

FCC ID: PQS-BM28001

Exhibit 2d

Engineering Report on

Spurious Emissions at Antenna Terminal (2.1051)



Assessment of Compliance

of

Spurious Emissions at Antenna Terminal in accordance with the FCC Rules & Regulations Part 2.1051 and 90

Wireless OEM Modem Module Boomer II

Wavenet Technologies Pty Ltd.



August 2002

APREL Project No.:WVTB-Boomer II –Modem-3922-1

51 Spectrum Way Nepean ON K2R 1E6 Tel: (613) 820-2730 Fax: (613) 820-4161 email: info@aprel.com



Engineering Report

Subject:	Assessment of Spurious Emissions at Antenna Terminal in accordance with the FCC Rules & Regulations Part 2.1051 and 90
FCC ID:	PQS-BM28001
Equipment:	Wireless OEM Modem Module
Model:	Boomer II
Client:	Wavenet Technologies Pty Ltd. 140 Burswood Rd Burswood, Perth, WA 6100 AUSTRALIA
Project #:	WVTB-Boomer II-Modem-3922-1
Prepared By:	APREL Laboratories Regulatory Compliance Division 51 Spectrum Way Nepean, Ontario K2R 1E6
Approved by:	Jay Sarkar Technical Director, Standards & Certification
Submitted by:	Jav Sarkar Date: Date:
Released by:	Tochnical Director, Standards & Cartification Date: The Standards & Cartificatio Date: The Standards & Cartificatio Date: The Standards &

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FCC ID:	PQS-BM28001
Applicant:	Wavenet Technologies Pty Ltd.
Equipment:	Wireless OEM Modem Module
Model:	BOOMER II
Standard:	FCC Rules and Regulations Part 2.1051 and 90

ENGINEERING SUMMARY

This report contains the results of the Spurious Emissions at antenna terminal measurement performed on a **Wavenet OEM Wireless Modem Module.** The measurements were carried out in accordance with the FCC Rules and Regulations Part 2.1051 and 90. The product was evaluated for the Spurious Emissions at the Antenna Terminal when it was set at the maximum power level and appropriately modulated.

The Wireless OEM Modem Module is an 800 MHz OEM product for integration into customer end user equipment as an OEM modem and interfaces to it via the data interface port.

The modem provides two available bands: 806-821 MHz and 821-824 MHz. The bands are software controlled and can not be switched by user.

This report presents test data for both frequency bands, 806-821 MHz (Mask G) and 821-824 MHz (Mask H).

This modem has two different profiles type with appropriate settings for data rate, deviation, modulation shaping set for 806-821 MHz G Spectral Mask (MDC 48003, RDLAP 9.6 and RDLAP 19.2) and 821-824 MHz H Spectral mask (RDLAP 9.6).

The results presented in this report relate only to the sample tested.

Test Description	Page	Test Set-up	Results
	No.	Figure No.	Summary
Spurious Emissions at the Antenna Terminal Part 2.1051 and 90	8	1	Pass



INTRODUCTION

General

This report describes the results of the Spurious Emissions at the Antenna Terminal measurement conducted on a Wavenet Technologies Wireless OEM Modern Module model BOOMER II.

Test Facility

The evaluation for compliance was performed for Wavenet Technologies Pty Ltd. by APREL Laboratories at APREL's EMI facility located in Nepean, Ontario, Canada. The laboratory operates an (3m and 10m) Open Area Test Site (OATS). The measurement facility is calibrated in accordance with ANSI C63.4-1992.

A description of the measurement facility in accordance with the radiated and AC line conducted test site criteria per ANSI C63.4-1992 is on file with the Federal Communications Commission and is in compliance with the requirements of Section 2.948 of the Commissions rules and regulations. *APREL's registration number is: 90416*

APREL is accredited by Standard Council of Canada. APREL is also accredited by Industry Canada.

Standard

The evaluation and analysis were conducted in accordance with FCC Rules and Regulations Parts 2.1051 and the appropriate limits (90).

<u>Personnel</u>: The test was conducted by Roman Kuleba. Methodology developed and report was written by Jay Sarkar.

Test Equipment

The test equipment used during the evaluation is listed in Appendix A with calibration due dates.

Environmental Conditions

- Temperature:	$25 \degree C \pm 2$
- Relative Humidity:	30 - 50 %
- Air Pressure:	101 kPa ± 3



FCC SUBMISSION INFORMATION

FCC ID:	PQS-BM28001			
Equipment (Type): As marketed	Wireless OEM Modem Module			
Model:	BOOMER II			
For:	Certification			
Applicant:	Wavenet Technologies Pty Ltd. 140 Burswood Rd Burswood, Perth, WA 6100 AUSTRALIA			

Manufacturer:	Wavenet Technologies Pty Ltd.
	140 Burswood Rd
	Burswood, Perth, WA 6100
	AUSTRALIA

Evaluated by:

APREL Laboratories 51 Spectrum Way Nepean, Ontario Canada K2R 1E6



MANUFACTURER'S DATA

FCC ID No:	PQS-BM28001
Equipment Type:	Wireless OEM Modem Module
Model:	BOOMER II
Reference:	FCC Rules and Regulations Parts 2 and Part 90
Manufacturer:	Wavenet Technologies Pty Ltd
Development Stage of Unit:	Production
GENERAL SPECIFICATIONS	
1. Frequency Range:	a) 806.00 to 821.00 MHz (Transmitter)

		b) 821.00 to 824.00 MHz (Transmitter)
2.	Measured ERP	a) 1.828 W (32.62 dBm) at frequency 806 MHz for band 806-821 MHz
		b) 1.496 W (31.61 dBm) at frequency 821 MHz for band 821-824 MHz
3.	Emission Designators	Per 47 CFR § 2.201 and §2.202 a) 806.00 to 821.00 MHz: 20K0F1D b) 821.00 to 824.00 MHz: 12K6F1D
4.	Antenna Impedance:	50 Ohms



Measurements: Spurious Emissions at Antenna Terminal

Ref.: FCC Part 2 paragraph 2.1051 and Part 90.210

Frequency Band: 806-821 MHz

Criteria: *Emission Mask G.* The power of emissions must be attenuated below the power of the unmodulated carrier (P) on any frequency removed from the centre of the authorized bandwidth by more than 250 percent of the authorized bandwidth: At least $43 + 10 \log (P) dB$. This is calculated to be -13 dBm.

