

FCC Part 15B Measurement and Test Report

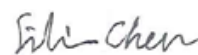
For

Bushnell Holdings Inc.

9200 Cody, Overland Park, KS 66214 USA

FCC ID: 2ASQI-3850R

FCC Rule(s):	<u>FCC Part 15 Subpart B</u>
Product Description:	<u>Dogg Trap</u>
Tested Model:	<u>3850</u>
Report No.:	<u>WTX19X06037118W</u>
Sample Receipt Date:	<u>2019-06-06</u>
Tested Date:	<u>2019-06-06 to 2019-06-20</u>
Issued Date:	<u>2019-06-20</u>
Tested By:	<u>Ray Yang / Engineer</u>
Reviewed By:	<u>Silin Chen / EMC Manager</u>
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Prepared By:	



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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen SEM Test Technology Co., Ltd.

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Bushnell Holdings Inc.
Address of applicant: 9200 Cody, Overland Park, KS 66214 USA

Manufacturer: NEW JIN DIAN TECHNOLOGY (SHENZHEN)
COMPANY LIMITED
Address of manufacturer: Building 1/3 NO 43 Jinshi Road, Guangpei Community,
Guanlan Street, Longhua New District, Shenzhen,
Guangdong Province, China

General Description of EUT	
Product Name:	Dogg Trap
Trade Name:	/
Model No.:	3850
Adding Model(s):	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Rated Voltage:	DC 6V
Rated Current:	/
Rated Power:	/
Power Adapter Model:	/
Highest Internal Frequency:	433MHz(RX)
Classification of ITE:	Class B

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 15 Subpart B: Unintentional Radiators

ANSI C63.4-2014: American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

1.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC – Registration No.: 125990

Shenzhen SEM Test Technology Co., Ltd. Laboratory has been recognized to perform compliance testing on equipment subject to the Commissions Declaration Of Conformity (DOC). The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Shenzhen SEM Test Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List:

Test Mode	Description	Remark	Power Supply Mode
TM1	Receiver mode	/	DC 6V

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
/	/	/	/

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
/	/	/	/

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
/	/	/	/

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
Conducted Emissions	Conducted	9-150kHz ± 3.74 dB
		0.15-30MHz ± 3.34 dB
Radiated Emissions	Radiated	30-200MHz ± 4.52 dB
		0.2-1GHz ± 5.56 dB
		1-6GHz ± 3.84 dB
		6-18GHz ± 3.92 dB

1.7 Test Equipment List and Details

Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
Spectrum Analyzer	Agilent	E4407B	MY41440400	2019-04-30	2020-04-29
Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2019-04-30	2020-04-29
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2019-04-30	2020-04-29
Amplifier	Agilent	8447F	3113A06717	2019-04-30	2020-04-29
Amplifier	C&D	PAP-1G18	2002	2019-04-30	2020-04-29
Broadband Antenna	Schwarz beck	VULB9163	9163-333	2019-05-05	2021-05-04
Horn Antenna	ETS	3117	00086197	2019-05-05	2021-05-04
Loop Antenna	Schwarz beck	FMZB 1516	9773	2019-05-05	2021-05-04
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2019-04-30	2020-04-29
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2019-04-30	2020-04-29
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2019-04-30	2020-04-29

2. SUMMARY OF TEST RESULTS

Description of Test	Result
§15.107(a) Conducted Emission	N/A
§15.109(a) Radiated Emission	Compliant

