Nemko Test Report:	2L0041RUS6
Applicant:	Navini Networks 2240 Campbell Creek Blvd. Suite 110 Richardson, TX 75082
Equipment Under Test: (E.U.T.)	2.4 GHz CPE, Release 1
In Accordance With:	FCC Part 15, Subpart C, 15.247 Direct Sequence Spread Spectrum Transmitters
Tested By:	Nemko Dallas Inc. 802 N. Kealy Lewisville, Texas 75057-3136
Authorized By:	Jo-Jill

Tom Tidwell, Wireless Group Manager

Date:

8/28/02

Total Number of Pages:48

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#### Section 1. Summary of Test Results

Manufacturer: Navini Networks

Model No.: 2.4 GHz CPE, Release 1

Serial No.: 001

General: All measurements are traceable to national standards.

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, Subpart C, Paragraph 15.247 for Direct Sequence Spread Spectrum devices. Radiated tests were conducted is accordance with ANSI C63.4-1992. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.

$\boxtimes$	New Submission		Production Unit
	Class II Permissive Change	$\square$	Pre-Production Unit

#### THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.

See " Summary of Test Data".



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#### Summary Of Test Data

NAME OF TEST	PARA. NO.	SPEC.	RESULT	
Powerline Conducted Emissions	15.207(a)	48 dBµV	Complies	
Minimum 6 dB Bandwidth	15.247(a)(2)	>500 kHz	Complies	
Maximum Peak Power Output	15.247(b)(1)	<1 Watt	Complies	
Spurious Emissions (Antenna Conducted)	15.247(c)	-20 dBc/100kHz	Complies	
Sourious Emissions (Bastriated Bands)	15.247(a)	< 74 dBuV/m Peak	Complias	
Spurious Emissions (Restricted Bands)	15.247(0)	< 54 dBuV/m Avg	Complies	
Peak Power Spectral Density	15.247(d)	+8 dBm/3kHz	Complies	

#### Footnotes:

<sup>1</sup>It is Navini's understanding that measurements to determine the minimum processing gain will not be required subsequent to the Commission's adoption of the Second Report and Order in ET Docket No. 99231.

# Nemko Dallas FCC PART 15, SUBPART C DIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTER EQUIPMENT: 2.4 GHz CPE, Release 1 PROJECT NO.: 2L0041RUS6

# Section 2. Equipment Under Test (E.U.T.)

**General Equipment Information** 

**Operating Band:** 

2.4012 GHz – 2.4785 GHz

User Frequency Adjustment:

Software controlled. Not adjustable by user.

**Description of Modification for Modification Filing** 



**Family List Rational** 



#### **Description of Operation**

The EUT is a CPE (Customer Premise Equipment) transceiver operating in the 2.4 GHz band. The transceiver serves as a wireless link between a BTS and a customer site. The EUT uses a multi-antenna system for improved coverage and diversity. **Only one antenna transmits at any time.** The transmitter is digitally modulated and produces a spread spectrum waveform.

#### System Diagram



# Section 3. Powerline Conducted Emissions

NAME OF TEST: Powerline Conducted Emissions	PARA. NO.: 15.207(a)
TESTED BY: David Light I	DATE:4/10/2002

Test Results: Complies.

Measurement Data: See attached plots.

**Measurement Uncertainty:** +/- 1.7 dB

**NOTE:** The device can be supplied with one of three possible power supplies. In the following data tables these are identified as shown below:

Power Supply #1 – Phihong PSA10A-050 Power Supply #2 – Phihong PSC15A-050S Power Supply #3 – Achme AM138B05S10

#### Test Data – Powerline Conducted Emissions, Power Supply #1

Ner		mk	D				Le Te Fa	802 N. Kealy wisville, TX 75 el: (972) 436-9 ax: (972) 436-2	2667	
ta Plot	iko Dallas, Ilic.	1	Powerlin	e Conduc	ted Emis	sions				
Page <u>1</u> o No.: :ification: ed By:	f <u>2</u> 2L0041R 15.207 David Light	Tempe Relative Hu	Date:	4/10/2002 22 40			Comple Preliminary	e X		
In Iguration: ple Number: ution: actor Type:	TX FULL POWER 1 Lab 4 Peak			RBW: <u>1</u> VBW: <u>1</u>	0 kHz 0 kHz		Measureme Distanc	nt e:	m	
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surement Ur	certainty: <u>+/-1.7</u>	Marker 1	. [71]		RBM	1U K	Hz RF	Att	10 dB	
Ref 93.	L∨l 9 dBµV	з.	44.0 055611	5 dBµV 22 MHz	VBW SWT	10 k 740 m	Hz s Ur	nit	dBµV	
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50 <mark> 0 1</mark> 40	48 <u>1</u> dBμV —						1u/\			
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Star e:	t 450 kHz 10.APR.2	2002 12:	31:17	2.955	MHz/			Stop	30 MHz	
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# Nemko DallasFCC PART 15, SUBPART CDIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTEREQUIPMENT:2.4 GHz CPE, Release 1PROJECT NO.:2L0041RUS6

#### Test Data – Powerline Conducted Emissions, Power Supply #1



Nemko Dallas, Inc.

 Ballas Headquarters:

 802 N. Kealy

 Lewisville, TX 75057

 Tel:
 (972) 436-9600

 Fax:
 (972) 436-2667

Data Plot				Powerlin	e Conduc	ted Emiss	<u>sions</u>				
Page <u>2</u> o Job No.: Specification: Tested By: E.U.T.: Configuration:	f 2 2L004 15.2 David 1 2.4 GH	IR Light Iz CPE	Temp Relative F	Date: 4/1 erature(°C): 22 Humidity(%) 40	0/2002						
coninguration.	IAFU	LLFUWER									
Ref 93	L v 1 .9 d6	3μV	Marker 2	1 [11] 37.9 1.937174	7 dBµV 35 MHz	KBW VBW SWT	10 F 10 F 740 r	<hz rh<br=""><hz ns Ur</hz </hz>	- Att nit	10 αΒ αΒμν	
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Stai Date:	nt 49 1	50 kHz 0.apr.2	002 12	:32:25	2.955	MHz/			Stop	30 MHz	
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#### Test Data – Powerline Conducted Emissions, Power Supply #2

Data Plot			]	Powerli	ne Con	ducted	Emis	sions		
Page 1 of	2 <u>2</u>								Cor	nplete X
Job No.:	2L0041R			Date:	4/16/2	002			Prelimi	nary:
Specification:	15.207		Tempe	erature(°C):	24					
Tested By:	Eldon Berry		Relative H	[umidity(%)	52					
E.U.T.:	2.4 GHz CPE	with Phihong	g PSC15A-0	50S power si	upply					
Configuration:	TX FULL PO	WER								
Sample Number:	1									
Location:	Lab 4				R	BW: 10 kHz	\$		Measur	ement
Detector Type:	Peak				V	BW: 10 kHz	5		Dis	tance: m
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Pre-Amp					Cable	±1· 1	534			
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Attenuator #2					Cable		74			
Additional again	mant mond.				LIII		)/4			
Additional equip	nent used:	. / 1.7 JD								
Measurement Un	certainty:	+/-1./ dB								
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# Nemko Dallas

# FCC PART 15, SUBPART C

DIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTER , Release 1 PROJECT NO.: 2L0041RUS6

*EQUIPMENT:* 2.4 GHz CPE, Release 1

t <mark>a Plot</mark>				Powerl	ine Cor	l Emiss	ions			
Page <u>2</u> of 5.:	f 2 2L0041R			Date:	4/16/2002					
ication:	15.2 Temperature(°C): 24									
l By:	Eldon Berry Relative Humidity(%) 52									
.:	2.4 GHz CPE	with Phihor	ng PSC15A-0	050S power :	supply					
uration:	TX FULL PC	OWER								
		Marker	1 [T1]		RBW	10 k	:Hz RF	- Att	10 dB	
Ref L	v l		42.7	'8 dBµV	VBW	10 H	Hz			
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# Nemko DallasFCC PART 15, SUBPART C<br/>DIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTER<br/>PROJECT NO.: 2L0041RUS6EQUIPMENT:2.4 GHz CPE, Release 1PROJECT NO.: 2L0041RUS6

ata Plot				Powerli	ine Con	ducted	Em	issio	ns			
Page 1 o	f <u>2</u>									Com	plete X	K
No.:	2L0041R			Date:	4/16/2	002				Prelimin	ary:	
cification:	15.207		Temp	erature(°C):	24							
ted By:	Eldon Berry		Relative F	Iumidity(%)	52							
.T.:	2.4 GHz CPE	E with Achme	AM138B05	S10 power s	upply							
figuration:	TX FULL PO	OWER										
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ation:	Lab 4				R	BW: 10 kH	<u>c</u>			Measure	ment	
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asurement Un	certainty:	+/-1.7 dB	_									
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# Test Data – Powerline Conducted Emissions, Power Supply #3

# Nemko DallasFCC PART 15, SUBPART C<br/>DIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTER<br/>PROJECT NO.: 2L0041RUS6

#### Test Data – Powerline Conducted Emissions, Power Supply #3

Data Plot			]	Powerli	ne Con	Emis	sions			
Page 2 of	f <u>2</u>			_						
Job No.:	2L0041R			Date:	4/16/2002					
Specification:	15.2 Elden Demu		Tempe	erature(°C):	52					
Tested By:	Eldon Berry		Relative H	umidity(%)	52					
E.U.I.:	Z.4 GHZ CPE	with Achme	AM138B05	S10 power si	ирріу					
Configuration:	TX FULL PO	WEK								
		Marker	1 [T1]		RBM	10 k	Hz	RF Att	10 dB	
Ref L	v 1		41.6	5 dBµV	VBW	10 k	Hz			
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Start	450 kHz			2.955	MHz/			Stop	5 30 MHz	
Date:	16.APR.2	2002 14	:36:41							
Notes:	L2									
1										

Photos – Powerline Conducted Emissions Front



Side



## Section 4. Minimum 6 dB Bandwidth

NAME OF TEST: Minimum 6 dB Bandwidth	PARA. NO.: 15.247(a)(2)
TESTED BY: David Light	DATE: 4/10/2002

Test Results: Complies.

