

*FCC PART 15, SUBPART B and C
TEST REPORT**for***CM RECEIVER****MODEL: E65400**

Prepared for

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DATE: SEPTEMBER 8, 2008

	REPORT BODY	APPENDICES					TOTAL
		<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	
PAGES	23	2	2	2	13	51	93

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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government.

Device Tested: CM Receiver
Model: E65400
S/N: N/A

Product Description: See Expository Statement.

Modifications: The EUT was not modified during the testing.

Manufacturer: Gatekeeper Systems, Inc.
8 Studebaker
Irvine, California 92618

Test Dates: July 22 and 23, 2008

Test Specifications: EMI requirements
CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247

Test Procedure: ANSI C63.4

Test Deviations: The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	This test was not performed because the EUT operates on batteries only and cannot be plugged into the AC public mains.
2	Spurious Radiated RF Emissions, 10 kHz - 25000 MHz	Complies with the Class B limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, section 15.247(d)
3	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 10 kHz – 40 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
4	Emissions produced by the intentional radiator in restricted bands, 10 kHz – 40 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209(a), and section 15.247 (d)
5	6 dB Bandwidth	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(a)(2)
6	Peak Power Output	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(b)(3)
7	RF Conducted Antenna Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
8	Peak Power Spectral Density Conducted from the Intentional Radiator to the Antenna	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (e)

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the CM Receiver, Model: E65400. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B for the digital and receiver portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.247 for the transmitter portion.

This test report covers the announce radio, which was tested under section 15.247. For the data radio, please see the Compatible Electronics test report number: **B80722B2**.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Gatekeeper Systems, Inc.

Mike James Principal Engineer

Compatible Electronics, Inc.

Kyle Fujimoto Test Engineer
James Ross Test Engineer
Michael Gates Test Technician
Michael Christensen Lab Manager, Brea Division

2.4 Date Test Sample was Received

The test sample was received on July 9, 2008.

2.5 Disposition of the Test Sample

The sample has not been returned to Gatekeeper Systems, Inc. as of September 8, 2008.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4 2003	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

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

Setup and operation of the equipment under test.

Specifics of the EUT and Peripherals Tested

The CM Receiver, Model: E65400 (EUT) was connected to two dipole antennas via its antenna port #1 and antenna port #2. The EUT was powered by a 9-volt battery. The EUT was also continuously transmitting or receiving, depending on the test performed.

The EUT was also programmed via the dip switches and jumpers inside the EUT. This allowed the EUT to be placed in the low, middle, and high channels. The EUT was also continuously transmitting or receiving, depending on the test performed.

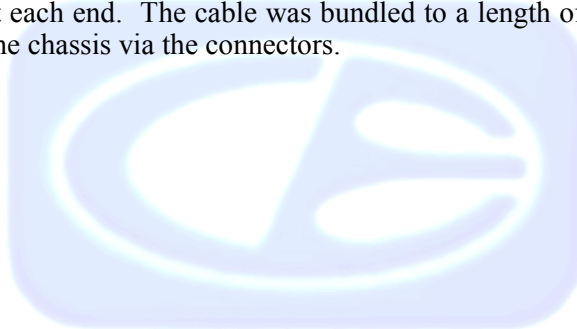
For this test report, the EUT was investigated for the announce radio (antenna port #1). For the data radio (antenna port #2), please see Compatible Electronics report number: **B80722B2**.

The final radiated data was taken in the mode above. Please see Appendix E for the data sheets.

4.2.1 Cable Construction and Termination

Cable 1 This is a 1.5-meter braid shielded cable connecting the EUT to antenna port #1. The cable has an SMA connector at each end. The cable was bundled to a length of 1 meter. The shield of the cable was grounded to the chassis via the connectors.

Cable 2 This is a 1.5-meter braid shielded cable connecting the EUT to antenna port #2. The cable has an SMA connector at each end. The cable was bundled to a length of 1 meter. The shield of the cable was grounded to the chassis via the connectors.



5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT**5.1 EUT and Accessory List**

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
CM RECEIVER (EUT)	GATEKEEPER SYSTEMS, INC.	E65400	N/A	TBD
DIPOLE ANTENNA #1	NEARSON	P/N: S151AM-2450S	N/A	N/A
DIPOLE ANTENNA #2	NEARSON	P/N: S151AM-2450S	N/A	N/A

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
EMI Receiver	Rohde & Schwarz	ESIB40	100172	November 27, 2006	Nov. 27, 2008
Biconical Antenna	Com Power	AB-900	15227	February 28, 2008	Feb. 28, 2009
Log Periodic Antenna	Com Power	AL-100	16252	June 27, 2008	June 27, 2009
Preamplifier	Com-Power	PA-103	1582	January 11, 2008	Jan. 11, 2009
Loop Antenna	Com Power	AL-130	17089	September 24, 2007	Sept. 24, 2009
Horn Antenna	Com Power	AH-118	071175	June 27, 2008	June 27, 2010
Microwave Preamplifier	Com Power	PA-122	181921	March 3, 2008	March 3, 2009
Microwave Preamplifier	Com Power	PA-840	711013	March 3, 2008	March 3, 2009
Horn Antenna	Com-Power	AH826	71957	December 12, 2007	Dec. 12, 2009
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
Antenna Mast	EMCO	2070	N/A	N/A	N/A
Multi-Device Controller	EMCO	2090	9609-1176	N/A	N/A

5.3 EMI Test Equipment for Brea Facility – Part 2

EQUIPMENT TYPE	MANU- FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION CYCLE
POWER MEASUREMENT TEST EQUIPMENT					
RF Peak Power Meter / Analyzer	Boonton Electronics Corp.	4500A-01-30	1282	June 30, 2008	June 30, 2009
Peak Power Sensor	Boonton Electronics Corp.	57318	3723	June 25, 2008	June 25, 2009

6. TEST SITE DESCRIPTION

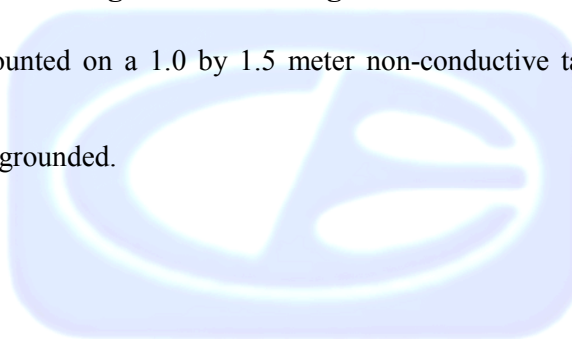
6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.



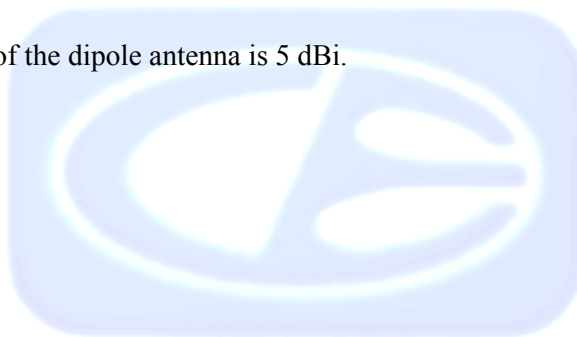
7. CHARACTERISTICS OF THE TRANSMITTER

7.1 Channel Number and Frequencies

Please see the theory of operation exhibit for the list of channels and their frequencies.

7.2 Antenna Gain

The antenna gain of the dipole antenna is 5 dBi.



8. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

8.1 RF Emissions

8.1.1 Conducted Emissions Test

The spectrum analyzer was used as a measuring meter. The data was collected with the spectrum analyzer in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the spectrum analyzer input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the spectrum analyzer. The output of the second LISN was terminated by a 50 ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by the Compatible Electronics conducted emissions software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

Test Results:

This test was not performed because the EUT operates on batteries only and cannot be plugged into the AC public mains.

8.1.2 Radiated Emissions (Spurious and Harmonics) Test

The EMI Receiver was used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: PA-103 was used for frequencies from 30 MHz to 1 GHz, and the Com-Power Microwave Preamplifier Models: PA-122 and PA-840 were used for frequencies above 1 GHz. The EMI Receiver was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the EMI Receiver records the highest measured reading over all the sweeps.

The frequencies above 1 GHz were averaged manually by narrowing the video filter down to 1 kHz ($VBW > 1/T$, with $T = 1.182365$ mS) and putting the sweep time on AUTO on the EMI Receiver to keep the amplitude reading calibrated.

Also, where indicated on the data sheets, an additional duty cycle correction factor of $20 \log(\text{Duty Cycle } \%)$ was applied to the manually averaged reading mentioned above.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

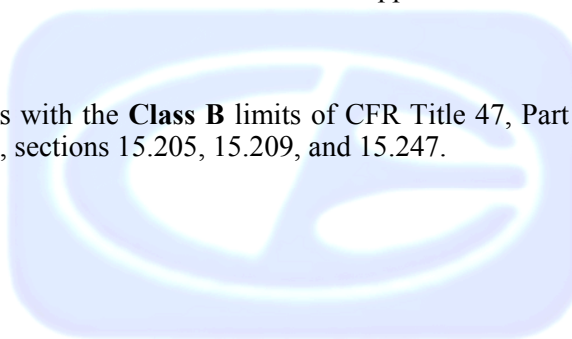
The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results. The loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

8.1.3 Radiated Emissions (Spurious and Harmonics) Test (Continued)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance to obtain the final test data. The final qualification data sheets are located in Appendix E.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.247.



8.2 6 dB Bandwidth

The 6 dB bandwidth was measured using the EMI Receiver. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz.

Test Results:

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (a)(2).



8.3 Peak Output Power

The Peak Output Power was taken using the power meter and power sensor. The EUT was directly connected to the power sensor, which was directly connected to the power meter. The Peak Output Power was then taken.

Test Results:

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (b)(3).

8.5 RF Antenna Conducted Test

The RF antenna conducted test was taken using the EMI Receiver. The RF antenna conducted test was measured using a direct connection from the RF out on the EUT into the input of the analyzer. The resolution bandwidth was 100 kHz, and the video bandwidth 300 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the intentional radiator.

Test Results:

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (d).

8.6 RF Band Edges

The RF band edges were taken at the edges of the ISM spectrum (2400 MHz when the EUT was on the low channel and 2483.5 MHz when the EUT was on the high channel) using the EMI Receiver. A preamplifier was used to boost the signal level, with the plots being taken at a 3 meter test distance. The frequencies below 2390 MHz and above 2483.5 MHz were also averaged manually by narrowing the video filter down to 10 kHz and putting the sweep time on AUTO on the spectrum analyzer to keep the amplitude reading calibrated.

The data radio was programmed so that the channel separation between the announce radio and data radio was at the minimum separation possible. This was to verify that the side bands of the data radio did not significantly add to the announce radio at the band edges.

The worst case band edge was with the EUT in the Y-Axis.

Test Results:

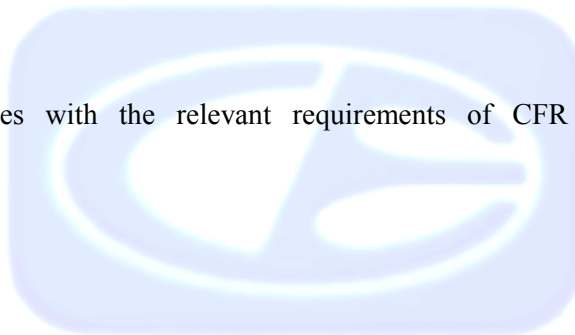
The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The emissions at the restricted bands at 2390 MHz and 2483.5 MHz meet the limits of section 15.209. Please see the data sheets located in Appendix E.

8.7 Spectral Density Test

The spectral density output was measured using the EMI Receiver. The spectral density output was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The resolution bandwidth was 3 kHz, and the video bandwidth was 10 kHz. The highest 1.5 MHz of the signal was used as the frequency span with the sweep rate being 1 second for every 3 kHz of span.

Test Results:

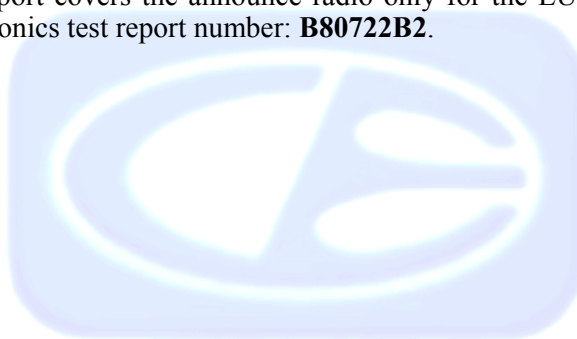
This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (e).



9. CONCLUSIONS

The CM Receiver, Model: E65400 meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.247 for the transmitter portion.

Note: This test report covers the announce radio only for the EUT. For the data radio, please see Compatible Electronics test report number: **B80722B2**.



APPENDIX A

LABORATORY RECOGNITIONS

LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200528-0

Voluntary Control Council for Interference - Registration Numbers: R-983, C-1026, R-984 and C-1027

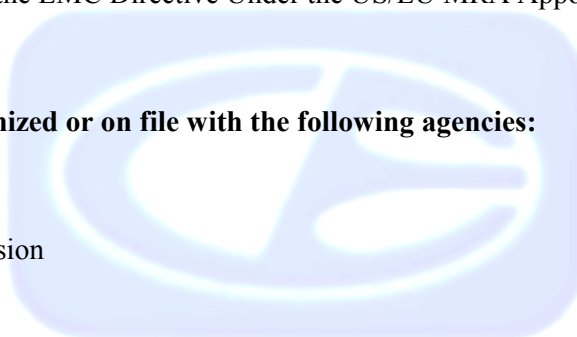
Bureau of Standards and Metrology Inspection - Reference Number: SL2-IN-E-1031

Conformity Assessment Body for the EMC Directive Under the US/EU MRA Appointed by NIST

Compatible Electronics is recognized or on file with the following agencies:

Federal Communications Commission

Industry Canada



APPENDIX B

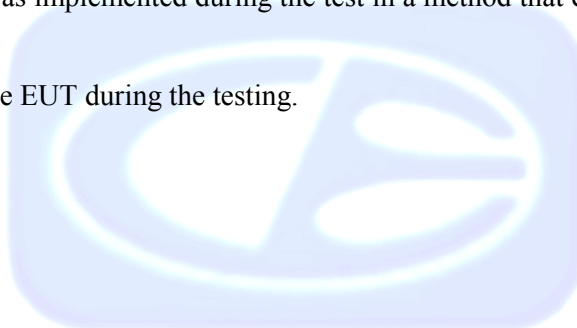
MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.247 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.



