COMPLIANCE REPORT
TO FCC PART 15 REQUIREMENTS

for

24.125 GHz FIELD DISTURBANCE SENSOR

MODEL NO: DT-7550C

FCC ID: C2D7KuLP

REPORT NO: 01U0658-1

JAN 31, 2001

Prepared for
C & K Systems, Inc.
625 Coolidge Dr.
Folsom, CA 95630
U.S.A

Prepared by
COMPLIANCE CERTIFICATION SERVICES, INC.
561 F. MONTEREY ROAD, ROUTE 2
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LAB CODE:200065-0

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TEST DATA

1. VERIFICATION OF COMPLIANCE

COMPANY NAME	:	C & K SYSTEMS, INC. 625 COOLIDGE DR. FOLSOM, CA 95630 USA
CONTECT PERSON	:	DAVID MAHAN / MANAGER
TELEPHONE	:	(916) 353-5375
EUT DESCRIPTION	:	24.125 GHz FIELD DISTURBANCE SENSOR
MODEL NAME/NUMBER	:	DT-7550C
FCC ID	:	C2D7KuLP
DATE TESTED	:	FAB 06,2001

TYPE OF EQUIPMENT	INTENTIONAL RADIATOR
EQUIPMENT TYPE	24.125 GHz FIELD DISTURBANCE SENSOR
MEASUREMENT PROCEDURE	ANSI 63.4 / 1992
PROCEDURE	CIRTIFICATION
FCC RULE	CFR 47 SECTION 15.245

Compliance Certification Services, Inc. tested the above equipment for compliance with the requirement set forth in CFR 47, PART 15. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

Warning : This document reports conditions under which testing was conducted and results of tests performed. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document.

Released For CCS By:

MIKE KUO
VICE PRESIDENT
COMPLIANCE CERTIFICATION SERVICES

Test By:

STEVE CHENG
EMC SENIOR ENGINEER
COMPLIANCE CERTIFICATION SERVICES

2. MEASUREMENT STANDARDS

The site is constructed and calibrated in conformance with the requirements of ANSI C63.4/1992.

3. TEST METHODOLOGY

For an intentional radiator, the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 KHz, up to at least the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower. (CFR 47 Section 15.33)

4. POWERLINE RFI LIMIT

CONNECTED TO AC POWER LINE	SECTION 15.207

Device that connect to the AC power lines directly or obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conduction limit. The conducted emission within the band 450 kHz to 30 MHz shall not exceed the 250 microvolts.

5. RADIATED EMISSION LIMITS

GENERAL REQUIREMENTS	SECTION 15.209
RESTRICTED BANDS OF OPERATION	SECTION 15.205
OPERATION WITHIN THE BANDS 902-928 MHz, 2435-2465 MHz, 5785-5815 MHz, 10500-10550 MHz AND 24075-24175 GHz	SECTION 15.245

6. GENERAL REQUIREMENTS TABLE (SECTION 15.209)

Frequency (MHz)	Field strength (Microvolts/meter)	Measurement distance (meters)
0.009 - 0.490	2400/F(KHz)	300
0.490 - 1.705	2400/F(KHz)	30

1.705 - 30.0	30	30
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part.

7. RESTRICTED BANDS OF OPERATION TABLE (SECTION 15.205)

(Only spurious emissions are permitted)

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2655-2900	22.01-23.12
8.41425-8.41475	162.0125-162.17	3260-3267	23.6-24.0
12.29-12.293	162.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

8. OPERATION WITHIN THE BANDS 902-928, 2435-2465, 5785-5815, 10500-10550 AND 24075-24175 MHz.

(Section 15.245 Table)

Fundamental Frequency (MHz)	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (millivolts/meter)
902 - 928	500	1.6
2435 - 2465	500	1.6
5785 - 5815	500	1.6
10500-10550	2500	25.0
24075 - 24175	2500	25.0

9. TEST FACILITY

The 3/10 meter open area test site and conducted measurement facility which is used to collect the radiated data is located at 561F Monterey Road, Morgan Hill, California, U.S.A. A detailed description of test facilities was submitted to the Federal Communication Commission.