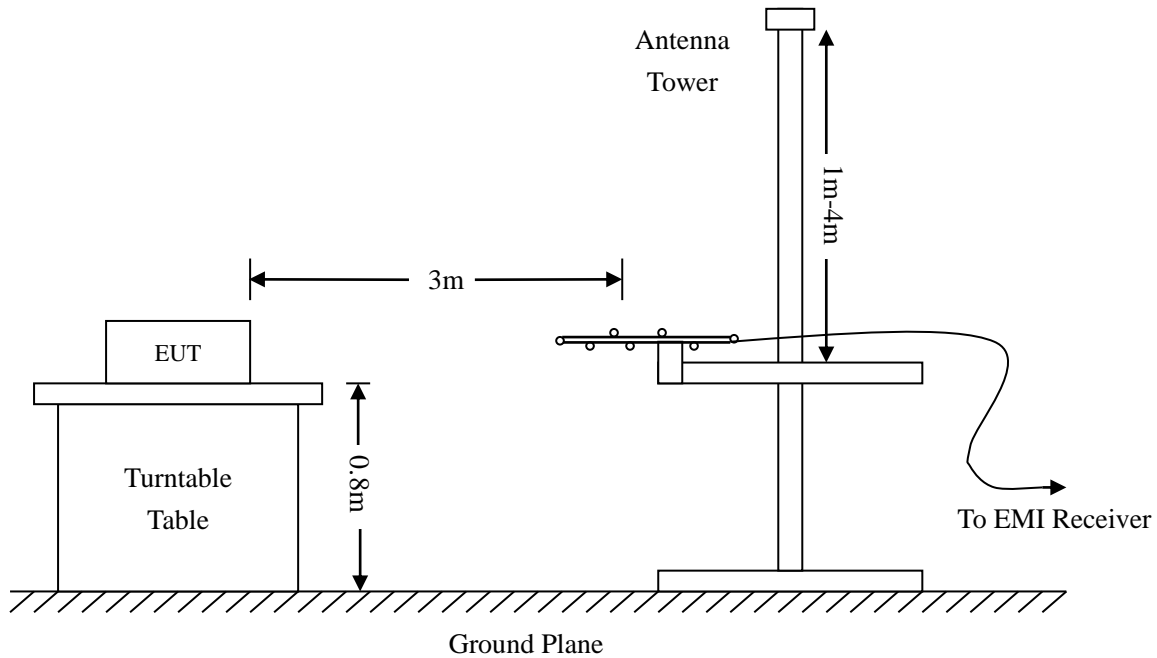
N/A: not applicable

3. RADIATED EMISSION

3.1 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15.109 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle. The spacing between the peripherals was 10 cm.



3.2 Test Receiver Setup

Frequency :9kHz-30MHz
 RBW=10KHz,
 VBW =30KHz
 Sweep time= Auto
 Trace = max hold
 Detector function = peak

Frequency :30MHz-1GHz
 RBW=120KHz,
 VBW=300KHz
 Sweep time= Auto
 Trace = max hold
 Detector function = peak, QP

Frequency :Above 1GHz
 RBW=1MHz,
 VBW=3MHz(Peak), 10Hz(AV)
 Sweep time= Auto
 Trace = max hold
 Detector function = peak, AV

3.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} - \text{Corr. Factor}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB μ V means the emission is 6dB μ V below the maximum limit for a Class B device. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15.109(a) Limit}$$

3.4 Environmental Conditions

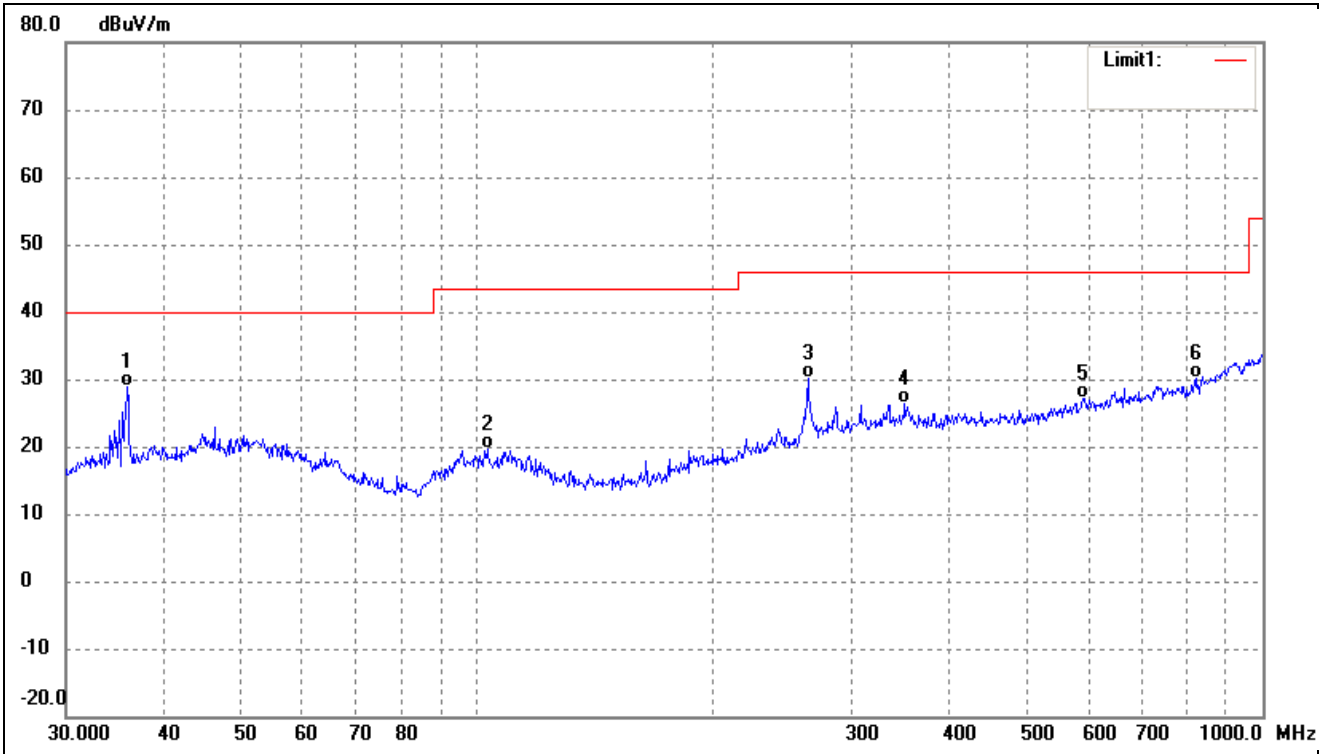
Temperature:	23 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

