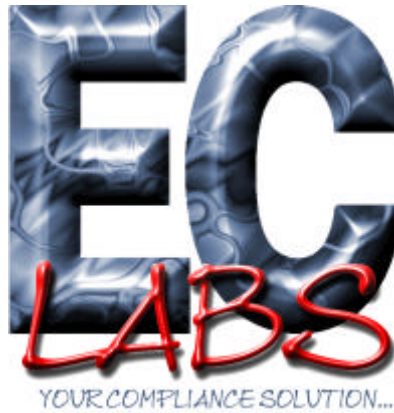




APPENDIX C

PEAK POWER MEASUREMENTS

Client: **Wireless, Inc.** 5452 Betsy Ross Drive, Santa Clara, CA 95054

Contact: **Bill Anderson** 408/727-8383

Product: ***N2-X 5.3 GHz EtherNet Extender (Bridge)***
Report File: 9080501A
File Name: APPENDIX C
Date: 9/12/99
Submitted By: Electronic Compliance Laboratories, Inc.
1289 Birchwood Drive, Sunnyvale, California 94089

Contact: **Chip Matheny** 408/747-1490 chip@eclabs.com



FINAL RESULTS OF MEASUREMENTS

ELECTRONIC COMPLIANCE LABORATORIES, INC.

1249 BIRCHWOOD DRIVE, SUNNYVALE, CALIFORNIA 94089

"NII BAND"

CFR 47 FCC PART 15 SUBPART E

**** 5.3 GHz POWER MEASUREMENTS**

CLIENT NAME:	WIRELESS, INC.
E.U.T NAME:	N2-X 5. 3 GHz (TX) ETHERNET EXTENDER BRIDGE
SERIAL NUMBER:	SN # 001
FCC ID NUMBER:	EV9N2X5-3S1-16B

RAW DATA @ ANTENNA PORT

DATE: 08.27.99

ENGINEER:

SURESH KONDAPOLLI

TABLE 1

PEAK POWER SPECTRAL DENSITY

CLIENT INFORMATION

MEASUREMENTS

EIRP / 26 dB BW / PTP/ POWER TOTALS VS. LIMITS

UNIT BAND		5.3 GHz							
		CHANNEL 1 FINAL DATA							
		SW1		SW2		SW3		SW4	
		Po (1)	Po (mW)	Po (2)	Po (mW)	Po (3)	Po (mW)	Po (4)	Po (mW)
BW(MHz)=	12.63			12.58		12.54		12.58	
5.2608	Po (1)			Po (2)		Po (3)		Po (4)	
	-36.83	0.000		-41.50	0.000	-45.33	0.000	-49.37	0.000
	-39.37	0.000		-44.00	0.000	-47.18	0.000	-51.17	0.000
	-34.62	0.000		-39.50	0.000	-45.30	0.000	-46.67	0.000
	-30.33	0.001		-34.83	0.000	-38.67	0.000	-42.33	0.000
	-19.00	0.013		-22.00	0.006	-25.12	0.003	-28.67	0.001
	-8.33	0.147		-11.33	0.074	-14.33	0.037	-18.00	0.016
	-1.62	0.689		-4.50	0.355	-7.50	0.178	-11.00	0.079
	0.33	1.079		-2.50	0.562	-5.50	0.282	-9.17	0.121
	1.33	1.358		-1.50	0.708	-4.62	0.345	-8.17	0.152
	1.00	1.259		-1.83	0.656	-5.00	0.316	-8.50	0.141
	2.50	1.778		-0.33	0.927	-3.67	0.430	-7.67	0.171
	1.44	1.393		-1.83	0.656	-5.00	0.316	-8.50	0.141
	0.83	1.211		-2.00	0.631	-5.12	0.308	-8.67	0.136
	-0.17	0.962		-2.83	0.521	-5.83	0.261	-9.33	0.117
	-2.50	0.562		-5.33	0.293	-8.50	0.141	-12.00	0.063
	-9.33	0.117		-12.32	0.059	-15.56	0.028	-18.83	0.013
	-20.83	0.008		-24.17	0.004	-27.50	0.002	-30.83	0.001
	-32.00	0.001		-36.00	0.000	-39.50	0.000	-42.62	0.000
	-36.67	0.000		-40.67	0.000	-44.50	0.000	-47.50	0.000
	-40.83	0.000		-45.17	0.000	-49.17	0.000	-52.17	0.000
	-38.00	0.000		-42.83	0.000	-46.67	0.000	-50.83	0.000
PTOTAL	-343.00	10.58		-416.97	5.45	-489.57	2.65	-562.00	1.15

The above Data Table shows the "Raw" measurements recorded directly from the spectrum analyzer when measuring Power across the band in 1MHz steps. These measurements were made at all four (4) power settings. The column to the right of each set of data is the reading converted into milliwatts. The 26 dB Bandwidth measurement is included at the top (MHz).