10. MEASUREMENT EQUIPMENT

Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
Spectrum Analyzer	**H.P.**	**8566B**	**3014A06685**	**6/16/00**	**6/16/01**
Spectrum Analyzer	**H.P.**	**8593EM**	**3710A00205**	**05/25/00**	**05/25/01**
Pre-Amp	**H.P.**	**8449B**	**3008A00369**	**4/12/00**	**4/12/01**
Horn Antenna	**ARA**	**MWH-1826/B**	**1013**	**6/26/00**	**6/26/02**
Harmonic Mixer (33 – 50GHz)	**H.P.**	**11970Q**	**3003A03363**	**6/26/00**	**6/26/03**
Harmonic Mixer (50 – 75 GHz)	**H.P.**	**11970V**	**2521A01163**	**6/16/00**	**6/16/03**
Harmonic Mixer (75 – 110 GHz)	**H.P.**	**11970W**	**2521A01314**	**6/16/00**	**6/16/03**
Horn Antenna	**EMCO**	**3115**	**9001-3245**	**1/5/00**	**1/5/03**
Mixer Amp	**H.P.**	**HP11975**	**2517A01067**	**8/23/00**	**8/23/02**

11. INSTRUMENT SETTING

Frequency Band (MHz)	Instrument	Function	Resolution Bandwidth	Video Bandwidth
30 to 1000	RF Test Receiver	Quasi Peak	120 kHz	N/A
	Spectrum Analyzer	Peak	100 kHz	100 kHz
Above 1000	Spectrum Analyzer	Peak	1 MHz	1 MHz

12. EQUIPMENT MODIFICATIONS

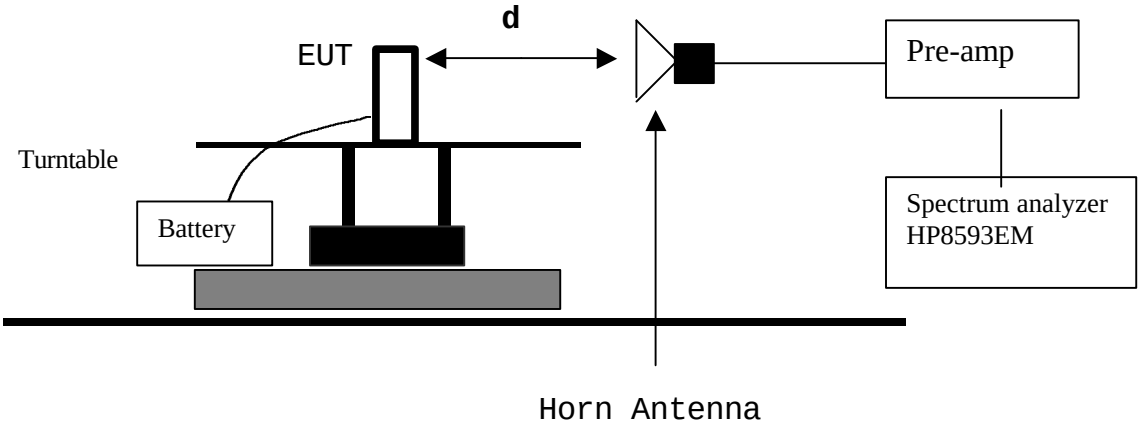
To achieve compliance to section 15.245 limits, the following change(s) were made during compliance testing:

NOT APPLICABLE

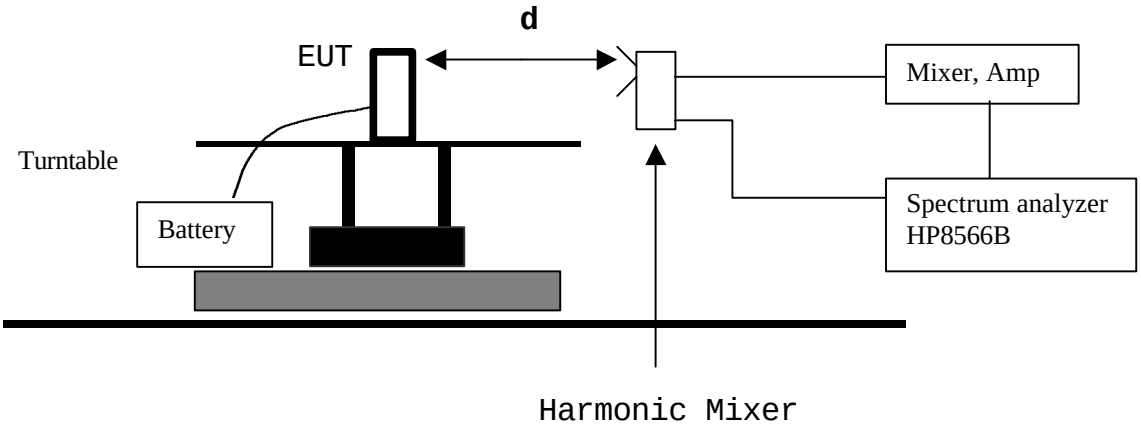
13. Test Requirement 15.245(B) Fundamental Emission & (B)(1)(i) Harmonic Emissions Limit.

The system was configured for testing in a typical fashion (as a customer would normally use it).

