



Thursday, September 12, 2002

TUV Product Services
10040 Mesa Rim Road
San Diego, CA 92121

RE: FCC ID EZSDEI474P

Dear Sir or Madam:

The parts list, operating description, schematics, block diagram, etc. are the same as the unit tested in March 2002. Additionally, if the unit was retested today, the results would be the same as data in the report dated March 2002.

Sincerely,



Mark Rutledge
Vice President of Engineering

TEST SUMMARY

TEST	FCC CFR 47	PASS/FAIL
Radiated	15.231(b)	Pass
Deactivation	15.231(a)(1)	Pass
Duty Cycle Measurements	15.231(b); ANSI C63.4, Appendix 14, Para. 10	Pass
Conducted Emissions	N/A	N/A
Occupied Bandwidth	15.231(c)	Pass

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1 GENERAL INFORMATION

1.1 Product Description

EUT DESCRIPTION: , 474P, Model 474P

Power Requirements: Voltage: 3V

Typical Installation and/or Operating Environment: Consumer Electronics

EUT Power Cable: Not applicable

Support Equipment: N/A

Oscillator Frequencies: N/A

Power Supply: N/A

Power Line Filters: N/A

Power Line Filters: N/A

Critical EMI Components (Capacitors, ferrites, etc.): N/A

EMC Critical Detail: N/A

1 GENERAL INFORMATION (continued)

1.2 Related Submittal/Grant

None

1.3 Tested System Details

The FCC IDs 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 ANSI C63.4 setup.

Both Conducted and radiated testing were performed according to the procedures in FCC/ANSI C63.4 and CSA 108.8 - M1983. Radiated testing was performed at an antenna-to-EUT distance of 3 meters (1 - 25 GHz).

1.5 Test Facility

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

TÜV PRODUCT SERVICE
10040 Mesa Rim Road
San Diego, CA 92121-2912
Phone: 858 546 3999
Fax: 858 546 0364

The Test Site Data and performance comply with ANSI 63.4 and are registered with the FCC, 7435 Oakland Mills Rd, 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. SYSTEM TEST CONFIGURATION

2.1 Justification

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

See Block Diagram.

2.2 EUT Exercise Software

None

2.3 Special Accessories

None

2.4 Modification

None

2.5 Configuration of Tested System

See Block Diagram.

3 RADIATED EMISSION EQUIPMENT/DATA

The following data lists the significant emission frequencies, measured levels, correction factor (which includes cable and antenna corrections), the corrected reading, and the limit.

See following page(s).

See test setup photos for radiated emissions test setup.

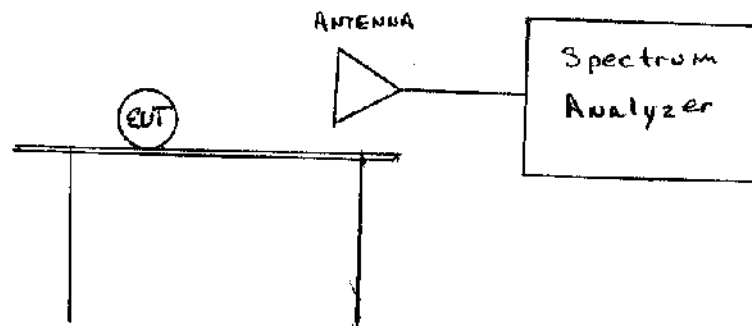
3/25/02
SC201387

SR5
AAL

<u>Model Number</u>	<u>Prop. #</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Serial No.</u>	<u>Cal. Date</u>
hp8586B	721	Spectrum Analyzer	Hewlett Packard	2542A12099	8/21/02
3146	244	Antenna	Electro Mechanics	1063	N.C.R.

