FCC PART 90 and
PART 15, SUBPART B TEST REPORT

for

VIDEO TRANSMITTER

Model: 24TA-900TIC

Prepared for

MICROTEK ELECTRONICS, INC.
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DATE: FEBRUARY 6, 2007

	REPORT	APPENDICES					TOTAL
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1	Plot Map And Layout of Test Site

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:	Video Transmitter Model: 24TA-900TIC S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Emission Designator	16MOF3F (see section 8 of this test report)
Manufacturer:	Microtek Electronics, Inc. 25691 Atlantic Ocean Drive Lake Forest, California 92630
Test Dates:	January 29, 30, and 31, 2007
Test Specifications:	EMI requirements CFR Title 47, Part 90, Subpart I; and CFR Title 47, Part 15, Subpart B
Test Procedure:	ANSI C63.4 and ANSI/TIA-603-C
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 battery power only and cannot be plugged into the AC public mains.
2	RF Power Output of the EUT	Complies with the limits of CFR Title 47, Part 90, Section 90.205 (n)
3	Modulation Characteristics – Audio Frequency Response	This test was not performed because this test is not applicable to the EUT
4	Modulation Characteristics – Modulation Limiting Response	This test was not performed because this test is not applicable to the EUT
5	Occupied Bandwidth for the EUT	Complies with the limits of CFR Title 47, Part 90 Section 90.210 (b)
6	Radiated RF Emissions on the Digital Portion 30 MHz – 25000 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B
7	Radiated Spurious Emissions on the Transmitter portion – 10 kHz to 25000 MHz	Complies with the limits of CFR Title 47, Part 90 Section 90.210 (b)
8	Spurious Emissions at the Antenna Terminal	Complies with the limits of CFR Title 47, Part 90 Section 90.210 (b)
9	Frequency Stability	Complies with the limits of CFR Title 47, Part 90 Section 90.213

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Video Transmitter Model: 24TA-900TIC. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4 and ANSI/TIA-603-C. 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; and CFR Title 47, Part 90, Subpart I.

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

Microtek Electronics, Inc.

Michael Henkoski President

Compatible Electronics Inc.

Kyle Fujimoto Test Engineer
Michael Christensen Lab Manager

2.4 Date Test Sample was Received

The test sample was received on January 29, 2007.

2.5 Disposition of the Test Sample

The test sample was returned to Microtek Electronics, Inc. on February 15, 2007.

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
Tx	Transmitter
Rx	Receiver

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	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz
CFR Title 47, Part 90	FCC Rules – Private Land Mobile Radio Services
TIA / EIA-603-A 2004	Land Mobile FM or PM – Communications Equipment – Measurement and Performance Standards

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

Specifics of the EUT and Peripherals Tested

For Part 15 and 90 testing: The Video Transmitter Model: 24TA-900TIC (EUT) was connected to a battery, video generator, and switch. The EUT was transmitting while being modulated by the video generator. The video was received by a receiver. The receiver was connected to a monitor display that displayed the video being generator (color test bars). The antenna port was terminated by a 50 ohm terminator. The receiver and monitor display were placed about 50 feet away from the test site.

The switch was used to change the channels on the EUT.

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

4.1.1 Cable Construction and Termination

Cable 1

This is a 1-meter braid shielded cable connecting the EUT to the NTSC pattern generator. The cable has a metallic RCA connector at the NTSC pattern generator end and is hard wired into pins 3 and 4 of a 4 pin connector connected to the EUT. The shield of the cable is grounded to the chassis via the connector.

Cable 2

This is a 1-meter unshielded cable connecting the battery to the EUT. The cable has two (2) alligator clips at the battery end and is hard wired into pins 1 and 2 of a 4 pin connector connected to the EUT.

Cable 3

This is a 2-meter unshielded cable connecting the Class 2 Transformer to the NTSC pattern generator. The cable has a 1/8 inch power connector at the NTSC pattern generator end and is hard wired into the Class 2 Transformer.

Cable 4

This is a 1-meter braid shielded cable connecting the Wireless Video Receiver to the 4" TFT LCD Monitor. The cable has BNC connectors at each end. The shield of the cable was grounded to the chassis via the connectors.

Cable 5 This is a 2-meter unshielded cable connecting the Class 2 Transformer to Wireless Video Receiver. The cable has a 1/8 inch power connector at the NTSC pattern generator end and is hard wired into the Class 2 Transformer.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
VIDEO TRANSMITTER (EUT)	MICROTEK ELECTRONICS, INC.	24TA-900TIC	N/A	JRR24TA-900TIC
BATTERY	POWER-SONIC CORP.	PS-1250 F1	N/A	N/A
NTSC PATTERN GENERATOR	TENMA	72-870	03971139	N/A
CLASS 2 TRANSFORMER FOR NTSC PATTERN GENERATOR	CONDOR	D7-10-01	N/A	N/A
WIRELESS VIDEO RECEIVER	N/A	N/A	N/A	N/A
CLASS 2 TRANSFORMER FOR WIRELESS VIDEO RECEIVER	CONDOR	41-12-500D	P/N: D12500	N/A
DC POWER SUPPLY	SORENSEN	DCS60-18	9714164	N/A
4 INCH TFT LCD MONITOR	4SMKIT	L0605-42043U	N/A	N/A

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. CYCLE
EMI Receiver	Rohde & Schwarz	ESIB40	100194	Nov. 18, 2005	2 Year
Preamplifier	Com Power	PA-102	1017	Jan. 16, 2007	1 Year
Biconical Antenna	Com Power	AB-900	15227	March 9, 2006	1 Year
Log Periodic Antenna	Com Power	AL-100	16060	July 17, 2006	1 Year
Computer	Hewlett Packard	D5251A 888	US74458128	N/A	N/A
RF Attenuator	Weinschel Corp.	2	BJ6394	July 29, 2005	2 Year
Loop Antenna	Com-Power	AL-130	17089	Sept. 21, 2005	2 Year
Horn Antenna	Antenna Research	DRG-118/A	1053	March 6, 2006	2 Year
Horn Antenna	Com-Power	AH-118	10073	July 17, 2006	2 Year
Microwave Preamplifier	Com-Power	PA-122	181921	March 7, 2006	1 Year
Dipole Antenna	Com-Power	AD-100	40104	October 31, 2005	2 Year

EMI Test Equipment (Continued)

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. CYCLE
Horn Antenna	Com-Power	AH826	0071957	Dec. 12, 2005	2 Year
Microwave Preamplifier	Com-Power	PA-840	711919	Jan. 20, 2006	2 Year
DC Power Supply	Sorensen	DCS60-18	974164	N/A	N/A
True RMS Voltage Meter	Fluke	8920A	2350035	March 24, 2006	1 Year
Temperature Chamber	Despatch	MIC 6000	149857	May 4, 2006	1 Year

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. TEST PROCEDURES

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

7.1 Radiated Emissions (Spurious and Harmonics) Test for Part 90

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-102 was used for frequencies from 30 MHz to 1 GHz, and the Com Power Microwave Preamplifier Model: PA-122 and Model: 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 video bandwidth was set at 300 kHz for spurious emissions below 1 GHz, and 3 MHz for spurious emissions above 1 GHz.

The sweep time was set to a time slow enough to maintain the measurement calibration of the spectrum analyzer.

The resolution bandwidths and transducers used for this test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	10 kHz	Active Loop Antenna
30 MHz to 300 MHz	100 kHz	Biconical Antenna
300 MHz to 1 GHz	100 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.

7.2 Radiated Emissions (Spurious and Harmonics) Test for Part 90 (continued)

The substitution method was used to obtain the data as follows:

1. The EUT was mounted on an 80 cm high non-conductive table that was placed on the turntable. The EUT was terminated via a 50 ohm terminator.

2. The receiving antenna was mounted in a horizontal polarization and raised and lowered between 1 meter and 4 meters to obtain the maximum reading on the EMI Receiver. Then the turntable was rotated 360 degrees to determine the maximum reading. This procedure was repeated to obtain the highest possible reading. The maximum reading was recorded.

3. Step #2 was repeated for the vertical polarization.

4. The EMI Receiver settings were kept as mentioned above.

5. The EUT was replaced with a substitution antenna. The center of the substitution antenna was placed approximately at the same location as the center of the EUT.

6. The substitution antenna was fed a signal from an external signal generator by means of a non-radiating cable. Both the substitution and receiving antenna were placed in the horizontal polarization. The signal generator was then tuned to the particular spurious frequency. The receiving antenna was then raised and lowered to obtain a maximum reading at the EMI Receiver. The level of the signal generator output was then adjusted to match the previously recorded maximum reading obtained in step #2.