Frequency Band: 821-824 MHz

Criteria: *Emission Mask H. On* any frequency removed from the centre of the authorized bandwidth by more than 25 KHz: At least $43 + \log (P) dB$. This is calculated to be -13 dBm.

Set-up: See Figure No. 1.

Methodology:

The DUI was set-up in accordance with the set-up/block diagram Figure no.1. The set –up consisted of the DUI, Spectrum Analyser, Attenuator, and other auxiliary instrumentation necessary to perform the measurements (see Measurement Equipment Lists).

The mobile was configured to operate at maximum power and applicable modulation applied to the transmitter as indicated in the plots.

The Wireless Modem was coupled to the spectrum analyzer through a short test cable and a 20-dB attenuator connected to the spectrum analyser. Instead of the antenna, an MMCX-M to SMA-F test cable was connected and then from the SMA connector the 20-dB attenuator was hooked up. From the other side of the attenuator the Spectrum Analyser was directly connected (see block diagram and set-up photograph).

The spectrum was searched from 9 kHz to the 10th harmonic of the operating frequency.



Measurements required: Spurious emissions at antenna terminals — The radio frequency voltage or powers generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly terminated with a 50 ohms measurement system.

Spectrum Analyser Set-up - RB: 10kHz, VB: 10kHz, Span: 1MHz.

Data Required: Curves or equivalent data showing the magnitude of each harmonic and other spurious emission that can be detected when the equipment is operated under the conditions specified in paragraph 2.1049 as appropriate.

Not Required: The amplitude of spurious emissions, which are attenuated more than 20 dB below the permissible value, was not reported.

Frequency Spectrum to be investigated: In all of the spurious emissions measurements of spurious emissions at antenna terminals (2.991) the Spectrum shall be investigated from the lowest radio frequency signal generated in the equipment, without going below 9 kHz, up to at least to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower if the equipment operates below 10 GHz.

If operates below 40 GHz: Since the DUI operated below 10 GHz, the spectrum was searched from nine kHz to the 10^{th} harmonic of the operating frequency.

Harmonics and sub-harmonics: Particular attention was paid to harmonics and sub-harmonics of the carrier frequency as well as to those frequencies removed from the carrier by multiples of the oscillator frequency.

Measurements contain: Measurements shown contain spectrum analyzer reading, correction factor, and final reading. The final spurious emission levels are derived from the analyzer measurement and the correction factor (3-dB attenuator and cable loss) as shown in the following example:

Calculation of data: A sample calculation is provided showing the final data obtained from the measured value.

Sample Calculation:

A. Spectrum analyzer reading (Direct measurement)

At 1.6120 MHz a spurious level of –51.61 dBm is measured.

B. Correction factor: 20 dB



C. Spurious Emission Level (Spurious Emissions at Antenna Terminal)

C = A+B = -51.61 dBm + 20 dB = -31.61 dBmC = -31.61 dBm

D. The criteria level is derived from this equation: P_{TX} is the conducted power of the unmodulated carrier: 1.828 Watts (32.62 dBm)

$$\begin{split} D &= P_{TX} - [43 + (10 \cdot \log P_{TX(W)})] \\ D &= 32.62 \text{ dBm} - [43 + (10 \cdot \log 1.932 \text{ W})] \\ D &= \text{Criteria} \text{ (reference) level} = -13.0 \text{ dBm} \end{split}$$

E = Margin (spurious emission below the reference level)

E = D - C E = (-13.0 dBm) - (-31.61 dBm)E = 18.61 dB

Results: PASSED. See Tables 2, 3 and 4 and the plots (shown only for configuration 1).







DATA

Table 2

WaveNet Boomer-II Wireless OEM Modem Module Spurious Emissions from Transmitter at Antenna Terminal Mask G, Modulation: RD-LAP 19.2 kbps, Channel: LOW

Harmonic No.	Frequency (MHz)	Measured Level (dBm) A	Correction Factor B	Spurious Emission Level (dBm) C	Criteria Level (dBm) D	Margin (dB) E
1	0.8060	12.61	20.00	32.61	-	-
2	1.6120	-51.61	20.00	-31.61	-13.00	18.61
3	2.4180	-54.38	20.00	-34.38	-13.00	21.38
4	3.2240	-76.14	20.00	-56.14	-13.00	43.14
5	4.0300	-77.03 noise floor	20.00	-57.03	-13.00	44.03
6	4.8360	-75.74	20.00	-55.74	-13.00	42.74
7	5.6420	-77.22 noise floor	20.00	-57.22	-13.00	44.22
8	6.4480	-77.64 noise floor	20.00	-57.64	-13.00	44.64
9	7.2540	-76.04	20.00	-56.04	-13.00	43.04
10	8.0600	-76.60	20.00	-56.60	-13.00	43.60
11	8.8660	-77.09	20.00	-57.09	-13.00	44.09
12	9.6720	-74.74	20.00	-54.74	-13.00	41.74
13	10.4780	-78.07 noise floor	20.00	-58.07	-13.00	45.07
14	11.2840	-76.21 noise floor	20.00	-56.21	-13.00	43.21