Test setup:



Radiated Fundamental Emissions Configuration



Radiated Harmonic Emissions Configuration

Test Procedure:

The EUT was placed on a wooden table. The search antenna was placed 1 Meter from the EUT for fundamental field strength measurement and 0.01 to 1m for harmonic emission measurement. With the transmitter operating at full power the turntable was slowly rotated to locate the direction of maximum emission. Once maximum direction was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

Test Result:

Fundamental Frequency

Frequency (GHz)	Measuring Distance (m)	Spectrum Reading (dBmv)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier (dB)	Distance Conversion Factor to 3m (dB)	Corrected Field Strength (dBmv)	Limit (dBmv)	Margin (dB)	Pol
24.1421	1	32.37	32.2	14.28	30	9.54	39.31	67.95	28.64	V

Harmonics up to 100 GHz

Frequency (GHz)	Measuring Distance (cm)	Spectrum Reading After Corrected With Conversion loss of HP 11979 MW mixer Set (dBmv)	Antenna Factor (dB)	Distance Conversion Factor to 3m (dB)	Corrected Field Strength (dBmv)	Limit (dBmv)	Margin (dB)	Pol
48.2842	5	-12	35	35.56	-12.56	27.95	40.51	V
72.4263	2	-18.3	40	43.52	-21.82	27.95	49.77	V
96.5684	1	-18.9	45	49.54	-23.44	27.95	51.39	V

14. Test Requirement: 15.245(3) Emissions radiated outside of the specified frequency bands. Except for the harmonics.

The system was configured for testing in a typical fashion (as a customer would normally use it).

Test Set-Up

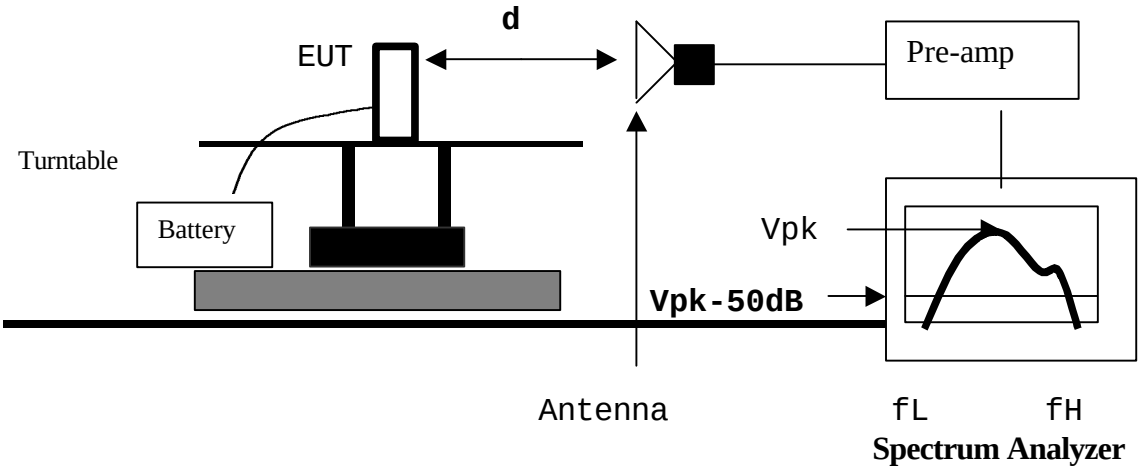


Fig. 2 Radiated Out of Band Configuration

Test Procedures:

The EUT was configured on wooden turntable as shown on figure 2. The search antenna was place at a distance of 1 or 3 meter. The antenna was raised and lowered, the EUT rotated on the turntable, until the EUT azimuth, antenna elevation, and antenna polarity were found which yielded maximum received emission levels on the spectrum analyzer.

Test Results:

30 to 2000 MHz spurious radiation measurements were done at regular 3-meter distance and no emission from EUT was found (please refer to measurement data sheet attached). 2G to 100GHz spurious measurement was performed at 1m and all signals were at least 20 dB below the limits.

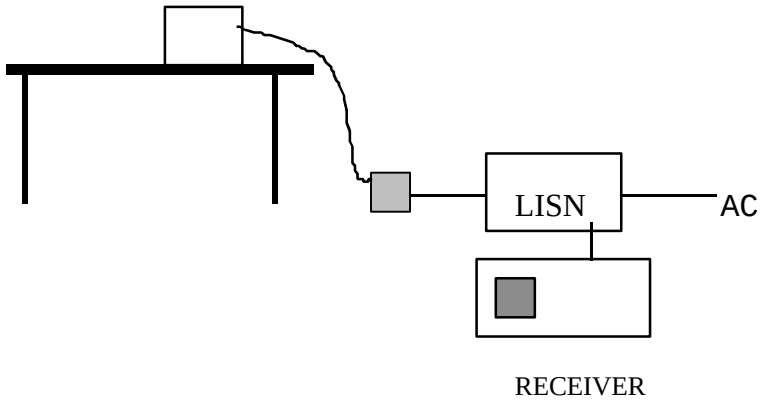
15. AC Line Conducted Emissions

Test Requirement: 15.207

Measurement Equipment Used:

Rhode & Schwarz EMI Receiver ESHS-20
Fischer Custom Communication LISN, FCC-LISN-50/250-25-2

Test Set-up



Test Procedure

1. The EUT was placed on a wooden table 40-cm from a vertical ground plane and approximately 80-cm above the horizontal ground plane on the floor. The EUT was set to transmit in a normal mode.