Measurements directly off of the antenna port with a six (6) foot piece coaxial cable attached. Cable loss is listed on the next TABLE.

Peak Power and the 26 dB Bandwidth measurements were recorded at this time

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1249 BIRCHWOOD DRIVE, SUNNYVALE, CALIFORNIA 94089
408/747-1490 **WWW.ECLABS.COM** 800/707-LABS

EUT/CLIENT INFORMATION

CLIENT NAME: WIRELESS, INC.

E.U.T NAME: N2-X 5.3 GHZ

SERIAL NUMBER: 001
FCC ID: EV9N2X5-3S1-16B

POWER
MEASUREMENTS

TEST INFORMATION

Date: 8/25/99

CHANNEL 1

5.2608 GHz

Work Order Number: 9071201

Switch SET 1

Tested By: CHiP

RBW: 1 MHz

VBW: 30 kHz

Span: 1 MHz

26 dB BW (MHz) = 12.63

PTP Limit = 22.01

Antenna gain (dBi) = 17.5

Ant. gain - 6dBi(dBi) = 11.5

PTP Limit - Ant.Gain(dBi) = 10.51

FREQUENCY (MHz)	Analyzer Reading (dBm)	POWER OUT Pout (mW)	PPSD (dBm)
5.2508	-36.83	0.000	
5.2518	-39.37	0.000	
5.2528	-34.62	0.000	
5.2538	-30.33	0.001	
5.2548	-19.00	0.013	11.33
5.2558	-8.33	0.147	
5.2568	-1.62	0.689	
5.2578	0.33	1.079	
5.2588	1.33	1.358	
5.2598	1.00	1.259	
5.2608	2.50	1.778	14.5
5.2618	1.44	1.393	(dBm)
5.2628	0.83	1.211	
5.2638	-0.17	0.962	
5.2648	-2.50	0.562	
5.2658	-9.33	0.117	
5.2668	-20.83	0.008	11.50
5.2678	-32.00	0.001	11.17
5.2688	-36.67	0.000	
5.2698	-40.83	0.000	
5.2708	-38.00	0.000	
Ptotal (mW) =		10.58	

Note: The above measurements made at the highest Power Setting.

PPSD LIMIT=11.5

Insertion Loss (dB) = Correction Factor= 2.600

Switch SET 1, Highest Power Setting...

Flat Panel 0.5 DFPS.5-52

SUMMARY	Measurement	Limits	DELTA
Ptotal (mW)	10.58	22.01	-11.44
Ptotal (dBm)	7.64	10.51	-2.87
EIRP (dBm)	19.14	27	-7.86

Note: (-) below LIMIT

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1249 BIRCHWOOD DRIVE, SUNNYVALE, CALIFORNIA 94089
408/747-1490 **WWW.ECLABS.COM** 800/707-LABS

EUT/CLIENT INFORMATION

CLIENT NAME: WIRELESS, INC.

E.U.T NAME: N2-X 5.3 GHz

SERIAL NUMBER: 001
FCC ID: EV9N2X5-3S1-16B

**POWER
MEASUREMENTS**

TEST INFORMATION

CHANNEL 1 FINAL SUMMARY

5.3 GHz

CHANNEL 1

8/26/99

RESULTS

SET #

SW 4

TOTAL PASS

1

PARABOLIC DISH

28.1 dBi

DATA

Ptotal (mW)

-11.44

-16.55

-19.33

-20.85

VERSUS

Ptotal (dBm)

7.73

4.87

1.75

-1.89

LIMIT

EIRP (dBm)

2.74

-0.14

-3.27

-6.89

Flat Panel

DFPD2-52

SW 1

SW 2

SW 3

SW 4

SW 4

TOTAL PASS

1

2' FLAT PANEL

27.5 dBi

DATA

Ptotal (mW)

-11.44

-16.55

-19.33

-20.85

VERSUS

Ptotal (dBm)

7.13

4.27

1.15

-2.49

LIMIT

EIRP (dBm)

