MEASUREMENT AND TECHNICAL REPORT

DEI
1 Viper Way
Vista, CA 92083

DATE: 07 November 2005

This Report Concerns:	Original Grant: X	Class II Change:
Equipment Type:	Hand held keyfob transmitter, Model 7151X	
Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?	Yes: **Defer until:**	No: X
Company Name **agrees to notify the Commission by:** **of the intended date of announcement of the product so that the grant can be issued on that date.**	N/A	
Transition Rules Request per 15.37?	Yes:	No: X*

(*) FCC Part 15, Paragraph(s) **15.205, 15.231(a), 15.231(b), and 15.231(c)**

Report Prepared by:

TÜV AMERICA, INC
10040 Mesa Rim Road
San Diego, CA 92121-2912
Phone: 858 678 1400
Fax: 858 546 0364

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TÜV AMERICA INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 858 678 1400 FAX 858 546 0364

1.0 GENERAL INFORMATION

1.1 Product Description

General Equipment Description

EUT Description: Hand held keyfob transmitter for car alarm and convenience systems.

EUT Name: Hand held keyfob transmitter

Model No.: 7151X Serial No.: N/A

EUT Specifications and Requirements

Length: 2.28" Width: 1.34" Height: 0.51" Weight: 0.7oz

Power Requirements

Voltage: 6V (2 x CR2016) (If battery powered, make sure battery life is sufficient to complete testing.)

# of Phases: N/A

Other Special Requirements: Not applicable

Typical Installation and/or Operating Environment: Automotive

EUT Power Cable: Not applicable

EUT Interface Ports and Cables: None

EUT Software. : Not applicable

EUT Operating Modes to be Tested: Continuous modulated transmission

EUT System Components

Description	Model #	Serial #	FCC ID #
Keyfob	7151X	N/A	EZSDEI7151

Oscillator Frequencies

Frequency	*Derived Frequency*	*Component # / Location*	*Description of Use*
433.92MHz	433.92MHz		Transmitter RF carrier

Power Supply: Not applicable

Power Line Filters: Not applicable

Critical EMI Components (Capacitors, ferrites, etc.) : Not applicable

System Configuration Block Diagram: No connections or setup, just the self contained key fob

1.2 Related Submittal Grant

None

1.3 Tested System Details

The FCC ID's for all equipment, plus descriptions of all cables used in the tested system are:

None

1.4 Test Methodology

Purpose of Test: To demonstrate compliance with the following tests.

Test Description	Paragraph Number	Pass/Fail
Deactivation	15.231(a)	Pass
Duty Cycle	15.231(b)	Pass
Radiated Spurious Emissions	15.231(b) / 15.205	Pass
Bandwidth	15.231(c)	Pass

Testing was performed according to the procedures in FCC/ANSI C63.4 and CSA 108.8-M1983.

1.5 Test Facility

The open area test site and conducted measurement data were tested by:

TÜV AMERICA, INC
10040 Mesa Rim Road
San Diego, CA 92121-2912
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The Test Site Data and performance comply with ANSI C63.4 and are registered with the FCC, 7435 Oakland Mills Road, Columbia Maryland 21046. All Measurement Data is acquired according to the content of FCC Measurement Procedure and ANSI C63.4, unless supplemented with additional requirements as noted in the test report.

2.0 SYSTEM TEST CONFIGURATION

2.1 Justification

The EUT was initially tested for FCC emissions in the following configuration:

See Test Setup Photos Exhibit

2.2 EUT Exercise Software

None

2.3 Special Accessories

None

2.4 Equipment Modifications

None

2.5 Configuration of Test System

See Test Setup Photos Exhibit

3.0 EQUIPMENT/DATA

Test Conditions: **DEACTIVATION - FCC Part 15.231(a)**
RADIATED SPURIOUS EMISSIONS - FCC Part 15.231(a)
DUTY CYCLE - FCC Part 15.231(a)
BANDWIDTH - FCC Part 15.231(a)