2. Line conducted data was recorded for both NEUTRAL and HOT lines.

Test Results

Refer to attached graph. (One page)

COMPLIANCE
Certification Services

FCC, VCCI, CISPR, CE, AUSTEL, NZ
UL, CSA, TUV, BSMI, DHHS, NVLAP

561F MONTEREY ROAD, SAN JOSE, CA 95037-9001
PHONE: (408) 463-0885 FAX: (408) 463-0888

Project #: 01u0658-1
Report #: 010123a1
Date& Time: 01/23/01 4:31 PM
Test Engr: Steve Cheng

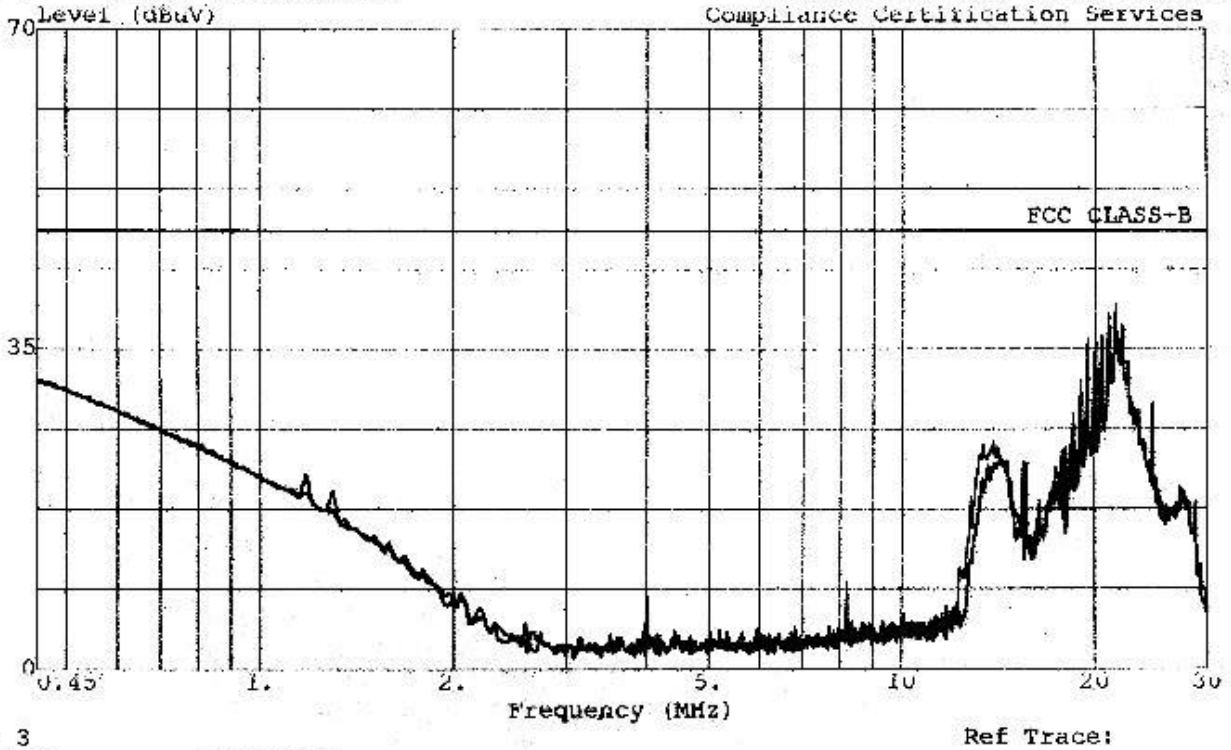
Company: C&K SYSTEM INC.
EUT Description: MICROWAVE PASSIVE MOTION DETECTOR
Test Configuration : EUT ONLY
Type of Test: FCC CLASS B
Mode of Operation: CONTINUOUSLY DETECTION

(•) A-Site ( ) B-Site ( ) C-Site ( ) F-Site [6 Worst Data] [Descending]

