MEASUREMENT TECHNICAL REPORT
FOR

Ten-Tec, Inc.
1185 Dolly Parton Parkway
Sevierville, Tennessee 37862

MODELS: 588

Report: G610199r1
r1 add ANSI Refernce
Report Date: October 17, 2006
Date Test Sample Received: October 11, 2006

This report concerns:
EMC (FCC Part 15)
Testing of Amateur Radio Receiver

Test report was prepared by and test performed at:

GLOBAL TESTING LABORATORIES, LLC
3029 East Governor John Sevier Highway
Knoxville, Tennessee 37914-6424

Written By	Joe G. Clark Senior Mgr. Regulatory Affairs	October 17, 2006 Date
Reviewed By	Roger Williams Senior Mgr. Engineering	October 17, 2006 Date
Authorized By	Deborah Walker General Mgr	October 17, 2006 Date

LIST OF EXHIBITS Report # G610199

1. Summary of Results
2. Engineering Statement
3. System Test Configuration
4. Radiated Emissions (FCC Part 15)
5. Conducted Emissions (FCC Part 15)
6. Receivers Ability to Reject Strong Cellular Signals (FCC Part 15)

SECTION 1
SUMMARY OF RESULTS
Report Number G610199

The measurement uncertainty of this data (Report # G610199) is ±3 db. This report covers only the listed Model: 588, which indicates that the previously mentioned equipment **MEETS,** the requirements as set forth by the following standards for the listed Test:

Test and Standard:	**Comments:**
Radiated Emissions (FCC Part 15)	MEETS
Conducted Emissions (FCC Part 15)	MEETS
Immunity to Cellular Phone Signals (FCC Part 15)	MEETS

Mass production of final instrument systems utilizing the exact electrical/ mechanical components, lead dress, and RF ground paths as tested by Global Testing Laboratories, LLC will not likely cause harmful interference to any radio communication, radio navigation or safety services. Any deviation in design from the system tested by our facility will require further verification of Compliance by Global Testing Laboratories, LLC. This test report is the confidential property of Ten-Tec, Inc.. Extracts from this test report shall not be reproduced except in full without our written approval.

Senior Manager Regulatory Affairs
Global Testing Laboratories, LLC

SECTION 2
ENGINEERING STATEMENT
Report Number G610199

Engineering Statement

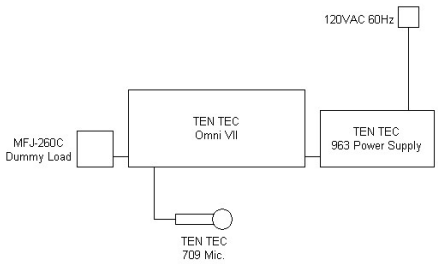
All measurement data, in this report, was taken pursuant to the FCC Part 15, by Global Testing Laboratories, LLC (NVLAP Code: 200409-0), located in Knoxville, Tennessee. Although this data is taken under stringent laboratory conditions and to the best of our knowledge, represents accurate data, it must be recognized that emissions from this type of equipment may be greatly affected by the final installation of the equipment. Therefore, Global Testing Laboratories, LLC, while supporting the accuracy of the data in this report, takes no responsibility for use of equipment based on these tests. The manufacturer of this equipment must take full responsibility for any field problems, which may arise, and agrees that Global Testing Laboratories, LLC, in performing its functions in accordance with its objectives and purposes, does not assume or undertake to discharge any responsibility of the manufacturer to any other party or parties.

Testing on the Ten-Tec, Inc. Model 588 was performed on October 11, 2006. The data contained within this technical report was compiled and approved by:

Joe G. Clark
Global Testing Laboratories, LLC
3029 East Governor John Sevier Highway
Knoxville, Tennessee 37914-6424

SECTION 3
SYSTEM TEST CONFIGURATION
Report Number G610199

The Ten-Tec, Inc. Model 588 was configured into a simulated installation.



The specific setup for each test performed is described in each section

SECTION 4
RADIATED EMISSIONS
Report Number G610199

PROCEDURE-RADIATED EMISSIONS FCC Part 15 (2006)

Radiated Emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 (2003). The EUT was placed on a wooden platform in a typical configuration .8m above metal turntable mounted level with the metal ground plane. A Biconical antenna was placed 10 meters away from the EUT on a 4-meter fiberglass mast. The receiving antenna was connected to the 50 Ω input of the HP8566B spectrum analyzer. The EUT was powered by a 120VAC 60Hz, and was configured into its normal operational mode.

The 30 MHZ to 40 MHZ band was observed on the spectrum analyzer while the EUT power and control leads were adjusted to maximize emissions. The remote turntable was rotated 360 degrees to find the maximum emissions. The peak frequencies for this band were recorded.

This search for emissions continued from 40 MHZ up to 1 GHz. The receiving antennas were varied in height from 1 to 4 meters, for frequencies from 30MHZ to 1GHZ and the remote turntable was rotated 360 degrees to find the maximum emissions. This test was performed for all modes of operation.

All significant emissions are reported on the attached data report. To verify that the E.M.I. emissions measured were generated by the E.U.T., the system power was interrupted at peak reading while observing the Spectrum Analyzer. Unless otherwise specified, all Radiated Emissions are recorded as "PEAK" spectrum analyzer readings. The Radiated Field Strength was calculated as follows: Maximum Emission Received (dB) + Antenna Factor (dB) + Cable Loss (dB) = Field Strength dBuv/Meter.

Equipment Used During Testing:

HP 8566B	s/n: 6612	Spectrum Analyzer
HP 85650A	s/n: 1001	Quasi-Peak Adapter
HP 85685A	s/n: 0627	RF Pre-selector
EMCO 3110	s/n: 1549	Biconical Antenna
EMCO 3146	s/n: 3455	Log-Periodic Antenna

SUPPLEMENTAL DATA 6-METER BAND Report#: G610199

GLOBAL TESTING LABORATORIES, LLC
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OPEN FIELD RADIATION MEASUREMENT FCC PART 15 CLASS "B" LIMITS

REPORT #: G610199
MANUFACTURE: Ten-Tec
MODEL # 588
DATE: 10/11/2006
NOTE: 6 meter

DELTA REFERS TO THE dB DIFFERENCE BETWEEN THE HORIZONTAL OR VERTICAL READING AND THE dB LIMIT AT THAT FREQUENCY.
THE FOLLOWING ARE PEAK READINGS WITH CABLE AND ANTENNA FACTORS INCLUDED EXCEPT AS NOTED BY "QP".
"QP" = QUASI PEAK READING AT THAT FREQUENCY
SPECTRUM ANALYZER SETTINGS:
RBW: 100KHz
VBW: 100KHz
TEST DISTANCE BETWEEN DEVICE UNDER TEST AND RECEIVING ANTENNA: 3-METERS

FREQ. (MHz)	HORZ. dBuV/m	VERT. dBuV/m	H DELTA (dBuV)	V DELTA (dBuV)	LIMIT CLASS "B"	FREQ. STATUS
150	29.4	24.2	-14.1	-19.3	43.5	
262.1	38.3	32.6	-7.7	-13.4	46	
327.7	33.12	33.62	-12.88	-12.38	46	
347.8	34.56	34.96	-11.44	-11.04	46	
486.8	36.72	40.22	-9.28	-5.78	46	
695.5	37.3	37.7	-8.7	-8.3	46	

SUPPLEMENTAL DATA 10-METER BAND Report#: G610199

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OPEN FIELD RADIATION MEASUREMENT FCC PART 15 CLASS "B" LIMITS

REPORT #:	G610199
MANUFACTURE:	Ten-Tec
MODEL #	588
DATE:	10/11/2006
NOTE:	10 meter