Used for:

Duty Cycle
Occupied Bandwidth
Periodic Operation/Deactivation

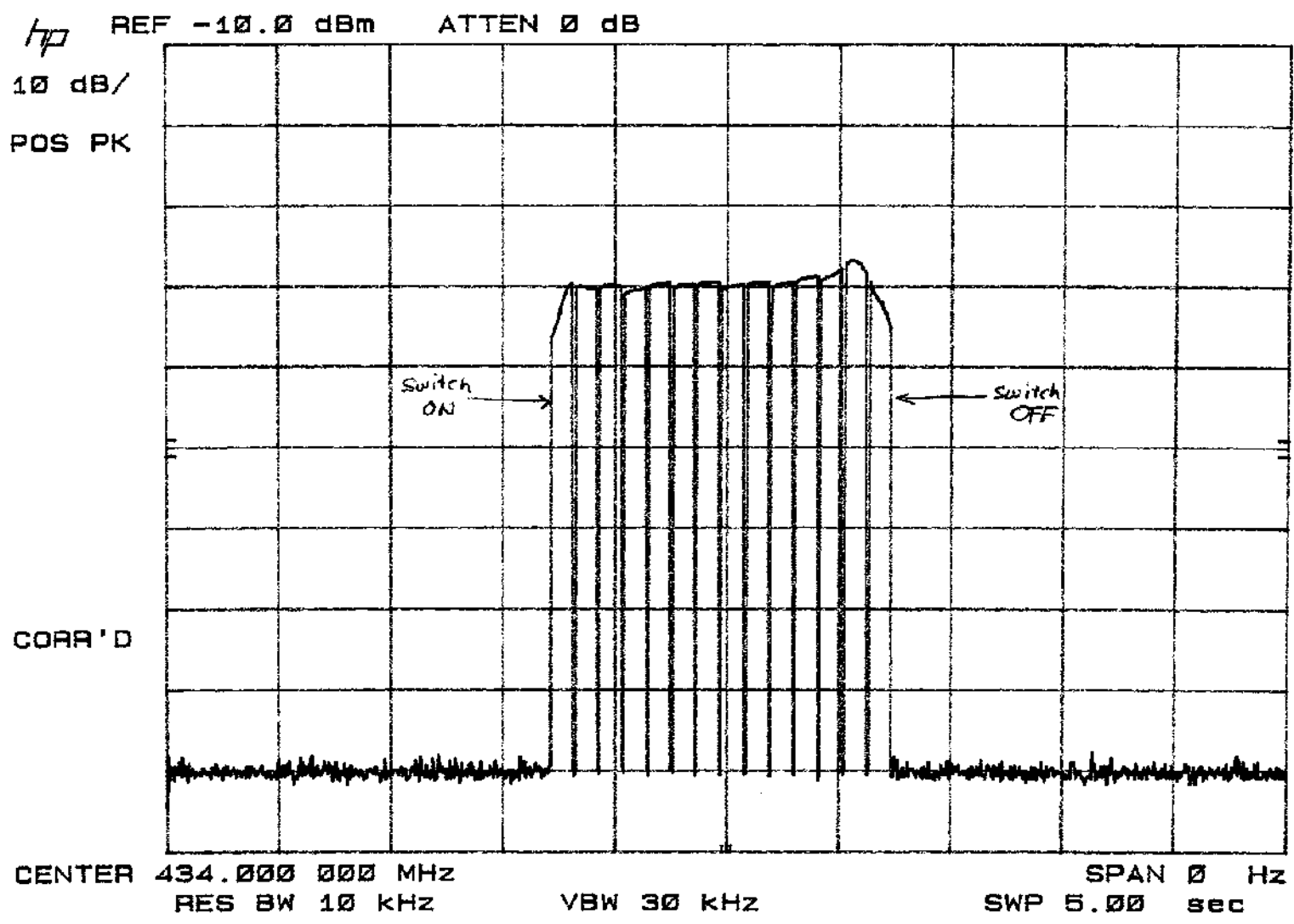


Radiated

EMCO, LP Antenna, Model 3146, S/N 1063, Property No. 244, Cal: 03/21/02
EMCO, Double Ridge Antenna, Model 3115, S/N 2494, Property No. 251, Cal: 10/20/02