The following measurements were performed at the San Diego Testing Facility:

☐ **- Test not applicable**

■ - SR-3, Shielded Room, 12' x 20' x 8', Metal Chamber
■ - Roof (Small Open Area Test Site)

Test Equipment Used:

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Date Calibrated
E4440A	6814	Spectrum Analyzer	Agilent	MY42510441	02/06
E4440A	7500	Spectrum Analyzer	Agilent	MY3362168	01/06
FF6549-1	783	900 MHz High Pass Filter	Sage	008	Verified*
3115	6669	Horn Antenna	Electro Mechanics Co.	9412-434	08/06
3146	6641	Log Periodic Antenna	EMCO	1063	07/06

Remarks: One year calibration cycle for all test equipment and sites. (*) Verified Before Use.

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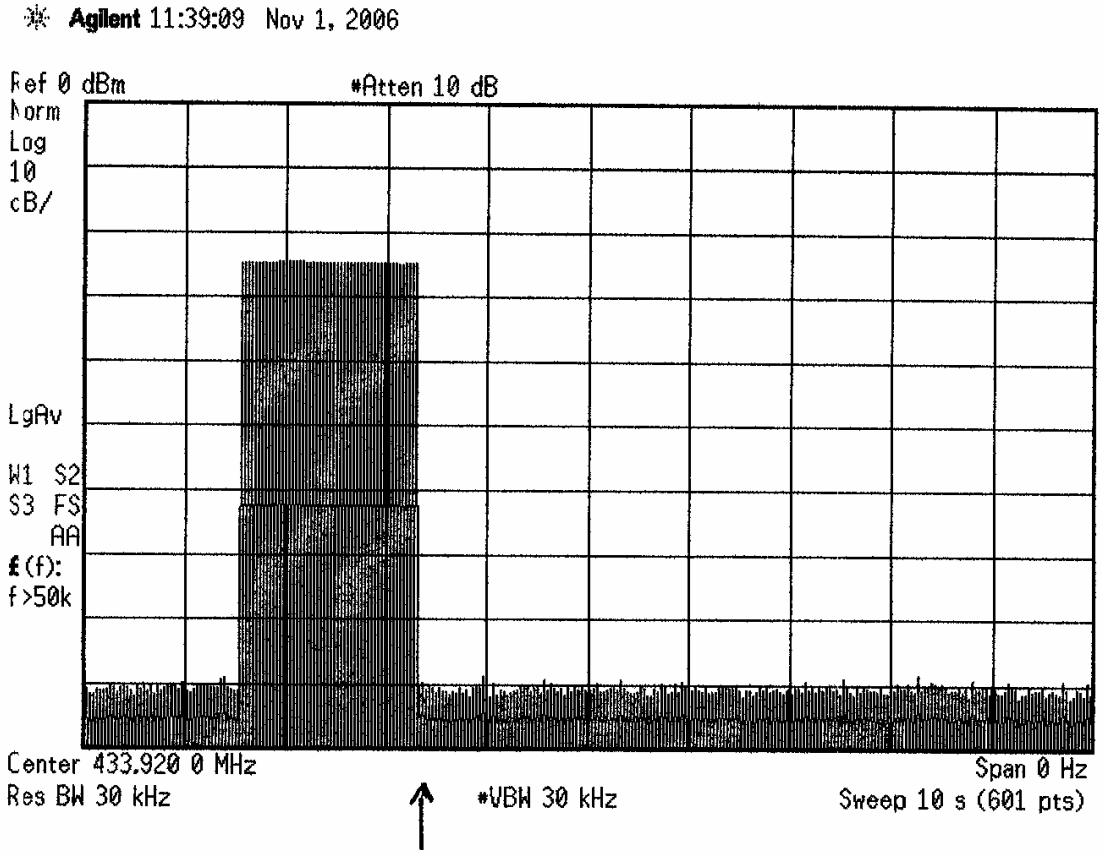
15.231(a)(1), Deactivation