DELTA REFERS TO THE dB DIFFERENCE BETWEEN THE HORIZONTAL OR VERTICAL READING AND THE dB LIMIT AT THAT FREQUENCY.
THE FOLLOWING ARE PEAK READINGS WITH CABLE AND ANTENNA FACTORS INCLUDED EXCEPT AS NOTED BY "QP".
"QP" = QUASI PEAK READING AT THAT FREQUENCY
SPECTRUM ANALYZER SETTINGS:
RBW: 100KHz
VBW: 100KHz
TEST DISTANCE BETWEEN DEVICE UNDER TEST AND RECEIVING ANTENNA: 3-METERS

FREQ. (MHz)	HORZ. dBuV/m	VERT. dBuV/m	H DELTA (dBuV)	V DELTA (dBuV)	LIMIT CLASS "B"	FREQ. STATUS
150	29.4	24.2	-14.1	-19.3	43.5	
262.1	39.1	32.6	-6.9	-13.4	46	
327.7	33.02	33.52	-12.98	-12.48	46	
347.8	34.36	34.76	-11.64	-11.24	46	
486.8	36.72	39.82	-9.28	-6.18	46	
695.5	37.3	37.9	-8.7	-8.1	46	

SUPPLEMENTAL DATA 12-METER BAND Report#: G610199

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OPEN FIELD RADIATION MEASUREMENT FCC PART 15 CLASS "B" LIMITS

REPORT #:	G610199
MANUFACTURE:	Ten-Tec
MODEL #	588
DATE:	10/11/2006
NOTE:	12 meter

DELTA REFERS TO THE dB DIFFERENCE BETWEEN THE HORIZONTAL OR VERTICAL READING AN LIMIT AT THAT FREQUENCY.
THE FOLLOWING ARE PEAK READINGS WITH CABLE AND ANTENNA FACTORS INCLUDED EXCEP BY "QP".
"QP" = QUASI PEAK READING AT THAT FREQUENCY
SPECTRUM ANALYZER SETTINGS:
RBW: 100KHz
VBW: 100KHz
TEST DISTANCE BETWEEN DEVICE UNDER TEST AND RECEIVING ANTENNA: 3-METERS

FREQ. (MHz)	HORZ. dBuV/m	VERT. dBuV/m	H DELTA (dBuV)	V DELTA (dBuV)	LIMIT CLASS "B"	FREQ. STATUS
150	29.4	24.2	-14.1	-19.3	43.5	
262.1	38.7	32.6	-7.3	-13.4	46	
327.7	33.22	33.72	-12.78	-12.28	46	
347.8	34.36	34.66	-11.64	-11.34	46	
486.8	36.72	39.72	-9.28	-6.28	46	
695.5	37.3	37.9	-8.7	-8.1	46	

SUPPLEMENTAL DATA 15-METER BAND Report#: G610199

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OPEN FIELD RADIATION MEASUREMENT FCC PART 15 CLASS "B" LIMITS

REPORT #:	G610199
MANUFACTURE:	Ten-Tec
MODEL #	588
DATE:	10/11/2006
NOTE:	15 meter

DELTA REFERS TO THE dB DIFFERENCE BETWEEN THE HORIZONTAL OR VERTICAL READING AND THE dB LIMIT AT THAT FREQUENCY.
THE FOLLOWING ARE PEAK READINGS WITH CABLE AND ANTENNA FACTORS INCLUDED EXCEPT AS NOTED BY "QP".
"QP" = QUASI PEAK READING AT THAT FREQUENCY
SPECTRUM ANALYZER SETTINGS:
RBW: 100KHz
VBW: 100KHz
TEST DISTANCE BETWEEN DEVICE UNDER TEST AND RECEIVING ANTENNA: 3-METERS

FREQ. (MHz)	HORZ. dBuV/m	VERT. dBuV/m	H DELTA (dBuV)	V DELTA (dBuV)	LIMIT CLASS "B"	FREQ. STATUS
150	29.3	24.2	-14.2	-19.3	43.5	
262.1	38.5	32.5	-7.5	-13.5	46	
327.7	33.32	33.82	-12.68	-12.18	46	
347.8	34.26	34.56	-11.74	-11.44	46	
486.8	36.92	39.92	-9.08	-6.08	46	
695.5	37.4	38	-8.6	-8	46	

SUPPLEMENTAL DATA 17-METER BAND Report#: G610199

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OPEN FIELD RADIATION MEASUREMENT FCC PART 15 CLASS "B" LIMITS

REPORT #: G610199
MANUFACTURE: Ten-Tec
MODEL # 588
DATE: 10/11/2006
NOTE: 17 meter

DELTA REFERS TO THE dB DIFFERENCE BETWEEN THE HORIZONTAL OR VERTICAL READING AND THE dB LIMIT AT THAT FREQUENCY.
THE FOLLOWING ARE PEAK READINGS WITH CABLE AND ANTENNA FACTORS INCLUDED EXCEPT AS NOTED BY "QP".
"QP" = QUASI PEAK READING AT THAT FREQUENCY
SPECTRUM ANALYZER SETTINGS:
RBW: 100KHz
VBW: 100KHz
TEST DISTANCE BETWEEN DEVICE UNDER TEST AND RECEIVING ANTENNA: 3-METERS

FREQ. (MHz)	HORZ. dBuV/m	VERT. dBuV/m	H DELTA (dBuV)	V DELTA (dBuV)	LIMIT CLASS "B"	FREQ. STATUS
150	29.4	24.3	-14.1	-19.2	43.5	
262.1	38.4	32.6	-7.6	-13.4	46	
327.7	33.42	33.72	-12.58	-12.28	46	
347.8	34.16	34.46	-11.84	-11.54	46	
486.8	36.82	40.12	-9.18	-5.88	46	
695.5	37.4	38.1	-8.6	-7.9	46	

SUPPLEMENTAL DATA 20-METER BAND Report#: G610199

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OPEN FIELD RADIATION MEASUREMENT FCC PART 15 CLASS "B" LIMITS

REPORT #:	G610199
MANUFACTURE:	Ten-Tec
MODEL #	588
DATE:	10/11/2006
NOTE:	20 meter

DELTA REFERS TO THE dB DIFFERENCE BETWEEN THE HORIZONTAL OR VERTICAL READING AND THE dB LIMIT AT THAT FREQUENCY.
THE FOLLOWING ARE PEAK READINGS WITH CABLE AND ANTENNA FACTORS INCLUDED EXCEPT AS NOTED BY "QP".
"QP" = QUASI PEAK READING AT THAT FREQUENCY
SPECTRUM ANALYZER SETTINGS:
RBW: 100KHz
VBW: 100KHz
TEST DISTANCE BETWEEN DEVICE UNDER TEST AND RECEIVING ANTENNA: 3-METERS

FREQ. (MHz)	HORZ. dBuV/m	VERT. dBuV/m	H DELTA (dBuV)	V DELTA (dBuV)	LIMIT CLASS "B"	FREQ. STATUS
150	29.4	24.3	-14.1	-19.2	43.5	
262.1	38.4	32.6	-7.6	-13.4	46	
327.7	33.42	33.72	-12.58	-12.28	46	
347.8	34.16	34.46	-11.84	-11.54	46	
486.8	36.82	40.12	-9.18	-5.88	46	
695.5	37.4	38.1	-8.6	-7.9	46	