SC-201387
 Directed Electronics, Inc.
 FCC CFR 47 PART 15.231(a)(1) PERIODIC OPERATION—DEACTIVATION UPON BUTTON RELEASE

Mar. 21, 2002
 TECH/ENGR: AAL *AAL*



[illegible]

SC-201387

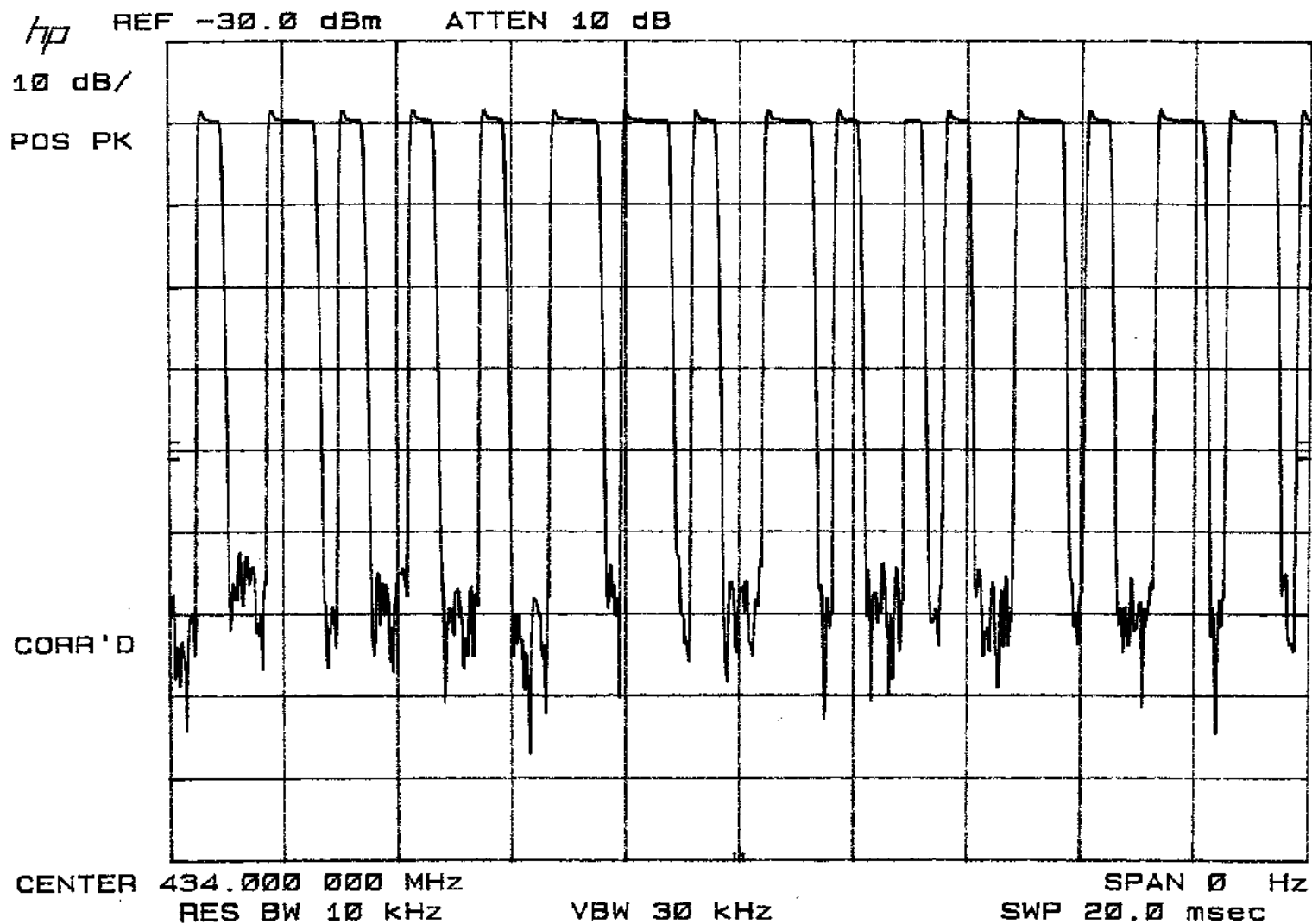
434 MHz Security Remote Control Transmitter

Mar. 21, 2002

Directed Electronics, Inc.

