

Technical Information

Applicant	Manufacturer
Name: _____ Graco Childrens Products	Name: _____ Graco Childrens Products
Address: _____ 150 Oaklands Blvd.	Address: _____ 150 Oaklands Blvd.
City, State, Zip: _____ Exton, PA. 19341	City, State, Zip: _____ Exton, PA. 19341

Test Specification: FCC Rules and Regulations Part 15, Subpart C, Para. 15.247

Test Procedure: ANSI C63.4:1992

Test Sample Description

Test Sample: Baby Monitor

Brandname: Graco

Model Number: A5798

Type: Digital Spread Spectrum Transmitter

Power Requirements: 120 VAC, 60 Hz

Frequency of Operation: 909.524 to 919.764 MHz

Tests Performed

Para. 15.247(a)(2)	Occupied Bandwidth
Para. 15.247(b)(3)	Power Output
Para. 15.247(d)	Antenna Port, Conducted Emissions
Para. 15.247(e)	Antenna Port, Power Density
Para. 15.109 (a)	Class B, Radiated Emissions, 30 MHz to 1 GHz
Para. 15.247(d) and 15.205	Radiated Emissions, Harmonics and Band Edge
Para. 15.207 (b)	Conducted Emissions, Power Leads, 150 kHz to 30 MHz
Para. 15.209 (b)	Class B, Band Edge

Report of Measurements

Applicant: Graco Childrens Products
Device: Baby Monitor
FCC ID: M6YA5798
Power Requirements: 120 VAC, 60 Hz
Applicable Rule Section: Part 15, Subpart C, Section 15.247

Test Results

15.247 (a) (2)

The minimum 6 dB bandwidth measured 883 kHz which complies with the requirement that the Bandwidth be no less than 500 kHz.

15.247 (b) (3)

The device operates in the 902 - 928 MHz band. The maximum peak output power was measured and was found to be 11.179 mWatts, in compliance with the specified limit of 1 watt.

15.247 (d)

In any 100 kHz bandwidth outside the frequency band in which the Spread spectrum intentional radiator was operating, the radio frequency power that was produced by the intentional radiator was at least 20 dB below that in the 100 kHz bandwidth within the band that contained the highest level of the desired power. All emissions, which fell within the restricted bands specified in 15.205(a), were measured and found to be in compliance with the limits specified in 15.209(a).

15.247 (e)

The power spectral density conducted from the intentional radiator to the antenna was not greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density was determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power was used to determine the power spectral density.

15.109 (a)

The field strength of spurious radiated emissions did not exceed the Class B limits specified.

15.207 (a)

The radio frequency voltage that was conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz did not exceed the limits in the following table::

Frequency of Emissions (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.5 - 5.0	56	46
5.0 - 30.0	30	50

15.209 (b)

The spurious radiated emissions from the intentional radiator did not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength	Measurement Distance
	(Microvolts/meter)	(Meters)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Spectrum Analyzer Desensitization Considerations

Due to the nature of the emissions being measured, care was taken to ensure that the resolution bandwidth of the spectrum analyzer was adequate to provide accurate measurements. FCC specified bandwidths of 100 kHz and 1 MHz were utilized below and above 1 GHz, respectively.

General Notes

1. All readings were taken utilizing a peak detector/or average detector function at a test distance of 3 meters.
2. A 10 Hz Video Bandwidth was utilized in order to determine the average value of the emissions.
3. All measurements were made with the device powered by an AC Adapter with an input of 120 VAC, 60 Hz.
4. The frequency range was scanned from 30 MHz to 10 GHz. All emissions not reported were more than 20 dB below the specified limit.

Modifications

The following modifications made to the EUT during the course of testing in order to comply with the requirements of Part 15:

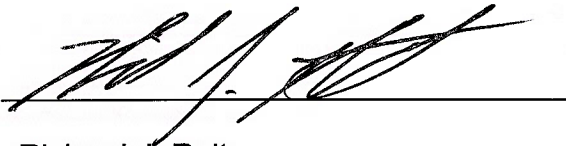
- 1) A Brass Shield was installed over the RF Section of the PC Board.
- 2) A 10 pF and a 100 pF capacitor was installed on the data line entering the RF Section, at the Shield.
- 3) The mounting holes where shield was installed were converted from thermals to flood filled copper.

Certification and Signatures

We certify that this report is a true representation of the results obtained from the tests of the equipment stated. We further certify that the measurements shown in this report were made in accordance with the procedures indicated and vouch for the qualifications of all Retlif Testing Laboratories personnel taking them.



Joseph Maiello
Branch Manager



Richard J. Reitz
Corporate Laboratory Manager

Non-Warranty Provision

The testing services have been performed, findings obtained and reports prepared in accordance with generally accepted laboratory principles and practices. This warranty is in lieu of all others, either expressed or implied.

Non-Endorsement

This test report contains only findings and results arrived at after employing the specific test procedures and standards listed herein. It is not intended to constitute a recommendation, endorsement or certification of the product or material tested. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

Equipment List

Occupied Bandwidth

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESIB26	8/12/2007	8/12/2008
8356	10.0 dB Attenuator	Narda	DC - 11 GHz, 20 W	768-10	8/15/2007	8/15/2008

Power Output

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESIB26	8/12/2007	8/12/2008
8356	10.0 dB Attenuator	Narda	DC - 11 GHz, 20 W	768-10	8/15/2007	8/15/2008

Conducted Emissions Antenna

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESIB26	8/12/2007	8/12/2008
8356	10.0 dB Attenuator	Narda	DC - 11 GHz, 20 W	768-10	8/15/2007	8/15/2008

Power Density

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESIB26	8/12/2007	8/12/2008
8356	10.0 dB Attenuator	Narda	DC - 11 GHz, 20 W	768-10	8/15/2007	8/15/2008

Radiated Emissions (30 MHz - 1 GHz)

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESIB26	8/12/2007	8/12/2008
8046	Preamplifier	Amplifier Research	.01 - 1000 MHz	LN1000A/SCL25-7	5/8/2007	5/8/2008
8076	Spectrum Analyzer	Hewlett Packard	100 Hz - 1.5 GHz	8568B	8/2/2007	8/2/2008
8077	Spectrum Analyzer	Hewlett Packard		85662A	8/2/2007	8/2/2008
8300	Open Area Test Site	EMCO			5/4/2007	5/4/2008
8365	Biconilog	EMCO	26 MHz - 3 GHz	3142C	9/12/2007	9/12/2008

Radiated Emissions (1 GHz - 10 GHz)

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
032H	H.P. Filter	Microlab/FXR	4 GHz	HD-40N	1/28/2008	1/28/2009
032J	H.P. Filter	Microlab/FXR	6 GHz	HD-60N	1/28/2008	1/28/2009
379D	H.P. Filter	Microlab/FXR	2 GHz	2GHz H.P Filter	1/28/2008	1/28/2009
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESIB26	8/12/2007	8/12/2008
8017	Double Ridge Guide	EMCO	1 - 18 GHz	3115	8/6/2007	8/6/2008
8060A	Cable	Retlif	10 kHz - 18 GHz	25' Type N	7/31/2007	7/31/2008
8060C	Cable	Retlif	10 kHz - 18 GHz	3' Type N	7/31/2007	7/31/2008
8061A	Cable	Retlif	10 kHz - 18 GHz	25' Type N	7/31/2007	7/31/2008
8300	Open Area Test Site	RSI	20 - 1300 MHz		5/4/2007	5/4/2008
8317	Preamplifier	Agilent	1-26.5 GHz, 30 dB	8449B	4/6/2007	4/6/2009