APPENDIX C***ADDITIONAL MODELS COVERED
UNDER THIS REPORT***

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

CM Receiver
Model: E65400
S/N: N/A

There were no additional models covered under this report.



APPENDIX D***DIAGRAMS, CHARTS, AND PHOTOS***

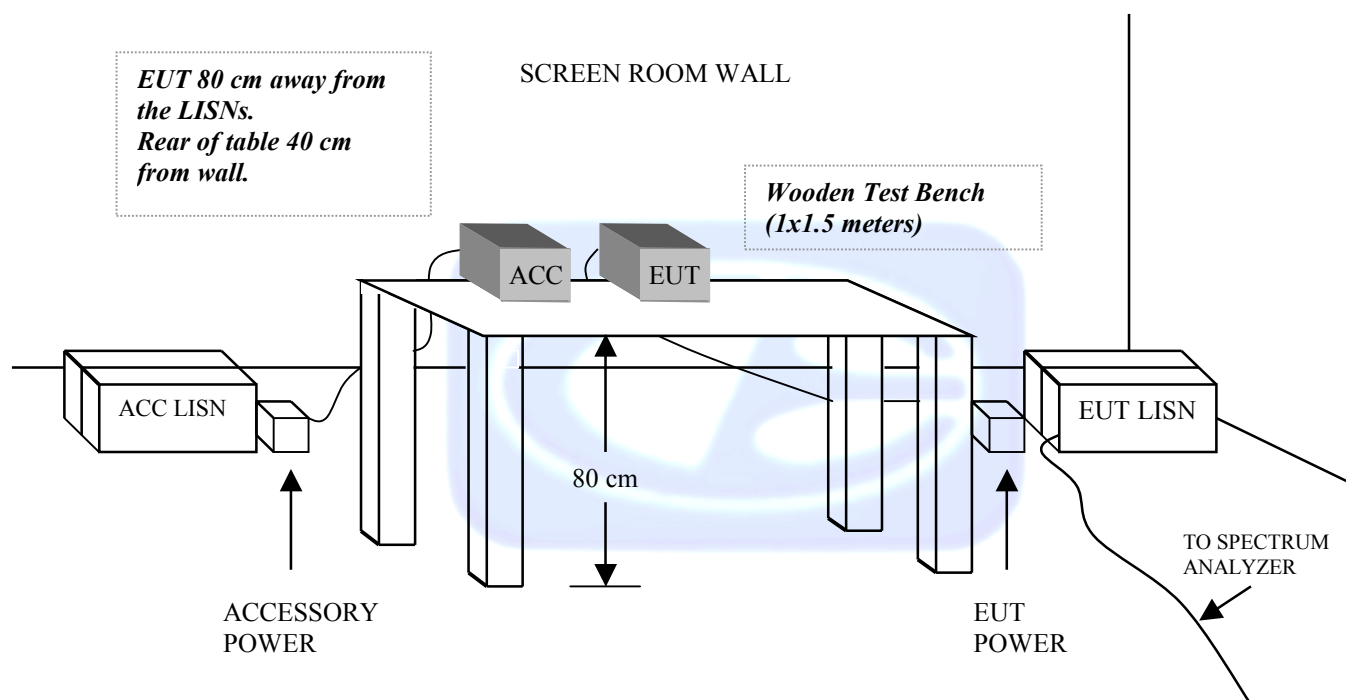
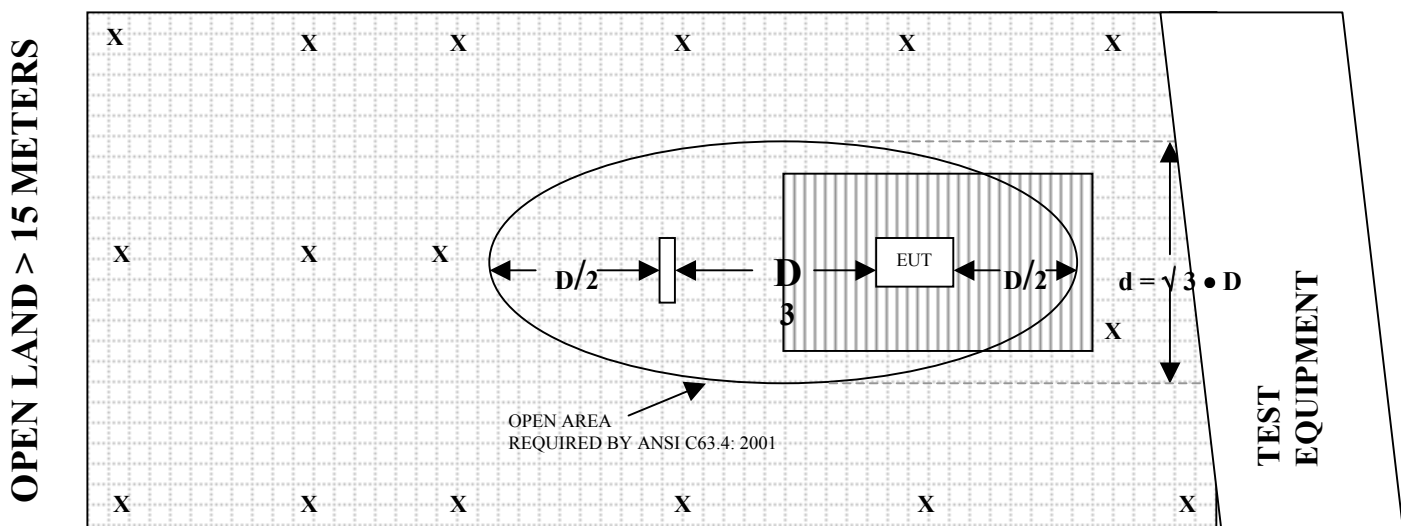
FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

FIGURE 2: PLOT MAP AND LAYOUT OF 3 METER RADIATED SITE

OPEN LAND > 15 METERS



OPEN LAND > 15 METERS

X	= GROUND RODS		= GROUND SCREEN
D	= TEST DISTANCE (meters)		= WOOD COVER

COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15227

CALIBRATION DATE: FEBRUARY 28, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	12.3	100	10.6
35	9.4	120	13.6
40	9.0	140	11.8
45	9.9	160	12.3
50	11.3	180	15.7
60	9.4	200	16.8
70	7.4	250	14.5
80	6.2	275	18.7
90	6.8	300	21.4

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16252

CALIBRATION DATE: JUNE 27, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.5	700	19.3
400	14.8	800	21.3
500	16.7	900	22.0
600	18.8	1000	22.8

COM-POWER PA-103**PREAMPLIFIER**

S/N: 1582

CALIBRATION DATE: JANUARY 11, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	32.9	300	32.4
40	32.7	350	32.4
50	32.8	400	32.2
60	32.9	450	31.7
70	32.9	500	32.1
80	32.9	550	31.8
90	32.7	600	32.0
100	32.8	650	32.0
125	32.9	700	32.1
150	32.6	750	32.0
175	32.7	800	31.6
200	32.7	850	31.6
225	32.5	900	31.5
250	32.7	950	31.7
275	32.5	1000	31.3

COM-POWER PA-122**PREAMPLIFIER**

S/N: 181921

CALIBRATION DATE: MARCH 3, 2008

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	36.32	10.0	35.47
1.5	35.40	10.5	35.05
2.0	34.77	11.0	34.16
2.5	35.07	11.5	33.75
3.0	34.86	12.0	34.65
3.5	34.48	12.5	34.41
4.0	34.30	13.0	35.36
4.5	33.96	13.5	35.30
5.0	34.06	14.0	35.87
5.5	34.54	14.5	36.44
6.0	35.90	15.0	36.24
6.5	36.85	15.5	35.92
7.0	36.55	16.0	35.53
7.5	35.31	16.5	35.29
8.0	33.57	17.0	34.96
8.5	33.36	17.5	34.02
9.0	35.01	18.0	33.39
9.5	35.97		

COM-POWER AH-118**HORN ANTENNA**

S/N: 071175

CALIBRATION DATE: JUNE 27, 2008

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.5	10.0	39.4
1.5	25.4	10.5	39.7
2.0	28.3	11.0	39.0
2.5	28.9	11.5	40.0
3.0	29.7	12.0	39.7
3.5	30.8	12.5	41.7
4.0	31.4	13.0	42.7
4.5	32.6	13.5	41.2
5.0	33.7	14.0	41.6
5.5	34.4	14.5	43.2
6.0	34.7	15.0	42.3
6.5	35.4	15.5	39.3
7.0	37.0	16.0	41.7
7.5	37.4	16.5	39.6
8.0	37.6	17.0	43.0
8.5	37.6	17.5	47.1
9.0	38.5	18.0	46.2
9.5	38.6		

COM-POWER AL-130**LOOP ANTENNA**

S/N: 17089

CALIBRATION DATE: SEPTEMBER 24, 2007

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.27	10.23
0.01	-41.96	9.54
0.02	-41.73	9.77
0.03	-40.46	11.04
0.04	-40.56	10.94
0.05	-42.00	9.50
0.06	-41.30	10.20
0.1	-41.43	10.07
0.2	-43.90	7.60
0.3	-41.43	10.07
0.4	-41.40	10.10
0.5	-41.40	10.10
0.6	-40.93	10.57
1	-40.83	10.67
2	-40.3	11.20
5	-40.2	11.30
8	-40.6	10.90
9	-40.1	11.40
10	-40.4	11.10
15	-41.67	9.83
20	-41.10	10.40
25	-42.8	8.70
30	-42.8	8.70

COM-POWER PA-840**MICROWAVE PREAMPLIFIER**

S/N: 711013

CALIBRATION DATE: MARCH 3, 2008

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	27.49	29.5	26.44
18.5	28.46	30.0	26.95
19.0	28.98	30.5	26.42
19.5	28.46	31.0	27.11
20.0	28.23	31.5	27.27
20.5	27.44	32.0	26.76
21.0	26.91	32.5	24.49
21.5	26.65	33.0	23.19
22.0	26.50	33.5	22.57
22.5	27.15	34.0	22.11
23.0	27.36	34.5	23.52
23.5	27.08	35.0	24.86
24.0	26.36	35.5	25.52
24.5	24.95	36.0	25.81
25.0	26.83	36.5	22.08
25.5	27.00	37.0	23.31
26.0	27.58	37.5	26.91
26.5	26.02	38.0	25.89
27.0	24.20	38.5	24.75
27.5	23.64	39.0	25.77
28.0	26.39	39.5	25.83
28.5	26.66	40.0	27.62
29.0	26.40		

COM-POWER AH826**HORN ANTENNA****S/N: 71957****CALIBRATION DATE: DECEMBER 12, 2007**

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	33.5	22.5	35.5
18.5	33.5	23.0	35.9
19.0	34.0	23.5	35.7
19.5	34.0	24.0	35.6
20.0	34.3	24.5	36.0
20.5	34.9	25.0	36.2
21.0	34.7	25.5	36.1
21.5	35.0	26.0	36.2
22.0	35.0	26.5	35.7



FRONT VIEW

GATEKEEPER SYSTEMS, INC.

CM RECEIVER

MODEL: E65400

FCC SUBPART B AND C – RADIATED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400



REAR VIEW

GATEKEEPER SYSTEMS, INC.
CM RECEIVER
MODEL: E65400
FCC SUBPART B AND C – RADIATED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

APPENDIX E

DATA SHEETS

SPURIOUS EMISSIONS

DATA SHEETS

FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

Low Channel - X-Axis**500 MSK Radio**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4805.04	56.78	V	74	-17.22	Peak	1.15	45	
4805.04	52.97	V	54	-1.03	Avg	1.15	45	Video Averaging Only
4805.04	45.22	V	54	-8.78	Avg	1.15	45	Video Averaging + Duty Cycle
7207.56	48.06	V	74	-25.94	Peak	1.15	150	
7207.56	38.01	V	54	-15.99	Avg	1.15	150	Video Averaging Only
9610.08		V	--	--	Peak			No Emission
9610.08		V	--	--	Avg			Detected
12012.6		V	--	--	Peak			No Emission
12012.6		V	--	--	Avg			Detected
14415.1		V	--	--	Peak			No Emission
14415.1		V	--	--	Avg			Detected
16817.6		V	--	--	Peak			No Emission
16817.6		V	--	--	Avg			Detected
19220.2		V	--	--	Peak			No Emission
19220.2		V	--	--	Avg			Detected
21622.7		V	--	--	Peak			No Emission
21622.7		V	--	--	Avg			Detected
24025.2		V	--	--	Peak			No Emission
24025.2		V	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

Low Channel - X-Axis**500 MSK Radio**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4805.04	56.51	H	74	-17.49	Peak	1.15	135	
4805.04	53.06	H	54	-0.94	Avg	1.15	135	Video Averaging Only
4805.04	45.31	H	54	-8.69	Avg	1.15	135	Video Averaging + Duty Cycle
7207.56	47.31	H	74	-26.69	Peak	1.16	150	
7207.56	37.9	H	54	-16.1	Avg	1.16	150	Video Averaging Only
9610.08		H	--	--	Peak			No Emission
9610.08		H	--	--	Avg			Detected
12012.6		H	--	--	Peak			No Emission
12012.6		H	--	--	Avg			Detected
14415.1		H	--	--	Peak			No Emission
14415.1		H	--	--	Avg			Detected
16817.6		H	--	--	Peak			No Emission
16817.6		H	--	--	Avg			Detected
19220.2		H	--	--	Peak			No Emission
19220.2		H	--	--	Avg			Detected
21622.7		H	--	--	Peak			No Emission
21622.7		H	--	--	Avg			Detected
24025.2		H	--	--	Peak			No Emission
24025.2		H	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