Table 3WaveNet Boomer-II Wireless OEM Modem ModuleSpurious Emissions from Transmitter at Antenna TerminalMask G, Modulation: RD-LAP 19.2 kbps, Channel: MEDIUM

Harmonic	Frequency	Measured	Correction	Spurious Emission	Criteria Level	Margin
No.		Level	Factor	Level	(dBm)	(dB)
	(MHZ)	(dBm)	р	(dBm)	D	Б
		А	В	C	D	E
1	0.8150	12.56	20.00	32.56	-	-
2	1.6300	-52.36	20.00	-32.36	-13.00	19.36
3	2.4450	-54.90	20.00	-34.90	-13.00	21.90
4	3.2600	-74.62	20.00	-54.62	-13.00	41.62
5	4.0750	-76.83	20.00	-56.83	-13.00	43.83
		noise floor				
6	4.8900	-75.20	20.00	-55.20	-13.00	42.20
7	5.7050	-77.20	20.00	-57.20	-13.00	44.20
		noise floor				
8	6.5200	-77.91	20.00	-57.91	-13.00	44.91
	7 00 50			50.00	40.00	40.00
9	7.3350	-73.93	20.00	-53.93	-13.00	40.93
10	8.1500	-71.15 noise floor	20.00	-51.15	-13.00	38.15
11	8.9650	-77.01	20.00	-57.01	-13.00	44.01
		noise floor				
12	9.7800	-76.42	20.00	-56.42	-13.00	43.42
13	10.5950	-77.78	20.00	-57.78	-13.00	44.78
		noise floor				
14	11.4100	-75.38 noise floor	20.00	-55.38	-13.00	42.38



Table 4WaveNet Boomer-II Wireless OEM Modem ModuleSpurious Emissions from Transmitter at Antenna TerminalMask G, Modulation: RD-LAP 19.2 kbps, Channel: HIGH

Harmonic	Frequency	Measured	Correction	Spurious Emission	Criteria Level	Margin
No.		Level	Factor	Level	(dBm)	(dB)
	(MHz)	(dBm)		(dBm)		
		Α	В	С	D	Ε
1	0.8210	12.47	20.00	32.47	-	-
2	1.6420	-53.29	20.00	-33.29	-13.00	20.29
3	2.4630	-55.45	20.00	-35.45	-13.00	22.45
4	3.2840	-73.30	20.00	-53.30	-13.00	40.30
5	4.1050	-77.16	20.00	-57.16	-13.00	44.16
		noise floor				
6	4.9260	-75.38	20.00	-55.38	-13.00	42.38
7	5.7470	-77.46	20.00	-57.46	-13.00	44.46
		noise floor				
8	6.5680	-78.33	20.00	-58.33	-13.00	45.33
		noise floor				
9	7.3890	-71.42	20.00	-51.42	-13.00	38.42
10	8.2100	-72.18	20.00	-52.18	-13.00	39.18
11	9.0310	-77.50	20.00	-57.50	-13.00	44.50
		noise floor				
12	9.8520	-77.65	20.00	-57.65	-13.00	44.65
		noise floor				
13	10.6730	-77.87	20.00	-57.87	-13.00	44.87
		noise floor				
14	11.4940	-75.06	20.00	-55.06	-13.00	42.06
		noise floor				



Table 5WaveNet Boomer-II Wireless OEM Modem ModuleSpurious Emissions from Transmitter at Antenna TerminalMask G, Modulation: RD-LAP 9.6 kbps, Channel: LOW

Harmonic	Frequency	Measured	Correction	Spurious Emission	Criteria Level	Margin
No.		Level	Factor	Level	(dBm)	(dB)
	(MHz)	(dBm)		(dBm)		
		Α	В	С	D	Ε
1	0.9060	10.70	20.00	20.72		
1	0.8060	12.73	20.00	32.73	-	-
2	1.6120	-51.26	20.00	-31.26	-13.00	18.26
3	2.4180	-54.03	20.00	-34.03	-13.00	21.03
4	3.2240	-75.71	20.00	-55.71	-13.00	42.71
5	4.0300	-77.18	20.00	-57.18	-13.00	44.18
		noise floor				
6	4.8360	-75.30	20.00	-55.30	-13.00	42.30
7	5.6420	-77.10	20.00	-57.10	-13.00	44.10
		noise floor				
8	6.4480	-77.60	20.00	-57.60	-13.00	44.60
		noise floor				
9	7.2540	-75.49	20.00	-55.49	-13.00	42.49
10	8.0600	-76.47	20.00	-56.47	-13.00	43.47
11	8.8660	-76.89	20.00	-56.89	-13.00	43.89
		noise floor				
12	9.6720	-74.54	20.00	-54.54	-13.00	41.54
13	10.4780	-78.00	20.00	-58.00	-13.00	45.00
		noise floor				
14	11.2840	-76.25	20.00	-56.25	-13.00	43.25
		noise floor				



Table 6WaveNet Boomer-II Wireless OEM Modem ModuleSpurious Emissions from Transmitter at Antenna TerminalMask G, Modulation: RD-LAP 9.6 kbps, Channel: MEDIUM