**Measurement Data:** 

Measured 6 dB bandwidth: **1.96 MHz** 

**Measurement Uncertainty:** +/- 0.7 dB

### Test Data – 6 dB Bandwidth

Lot           Page 1 of 3           Vo.:         2L004           ification:         15.247           dBy:         David           r:         2.4 GI           iguration:         TX IN           ble Number:	1R Z Light Z CPE TEST FIXTURE b 2 ak	Tempe Relative H	Date:	4/10/2002 22 40	<u>And WAULI</u>		Complet Preliminary	te X		
io.:         2 L004           ification:         15.247           d By:         David           iguration:         Tx IN           ble Number:	1R Light Hz CPE TEST FIXTURE b 2 ak	Tempe Relative H	Date:	4/10/2002 22 40			Preliminary	r:		
ification:         15.247;           d By:         David           f.:         2.4 Gl           iguration:         Tx IN           ble Number:	Light Hz CPE TEST FIXTURE b 2 ak	Tempe Relative H	erature(°C): umidity(%)	22 40			•			
d By: David G.: 2.4 GH iguration: Tx IN le Number: ion: La itor Type: Pe Equipment Us ma: xmp: : wer: 10	Light Hz CPE TEST FIXTURE b 2 ak	Relative H	umidity(%)	40						
2.4 GI           guration:         Tx IN           le Number:	Iz CPE TEST FIXTURE b 2 ak									
guration: <u>Tx IN</u> le Number: ion: La ctor Type: Pe Equipment Us ana: imp: : ver: 10	TEST FIXTURE									
le Number:	b 2ak									
tor Type: Pe Equipment Us ma: mp: ver: 10	ak			DDW 1	001-11-					
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ma: .mp: 	<u>ed</u>		D:							
ver: 10			Directi	Cable #1	1620					
ver: 10				Cable #1:	1029					
	36			Cable #3:						
uator #1 14	69			Cable #4:						
uator #2:				Mixer:						
ional equipment us	ed: Anaren 20 d	dB Directional	coupler Model	1 1C0872-20, 0.	5-4.0 GHz					
urement Uncertaint	y: +/-1.7 dB									
<u></u>	~	1arker	1 [ 1]		КВМ	100 k	Hz R	F Att	30 dB	
Ref Lvl			12.	.87 dBm	VBW	100 k	.Hz			
37.8 d	Bm	2	.439013	303 GHz	SWT	5 m	is Ui	nit	dBn	n
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Center	2.44 GHz			500	kHz∕			Spa	in 5 MHz	

#### Test Data - 6 dB Bandwidth



Dallas Headquarters: 802 N. Kealy Lewisville, TX 75057 Tel: (972) 436-9600 Fax: (972) 436-2667

Nemko Dallas, Inc.					
ata Plot	Occupied Ba	andwidth			
Page 2 of 3           No.:         2L0041R           ification:         15.2           ed By:         David Light           T.:         2.4 GHz CPE	Date: 4/10/2002 Temperature(°C): 22 Relative Humidity(%) 40				
iguration: Tx IN TEST FIXTU	RE				
Ref Lvl 37.8 dBm	Marker 1 [ 1] 13.87 dBm 2.40012305 GHz	RBW VBW SWT	100 kHz 100 kHz 5 ms	RF Att Unit	30 dB dBm
31.4 dB Offs	e t		▼1 [⊤1]	13.	87 dBm
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.2 Center 2.4011 e: 10.APR.2	GHz 500 2002 11:09:09	kHz∕		Span	5 MHz
Notes: Lowest channel 2	.4011 GHz				

EQUIPMENT: 2.4 GHz CPE, Release 1

#### Test Data – 6 dB Bandwidth

AT.		
(N)	Nem	1

Dallas Headquarters:									
802 N. Kealy									
Lewisville, TX 75057									
Tel: (972) 436-9600									
Fax: (972) 436-2667									

Ner	nko Dallas	Inc.						. ,			
Data Plo	t			Occ	cupied Ba	ndwidth					
Page 3 o	of 3										
Job No.:	2L0041R			Date: 4/1	10/2002						
Specification:	ion: 15.247 Temp			erature(°C): 22							
Tested By:	David Light		Relative H	1  lumidity(%) 40	)						
E.U.T.:	2.4 GHz CPH	1									
Configuration:	Tx IN TEST	FIXTURE									
		M	arkor	1 1 1 1 1		RBU	100 6	HZ RI		- आज ल	R
Ref	Lvl		aritar	13.	93 dBm	VBW	100 K	Hz		000	0
40	dBm		2	.479723	805 GHz	SWT	5 m	is Ur	⊐it	d	Bm
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	10.4			. 14.50							
Notes:	Higest cha	nel 2.4807	GHz								

### Section 5. Maximum Peak Output Power

NAME OF TEST: Maximum Peak Output power	PARA. NO.: 15.247(b)(1)
TESTED BY: David Light	DATE: 04/10/2002

Test Results: Complies.

#### **Measurement Data:**

Channel	Freq (GHz)	Measurement (dBm)	Measurement (Watts)
High	2.4785	28.3	0.676
Mid	2.4400	28.3	0.676
Low	2.4011	28.3	0.676

Note – AC supply voltage was varied +/- 15% with no effect on output power

Equipment Used: 1036-1469-1926 Anaren 20 dB directional coupler Model 1C0870-20 (0.5-4.0 GHz)

**Measurement Uncertainty:** +/- 0.67 dB

**Temperature:** 22 °C

**Relative Humidity:** 40 %

# Section 6. RF Exposure

NAME OF TEST: RF Exposure	PARA. NO.: 15.247(b)(4)
TESTED BY:	DATE:

Test Results: Complies.

**Measurement Data:** See attached data sheet.

FCC ID: PL6-ISM-CPE-R1 Prediction of MPE Limit OET Bulletin 65, Edition 97-01

#### Equation from page 18

$$S = \frac{PG}{4pR^2}$$

$$R = \sqrt{\frac{PG}{4pS}}$$

$$S = \text{power density}$$

$$P = \text{power input to the antenna}$$

$$G = \text{power gain of the antenna in the direction of interest relative to an isotropic radiator}$$

$$R = \text{distance to the center of radiation of the antenna}$$





5.01

(numeric)

NOTE: The following warning must appear in the installation manual.

G=

#### CAUTION:

This device is a radio frequency transmitter. It is required to comply with FCC RF exposure requirements for mobile transmitting devices. A minimum separation distance of

**20.00** cm or more must be maintained between the antenna and all persons during device operations to ensure compliance with the FCC's rules for Radio Frequency Exposure. If this minimum distance cannot be maintained, exposure to RF levels that exceed the FCC's limits may result.

# Section 7. Spurious Emissions (conducted)

NAME OF TEST: Spurious Emissions (conducted)	PARA. NO.: 15.247(c)
TESTED BY: David Light	DATE: 4/10/2002

Test Results: Complies.

Measurement Data: See attached plots.