7. Step #6 was repeated for the vertical polarization.

8. The output of the signal generator was taken by connecting the non-radiating cable connected to the output of the signal generator to the EMI Receiver. This was so that the loss of the non-radiating cable could be taken in to account. The reading measured by the EMI Receiver was then recorded.

9. The gain of the substitution antenna was then added from the EMI Receiver reading. This reading was then compared to the spec limit.

Test Results:

The EUT complies with the limits of CFR Title 47, Part 90, section 90.210 (b).

7.3 Radiated Emissions (Spurious and Harmonics) Limit for Part 90

The limits for radiated emissions are based on the power of the transmitter at the operating frequency.

For an operating power range of 1.099 watts, the radiated emissions limit for spurious signal outside of the assigned frequency block is 43+10 Log (mean output power in watts) dB below the measured amplitude at the operating power.

The measured effective radiated power of the EUT was 30.41 dBm (137.41 dBuV/m). The required attenuation is 43 + 10 log (1.099) or 43.41 dB. Thus, the limit for spurious and harmonic emissions is:

30.41 dBm (137.41 dBuV/m) – 43.41 dB = –13.0 dBm (94.0 dBuV/m).

7.4 RF Power Output of the EUT

The Peak Output Power was taken using the power meter and power sensor. The EUT was directly connected to the power sensor through a 10 dB attenuator, which was directly connected to the power meter. The Peak Output Power was then taken with the power meter offset 10 dB for the attenuator.

Test Results:

The EUT complies with the limits of CFR Title 47, Part 90, section 90.205 (n).

7.5 Modulation Characteristics – Audio Frequency Response

This test was not performed because this test is not applicable to the EUT.

7.6 Modulation Characteristics – Audio Frequency Response

This test was not performed because this test is not applicable to the EUT.

7.7 Occupied Bandwidth for the EUT

The Occupied Bandwidth test was performed using the EMI Receiver. The EUT was connected directly to the EMI Receiver through one 10 dB attenuator (to protect the input of the EMI Receiver). The EMI Receiver was offset by 10 dB to account for the 10 dB external attenuator. The resolution bandwidth was set to 1 MHz, video bandwidth was set to 3 MHz and the trace was set to max hold. Please see the plots located in Appendix E of this test report.

Test Results:

The EUT complies with the limits of CFR Title 47, Part 90, section 90.210 (b).

7.8 Spurious Emissions at the Antenna Terminal

The spurious emissions at the antenna terminal were performed using the EMI Receiver. The test was measured using a direct connection from the RF out port of the EUT into the input of the EMI Receiver through one 10 dB attenuator (to protect the input of the spectrum analyzer). The EMI Receiver was offset by 10 dB to account for the 10 dB external attenuator. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the antenna terminal. Please see the plots located in Appendix E of this test report.

Test Results:

The EUT complies with the limits of CFR Title 47, Part 90, section 90.210 (b).

7.9 Frequency Stability

The EUT was placed inside a temperature chamber and the EMI Receiver was connected directly to the antenna terminal. The test was performed from -30ºC to +50ºC at intervals of 10ºC. Dwell time at each temperature was 20 minutes minimum. Also, at +20ºC the input DC voltage to the DC power supply was varied between 85% (102 Volts) and 115% (138 volts) using the DC power supply. The voltage from the DC power supply was monitored via a multimeter. Please see the data located in Appendix E of this test report.

Test Results:

The EUT complies with the requirements of CFR Title 47, Part 90, section 90.213.

8. EMISSION DESIGNATOR

The emissions designator is 16MOF3F and was arrived at by the following method:

Bandwidth was determined using the following formula:
2M+2D = Necessary Bandwidth, where M= highest modulation frequency and D = peak deviation.
Maximum modulation frequency = 4 MHz video modulation (M).
Deviation = 4 MHz (D).
(2 X 4000000) + (2 X 4000000) = 16 MHz
= 16 MO

Modulation type is frequency modulation, one analog channel television.
=F3F

Thus, the emissions designator is: 16MOF3F

9. CONCLUSIONS

The Video Transmitter Model: 24TA-900TIC meets all of the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 90, Subpart I.

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

Radio-Frequency Technologies (Competent Body)

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Part 15 and/or FCC Part 90 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

Video Transmitter
Model: 24TA-900TIC
S/N: N/A

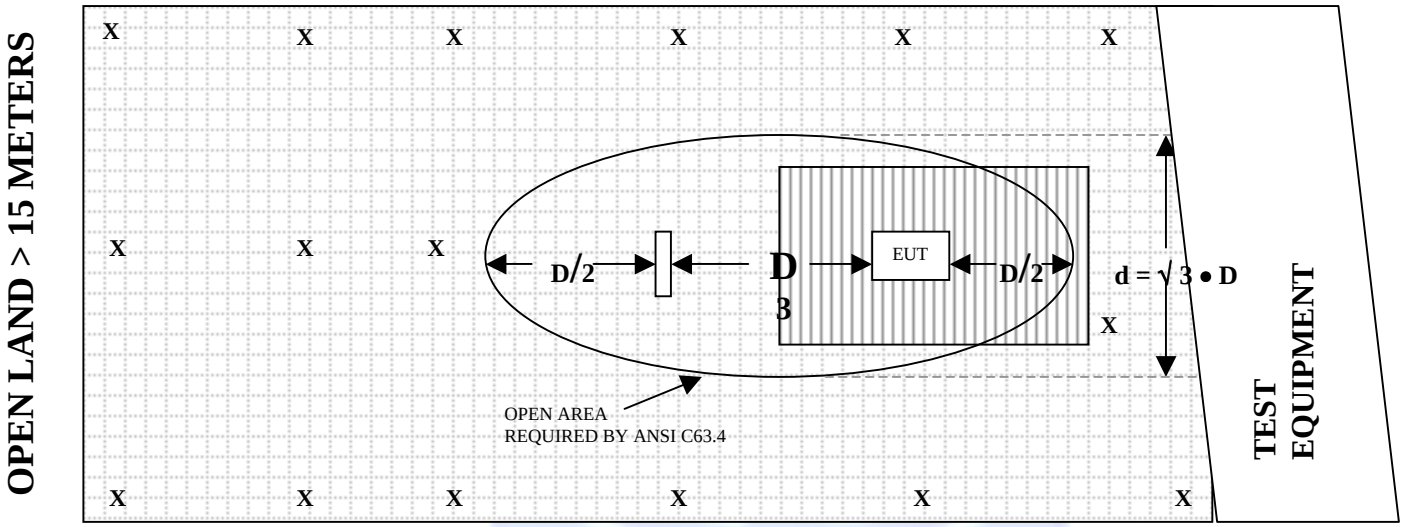
No additional models were covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: PLOT MAP AND LAYOUT OF 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: MARCH 9, 2006

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	11.12	120	13.50
35	10.17	125	12.63
40	9.75	140	12.20
45	12.22	150	11.85
50	13.28	160	13.25
60	11.36	175	15.74
70	7.95	180	16.23
80	5.95	200	16.79
90	7.62	250	16.47
100	10.89	300	17.49

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16060

CALIBRATION DATE: JULY 17, 2006

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.58	700	20.49
400	14.53	800	20.13
500	15.36	900	22.15
600	18.29	1000	22.76

COM-POWER PA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: JANUARY 16, 2007

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	38.4	300	38.2
40	38.3	350	38.2
50	38.2	400	38.1
60	38.3	450	37.8
70	38.4	500	37.8
80	38.6	550	38.1
90	38.3	600	37.8
100	38.4	650	37.8
125	38.3	700	37.6
150	38.2	750	37.9
175	38.4	800	37.6
200	38.4	850	37.2
225	38.4	900	37.4
250	38.3	950	37.0
275	38.3	1000	37.2

COM-POWER PA-122

PREAMPLIFIER

S/N: 181921

CALIBRATION DATE: MARCH 7, 2006

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	36.2	10.0	36.3
1.5	35.6	10.5	35.1
2.0	35.1	11.0	34.5
2.5	35.2	11.5	34.5
3.0	35.1	12.0	34.7
3.5	34.8	12.5	35.5
4.0	34.6	13.0	35.3
4.5	34.4	13.5	35.7
5.0	34.5	14.0	36.2
5.5	35.1	14.5	36.4
6.0	36.4	15.0	36.4
6.5	37.1	15.5	36.3
7.0	37.1	16.0	35.9
7.5	35.9	16.5	35.7
8.0	34.1	17.0	35.4
8.5	33.4	17.5	34.6
9.0	34.7	18.0	34.0
9.5	36.6		