SUPPLEMENTAL DATA 30-METER BAND Report#: G610199

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OPEN FIELD RADIATION MEASUREMENT FCC PART 15 CLASS "B" LIMITS

REPORT #:	G610199
MANUFACTURE:	Ten-Tec
MODEL #	588
DATE:	10/11/2006
NOTE:	30 meter

DELTA REFERS TO THE dB DIFFERENCE BETWEEN THE HORIZONTAL OR VERTICAL READING AND THE dB LIMIT AT THAT FREQUENCY.
THE FOLLOWING ARE PEAK READINGS WITH CABLE AND ANTENNA FACTORS INCLUDED EXCEPT AS NOTED BY "QP".
"QP" = QUASI PEAK READING AT THAT FREQUENCY
SPECTRUM ANALYZER SETTINGS:
RBW: 100KHz
VBW: 100KHz
TEST DISTANCE BETWEEN DEVICE UNDER TEST AND RECEIVING ANTENNA: 3-METERS

FREQ. (MHz)	HORZ. dBuV/m	VERT. dBuV/m	H DELTA (dBuV)	V DELTA (dBuV)	LIMIT CLASS "B"	FREQ. STATUS
150	29.4	24.3	-14.1	-19.2	43.5	
262.1	38.4	32.6	-7.6	-13.4	46	
327.7	33.42	33.72	-12.58	-12.28	46	
347.8	34.16	34.46	-11.84	-11.54	46	
486.8	36.82	40.12	-9.18	-5.88	46	
695.5	37.4	38.1	-8.6	-7.9	46	

SUPPLEMENTAL DATA 40-METER BAND Report#: G610199

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OPEN FIELD RADIATION MEASUREMENT FCC PART 15 CLASS "B" LIMITS

REPORT #:	G610199
MANUFACTURE:	Ten-Tec
MODEL #	588
DATE:	10/11/2006
NOTE:	40 meter

DELTA REFERS TO THE dB DIFFERENCE BETWEEN THE HORIZONTAL OR VERTICAL READING AND THE dB LIMIT AT THAT FREQUENCY.
THE FOLLOWING ARE PEAK READINGS WITH CABLE AND ANTENNA FACTORS INCLUDED EXCEPT AS NOTED BY "QP".
"QP" = QUASI PEAK READING AT THAT FREQUENCY
SPECTRUM ANALYZER SETTINGS:
RBW: 100KHz
VBW: 100KHz
TEST DISTANCE BETWEEN DEVICE UNDER TEST AND RECEIVING ANTENNA: 3-METERS

FREQ. (MHz)	HORZ. dBuV/m	VERT. dBuV/m	H DELTA (dBuV)	V DELTA (dBuV)	LIMIT CLASS "B"	FREQ. STATUS
150	29.4	24.3	-14.1	-19.2	43.5	
262.1	38.4	32.6	-7.6	-13.4	46	
327.7	33.42	33.72	-12.58	-12.28	46	
347.8	34.16	34.46	-11.84	-11.54	46	
486.8	36.82	40.12	-9.18	-5.88	46	
695.5	37.4	38.1	-8.6	-7.9	46	

SUPPLEMENTAL DATA 60-METER BAND Report#: G610199

GLOBAL TESTING LABORATORIES, LLC
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OPEN FIELD RADIATION MEASUREMENT FCC PART 15 CLASS "B" LIMITS

REPORT #:	G610199
MANUFACTURE:	Ten-Tec
MODEL #	588
DATE:	10/11/2006
NOTE:	60 meter

DELTA REFERS TO THE dB DIFFERENCE BETWEEN THE HORIZONTAL OR VERTICAL READING AND THE dB LIMIT AT THAT FREQUENCY.
THE FOLLOWING ARE PEAK READINGS WITH CABLE AND ANTENNA FACTORS INCLUDED EXCEPT AS NOTED BY "QP".
"QP" = QUASI PEAK READING AT THAT FREQUENCY
SPECTRUM ANALYZER SETTINGS:
RBW: 100KHz
VBW: 100KHz
TEST DISTANCE BETWEEN DEVICE UNDER TEST AND RECEIVING ANTENNA: 3-METERS

FREQ. (MHz)	HORZ. dBuV/m	VERT. dBuV/m	H DELTA (dBuV)	V DELTA (dBuV)	LIMIT CLASS "B"	FREQ. STATUS
150	29.4	24.3	-14.1	-19.2	43.5	
262.1	38.4	32.6	-7.6	-13.4	46	
327.7	33.42	33.72	-12.58	-12.28	46	
347.8	34.16	34.46	-11.84	-11.54	46	
486.8	36.82	40.12	-9.18	-5.88	46	
695.5	37.4	38.1	-8.6	-7.9	46	

SUPPLEMENTAL DATA 80-METER BAND Report#: G610199

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OPEN FIELD RADIATION MEASUREMENT FCC PART 15 CLASS "B" LIMITS

REPORT #: G610199
MANUFACTURE: Ten-Tec
MODEL # 588
DATE: 10/11/2006
NOTE: 80 meter

DELTA REFERS TO THE dB DIFFERENCE BETWEEN THE HORIZONTAL OR VERTICAL READING AND THE dB LIMIT AT THAT FREQUENCY.
THE FOLLOWING ARE PEAK READINGS WITH CABLE AND ANTENNA FACTORS INCLUDED EXCEPT AS NOTED BY "QP".
"QP" = QUASI PEAK READING AT THAT FREQUENCY
SPECTRUM ANALYZER SETTINGS:
RBW: 100KHz
VBW: 100KHz
TEST DISTANCE BETWEEN DEVICE UNDER TEST AND RECEIVING ANTENNA: 3-METERS

FREQ. (MHz)	HORZ. dBuV/m	VERT. dBuV/m	H DELTA (dBuV)	V DELTA (dBuV)	LIMIT CLASS "B"	FREQ. STATUS
150	29.4	24.3	-14.1	-19.2	43.5	
262.1	38.4	32.6	-7.6	-13.4	46	
327.7	33.42	33.72	-12.58	-12.28	46	
347.8	34.16	34.46	-11.84	-11.54	46	
486.8	36.82	40.12	-9.18	-5.88	46	
695.5	37.4	38.1	-8.6	-7.9	46	

SUPPLEMENTAL DATA 160-METER BAND Report#: G610199

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OPEN FIELD RADIATION MEASUREMENT FCC PART 15 CLASS "B" LIMITS

REPORT #: G610199
MANUFACTURE: Ten-Tec
MODEL # 588
DATE: 10/11/2006
NOTE: 160 meter

DELTA REFERS TO THE dB DIFFERENCE BETWEEN THE HORIZONTAL OR VERTICAL READING AND THE dB LIMIT AT THAT FREQUENCY.
THE FOLLOWING ARE PEAK READINGS WITH CABLE AND ANTENNA FACTORS INCLUDED EXCEPT AS NOTED BY "QP".
"QP" = QUASI PEAK READING AT THAT FREQUENCY
SPECTRUM ANALYZER SETTINGS:
RBW: 100KHz
VBW: 100KHz
TEST DISTANCE BETWEEN DEVICE UNDER TEST AND RECEIVING ANTENNA: 3-METERS

FREQ. (MHz)	HORZ. dBuV/m	VERT. dBuV/m	H DELTA (dBuV)	V DELTA (dBuV)	LIMIT CLASS "B"	FREQ. STATUS
150	29.4	24.3	-14.1	-19.2	43.5	
262.1	38.4	32.6	-7.6	-13.4	46	
327.7	33.42	33.72	-12.58	-12.28	46	
347.8	34.16	34.46	-11.84	-11.54	46	
486.8	36.82	40.12	-9.18	-5.88	46	
695.5	37.4	38.1	-8.6	-7.9	46	