**Measurement Uncertainty:** +/- 0.7 dB

#### Test Data – Spurious Emissions at Antenna Terminals

Nen	Nel nko Dallas, Inc.	mk	0		Dallas Headquarters: 802 N. Kealy Lewisville, TX 75057 Tel: (972) 436-9600 Fax: (972) 436-2667					
Data Plot		Spur	ious Emis	ssions at A	ntenna T	<b>Ferminals</b>				
Page 1 of	53	opur		5510115 401		<u>ci minuis</u>	Complete	х		
h No :	21.00/1R		Date	4/10/2002			Preliminary:			
ecification:	15 247	Temr	erature(°C):	22			r reminiary.			
stad By:	David Light	Polotivo I	Jumidity(%)	40						
ыса Бу. Т.Т.		Kelative r	fullidity(%)	40						
	2.4 GHZ CPE	r.								
ninguration:	Tx IN TEST FIXTUR	E								
npie Number:	1			DDU/ 1/						
cation:	Lab 2			KBW: IC	JO KHZ		Measurement	NT/A		
ector Type:	Peak			VBW: 10	JO KHZ		Distance:	<u>N/A</u> II	1	
et Fauinm	ant Used									
st Equipin	int USCU		D	anal C1						
ienna:			Directi	onal Coupler:	1.600					
-Amp:				Cable #1:	1029					
er:	1026			Cable #2:						
eiver:	1036			Cable #3:						
enuator #1	1469			Cable #4:						
enuator #2:				Mixer:						
ditional equip	ment used: Anaren 2	0 dB Directiona	l coupler Model	11C0872-20, 0.5	-4.0 GHz					
asurement Un	certainty: $\pm -1.7$	18								
7.8 31	.4 dB Offs	e t				▼1	[⊤1]	19	.49 dBm	
20								2.44000	роо GHz	
10										_
	7.8 dBm									-
										1
1 V I	Eω									1 M
- 1 0										-
20										
-20										
-30										-
	menen	lan it	hurturn	human	pww	pullinung	mun	- www.	mun	4
-40		Ľ				ļ				4
										1
										1
-50					1	1				1
										1
-60										-
										1
										1
2.2										J
Cen	ter 12.515	GHz		2.497	GHz/			Span 24	.97 GHz	1
te:	10.APR.2	2002 10	:33:00							
Notes:	Mid Channel - 2.44	00 GHz								
	Display line indicat	tes -20 dBc								
	Marker indicates (	Carrier								

#### Nemko Dallas

EQUIPMENT: 2.4 GHz CPE, Release 1

#### Test Data – Spurious Emissions at Antenna Terminals



 Ballas Headquarters:

 802 N. Kealy

 Lewisville, TX 75057

 Tel: (972) 436-9600

 Fax: (972) 436-2667

Ner	nko Da	llas, Inc.						. ,			
<b>Data Plot</b>	ţ		Spur	ious Emis	ssions at A	Antenna T	erminals				
Page 2 o	of 3										
Job No.:	2L0041	R		Date: 4/1	0/2002						
Specification:	pecification: 15.2			erature(°C): 22							
Tested By:	ested By: David Light			Humidity(%) 40							
E.U.T.:	2.4 GH	z CPE									
Configuration:	Tx IN 1	EST FIXTUR	Е								
			Marker	1 [1]		RBM	100 k	Hz RI	- Att	20 dB	
Ref	∟v1			20.	07 dBm	VBW	100 k	Hz			
26	.4 dE	ßm	2	2.401100	00 GHz	SWT	6.4	s Ur	пit	dBr	ו
26.4 3:	1.4 1	B Offse	e t				▼1	[ ] 1 ]	20	.07 dBm	ו
20	Ť								2.40110	000 GHz	
10											
D 1	6.4	dBm—									
0											
- 1 D	Eω										1MA
10											
20											
-20											1
-30			, M			~14				1	
	m	moun	w w	hmm	mound	ma www	when	emm	1 million	manu	
-40 Aur											
-50											
-60											
- 70											
73.6	- +	- MUL-			0 403	<u>Curr</u>			<b>C</b> +	05 511-	J
_ star	יד שו	J 11HZ			2.497	GHZ/			stop	20 GHZ	
Pate:	1	U.APR.2	002 11	:12:00							
Notes:	Lowes	t channel 2.4	011 Ghz								
	Displa	y line indicat	es -20 dBc								
	Mark	er mulcates C	arrier								

*EQUIPMENT:* 2.4 GHz CPE, Release 1

#### Test Data – Spurious Emissions at Antenna Terminals



Dallas Headquarters: 802 N. Kealy Lewisville, TX 75057 Tel: (972) 436-9600 Fax: (972) 436-2667

Ner	nko Dallas, Inc.					· ,			
Data Plo	t	<u>Spurio</u>	us Emission	s at Antenna	Terminal	5			
Page 3 o	f <u>3</u>					_			
Job No.:	2L0041R		Date: 4/10/2002						
Specification:	15.247	Tempera	ure(°C): 22						
Tested By:	David Light	Relative Hum							
E.U.T.:	2.4 GHz CPE								
Configuration:	Tx IN TEST FIXTU	JRE			-				
k de la constante de la consta		Marker 1	[]1]	КВМ	100 K	Hz RF	- Att	20 dB	
Ref	∟∨ l		19.08 0	JBm VBW	100 k	Hz			
28	.3 dBm	2.4	48070000 (	GHZ SWT	б.4	s Ur	пit	dBm	
28.3	L.4 dB Off	set			<b>v</b> <sub>1</sub>	[T1]	19	.08 dBm	_
20	1						2.48070	000 GHz	
20									
1.0									
<sup>10</sup> —D1	8.3 dBm—								
U									
1 V I	EW								1 MA
- 1 0									
-20									
-30									
		. how how	mon hour	my man min	Mohum	mmm	m	mym	
-40 km	mille marine				``````````````````````````````````````				
-50									
00									
60									
-60									
71.7									
Star	-t 30 MHz		2	.497 GHz/			Stop	25 GHz	
Date:	10.APR.	2002 11:1	6:32						
Notes:	Highest channel	2.4807 Ghz							
	Display line indi	cates -20 dBc							
	Marker indicates	s Carrier							

# Nemko Dallas FCC PART 15, SUBPART C DIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTER

EQUIPMENT: 2.4 GHz CPE, Release 1 PROJECT NO.: 2L0041RUS6





# Section 8. Spurious Emissions (radiated)

NAME OF TEST: Spurious Emissions (radiated)	PARA. NO.: 15.247 (c)
TESTED BY: David Light	DATE:4/9/2002

Test Results: Complies.

Measurement Data: See attached table.

**NOTE:** Where the measured peak value of an emission was found to be below the average limit, an average measurement was not taken.

#### **Duty Cycle Calculation:**

Duty Cycle correction factor(dB) =  $20 \log (rf_{ON} \text{ in ms}/100 \text{ms})$ 

The transceiver was tested in CW mode for test purposes. In normal operation the transmitter is in TDD mode (50 ms transmit, 50 ms receive). The duty cycle factor for average measurements is -6 dB. The 6 dB correction factor was only used when measuring compliance at the band edge.

Measurement Uncertainty: +/- 0.7 dB

# Nemko Dallas

#### FCC PART 15, SUBPART C DIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTER , Release 1 PROJECT NO.: 2L0041RUS6