Equipment List con't

Band Edge

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESIB26	8/12/2007	8/12/2008
8046	Preamplifier	Amplifier Research	.01 - 1000 MHz	LN1000A/SCL25-7	5/8/2007	5/8/2008
8076	Spectrum Analyzer	Hewlett Packard	100 Hz - 1.5 GHz	8568B	8/2/2007	8/2/2008
8077	Spectrum Analyzer	Hewlett Packard		85662A	8/2/2007	8/2/2008
8300	Open Area Test Site	EMCO			5/4/2007	5/4/2008
8365	Biconilog	EMCO	26 MHz - 3 GHz	3142C	9/12/2007	9/12/2008

Conducted Emissions, Power leads

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESIB26	8/12/2007	8/12/2008
8194	LISN	Solar Electronics	10 kHz - 30 MHz	8028-50-TS-24-B	11/17/2007	11/17/2008
8195	LISN	Solar Electronics	10 kHz - 30 MHz	8028-50-TS-24-B	11/17/2007	11/17/2009
8356	10.0 dB Attenuator	Narda	DC - 11 GHz, 20 W	768-10	8/15/2007	8/15/2008

Test Photograph(s)

FCC Part 15, Subpart C, Section 15.247(a) (2), Occupied Bandwidth

See the following Test Photograph(s) for test instrumentation and the EUT configuration.

