



		LINICOLONG		01/30/01				
EUT	iDEN Radio			Work Order: RAFN0007				
Serial Number:	148	Date: 08/22/01						
Customer	RadioFrame Networks	Temperature: 23 degrees C						
Attendees:	Dean Busch	Humidity: 38% RH						
Customer Ref. No.:	: N/A		Power: 120 V, 60 Hz (host)	Job Site: Customer				
TEST SPECIFICATION	NS							
Specification:	47 CFR 90.691	Year: Most Current	Method: TIA / EIA - 603	Year: Most Current				
SAMPLE CALCULATI	IONS							
COMMENTS								
EUT OPERATING MO	DES							
Modulated by 16 QAN	Λ.							
DEVIATIONS FROM T	EST STANDARD							
None								
REQUIREMENTS								
Maximum level of any	/ spurious emission must be attena	auted below the specified emissio	n mask. 0 dB reference is -24.6 dBm					
RESULTS			AMPLITUDE					
Pass								
SIGNATURE								
Tested By:								
DESCRIPTION OF TEST								
Emission Mask for EA-based Systems: Highest Channel @ Highest Output Power								

Emission Mask for EA-based Systems: Highest Channel @ Highest Output Power

											Tek	
-14.6	Ref Lvl*-:	14.6dBm				10d	в/		Atten Odl	3		
24.6						:						
-24.0						÷						
-34.6						1						
-44.6						11:1 :						
-54.6												
-64.6					/		ι					
-74.6							\mathbf{h}					
01 C					/	:						
-04.0	hy when a week the type	h-MMMM/Prov	WWW.MANNIN	hlpopped	n wipterbill	:	N. MAN	NHAMANANANAN	yuhny kymyn hydraeth	lowerstate of the states of th	dyhannanddu	
-94.6			1.			:						
-104.6						•						
-114.6						:						
	Freq 869.987 5MHz							Span 370kHz				
	ResBW 300Hz V:			idBW 300Hz			SWP 24S					
	LEVEL		SPAN	sı	pan 370)	cHz						
	KNOB 2		KNOB 1	KI	TYPAD		Te	ktronix	2784			