Low Channel - Y-Axis**500 MSK Radio**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4805.04	56.71	V	74	-17.29	Peak	1.18	150	
4805.04	52.72	V	54	-1.28	Avg	1.18	150	Video Averaging Only
4805.04	44.97	V	54	-9.03	Avg	1.18	150	Video Averaging + Duty Cycle
7207.56	48.56	V	74	-25.44	Peak	1.16	150	
7207.56	39.04	V	54	-14.96	Avg	1.16	150	Video Averaging Only
9610.08		V	--	--	Peak			No Emission
9610.08		V	--	--	Avg			Detected
12012.6		V	--	--	Peak			No Emission
12012.6		V	--	--	Avg			Detected
14415.1		V	--	--	Peak			No Emission
14415.1		V	--	--	Avg			Detected
16817.6		V	--	--	Peak			No Emission
16817.6		V	--	--	Avg			Detected
19220.2		V	--	--	Peak			No Emission
19220.2		V	--	--	Avg			Detected
21622.7		V	--	--	Peak			No Emission
21622.7		V	--	--	Avg			Detected
24025.2		V	--	--	Peak			No Emission
24025.2		V	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

Low Channel - Y-Axis**500 MSK Radio**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4805.04	56.25	H	74	-17.75	Peak	1.15	135	
4805.04	53.11	H	54	-0.89	Avg	1.15	135	Video Averaging Only
4805.04	45.36	H	54	-8.64	Avg	1.15	135	Video Averaging + Duty Cycle
7207.56	48.85	H	74	-25.15	Peak	1.16	125	
7207.56	35.97	H	54	-18.03	Avg	1.16	125	Video Averaging Only
9610.08		H	--	--	Peak			No Emission
9610.08		H	--	--	Avg			Detected
12012.6		H	--	--	Peak			No Emission
12012.6		H	--	--	Avg			Detected
14415.1		H	--	--	Peak			No Emission
14415.1		H	--	--	Avg			Detected
16817.6		H	--	--	Peak			No Emission
16817.6		H	--	--	Avg			Detected
19220.2		H	--	--	Peak			No Emission
19220.2		H	--	--	Avg			Detected
21622.7		H	--	--	Peak			No Emission
21622.7		H	--	--	Avg			Detected
24025.2		H	--	--	Peak			No Emission
24025.2		H	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

Low Channel - Z-Axis**500 MSK Radio**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4805.04	53.37	V	74	-20.63	Peak	1.16	150	
4805.04	50.21	V	54	-3.79	Avg	1.16	150	Video Averaging Only
4805.04	42.46	V	54	-11.54	Avg	1.16	150	Video Averaging + Duty Cycle
7207.56	47.33	V	74	-26.67	Peak	1.16	135	
7207.56	37.43	V	54	-16.57	Avg	1.16	135	Video Averaging Only
9610.08		V	--	--	Peak			No Emission
9610.08		V	--	--	Avg			Detected
12012.6		V	--	--	Peak			No Emission
12012.6		V	--	--	Avg			Detected
14415.1		V	--	--	Peak			No Emission
14415.1		V	--	--	Avg			Detected
16817.6		V	--	--	Peak			No Emission
16817.6		V	--	--	Avg			Detected
19220.2		V	--	--	Peak			No Emission
19220.2		V	--	--	Avg			Detected
21622.7		V	--	--	Peak			No Emission
21622.7		V	--	--	Avg			Detected
24025.2		V	--	--	Peak			No Emission
24025.2		V	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

Low Channel - Z-Axis**500 MSK Radio**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4805.04	55.63	H	74	-18.37	Peak	1.15	150	
4805.04	52.61	H	54	-1.39	Avg	1.15	150	Video Averaging Only
4805.04	44.86	H	54	-9.14	Avg	1.15	150	Video Averaging + Duty Cycle
7207.56	49.53	H	74	-24.47	Peak	1.16	150	
7207.56	37.39	H	54	-16.61	Avg	1.16	150	Video Averaging Only
9610.08		H	--	--	Peak			No Emission
9610.08		H	--	--	Avg			Detected
12012.6		H	--	--	Peak			No Emission
12012.6		H	--	--	Avg			Detected
14415.1		H	--	--	Peak			No Emission
14415.1		H	--	--	Avg			Detected
16817.6		H	--	--	Peak			No Emission
16817.6		H	--	--	Avg			Detected
19220.2		H	--	--	Peak			No Emission
19220.2		H	--	--	Avg			Detected
21622.7		H	--	--	Peak			No Emission
21622.7		H	--	--	Avg			Detected
24025.2		H	--	--	Peak			No Emission
24025.2		H	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.
CM Receiver
Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

Middle Channel - X-Axis
500 MSK Radio

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4878.52	57.14	V	74	-16.86	Peak	1.15	225	
4878.52	53.88	V	54	-0.12	Avg	1.15	225	Video Averaging Only
4878.52	46.13	V	54	-7.87	Avg	1.15	225	Video Averaging + Duty Cycle
7317.78	48.07	V	74	-25.93	Peak	1.16	150	
7317.78	37.23	V	54	-16.77	Avg	1.16	150	Video Averaging Only
9757.0		V	--	--	Peak			No Emission
9757.0		V	--	--	Avg			Detected
12196.3		V	--	--	Peak			No Emission
12196.3		V	--	--	Avg			Detected
14635.6		V	--	--	Peak			No Emission
14635.6		V	--	--	Avg			Detected
17074.8		V	--	--	Peak			No Emission
17074.8		V	--	--	Avg			Detected
19514.1		V	--	--	Peak			No Emission
19514.1		V	--	--	Avg			Detected
21953.3		V	--	--	Peak			No Emission
21953.3		V	--	--	Avg			Detected
24392.6		V	--	--	Peak			No Emission
24392.6		V	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.
CM Receiver
Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

Middle Channel - X-Axis
500 MSK Radio

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4878.52	62.12	H	74	-11.88	Peak	1	180	
4878.52	54.37	H	54	0.37	Avg	1	180	Video Averaging Only
4878.52	46.62	H	54	-7.38	Avg	1	180	Video Averaging + Duty Cycle
7317.78	48.05	H	74	-25.95	Peak	1.15	225	
7317.78	38.98	H	54	-15.02	Avg	1.15	225	Video Averaging Only
9757.0		H	--	--	Peak			No Emission
9757.0		H	--	--	Avg			Detected
12196.3		H	--	--	Peak			No Emission
12196.3		H	--	--	Avg			Detected
14635.6		H	--	--	Peak			No Emission
14635.6		H	--	--	Avg			Detected
17074.8		H	--	--	Peak			No Emission
17074.8		H	--	--	Avg			Detected
19514.1		H	--	--	Peak			No Emission
19514.1		H	--	--	Avg			Detected
21953.3		H	--	--	Peak			No Emission
21953.3		H	--	--	Avg			Detected
24392.6		H	--	--	Peak			No Emission
24392.6		H	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.
 CM Receiver
 Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

Middle Channel - Y-Axis
500 MSK Radio

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4878.52	56.86	V	74	-17.14	Peak	1.16	135	
4878.52	50.52	V	54	-3.48	Avg	1.16	135	Video Averaging Only
4878.52	42.77	V	54	-11.23	Avg	1.16	135	Video Averaging + Duty Cycle
7317.78	49.09	V	74	-24.91	Peak	1.15	135	
7317.78	37.21	V	54	-16.79	Avg	1.15	135	Video Averaging Only
9757.0		V	--	--	Peak			No Emission
9757.0		V	--	--	Avg			Detected
12196.3		V	--	--	Peak			No Emission
12196.3		V	--	--	Avg			Detected
14635.6		V	--	--	Peak			No Emission
14635.6		V	--	--	Avg			Detected
17074.8		V	--	--	Peak			No Emission
17074.8		V	--	--	Avg			Detected
19514.1		V	--	--	Peak			No Emission
19514.1		V	--	--	Avg			Detected
21953.3		V	--	--	Peak			No Emission
21953.3		V	--	--	Avg			Detected
24392.6		V	--	--	Peak			No Emission
24392.6		V	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.
 CM Receiver
 Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

Middle Channel - Y-Axis
500 MSK Radio

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4878.52	57.51	H	74	-16.49	Peak	1.25	135	
4878.52	54.22	H	54	0.22	Avg	1.25	135	Video Averaging Only
4878.52	46.47	H	54	-7.53	Avg	1.25	135	Video Averaging + Duty Cycle
7317.78	48.33	H	74	-25.67	Peak	1.16	135	
7317.78	36.26	H	54	-17.74	Avg	1.16	135	Video Averaging Only
9757.0		H	--	--	Peak			No Emission
9757.0		H	--	--	Avg			Detected
12196.3		H	--	--	Peak			No Emission
12196.3		H	--	--	Avg			Detected
14635.6		H	--	--	Peak			No Emission
14635.6		H	--	--	Avg			Detected
17074.8		H	--	--	Peak			No Emission
17074.8		H	--	--	Avg			Detected
19514.1		H	--	--	Peak			No Emission
19514.1		H	--	--	Avg			Detected
21953.3		H	--	--	Peak			No Emission
21953.3		H	--	--	Avg			Detected
24392.6		H	--	--	Peak			No Emission
24392.6		H	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

Middle Channel - Z-Axis**500 MSK Radio**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4878.52	57.01	V	74	-16.99	Peak	1.15	225	
4878.52	51.91	V	54	-2.09	Avg	1.15	225	Video Averaging Only
4878.52	44.16	V	54	-9.84	Avg	1.15	225	Video Averaging + Duty Cycle
7317.78	48.09	V	74	-25.91	Peak	1.19	150	
7317.78	36.91	V	54	-17.09	Avg	1.19	150	Video Averaging Only
9757.0		V	--	--	Peak			No Emission
9757.0		V	--	--	Avg			Detected
12196.3		V	--	--	Peak			No Emission
12196.3		V	--	--	Avg			Detected
14635.6		V	--	--	Peak			No Emission
14635.6		V	--	--	Avg			Detected
17074.8		V	--	--	Peak			No Emission
17074.8		V	--	--	Avg			Detected
19514.1		V	--	--	Peak			No Emission
19514.1		V	--	--	Avg			Detected
21953.3		V	--	--	Peak			No Emission
21953.3		V	--	--	Avg			Detected
24392.6		V	--	--	Peak			No Emission
24392.6		V	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.
 CM Receiver
 Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

Middle Channel - Z-Axis
500 MSK Radio

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4878.52	58.31	H	74	-15.69	Peak	1.15	225	
4878.52	53.92	H	54	-0.08	Avg	1.15	225	Video Averaging Only
4878.52	46.17	H	54	-7.83	Avg	1.15	225	Video Averaging + Duty Cycle
7317.78	48.31	H	74	-25.69	Peak	1.16	150	
7317.78	37.67	H	54	-16.33	Avg	1.16	150	Video Averaging Only
9757.0		H	--	--	Peak			No Emission
9757.0		H	--	--	Avg			Detected
12196.3		H	--	--	Peak			No Emission
12196.3		H	--	--	Avg			Detected
14635.6		H	--	--	Peak			No Emission
14635.6		H	--	--	Avg			Detected
17074.8		H	--	--	Peak			No Emission
17074.8		H	--	--	Avg			Detected
19514.1		H	--	--	Peak			No Emission
19514.1		H	--	--	Avg			Detected
21953.3		H	--	--	Peak			No Emission
21953.3		H	--	--	Avg			Detected
24392.6		H	--	--	Peak			No Emission
24392.6		H	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

**High Channel - X-Axis
500 MSK Radio**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4949.58	56.31	V	74	-17.69	Peak	1.15	0	
4949.58	52.21	V	54	-1.79	Avg	1.15	0	Video Averaging Only
4949.58	44.46	V	54	-9.54	Avg	1.15	0	Video Averaging + Duty Cycle
7424.37	48.94	V	74	-25.06	Peak	1.15	150	
7424.37	36.25	V	54	-17.75	Avg	1.15	150	Video Averaging Only
9899.16		V	--	--	Peak			No Emission
9899.16		V	--	--	Avg			Detected
12374		V	--	--	Peak			No Emission
12374		V	--	--	Avg			Detected
14848.7		V	--	--	Peak			No Emission
14848.7		V	--	--	Avg			Detected
17323.5		V	--	--	Peak			No Emission
17323.5		V	--	--	Avg			Detected
19798.3		V	--	--	Peak			No Emission
19798.3		V	--	--	Avg			Detected
22273.1		V	--	--	Peak			No Emission
22273.1		V	--	--	Avg			Detected
24747.9		V	--	--	Peak			No Emission
24747.9		V	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

High Channel - X-Axis**500 MSK Radio**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4949.58	54.23	H	74	-19.77	Peak	1.15	135	
4949.58	50.17	H	54	-3.83	Avg	1.15	135	Video Averaging Only
4949.58	42.42	H	54	-11.58	Avg	1.15	135	Video Averaging + Duty Cycle
7424.37	48.12	H	74	-25.88	Peak	1.16	150	
7424.37	38.51	H	54	-15.49	Avg	1.16	150	Video Averaging Only
9899.16		H	--	--	Peak			No Emission
9899.16		H	--	--	Avg			Detected
12374		H	--	--	Peak			No Emission
12374		H	--	--	Avg			Detected
14848.7		H	--	--	Peak			No Emission
14848.7		H	--	--	Avg			Detected
17323.5		H	--	--	Peak			No Emission
17323.5		H	--	--	Avg			Detected
19798.3		H	--	--	Peak			No Emission
19798.3		H	--	--	Avg			Detected
22273.1		H	--	--	Peak			No Emission
22273.1		H	--	--	Avg			Detected
24747.9		H	--	--	Peak			No Emission
24747.9		H	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