Freq. (MHz)	Reading (dBuV)	AF (dB)	Closs (dB)	Pre-amp (dB)	Level (dBuV/m)	Limit FCC_B	Margin (dB)	Pol (H/V)	Az (Deg)	Height (Meter)	Mark (P/Q/A)
SCAN SPURIOUS EMISSION FROM 30M TO 2G											
30.00	40.10	24.50	0.74	27.85	37.49	40.00	-2.51	3mV	0.00	1.00	P
197.07	40.10	11.07	1.88	27.46	25.59	43.50	-17.91	3mV	0.00	1.00	P
400.00	40.10	16.80	2.83	27.97	31.76	46.00	-14.24	3mV	0.00	1.00	P
600.00	40.10	19.70	3.52	28.78	34.54	46.00	-11.46	3mV	0.00	1.00	P
800.00	40.10	21.00	4.43	28.73	36.80	46.00	-9.20	3mV	0.00	1.00	P
1000.00	40.10	22.60	5.01	28.31	39.40	54.00	-14.60	3mV	0.00	1.00	P
1500.00	40.10	25.30	6.20	26.94	44.66	54.00	-9.34	3mV	0.00	1.00	P
2000.00	40.10	28.80	7.75	22.86	53.79	54.00	-0.21	3mV	0.00	1.00	P
30.00	40.10	21.90	0.74	27.85	34.89	40.00	-5.11	10mH	0.00	1.00	P
212.00	40.10	10.52	1.95	27.40	25.17	43.50	-18.33	10mH	0.00	1.00	P
499.60	40.10	17.89	3.27	28.57	32.69	46.00	-13.31	10mH	0.00	1.00	P
1000.00	40.10	21.60	5.01	28.31	38.40	54.00	-15.60	10mH	0.00	1.00	P
1500.00	40.10	24.80	6.20	26.94	44.16	54.00	-9.84	10mH	0.00	1.00	P
2000.00	40.10	28.00	7.75	22.86	52.99	54.00	-1.01	10mH	0.00	1.00	P
Total data #: 14											
V.2a											
SCAN COMPLETED FROM 30M TO 2G NO EUT EMISSION FOUND. ALL SIGNALS ARE ON NF											

1366 Bordeaux Dr.
Sunnyvale, CA 94089-1005 USA
Tel: (408) 752-8166
Fax: (408) 752-8168

Data#: 7 File#: 01U0658F.EMI Date: 01-24-2001 Time: 14:23:52



Trace: 3 Ref Trace:

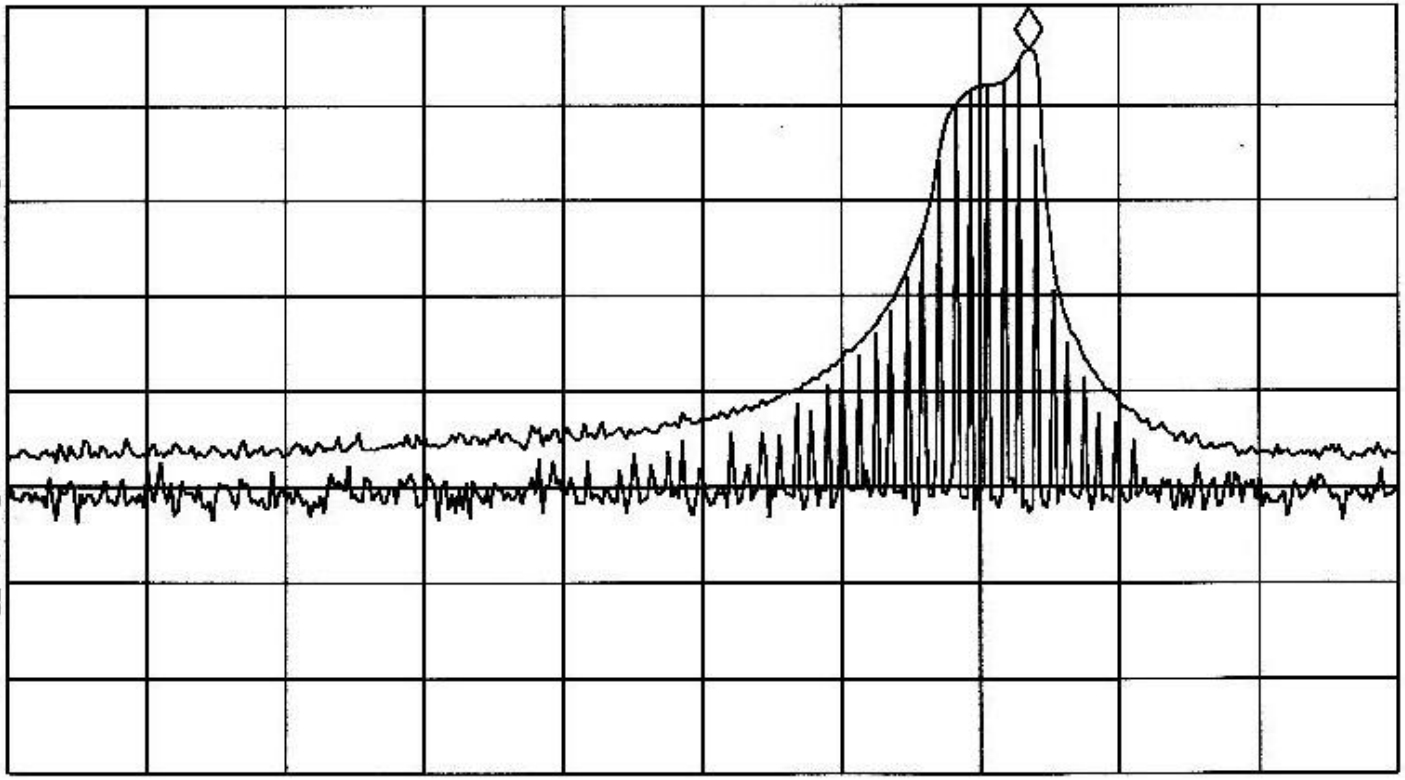
Project No.	: **01U0658-1**
Report No.	: 01U0658-1
Test Engr	: STEVE CHENG
Company	: C&K SYSTEMS INC.
EUT Description	: MICROWAVE PASSIVE MOTION DETECTOR
Model	: DT-7550C
EUT Config.	: EUT ONLY
Type of Test	: FCC CLASS B
Mode of Operation	: CONTINUOUSLY DETECTING
	: PEAK: L1 (Green), L2 (Black)
	: 115Vac, 60Hz