TT	F	Maria	0	S		Manala
Harmonic	Frequency	Measured	Correction	Spurious Emission	Criteria Level	Margin
No.	\	Level	Factor	Level	(dBm)	(dB)
	(MHz)	(dBm)		(dBm)		
		Α	В	С	D	E
1	0.8150	12.66	20.00	32.66	-	-
2	1.6300	-52.10	20.00	-32.10	-13.00	19.10
3	2.4450	-54.45	20.00	-34.45	-13.00	21.45
4	3.2600	-74.28	20.00	-54.28	-13.00	41.28
5	4.0750	-76.61	20.00	-56.61	-13.00	43.61
		noise floor				
6	4.8900	-74.83	20.00	-54.83	-13.00	41.83
7	5.7050	-77.15	20.00	-57.15	-13.00	44.15
		noise floor				
8	6.5200	-77.78	20.00	-57.78	-13.00	44.78
		noise floor				
9	7.3350	-73.29	20.00	-53.29	-13.00	40.29
10	8.1500	-70.98	20.00	-50.98	-13.00	37.98
		noise floor				
11	8.9650	-77.09	20.00	-57.09	-13.00	44.09
		noise floor				
12	9.7800	-76.77	20.00	-56.77	-13.00	43.77
13	10.5950	-77.68	20.00	-57.68	-13.00	44.68
		noise floor				
14	11.4100	-75.29	20.00	-55.29	-13.00	42.29
		noise floor				



Table 7WaveNet Boomer-II Wireless OEM Modem ModuleSpurious Emissions from Transmitter at Antenna TerminalMask G, Modulation: RD-LAP 9.6 kbps, Channel: HIGH

Hammania	E	Magazzad	Compation	Sauriana Emissian	Criteria Land	Manain
Harmonic	Frequency	Measured	Correction	Spurious Emission		Margin
N0.	~ \	Level	Factor	Level	(dBm)	(d B)
	(MHz)	(dBm)		(dBm)		
		Α	В	С	D	Ε
1	0.8210	12.67	20.00	32.67	-	-
2	1.6420	-53.11	20.00	-33.11	-13.00	20.11
3	2.4630	-54.80	20.00	-34.80	-13.00	21.80
4	3.2840	-72.58	20.00	-52.58	-13.00	39.58
5	4.1050	-76.97	20.00	-56.97	-13.00	43.97
		noise floor				
6	4.9260	-75.40	20.00	-55.40	-13.00	42.40
7	5.7470	-77.85	20.00	-57.85	-13.00	44.85
		noise floor				
8	6.5680	-78.15	20.00	-58.15	-13.00	45.15
		noise floor				
9	7.3890	-72.48	20.00	-52.48	-13.00	39.48
10	8.2100	-72.08	20.00	-52.08	-13.00	39.08
		noise floor				
11	9.0310	-77.55	20.00	-57.55	-13.00	44.55
		noise floor				
12	9.8520	-77.58	20.00	-57.58	-13.00	44.58
13	10.6730	-77.98	20.00	-57.98	-13.00	44.98
		noise floor				
14	11.4940	-75.27	20.00	-55.27	-13.00	42.27
		noise floor				



Table 8WaveNet Boomer-II Wireless OEM Modem ModuleSpurious Emissions from Transmitter at Antenna TerminalMask G, Modulation: MDC 4.8 kbps, Channel: LOW

Harmonic No.	Frequency	Measured Level	Correction Factor	Spurious Emission Level	Criteria Level (dBm)	Margin (dB)
	(MHz)	(dBm)	R	(dBm)	D	F
		11	D	e	D	Ľ
1	0.8060	12.59	20.00	32.59	-	-
2	1.6120	-52.01	20.00	-32.01	-13.00	19.01
3	2.4180	-56.67	20.00	-36.67	-13.00	23.67
4	3.2240	-75.88	20.00	-55.88	-13.00	42.88
5	4.0300	-77.04 noise floor	20.00	-57.04	-13.00	44.04
6	4.8360	-74.93	20.00	-54.93	-13.00	41.93
7	5.6420	-77.05 noise floor	20.00	-57.05	-13.00	44.05
8	6.4480	-77.56 noise floor	20.00	-57.56	-13.00	44.56
9	7.2540	-75.63	20.00	-55.63	-13.00	42.63
10	8.0600	-76.43	20.00	-56.43	-13.00	43.43
11	8.8660	-76.79 noise floor	20.00	-56.79	-13.00	43.79
12	9.6720	-74.88	20.00	-54.88	-13.00	41.88
13	10.4780	-78.12 noise floor	20.00	-58.12	-13.00	45.12
14	11.2840	-76.21 noise floor	20.00	-56.21	-13.00	43.21



Table 9WaveNet Boomer-II Wireless OEM Modem ModuleSpurious Emissions from Transmitter at Antenna TerminalMask G, Modulation: MDC 4.8 kbps, Channel: MEDIUM

Harmonic	Frequency	Measured	Correction	Spurious Emission	Criteria Level	Margin
No.		Level	Factor	Level	(dBm)	(dB)
	(MHz)	(dBm)		(dBm)		
		Α	В	С	D	Ε
1	0.9150	12.57	20.00	22.57		
1	0.0100	12.37	20.00	32.37	-	-
2	1.6300	-52.86	20.00	-32.86	-13.00	19.86
3	2.4450	-56.77	20.00	-36.77	-13.00	23.77
4	3.2600	-74.66	20.00	-54.66	-13.00	41.66
5	4.0750	-76.64	20.00	-56.64	-13.00	43.64
		noise floor				
6	4.8900	-74.88	20.00	-54.88	-13.00	41.88
7	5.7050	-76.88	20.00	-56.88	-13.00	43.88
		noise floor				
8	6.5200	-77.33	20.00	-57.33	-13.00	44.33
		noise floor				
9	7.3350	-72.64	20.00	-52.64	-13.00	39.64
10	8.1500	-70.68	20.00	-50.68	-13.00	37.68
		noise floor				
11	8.9650	-76.99	20.00	-56.99	-13.00	43.99
		noise floor				
12	9.7800	-75.80	20.00	-55.80	-13.00	42.80
13	10.5950	-77.67	20.00	-57.67	-13.00	44.67
		noise floor				
14	11.4100	-75.34	20.00	-55.34	-13.00	42.34
		noise floor				