**High Channel - Y-Axis
500 MSK Radio**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4949.58	60.24	V	74	-13.76	Peak	1.15	135	
4949.58	56.51	V	54	2.51	Avg	1.15	135	Video Averaging Only
4949.58	48.76	V	54	-5.24	Avg	1.15	135	Video Averaging + Duty Cycle
7424.37	47.81	V	74	-26.19	Peak	1.16	135	
7424.37	37.46	V	54	-16.54	Avg	1.16	135	Video Averaging Only
9899.16		V	--	--	Peak			No Emission
9899.16		V	--	--	Avg			Detected
12374		V	--	--	Peak			No Emission
12374		V	--	--	Avg			Detected
14848.7		V	--	--	Peak			No Emission
14848.7		V	--	--	Avg			Detected
17323.5		V	--	--	Peak			No Emission
17323.5		V	--	--	Avg			Detected
19798.3		V	--	--	Peak			No Emission
19798.3		V	--	--	Avg			Detected
22273.1		V	--	--	Peak			No Emission
22273.1		V	--	--	Avg			Detected
24747.9		V	--	--	Peak			No Emission
24747.9		V	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

High Channel - Y-Axis**500 MSK Radio**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4949.58	56.96	H	74	-17.04	Peak	1.15	150	
4949.58	53.43	H	54	-0.57	Avg	1.15	150	Video Averaging Only
4949.58	45.68	H	54	-8.32	Avg	1.15	150	Video Averaging + Duty Cycle
7424.37	48.72	H	74	-25.28	Peak	1.16	135	
7424.37	36.34	H	54	-17.66	Avg	1.16	135	Video Averaging Only
9899.16		H	--	--	Peak			No Emission
9899.16		H	--	--	Avg			Detected
12374		H	--	--	Peak			No Emission
12374		H	--	--	Avg			Detected
14848.7		H	--	--	Peak			No Emission
14848.7		H	--	--	Avg			Detected
17323.5		H	--	--	Peak			No Emission
17323.5		H	--	--	Avg			Detected
19798.3		H	--	--	Peak			No Emission
19798.3		H	--	--	Avg			Detected
22273.1		H	--	--	Peak			No Emission
22273.1		H	--	--	Avg			Detected
24747.9		H	--	--	Peak			No Emission
24747.9		H	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

High Channel - Z-Axis**500 MSK Radio**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4949.58	60.03	V	74	-13.97	Peak	1.15	225	
4949.58	56.75	V	54	2.75	Avg	1.15	225	Video Averaging Only
4949.58	49	V	54	-5	Avg	1.15	225	Video Averaging + Duty Cycle
7424.37	48.43	V	74	-25.57	Peak	1.19	150	
7424.37	36.08	V	54	-17.92	Avg	1.19	150	Video Averaging Only
9899.16		V	--	--	Peak			No Emission
9899.16		V	--	--	Avg			Detected
12374		V	--	--	Peak			No Emission
12374		V	--	--	Avg			Detected
14848.7		V	--	--	Peak			No Emission
14848.7		V	--	--	Avg			Detected
17323.5		V	--	--	Peak			No Emission
17323.5		V	--	--	Avg			Detected
19798.3		V	--	--	Peak			No Emission
19798.3		V	--	--	Avg			Detected
22273.1		V	--	--	Peak			No Emission
22273.1		V	--	--	Avg			Detected
24747.9		V	--	--	Peak			No Emission
24747.9		V	--	--	Avg			Detected

FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

High Channel - Z-Axis**500 MSK Radio**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4949.58	59.08	H	74	-14.92	Peak	1.36	225	
4949.58	56.04	H	54	2.04	Avg	1.36	225	Video Averaging Only
4949.58	48.29	H	54	-5.71	Avg	1.36	225	Video Averaging + Duty Cycle
7424.37	47.55	H	74	-26.45	Peak	1.16	270	
7424.37	36.38	H	54	-17.62	Avg	1.16	270	Video Averaging Only
9899.16		H	--	--	Peak			No Emission
9899.16		H	--	--	Avg			Detected
12374		H	--	--	Peak			No Emission
12374		H	--	--	Avg			Detected
14848.7		H	--	--	Peak			No Emission
14848.7		H	--	--	Avg			Detected
17323.5		H	--	--	Peak			No Emission
17323.5		H	--	--	Avg			Detected
19798.3		H	--	--	Peak			No Emission
19798.3		H	--	--	Avg			Detected
22273.1		H	--	--	Peak			No Emission
22273.1		H	--	--	Avg			Detected
24747.9		H	--	--	Peak			No Emission
24747.9		H	--	--	Avg			Detected



Test Location : Compatible Electronics

Customer : Gatekeeper

Manufacturer : Gatekeeper

Eut name : 2.4 GHz Transceiver

Model : CM Receiver

Serial # : N/A

Specification : FCC B

Page : 1/2

Date : 7/24/2008

Time : 9:22:43

Lab : A

Test Distance : 3.0 Meters

Distance correction factor (20 * log(test/spec)) : 0.00

Test Mode : Radiated Emissions Qualification
30 MHz to 1 GHz Vertical and Horizontal
Clocks: 10 MHz and 13 MHz
Test Engineers: James Ross and Michael Gates

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	Limit = L dBuV/m	Delta R-L dB
1H	208.072	49.30	3.00	16.39	32.63	36.06	43.50	-7.44
2H	221.067	46.10	3.16	15.77	32.53	32.49	46.00	-13.51
3H	247.059	42.30	3.47	14.62	32.68	27.71	46.00	-18.29
4H	260.065	46.80	3.54	16.24	32.62	33.96	46.00	-12.04
5H	250.086	50.80	3.50	14.52	32.70	36.12	46.00	-9.88
6H	195.038	39.00	2.90	16.54	32.70	25.74	43.50	-17.76
7V	260.071	56.20	3.54	16.24	32.62	43.36	46.00	-2.64
8V	260.074Qp	54.71	3.54	16.24	32.62	41.88	46.00	-4.12
9V	247.058	50.10	3.47	14.62	32.68	35.51	46.00	-10.49
10V	208.067	51.10	3.00	16.39	32.63	37.86	43.50	-5.64
11V	221.067	49.20	3.16	15.77	32.53	35.59	46.00	-10.41
12V	143.080	50.30	2.45	11.88	32.68	31.95	43.50	-11.55
13V	156.078	48.50	2.60	12.21	32.63	30.68	43.50	-12.82
14V	182.087	53.90	2.90	15.82	32.70	39.92	43.50	-3.58
15V	234.057	47.30	3.31	15.18	32.57	33.22	46.00	-12.78
16V	273.076	50.70	3.59	18.39	32.51	40.17	46.00	-5.83
17V	286.043	42.10	3.65	19.92	32.45	33.21	46.00	-12.79
18V	299.043	39.00	3.70	21.30	32.40	31.59	46.00	-14.41
19H	273.043	40.30	3.59	18.39	32.51	29.76	46.00	-16.24
20H	286.089	46.00	3.65	19.93	32.45	37.12	46.00	-8.88
21V	312.075	46.60	3.90	13.68	32.40	31.78	46.00	-14.22
22V	364.075	42.40	4.53	14.37	32.34	28.96	46.00	-17.04
23V	416.073	46.00	4.70	15.14	32.03	33.80	46.00	-12.20
24V	442.057	39.60	4.85	15.65	31.78	28.33	46.00	-17.67
25V	546.057	42.40	5.68	17.71	31.82	33.97	46.00	-12.03
26V	572.057	37.80	5.84	18.25	31.89	30.00	46.00	-16.00
27V	637.057	38.80	6.22	18.99	32.00	32.02	46.00	-13.98
28V	650.057	40.50	6.30	19.06	32.00	33.86	46.00	-12.14
29V	702.057	43.50	6.52	19.34	32.10	37.27	46.00	-8.73
30V	728.057	42.80	6.73	19.89	32.04	37.37	46.00	-8.63
31V	520.056	38.00	5.52	17.15	31.98	28.70	46.00	-17.30
32V	585.058	36.60	5.91	18.51	31.94	29.08	46.00	-16.92
33V	715.056	38.30	6.62	19.62	32.07	32.47	46.00	-13.53



Test Location : Compatible Electronics
Customer : Gatekeeper
Manufacturer : Gatekeeper
Eut name : 2.4 GHz Transceiver
Model : CM Receiver
Serial # : N/A
Specification : FCC B

Page : 2/2
Date : 7/24/2008
Time : 9:22:43
Lab : A

Test Distance : 3.0

Distance correction factor ($20 * \log(\text{test}/\text{spec})$) : 0.00

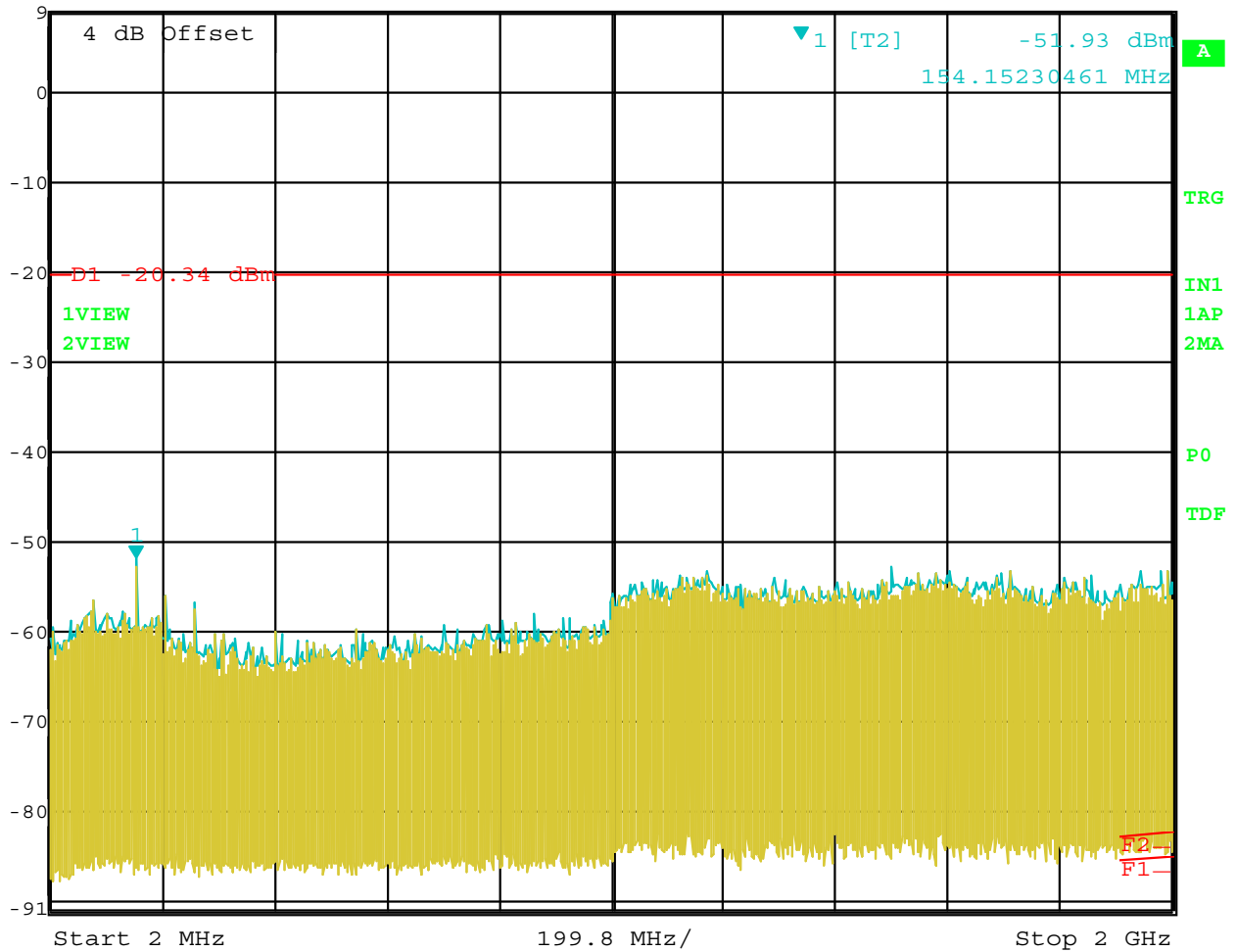
Test Mode : Radiated Emissions Qualification
30 MHz to 1 GHz Vertical and Horizontal
Clocks: 10 MHz and 13 MHz
Test Engineers: James Ross and Michael Gates

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	Limit = L dBuV/m	Delta R-L dB
34V	780.056	38.80	7.02	20.92	31.76	34.99	46.00	-11.01
35H	312.066	49.90	3.90	13.68	32.40	35.08	46.00	-10.92
36H	338.066	45.90	4.32	14.04	32.40	31.86	46.00	-14.14
37H	364.066	52.90	4.53	14.37	32.34	39.46	46.00	-6.54
38H	390.066	44.70	4.58	14.69	32.24	31.73	46.00	-14.27
39H	416.066	46.50	4.70	15.14	32.03	34.30	46.00	-11.70
40H	442.066	44.70	4.85	15.65	31.78	33.43	46.00	-12.57
41H	468.066	41.60	5.09	16.14	31.85	30.98	46.00	-15.02
42H	494.066	43.90	5.34	16.60	32.05	33.79	46.00	-12.21
43H	507.066	39.30	5.44	16.86	32.06	29.55	46.00	-16.45
44H	520.066	42.10	5.52	17.15	31.98	32.80	46.00	-13.20
45H	533.066	40.40	5.60	17.44	31.90	31.54	46.00	-14.46
46H	546.066	46.50	5.68	17.72	31.82	38.07	46.00	-7.93
47H	611.066	40.90	6.07	18.86	32.00	33.83	46.00	-12.17
48H	663.066	39.70	6.35	19.12	32.03	33.15	46.00	-12.85
49H	689.066	38.60	6.46	19.25	32.08	32.23	46.00	-13.77
50H	702.066	46.70	6.52	19.34	32.10	40.47	46.00	-5.53