2.14

-0.74

-3.87

-7.49

Flat Panel

DFPD1-52

SW 1

SW 2

SW 3

SW 4

SW 3

SW 4

TOTAL PASS

3

1' FLAT PANEL

23.0 dBi

DATA

Ptotal (mW)

-11.44

-16.55

-19.33

-20.85

VERSUS

Ptotal (dBm)

2.63

-0.23

-3.35

-2.49

LIMIT

EIRP (dBm)

-2.36

-5.24

-8.37

-7.49

Flat Panel

DFPS.5-52

SW 1

SW 2

SW 3

SW 4

SW 1

SW 2

SW 3

SW 4

TOTAL PASS

4

6" FLAT PANEL

17.5 dBi

DATA

Ptotal (mW)

-11.99

-16.13

-19.64

-21.30

VERSUS

Ptotal (dBm)

-3.32

-5.55

-9.06

-12.83

LIMIT

EIRP (dBm)

-7.93

-10.07

-13.60

-17.34

(-) below LIMIT (+) above LIMIT

(-) below LIMIT (+) above LIMIT

CHANNEL 1 FINAL SUBMITTAL (ANTENNAS)

SUMMARY OF MEASUREMENTS			PASS	FAIL	5.2608 GHz	CHANNEL 1
ANTENNA MODEL	GAIN	SW1	SW2	SW3	SW4	EIRP versus LIMIT
2' Parabolic SSP2-52A	28.1	NO	NO	NO	PASS	P _{TOTAL} 1.15 mW
GABRIEL Electronics, Inc. DISH						27dBm -6.89 dBm
2' Flat Panel DFPD2-52	27.5	NO	NO	NO	PASS	P _{TOTAL} 1.15 mW
GABRIEL Electronics, Inc. FLAT						27dBm -7.49 dBm
1' Flat Panel DFPD1-52	23.0	NO	NO	PASS	PASS	P _{TOTAL} 5.45 mW
GABRIEL Electronics, Inc. FLAT						27dBm -5.24 dBm
.5' Flat Panel DFPD.5-52	17.5	PASS	PASS	PASS	PASS	P _{TOTAL} 10.58 mW
GABRIEL Electronics, Inc. FLAT						27dBm -7.93 dBm

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1249 BIRCHWOOD DRIVE, SUNNYVALE, CALIFORNIA 94089
408/747-1490 **WWW..ECLABS.COM** 800/707-LABS

EUT/CLIENT INFORMATION

CLIENT NAME: WIRELESS, INC.

E.U.T NAME: N2-X 5.3 GHZ

SERIAL NUMBER: 001
FCC ID: EV9N2X5-3S1-16B

POWER
MEASUREMENTS

TEST INFORMATION

UNII BAND		5.3 GHz		CHANNEL 5 FINAL DATA					
								8/23/99 REV. C	
		SW1		SW2		SW3		SW4	
BW(MHz)=	12.75			12.75			12.83	12.80	
5.3017	Po (1)	Po (mW)		Po (2)	Po (mW)		Po (3)	Po (mW)	Po (4)
	-37.83	0.000		-42.37	0.000		-46.50	0.000	-51.33
	-37.00	0.000		-39.00	0.000		-40.87	0.000	-46.62
	-31.33	0.001		-32.80	0.001		-34.62	0.000	-39.83
	-30.17	0.001		-32.37	0.001		-34.67	0.000	-37.83
	-19.50	0.011		-22.62	0.005		-25.37	0.003	-30.00
	-9.00	0.126		-12.00	0.063		-15.00	0.032	-19.00
	-1.17	0.764		-4.17	0.383		-6.83	0.207	-14.17
	0.50	1.122		-2.62	0.547		-5.50	0.282	-9.67
	1.83	1.524		-1.33	0.736		-4.33	0.369	-8.33
	1.00	1.259		-2.17	0.607		-5.37	0.290	-7.50
	2.67	1.849		-0.50	0.891		-3.33	0.465	-7.17
	1.83	1.524		1.17	1.309		-4.33	0.369	-7.67
	1.50	1.413		-1.50	0.708		-4.62	0.345	-8.17
	0.67	1.167		-2.33	0.585		-5.17	0.304	-9.00
	-1.67	0.681		-4.81	0.330		-7.83	0.165	-12.33
	-7.33	0.185		-10.50	0.089		-13.50	0.045	-19.67
	-18.33	0.015		-22.00	0.006		-25.17	0.003	-28.50
	-28.12	0.002		-31.33	0.001		-34.17	0.000	-37.67
	-31.83	0.001		-33.83	0.000		-36.00	0.000	-40.50
	-36.83	0.000		-39.17	0.000		-41.50	0.000	-45.33
	-37.17	0.000		-42.17	0.000		-46.33	0.000	-51.33
PTOTAL	-317.28	11.64		-378.42	6.26		-441.01	2.88	-531.62
									1.20