Released activation button
Transmitter turned off less than 5 seconds

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REPORT No: SC605249 TESTER: David Gray SPEC: FCC Part 15 para 15.231(b)

CUSTOMER: DI Headquarters Inc. TEST DIST: 3 Meters

E U T: 7151X TEST SITE: Roof

EUT MODE: transmit BICONICAL: 491

DATE: November 2, 2006 LOG: 243

NOTES: Duty Cycle= 50% OTHER: 453

above 1GHz: RBW & VBW 1 MHz for Pk; AVG = PK - 20LOG(Duty Cycle)

below 1GHz: RBW & VBW 100 kHz for Pk; AVG = PK - 20LOG(Duty Cycle)

CF = Antenna Factor + Cable Loss - Preamplifier Gain + Preselector Loss

v.beta231

FREQ (MHz)	VERT. pk	VERT. (dBuv) DCav	HORIZ pk	HORIZ (dBuv) DCav	CF (dB/m)	MAX LEVEL (dBuV/m) pk	MAX LEVEL (dBuV/m) av	SPEC LIMIT (dBuV/m) pk	SPEC LIMIT (dBuV/m) av	MARGIN (dB) pk	MARGIN (dB) av	EUT Rotation	Antenna Height	Notes
433.920	46.6	42.6	61.3	55.3	16.9	**78.2**	**72.2**	100.8	80.8	-22.6	-8.7	0	1	
867.840	30.4	24.4	32.7	26.7	23.5	**56.2**	**50.2**	80.8	60.8	-24.6	-10.6	90	1	
1301.760	55.1	49.1	56.3	50.3	-12.4	**43.9**	**37.9**	80.8	60.8	-36.9	-23.0	60	1.2	
1735.680	44.2	38.2	47.3	41.3	-9.1	**38.2**	**32.2**	80.8	60.8	-42.6	-28.6	180	1	
2169.600	52.9	46.9	50.8	44.8	-6.9	**46.0**	**40.0**	80.8	60.8	-34.8	-20.8	0	1	noise
2603.520	43.1	37.1	42.1	36.1	-5.2	**37.9**	**31.9**	80.8	60.8	-42.9	-29.0	0	1	noise
3037.440	41.5	35.5	41.3	35.3	-2.9	**38.6**	**32.6**	80.8	60.8	-42.2	-28.2	0	1	noise
3471.360	27.4	21.4	26.8	20.8	-1.7	**25.7**	**19.7**	80.8	60.8	-55.1	-41.1	0	1	noise
3905.280	24.4	18.4	24.2	18.2	-1.1	**23.3**	**17.3**	80.8	60.8	-57.5	-43.6	0	1	noise
4339.200	24.3	18.3	24.2	18.2	-2.0	**22.3**	**16.3**	80.8	60.8	-58.5	-44.6	0	1	noise

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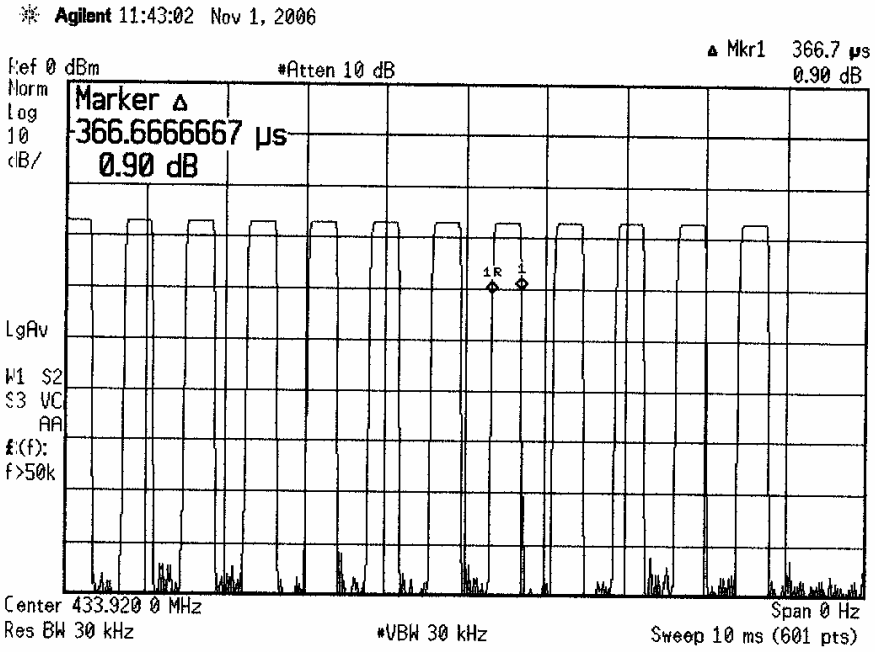
15.231(b)(2), Duty Cycle (pre-amble)