SECTION 5
CONDUCTED EMISSIONS
Report Number G608165

TEST PROCEDURE: FCC Part 15 (2006)

ACRONYMS:

(E.M.I.) Electromagnetic Interference
(E.U.T.) Equipment Under Test
(L.I.S.N.) Line Impedance Stabilization Network

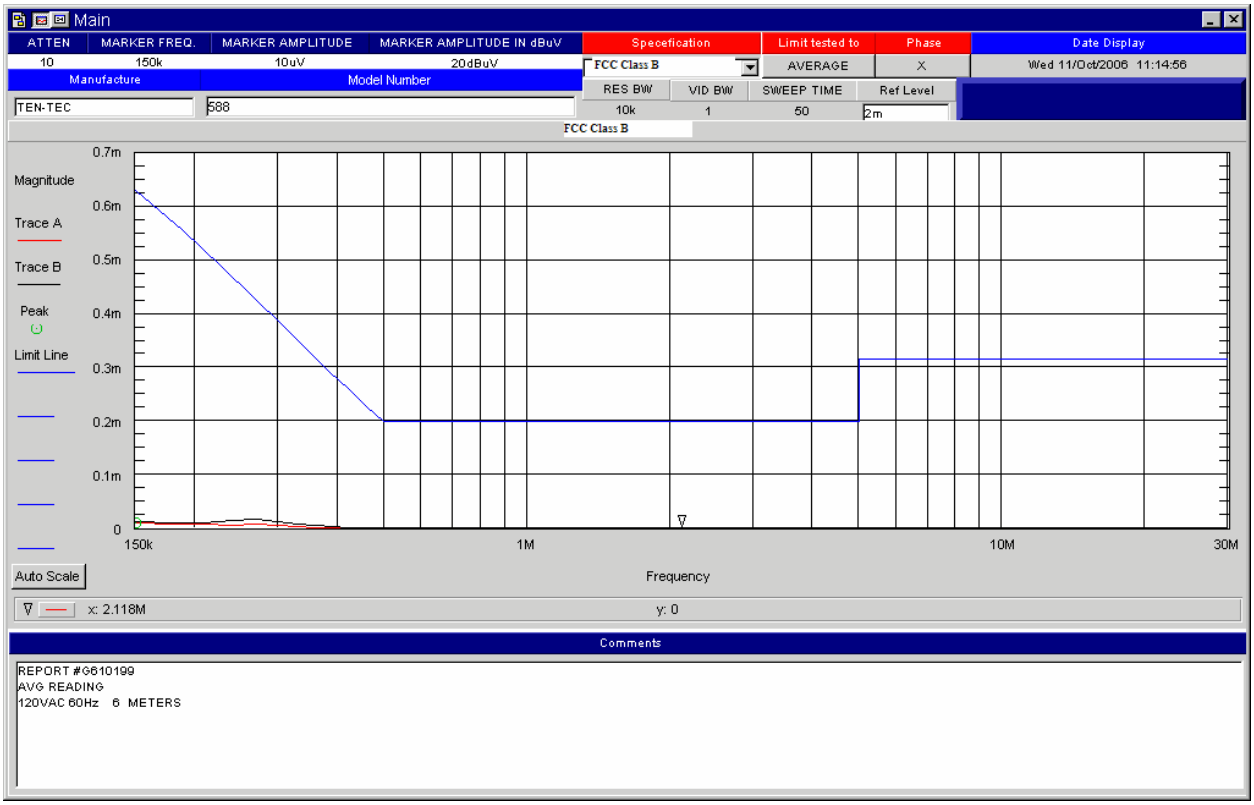
CONDUCTED EMISSIONS:

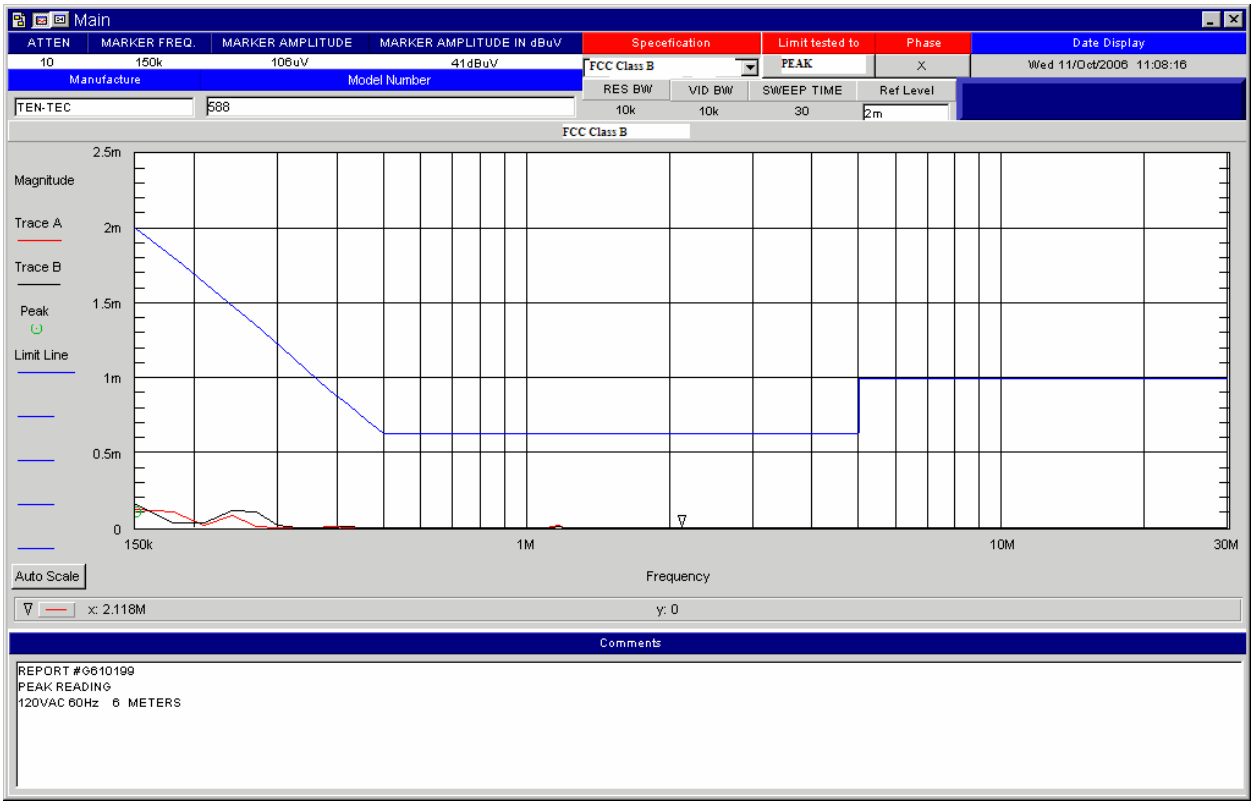
The (2) 50 ohm/50 micro-Henry LISN's were placed adjacent to a platform approximately .8 meter high with EUT on platform. For each test required, the AC power leads were connected to two (2) 50 ohm/50 micro-Henry L.I.S.N.s as described in section 9 Method of measurement of terminal interference voltage of ANSI C63.4. The system was energized and placed into its normal operating mode. The 50-ohm output of the L.I.S.N. was connected to the HP8566B RF Spectrum Analyzer. The EUT was observed from 150 kHz to 30 MHz to identify the frequency of the emission that had the highest amplitude relative to the limit. For each mode of operation and for each current carrying conductor, cable and/or wire manipulation was performed while observing the Spectrum Analyzer. For this series of tests the emission that had the highest amplitude relative to the limit was recorded. The EUT was powered by 120VAC 60Hz.