**Test Photograph(s)
Occupied Bandwidth**

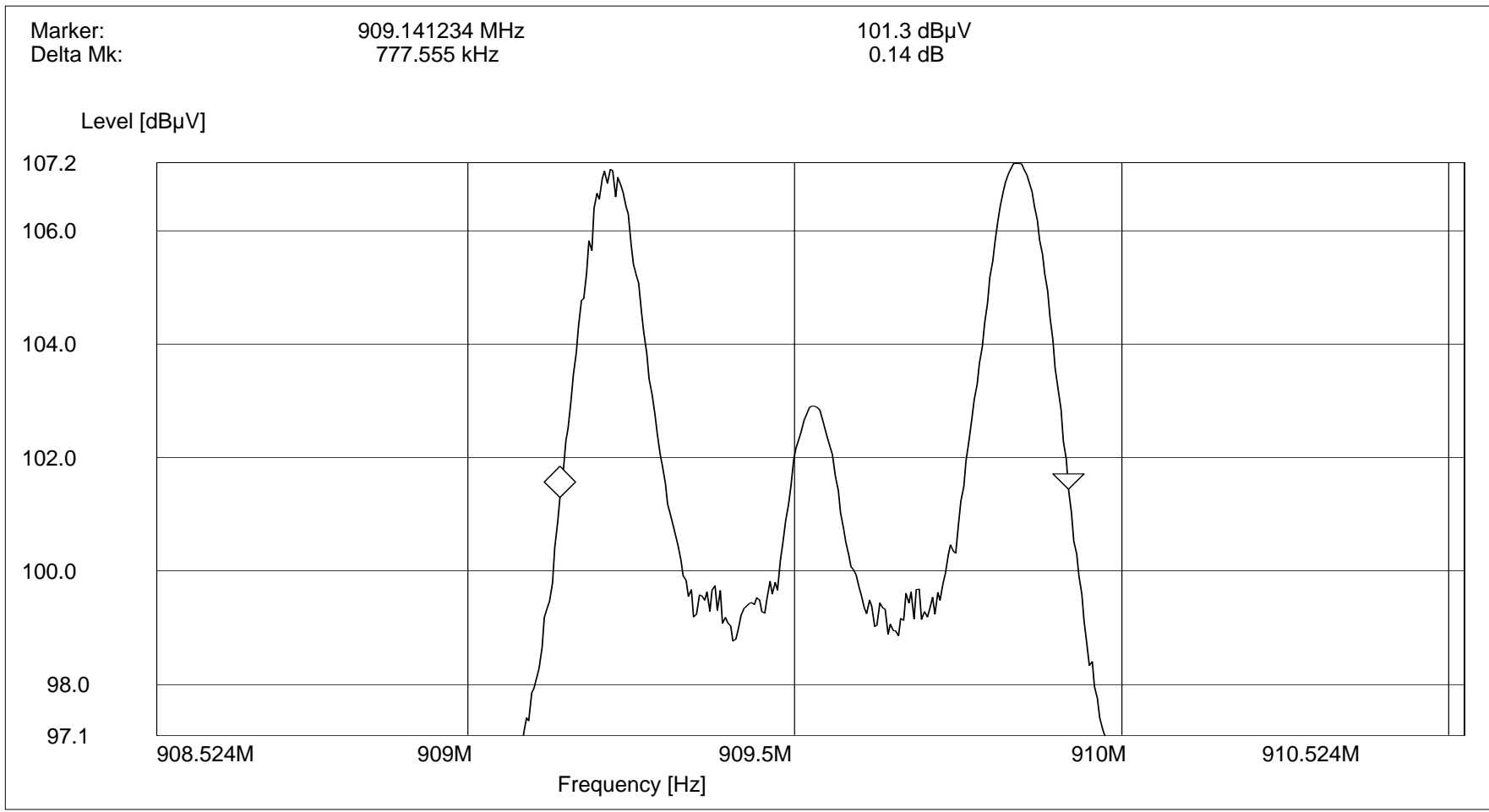


Test Setup

**FCC Part 15, Subpart C, Section 15.247(a) (2), Occupied Bandwidth
Test Data**

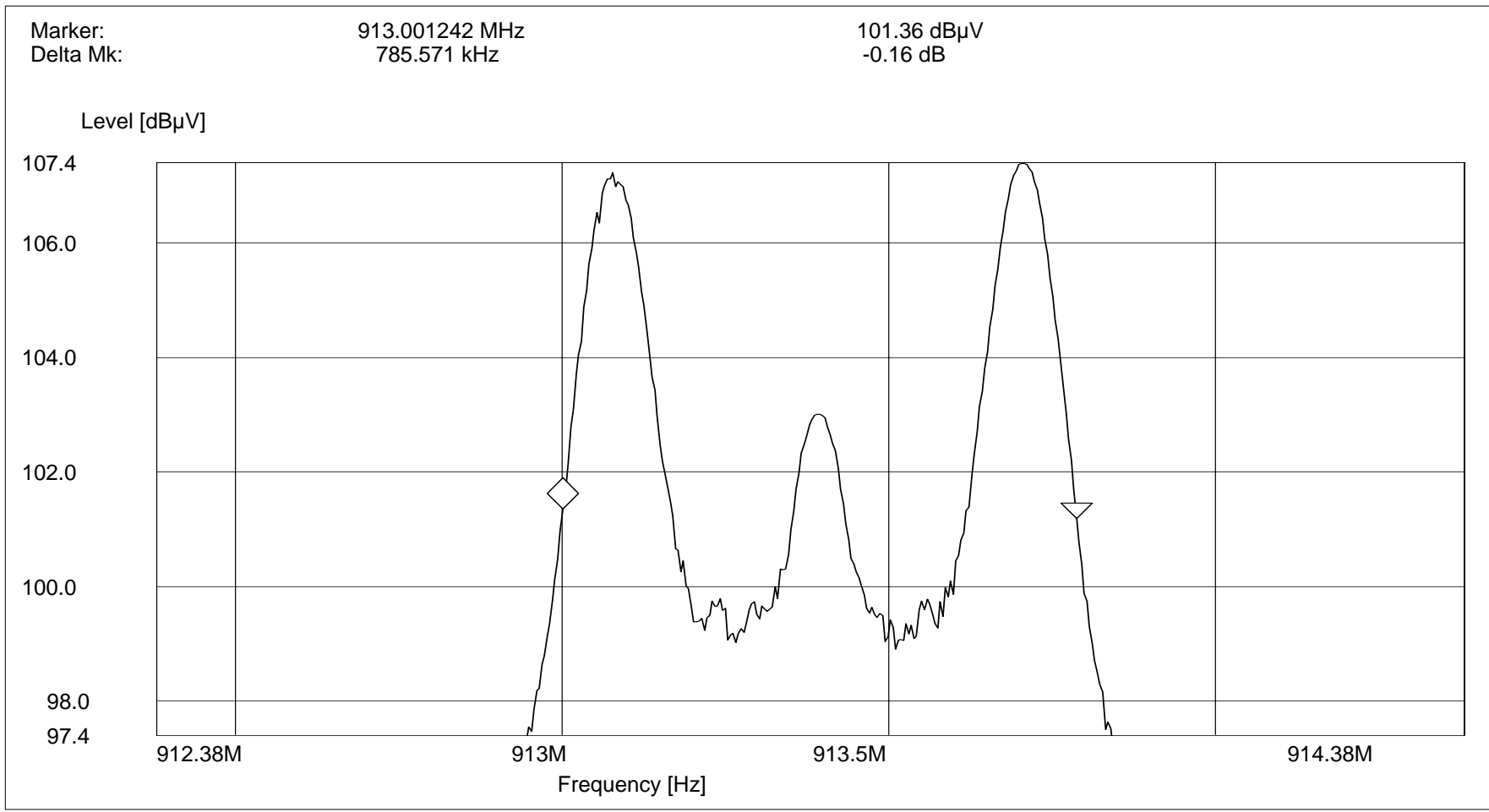
Test Method, Occupied Bandwidth

Customer: Graco Children's Products
Test Sample: 902 to 928 MHz Spread Spectrum Transmitter
Test Specification: FCC Part 15, Subpart C, 15.247 (a)(2)
Operating Mode: Continuous Transmission on Channel 1
Operator/Date: FC 2/21/2008
Note:



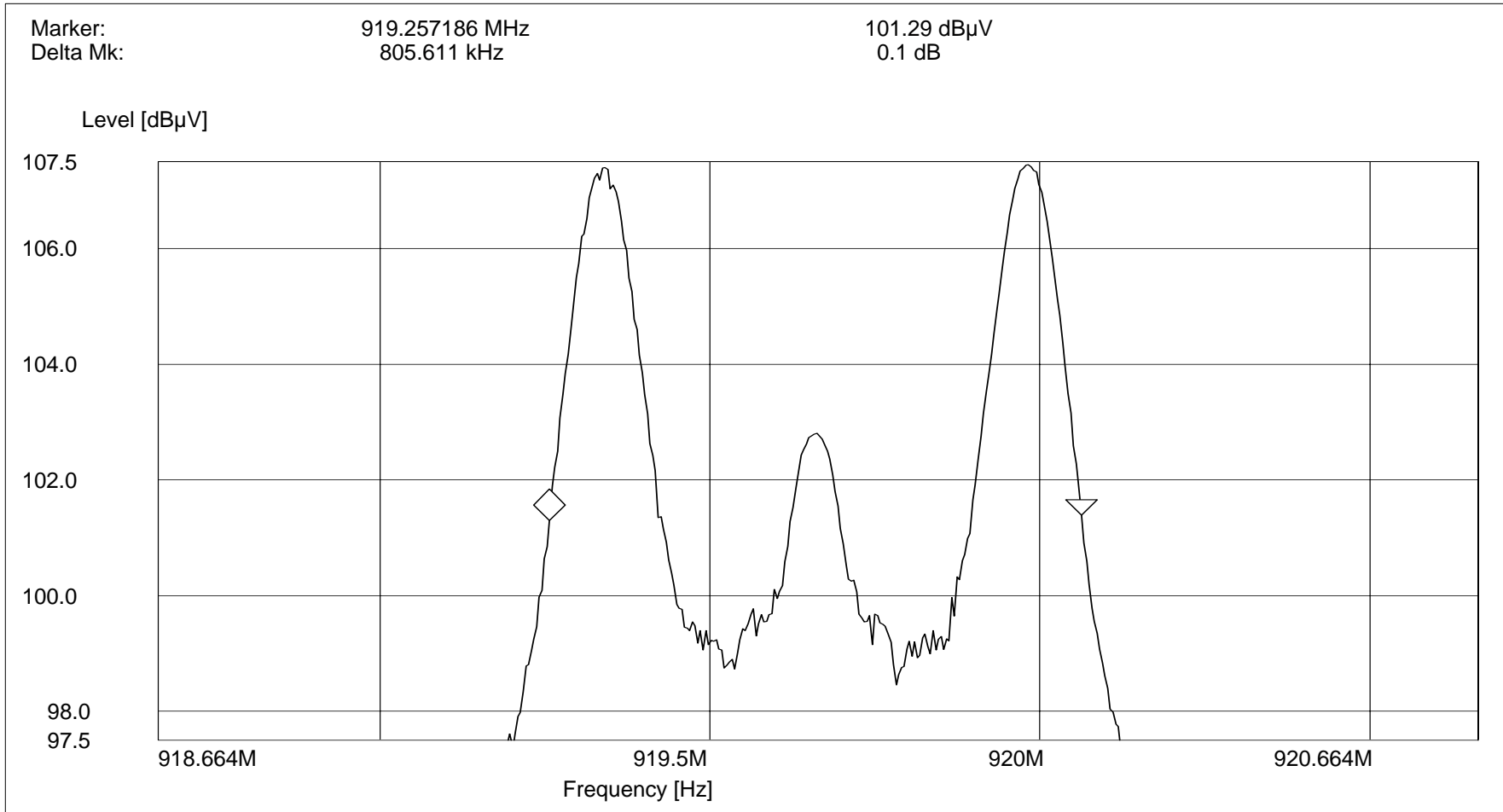
Test Method, Occupied Bandwidth

Customer: Graco Children's Products
Test Sample: 902 to 928 MHz Spread Spectrum Transmitter
Test Specification: FCC Part 15, Subpart C, 15.247 (a)(2)
Operating Mode: Continuous Transmission on Channel 2
Operator/Date: FC 2/21/2008
Note:



Test Method, Occupied Bandwidth

Customer: Graco Children's Products
Test Sample: 902 to 928 MHz Spread Spectrum Transmitter
Test Specification: FCC Part 15, Subpart C, 15.247 (a)(2)
Operating Mode: Continuous Transmission on Channel 3
Operator/Date: FC 2/21/2008
Note:



Test Photograph(s)

FCC Part 15, Subpart C, Section 15.247 (b)(3), Conducted Emissions, Power Output
See the following Test Photograph(s) for test instrumentation and the EUT configuration.

**Test Photograph(s)
Power Output**



Test Setup

**FCC Part 15, Subpart C Conducted Emissions, Power Output
Paragraph 15.247(b) (3) Test Data**

Test Photograph(s)

FCC Part 15, Subpart C, Section 15.247(d), Antenna Port, Conducted Emissions
See the following Test Photograph(s) for test instrumentation and the EUT configuration.