The above Data Table shows the "Raw" measurements recorded directly from the spectrum analyzer when measuring Power across the band in 1MHz steps. These measurements were made at all four (4) power settings. The column to the right of each set of data is the reading converted into miliwatts. The 26 dB Bandwidth measurement is included at the top (MHz).

Measurements directly off of the antenna port with a six (6) foot piece coaxial cable attached. Cable loss is listed on the next TABLE.

ELECTRONIC COMPLIANCE LABORATORIES, INC.
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 408/747-1490 **WWW.ECLABS.COM** 800/707-LABS

EUT/CLIENT INFORMATION

CLIENT NAME: WIRELESS, INC.

E.U.T NAME: N2-X 5.3 GHz

 SERIAL NUMBER: 001
 FCC ID: EV9N2X5-3S1-16B
POWER MEASUREMENTS**TEST INFORMATION**

Date: 8/25/99

CHANNEL 5

5.3017 GHz

Work Order Number: 9071201

Switch SET 1

Tested By: CHiP

RBW: 1 MHz

VBW: 30 kHz

Span: 1 MHz

26 dB BW(MHz) = 12.75

PTP Limit = 22.06

Antenna gain (dBi) = 17.5

Ant. gain - 6dBi(dBi) = 11.5

PTP Limit - Ant.Gain(dBi) = 10.56

FREQUENCY (MHz)	Analyzer Reading (dBm)	POWER OUT Pout (mW)	PPSD (dBm)
5.2917	-37.83	0.000	
5.2927	-37.00	0.000	
5.2937	-31.33	0.001	
5.2947	-30.17	0.001	
5.2957	-19.50	0.011	11.33
5.2967	-9.00	0.126	
5.2977	-1.17	0.764	
5.2987	0.50	1.122	
5.2997	1.83	1.524	
5.3007	1.00	1.259	
5.3017	2.67	1.849	14.5
5.3027	1.83	1.524	(dBm)
5.3037	1.50	1.413	
5.3047	0.67	1.167	
5.3057	-1.67	0.681	
5.3067	-7.33	0.185	
5.3077	-18.33	0.015	11.50
5.3087	-28.12	0.002	11.17
5.3097	-31.83	0.001	
5.3107	-36.83	0.000	
5.3117	-37.17	0.000	
Ptotal (mW) =		11.64	

Note: The above measurements made at the highest Power Setting.

PPSD LIMIT=11.5

Insertion Loss (dB) = Correction Factor= 2.600

Channel 5 Reference Table

Switch SET 1

SUMMARY	Measurement	Limits	DELTA
Ptotal (mW)	11.64	22.06	-10.42
Ptotal (dBm)	8.06	10.56	-2.50
EIRP (dBm)	19.56	27	-7.44

Note: (-) below LIMIT

ELECTRONIC COMPLIANCE LABORATORIES, INC.

1249 BIRCHWOOD DRIVE, SUNNYVALE, CALIFORNIA 94089

408/747-1490 **WWW.ECLABS.COM** 800/707-LABS

EUT/CLIENT INFORMATION

CLIENT NAME: WIRELESS, INC.

E.U.T NAME: N2-X 5.3 GHz

SERIAL NUMBER: 001

FCC ID: EV9N2X5-3S1-16B

**POWER
MEASUREMENTS****TEST INFORMATION****CHANNEL 5 FINAL SUMMARY**

5.3 GHz

CHANNEL 5

N2-X

PARABOLIC DISH

28.1 dBi

Parabolic	SSP2-52A	SW 1	SW 2	SW 3	SW 4	SW 4	TOTAL PASS
DATA	Ptotal (mW)	-10.41	-15.80	-19.20	-20.87		1
VERSUS	Ptotal (dBm)	8.11	5.41	2.01	-1.78		
LIMIT	EIRP (dBm)	3.16	6.47	3.09	-0.71		

2' FLAT PANEL

27.5 dBi

Flat Panel	DFPD2-52	SW 1	SW 2	SW 3	SW 4	SW 4	TOTAL PASS
DATA	Ptotal (mW)	-10.80	-15.80	-19.20	-20.87		1
VERSUS	Ptotal (dBm)	7.36	4.81	1.41	-2.38		
LIMIT	EIRP (dBm)	2.42	-0.13	-3.51	-7.31		