Based on the preliminary tests, the EUT and the cable and/or wire configuration and mode of operation which produced the highest emission relative to the limit was selected for the final AC power line conducted emissions test. The final test on all current carrying conductors of the power cords that comprise the EUT was performed without variation of the configuration determined during the preliminary tests. The X-Y plots of EMI generated by the E.U.T. were taken.

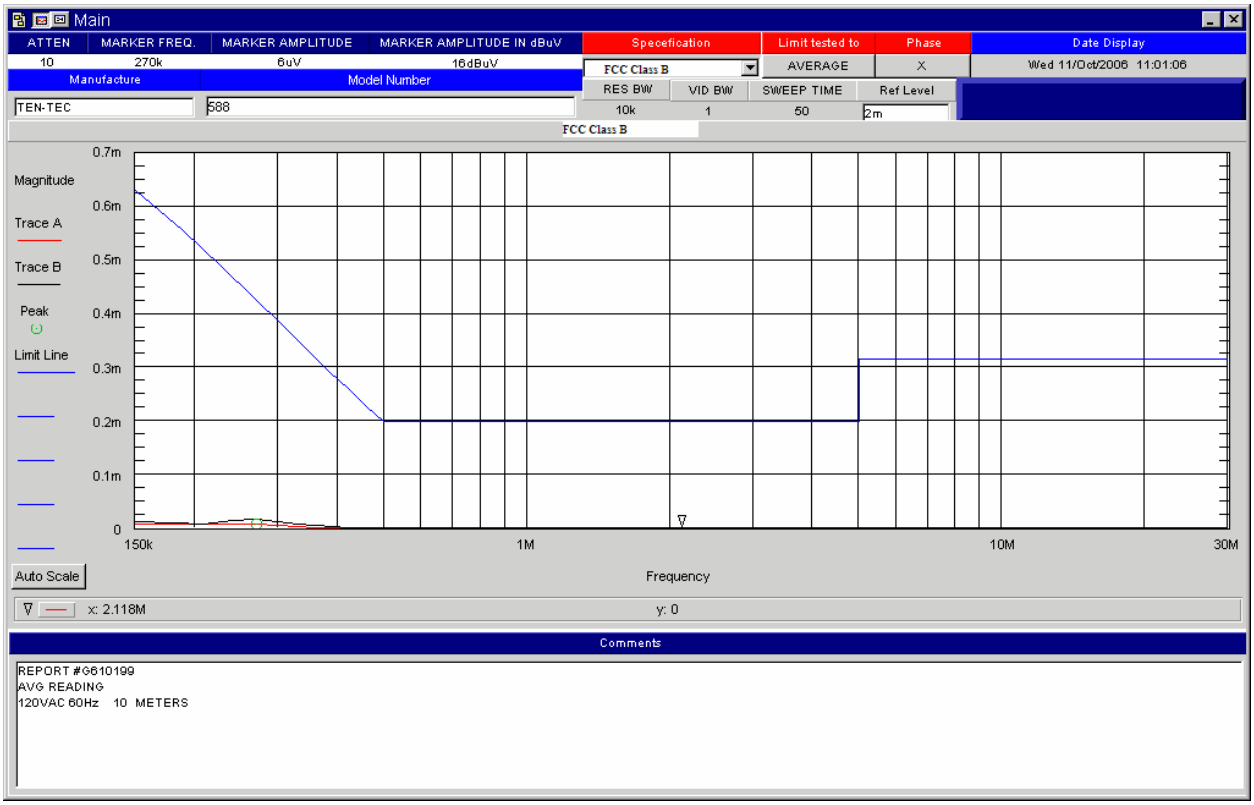
Equipment Used During Testing:

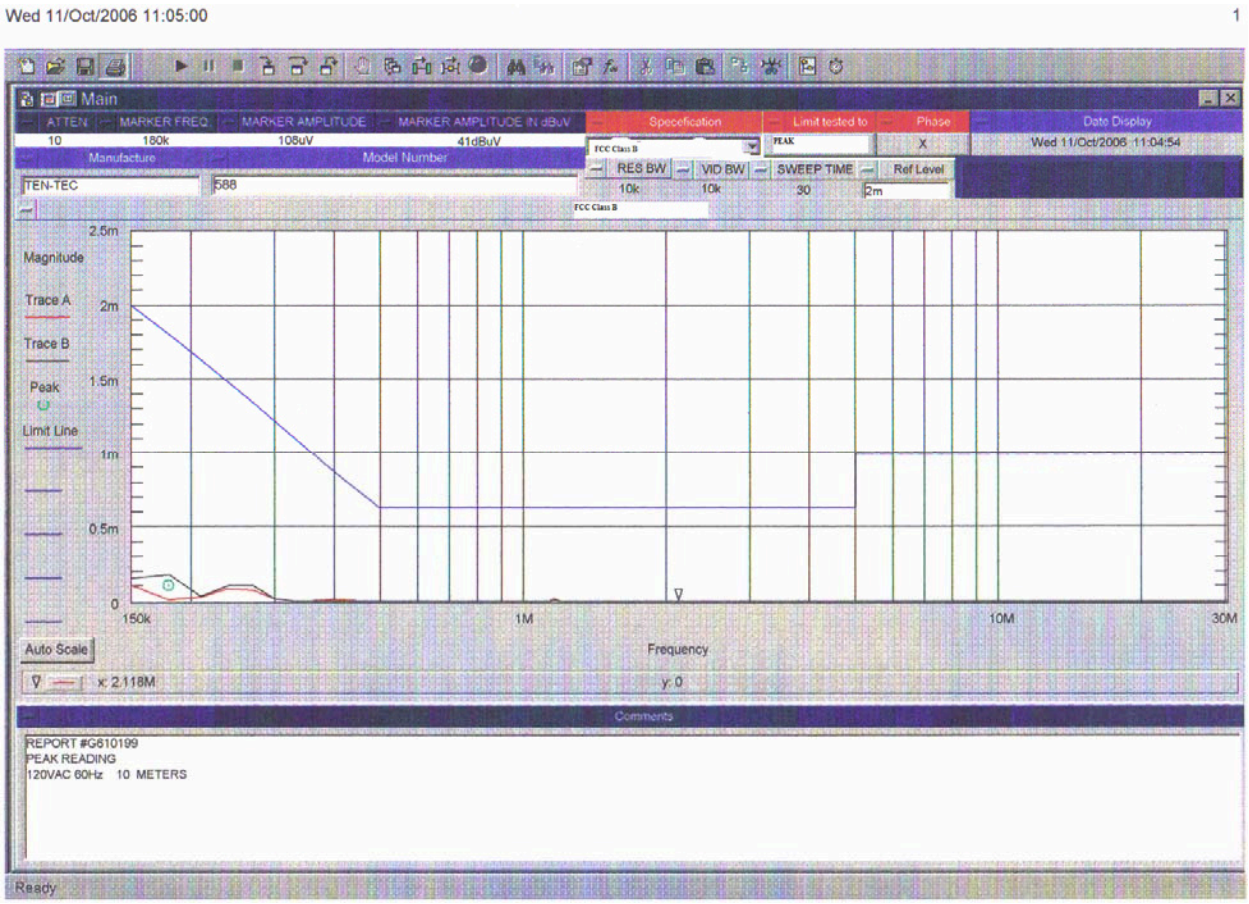
HP 8566B	s/n: 3486	Spectrum Analyzer
HP 85650A	s/n: 1850	Quasi-Peak Adapter
HP 85685A	s/n: 1176	RF Pre-selector
Fisher 50 ohm/50µH	s/n: 05 & 06	LISN