**Test Photograph(s)
Conducted Emissions**

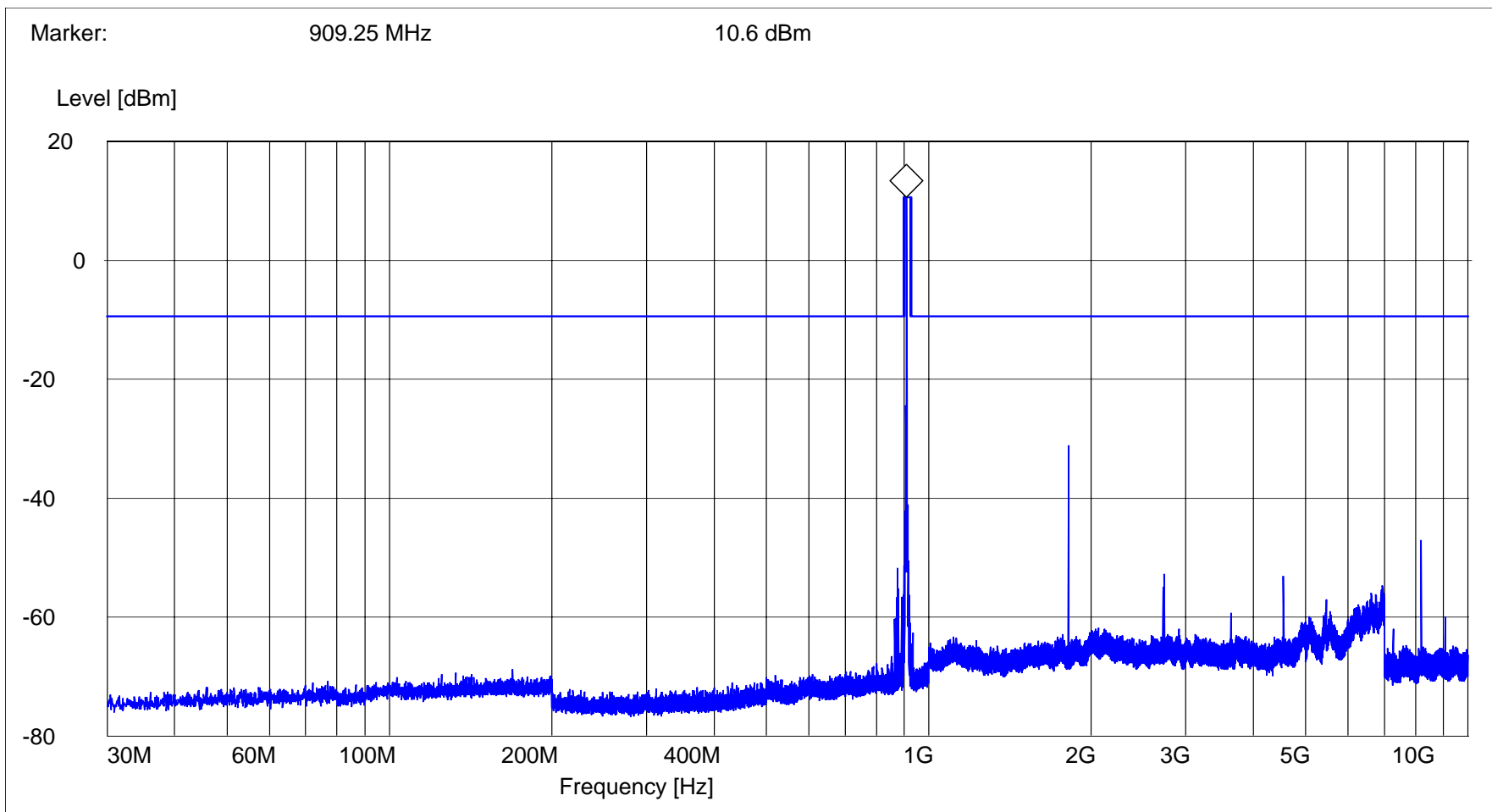


Antenna Port, Test Setup

**FCC Part 15, Subpart C, Section 15.247(d), Antenna Port, Conducted Emissions,
Test Data**

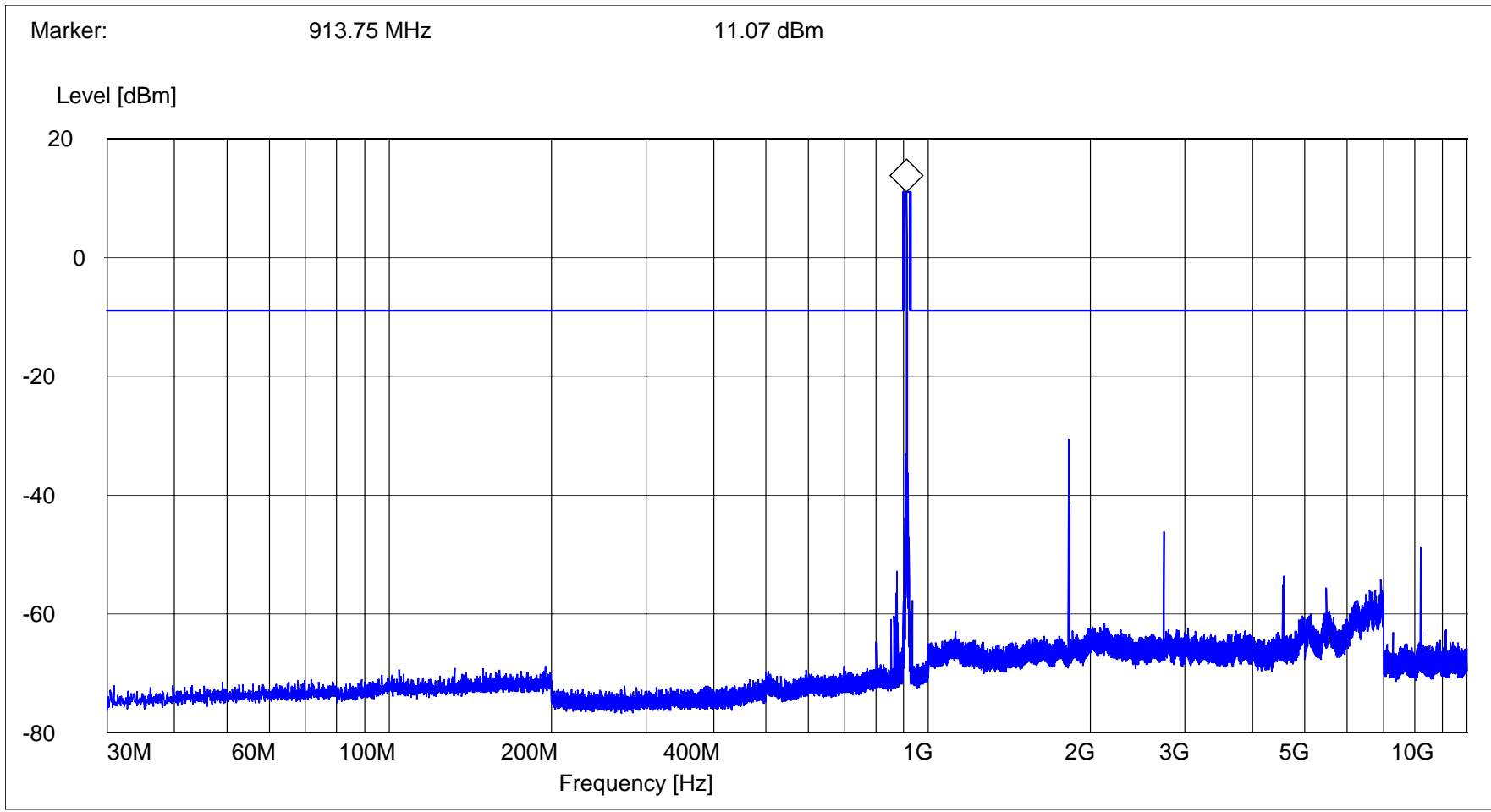
Test Method, Antenna Conducted Emissions