3:57:01 JAN 23, 2001
C&K DT-7550C BANDEDGE MEASUREMENT

START
24.0000 GHz

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 24.1470 GHz
.29 dBm

OG REF 5.0 dBm
0
B/
TN
dB



A WB
E FC
CORR

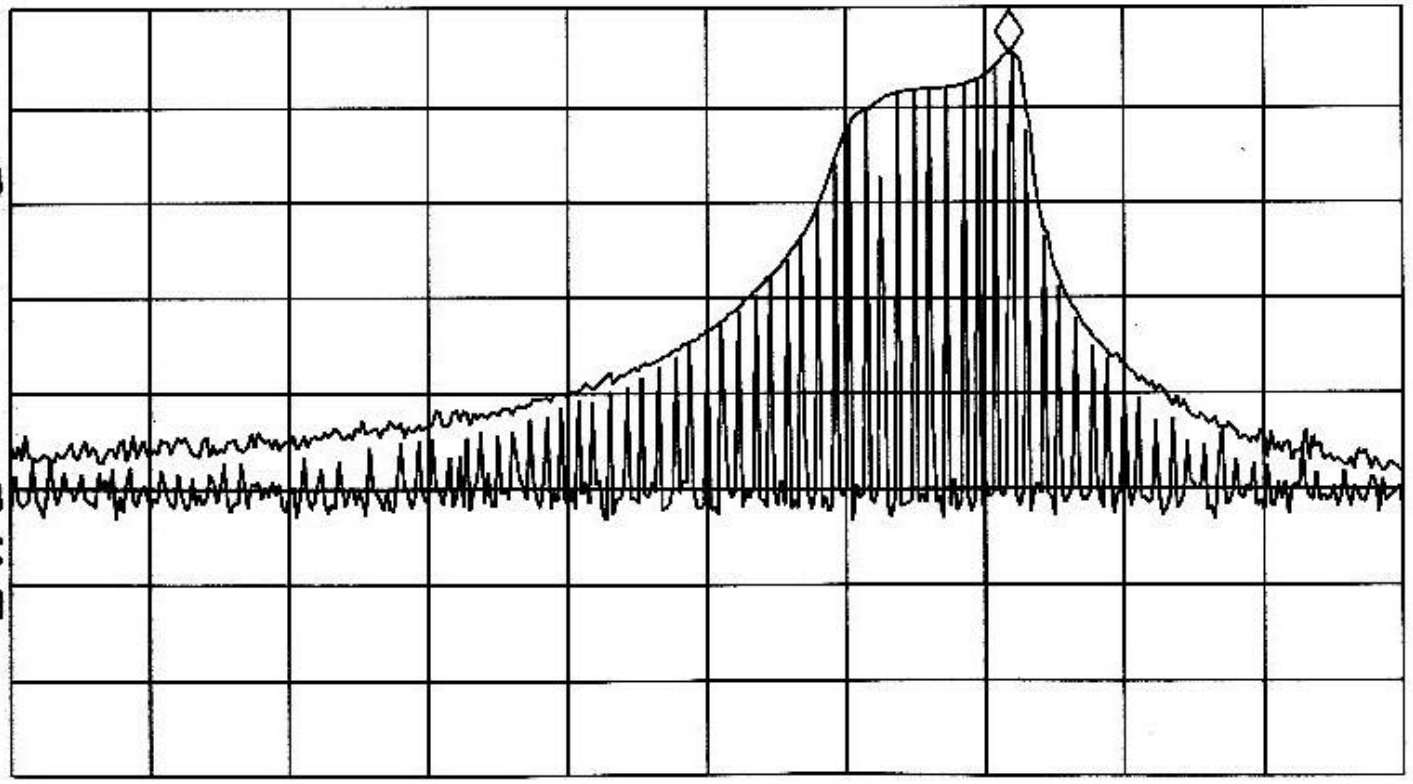
START 24.0000 GHz
IF BW 1.0 MHz #AVG BW 1 MHz
STOP 24.2000 GHz
SWP 20.0 msec