RF ANTENNA CONDUCTED
DATA SHEETS



Marker 1 [T2] RBW 100 kHz RF Att 30 dB
Ref Lvl -51.93 dBm VBW 300 kHz
9 dBm 154.15230461 MHz SWT 1.15 s Unit dBm



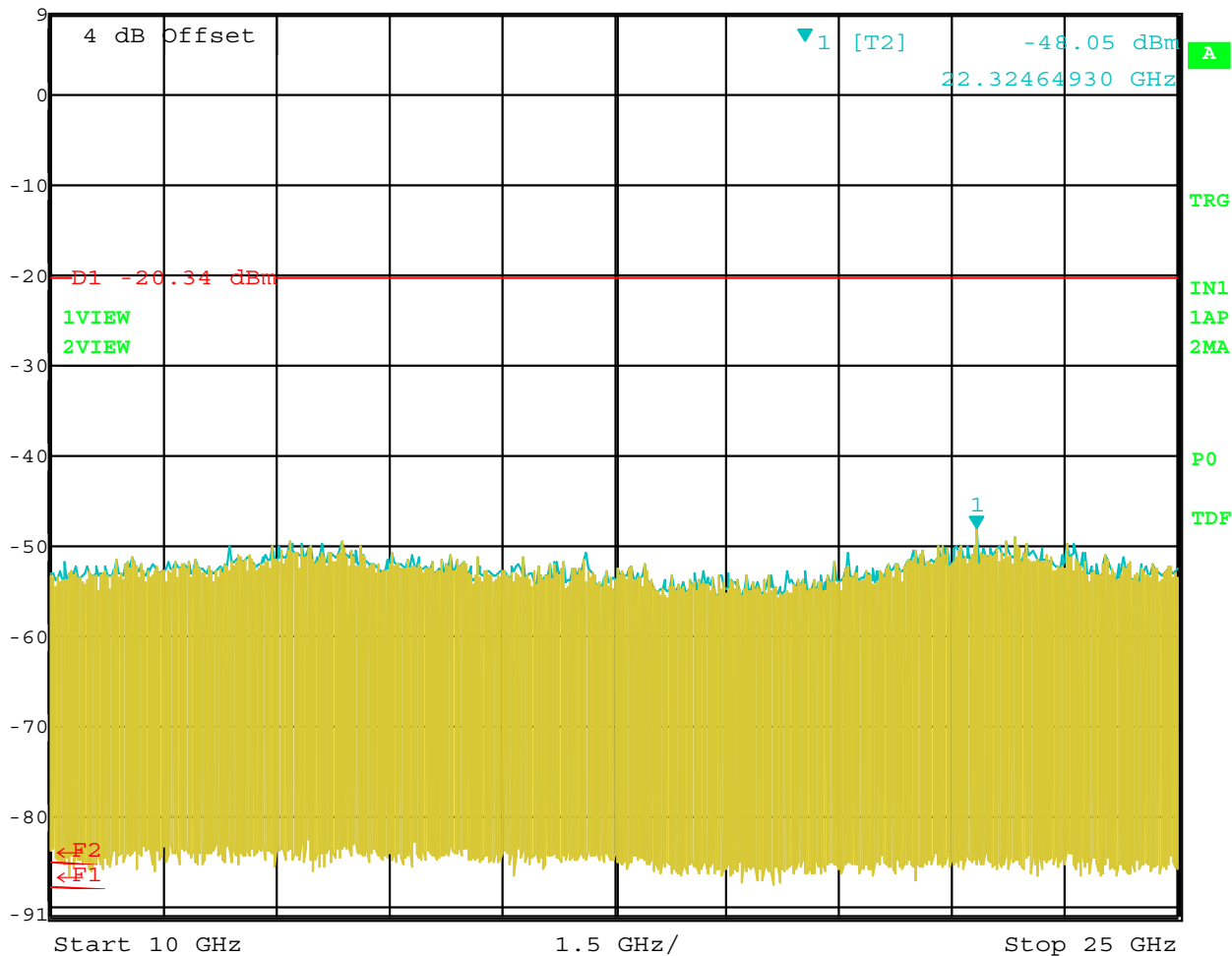
Date: 23.JUL.2008 16:32:00

RF Antenna Conducted Test – Low Channel – 2 MHz to 2 GHz

RF Antenna Conducted Test – Low Channel – 3 GHz to 10 GHz



Ref Lvl 9 dBm
Marker 1 [T2] -48.05 dBm
22.32464930 GHz
RBW 100 kHz
RF Att 30 dB
VBW 300 kHz
SWT 3.8 s
Unit dBm

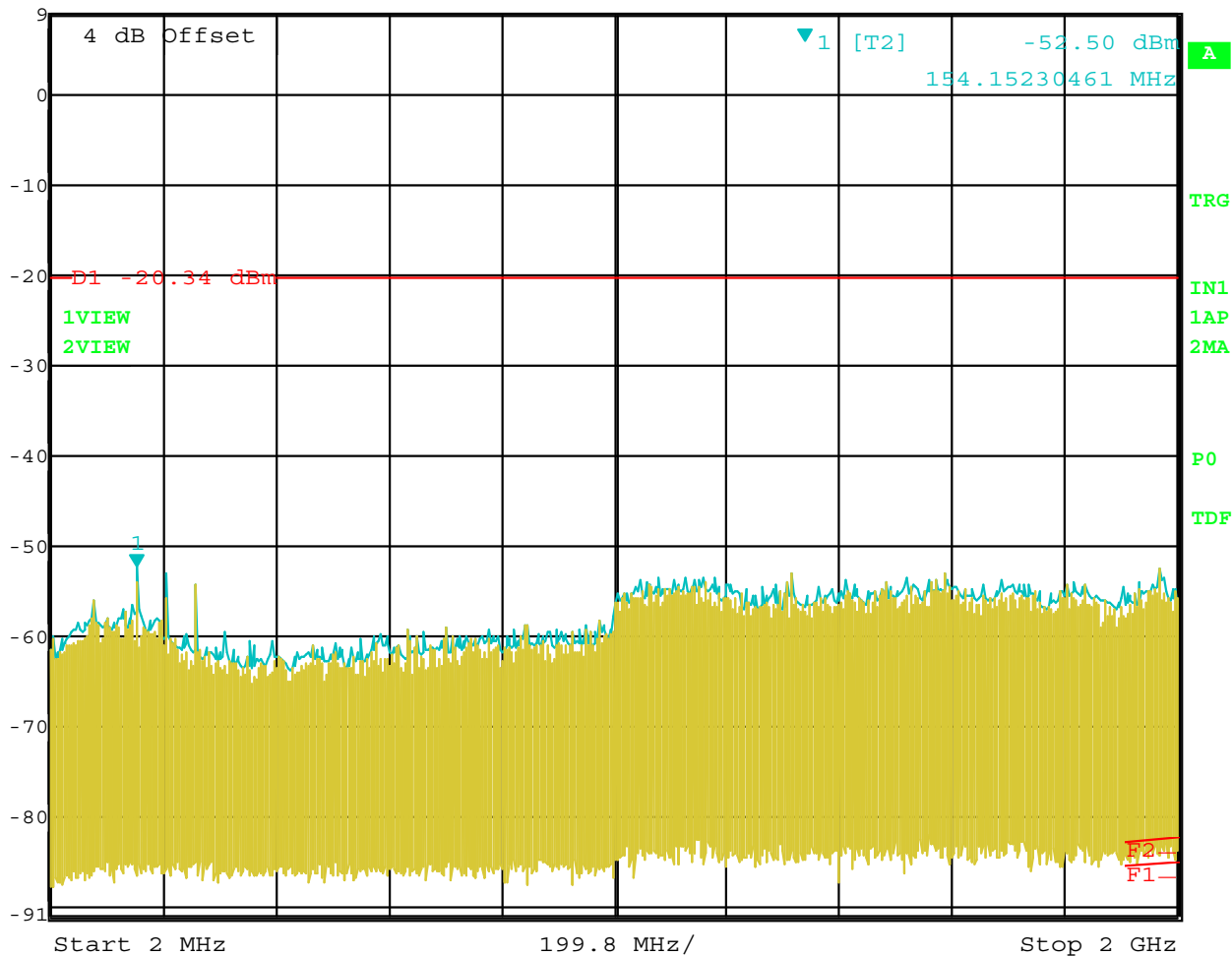


Date: 23.JUL.2008 16:33:05

RF Antenna Conducted Test – Low Channel – 10 GHz to 25 GHz



Ref Lvl 9 dBm Marker 1 [T2] RBW 100 kHz RF Att 30 dB
-52.50 dBm VBW 300 kHz
154.15230461 MHz SWT 1.15 s Unit dBm

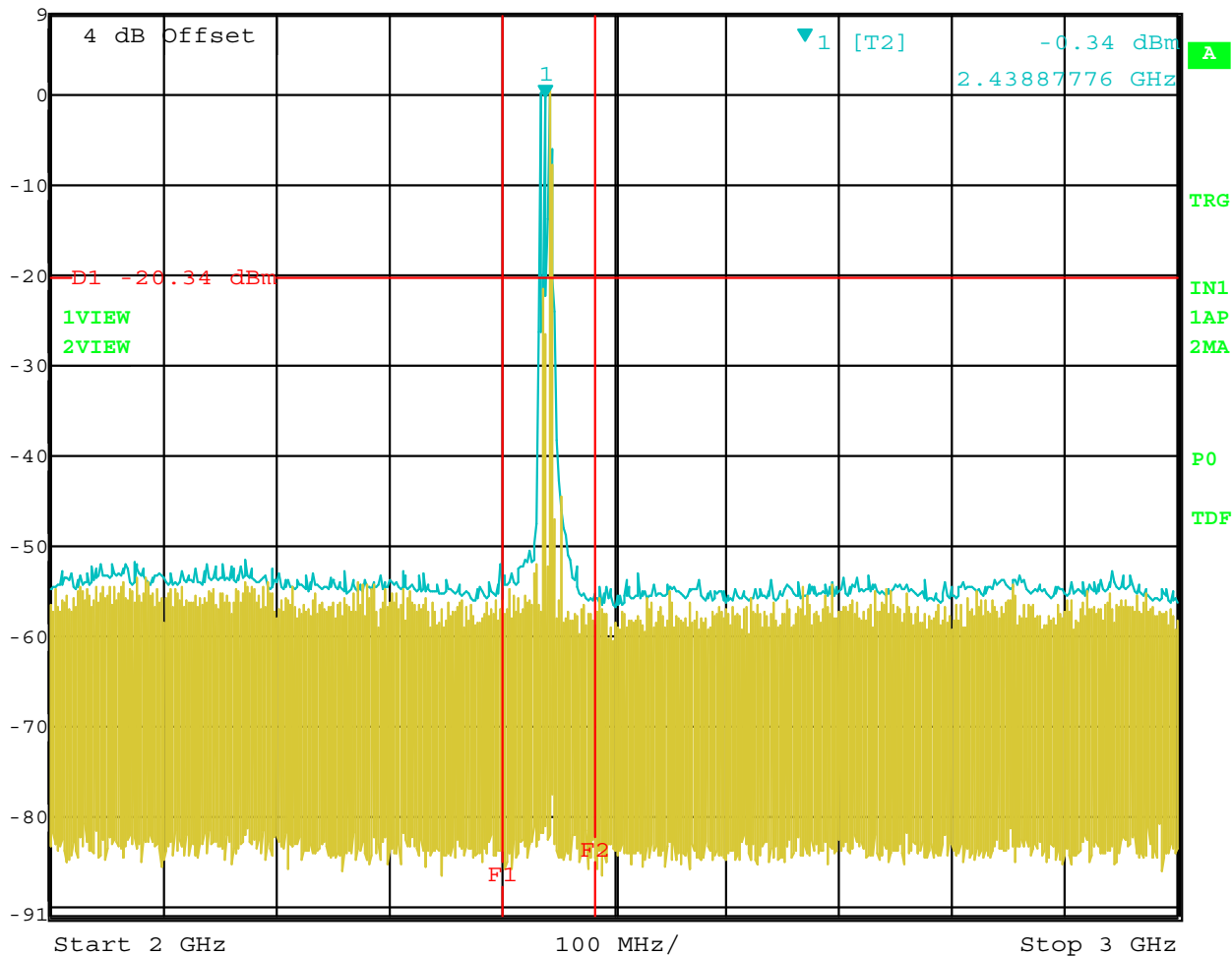


Date: 23.JUL.2008 16:27:35

RF Antenna Conducted Test – Middle Channel – 2 MHz to 2 GHz



Ref Lvl 9 dBm
Marker 1 [T2] -0.34 dBm
2.43887776 GHz
RBW 100 kHz RF Att 30 dB
VBW 300 kHz
SWT 250 ms Unit dBm