ANTENNA RESEARCH DRG-118/A

HORN ANTENNA

S/N: 1053

CALIBRATION DATE: MARCH 6, 2006

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.46	10.0	39.55
1.5	25.05	10.5	39.86
2.0	28.42	11.0	38.49
2.5	29.91	11.5	40.71
3.0	31.46	12.0	40.59
3.5	31.91	12.5	40.17
4.0	31.55	13.0	39.70
4.5	31.94	13.5	40.84
5.0	32.90	14.0	41.58
5.5	34.07	14.5	45.14
6.0	35.69	15.0	42.20
6.5	33.11	15.5	39.42
7.0	36.51	16.0	38.80
7.5	37.27	16.5	41.08
8.0	37.21	17.0	44.11
8.5	37.16	17.5	46.29
9.0	38.27	18.0	41.61
9.5	39.73		

COM-POWER AH826

HORN ANTENNA

S/N: 71957

CALIBRATION DATE: DECEMBER 12, 2005

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	32.4	22.5	32.0
18.5	31.4	23.0	32.2
19.0	31.5	23.5	31.2
19.5	30.9	24.0	33.1
20.0	33.1	24.5	33.1
20.5	33.4	25.0	33.4
21.0	32.1	25.5	33.4
21.5	32.5	26.0	32.9
22.0	32.3	26.5	33.6

COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: SEPTEMBER 21, 2005

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-42.84	8.66
0.01	-41.93	9.57
0.02	-41.29	10.21
0.05	-42.37	9.13
0.07	-41.8	9.7
0.1	-41.83	9.67
0.2	-44.13	7.37
0.3	-41.73	9.77
0.5	-41.8	9.7
0.7	-41.53	9.97
1	-41.46	10.04
2	-41.14	10.36
3	-41.26	10.24
4	-41.46	10.04
5	-41.10	10.40
10	-40.83	10.67
15	-41.47	10.03
20	-35.44	16.06
25	-42.37	9.13
30	-42.94	8.56

COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711919

CALIBRATION DATE: JANUARY 20, 2006

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	27.932	29.5	27.310
18.5	28.277	30.0	26.860
19.0	28.500	30.5	27.450
19.5	28.397	31.0	27.448
20.0	28.570	31.5	27.868
20.5	28.183	32.0	27.922
21.0	28.007	32.5	27.866
21.5	27.823	33.0	27.314
22.0	27.747	33.5	27.403
22.5	27.290	34.0	26.687
23.0	27.406	34.5	26.390
23.5	26.508	35.0	26.365
24.0	26.657	35.5	26.347
24.5	27.102	36.0	26.138
25.0	27.742	36.5	26.481
25.5	27.646	37.0	26.236
26.0	27.934	37.5	27.029
26.5	27.976	38.0	27.883
27.0	26.984	38.5	29.021
27.5	26.745	39.0	29.408
28.0	27.075	39.5	28.429
28.5	27.015	39.75	27.704
29.0	27.169	40.0	26.441