Table 10WaveNet Boomer-II Wireless OEM Modem ModuleSpurious Emissions from Transmitter at Antenna TerminalMask G, Modulation: MDC 4.8 kbps, Channel: HIGH

Harmonic	Frequency	Measured	Correction	Spurious Emission	Criteria Level	Margin (dB)
110.	(MHz)	(dBm)	Factor	(dBm)	(ubiii)	(uD)
	(11112)	A	В	C	D	Е
1	0.8210	12.48	20.00	32.48	-	-
2	1.6420	-54.13	20.00	-34.13	-13.00	21.13
3	2.4630	-57.25	20.00	-37.25	-13.00	24.25
4	3.2840	-73.27	20.00	-53.27	-13.00	40.27
5	4.1050	-76.96	20.00	-56.96	-13.00	43.96
6	4.9260	-74.92	20.00	-54.92	-13.00	41.92
7	5.7470	-77.75	20.00	-57.75	-13.00	44.75
8	6.5680	-78.21	20.00	-58.21	-13.00	45.21
		noise floor				
9	7.3890	-73.55	20.00	-53.55	-13.00	40.55
10	8.2100	-71.22	20.00	-51.22	-13.00	38.22
11	9.0310	-77.60	20.00	-57.60	-13.00	44.60
		noise floor				
12	9.8520	-77.42	20.00	-57.42	-13.00	44.42
13	10.6730	-77.97	20.00	-57.97	-13.00	44.97
		noise floor				
14	11.4940	-75.19	20.00	-55.19	-13.00	42.19
		noise floor				



Table 11WaveNet Boomer-II Wireless OEM Modem ModuleSpurious Emissions from Transmitter at Antenna TerminalMask H, Modulation: RD-LAP 9.6 kbps, Channel: LOW

Harmonic	Frequency	Measured	Correction	Spurious Emission	Criteria Level	Margin
No.		Level	Factor	Level	(dBm)	(dB)
	(MHz)	(dBm)		(dBm)		
		Α	В	С	D	Ε
1	0.8210	12.67	20.00	32.67	-	-
2	1.6420	-53.11	20.00	-33.11	-13.00	20.11
3	2.4630	-54.80	20.00	-34.80	-13.00	21.80
4	3.2840	-72.58	20.00	-52.58	-13.00	39.58
5	4.1050	-76.97	20.00	-56.97	-13.00	43.97
		noise floor				
6	4.9260	-75.40	20.00	-55.40	-13.00	42.40
7	5.7470	-77.85	20.00	-57.85	-13.00	44.85
-		noise floor				
8	6.5680	-78.15	20.00	-58.15	-13.00	45.15
		noise floor				
9	7.3890	-72.48	20.00	-52.48	-13.00	39.48
10	8.2100	-72.08	20.00	-52.08	-13.00	39.08
		noise floor				
11	9.0310	-77.55	20.00	-57.55	-13.00	44.55
		noise floor				
12	9.8520	-77.58	20.00	-57.58	-13.00	44.58
13	10.6730	-77.48	20.00	-57.48	-13.00	44.48
		noise floor				
14	11.4940	-75.27	20.00	-55.27	-13.00	42.27
		noise floor				



Table 12WaveNet Boomer-II Wireless OEM Modem ModuleSpurious Emissions from Transmitter at Antenna TerminalMask H, Modulation: RD-LAP 9.6 kbps, Channel: MEDIUM

Harmonic	Frequency	Measured	Correction	Spurious Emission	Criteria Level	Margin
No.		Level	Factor	Level	(dBm)	(dB)
	(MHz)	(dBm)	_	(dBm)	_	_
		Α	В	С	D	Е
1	0.8225	12.60	20.00	32.60	-	-
2	1.6450	-52.92	20.00	-32.92	-13.00	19.92
3	2.4675	-55.03	20.00	-35.03	-13.00	22.03
4	3.2900	-71.76	20.00	-51.76	-13.00	38.76
5	4.1125	-76.39	20.00	-56.39	-13.00	43.39
		noise floor				
6	4.9350	-75.05	20.00	-55.05	-13.00	42.05
7	5.7575	-77.51 noise floor	20.00	-57.51	-13.00	44.51
8	6.5800	-77.81 noise floor	20.00	-57.81	-13.00	44.81
9	7.4025	-72.25	20.00	-52.25	-13.00	39.25
10	8.2250	-71.75 noise floor	20.00	-51.75	-13.00	38.75
11	9.0475	-77.24 noise floor	20.00	-57.24	-13.00	44.24
12	9.8700	-77.33	20.00	-57.33	-13.00	44.33
13	10.6925	-77.62 noise floor	20.00	-57.62	-13.00	44.62
14	11.5150	-74.68 noise floor	20.00	-54.68	-13.00	41.68



Consulting · Research · Training · Certification Testing Since 1981

Table 13 WaveNet Boomer-II Wireless OEM Modem Module Spurious Emissions from Transmitter at Antenna Terminal Mask H Modulation, DD I AD06 hhrs. Ch

	IVIA	Mask H, Modulation: RD-LAP 9.6 KDps, Channel: HIGH						
Harmonic No.	Frequency (MHz)	Measured Level (dBm) A	Correction Factor B	Spurious Emission Level (dBm) C	Criteria Level (dBm) D	Margin (dB) E		
1	0.8240	12.67	20.00	32.67	-	· -		
2	1.6480	-53.33	20.00	-33.33	-13.00	20.33		
3	2.4720	-56.10	20.00	-36.10	-13.00	23.10		
4	3.2960	-71.66	20.00	-51.66	-13.00	38.66		
5	4.1200	-76.85 noise floor	20.00	-56.85	-13.00	43.85		
6	4.9440	-75.16	20.00	-55.16	-13.00	42.16		
7	5.7680	-77.96 noise floor	20.00	-57.96	-13.00	44.96		
8	6.5920	-78.10 noise floor	20.00	-58.10	-13.00	45.10		
9	7.4160	-71.43	20.00	-51.43	-13.00	38.43		
10	8.2400	-72.35 noise floor	20.00	-52.35	-13.00	39.35		
11	9.0640	-77.17 noise floor	20.00	-57.17	-13.00	44.17		
12	9.8880	-77.77 noise floor	20.00	-57.77	-13.00	44.77		
13	10.7120	-78.01 noise floor	20.00	-58.01	-13.00	45.01		
14	11.5360	-74.97 noise floor	20.00	-54.97	-13.00	41.97		

No other signals were detected.