Customer: Graco Children's Products
Test Sample: 902 to 928 MHz Spread Spectrum Transmitter
Test Specification: FCC Part 15, Subpart C, 15.247 (d)
Operating Mode: Continuous Transmission on Channel 1
Operator/Date: FC 2/20/2008
Note:



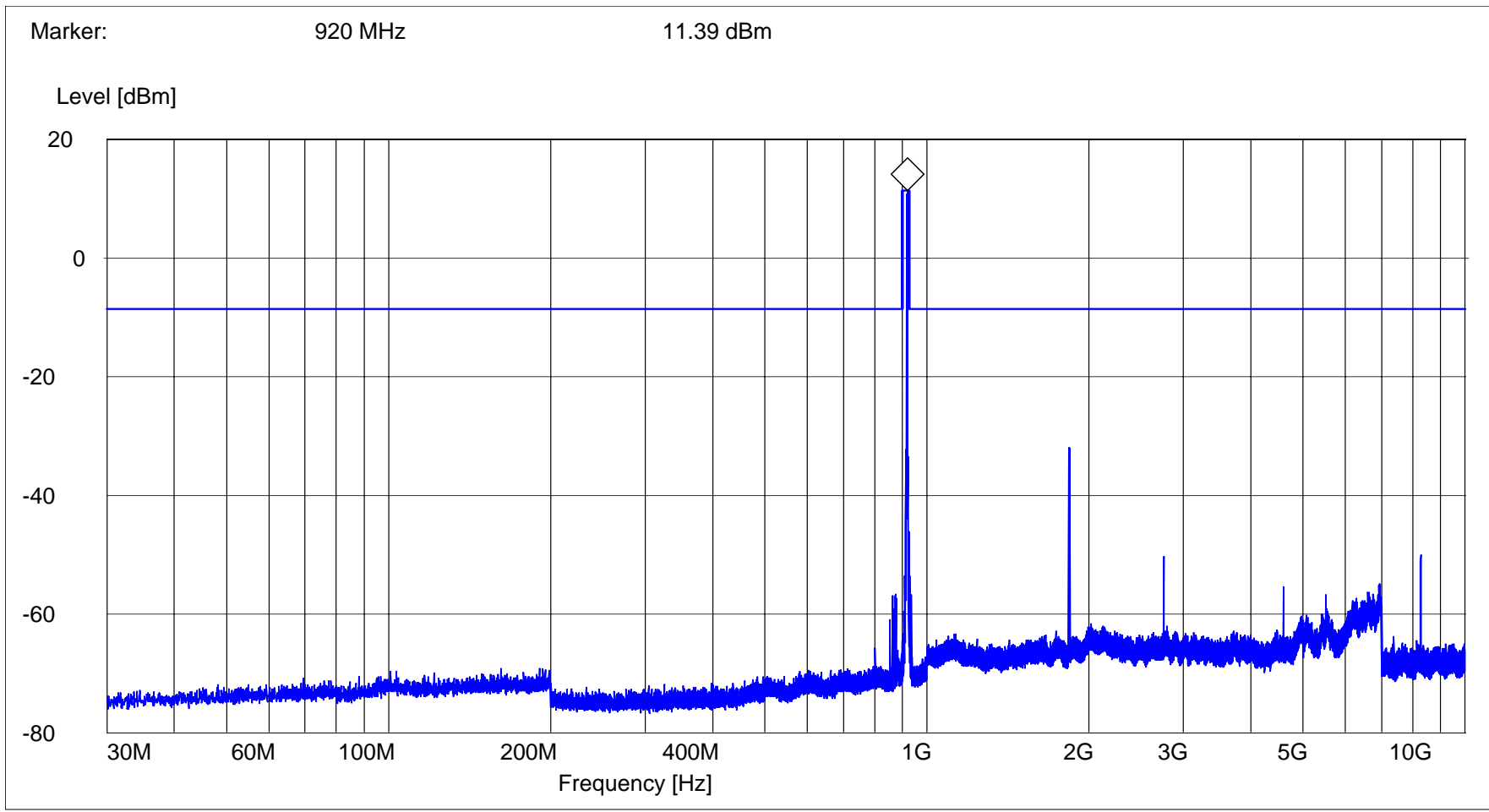
Test Method, Antenna Conducted Emissions

Customer: Graco Children's Products
Test Sample: 902 to 928 MHz Spread Spectrum Transmitter
Test Specification: FCC Part 15, Subpart C, 15.247 (d)
Operating Mode: Continuous Transmission on Channel 2
Operator/Date: FC 2/20/2008
Note:



Test Method, Antenna Conducted Emissions

Customer: Graco Children's Products
Test Sample: 902 to 928 MHz Spread Spectrum Transmitter
Test Specification: FCC Part 15, Subpart C, 15.247 (d)
Operating Mode: Continuous Transmission on Channel 3
Operator/Date: FC 2/20/2008
Note:



Test Photograph(s)

FCC Part 15, Subpart C, Section 15.247(e), Antenna Port, Power Density

See the following Test Photograph(s) for test instrumentation and the EUT configuration.