FRONT VIEW

MICROTEK ELECTRONICS, INC.
VIDEO TRANSMITTER
MODEL: 24TA-900TIC
FCC PART 90 – RADIATED EMISSIONS – LAB B

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

MICROTEK ELECTRONICS, INC.
VIDEO TRANSMITTER
MODEL: 24TA-900TIC
FCC PART 90 – RADIATED EMISSIONS – LAB B

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

MICROTEK ELECTRONICS, INC.
VIDEO TRANSMITTER
MODEL: 24TA-900TIC
FCC PART 90 – RADIATED EMISSIONS – LAB D

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

MICROTEK ELECTRONICS, INC.
VIDEO TRANSMITTER
MODEL: 24TA-900TIC
FCC PART 90 – RADIATED EMISSIONS – LAB D

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

MICROTEK ELECTRONICS, INC.
VIDEO TRANSMITTER
MODEL: 24TA-900TIC
FCC PART 90 – SECTION 90.213

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR TEMPERATURE TESTING

APPENDIX E

DATA SHEETS

RF OUTPUT POWER

DATA SHEETS

PEAK OUTPUT POWER

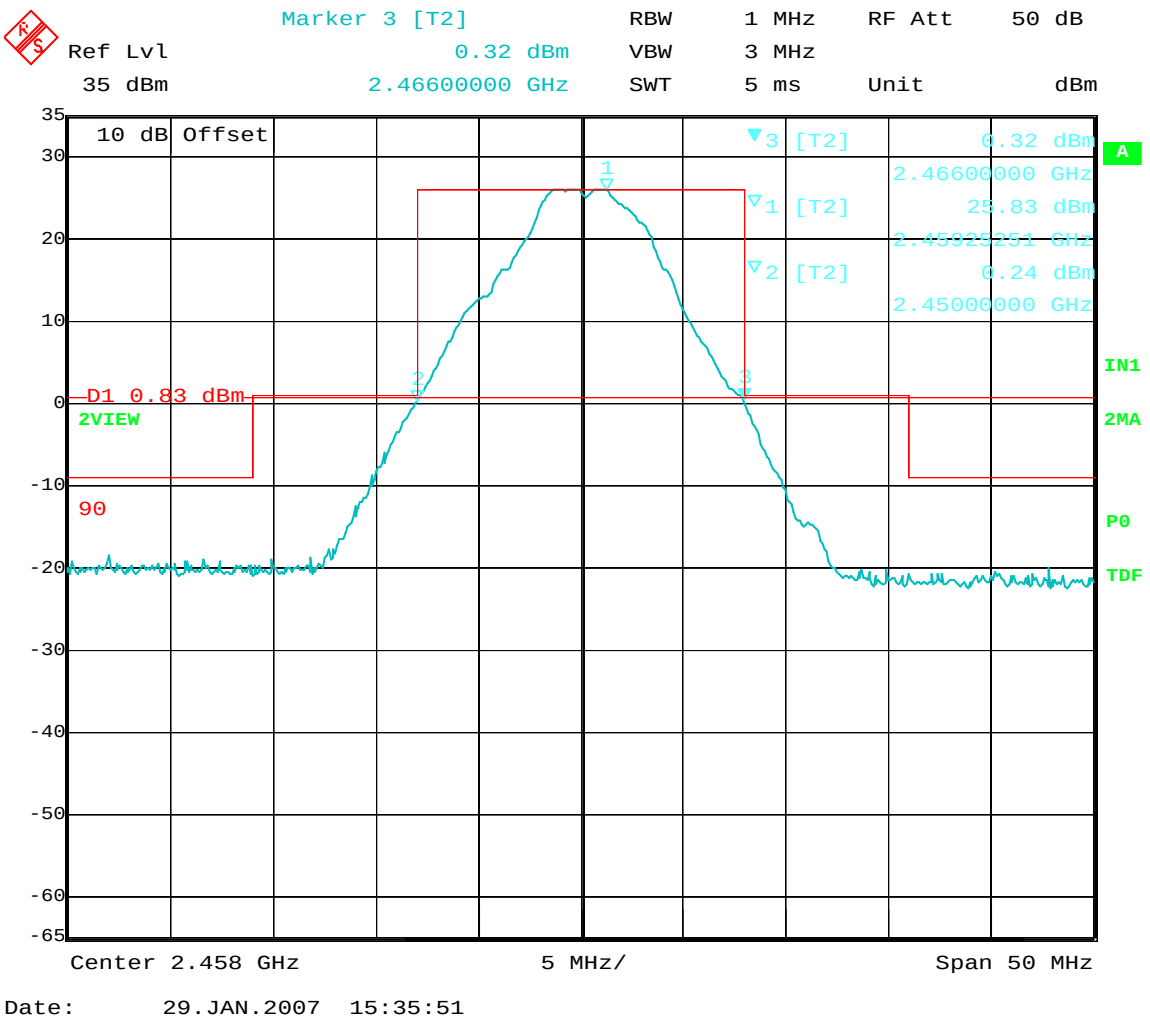
Video Transmitter

Model: 24TA-900TIC

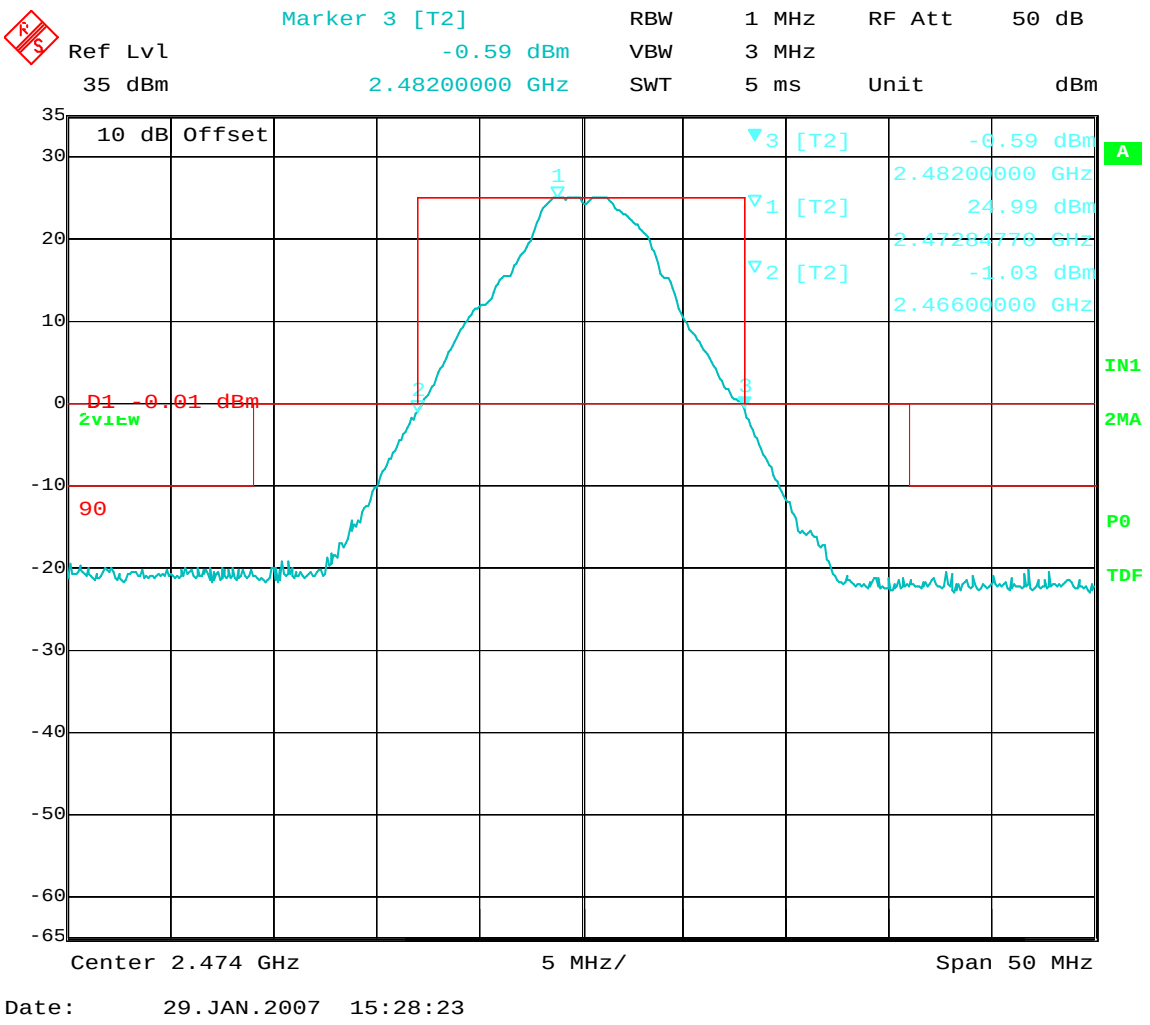
FREQUENCY	PEAK POWER OUTPUT (dBm)
2458 MHz	30.41
2474 MHz	30.39

OCCUPIED BANDWIDTH

DATA SHEETS



Occupied Bandwidth – Low Channel



Occupied Bandwidth – High Channel

SPURIOUS EMISSIONS

DATA SHEETS

FCC Part 90

Company: Microtek Electronics, Inc. Date: 01/29/07

EUT: Video Transmitter Lab: B

Model: 24TA-900TIC Tested By: Kyle Fujimoto

Temp: 17 ° Celsisus R.H.: 53%

Test Description: Spurious Emissions

Vertical Polarization - Substitution Method **1 GHz - 25 GHz**

Freq. (MHz)	Reference Level (dBm)*	Power** (dBm)	Antenna Gain*** (dBi)	ERP^ (dBm)	Delta (dB)	Power Limit (dBm)	Comment
4917.46	-44.73	-39.58	10.2	-29.4	**-16.4**	-13	Low Channel
7372.89	-58.19	-58.51	10.2	-48.3	**-35.3**	-13	Low Channel
9832	-63.64	-62.15	11.5	-50.7	**-37.7**	-13	Low Channel
12290	-58.09	-52.65	10.2	-42.4	**-29.4**	-13	Low Channel
14748.42	-57.05	-46.44	9.9	-36.5	**-23.5**	-13	Low Channel
4947.29	-56.23	-52.4	10.2	-42.3	**-29.3**	-13	High Channel
7422	-66.35	-64.17	10.2	-54.0	**-41.0**	-13	High Channel
9896	-64.72	-62.42	11.5	-50.9	**-37.9**	-13	High Channel
12370	-60.4	-52.54	10.3	-42.2	**-29.2**	-13	High Channel
14844	-57.98	-46.39	10.5	-35.9	**-22.9**	-13	High Channel
							Used the AH-118
							S/N: 10067
							Substitution Antenna
							Cal Date: 07/17/06

*The Reference Level is the meter reading off the Spectrum Analyzer after maximizing the EUT for Field Strength.

** Power = Output of Signal Generator where the signal is injected into the Subsitution Ant. The Output of the Signal Generator is obtained when the output matches the Reference Level

*** The gain of the subsitution antenna

Span 1 MHz, Sweep time 1 Sec.

^ The ERP (dBm) is compared to the limit for FCC Part 90

FCC Part 90

Company: Microtek Electronics, Inc. Date: 01/29/07

EUT: Video Transmitter Lab: B

Model: 24TA-900TIC Tested By: Kyle Fujimoto

Temp: 17 ° Celsisus R.H.: 53%

Test Description: Spurious Emissions

Horizontal Polarization - Substitution Method **1 GHz - 25 GHz**

Freq. (MHz)	Reference Level (dBm)*	Power** (dBm)	Antenna Gain*** (dBi)	ERP^ (dBm)	Delta (dB)	Power Limit (dBm)	Comment
4917.46	-54.02	-46.15	10.2	-36.0	**-23.0**	-13	Low Channel
7372.89	-63.27	-54.06	10.2	-43.9	**-30.9**	-13	Low Channel
9832	-64.15	-66.75	11.5	-55.3	**-42.3**	-13	Low Channel
12290	-60.36	-49.17	10.2	-39.0	**-26.0**	-13	Low Channel
14748.42	-55.82	-49.04	9.9	-39.1	**-26.1**	-13	Low Channel
4947.29	-59.25	-51.27	10.2	-41.1	**-28.1**	-13	High Channel
7422	-66.92	-59.17	10.2	-49.0	**-36.0**	-13	High Channel
9896	-62.57	-61.11	11.5	-49.6	**-36.6**	-13	High Channel
12370	-59.88	-49.26	10.3	-39.0	**-26.0**	-13	High Channel
14844	-56.59	-49.95	10.5	-39.4	**-26.4**	-13	High Channel
							Used the AH-118
							S/N: 10067
							Substitution Antenna
							Cal Date: 07/17/06

*The Reference Level is the meter reading off the Spectrum Analyzer after maximizing the EUT for Field Strength.

** Power = Output of Signal Generator where the signal is injected into the Subsitution Ant. The Output of the Signal Generator is obtained when the output matches the Reference Level

*** The gain of the subsitution antenna

Span 1 MHz, Sweep time 1 Sec.

^ The ERP (dBm) is compared to the limit for FCC Part 90

FCC Part 90

Company: Microtek Electronics, Inc. Date: 01/30/07

EUT: Video Transmitter Lab: D

Model: 24TA-900TIC Tested By: Kyle Fujimoto

Temp: 17 ° Celsisus R.H.: 53%

Test Description: Spurious Emissions

Horiz. and Vert. Polarization - Substitution Method **9 kHz - 1 GHz**

Freq. (MHz)	Reference Level (dBm)*	Power** (dBm)	Antenna Gain*** (dBi)	ERP^ (dBm)	Delta (dB)	Power Limit (dBm)	Comment
							All emissions below
							1 GHz were greater
							than 20 dB
							below the spec limit
							of FCC 90.210 (b)

*The Reference Level is the meter reading off the Spectrum Analyzer after maximizing the EUT for Field Strength.