Test performed by: Knleba Roman Date: August, 2002

C August 2002 Page 21 APREL Project No WVTB-Dual Wave M-3861 This report shall not be reproduced, except in full, without the express written approval of APREL Laboratories Spurious Emissions at antenna



Spurious Emissions at Antenna Terminal - Plots 806-821 MHz Mask G RD-LAP 19.2 kbps





WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 19.2 kbps, Mask G, 1st harmonic (fundamental frequency)















мкя: э. а	600010GHz		Wa	weNet	Boome	r II		
-72	2.67dBm		RΒ	10kHz	AT	20dB#	Band	auto
RLV: 10).00dBm		VB	10kHz	ST	50ms		
10d8/	an an a succession of the succ							Tr-A
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CF: 3.26	600000GHz					9	Span: 5	00kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 19.2 kbps, Mask G, 4th harmonic



MKR: 4.0750050GHz	WaweNet H	Boomer II	
-75.87dBm	RB 10kHz	AT 20dB#	Band auto
RLV: 10.00dBm	VB 10kHz	ST 50ms	
10dB/			Tr-A
			Frank - Franken - Filler
	• • • •		
			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
CF: 4.0750000GHz		5	Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 19.2 kbps, Mask G, 5th harmonic





CF: 4.890000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 19.2 kbps, Mask G, 6th harmonic



MKR: 5.7050100GHz	Wai	weNet E	Boomer I	I	
-76.32dBm	AB	10kHz	AT 20c	18# Band	i auto
RLV: 10.00dBm	VB	10kHz	ST 50m	IS	
10dB/					Tr-A
		* ************************************			
		· · · · · · · · · · · · · · · · · · ·			
		-			
Learn- Johnson		**************************************			
		4 5 			

CF: 5.7050000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 19.2 kbps, Mask G, 7th harmonic



MK R: 6.5199910 GHz				WaweNet Boomer II					
-76.53dBm				RB	10kHz	AT	20dB#	Band	auto
NLV: 10.00dBm				VB	10kHz	ST	50ms		
10dB/									Tr−A
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F: 6.5		↓↓)0GHz				.		ii Span: 5	00kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 19.2 kbps, Mask G, 8th harmonic





WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 19.2 kbps, Mask G, 9th harmonic



MKR: 8.1499960GHz				Wa	weNet				
-68.09dBm AL.V: 10.00dBm			RB	10kHz	AT	20dB#	Band	auto	
			VB	10kHz	ST	50ms			
10dB/					*				Tr-A
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CF: 8.1	50000	OGHz					ç	Span: 5	00kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 19.2 kbps, Mask G, 10th harmonic



MKA: 8.9650220GHz	Way	weNet B	Boomei	- II		
-74.66dBm	AB	10kHz	AT	20dB#	Band	auto
HLV: 10.00dBm	VB	10kHz	ST	50ms		
10dB/		•				Tr-A

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CF: 8.9650000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 19.2 kbps, Mask G, 11th harmonic





CF: 9.7800000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 19.2 kbps, Mask G, 12th harmonic



MKR: 10.5950160GHz	WaweNet B	Boomer II	
-75.80dBm	RB 10kHz	AT 20 d B#	Band auto
RLV: 10.00dBm	VB 10kHz	ST 50ms	
10dB/			Tr-A
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CF: 10.5950000GHz	lende aleman av Aleman vide a som den ^s ale ^a len et den som	<u></u> 2	Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 19.2 kbps, Mask G, 13th harmonic


Plots

Spurious Emissions at Antenna Terminal - Plots Frequency Band: 806-821 MHz Mask G RD-LAP 9.6 kbps





WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask G, 1st harmonic (fundamental frequency)



MKH: 1.6300070GHz	WaweNet E	Boomer II	
-51.39dBm	RB 10kHz	AT 20dB#	Band auto
RLV: 10.00dBm	VB 10kHz	ST 50ms	
10dB/			Tr-A
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mar	mult have		
	-		
CF: 1.630000GHz	under einer andere der einer einer der einer einer einer einer der einer einer einer einer einer einer einer einer	<u></u> 5	pan: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask G, 2nd harmonic



MKR: 2.4449950GHz	Wa	weNet	Boome	r II		
~53.17dBm	RB	10kHz	AT	20dB#	Band	auto
RLV: 10.00dBm	VB	10kHz	ST	50ms		
10dB/						Tr-A
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an a			<u> </u>			

CF: 2.4450000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask G, 3rd harmonic



MKR: 3.2599940GHz	WaweNet		
-72.67dBm	HB 10kH	z AT 20dB#	Band auto
RLV: 10.00dBm	VB 10kH	z ST 50ms	
10dB/			Tr-A
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CF: 3.2600000GHz	L		Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask G, 4th harmonic



MK	MKR: 4.0750020GHz					weNet E				
	-7	5.05d	Bm		RB	10kHz	AT	20dB#	Band	auto
RL	V: 1	0.00d	Bm .		VB	10kHz	ST	50ms		_
1	OdB/									Tr-A
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						•				