13: 58: 2Ø JAN 23, 2ØØ1
C&K DT-755ØC BANDEDGE MEASUREMENT

STOP
24.175Ø GHz

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 24.1468 GHz
.2Ø dBm

OG REF 5.Ø dBm



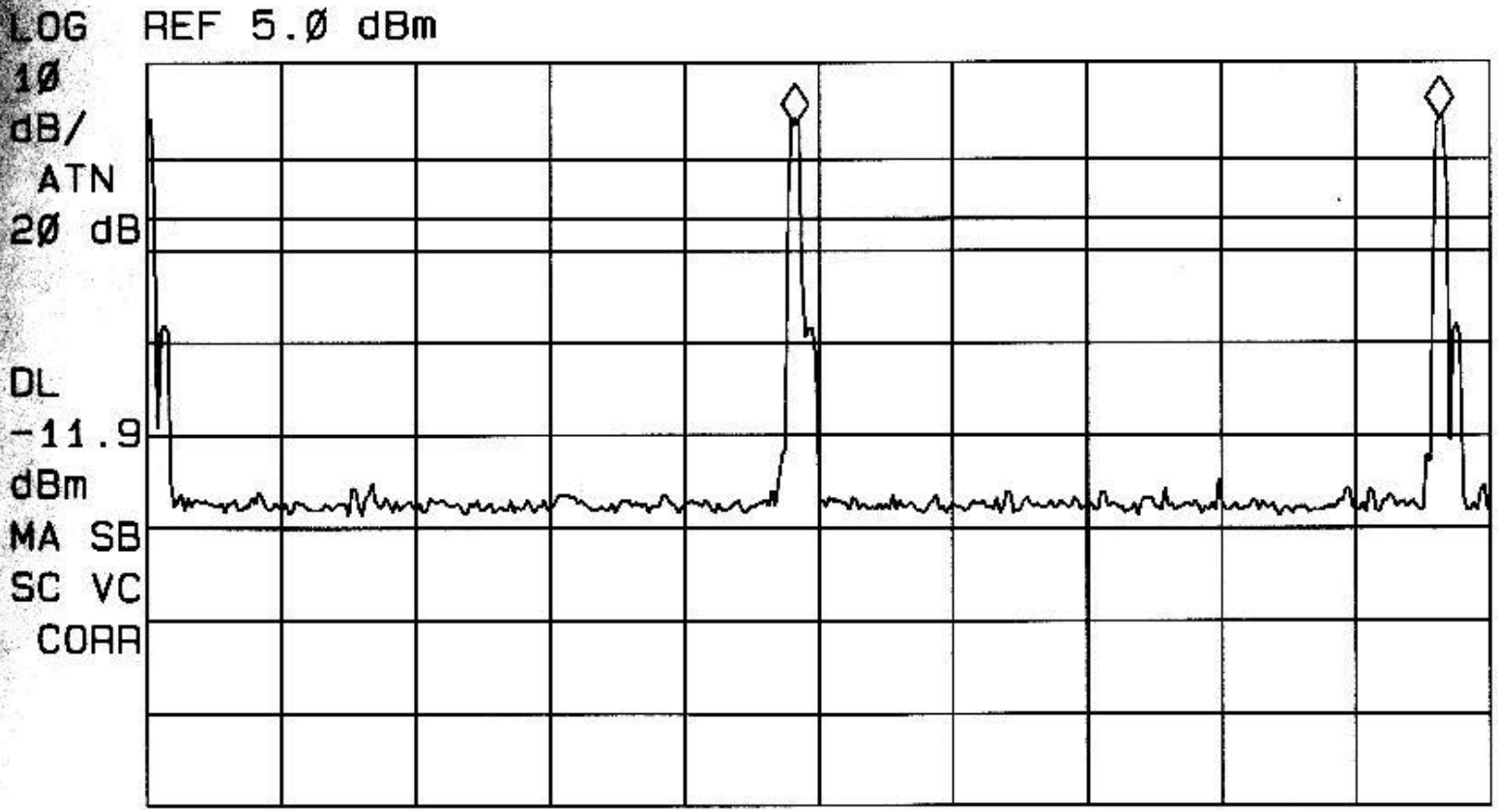
A WB
C FC
CORR

START 24.Ø75Ø GHz
IF BW 1.Ø MHz
#AVG BW 1 MHz
STOP 24.175Ø GHz
SWP 2Ø.Ø msec

14:36:34 JAN 23, 2001
C&K DT-7550C PULSE REPETITION RATE

MARKER Δ
231.00 µsec
.64 dB

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 231.00 µsec