EQUIPMENT: 2.4 GHz CPE, Release 1

# Test Data – Radiated Spurious Emissions (Restricted Bands)

Nem	) N ko Dallas,	Ief	m	<b>(</b> )		Dalla { Lewi Tel: Fax:	s Headqua 302 N. Kea sville, TX 7 (972) 436 (972) 436	arters: ly 75057 -9600 -2667
	,	·		Radia	ted Emissions			
Page <u>1</u> of	3							
ob No.:				Date:	4/9/02			
pecification:			Temp	erature(°C):	22			
Cested By:	David Light		Relative I	Humidity(%)	40	•		
E.U.T.:			2.4	GHz CPE		•		
Configuration:			TYPICAL	/ Tx Full Po	wer			
ample Number:	1							
ocation:	AC 3			-	RBW:	1 MHz		
etector Type:	Peak	-			VBW:	1 MHz		
		-						
			Test Equip	ment Used				
intenna:	#N/A			Direct	tional Coupler:	#N/A		
re-Amp:	1016	-			Cable #1:	1484		
ilter:	1482	_			Cable #2:	1485		
leceiver:	1464	-			Cable #3:	#N/A		
Attenuator #1	#N/A	-			Cable #4:	#N/A		
ttenuator #2:	#N/A	-			Mixer:	#N/A		
	Anaron 20 d	B directional	coupler M	odel 1C0870	-20 (0.5-4.0 GI	Hz)		
Aeasurement Jncertainty:	+/-3.6 dB	-						
Frequency	Meter	Antenna	Cable	Pre-Amp	Corrected	Limit	Dalta	
(GHZ)	(dBuV)	Factor (dB)	Loss (dB)	Gain (dB)	Reading (dBuV/m)	(dBuV/m)	(dB)	Comment
(GHZ)	(dBuV)	Factor (dB)	Loss (dB) Tx @ 2.4	Gain (dB) 480 GHz	Reading (dBuV/m)	(dBuV/m)	(dB)	Comment Patch 0 - Vertical
4.960	( <b>dBuV</b> )	<b>Factor</b> ( <b>dB</b> ) 33.9	Loss (dB) Tx @ 2.4 4.3	Gain (dB) 480 GHz 33.5	Reading (dBuV/m) 53.2	( <b>dBuV/m</b> )	-20.8	Comment Patch 0 - Vertical Peak
4.960 4.960	48.5 37.5	Factor (dB) 33.9 33.9	Loss (dB) Tx @ 2.4 4.3 4.3	Gain (dB) 480 GHz 33.5 33.5	<b>Reading</b> (dBuV/m) 53.2 42.2	(dBuV/m)	-20.8 -11.8	Patch 0 - Vertical Peak Average
4.960 4.960 7.440	48.5 37.5 41.3	Factor (dB) 33.9 33.9 36.3	Loss (dB) Tx @ 2.4 4.3 4.3 5.3	Gain (dB) 480 GHz 33.5 33.5 33	Reading (dBuV/m) 53.2 42.2 49.9	(dBuV/m)	-20.8 -11.8 -4.1	Comment       Patch 0 - Vertical       Peak       Average       Peak
4.960 4.960 7.440 12.400	48.5           37.5           41.3           40.2	Factor           (dB)           33.9           33.9           36.3           39.9	Loss (dB) Tx @ 2.4 4.3 4.3 5.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33 34.7	Reading (dBuV/m) 53.2 42.2 49.9 52.7	(dBuV/m) 74 54 54 54	-20.8 -11.8 -4.1 -1.3	Comment Patch 0 - Vertical Peak Average Peak Peak Peak
4.960 4.960 7.440 12.400	48.5           37.5           41.3           40.2	Factor (dB)           33.9           33.9           36.3           39.9	Loss (dB) Tx @ 2 4.3 4.3 5.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33 34.7	Reading (dBuV/m) 53.2 42.2 49.9 52.7	(dBuV/m) 74 54 54 54	-20.8 -11.8 -4.1 -1.3	Comment Patch 0 - Vertical Peak Average Peak Peak Peak Patch 0 - Horizontal
(GH2) 4.960 7.440 12.400 4.960	48.5           37.5           41.3           40.2           44.5	Factor           (dB)           33.9           33.9           36.3           39.9           33.9	Loss (dB) Tx @ 2 4.3 5.3 7.3 4.3	Gain (dB) 480 GHz 33.5 33.5 33 34.7 33.5	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2	(dBuV/m) 74 54 54 54 54	-20.8 -11.8 -4.1 -1.3 -4.8	Comment Patch 0 - Vertical Peak Average Peak Peak Peak Patch 0 - Horizontal Peak
4.960 4.960 7.440 12.400 4.960 7.440	48.5           37.5           41.3           40.2           44.5           42.3	Factor         (dB)           33.9         33.9           36.3         39.9           33.9         36.3	Loss (dB) Tx @ 2 4.3 5.3 7.3 4.3 5.3 5.3	Gain (dB) 480 GHz 33.5 33.5 33 34.7 33.5 33.5 33.5 33.5	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9	(dBuV/m) 74 54 54 54 54 54 54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1	Comment Patch 0 - Vertical Peak Average Peak Peak Patch 0 - Horizontal Peak Peak
(GH2) 4.960 7.440 12.400 4.960 7.440 12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2	Factor (dB) 33.9 36.3 39.9 33.9 36.3 33.9 36.3 39.9	Loss (dB) Tx @ 2 4.3 5.3 7.3 4.3 5.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33 34.7 33.5 33 34.7	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3	Comment Patch 0 - Vertical Peak Average Peak Peak Peak Peak Peak Peak Peak Pea
4.960         4.960         7.440         12.400         4.960         7.440         12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2	Factor         (dB)           33.9         33.9           36.3         39.9           33.9         36.3           39.9         36.3           39.9         36.3           39.9         36.3	Loss (dB) Tx @ 2 4.3 4.3 5.3 7.3 4.3 5.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33.5 34.7 33.5 33.5 33.5 34.7	Reading (dBuV/m)           53.2           42.2           49.9           52.7           49.2           50.9           52.7	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3	Comment Patch 0 - Vertical Peak Average Peak Peak Patch 0 - Horizontal Peak Peak Peak Peak Peak Peak Patch 1 - Vertical
4.960           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           45.5	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 33.9 33	Loss (dB) Tx @ 2 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8	Comment Patch 0 - Vertical Peak Average Peak Peak Patch 0 - Horizontal Peak Peak Peak Peak Peak Peak Peak Peak
4.960           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           45.5           42.2	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 33.9 36.3	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.8	Chinit           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2	Comment Patch 0 - Vertical Peak Average Peak Peak Peak Peak Peak Peak Peak Pea
4.960           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           40.2	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 33.9 36.3 39.9	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33 34.7 33.5 33 34.7 33.5 33 34.7	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.2 50.8 53.3	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7	Comment Patch 0 - Vertical Peak Average Peak Peak Peak Peak Peak Peak Peak Pea
4.960           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           45.5           42.2           40.2	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.	Reading (dBuV/m)           53.2           42.2           49.9           52.7           49.2           50.9           52.7           50.2           50.8           53.3	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7	CommentPatch 0 - VerticalPeakPeakPeakPatch 0 - HorizontalPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeak
4.960           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           4.960           4.960           4.960           4.960           4.960	48.5           37.5           41.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           45.5           42.2           40.8           40.8	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 4.3 4.3	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 34.5 34.5 34.5 34.5 34.5 34.5 34.5 34.5 34.5 34.5 34.5	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.8 53.3 51.0	(dBuV/m) 74 54 54 54 54 54 54 54 54 54 5	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0	Comment Patch 0 - Vertical Peak Average Peak Peak Patch 0 - Horizontal Peak Peak Peak Peak Peak Peak Peak Peak
4.960           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           4.960           7.440           4.960           7.440           12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           45.5           42.2           40.8           46.3           41.8	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 33.9 36.3	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 34.5 34.5 34.5 34.5 34.5 34.5 34.5 34.5 34.5 34.5	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.8 53.3 51.0 50.4	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0 -3.6	Comment Patch 0 - Vertical Peak Average Peak Peak Patch 0 - Horizontal Peak Peak Peak Peak Peak Peak Peak Peak
4.960           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           45.5           42.2           40.8           46.3           41.8           40.8	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.8 53.3 51.0 50.4 53.3	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0 -3.6 -0.7	Comment Patch 0 - Vertical Peak Average Peak Peak Patch 0 - Horizontal Peak Peak Peak Peak Peak Peak Peak Peak
4.960           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           45.5           42.2           40.8	Factor (dB)           33.9           36.3           39.9           36.3           39.9           36.3           39.9           36.3           39.9           33.9           36.3           39.9           33.9           36.3           39.9           33.9           36.3           39.9           36.3           39.9	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.8 53.3 51.0 50.4 53.3	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0 -3.6 -0.7	CommentPatch 0 - VerticalPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeak <td< td=""></td<>
4.960         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           45.5           42.2           40.8           40.8           50.5	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 4.3 4.3 5.3 7.3 4.3	Gain (dB) 480 GHz 33.5 33.5 33.5 33.7 4.7 33.5 33 34.7 33.5 33 34.7 33.5 33 34.7 33.5 33 34.7 33.5 33 34.7	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.8 53.3 51.0 50.4 53.3 55.2	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0 -3.6 -0.7	CommentPatch 0 - VerticalPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeak
4.960           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           45.5           42.2           40.8           40.8           50.5           39.2	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 33.9 36.3 39.9	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 4.3 4.3 4.3 4.3	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.5	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.8 53.3 51.0 50.4 53.3 55.2 43.9	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0 -3.6 -0.7 -18.8 -10.1	Comment Patch 0 - Vertical Peak Average Peak Peak Peak Peak Peak Peak Peak Pea
4.960         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           45.5           42.2           40.8           46.3           41.8           40.8           50.5           39.2	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 26.2	Loss (dB) Tx @ 2. 4.3 5.3 7.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 4.3 5.3 7.3 4.3 5.3 7.3 5.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 35 35 35 35 35 35 35 35 35 3	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.8 53.3 51.0 50.4 53.3 51.0 50.4 53.3 55.2 43.9	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0 -3.6 -0.7 -18.8 -10.1 -18.8 -10.1	CommentPatch 0 - VerticalPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeak <td< td=""></td<>
4.960           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           45.5           42.2           40.8           50.5           39.2           42           40.2	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 5 6 33.9 36.3 39.9 5 6 33.9 5 6 33.9 5 6 3 3.9 5 6 3 3.9 5 5 6 3 3.9 5 3 5 5 5 6 3 3 5 5 5 5 5 5 5 5 5 5 5 5	Loss (dB) Tx @ 2.43 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 4.3 5.3 7.3 7.3 7.3 7.3 7.3 7.3 7.3 7.3 7.3 7	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 34.5 34.5 34.5 34.5 34.5 34.5 34.5 34.5 34.5 34.5	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.8 53.3 51.0 50.4 53.3 51.0 50.4 53.3 55.2 43.9 50.6 52.2	Chink         Construction           (dBuV/m)         74           54         54           54         54           54         54           54         54           54         54           54         54           54         54           54         54           54         54           54         54           54         54           54         54           54         54           54         54           54         54           54         54           54         54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0 -3.6 -0.7 -18.8 -10.1 -3.4 -3.4 -5.7	CommentPatch 0 - VerticalPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeak
4.960           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           45.5           42.2           40.8           50.5           39.2           42           40.8	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 7.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33 34.7 33.5 33 34.7 33.5 33 34.7 33.5 33 34.7 33.5 33 34.7 33.5 33 34.7 33.5 33 34.7	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.8 53.3 51.0 50.4 53.3 55.2 43.9 50.6 53.3	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0 -3.6 -0.7 -18.8 -10.1 -3.4 -0.7	CommentPatch 0 - VerticalPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeak <td< td=""></td<>
4.960         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         4.960         4.960         4.960         4.960         4.960         4.960         4.960         4.960         4.960         4.960         4.960         4.960         4.960	48.5           37.5           41.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           45.5           42.2           40.8           50.5           39.2           42           40.8	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 36.3 30.9 30.0 30.0 30.0 30.0 30.0 30.0 30	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 4.3 5.3 7.3 4.3 4.3 5.3 7.3 4.3 4.3 5.3 7.3 4.3 5.3 7.3 7.3 7.3 7.3 7.3 7.3 7.3 7.3 7.3 7	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.5	Reading (dBuV/m) 53.2 42.2 49.9 52.7 50.9 52.7 50.2 50.8 53.3 51.0 50.4 53.3 51.0 50.4 53.3 55.2 43.9 50.6 53.3	Chink         Chink <th< td=""><td>-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0 -3.6 -0.7 -18.8 -10.1 -3.4 -0.7</td><td>CommentPatch 0 - VerticalPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeak<td< td=""></td<></td></th<>	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0 -3.6 -0.7 -18.8 -10.1 -3.4 -0.7	CommentPatch 0 - VerticalPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeak <td< td=""></td<>
4.960           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           45.5           42.2           40.8           50.5           39.2           42           40.8           50.5           39.2           42           40.8	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 33.9 36.3 39.9 33.9 36.3 39.9 33.9 36.3 39.9 33.9 36.3 39.9	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 7.3 7.3 7.3 7.3 7.3 7.3 7.3 7.3 7	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.7 34.5	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.8 53.3 51.0 50.4 53.3 51.0 50.4 53.3 51.0 50.4 53.3 55.2 43.9 50.6 53.3	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0 -3.6 -0.7 -18.8 -10.1 -3.4 -0.7 -4.1 -3.4	CommentPatch 0 - VerticalPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeak <td< td=""></td<>
4.960           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400           4.960           7.440           12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           45.5           42.2           40.8           50.5           39.2           42           40.8           50.5           39.2           42           40.8	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 33.9 36.3 39.9 33.9 36.3 39.9 33.9 36.3 39.9 33.9 36.3 39.9 36.3	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.8 53.3 51.0 50.4 53.3 55.2 43.9 50.6 53.3 49.9 50.6	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0 -3.6 -0.7 -18.8 -10.1 -3.4 -0.7 -4.1 -3.4 -0.7	CommentPatch 0 - VerticalPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeak
4.960         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400         4.960         7.440         12.400	48.5           37.5           41.3           40.2           44.5           42.3           40.2           44.5           42.3           40.2           45.5           42.2           40.8           50.5           39.2           42           40.8           445.2           40.8	Factor (dB) 33.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9 36.3 39.9	Loss (dB) Tx @ 2. 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 4.3 5.3 7.3 7.3 4.3 5.3 7.3	Gain (dB) 480 GHz 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5 33.5	Reading (dBuV/m) 53.2 42.2 49.9 52.7 49.2 50.9 52.7 50.2 50.8 53.3 51.0 50.4 53.3 55.2 43.9 50.6 53.3 49.9 50.6 53.3	Chink           (dBuV/m)           74           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54           54	-20.8 -11.8 -4.1 -1.3 -4.8 -3.1 -1.3 -3.8 -3.2 -0.7 -3.0 -3.6 -0.7 -18.8 -10.1 -3.4 -0.7 -4.1 -3.4 -0.7	CommentPatch 0 - VerticalPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeakPeak

#### Nemko Dallas

EQUIPMENT: 2.4 GHz CPE, Release 1

### Test Data – Radiated Spurious Emissions (Restricted Bands)



Dallas Headquarters: 802 N. Kealy Lewisville, TX 75057 Tel: (972) 436-9600 Fax: (972) 436-2667

Nemko Dallas, Inc.

				Radiated S	purious Emiss	sions		
Page 1 of	f			Continu	ation Page			
Job No.:				Date:	4/10/02			
Specification:	CFR 47, Par	t 15	Tem	perature(°F):	72			
Tested By:	#N/A		Relative I	Humidity(%)	50			
E.U.T.:			2.4	GHz CPE				
Configuration:			TYPICAL	/ Tx Full Po	wer			
Frequency (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Pre-Amp Gain (dB)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Delta (dB)	Comment
	-		Tx @ 2	.44 Ghz				Patch 0 - Vertical
4.880	51.7	33.9	4.3	33.5	56.4	74	-17.6	Peak
4.880	43.2	33.9	4.3	33.5	47.9	54	-6.1	Average
7.320	38.2	36.3	5.3	33	46.8	54	-7.2	Peak
12.200	41	39.9	7.3	34.7	53.5	54	-0.5	Peak
								Patch 0 - Horizontal
4.880	45	33.9	4.3	33.5	49.7	54	-4.3	Peak
7.320	38.2	36.3	5.3	33	46.8	54	-7.2	Peak
12.200	41	39.9	7.3	34.7	53.5	54	-0.5	Peak
								Patch 1 - Vertical
4.880	46	33.9	4.3	33.5	50.7	54	-3.3	Peak
7.320	38.2	36.3	5.3	33	46.8	54	-7.2	Peak
12.200	41	39.9	7.3	34.7	53.5	54	-0.5	Peak
								Patch 1 - Horizontal
4.880	43.3	33.9	4.3	33.5	48.0	54	-6.0	Peak
7.320	38.2	36.3	5.3	33	46.8	54	-7.2	Peak
12.200	41	39.9	7.3	34.7	53.5	54	-0.5	Peak
								Omni - Vertical
4.880	48	33.9	4.3	33.5	52.7	74	-21.3	Peak
4.880	32.7	33.9	4.3	33.5	37.4	54	-16.6	Average
7.320	38.2	36.3	5.3	33	46.8	54	-7.2	Peak
12.200	41	39.9	7.3	34.7	53.5	54	-0.5	Peak
								Omni - Horizontal
4.880	45.3	33.9	4.3	33.5	50.0	54	-4.0	Peak
7.320	38.2	36.3	5.3	33	46.8	54	-7.2	Peak
12.200	41	39.9	7.3	34.7	53.5	54	-0.5	Peak
	ļ		ļ					
Notes	:							

EQUIPMENT: 2.4 GHz CPE, Release 1

#### Test Data – Radiated Spurious Emissions (Restricted Bands)



Dallas Headquarters: 802 N. Kealy Lewisville, TX 75057 Tel: (972) 436-9600 Fax: (972) 436-2667

Nemko Dallas, Inc. **Radiated Spurious Emissions** Page 3 of 3 Continuation Page Job No.: 2L0041R Date: 4/9/02 Specification: CFR 47, Part 15 Temperature(°C): 22 Relative Humidity(%) 40 Tested By: David Light E.U.T.: 2.4 GHz CPE Configuration: TYPICAL / Tx Full Power Frequency Cable Pre-Amp Meter Antenna Corrected Limit Delta (GHz) Reading Factor Loss Gain (dB) Reading Comment (dBuV/m) (**dB**) (dBuV) (dBuV/m) (dB) (dB) Tx @ 2.412 Ghz Patch 0 - Vertical 4.824 45 33.9 4.3 33.5 49.7 54 -4.3 Peak 46.6 7.236 38 36.3 5.3 33 54 -7.4 Peak 12.060 41 39.9 7.3 34.7 53.5 54 -0.5 Peak Patch 0 - Horizontal 51.0 4.824 46.3 33.9 4.3 33.5 54 -3.0 Peak 7.236 38 36.3 5.3 33 54 -7.4 46.6 Peak 12.060 41 39.9 7.3 34.7 53.5 54 -0.5 Peak Patch 1 - Vertical 4.824 45.3 33.9 4.3 33.5 50.0 54 -4.0 Peak 7.236 38 36.3 5.3 33 46.6 54 -7.4 Peak 12.060 39.9 7.3 34.7 53.5 54 41 -0.5 Peak Patch 1 - Horizontal 4.824 41 33.9 4.3 33.5 45.7 54 -8.3 Peak 7.236 38 5.3 54 36.3 33 46.6 -7.4 Peak 12.060 41 39.9 7.3 34.7 53.5 54 -0.5 Peak Omni - Vertical 4.824 45.8 33.9 4.3 50.5 74 33.5 -23.5 Peak 7.236 38 36.3 5.3 33 54 -7.4 46.6 Peak 12.060 41 39.9 7.3 34.7 53.5 54 -0.5 Peak Omni - Horizontal 4.824 40 33.9 4.3 33.5 44.7 54 -9.3 Peak 38 36.3 5.3 33 54 7.236 46.6 -7.4 Peak 12.060 41 39.9 7.3 34.7 53.5 54 -0.5 Peak Tx @ 2 .480 Ghz Vertical 2.4835 62.5 28.2 3.1 33.8 60.0 74 -14.0 Patch 0 - Peak 2.4835 52 28.2 3.1 33.8 49.5 54 -4.5 Patch 0 - Average 2.4835 3.1 74 41.7 28.2 33.8 39.2 -34.8 Patch 1 - Peak 2.4835 32.3 28.2 3.1 33.8 29.8 54 -24.2 Patch 1 - Average 3.1 2.4835 65.7 28.2 33.8 63.2 74 -10.8 Omni - Peak 2.4835 3.1 52.3 54 54.8 28.2 33.8 -1.7 Omni - Average Horizontal 2.4835 52.7 28.2 3.1 33.8 50.2 74 -23.8 Patch 0 - Peak 2.4835 42.5 28.2 3.1 33.8 40.0 54 -14.0Patch 0 - Average 2.4835 34 28.2 3.1 33.8 31.5 74 -42.5 Patch 1 - Peak 2.4835 26 28.2 3.1 33.8 23.5 54 -30.5 Patch 1 - Average 2.4835 58 28.2 3.1 33.8 55.5 74 -18.5 Omni - Peak 2.4835 -8.5 Omni - Average 48 28.2 3.1 33.8 45.5 54 Notes: Used -6 dB correction at bandedge only

### Radiated Photographs (Worst Case Configuration)

Front



Rear



# Section 9. Peak Power Spectral Density

NAME OF TEST: Peak Power Spectral Density

PARA. NO.: 15.247(d)

TESTED BY: David Light

DATE: 4/10/2002

Test Results: Complies.