TECH/ENGR: AAL *RAL*

FCC CFR 47 PART 15.231(b) FIELD STRENGTH OF EMISSIONS - DUTY CYCLE



SC-201387

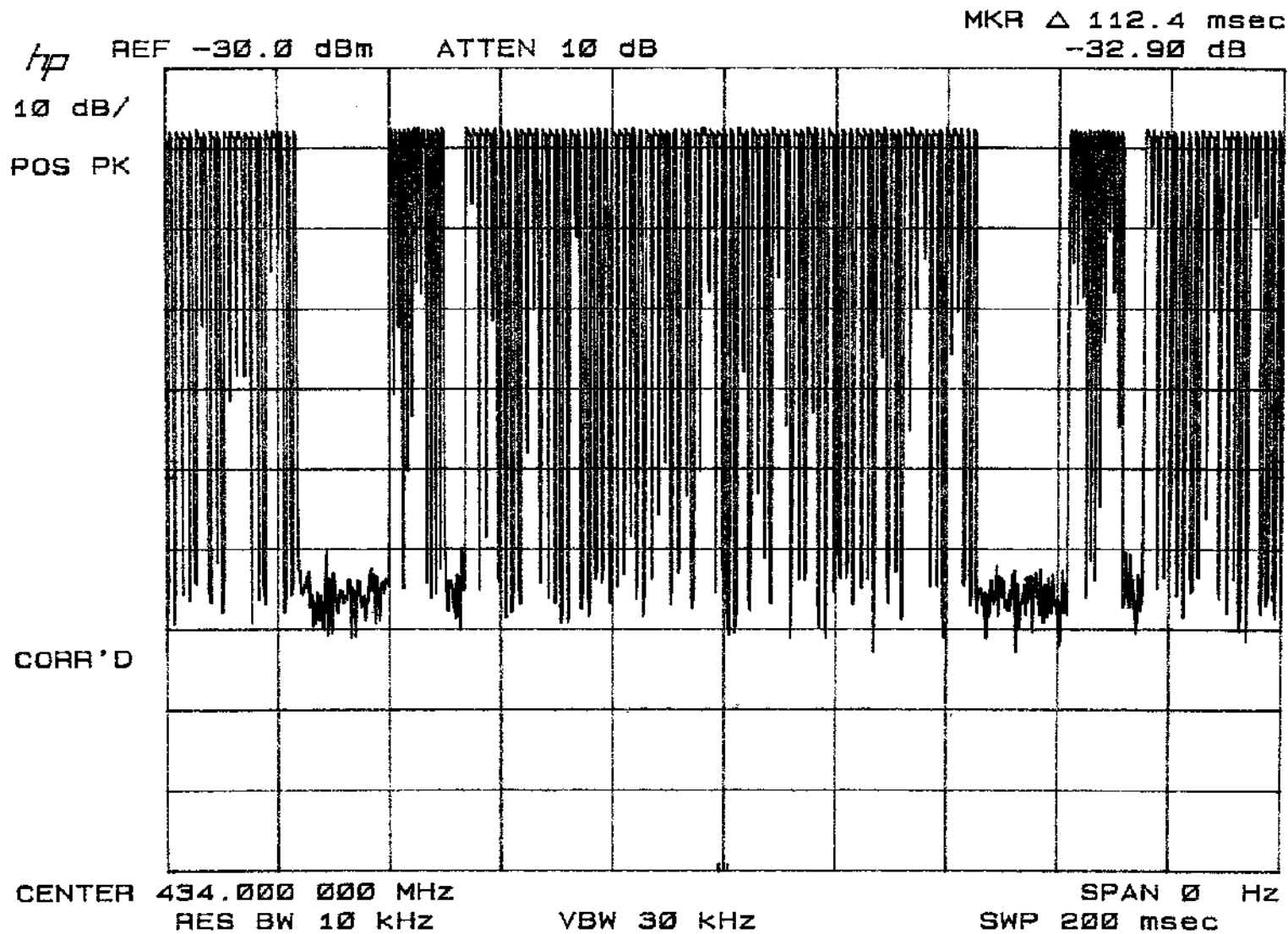
434 MHz Security Remote Control Transmitter