** Power = Output of Signal Generator where the signal is injected into the Subsitution Ant. The Output of the Signal Generator is obtained when the output matches the Reference Level

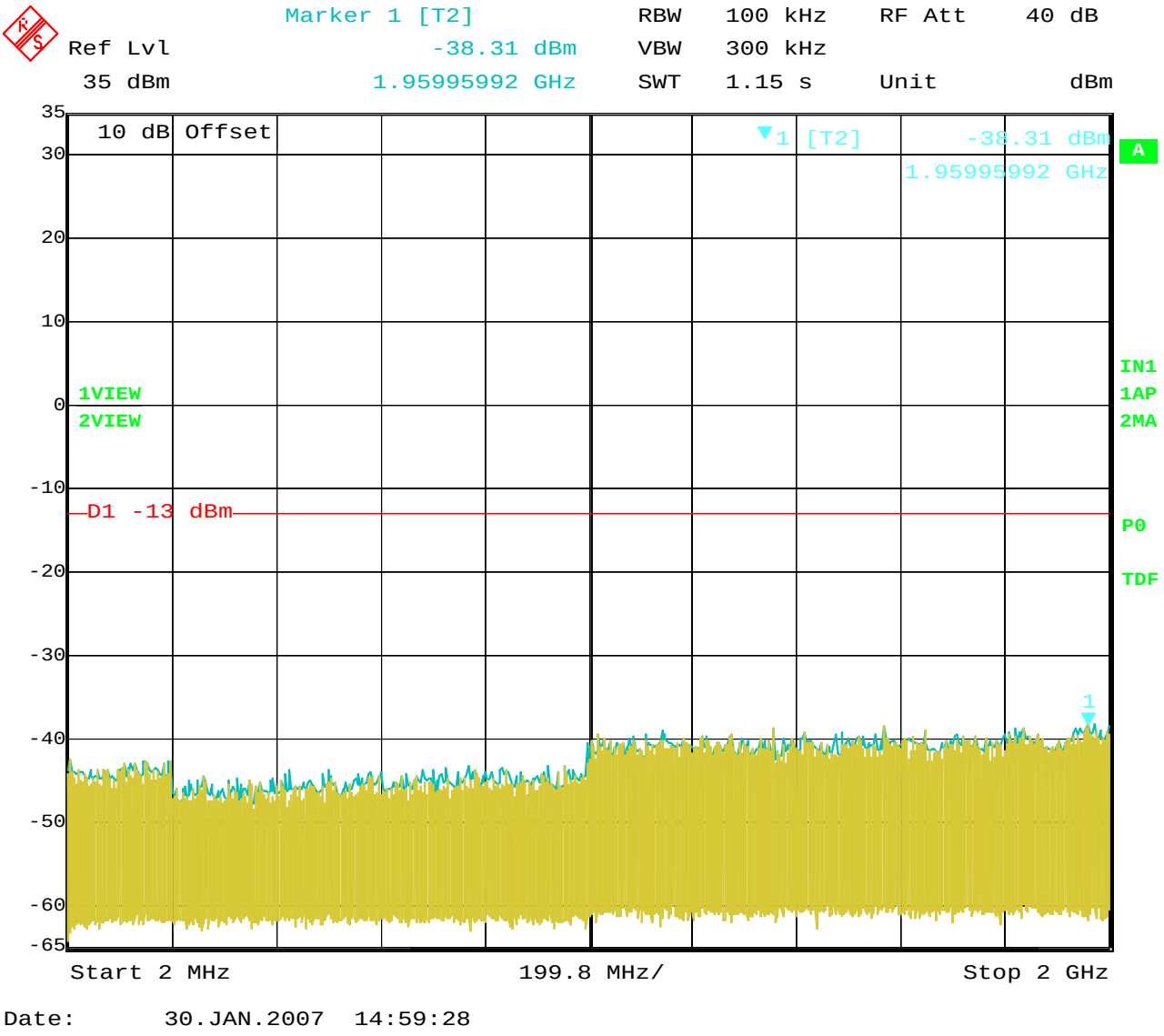
*** The gain of the subsitution antenna

Span 1 MHz, Sweep time 1 Sec.

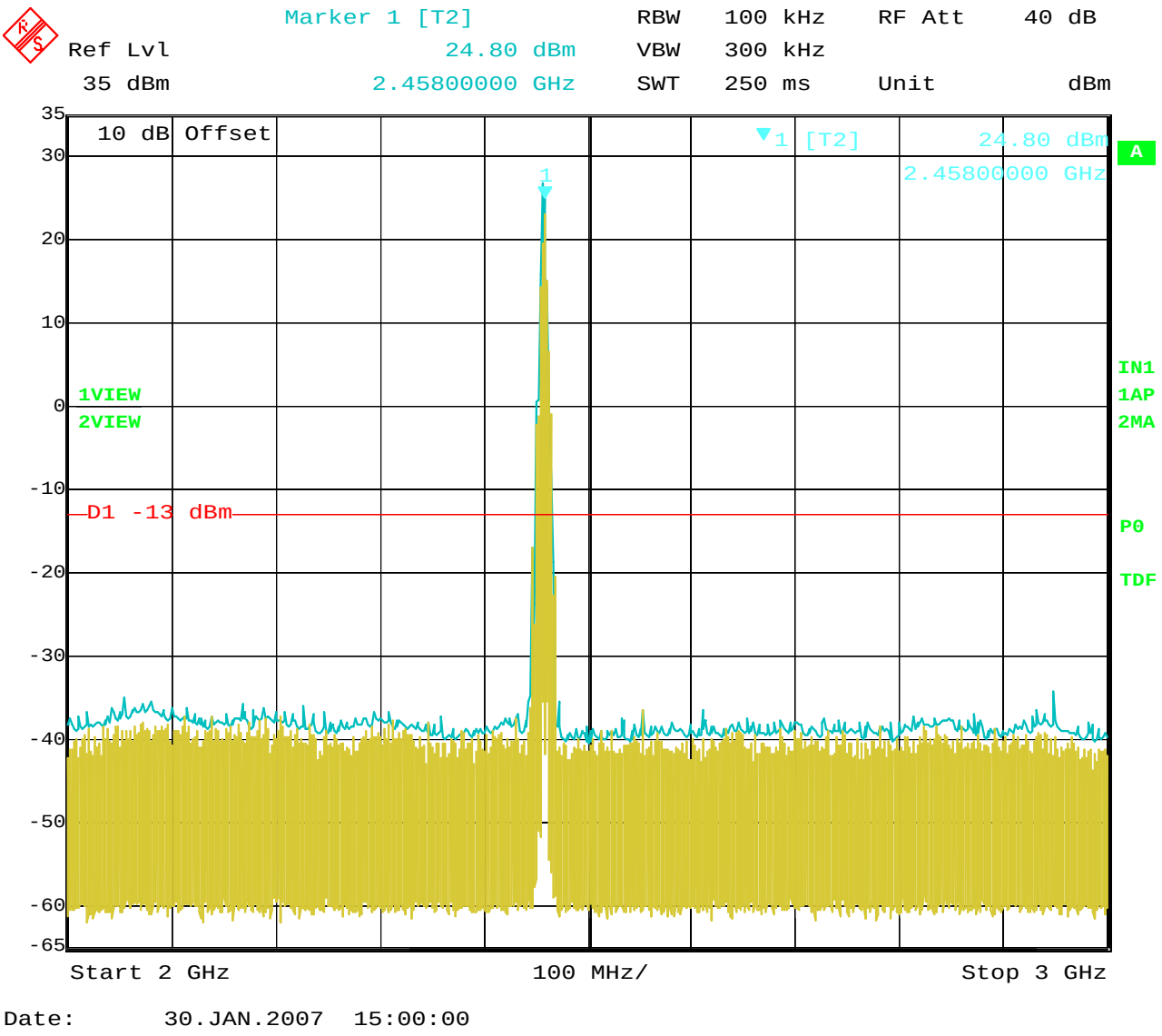
^ The ERP (dBm) is compared to the limit for FCC Part 90

SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL

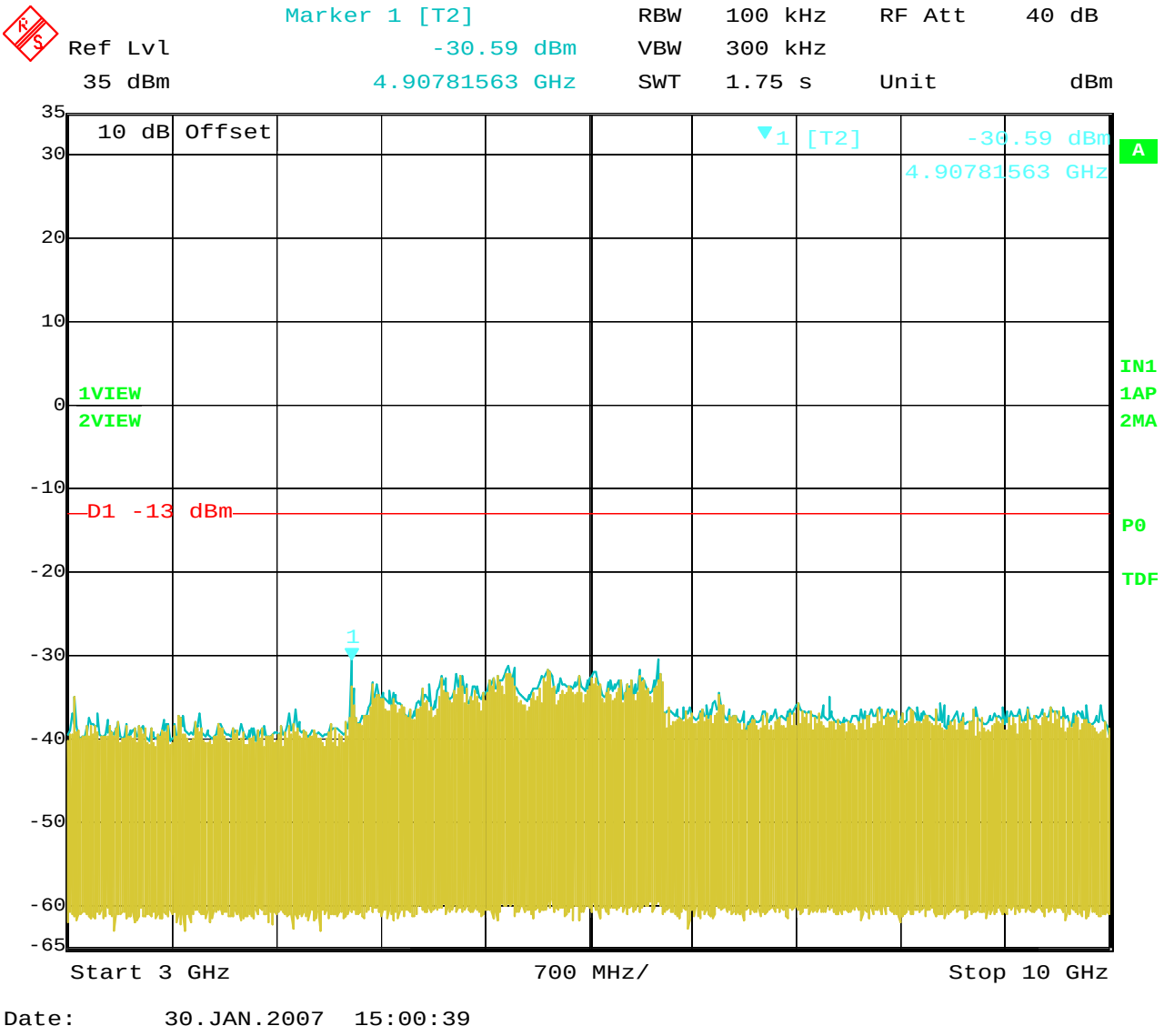
DATA SHEETS



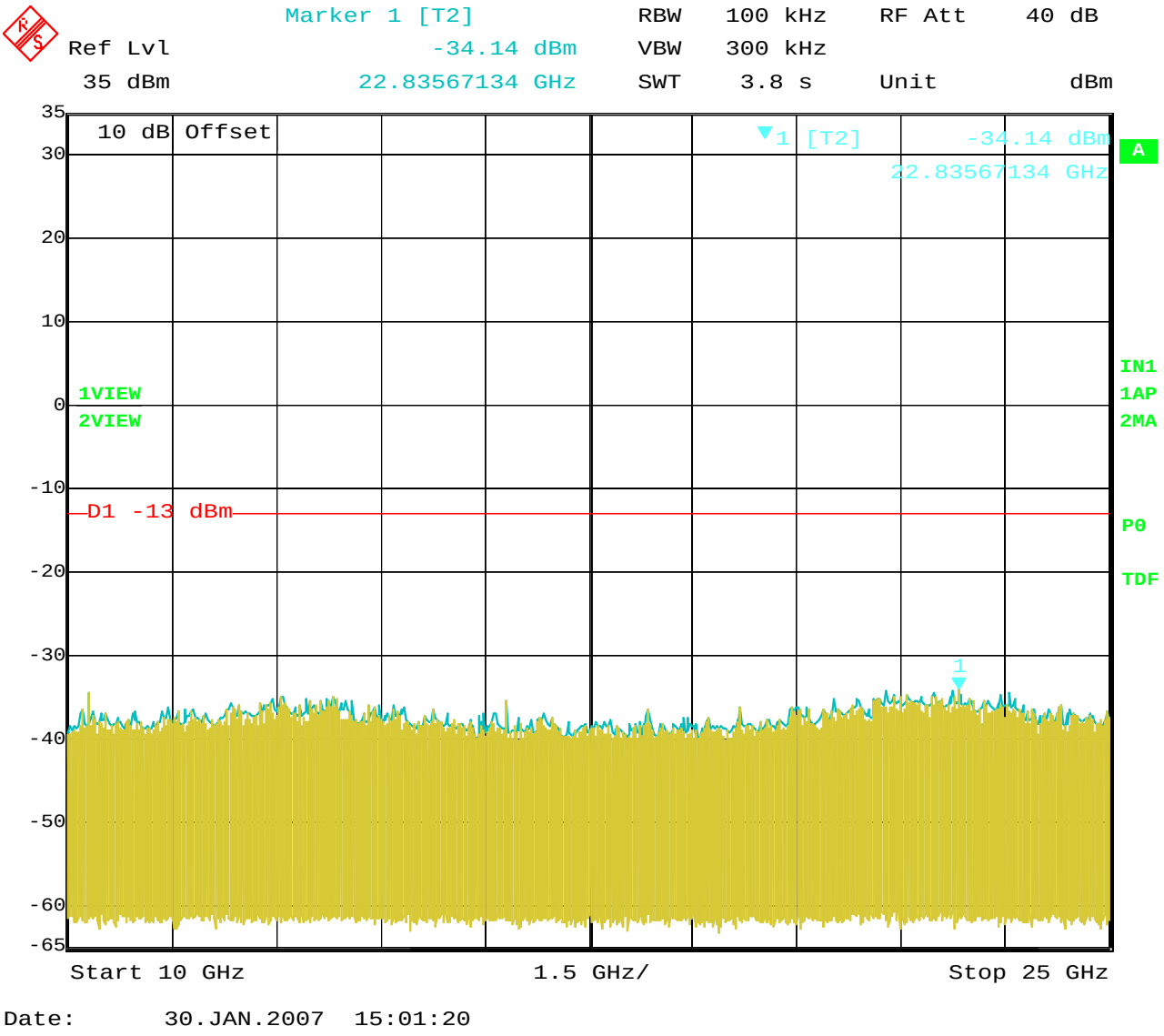
RF Antenna Conducted Test – Low Channel – 2 MHz to 2 GHz