**Test Photograph(s)
Power Density**

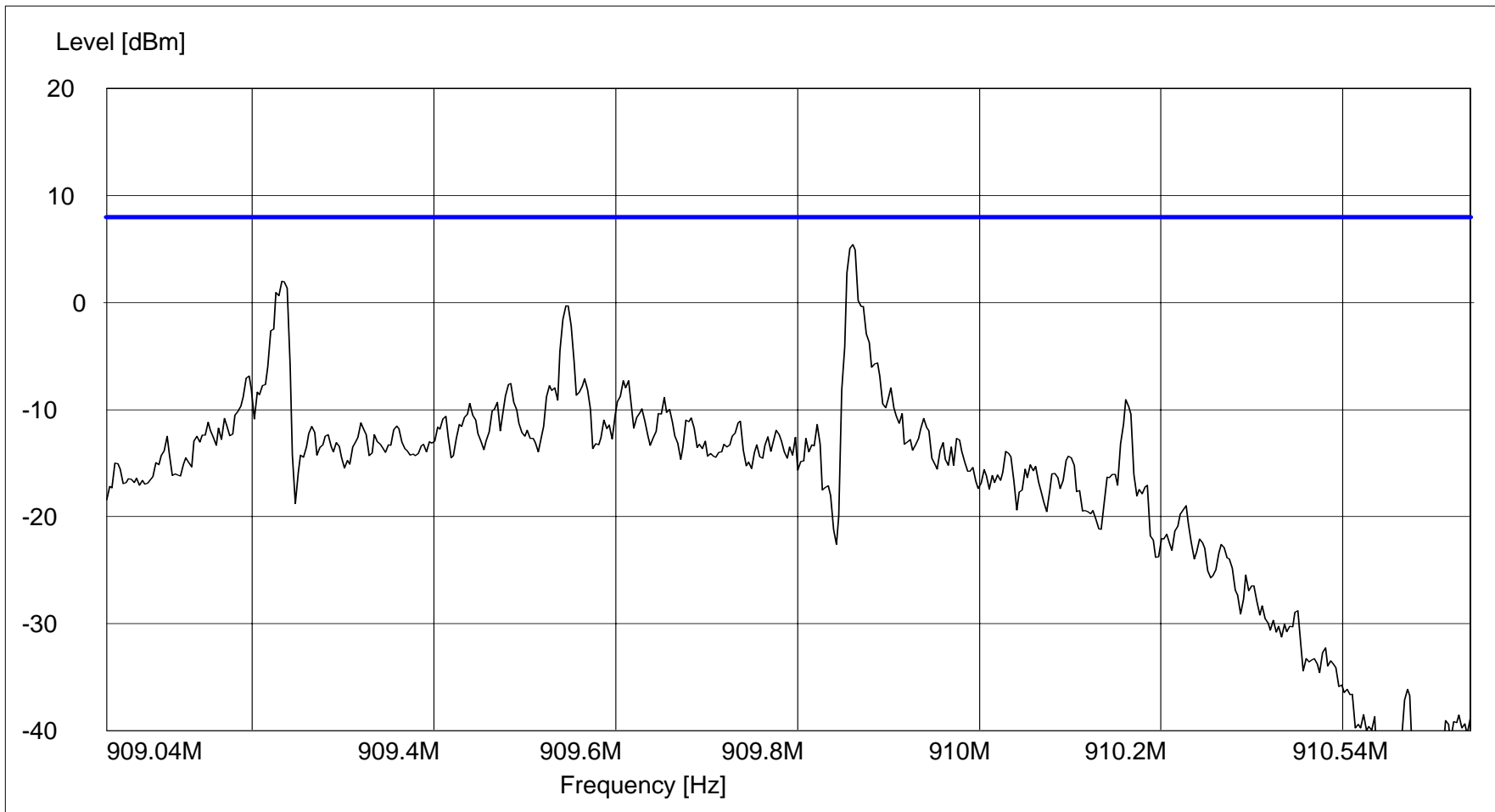


Antenna Port Setup

**FCC Part 15, Subpart C, Section 15.247(e), Antenna Port, Power Density,
Test Data**

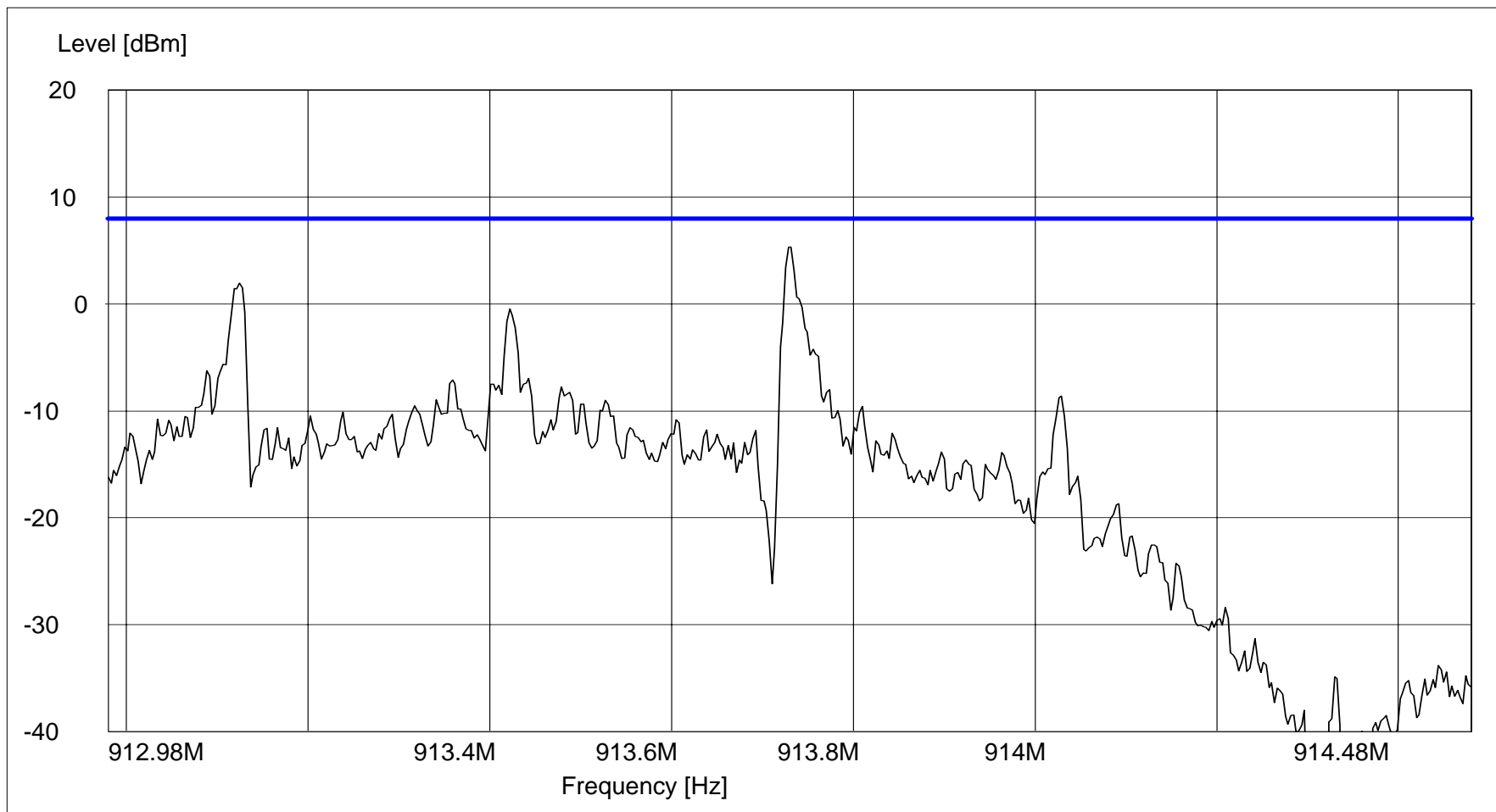
Test Method, Power Density

Customer: Graco Children's Products
Test Sample: 902 to 928 MHz Spread Spectrum Transmitter
Test Specification: FCC Part 15, Subpart C, 15.247 (e)
Operating Mode: Continuous Transmission on Channel 1
Operator/Date: FC 2/20/2008
Note:



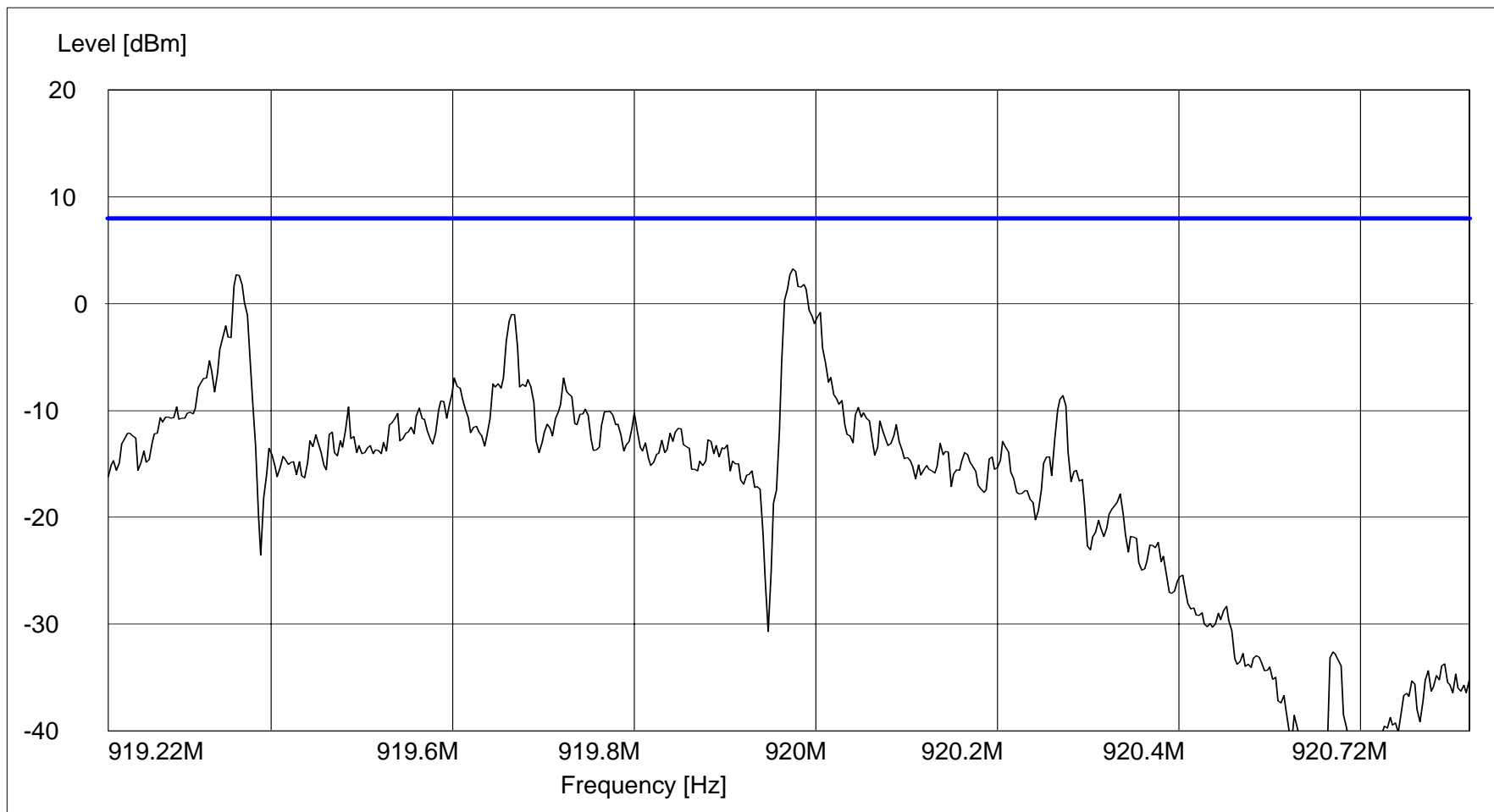
Test Method, Power Density

Customer: Graco Children's Products
Test Sample: 902 to 928 MHz Spread Spectrum Transmitter
Test Specification: FCC Part 15, Subpart C, 15.247 (e)
Operating Mode: Continuous Transmission on Channel 2
Operator/Date: FC 2/20/2008
Note:



Test Method, Power Density

Customer: Graco Children's Products
Test Sample: 902 to 928 MHz Spread Spectrum Transmitter
Test Specification: FCC Part 15, Subpart C, 15.247 (e)
Operating Mode: Continuous Transmission on Channel 3
Operator/Date: FC 2/20/2008
Note:



Test Photograph(s)
FCC Part 15, Subpart B, Section 15.109(a)
Class B, Radiated Emissions 30 MHz to 1 GHz

See the following Test Photograph(s) for test instrumentation and the EUT configuration

**Test Photograph(s)
Radiated Emissions**



30 MHz to 1 GHz Setup Antenna Position Horizontal



30 MHz to 1 GHz Setup, Antenna Position Vertical

**FCC Part 15, Subpart B, Section 15.109(a)
Class B, Radiated Emissions, 30 MHz to 1 GHz,
Test Data**

Test Photograph(s)
FCC Part 15, Subpart C, Section 15.247(d) and 15.205
Radiated Emissions 1 GHz to 10 GHz and Band Edge

See the following Test Photograph(s) for test instrumentation and the EUT configuration

**Test Photograph(s)
Radiated Emissions**



1 GHz to 10 GHz, Antenna Position Horizontal



1 GHz to 10 GHz, Antenna Position Vertical

**FCC Part 15, Subpart C, Radiated Emissions, 1 GHz to 10 GHz,
Paragraph 15.247(d) and 15.205
Test Data**

Test Method:	FCC Part 15, Subpart C, Radiated Emissions, 1 GHz to 10 GHz, Paragraph 15.247(d) and 15.205						
Customer:	Graco Children's Products				Job No.:	R-1173P	
Test Sample:	902 to 928 Spread Spectrum Transmitter						
Model No.:	A5798				Serial No.:	2M13-C2	
Operating Mode:	Continuous Transmission						
Technician:	F. Civitello/R. Reitz				Date:	2-26-2008	
Notes:	Test Distance: 10 Meters EUT Channel 1			Temp: 21°C		Humidity: 24%	
	Detector: Quasi-Peak Below 1 GHz, Peak above 1 GHz						
Frequency	Antenna Position	EUT Orientation	Meter Readings	Correction Factor	Corrected Reading	Converted Reading	Limit
GHz	(V/H) / Meters	Degrees	dBuV	dB	dBuV/m	uV/m	uV/m
1.00							500
2.730	H/1.68	29.9	40.32	1.6	41.92	124.7	
2.730	V/1.38	330.3	36.43	1.6	38.03	79.7	
3.6408	H/1.08	40.4	39.88	5.0	44.88	175.4	
3.6408	V/1.06	327.6	43.0	5.0	48.0	251.2	
4.5512	H/1.42	0.0	43.14	7.0	50.14	321.4	
4.5512	V/1.10	58.2	42.67	7.0	49.67	304.4	
5.4615	H/1.67	320.0	33.38	9.1	42.48	133.0	
5.4615	V/1.05	338.0	33.84	9.1	42.94	140.3	
7.2812	H/1.66	307.1	33.65	13.0	46.65	215.0	
7.2812	V/1.31	292.3	32.98	13.0	45.98	199.1	
8.1918	H/1.32	61.2	35.13	13.8	48.93	279.6	
8.1918	V/1.55	340.3	36.1	13.8	49.9	312.6	
9.1023	H/1.0	16.3	33.66	15.5	49.16	287.1	
9.1023	V/1.0	15.3	34.53	15.5	50.03	317.3	
10.0							500
	The frequency range was scanned from 1 GHz to 10 GHz.						
	The emissions observed from the EUT do not exceed the specified limits.						
	Emissions not recorded were more than 20dB under the specified limit.						
							Sheet 1 of 3

Test Photograph(s)
FCC Part 15, Subpart C, Section 15.209(b)
Band Edge

See the following Test Photograph(s) for test instrumentation and the EUT configuration