1' FLAT PANEL

23.0 dBi

Flat Panel	DFPD1-52	SW 1	SW 2	SW 3	SW 4	SW 3	TOTAL PASS
DATA	Ptotal (mW)	-10.42	-15.80	-19.20	-20.87	SW 4	2
VERSUS	Ptotal (dBm)	3.00	0.31	-3.09	-2.38		
LIMIT	EIRP (dBm)	-1.94	-4.63	-8.01	-7.31		

6" FLAT PANEL

17.5 dBi

Flat Panel	DFPS.5-52	SW 1	SW 2	SW 3	SW 4	SW 1	TOTAL PASS
DATA	Ptotal (mW)	-10.42	-15.80	-19.20	-20.87	SW 2	4
VERSUS	Ptotal (dBm)	-2.50	-5.19	-8.59	-12.38	SW 3	
LIMIT	EIRP (dBm)	-7.44	-10.13	-13.51	-17.31	SW 4	

(-) below LIMIT (+) above LIMIT

(-) below LIMIT (+) above LIMIT

CHANNEL 5 FINAL SUBMITTAL (ANTENNAS)

SUMMARY OF MEASUREMENTS				PASS	FAIL	5.3324 GHz	CHANNEL 8
ANTENNA MODEL	GAIN	SW1	SW2	SW3	SW4	EIRP	versus LIMIT
2' Parabolic SSP2-52A	28.1	NO	NO	NO	PASS	P _{TOTAL}	1.19 mW
GABRIEL Electronics, Inc.	DISH					27 dBm	-6.74 dBm
2' Flat Panel DFPD2-52	27.5	NO	NO	PASS	PASS	P _{TOTAL}	1.19 mW
GABRIEL Electronics, Inc.	FLAT					27 dBm	-7.34 dBm
1' Flat Panel DFPD1-52	23.0	NO	PASS	PASS	PASS	P _{TOTAL}	6.36 mW
GABRIEL Electronics, Inc.	FLAT					27 dBm	-4.57 dBm
.5' Flat Panel DFPD.5-52	17.5	PASS	PASS	PASS	PASS	P _{TOTAL}	10.39 mW
GABRIEL Electronics, Inc.	FLAT					27 dBm	-7.93 dBm

ELECTRONIC COMPLIANCE LABORATORIES, INC.
 1249 BIRCHWOOD DRIVE, SUNNYVALE, CALIFORNIA 94089
 408/747-1490 **WWW.ECLABS.COM** 800/707-LABS

EUT/CLIENT INFORMATION

CLIENT NAME: WIRELESS, INC.

E.U.T NAME: N2-X 5.3 GHz

 SERIAL NUMBER: 001
 FCC ID: EV9N2X5-3S1-16B

POWER MEASUREMENTS

TEST INFORMATION

UNII BAND		5.3 GHz		CHANNEL 8		FINAL DATA			
								8/23/99	
								REV. C	
		SW1		SW2		SW3		SW4	
BW(MHz)=	13.75	Po (1)	Po (mW)	14.08	Po (2)	14.00	Po (3)	14.08	Po (4)
5.3324	Po (1)	Po (mW)	Po (mW)	Po (2)	Po (mW)	Po (3)	Po (mW)	Po (4)	Po (mW)
	-38.83	0.000		-42.83	0.000	-46.83	0.000	-50.05	0.000
	-31.50	0.001		-32.12	0.001	-35.62	0.000	-39.80	0.000
	-24.33	0.004		-25.50	0.003	-28.83	0.001	-32.67	0.001
	-24.17	0.004		-26.83	0.002	-30.17	0.001	-32.83	0.001
	-18.00	0.016		-20.50	0.009	-23.67	0.004	-27.50	0.002
	-8.67	0.136		-11.50	0.071	-14.50	0.035	-18.17	0.015
	-3.37	0.460		-3.33	0.465	-6.17	0.242	-9.83	0.104
	0.17	1.040		-1.83	0.656	-4.83	0.329	-8.50	0.141
	1.62	1.452		-1.17	0.764	-4.17	0.383	-8.00	0.158
	2.67	1.849		-2.50	0.562	-5.67	0.271	-9.33	0.117
	0.00	1.000		-2.00	0.631	-5.00	0.316	-9.33	0.117
	1.83	1.524		-1.33	0.736	-4.33	0.369	-7.83	0.165
	1.17	1.309		-1.33	0.736	-4.50	0.355	-8.17	0.152
	0.00	1.000		-1.50	0.708	-5.17	0.304	-8.83	0.131
	-3.17	0.482		-2.17	0.607	-8.04	0.157	-11.67	0.068
	-10.50	0.089		-5.17	0.304	-13.12	0.049	-16.83	0.021
	-18.33	0.015		-10.12	0.097	-24.17	0.004	-28.00	0.002
	-24.50	0.004		-21.00	0.008	-30.42	0.001	-34.50	0.000
	-26.37	0.002		-27.50	0.002	-30.83	0.001	-34.67	0.000
	-32.00	0.001		-33.83	0.000	-37.17	0.000	-40.62	0.000
	-41.00	0.000		-44.83	0.000	-48.50	0.000	-52.17	0.000
PTOTAL	-297.28	10.39		-318.89	6.36	-411.71	2.82	-489.3	1.19