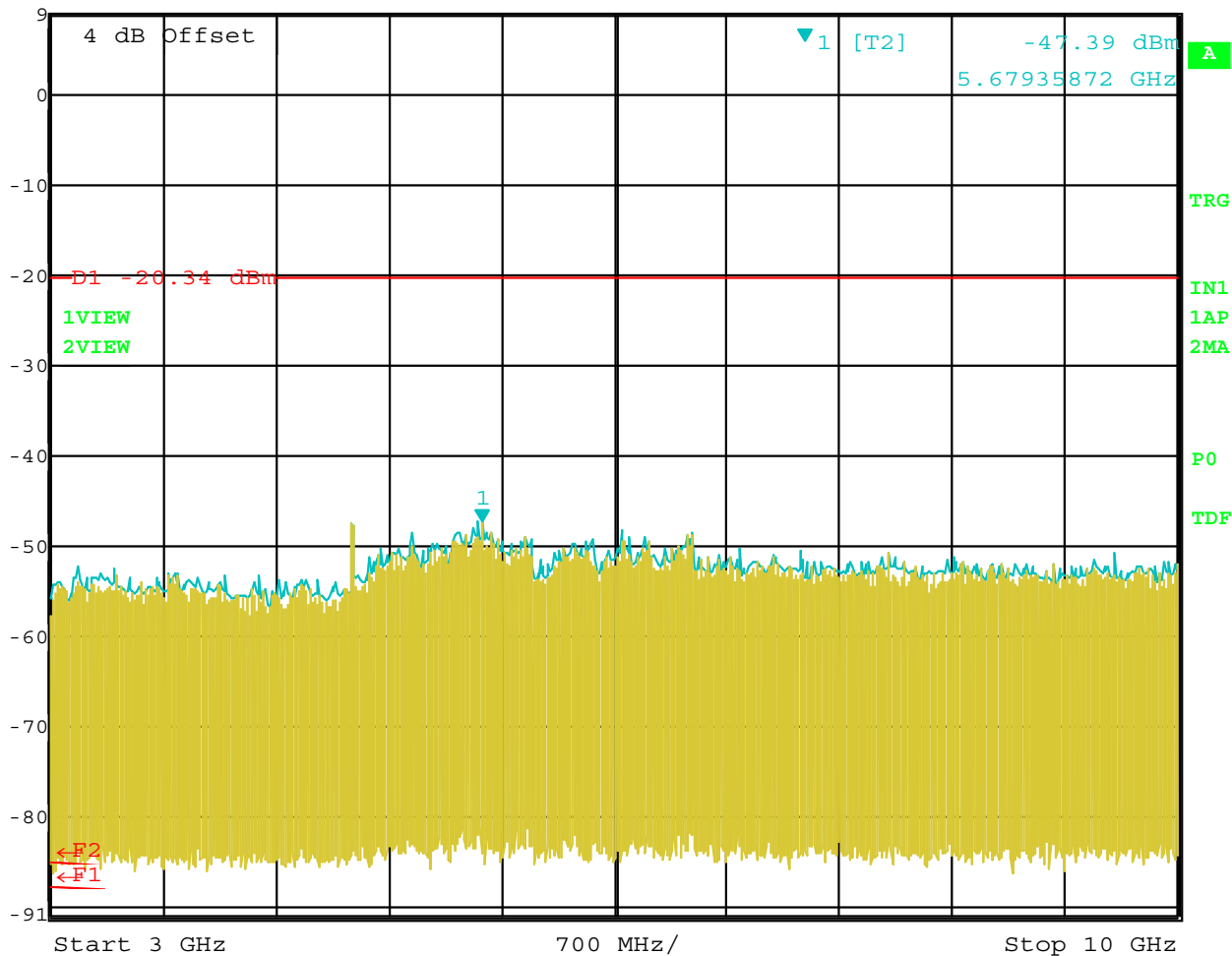


Date: 23.JUL.2008 16:26:37

RF Antenna Conducted Test – Middle Channel – 2 GHz to 3 GHz



Ref Lvl 9 dBm
Marker 1 [T2] -47.39 dBm
5.67935872 GHz
RBW 100 kHz RF Att 30 dB
VBW 300 kHz
SWT 1.75 s Unit dBm

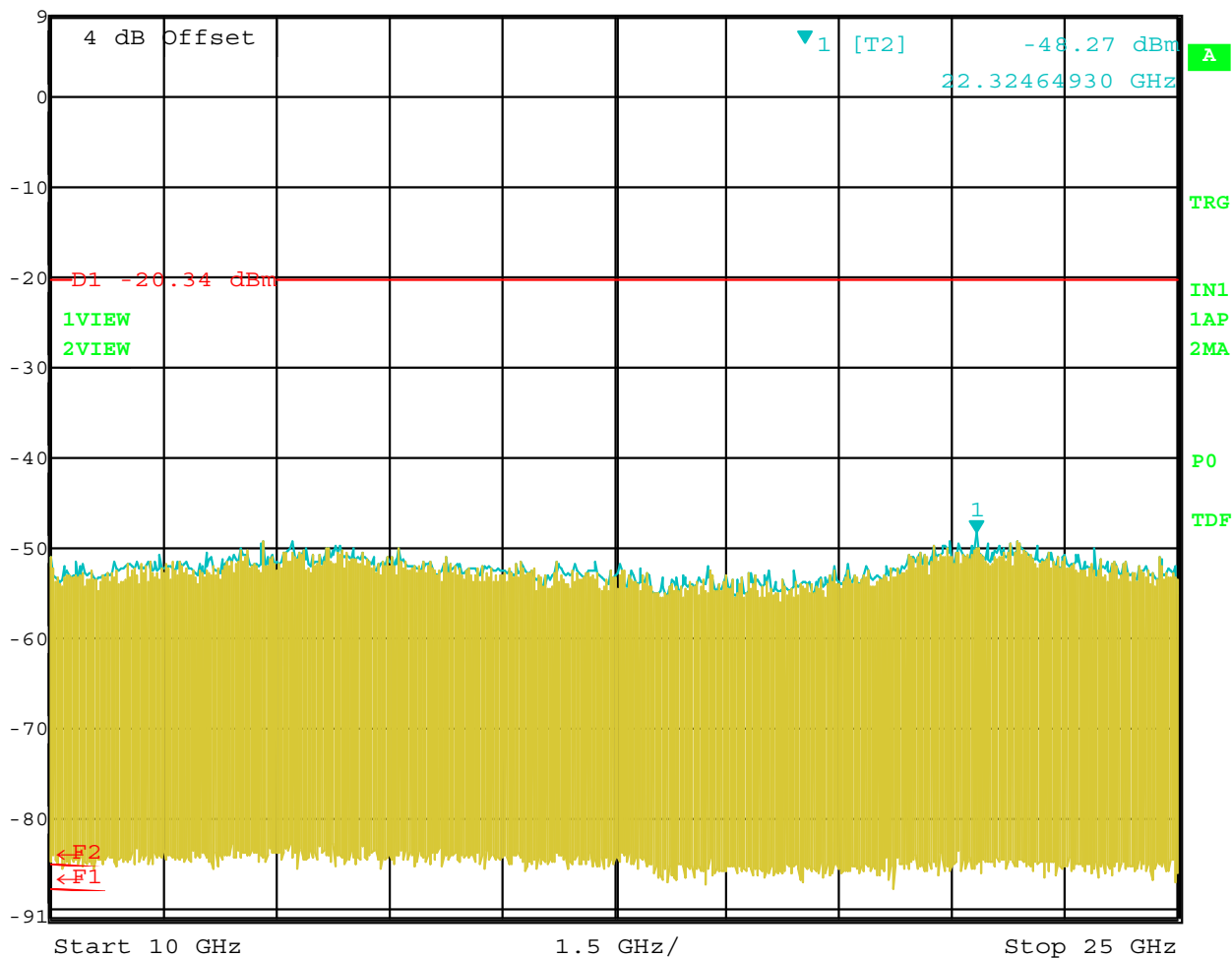


Date: 23.JUL.2008 16:28:07

RF Antenna Conducted Test – Middle Channel – 3 GHz to 10 GHz



Ref Lvl 9 dBm
Marker 1 [T2] -48.27 dBm
22.32464930 GHz
RBW 100 kHz
RF Att 30 dB
VBW 300 kHz
SWT 3.8 s
Unit dBm

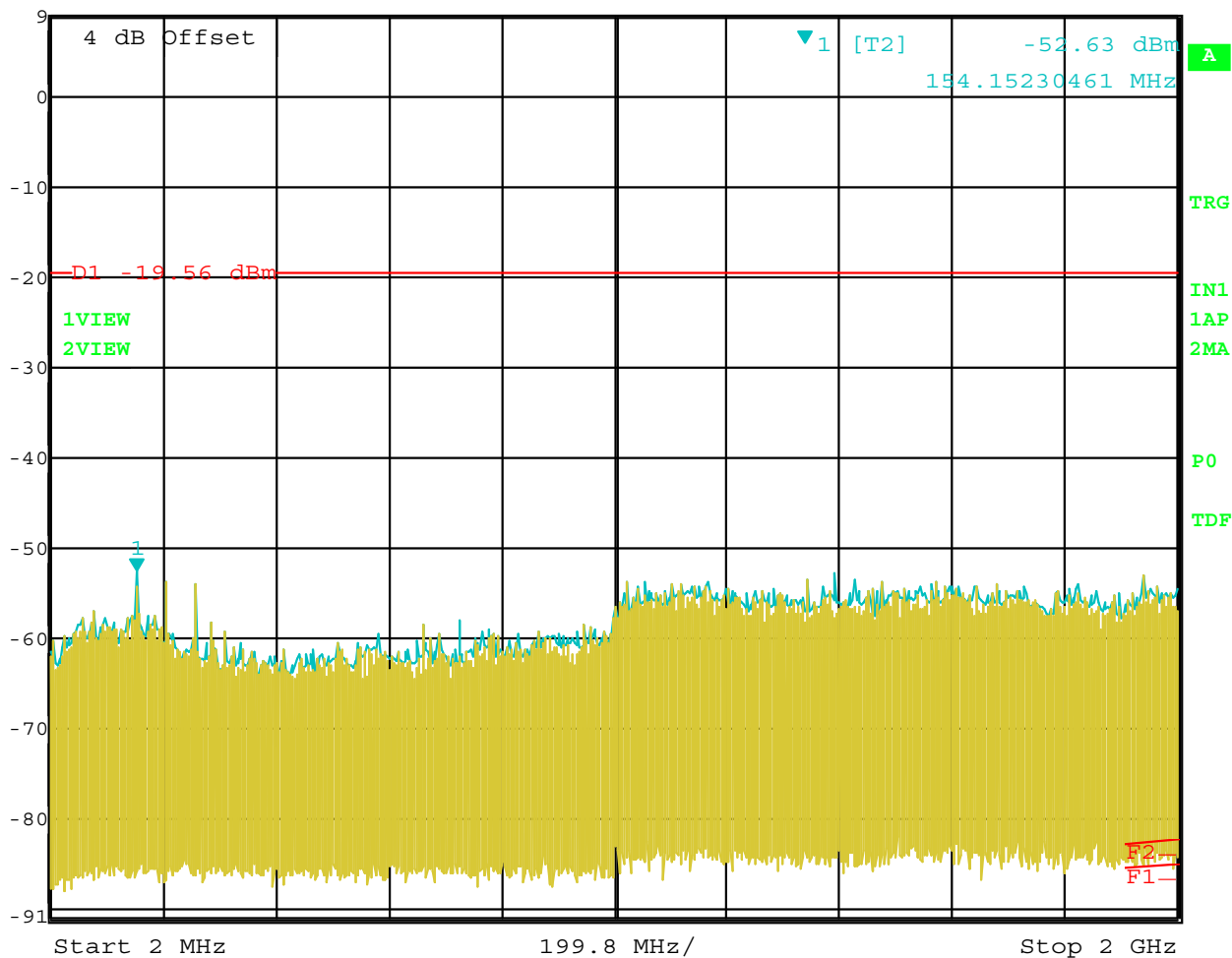


Date: 23.JUL.2008 16:28:43

RF Antenna Conducted Test – Middle Channel – 10 GHz to 25 GHz



Marker 1 [T2] RBW 100 kHz RF Att 30 dB
Ref Lvl -52.63 dBm VBW 300 kHz
9 dBm 154.15230461 MHz SWT 1.15 s Unit dBm

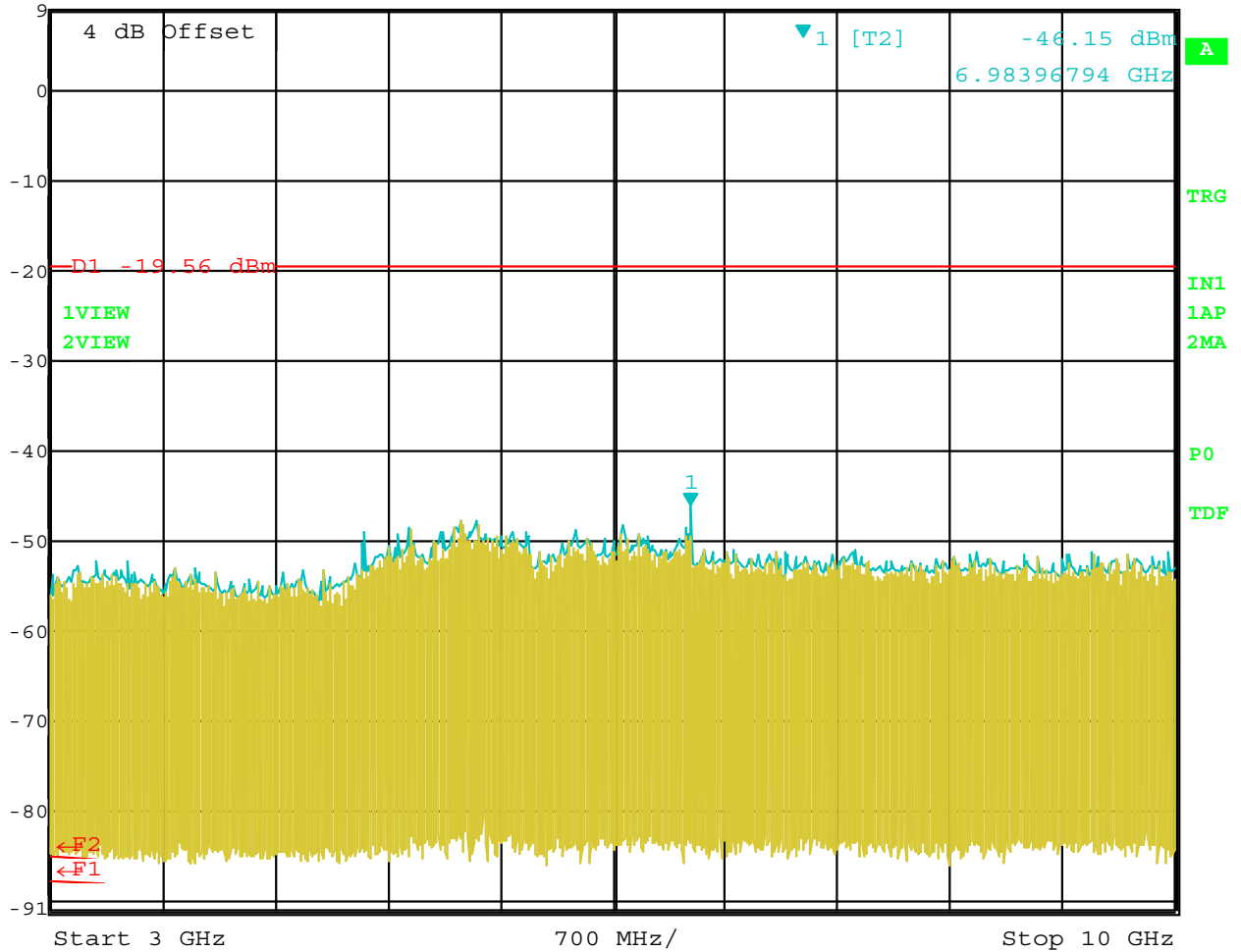


Date: 23.JUL.2008 16:21:50

RF Antenna Conducted Test – High Channel – 2 MHz to 2 GHz



Ref Lvl 9 dBm
Marker 1 [T2] -46.15 dBm
6.98396794 GHz
RBW 100 kHz
RF Att 30 dB
VBW 300 kHz
SWT 1.75 s
Unit dBm