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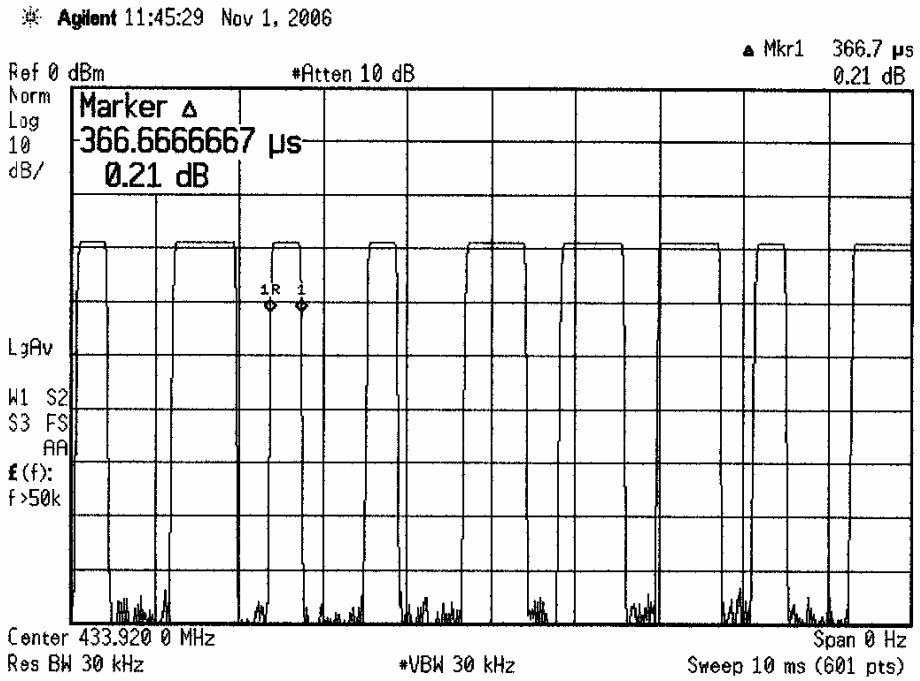
15.231(b)(2), Duty Cycle (part of data wad)