Mar. 21, 2002

Directed Electronics, Inc.

TECH/ENGR: AAL *AK*

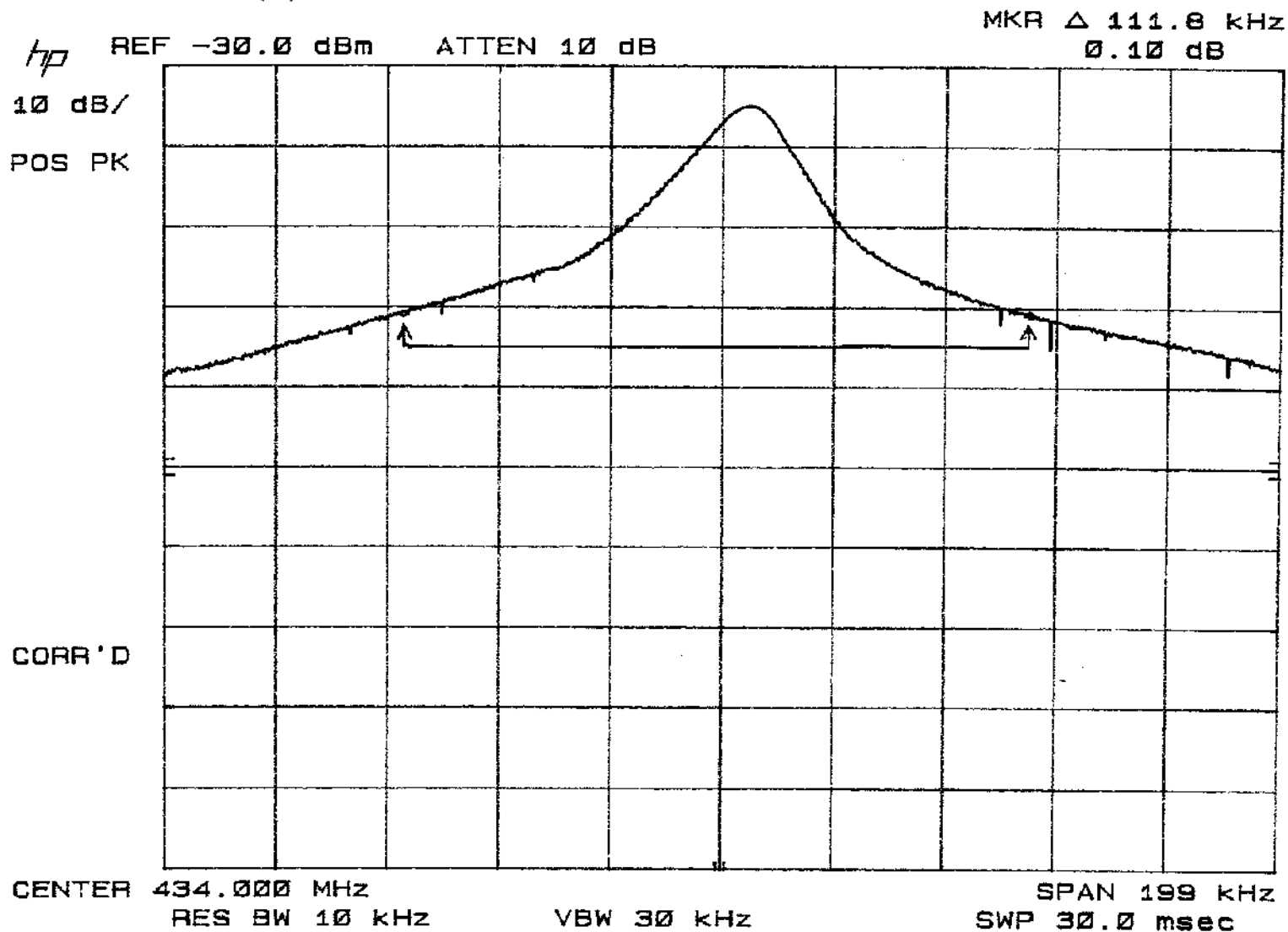
FCC CFR 47 PART 15.231(b) FIELD STRENGTH OF EMISSIONS – DUTY CYCLE