Main
ATTEN
MARKER FREQ.
MARKER AMPLITUDE
MARKER AMPLITUDE IN dBuV
Specefication
Limit tested to
Phase
Date Display
10
150k
10uV
20dBuV
FCC Class B
AVERAGE
X
Wed 11/Oct/2006 11:14:56
Manufacture
Model Number
RES BW
VID BW
SWEEP TIME
Ref Level
TEN-TEC
588
10k
1
50
2m
FCC Class B
Magnitude
Trace A
Trace B
Peak
Limit Line
0.7m
0.6m
0.5m
0.4m
0.3m
0.2m
0.1m
0
150k
1M
10M
30M
Auto Scale
Frequency
x: 2.118M
y: 0
Comments
REPORT #G610199
AVG READING
120VAC 60Hz 6 METERS

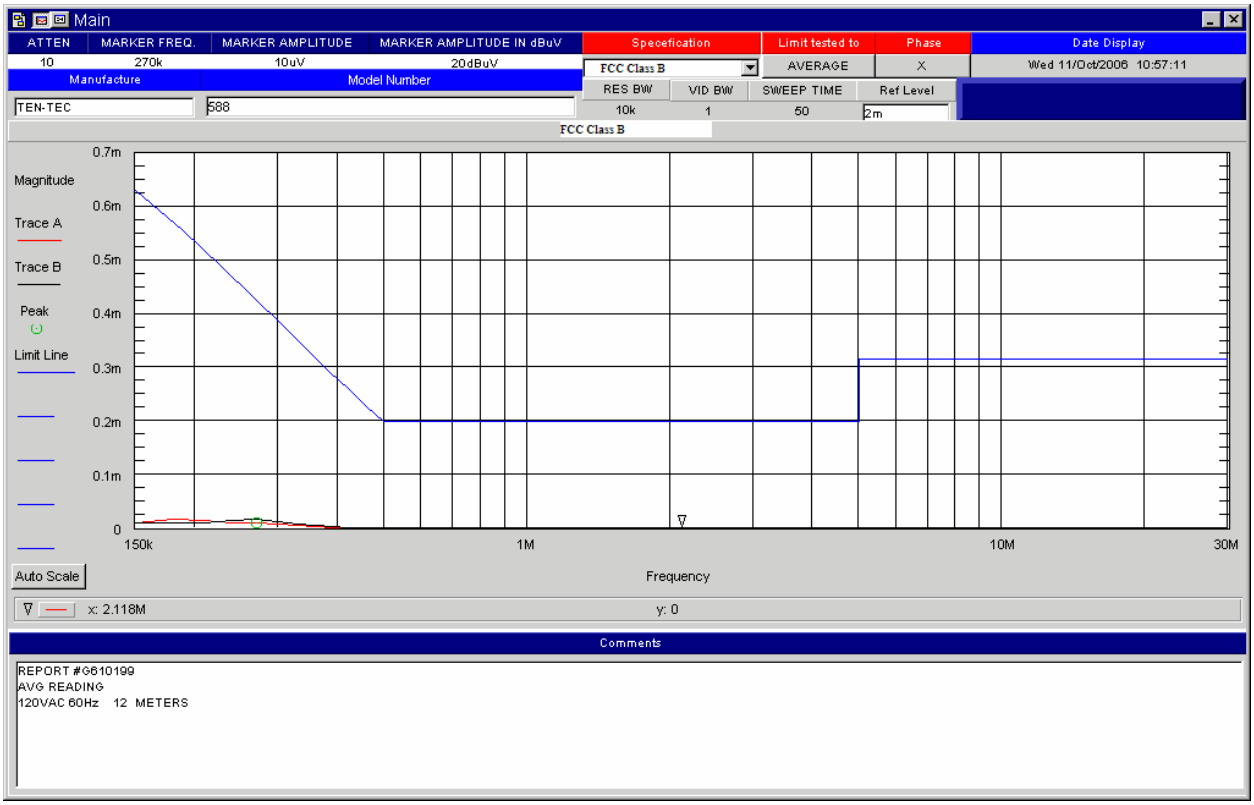

Main
ATTEN
MARKER FREQ.
MARKER AMPLITUDE
MARKER AMPLITUDE IN dBuV
Specefication
Limit tested to
Phase
Date Display
10
150k
106uV
41dBuV
FCC Class B
PEAK
X
Wed 11/Oct/2006 11:08:16
Manufacture
Model Number
RES BW
VID BW
SWEEP TIME
Ref Level
TEN-TEC
588
10k
10k
30
2m
FCC Class B
Magnitude
Trace A
Trace B
Peak
Limit Line
2.5m
2m
1.5m
1m
0.5m
0
150k
1M
10M
30M
Auto Scale
Frequency
x: 2.118M
y: 0
Comments
REPORT #G610199
PEAK READING
120VAC 60Hz 6 METERS