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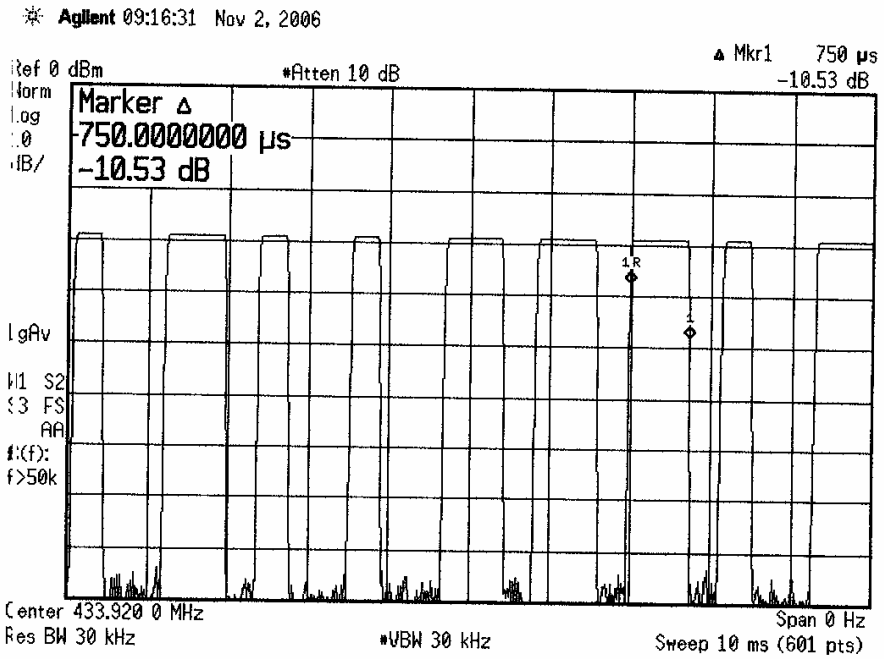
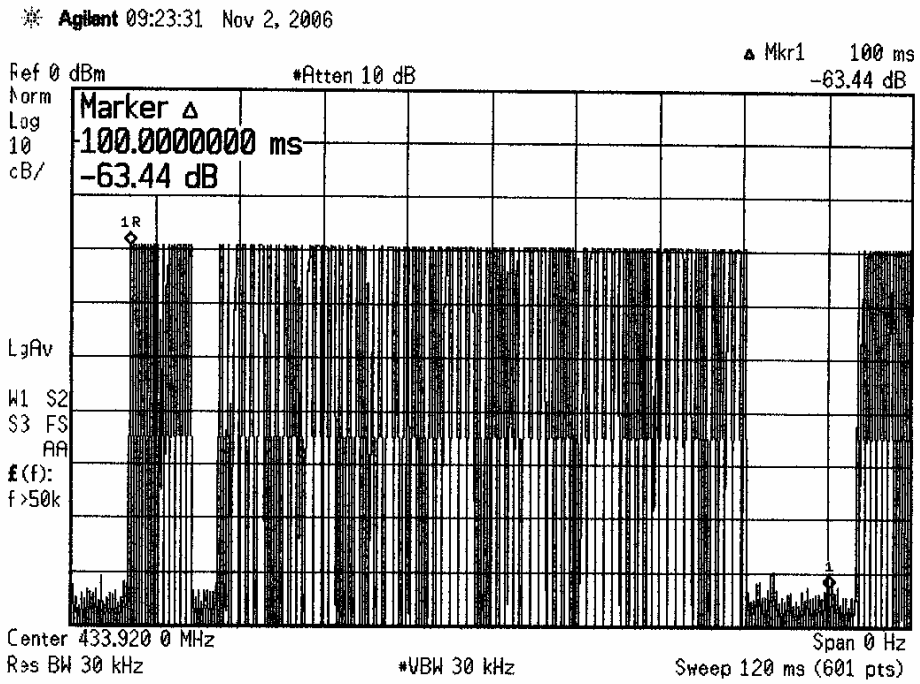
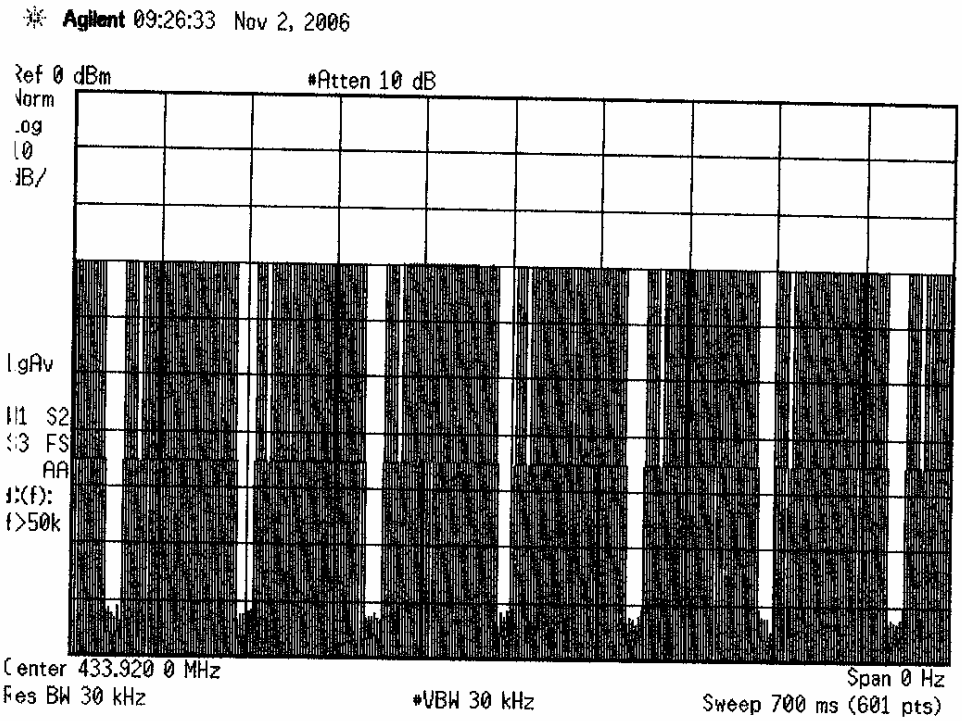