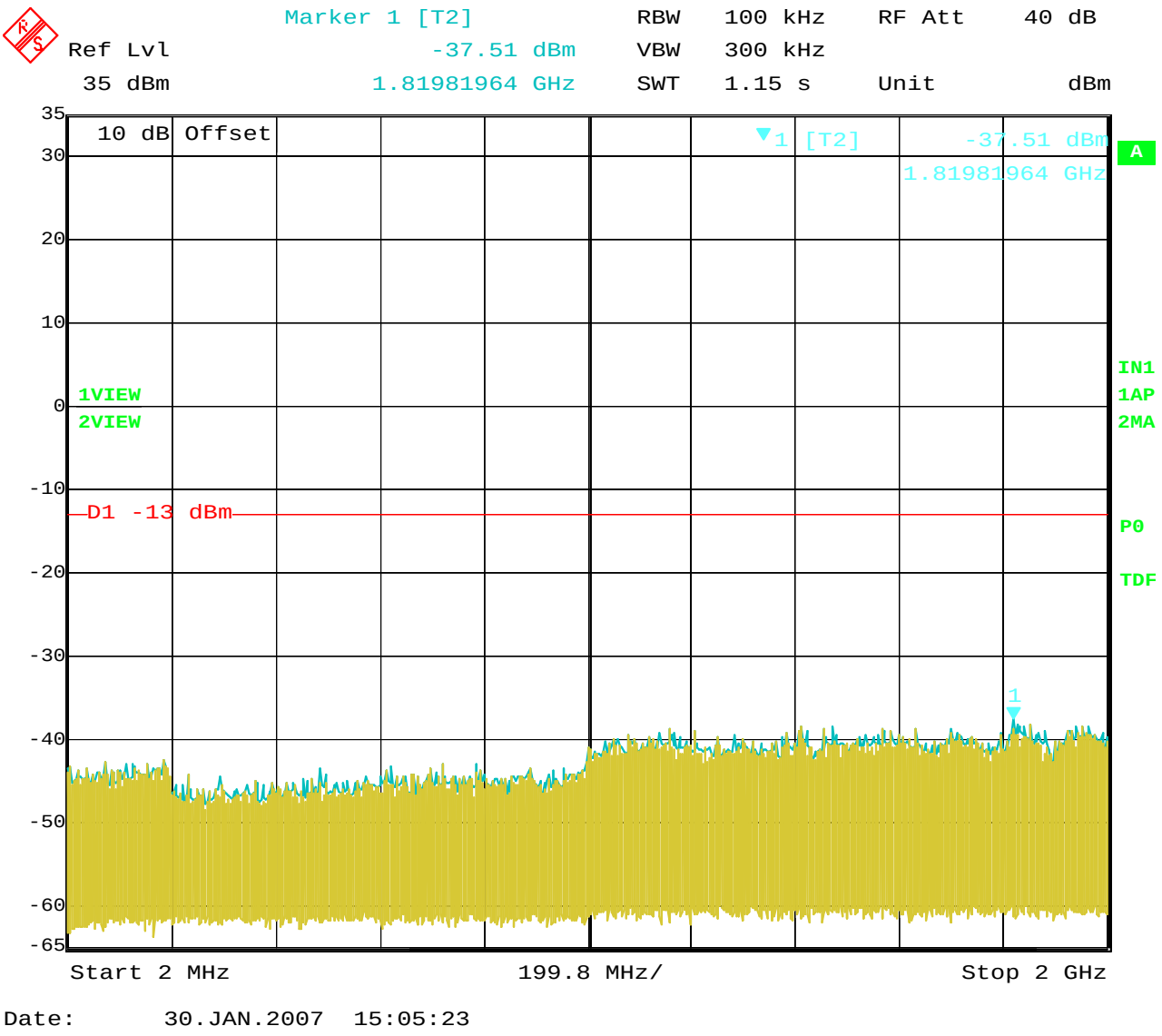
RF Antenna Conducted Test – Low Channel – 2 GHz to 3 GHz



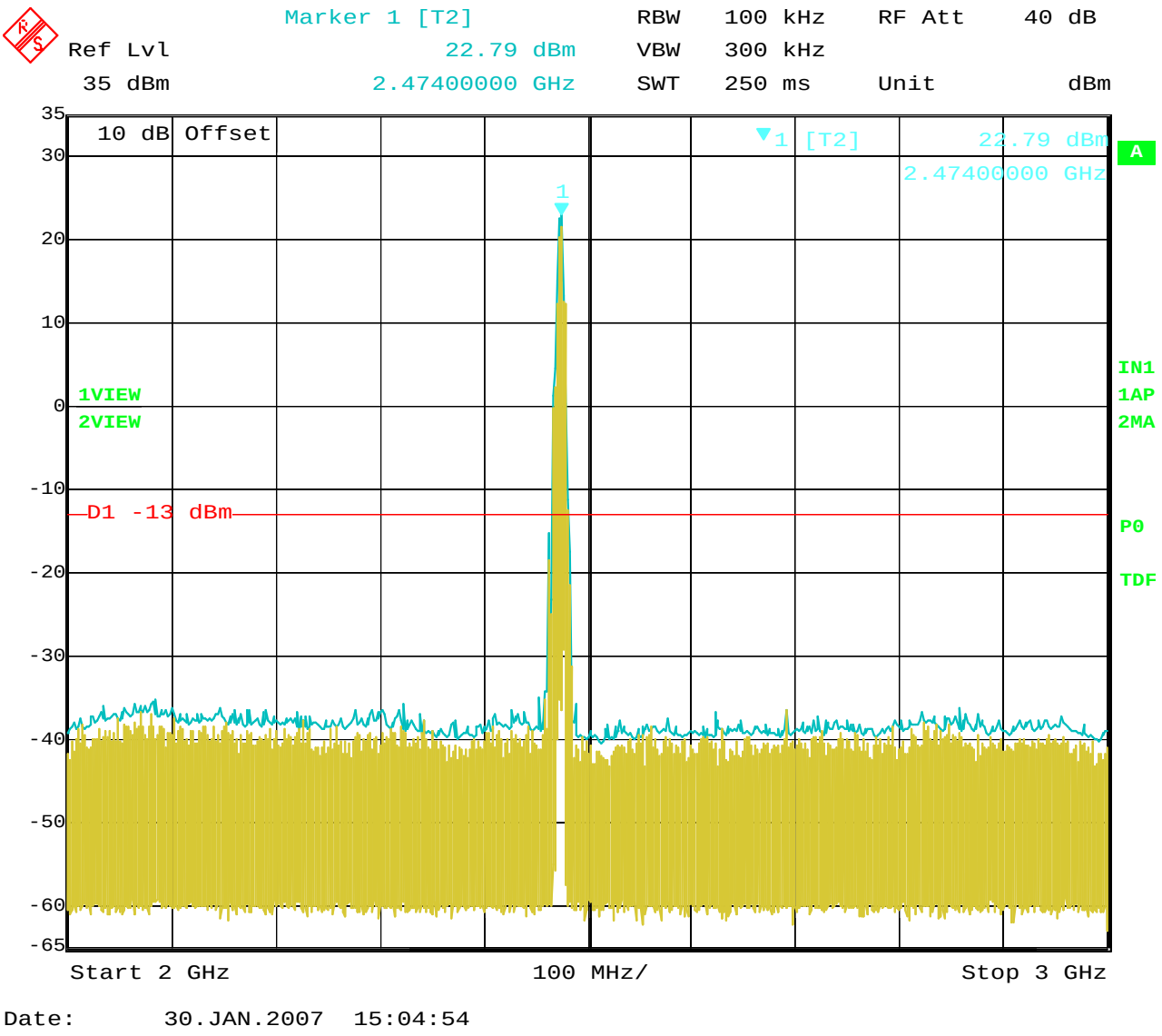
RF Antenna Conducted Test – Low Channel – 3 GHz to 10 GHz



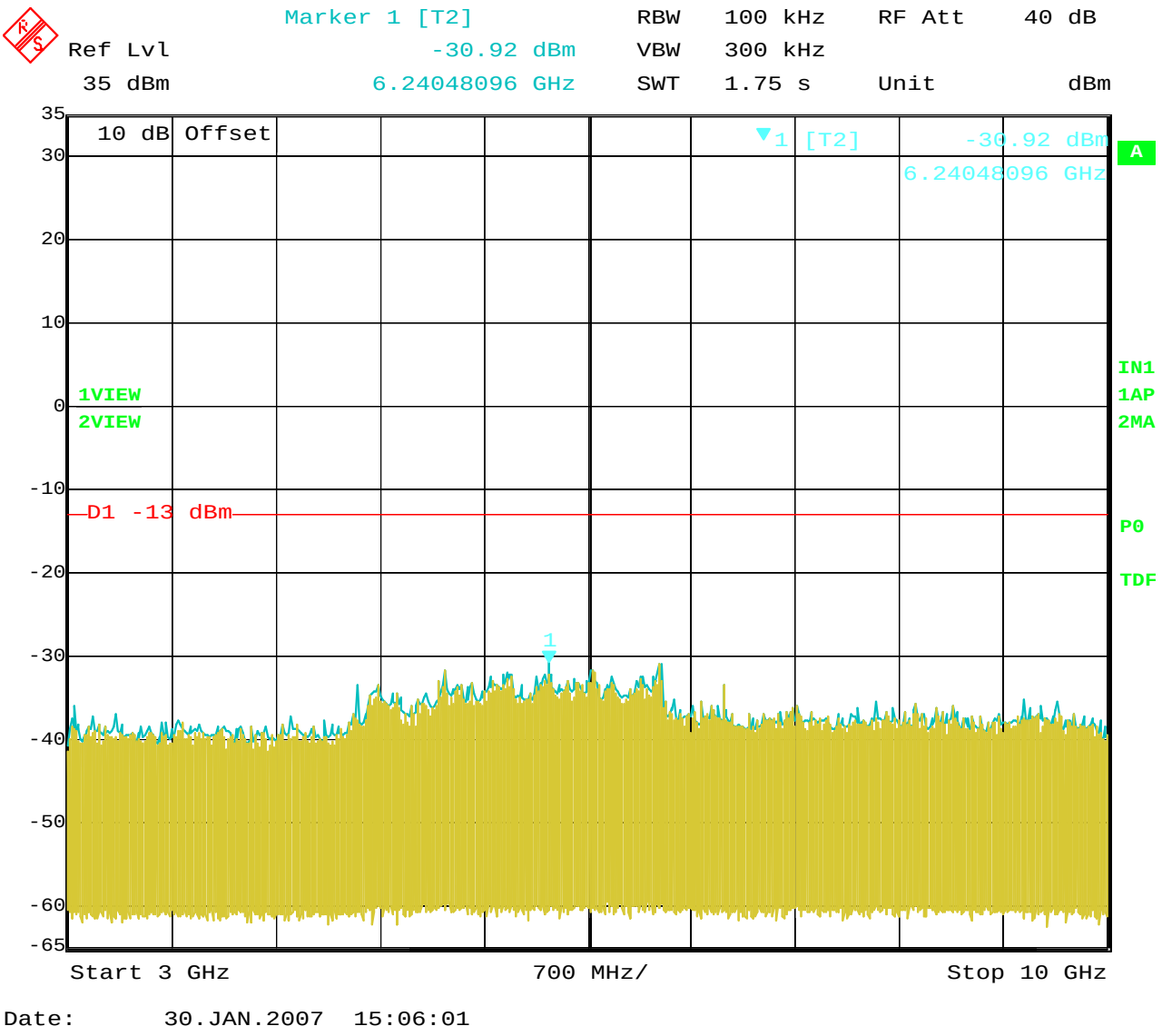
RF Antenna Conducted Test – Low Channel – 10 GHz to 25 GHz