CF: 4.0750000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask G, 5th harmonic



MKR: 4.8900240GHz					Wai	weNet				
	-7	2.67d	Bm		RB	10kHz	AT	20dB#	Band	auto
RLV:	: 1	0.00d	Bm		VB	10kHz	ST	50ms		
10	dB/									Tr-A
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CF: 4.890000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask G, 6th harmonic



MKH: 5.7049960GHz	Wawe	WaweNet Boomer II					
-74.21dBm	AB 1	0kHz	AT (	20dB#	Band	auto	
RLV: 10.00dBm	VB 1	0kHz	ST !	50ms			
10d8/						Tr-A	
			7				
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CF: 5.7050000GHz	·····	<u></u>	1	لــــــــــــــــــــــــــــــــــــ	Span: 5	 00kHz	

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask G, 7th harmonic



MKR: 6.5200030GHz WaweNet Boomer II								
-76	.67dBm		<b>BB</b>	10kHz	AT	20dB#	Band	auto
RLV: 10	.OOdBm		VB	10kHz	ST	50ms		
10dB/				:				Tr-A
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CF: 6.52	00000GHz					5	Span: 5	00kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask G, 8th harmonic



MKR: 7.3350400GHz						
-70.11dBm	RB	10kHz	AT	50qB#	Band	auto
RLV: 10.00dBm	VB	10kHz	ST	50ms		
10dB/						Tr-A
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CF: 7, 3350000GH7					50an: 5	00kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask G, 9th harmonic



MKR: 8.1	50031	OGHz		Wav	veNet				
-66	.43dB	m		RB	10kHz	AT	20dB#	Band	auto
RLV: 10	.00dE	lm .		٧B	10kHz	ST	50ms		
10dB/									Tr-A
						-			
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CF: 8.15	00000	)GHz			•			 Span: 5	00kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask G, 10th harmonic



MKR: 8.9649940GH	: Wa	weNet E		
-74.35dBm	RB	10kHz	AT 20dB#	Band auto
RLV: 10.00dBm	VB	10kHz	ST 50ms	
10dB/		, , , ,		Tr-A
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CF: 8.9650000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask G, 11th harmonic



M	MKR: 9,7799680GHz					weNet	Boome	r II		
	-7	0.62di	Bm		RB	10kHz	AT	20d8#	Band	auto
Ħ	LV: 1	0.00d	Bm		VB	10kHz	ST	50ms		
-	10dB/									Tr-A
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CF: 9.7800000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask G, 12th harmonic



MKR: 10.5949650GHz	WaweNet B		
-75.24dBm	<b>AB 10</b> kHz	AT 20dB#	Band auto
HLV: 10.00dBm	VB 10kHz	ST 50ms	
10dB/	•		Tr-A
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CF: 10.5950000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask G, 13th harmonic



Plots Spurious Emissions at Antenna Terminal - Plots Frequency Band: 806-821 MHz Mask G MDC 4.8 kbps





WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: MDC 4.8 kbps, Mask G, 1st harmonic (fundamental frequency)



KR: 1.4	62999	80GHz		Wa	weNet					
-5	1.43di	Bm		RB	10kH	z	AT	20dB#	Band	auto
L.V: 1	0.00d	Bm		VB	10kH	z	ST	50ms		
10dB/										Tr-A
					-					
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CF: 1.6300000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: MDC 4.8 kbps, Mask G, 2nd harmonic



IKA: 2.	44500	40GHz		Wa	weNet	Boome	r II		
-5	i3.51d	Bm		AB	10kHz	AT	20dB#	Band	auto
<u>alv: 1</u>	0.00d	Bm _		VB	10kHz	ST	50ms		
10dB/					•				Tr-A
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CF: 2.4450000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: MDC 4.8 kbps, Mask G, 3rd harmonic



MKR: 3.2600130GHz	Wav	veNet i	Boome	r II		
-72.04dBm	RB	10kHz	AT	20dB#	Band	auto
RLV: 10.00dBm	VB	10kHz	ST	50ms		
10dB/		•				Tr-A
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		•				
	-					
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CF: 3.2600000GHz		- - 		 S	Span: 5	

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: MDC 4.8 kbps, Mask G, 4th harmonic



MKR: 4.0749980GHz	Wa	weNet E				
-74.80dBm	RB	10kHz	AT	20d8#	Band	auto
RLV: 10.00dBm	VB	10kHz	ST	50ms		
10dB/						Tr-A
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h	4	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		$d \sim 100$		
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CF: 4.0750000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: MDC 4.8 kbps, Mask G, 5th harmonic



Μ	IKR: 4.	88994	00GHz		Wa	weNet E	300mei	r II		
	-7	5.31d	Bm		RB	10kHz	AT	20dB#	Band	auto
F	LV: 1	0.00d	Bm		VB	10kHz	ST	50ms		
	10d8/									Tr-A
						•				
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						•				
C	ь Г:4.6	190000	OGHz	4+	 		- f • •• •	<u>-</u>	⊾+ Span:5	i00kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: MDC 4.8 kbps, Mask G, 6th harmonic



MKR: 5.7049880GHz	WaweNet B		
-74.70dBm	RB 10kHz	AT 20dB#	Band auto
RLV: 10.00dBm	VB 10kHz	ST 50ms	
10dB/	•		Tr-A
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		••••••	
	- Minne		
└───└───└─── CF: 5.705000GHz	_	لـــــا المعامة معامة معامة معامة معام معامة المعامة ا	

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: MDC 4.8 kbps, Mask G, 7th harmonic