.64 dB



CENTER 24.144640 GHz
SPAN 0 Hz
IF BW 1.0 MHz #AVG BW 1 MHz
#SWP 480 µsec

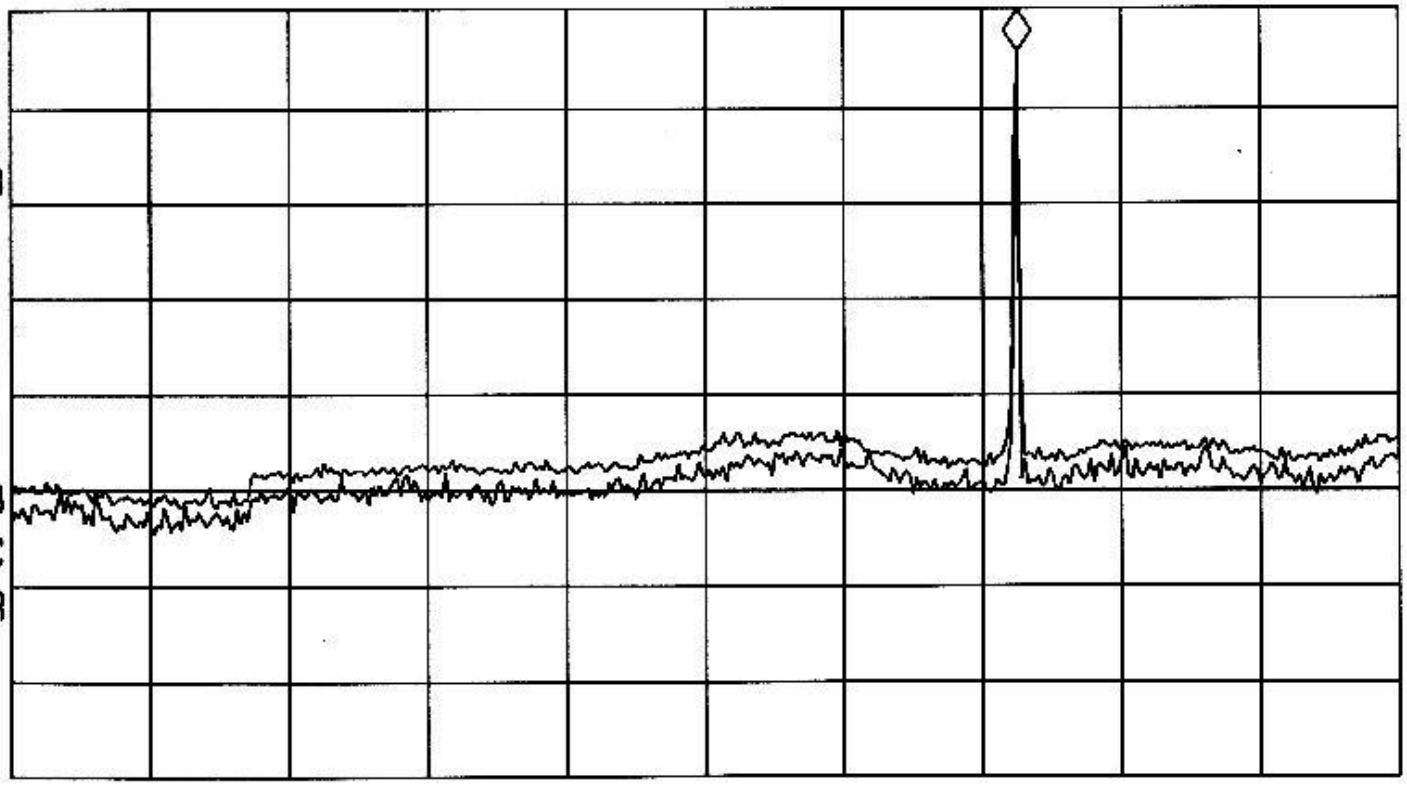
14: Ø2: 16 JAN 23, 2ØØ1
C&K DT-755ØC HARMONICS AND SPUR MEASUREMENT

STOP
26.5ØØ GHz

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 24.163 GHz
.46 dBm

OG REF 5.Ø dBm
Ø
B/
TN
Ø dB

A WB
C FC
CORR



START 18.ØØØ GHz
IF BW 1.Ø MHz
#AVG BW 1 MHz
STOP 26.5ØØ GHz
SWP 188 msec