**Test Photograph(s)
Band Edge**



Band Edge Setup, Antenna Position Horizontal



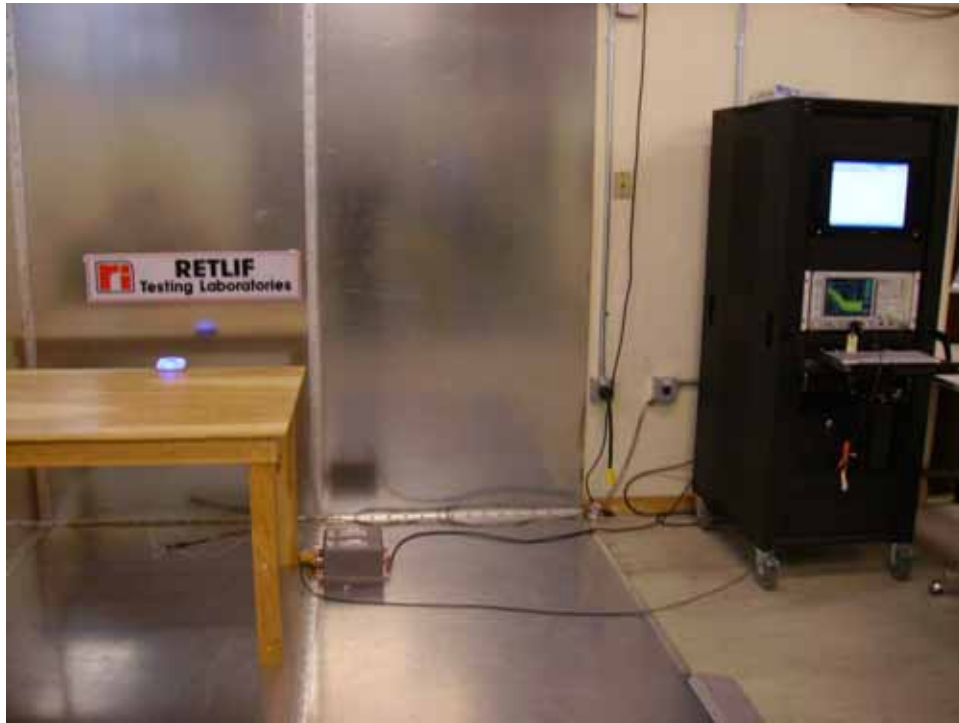
Band Edge Setup, Antenna Position Vertical

FCC Part 15, Subpart C, Section 15.209(b)
Band Edge
Test Data

Test Photograph(s)
FCC Part 15, Subpart B, Section 15.207(b),
Conducted Emissions, Power Leads,

See the following Test Photograph(s) for test instrumentation and the EUT configuration

**Test Photograph(s)
Conducted Emissions**



EUT Setup

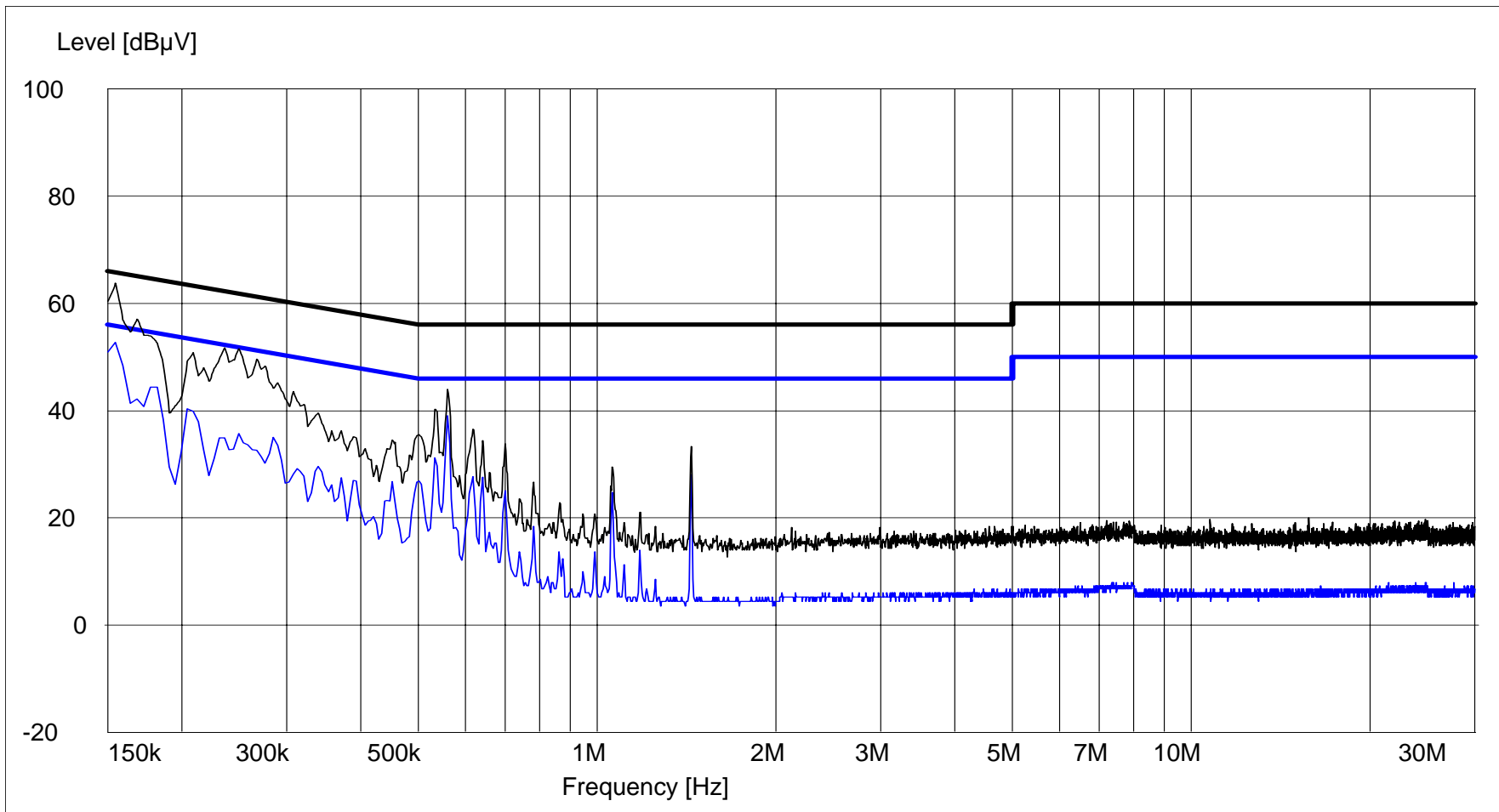


Wire Dressing

**FCC Part 15, Subpart C, Section 15.207(b), Conducted Emissions, Power Leads,
150 kHz to 30 MHz
Test Data**

Test Method, Conducted Emissions, ANSI C63.4

Customer: Graco Children's Products
Test Sample: 902 to 928 MHz Spread Spectrum Transmitter
Test Specification: FCC Part 15, Subpart C, 15.207 (b)
Operating Mode: Continuous Transmission on Channel 1, Night Light on High
Operator/Date: FC 2/20/2008
Lead Tested: 120VAC, 60 Hz, Hot Lead
Note: Peak Passes Quasi-Peak Limit
Average Passes Average Limit



Test Method, Conducted Emissions, ANSI C63.4

Customer: Graco Children's Products
Test Sample: 902 to 928 MHz Spread Spectrum Transmitter
Test Specification: FCC Part 15, Subpart C, 15.207 (b)
Operating Mode: Continuous Transmission on Channel 1, Night Light on High
Operator/Date: FC 2/20/2008
Lead Tested: 120VAC, 60 Hz, Neutral Lead
Note: Peak Passes Quasi-Peak Limit
Average Passes Average Limit