MKR: 6.5199800GHz	War	weNet E		
-75.17dBm	RB	10kHz	AT 20dB#	Band auto
RLV: 10.00dBm	VB	10kHz	ST 50ms	
10dB/				Tr-A
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CF: 6.5200000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: MDC 4.8 kbps, Mask G, 8th harmonic



M	MKR: 7.3350320GHz				Wav	veNet				
	-7	0.52di	Bm		RB	10kHz	AT	20dB#	Band	auto
R	LV: 1	0.00d	Bm		VB	10kHz	ST	50ms		
	10d8/									Tr-A
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		L				•	<u> </u>			
C	F: 7.5	335000	OGHz					5	Span: 5	00kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: MDC 4.8 kbps, Mask G, 9th harmonic





WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: MDC 4.8 kbps, Mask G, 10th harmonic



MKR: 8.9649870GHz	Wa	weNet E				
-75.08dBm	RB	10kHz	AT i	20dB#	Band	auto
ALV: 10.00dBm	VB	10kHz	ST	50ms		
10dB/		-				Tr-A
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CF: 8.9650000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: MDC 4.8 kbps, Mask G, 11th harmonic





CF: 9.7800000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: MDC 4.8 kbps, Mask G, 12th harmonic



MKR: 10.5	950110GH	z	Waw	eNet E				
-75.	09dBm		RB :	lOkHz	AT	20dB#	Band	auto
RLV: 10.	00dBm		VB :	lOkHz	ST	50ms		
10dB/				:				Tr-A
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CF: 10.5950000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: MDC 4.8 kbps, Mask G, 13th harmonic



Plots Spurious Emissions at Antenna Terminal Frequency band: 821-824 MHz Mask H RD-LAP 9.6 kbps





WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask H, 1st harmonic (fundamental frequency)





WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask H, 2nd harmonic





CF: 2.4675000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask H, 3rd harmonic



MKR: 3.2900080GHz	Wav	weNet	Boome	r II		
-70.23dBm	AB	10kHz	AT	20dB#	Band	auto
RLV: 10.00dBm	VB	10kHz	ST	50ms		
10dB/						Tr-A
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CF: 3.2900000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask H, 4th harmonic



MKR: 4.1125010GHz		Waw	eNet	Boome	r II		
-74.65dBm		88	10kHz	AT	20dB#	Band	auto
RLV: 10.00dBm		VB	10kHz	ST	50ms	-	
10dB/							Tr-A
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CF: 4.1125000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask H, 5th harmonic



MKR: 4.9350150GHz	WaweNet Boomer II				
-71.67dBm	RB 10kH	z at	20dB#	Band	auto
RLV: 10.00dBm	VB 10kH	z ST	50ms		
10dB/					Tr-A
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CF: 4.9350000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask H, 6th harmonic



MKA: 5.7574800GHz				WaweNet Boomer II					
-7	-76.60dBm				10kHz	AT	20dB#	Band	auto
ILV: 10.00dBm			VB	10kHz	ST	ST 50ms			
10dB/									Tr-A
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CF: 5.7575000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask H, 7th harmonic


MKR: 6.5799890GHz			WaweNet Boomer II						
-75.54dBm RLV: 10.00dBm			<b>RB 10</b> kHz		AT 20dB#		Band	auto	
			VB	10kHz	ST	50ms			
10dB/									Tr-A
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WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask H, 8th harmonic



MKR: 7.4025080GHz	WaweNet	Boomer II	
-68.47dBm	AB 10kHz	AT 20dB#	Band auto
RLV: 10.00dBm	VB 10kHz	ST 50ms	
10dB/	-		Tr-A
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CF: 7.4025000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask H, 9th harmonic



MKR: 8.2250200GHz	WaweNet B	WaweNet Boomer II			
-68.00dBm	RB 10kHz	AT 20dB#	Band auto		
RLV: 10.00dBm	VB 10kHz	ST 50ms			
10dB/			Tr-A		
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CF: 8.2250000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask H, 10th harmonic



MKA: 9.0475260GHz			WaweNet Boomer II						
-75.04dBm			RB	10kHz	AT	20dB#	Band	auto	
RLV: 10.00dBm			VB	10kHz	ST	50ms			
10dB/									Tr-A
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CF: 9.0475000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask H, 11th harmonic



MKH: 9.8700450GHz	WaweNet Boomer II					
-72.05dBm	88	10kHz	AT	20dB#	Band	auto
RLV: 10.00dBm	VB	10kHz	ST	50ms		
10dB/		-				Tr-A
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CF: 9.870000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask H, 12th harmonic



MKR: 10.6924950GHz	WaweNet B		
-74.90dBm	AB 10kHz	AT 20dB#	Band auto
RLV: 10.00dBm	VB 10kHz	ST 50ms	
10dB/	•		Tr-A
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CF: 10.6925000GHz

Span: 500kHz

WaveNet Boomer II Spurious Emissions from Transmitter @ Antenna Terminal Modulation: RD-LAP 9.6 kbps, Mask H, 13th harmonic Consulting - Research - Training - Certification Testing Since 1981



## APPENDIX A TESTING EQUIPMENT



## List of Equipment used

Description	Manufacturer	Model #	Asset #	Calibration Due Data
Spectrum Analyzer	Anritsu	MS2667C	301386	Dec 10, 2002
Power Meter	HP	HP438A	301417	Nov. 2002
20 dB Attenuator	Narda	4774-20	301533	CBT

Consulting - Research - Training - Certification Testing Since 1981



## APPENDIX B PHOTOGRAPHS





Wireless OEM Modem Module WaveNet BOOMER-II





Testing Spurious Radiation from Transmitter @ Antenna Port on WaveNet BOOMER-II Wireless Modem





Testing Spurious Emissions from Transmitter @ Antenna Port on WaveNet BOOMER-II Wireless Modem