SC-201387
Directed Electronics, Inc.
FCC CFR 47 PART 15.231(c) OCCUPIED BANDWIDTH

434 MHz Security Remote Control Transmitter

Mar. 21, 2002
TECH/ENGR: AAL *AAL*



Field Strength Calculation

If a preamplifier was used during the Radiated Emission Testing, it is required that the amplifier gain must be subtracted from the Spectrum Analyzer (Meter) Reading. In addition, a correction factor for the antenna, cable used and a distance factor, if any, must be applied to the Meter Reading before a true field strength reading can be obtained. In the automatic measurement, these considerations are automatically presented as a part of the print out. In the case of manual measurements and for greater efficiency and convenience, instead of using these correlation factors for each meter reading, the specification limit was modified to reflect these correlation factors at each frequency value so that the meter readings can be compared directly to the modified specification limit. This modified specification limit is referred to as the "Corrected Meter Reading Limit" or simply the CMRL, which is the actual field strength present at the antenna. The quantity can be derived in the following manner:

$$\text{Corrected Meter Reading Limit (CMRL)} = \text{SAR} + \text{AF} + \text{CL} - \text{AG} - \text{DC}$$

Where, SAR = Spectrum Analyzer Reading

AF = Antenna Factor

CL = Cable Loss

AG = Amplifier Gain (if any)

DC = Distance Correction (if any)

Assume the following situation: A meter reading of 29.4 dBuV was obtained from a Class A computing device measured at 83 MHz. Assume an antenna factor of 9.2 dB, a cable loss of 1.4 dB and amplifier gain of 20.0 dB at 83 MHz. The final field strength would be determined as follows:

$$\text{CMRL} = 29.4 \text{ dBuV} + 9.2 \text{ dB} - 1.4 \text{ dB} - 20 \text{ dB/M} - 0.0 \text{ dB}$$

$$\text{CMRL} = 20.0 \text{ dBuV/M}$$

This result is well below the FCC and CSA Class A limit of 29.5 dbuV/m at 83 MHz.

For the manual mode of measurement, a table of corrected meter reading limit was used to permit immediate comparison of the meter reading to determine if the measure emission amplitude exceeded the specification limit at that specific frequency.

Report No. 201387-03

4 CONDUCTED EMISSION EQUIPMENT/DATA

Not Applicable

See following page(s).

ATTESTATION STATEMENT

GENERAL REMARKS:

SUMMARY:

All tests were performed per CFR 47, *Part 15, Paragraphs 15.231(a)(1); (b); (c).*

■ - Performed

The Equipment Under Test

■ - **Fulfills** the requirements of CFR 47, *Part 15, Paragraphs 15.231(a)(1); (b); (c).*

- TÜV PRODUCT SERVICE, INC. -

Responsible Engineer:



Jim Owen
EMC Chief Engineer

Responsible Engineer:



Alan Laudani
EMC Engineer