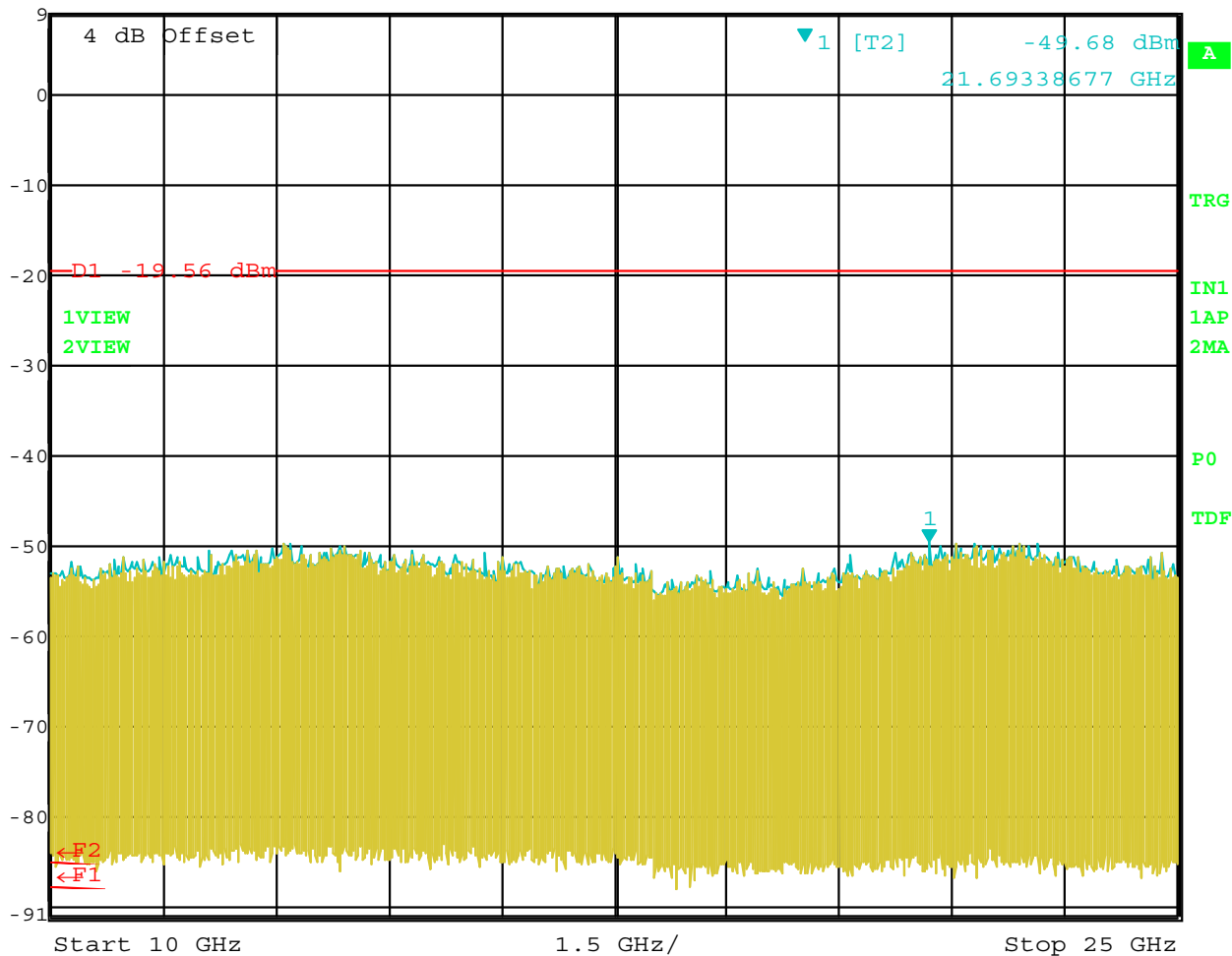


Date: 23.JUL.2008 16:22:21

RF Antenna Conducted Test – High Channel – 3 GHz to 10 GHz



Ref Lvl 9 dBm
Marker 1 [T2] -49.68 dBm
21.69338677 GHz
RBW 100 kHz
RF Att 30 dB
VBW 300 kHz
SWT 3.8 s
Unit dBm



Date: 23.JUL.2008 16:23:26

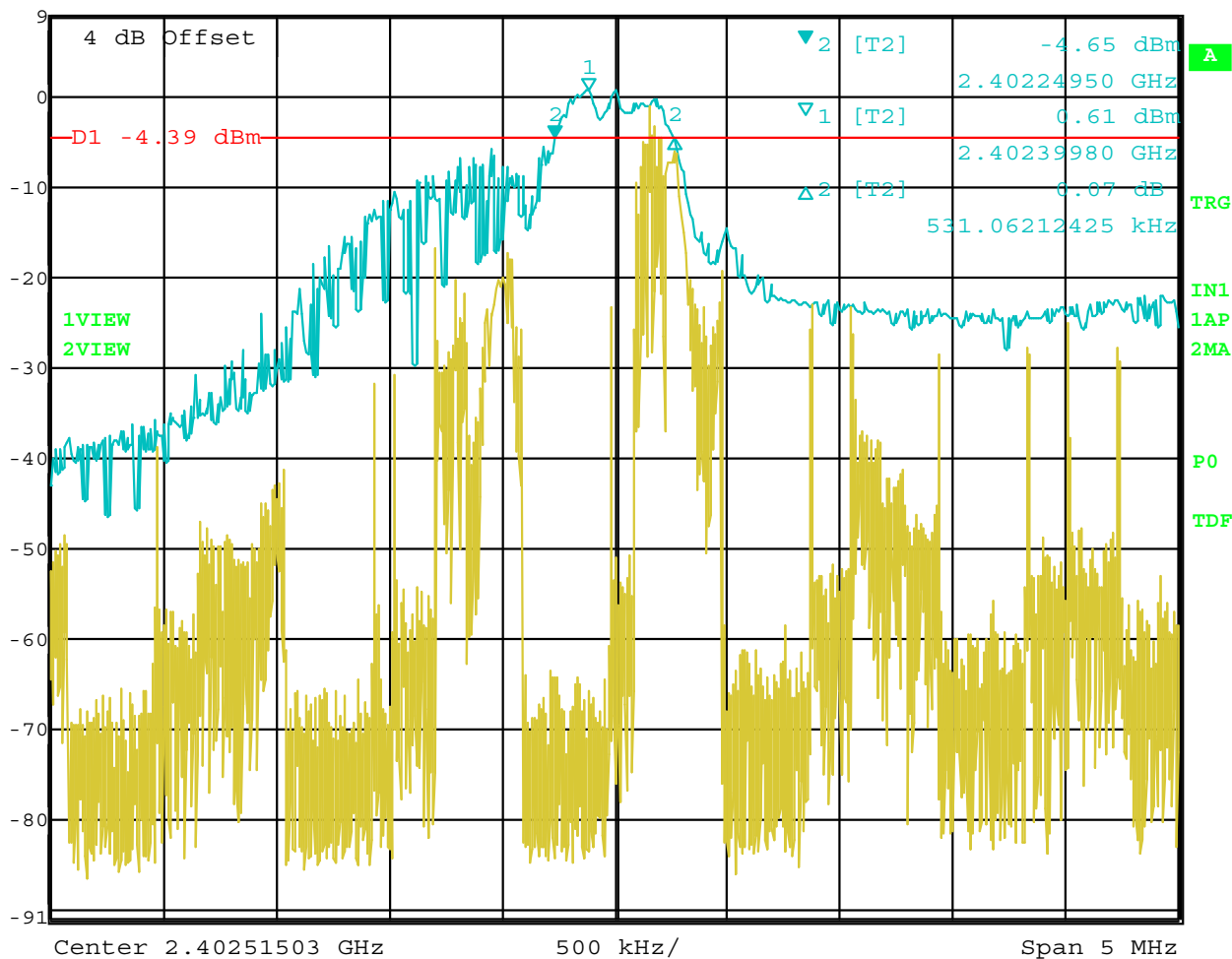
RF Antenna Conducted Test – High Channel – 10 GHz to 25 GHz

-6 dB BANDWIDTH

DATA SHEETS



Ref Lvl 9 dBm
Marker 2 [T2] -4.65 dBm
2.40224950 GHz
RBW 100 kHz RF Att 20 dB
VBW 300 kHz
SWT 5 ms Unit dBm

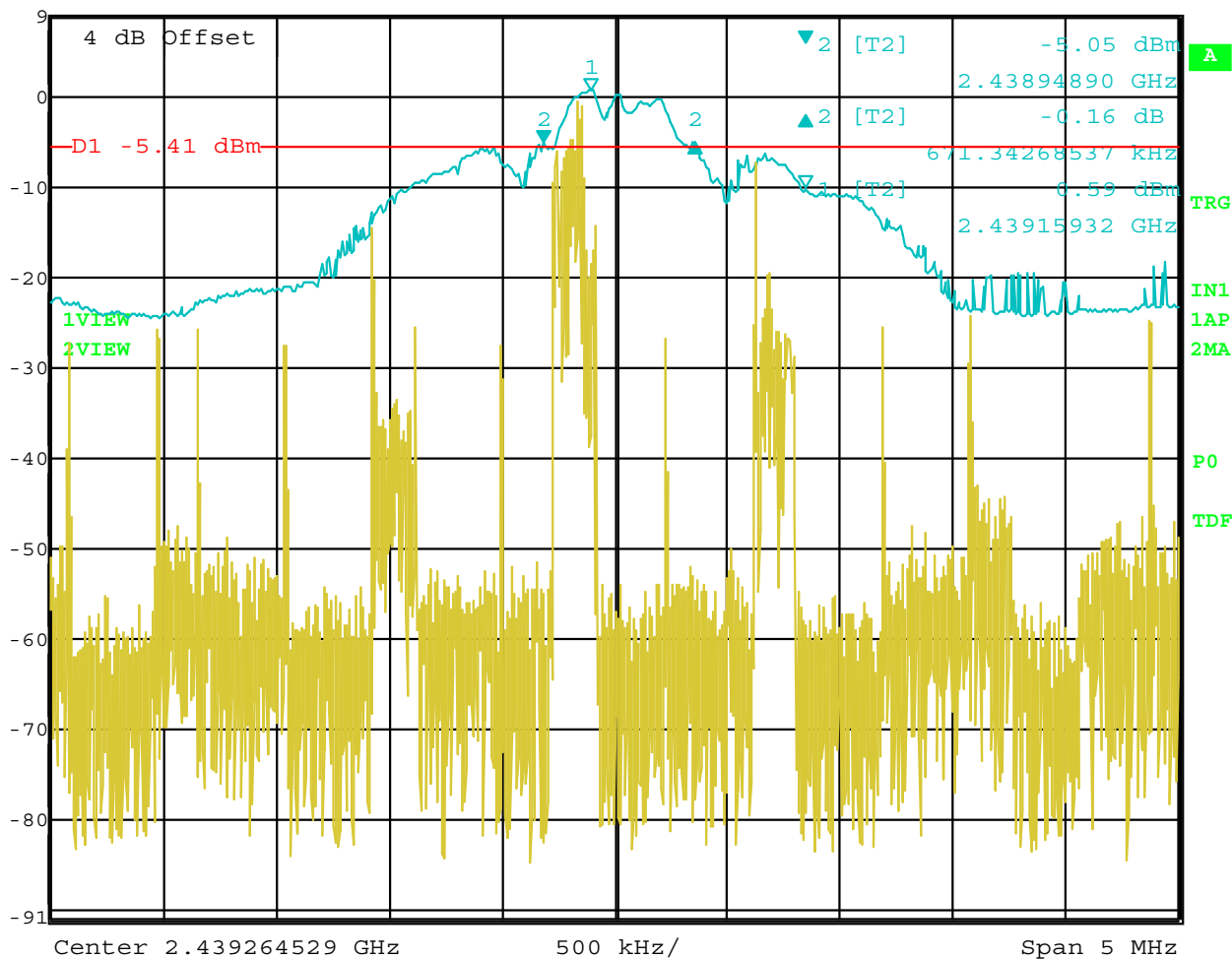


Date: 23.JUL.2008 15:44:14

Bandwidth 6 dB – Low Channel



Ref Lvl 9 dBm
Delta 2 [T2] -0.16 dB
671.34268537 kHz
RBW 100 kHz
VBW 300 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm

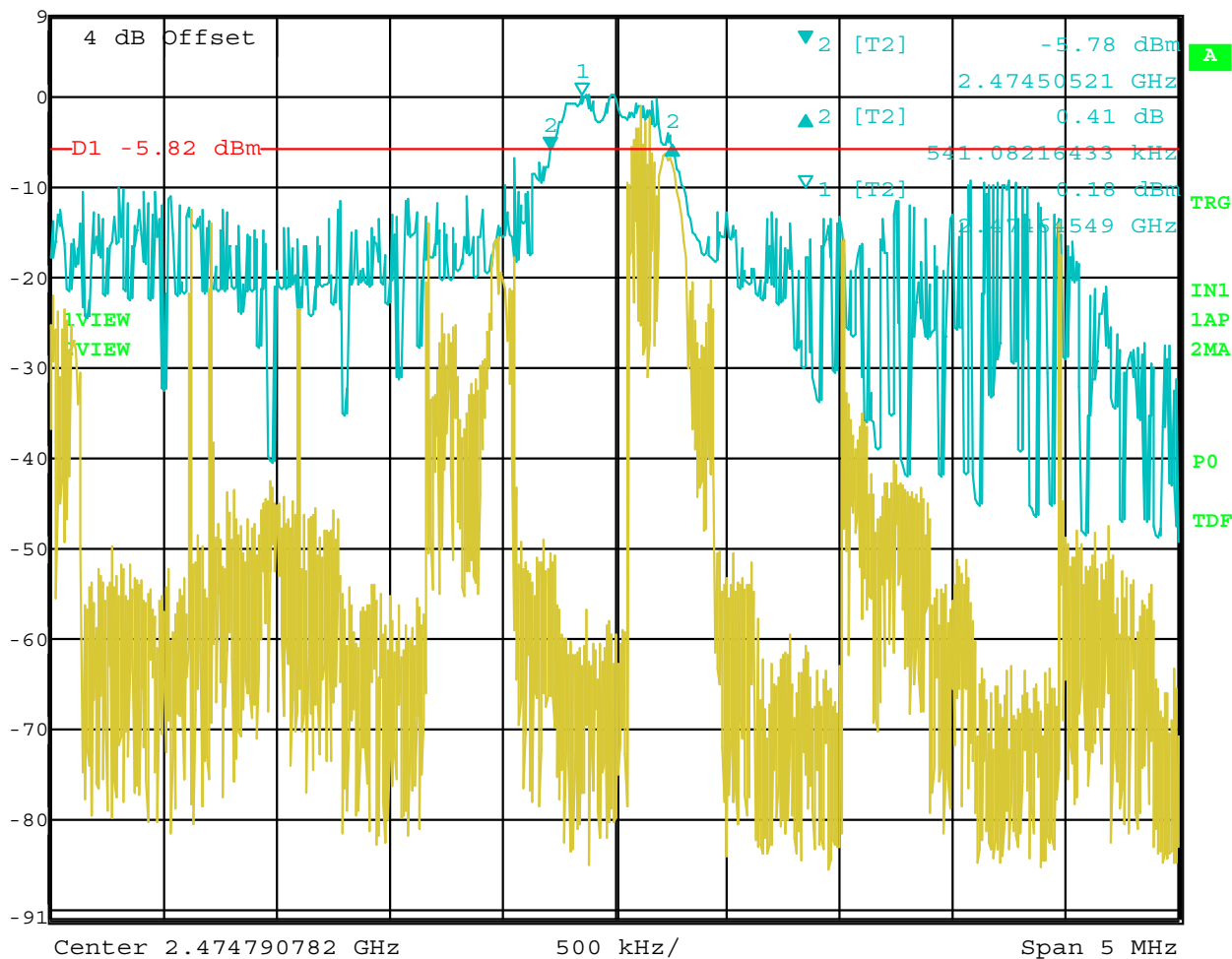


Date: 23.JUL.2008 15:53:11

Bandwidth 6 dB – Middle Channel



Delta 2 [T2] RBW 100 kHz RF Att 20 dB
Ref Lvl 0.41 dB VBW 300 kHz
9 dBm 541.08216433 kHz SWT 5 ms Unit dBm



Date: 23.JUL.2008 16:00:54

Bandwidth 6 dB – High Channel

PEAK POWER OUTPUT

DATA SHEETS

PEAK OUTPUT POWER

CM Receiver

Model: E65400

Announce Radio

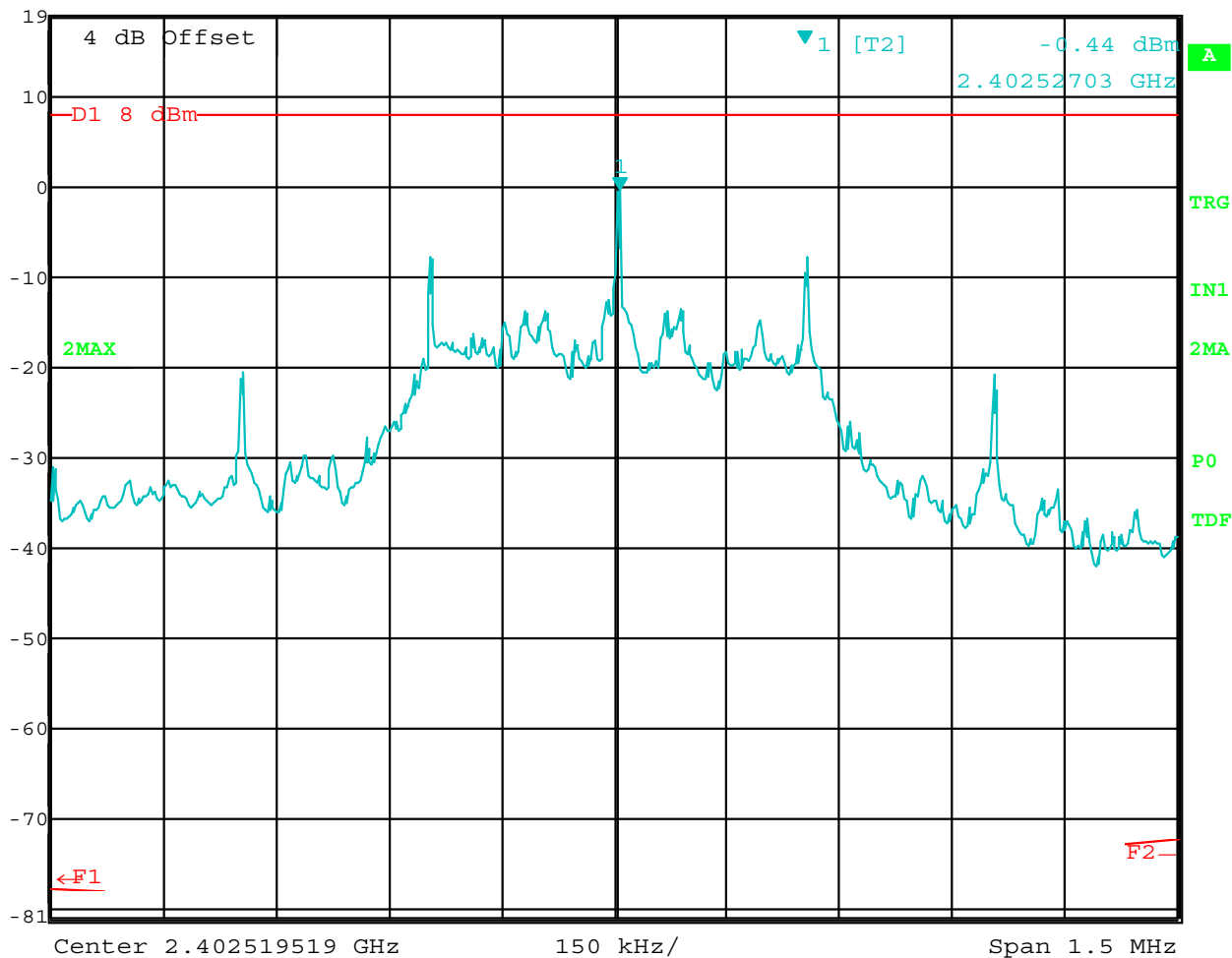
CHANNEL	100% Peak Power (dBm)
LOW	-3.04
MIDDLE	-3.56
HIGH	-3.89

SPECTRAL DENSITY OUTPUT

DATA SHEETS



Ref Lvl 19 dBm
Marker 1 [T2] -0.44 dBm
2.40252703 GHz
RBW 3 kHz
VBW 10 kHz
SWT 500 s
RF Att 30 dB
Unit dBm

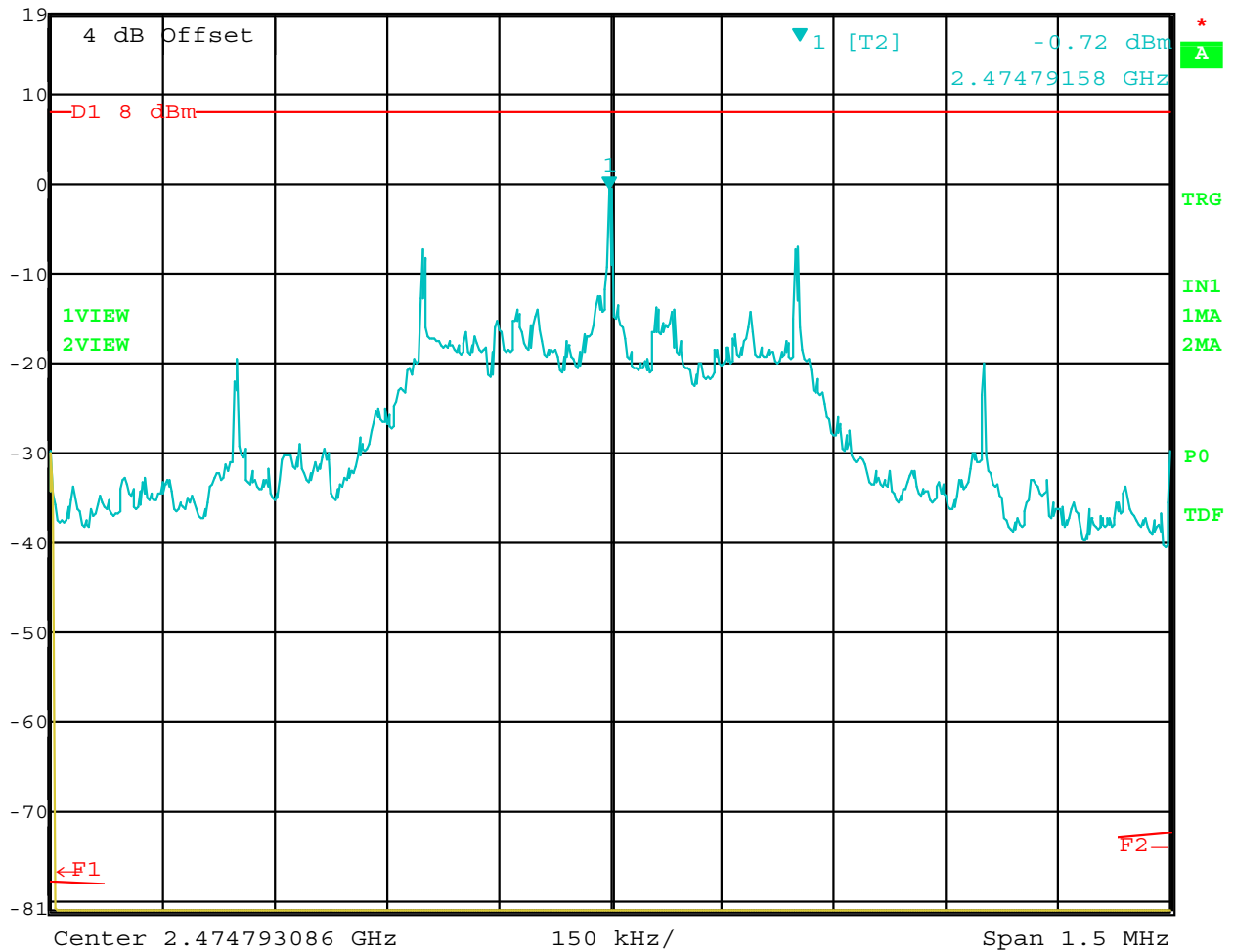


Date: 23.JUL.2008 17:09:20

Spectral Density Output – Low Channel

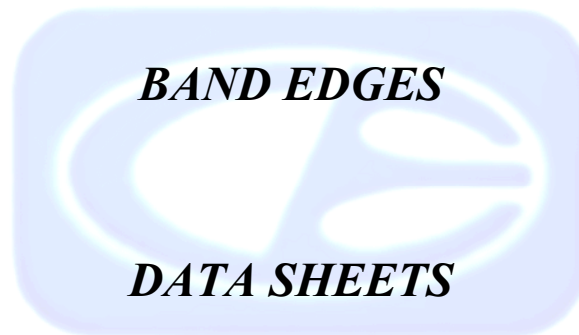


Ref Lvl 19 dBm
Marker 1 [T2] -0.72 dBm
2.47479158 GHz
RBW 3 kHz
VBW 10 kHz
SWT 500 s
RF Att 30 dB
Unit dBm



Date: 23.JUL.2008 17:31:51

Spectral Density Output – High Channel



FCC 15.247

Gatekeeper Systems, Inc.

CM Receiver

Model: E65400

Date: 07/22/08

Lab: B

Tested By: Kyle Fujimoto

Band Edges - for 500 MSK Radio**Y-Axis (Worst Case) - Vertical Polarization (Worst Case)**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402.1	97.18	V	--	--	Peak	1.15	90	Fundamental of Low Channel
2402.1	96.5	V	--	--	Avg	1.15	90	@ 3 Meters
2390	56.26	V	74	-17.74	Peak	1.15	90	Band Edge Low Channel
2390	33.1	V	54	-20.9	Avg	1.15	90	Band Edge Low Channel
2474.94	94.6	V	--	--	Peak	1.15	90	Fundamental of High Channel
2474.94	93.84	V	--	--	Avg	1.15	90	@ 3 Meters
2483.5	69.8	V	74	-4.2	Peak	1.15	90	Band Edge High Channel
2483.5	36.42	V	54	-17.58	Avg	1.15	90	Band Edge High Channel