The above Data Table shows the "Raw" measurements recorded directly from the spectrum analyzer when measuring Power across the band in 1MHz steps. These measurements were made at all four (4) power settings. The column to the right of each set of data is the reading converted into milliwatts. The 26 dB Bandwidth measurement is included at the top (MHz).

Measurements directly off of the antenna port with a six (6) foot piece coaxial cable attached. Cable loss is listed on the next TABLE.

ELECTRONIC COMPLIANCE LABORATORIES, INC.
1249 BIRCHWOOD DRIVE, SUNNYVALE, CALIFORNIA 94089
408/747-1490 **WWW.ECLABS.COM** 800/707-LABS

EUT/CLIENT INFORMATION

CLIENT NAME: WIRELESS, INC.

E.U.T NAME: N2-X 5.3 GHz

SERIAL NUMBER: 001
FCC ID: EV9N2X5-3S1-16B

POWER
MEASUREMENTS

Test Information

Date: 8/25/99		CHANNEL 8		5.3324 GHz
Work Order Number: 9071201				Switch SET 1
Tested By: CHiP		26 dB BW(MHz) =	13.75	
RBW: 1 MHz		PTP Limit =	22.38	
VBW: 30 kHz		Antenna gain (dBi) =	17.5	
Span: 1 MHz		Ant. gain - 6dBi(dBi) =	11.5	
		PTP Limit - Ant.Gain(dBi) =	10.88	
FREQUENCY (MHz)	Analyzer Reading (dBm)	POWER OUT Pout (mW)	PPSD (dBm)	
5.3224	-38.83	0.000		
5.3234	-31.50	0.001		
5.3244	-24.33	0.004		
5.3254	-24.17	0.004		
5.3264	-18.00	0.016	11.33	
5.3274	-8.67	0.136		
5.3284	-3.37	0.460		
5.3294	0.17	1.040		
5.3304	1.62	1.452		
5.3314	2.67	1.849		
5.3324	0.00	1.000	PEAK POWER READING	
5.3334	1.83	1.524	14.5	
5.3344	1.17	1.309	(dBm)	
5.3354	0.00	1.000		
5.3364	-3.17	0.482		
5.3374	-10.50	0.089		
5.3384	-18.33	0.015	11.50	
5.3394	-24.50	0.004	11.17	
5.3404	-26.37	0.002		
5.3414	-32.00	0.001		
5.3424	-41.00	0.000		
Ptotal (mW) =		10.39		

Note: The above measurements made at the highest Power Setting.

PPSD LIMIT=11.1

ELECTRONIC COMPLIANCE LABORATORIES, INC.
1249 BIRCHWOOD DRIVE, SUNNYVALE, CALIFORNIA 94089
408/747-1490 – WWW.ECLABS.COM

EUT/CLIENT INFORMATION

CLIENT NAME: WIRELESS, INC.