3.5 Summary of Test Results/Plots

According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

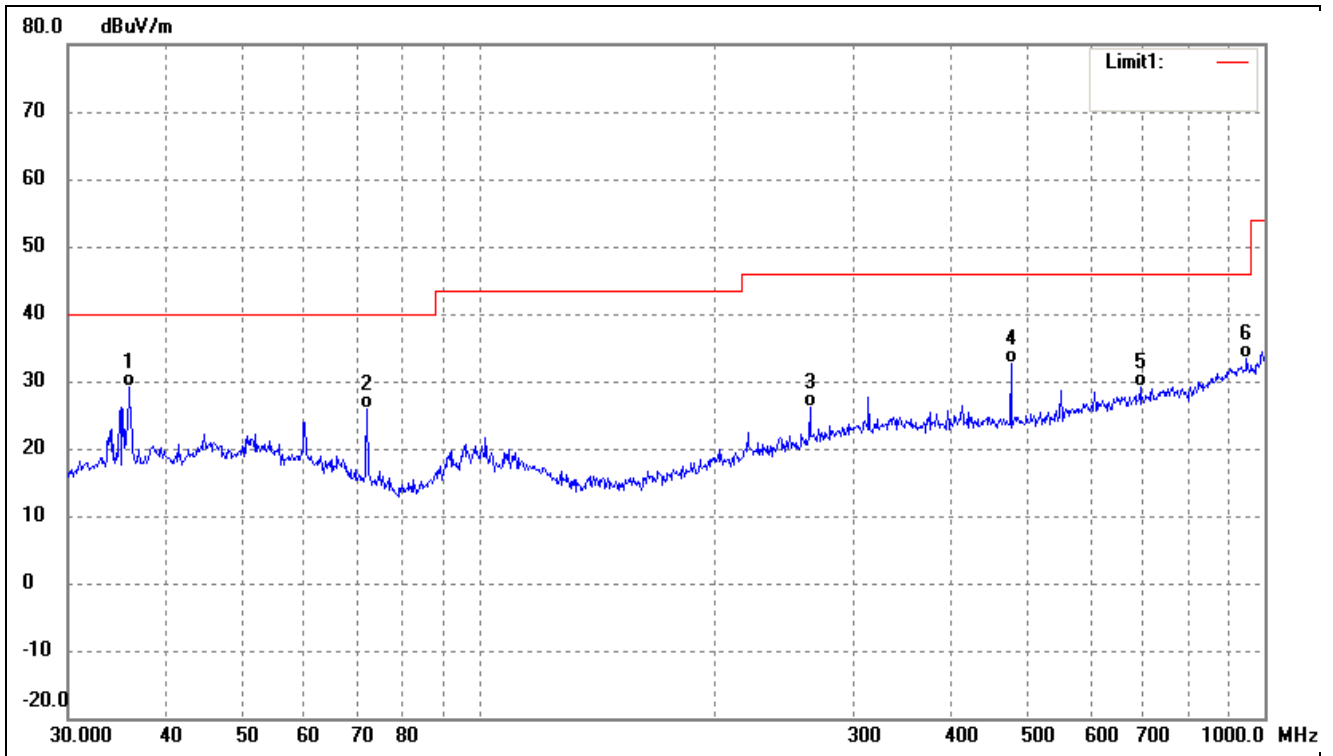
Below 1GHz

Test mode:	TM1	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	35.8746	44.40	-15.43	28.97	40.00	-11.03	315	100	QP
2	103.0800	33.91	-14.21	19.70	43.50	-23.80	93	100	QP
3	263.8190	39.10	-9.07	30.03	46.00	-15.97	162	100	QP
4	350.4768	32.82	-6.49	26.33	46.00	-19.67	98	100	QP
5	590.9737	31.12	-3.99	27.13	46.00	-18.87	301	100	QP
6	821.7103	30.97	-0.86	30.11	46.00	-15.89	244	100	QP