15.231(b)(2), Duty Cycle



15.231(b)(2), Duty Cycle



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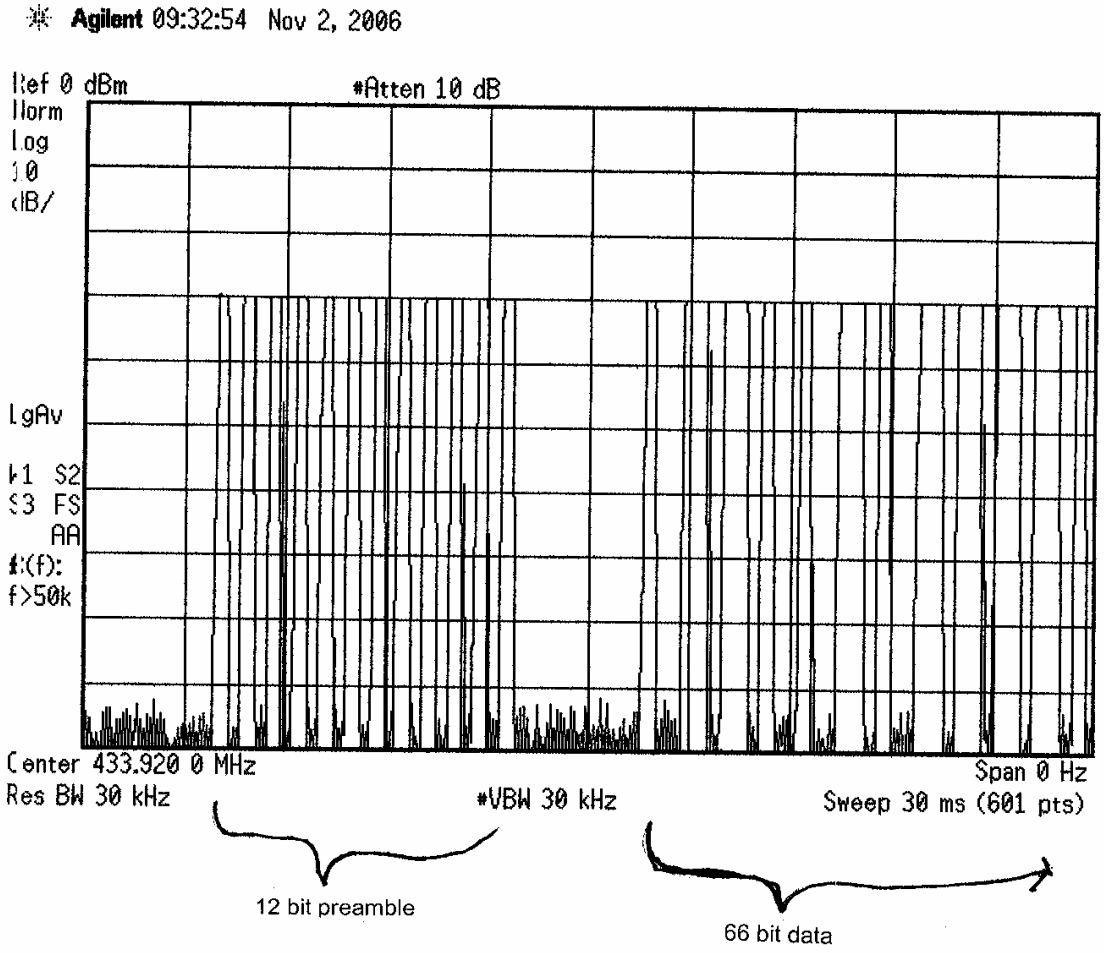
15.231(b)(2), Duty Cycle