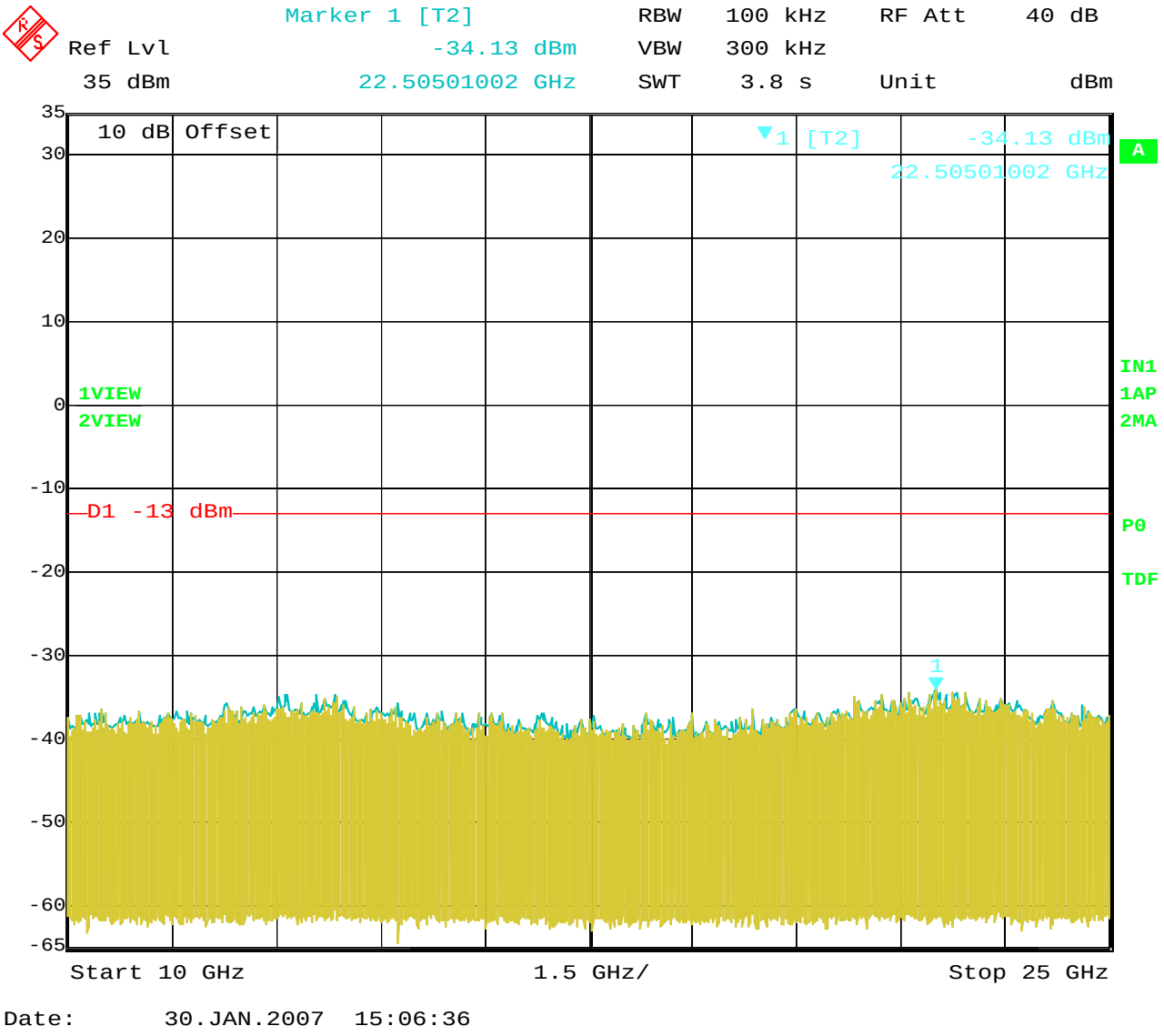
RF Antenna Conducted Test – High Channel – 2 MHz to 2 GHz



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



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



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

FREQUENCY STABILITY

DATA SHEETS

FCC 2.1055 AND FCC 90.213 TESTING

COMPANY:	MICROTEK ELECTRONICS, INC.	**DATE:**	01-31-2007
EUT:	VIDEO TRANSMITTER	**ENGINEER:**	KYLE FUJIMOTO
MODEL:	24TA-900TIC	**S/N:**	N/A

LOW CHANNEL – CENTER FREQUENCY 2.458 GHz

TEMPERATURE	FREQUENCY (GHz) AT 0 MINUTES	FREQUENCY (GHz) AT 2 MINUTES	FREQUENCY (GHz) AT 5 MINUTES	FREQUENCY (GHz) AT 10 MINUTES	% OF SUPPLY VOLTAGE
-30°C	2.45796093	2.45796694	2.45795491	2.45797696	100
-20°C	2.45799700	2.45799499	2.45800501	2.45797896	100
-10°C	2.45799499	2.45799900	2.45799299	2.45799299	100
0°C	2.45799900	2.45799499	2.45800301	2.45799099	100
+10°C	2.45800101	2.45797896	2.45800301	2.45800101	100
+20°C	2.45800000	2.45800000	2.45800000	2.45800000	100
+20°C	2.45800401	2.45800401	2.45800401	2.45800401	85
+20°C	2.45800802	2.45800802	2.45800802	2.45800802	115
+30°C	2.45800400	2.45799600	2.45800802	2.45801203	100
+40°C	2.45801704	2.45801704	2.45801704	2.45801103	100
+50°C	2.45802505	2.45802505	2.45802305	2.45802305	100

FCC 2.1055 AND FCC 90.213 TESTING

COMPANY:	MICROTEK ELECTRONICS, INC.	**DATE:**	01-31-2007
EUT:	VIDEO TRANSMITTER	**ENGINEER:**	KYLE FUJIMOTO
MODEL:	24TA-900TIC	**S/N:**	N/A

HIGH CHANNEL – CENTER FREQUENCY 2.474 GHz

TEMPERATURE	FREQUENCY (GHz) AT 0 MINUTES	FREQUENCY (GHz) AT 2 MINUTES	FREQUENCY (GHz) AT 5 MINUTES	FREQUENCY (GHz) AT 10 MINUTES	% OF SUPPLY VOLTAGE
-30°C	2.47397294	2.47396693	2.47395090	2.47396493	100
-20°C	2.47399699	2.47399499	2.47400501	2.47400300	100
-10°C	2.47399499	2.47397094	2.47400300	2.47399298	100
0°C	2.47399098	2.47397495	2.47398898	2.47398296	100
+10°C	2.47399499	2.47398898	2.47398497	2.47398296	100
+20°C	2.47400000	2.47400000	2.47400000	2.47400000	100
+20°C	2.47399599	2.47399599	2.47399599	2.47399599	85
+20°C	2.47400401	2.47400401	2.47400401	2.47400401	115
+30°C	2.47401703	2.47401102	2.47400701	2.47402304	100
+40°C	2.47402505	2.47402906	2.47402906	2.47403306	100
+50°C	2.47403707	2.47403908	2.47403908	2.47403908	100