SUPPLEMENTAL DATA 10-METER BAND Report#: G610199

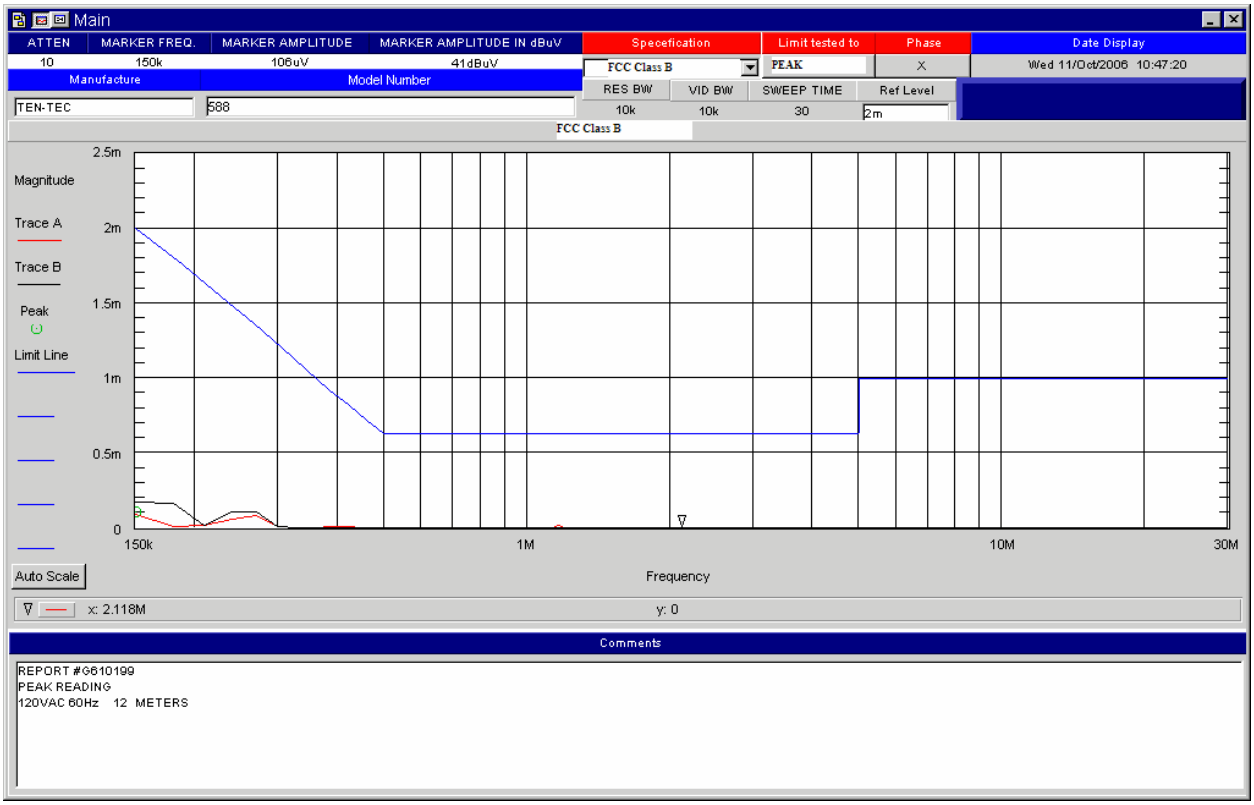



Wed 11/Oct/2006 11:05:00
1
Main
ATTEN
MARKER FREQ
MARKER AMPLITUDE
MARKER AMPLITUDE IN dBuV
Specification
Limit tested to
Phase
Date Display
10
180k
108uV
41dBuV
PEAK
X
Wed 11/Oct/2006 11:04:54
Manufacture
Model Number
RES BW
VID BW
SWEEP TIME
Ref Level
TEN-TEC
588
10k
10k
30
2m
FCC Class B
2.5m
Magnitude
Trace A
2m
Trace B
Peak
1.5m
Limit Line
1m
0.5m
0
150k
1M
10M
30M
Auto Scale
Frequency
x: 2.118M
y: 0
Comments
REPORT #G610199
PEAK READING
120VAC 60Hz 10 METERS
Ready

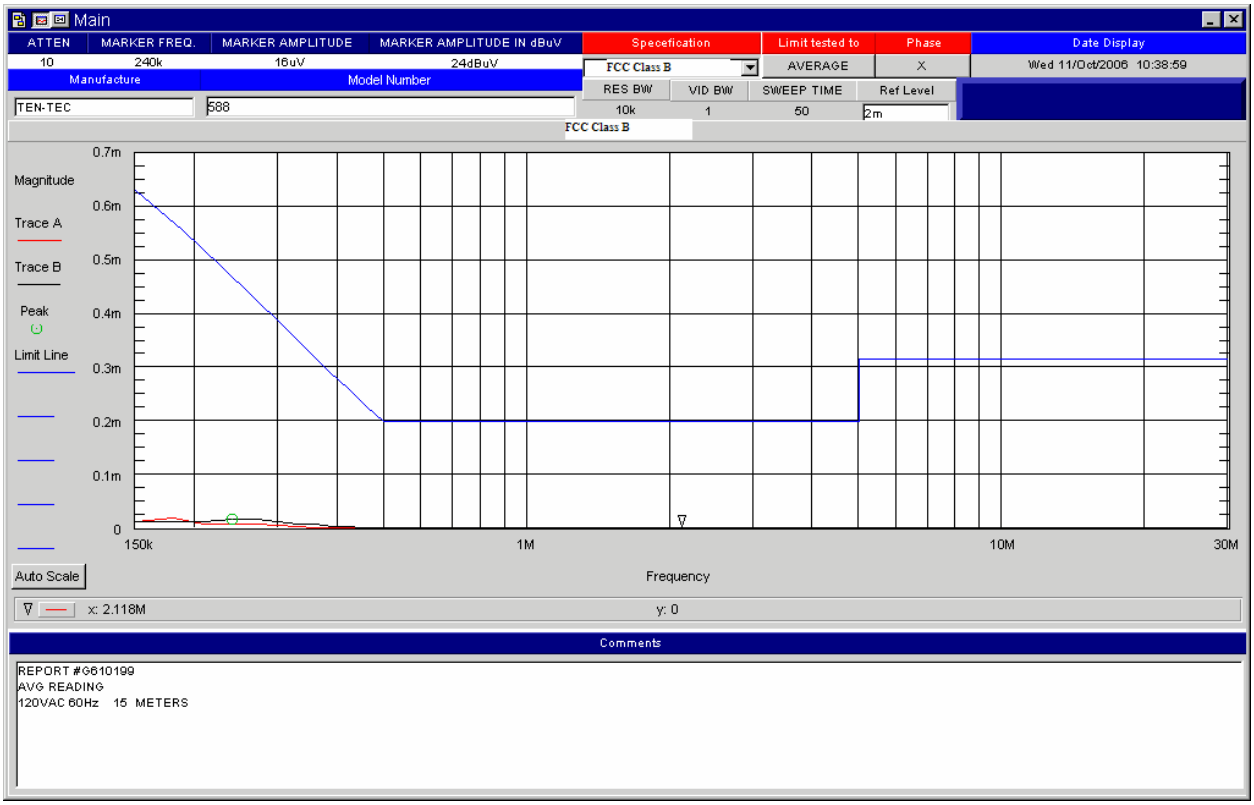
SUPPLEMENTAL DATA 12-METER BAND Report#: G610199



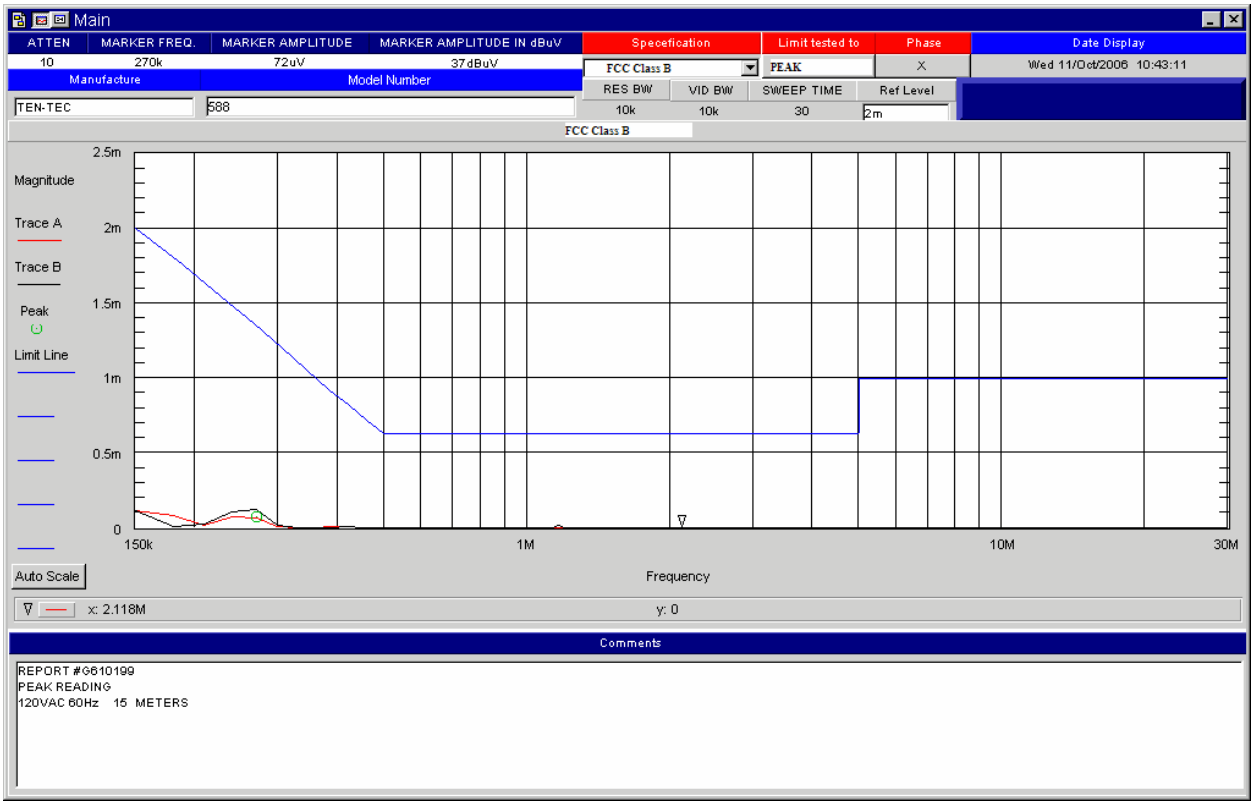
SUPPLEMENTAL DATA 12-METER BAND Report#: G610199