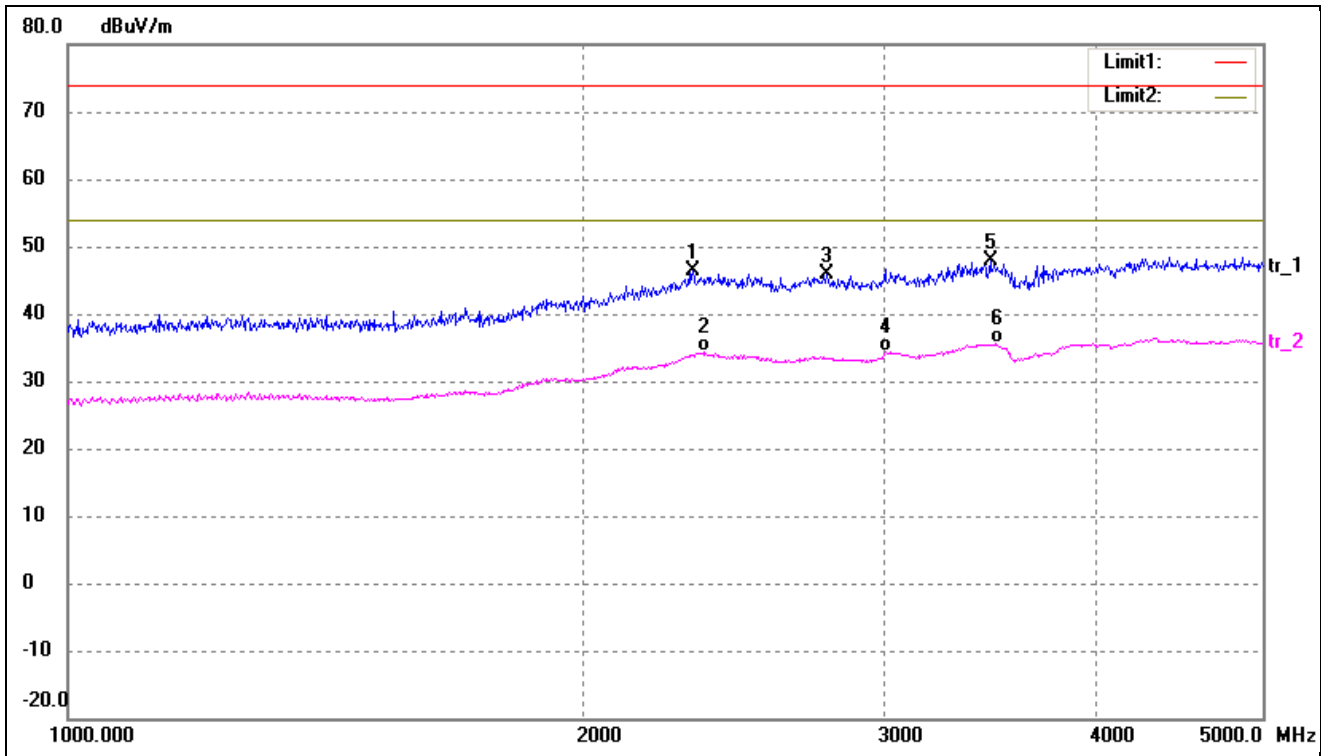
Test mode:	TM1	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	35.8746	44.48	-15.43	29.05	40.00	-10.95	232	100	QP
2	72.0843	43.58	-17.78	25.80	40.00	-14.20	94	100	QP
3	263.8190	35.23	-9.07	26.16	46.00	-19.84	97	100	QP
4	475.4991	38.87	-6.18	32.69	46.00	-13.31	96	100	QP
5	694.4174	31.88	-2.68	29.20	46.00	-16.80	293	100	QP
6	948.7610	30.54	2.78	33.32	46.00	-12.68	108	100	QP