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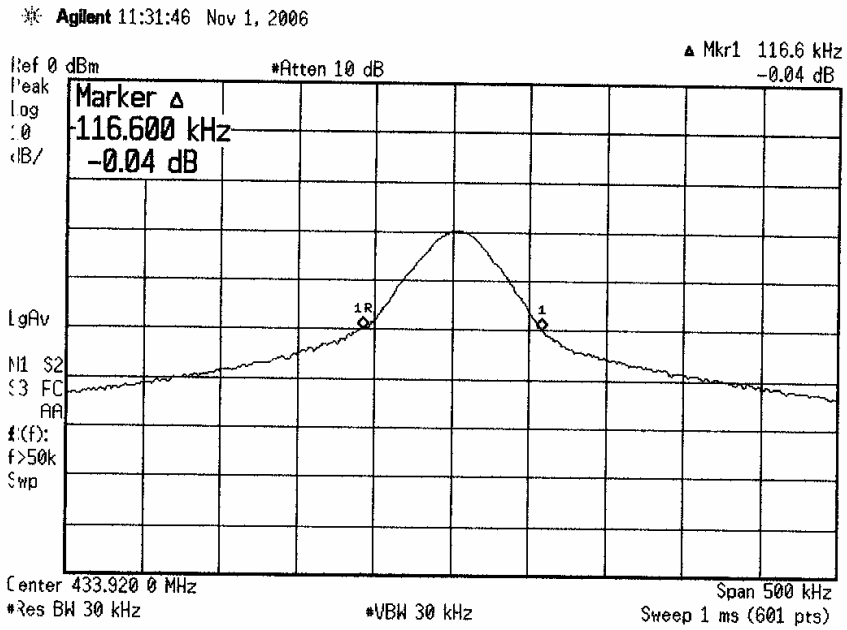
15.231(c), Occupied Bandwidth



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6.0 ATTESTATION STATEMENT

GENERAL REMARKS:

SUMMARY:

All tests were performed per CFR 47, Part(s) 15.205, 15.231(a), 15.231(b), and 15.231(c)

■ - Performed

The Equipment Under Test

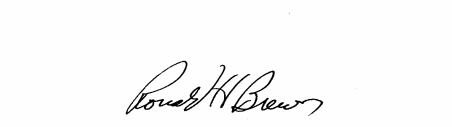
■ - **Fulfills** the requirements of CFR 47, Part(s) 15.205, 15.231(a), 15.231(b), and 15.231(c)

Testing Start Date: 01 November 2006

Testing End Date: 02 November 2006

- TÜV AMERICA, INC. -

Reviewing Engineer:



Ron Brewer
(EMC Manger)

Test Engineer:

David Gray
(Engineer)

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