E.U.T NAME: N2-X 5.3 GHz

SERIAL NUMBER: 001
FCC ID: EV9N2X5-3S1-16B

POWER MEASUREMENTS

CHANNEL 8 Final Summary

5.3 GHz		CHANNEL 8		N2-X			
PARABOLIC DISH 28.1 dBi	Parabolic	SSP2-52A	SW 1	SW 2	SW 3	SW 4	SW 4 TOTAL PASS
	DATA	Ptotal (mW)	-12.00	-16.13	-19.64	-21.30	1
	VERSUS	Ptotal (dBm)	7.28	5.05	1.54	-2.23	
	LIMIT	EIRP (dBm)	2.66	0.53	-3.00	-6.74	
2' FLAT PANEL 27.5 dBi	Flat Panel	DFPD2-52	SW 1	SW 2	SW 3	SW 4	SW 4 TOTAL PASS
	DATA	Ptotal (mW)	-11.99	-16.13	-19.64	-21.30	1
	VERSUS	Ptotal (dBm)	6.68	4.45	0.94	-2.83	
	LIMIT	EIRP (dBm)	2.07	-0.07	-3.60	-7.34	
1' FLAT PANEL 23.0 dBi	Flat Panel	DFPD1-52	SW 1	SW 2	SW 3	SW 4	SW 2 TOTAL PASS
	DATA	Ptotal (mW)	-11.99	-16.13	-19.64	-21.30	3
	VERSUS	Ptotal (dBm)	2.18	-0.05	-3.56	-7.33	
	LIMIT	EIRP (dBm)	-2.43	-4.57	-8.10	-11.84	
6" FLAT PANEL 17.5 dBi	Flat Panel	DFPS.5-52	SW 1	SW 2	SW 3	SW 4	SW 1 TOTAL PASS
	DATA	Ptotal (mW)	-11.99	-16.13	-19.64	-21.30	4
	VERSUS	Ptotal (dBm)	-3.32	-5.55	-9.06	-12.83	
	LIMIT	EIRP (dBm)	-7.93	-10.07	-13.60	-17.34	

(-) below LIMIT (+) above LIMIT

CHANNEL 8 FINAL SUBMITTAL (ANTENNAS)

SUMMARY OF MEASUREMENTS				PASS	FAIL	5.3017GHz	CHANNEL 5	
ANTENNA MODEL	GAIN	SW1	SW2	SW3	SW4	EIRP	versus	LIMIT
2' Parabolic SSP2-52A	28.1	NO	NO	NO	PASS	P _{TOTAL}	1.20 mW	
GABRIEL Electronics, Inc. DISH						27dBm	-6.71 dBm	
2' Flat Panel DFPD2-52	27.5	NO	NO	PASS	PASS	P _{TOTAL}	2.88 mW	
GABRIEL Electronics, Inc. FLAT						27dBm	-8.01 dBm	
1' Flat Panel DFPD1-52	23.0	NO	PASS	PASS	PASS	P _{TOTAL}	6.26 mW	
GABRIEL Electronics, Inc. FLAT						27dBm	-7.31 dBm	
.5' Flat Panel DFPD.5-52	17.5	PASS	PASS	PASS	PASS	P _{TOTAL}	11.64 mW	
GABRIEL Electronics, Inc. FLAT						27dBm	-7.44 dBm	

ELECTRONIC COMPLIANCE LABORATORIES, INC.

N2-X 5.3 GHZ SUMMARY VS. LIMITS

WIRELESS, INC.		N2-X					RESULTS		8/26/99
5.3 GHz		CHANNEL 1					SET#		
PARABOLIC DISH	28.1 dBi	Parabolic	SSP2-52A	SW 1	SW 2	SW 3	SW 4	SW 4	TOTAL PASS
		DATA	Ptotal (mW)	-11.44	-16.55	-19.33	-20.85		1
		VERSUS	Ptotal (dBm)	7.73	4.87	1.75	-1.89		
		LIMIT	EIRP (dBm)	2.74	-0.14	-3.27	-6.89		
2' FLAT PANEL	27.5 dBi	Flat Panel	DFPD2-52	SW 1	SW 2	SW 3	SW 4	SW 4	TOTAL PASS
		DATA	Ptotal (mW)	-11.44	-16.55	-19.33	-20.85		1
		VERSUS	Ptotal (dBm)	7.13	4.27	1.15	-2.49		
		LIMIT	EIRP (dBm)	2.14	-0.74	-3.87	-7.49		
1' FLAT PANEL	23.0 dBi	Flat Panel	DFPD1-52	SW 1	SW 2	SW 3	SW 4	SW 3	TOTAL PASS
		DATA	Ptotal (mW)	-11.44	-16.55	-19.33	-20.85		3
		VERSUS	Ptotal (dBm)	2.63	-0.23	-3.35	-2.49		
		LIMIT	EIRP (dBm)	-2.36	-5.24	-8.37	-7.49		
6" FLAT PANEL	17.5 dBi	Flat Panel	DFPS-5-52	SW 1	SW 2	SW 3	SW 4	SW 1	TOTAL PASS
		DATA	Ptotal (mW)	-11.99	-16.13	-19.64	-21.30		4
		VERSUS	Ptotal (dBm)	-3.32	-5.55	-9.06	-12.83		
		LIMIT	EIRP (dBm)	-7.93	-10.07	-13.60	-17.34		