Measurement Data: See attached plots.

**Measurement Uncertainty:** +/- 1.7 dB

*EQUIPMENT:* 2.4 GHz CPE, Release 1

#### Test Data – Peak Power Spectral Density

							Dan	802 N. Kea	ily	
			$\cdot$				Lev Te	wisville, TX / l: (972) 436	-9600	
							Fa	x: (972) 436	-2667	
Nem	iko Dallas, Inc.		<b>D</b> 1 D			• .				
<u>ata Plot</u>			Peak Po	<u>ower Spec</u>	tral Dens	<u>ity</u>	~ .	v		
Page <u>1</u> of	21.00/1R		Date <sup>.</sup>	4/10/2002			Complete		_	
ecification:	15.247	Temp	perature(°C):	22			r remining .	·	_	
sted By:	David Light	Relative H	Humidity(%)	40						
J. <b>T</b> .:	2.4 GHz CPE									
nfiguration:	Tx IN TEST FIXTU	URE								
ation:	Lab 2			RBW: 3	kHz		Measuremen	t		
ector Type:	Peak			VBW: 3	kHz		Distance	: <u>N/A</u>	m	
st Equipme	ent Used									
tenna:	<u>int obta</u>		Directi	onal Coupler:						
-Amp:				Cable #1:	1629					
er:				Cable #2:						
ceiver:	1036			Cable #3:						
enuator #1	1469			Mixer:						
ditional equipr	ment used: Anare	n 20 dB directional	l coupler Model	1C0870-20 (0.3	5-4.0 GHz)					
asurement Un	certainty: +/-1	.7 dB								
		Marker	1 [1]		КВМ	3 KI	IZ RI	- Att	40	ав
S Ref	$rac{1}{2}$		-0.	.20 dBm	VBW	ЗКІ	Ηz			
41.	4 dBm	2	2.480745	509 GHz	SWT	680 :	s Ur	⊐it		dBm
1 4										
1.4	.4 dB Off	set				▼1	[⊤1]	-	-0.20	dBm
1.4	.4 dB Uff	set				▼1	[〒1]	- 2.4807	-0.20 74509	dBm GHz
30	.4 dB Uff	set				▼1	[⊤1]	2.480	-0.20 74509	dBm GHz
30	.4 dB Uff	se t				▼1	[⊤1]	2.480	-0.20 74509	dBm GHz
<sup>1.4</sup> 31 30 20	.4 dB Uff	se t				•1	[〒1]	2.480	-0.20 74509	dBm GHz
30 20	.4 88 011	sê t				▼1	[〒1]	2.480	-0.20 74509	dBm GHz
<sup>1</sup> .4 30 20 10	.4 88 077	se t				• 1	[T1]	2.4807	-0.20 74509	dBm GHz
<sup>1</sup> .4 30 20 10	.4 88 077	se t			<u>1</u>	<b>v</b> 1	[T1]	2.4807	-0.20 74509	
	· 4 BB UTT	se t		annow		♥ 1	[T1]	2.4807	-0.20 74509	
	. 4 BB UFF	se t	Jone with	and	1 the the two	▼ 1	[T1]	- 2.4807	-0.20 74509	
	. 4 BB UFF		hurwen	arrow	Mar Horne	▼1	[T1]	- 2.4807	-0.20 74509	
	· 4 BB UFF	se t		and	1 the the two	₩- 1	[T1]	- 2.4807	-0.20 74509	
	. 4 88 UTT	se t		artrotowy	1 May How March	T 1	[T1]	2.4807	-0.20 74509	
	. 4 88 UTT	se t			- 1	♥ 1	[T1]		-0.20 74509	
	. 4 88 UTT		4000000	antro w	piter the two	▼ 1	[T1]	2.4807	-0.20 74509	
	. 4 88 UTT			art v w		♥ 1 ₩ - 4µW~1j Mark	[T1]	- 2.4807	-0.20 74509	
	· 4 BB UTT				1 turtur	♥ ۱ • ۰۰٫٫٫٬٬۰٬۰	[T1]	- 2.4807	-0.20 74509	
	. 4 88 UTT				A Turturtur	♥ 1 ₩ - 4µlum ju <sup>A</sup> c-c	[T1]	- 2.4807	-0.20 74509	
	. 4 88 UTT				A the the the	♥ 1 ⊌- aµtov Jo <sup>A</sup> eaa	[ T 1 ]		-0.20 74509	
	. 4 88 UTT				poter the two	۲ ا	[T 1 ]		-0.20 74509	
-10 -20 -30 -40 -50 -50 -50 -50 -50 -50 -50 -50 -50 -5	.4 88 UTT	Set		200	HZ/	• 1	[T1] home brain	2.4807	-0.20 74509	
-10 -10 -20 -30 -40 -30 -40 -50 -3.6 Cent	. 4 08 UTT	GHz 09	1: 32 : 20	200	htter	▼ 1	[T1]	2.4807	-0.20 74509 	
-10 -10 -10 -30 -30 -10 -10 -10 -10 -10 -10 -10 -10 -10 -1	. 4 88 UTT . 4 88 UTT 	Set 	· . 32 : 20	200	Line KHz /	▼ 1	[T1]	2.4807	-0.20 74509 	