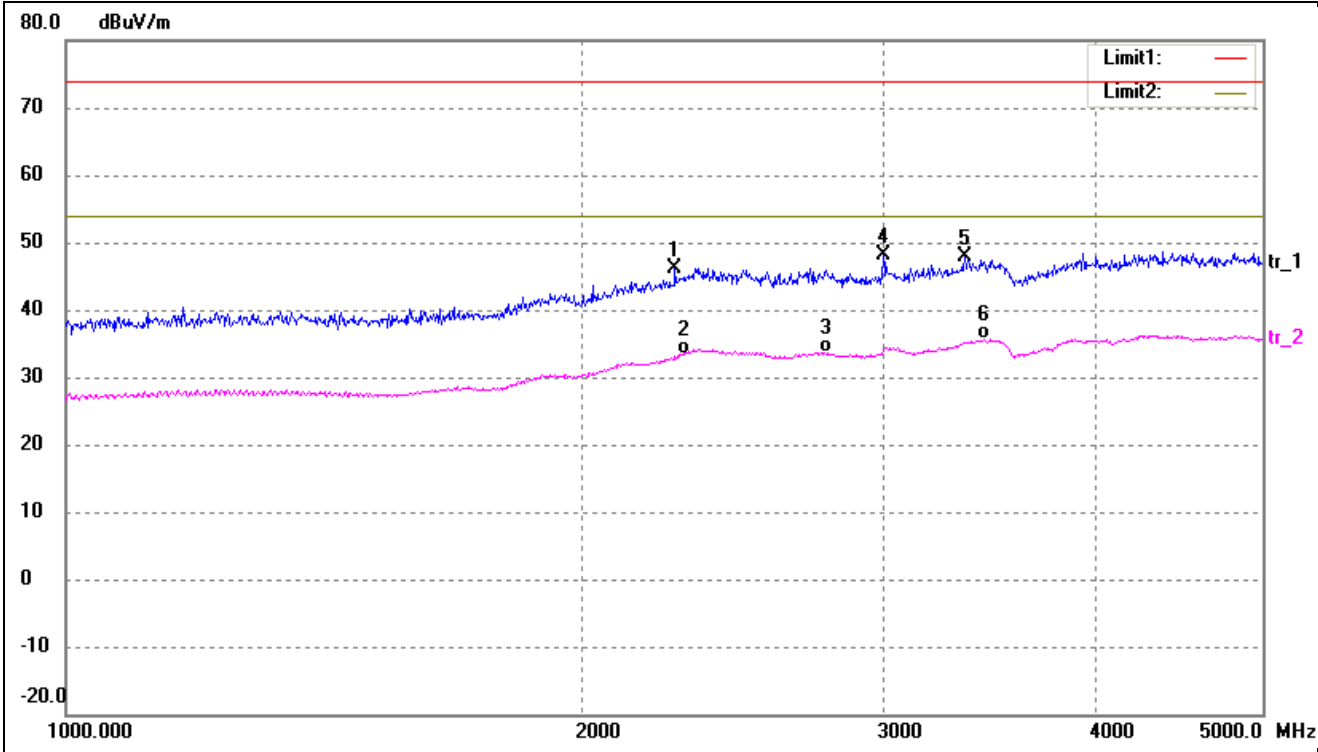
Above 1GHz

Test mode:	TM1	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	2320.392	53.40	-7.05	46.35	74.00	-27.65	278	100	peak
2	2358.039	41.19	-6.90	34.29	54.00	-19.71	283	100	AVG
3	2778.727	51.06	-5.30	45.76	74.00	-28.24	94	100	peak
4	3011.580	38.77	-4.44	34.33	54.00	-19.67	112	100	AVG
5	3464.215	51.27	-3.36	47.91	74.00	-26.09	305	100	peak
6	3492.205	38.81	-3.29	35.52	54.00	-18.48	177	100	AVG

Test mode:	TM1	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	2268.693	53.49	-7.25	46.24	74.00	-27.76	316	100	peak
2	2290.707	40.54	-7.16	33.38	54.00	-20.62	195	100	AVG
3	2774.259	39.00	-5.32	33.68	54.00	-20.32	94	100	AVG
4	3001.902	52.52	-4.47	48.05	74.00	-25.95	322	100	peak
5	3349.087	51.41	-3.64	47.77	74.00	-26.23	196	100	peak
6	3436.450	38.97	-3.44	35.53	54.00	-18.47	110	100	AVG

***** END OF REPORT *****