(-) below LIMIT (+) above LIMIT

5.3 GHz		CHANNEL 5				N2-X		
PARABOLIC DISH 28.1 dBi	Parabolic	SSP2-52A	SW 1	SW 2	SW 3	SW 4	SW 4	TOTAL PASS
	DATA	Ptotal (mW)	-10.41	-15.80	-19.20	-20.87		1
	VERSUS	Ptotal (dBm)	8.11	5.41	2.01	-1.78		
	LIMIT	EIRP (dBm)	3.16	6.47	3.09	-0.71		
2' FLAT PANEL 27.5 dBi	Flat Panel	DFPD2-52	SW 1	SW 2	SW 3	SW 4	SW 4	TOTAL PASS
	DATA	Ptotal (mW)	-10.80	-15.80	-19.20	-20.87		1
	VERSUS	Ptotal (dBm)	7.36	4.81	1.41	-2.38		
	LIMIT	EIRP (dBm)	2.42	-0.13	-3.51	-7.31		
1' FLAT PANEL 23.0 dBi	Flat Panel	DFPD1-52	SW 1	SW 2	SW 3	SW 4	SW 3 SW 4	TOTAL PASS
	DATA	Ptotal (mW)	-10.42	-15.80	-19.20	-20.87		2
	VERSUS	Ptotal (dBm)	3.00	0.31	-3.09	-2.38		
	LIMIT	EIRP (dBm)	-1.94	-4.63	-8.01	-7.31		
6" FLAT PANEL 17.5 dBi	Flat Panel	DFPS-5-52	SW 1	SW 2	SW 3	SW 4	SW 1 SW 2 SW 3 SW 4	TOTAL PASS
	DATA	Ptotal (mW)	-10.42	-15.80	-19.20	-20.87		4
	VERSUS	Ptotal (dBm)	-2.50	-5.19	-8.59	-12.38		
	LIMIT	EIRP (dBm)	-7.44	-10.13	-13.51	-17.31		

(-) Below LIMIT

(+) above LIMIT

(-) below LIMIT (+) above LIMIT

5.3 GHz

CHANNEL 8

N2-X

PARABOLIC DISH

28.1 dBi

Parabolic	SSP2-52A	SW 1	SW 2	SW 3	SW 4
DATA	Ptotal (mW)	-12.00	-16.13	-19.64	-21.30
VERSUS	Ptotal (dBm)	7.28	5.05	1.54	-2.23
LIMIT	EIRP (dBm)	2.66	6.53	3.00	-6.74

SW 4

TOTAL PASS

1

2' FLAT PANEL

27.5 dBi

Flat Panel	DFPD2-52	SW 1	SW 2	SW 3	SW 4
DATA	Ptotal (mW)	-11.99	-16.13	-19.64	-21.30
VERSUS	Ptotal (dBm)	6.68	4.45	0.94	-2.83
LIMIT	EIRP (dBm)	2.07	-0.07	-3.60	-7.34

SW 4

TOTAL PASS

1

1' FLAT PANEL

23.0 dBi

Flat Panel	DFPD1-52	SW 1	SW 2	SW 3	SW 4
DATA	Ptotal (mW)	-11.99	-16.13	-19.64	-21.30
VERSUS	Ptotal (dBm)	2.18	-0.05	-3.56	-7.33
LIMIT	EIRP (dBm)	-2.43	-4.57	-8.10	-11.84

SW 2

TOTAL PASS

3

SW 3

SW 4

6" FLAT PANEL

17.5 dBi

Flat Panel	DFPS-5-52	SW 1	SW 2	SW 3	SW 4
DATA	Ptotal (mW)	-11.99	-16.13	-19.64	-21.30
VERSUS	Ptotal (dBm)	-3.32	-5.55	-9.06	-12.83
LIMIT	EIRP (dBm)	-7.93	-10.07	-13.60	-17.34

SW 1

TOTAL PASS

4

SW 2

SW 3

SW 4

(-) below LIMIT (-) above LIMIT

(-) below LIMIT (+) above LIMIT

END OF "SUMMARY OF MEASUREMENTS"