EQUIPMENT: 2.4 GHz CPE, Release 1

### Test Data – Peak Power Spectral Density



Dallas Headquarters:
802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Peak Power Spectral Density         Page 2 of 3       Date: 4/102002         is:       2.004 R       Date: 4/102002         ication:       152       Temperature(*C): 22         participation:       2.24 GHz CPE         participation:       2.44 GHz CPE         participation:       2.44 GHz CPE         participation:       2.33 dBm       VBH       3. KHZ         41.4 dBm       2.44 0B 75 75 GHZ       SHT       680 s       unit       dBm         4       31.4 dB       UTTS&T       1 (TTI)       2.93 dBm       94 dBm       2.44 0B 75 75 GHZ       SHT       680 s       unit       dBm         4       31.4 dB       UTTS&T       1 (TTI)       2.93 dBm       1 (TTI)	Nemko Dallas, Inc.					
Page 2 of 3       Date: 4/10/2002         Date: 4/10/2002       Temperature(°C; 22         IBy:       Date: 4/10/2002         garation:       T_XIN TEST FIXTURE         Page 2 of 3       Ref Lv1         Ref Lv1       2.93 dBm       VBH       3 KHZ       KF Att       4U dB         4       1.4 dBm       2.44087575 GHZ       SHT       680 Unit       dBm         4       31.4 dBm       2.44087575 GHZ       SHT       680 Unit       dBm         4       31.4 dBm       2.44087575 GHZ       SHT       680 Unit       dBm         4       31.4 dBm       2.44087575 GHZ       SHT       680 Unit       dBm         0       1VIEH       1       1       1       2.93 dBm         0       1       1       1       1       1       1         0       1       1       1       1       1       1         0       1       1       1       1       1       1       1         0       1       1       1       1       1       1       1       1         0       1       1       1       1       1       1       1       1	ata Plot	Peak Power Spe	ctral Den	sity		
Description     Description       Item     Temperature(YC): 22       Item:     Divid Light       Item:     Divid Light       Ref     Lv1       2.93 dBm     VBM       3 1:4     DB       O     Item:       Item:     Item:	Page <u>2</u> of <u>3</u>					
Temperature(*): 22       Temperature(*): 22         Parker 1       Relative Humidity(*): 40         ::::::::::::::::::::::::::::::::::::	No.: 2L0041R	Date: 4/10/2002				
Diversities       Diversities       Relative Humding(%) 40	cification: 15.2	Temperature(°C): 22				
ANDREE         TAINTEST FATURE         Nef Lv1       2.93 dBm       VBW       3 kHz       AF Att       4U dB         41.4 dBm       2.44087575 GHz       SWT       680 s       Unit       dBm         4       31.4       B OTTSET       1       1       11       2.93 dBm       VBW       3 kHz       AF Att       4U dB         4       31.4       B OTTSET       2.44087575 GHz       SWT       680 s       Unit       dBm         4       31.4       B OTTSET       1       1       111       2.93 dBm       0         4       31.4       B OTTSET       1       1       1       1       1         1       1       1       1       1       1       1       1         1       1       1       1       1       1       1       1         1       1       1       1       1       1       1       1       1         1       1       1       1       1       1       1       1       1       1         1       1       1       1       1       1       1       1       1       1       1 <t< td=""><td>ted By: David Light</td><td>Relative Humidity(%) 40</td><td></td><td></td><td></td><td></td></t<>	ted By: David Light	Relative Humidity(%) 40				
Marker         Marker<	figuration: Tr IN TEST FIXT					
Marker I (III)     NBM     3 KH2     KF Att     40 dB       41.4 dBm     2.44087575 GHz     SWT     680 s     Unit     dBm       31.4 dB     UTTSET     1     1     1     2.93 dBm       0     1     1     1     1     1     2.93 dBm       0     1     1     1     1     2.93 dBm       0     1     1     1     1     2.93 dBm       0     1     1     1     1     2.93 dBm       1     1     1     2.93 dBm     2.44087575 GHz     2.44087575 GHz       1     1     1     1     2.93 dBm     1       0     1     1     1     1     2.93 dBm       1     1     1     1     1     1       0     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1		JKE				
Ref Lv1       2.93 dBm       VBH       3 kHz         41.4 dBm       2.44087575 GHz       SHT       680 s       Unit       dBm         31.4 dB       0       1       11       11       2.93 dBm       2.44087575 GHz       11       11       2.93 dBm         0       1       1       1       11       2.93 dBm       2.44087575 GHz       11       11       2.93 dBm       2.44087575 GHz       11       11       2.93 dBm       11       11       11       2.93 dBm       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11       11		Marker 1 [11]	КВМ	3 KHZ	RF Att	4U aB
41.4 dBm       2.4408/5/5 GHz       SUT       680 s       Unit       dBm         31.4 dB       0 TTSET       1 (TTI)       2.93 dBm       2.4408/5/5 GHz       1 (TTI)       2.93 dBm         0       1 (TTI)       2.4408/5/5 GHz       1 (TTI)       2.93 dBm       1 (TTI)       2.4408/5/5 GHz         0       1 (TTI)       2.93 dBm       2.4408/5/5 GHz       1 (TTI)       2.4408/5/5 GHz       1 (TTI)         0       1 (TTI)       2.93 dBm       1 (TTI)       2.4408/5/5 GHz       1 (TTI)       2.4408/5/5 GHz         0       1 (TTI)       2.4408/5/5 GHz       1 (TTI)       2.4408/5/5 GHz       1 (TTI)	Ref Lvl	2.93 dBm	VBW	3 kHz		
31.4     B     011581     2.93 dBm       1     1111     2.93 dBm       2.44087575 GHz       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1 </td <td>41.4 dBm</td> <td>2.44087575 GHz</td> <td>SWT</td> <td>680 s</td> <td>Unit</td> <td>dBm</td>	41.4 dBm	2.44087575 GHz	SWT	680 s	Unit	dBm
Image: 10.4PR.2002_09:47:23     20.44087575_GHz		Set .		▼1 [⊤1]	2	.93 dBm
Image: 10.4PR.2002 D9:47:23     200 kHz/     Span 2 MHz					2.44087	575 GHz
Image: 1     Image	30	+ +				
IVIEW       Image: 10.APR.2002_09:47:23						
Iview     Image: 1	20					
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IVIEW       Image: 10.4PR.2002_09:47:23	10					
Image: 10.APR.2002_09:47:23	1VIEW					1 1 1 1 1
O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O     O <td></td> <td>when we have a summer of the</td> <td>I In Abrah</td> <td>M. J.A. M. LAMA</td> <td>numbers</td> <td>man</td>		when we have a summer of the	I In Abrah	M. J.A. M. LAMA	numbers	man
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model	10					
Image: Conter 2.44 GHz       200 kHz/       Span 2 MHz         Image: Conter 2.44 GHz       200 kHz/       Span 2 MHz         Image: Conter 2.44 GHz       200 kHz/       Span 2 MHz	μ I					
Image: Span 2 MHz       Image: Span 2 MHz       Image: Span 2 MHz       Image: Span 2 MHz	20					
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Image: 10.4PR.2002 09:47:23     Image: 200 kHz/     Span 2 MHz	10					
Image: 10.4PR.2002 09:47:23     Image: 200 kHz/     Span 2 MHz						
5     Center 2.44 GHz     200 kHz/     Span 2 MHz       e:     10.APR.2002 09:47:23	0					
E     Center 2.44 GHz     200 kHz/     Span 2 MHz       e:     10.APR.2002 09:47:23						
Center 2.44 GHz     200 kHz/     Span 2 MHz       e:     10.APR.2002 09:47:23	5					
<b>i</b> 0.APR.2002 09:47:23          Iotes: <u>MID CHANNEL         </u>	Center 2.44 G	Hz 200	kHz∕		Spa	n 2 MHz
lotes: MID CHANNEL	e: 10.APR.	2002 09:47:23				
Aotes: MID CHANNEL						
	Notes: MID CHANNEL					

#### Test Data – Peak Power Spectral Density

### Nemko Dallas

#### FCC PART 15, SUBPART C DIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTER PE, Release 1 PROJECT NO.: 2L0041RUS6

EQUIPMENT: 2.4 GHz CPE, Release 1

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	<b>H</b> III	

#### Dallas Headquarters:

802 N. Kealy Lewisville, TX 75057 Tel: (972) 436-9600 Fax: (972) 436-2667

Data Plot         Peak Power Spectral Density           Page 3 of 3	
Page 3 of 3         Job No.:       2L0041R       Date: $\frac{4/10/2002}{22}$ Specification:       15.247       Temperature(°C): $\frac{22}{22}$ Tested By:       David Light       Relative Humidity(%) $\frac{40}{40}$ E.U.T.:       2.4 GHz CPE         Configuration:       Tx IN TEST FIXTURE         Ref L v 1       VBW       3 kHz         41.4       dBm       SWT       680 s       Unit         41.4       BUTTSET       Init       d	
Job No.: <u>2L0041R</u> Date: <u>4/10/2002</u> Specification: <u>15.247</u> Temperature(°C): <u>22</u> Tested By: <u>David Light</u> Relative Humidity(%) <u>40</u> E.U.T.: <u>2.4 GHz CPE</u> Configuration:       Tx IN TEST FIXTURE         Ref L v 1       VBW       3 kHz       RF Att       40 d         41.4       dBm       SWT       GBD s       Unit       d         41.4       31.4       05       UTTS@t       Image: Configuration set to the set to	
Specification:       15.247       Temperature(°C): 22         Tested By:       David Light       Relative Humidity(%) 40         E.U.T.:       2.4 GHz CPE         Configuration:       Tx IN TEST FIXTURE         Ref L v 1       VBW         41.4 dBm       SWT         680 s       Unit         30       Init	
Ref Lvl     Ref Lvl     Ref Att     40 d       41.4 dBm     31.4 dB UTTSet     SWT     580 s     Unit	
Ref Lvl     Ref Lvl       41.4     31.4       BUTTSET	
Ref Lvl     RBW     3 kHz     RF Att     40 d       41.4 dBm     SWT     580 s     Unit     d	
Ref Lvi 41.4 dBm Ative and a state of the st	
Ref Lvi	
41.4 dBm SWT 680 s Unit d	BB
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Center 2.4011 GHZ 200 KHZ/ Span 2 M	ΠZ
Date: 10.APR.2002 10:16:53	
Notes: LOWEST CHANNEL	

# Section 10. Test Equipment List

Nemko ID	Description	Manufacturer Model Number	Serial Number	Calibration Date
1555	Filter high pass 5KHz	Solar Electronics 7930-5.0	933125	06/06/02
1258	LISN .15mhz-30mhz	EMCO 0	1305	07/09/02
1534	CABLE, 9M	KTL RG223	NA	06/13/01
1038	CABLE, .5m	KTL RG223	N/A	06/06/02
674	LIMITER	HP 11947A	3107A02200	11/04/00
1469	10 db Attenuator DC 18 Ghz	MCL Inc. BW-S10W2 10db-2WDC	NONE	CBU
1036	SPECTRUM ANALYZER	ROHDE & SCHWARZ FSEK30	830844/006	12/18/01 2 yr cal
1464	Spectrum analyzer	Hewlett Packard 8563E	3551A04428	01/02/01
1484	Cable 2.0-18.0 Ghz	Storm PR90-010-072	N/A	06/01/01
1485	Cable 2.0-18.0 Ghz	Storm PR90-010-216	N/A	06/01/01
1016	Pre-Amp	HEWLETT PACKARD 8449A	2749A00159	05/30/01
1482	Band Pass Filter	K & L 11SH10-4000/T12000-0/0	2	Cal B4 Use
1629	CABLE, 6 ft	MEGAPHASE 10311 1GVT4	N/A	CBU
1304	HORN ANTENNA	ELECTRO METRICS RGA-60	6151	07/30/01
Prop of Navini	20 dB Directional coupler 0.5-4 GHz	Aneren 1C0870-20	None	CBU

# **ANNEX A - TEST DETAILS**

# Nemko Dallas FCC PART 15, SUBPART C DIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTER EQUIPMENT: 2.4 GHz CPE, Release 1 PROJECT NO.: 2L0041RUS6

NAME OF TEST: Powerline Conducted Emissions	PARA. NO.: 15.207(a)
---------------------------------------------	----------------------

Minimum Standard:The R.F. that is conducted back onto the AC power line on any<br/>frequency within the band 0.45 to 30 MHz shall not exceed  $250\mu V$ <br/>(48 dB $\mu V$ ) across 50 ohms.

# Nemko DallasFCC PART 15, SUBPART CDIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTEREQUIPMENT:2.4 GHz CPE, Release 1PROJECT NO.:2L0041RUS6

NAME OF TEST: Minimum 6 dB bandwidth

PARA. NO.: 15.247(a)(2)

Minimum Standard: The minimum 6 dB bandwidth shall be at least 500 kHz

#### **Nemko Dallas**

FCC PART 15, SUBPART C DIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTER

EQUIPMENT: 2.4 GHz CPE, Release 1

NAME OF TEST:	Maximum Peak Output Power	PARA. NO.: 15.247(b)(1)

Minimum Standard:	The maximum peak output power shall not exceed 1 watt.
	If transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
	Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point to point operation may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceed 6 dBi.
	Systems operating in the 5725 – 5850 MHz band that are used exclusively for fixed, point-to-point operation may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter peak output power.

#### **Direct Measurement Method For Detachable Antennas:**

If the antenna is detachable, a peak power meter is used to measure the power output with the transmitter operating into a 50 ohm load. The dBi gain of the antenna(s) employed shall be reported.

#### **Calculation Of EIRP For Integral Antenna:**

If the antenna is not detachable from the circuit then the Peak Power Output is derived from the peak radiated field strength of the fundamental emission by using the plane wave relation GP/4 $\pi$  R<sup>2</sup> = E<sup>2</sup>/120 $\pi$  and proceeding as follows:

$$P = \frac{E^2 R^2}{30G} = \frac{E^2 3^2}{30G}$$

where,

P = the equivalent isotropic radiated power in watts

 $E=\mbox{the}$  maximum measured field strength in  $\mbox{V/m}$ 

R = the measurement range (3 meters)

G = the numeric gain of the transmit antenna in relation to an isotropic radiator

# Nemko DallasFCC PART 15, SUBPART CDIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTEREQUIPMENT:2.4 GHz CPE, Release 1PROJECT NO.:2L0041RUS6

The RBW of the spectrum analyzer shall be set to a value greater than the measured 6 dB occupied bandwidth of the E.U.T.

Tuning range	Number of channels tested	Channel location in band
1 MHz or less	1	middle
1 to 10 MHz	2	top and bottom
more than 10 MHz	3	top, middle, bottom

#### Nemko Dallas

FCC PART 15, SUBPART C DIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTER EQUIPMENT: 2.4 GHz CPE, Release 1 PROJECT NO .: 2L0041RUS6

NAME OF TEST: RF Exposure

PARA. NO.: 15.247(b)(4)

Systems operating under the provisions of this section shall be **Minimum Standard:** operated in a manner that ensures the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines stipulated in 1.1307(b)(1) of CFR 47.

#### NAME OF TEST: Spurious Emissions(conducted) PARA. NO.: 15.247(c)

**Minimum Standard:** In any 100kHz bandwidth outside the frequency band in which the transmitter is operating, emissions shall be at least 20 dB below the fundamental emission or shall not exceed the following field strength limits. Emissions falling in the restricted bands of 15.205 shall not exceed the following field strength limits:

Frequency (MHz)	Field Strength ( <b>mV</b> /m @ 3m)	Field Strength (dB @ 3m)
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
Above 960	500	54.0

#### THE SPECTRUM IS SEARCHED TO THE 10th HARMONIC OF THE HIGHEST FREQUENCY GENERATED IN THE EUT.

#### Method Of Measurement:

30 MHz - 10th harmonic plot RBW: 100 kHz VBW: 300 kHz Sweep: Auto Display line: -20 dBc

Lower Band Edge RBW: At least 1% of span/div. VBW: >RBW Span: As necessary to display any spurious at band edge. Sweep: Auto Center Frequency: 902 MHz, 2400 MHz, or 5725 MHz Marker: Peak of fundamental emission Marker  $\Delta$ : Peak of highest spurious level below center frequency.

Upper Band Edge RBW: At least 1% of span/div. VBW: >RBW Span: As necessary to display any spurious at band edge. Sweep: Auto Center Frequency: 928 MHz, 2483.5 MHz, or 5850 MHz Marker: Peak of fundamental emission Marker  $\Delta$ : Peak of highest spurious level above center frequency.

Tuning range	Number of channels tested	Channel location in band
1 MHz or less	1	middle
1 to 10 MHz	2	top and bottom
more than 10 MHz	3	top, middle, bottom

#### Nemko Dallas

FCC PART 15, SUBPART C DIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTER

EQUIPMENT: 2.4 GHz CPE, Release 1

#### PROJECT NO.: 2L0041RUS6

NAME OF TEST:	Radiated Spurious Emissions	PARA, NO.: 15.247(c)

**Minimum Standard:** In any 100kHz bandwidth outside the frequency band in which the transmitter is operating, emissions shall be at least 20 dB below the fundamental emission or shall not exceed the following field strength limits:

#### Emissions falling in the restricted bands of 15.205 shall not exceed the following field strength limits:

Frequency	Field Strength	Field Strength
(MHz)	( <b>mV</b> /m @ 3m)	(dB @ 3m)
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
Above 960	500	54.0

THE SPECTRUM WAS SEARCHED TO THE 10th HARMONIC

#### MHz MHz MHz GHz 0.09-0.11 399.9-410 4.5-5.25 16.42-16.423 0.495-0.505 16.69475-16.69525 608-614 5.35-5.46 2.1735-2.1905 16.80425-16.80475 960-1240 7.25-7.75 25.5-25.67 8.025-8.5 4.125-4.128 1300-1427 37.5-38.25 9.0-9.2 4.17725-4.17775 1435-1626.5 4.20725-4.20775 73-74.6 1645.5-1646.5 9.3-9.5 74.8-75.2 10.6-12.7 6.125-6.218 1660-1710 6.26775-6.26825 108-121.94 1718.8-1722.2 13.25-13.4 6.31175-6.31225 123-138 2200-2300 14.47-14.5 8.291-8.294 149.9-150.05 2310-2390 15.35-16.2 8.362-8.366 156.52475-156.52525 2483.5-2500 17.7-21.4 8.37625-8.38675 2655-2900 22.01-23.12 156.7-156.9 8.41425-8.41475 162.0125-167.17 3260-3267 23.6-24.0 12.29-12.293 167.72-173.2 3332-3339 31.2-31.8 12.51975-12.52025 240-285 3345.8-3358 36.43-36.5 12.57675-12.57725 322-335.4 3600-4400 Above 38.6 13.36-13.41 1718

#### **15.205 Restricted Bands**

Tuning range	Number of channels tested	Channel location in band
1 MHz or less	1	middle
1 to 10 MHz	2	top and bottom
more than 10 MHz	3	top, middle, bottom

#### **Nemko Dallas**

FCC PART 15, SUBPART C DIRECT SEQUENCE SPREAD SPECTRUM TRANSMITTER

EQUIPMENT: 2.4 GHz CPE, Release 1

PROJECT NO.: 2L0041RUS6

NAME OF TEST: Transmitter Power Density		PARA. NO.:	15.247(d)
Minimum Standarde	The transmitted newer density over	raged over any	1 second
Winning Standard.	interval shall not be greater than +8	dBm in any 3	kHz bandwidth.
Method Of Measurement:	The spectrum analyzer is set as follows:		
	RBW: 3 kHz VBW: >3 kHz Span: => measured 6 dB bandwidt Sweep: Span(kHz)/3 (i.e. for a spa 1500/3 = 500 sec. LOG dB/div.: 2 dB	h n of 1.5 MHz	the sweep rate is
Note:	For devices with spectrum line space analyzer is reduced until the spectra measurement data is normalized to of all the individual spectral lines we power units.	cing =< 3 kHz, al lines are reso 3 kHz by sum ithin a 3 kHz b	the RBW of the lived. The ning the power and in linear

#### For Devices With Integral Antenna:

For devices with non-detachable antennas, the received field strength is peaked and the spectrum analyzer is set as above. The peak emission level is then measured and converted to a field strength by adding the appropriate antenna factor and cable loss. This field strength is then converted to an equivalent isotropic radiated power using the same method as described for Peak Power output.

Tuning Range	Number Of Channels Tested	Channel Location In Band
1 MHz or Less	1	Middle
1 to 10 MHz	2	Top And Bottom
More Than 10 MHz	3	Top, Middle, Bottom

# **ANNEX B - TEST DIAGRAMS**

#### **Test Site For Radiated Emissions**



#### **Conducted Emissions**



#### Peak Power At Antenna Terminals



Minimum 6 dB Bandwidth Peak Power Spectral Density Spurious Emissions (conducted)