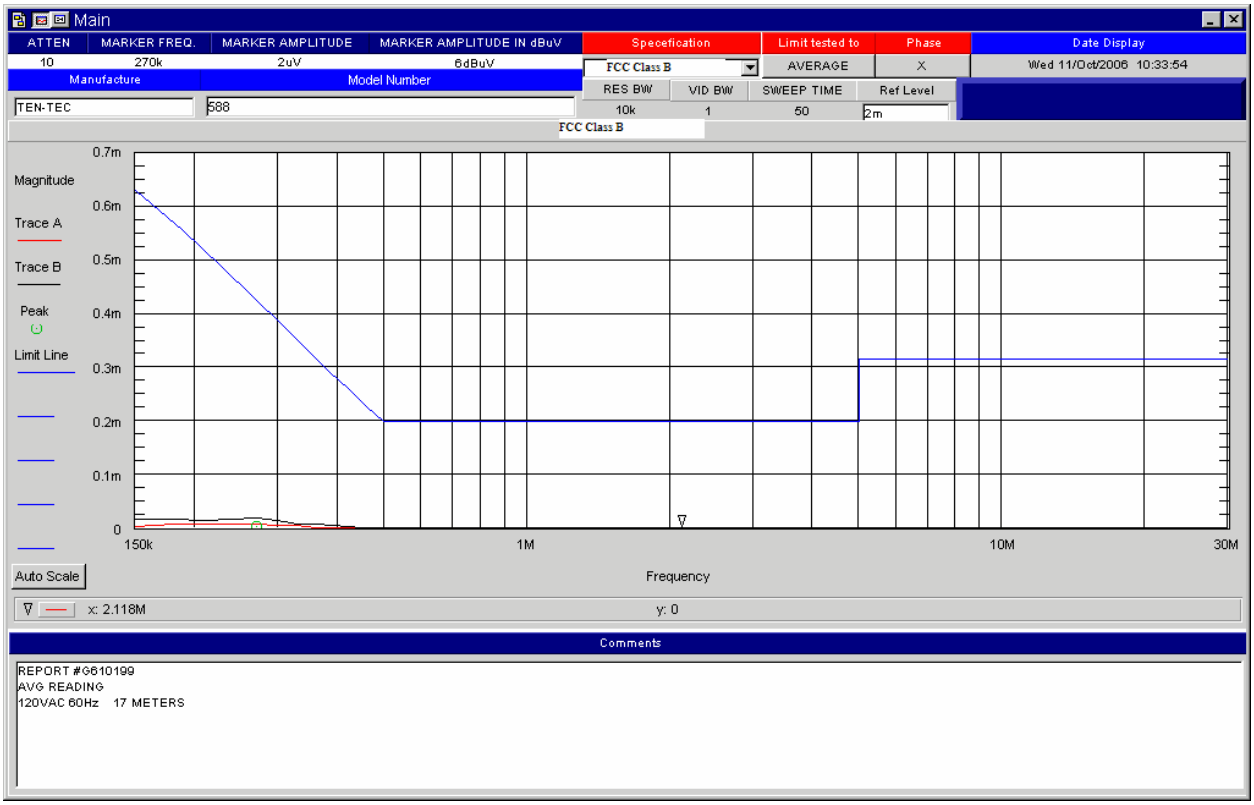
SUPPLEMENTAL DATA 15-METER BAND Report#: G610199



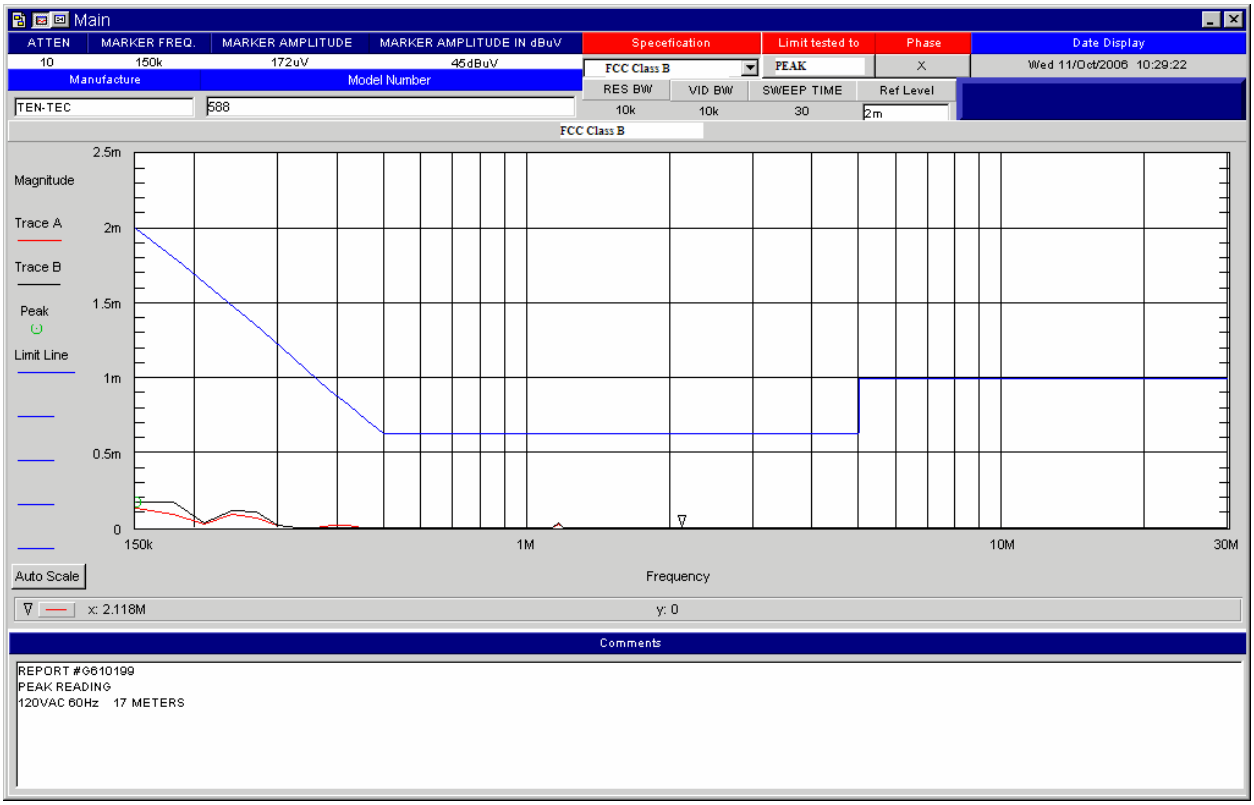
SUPPLEMENTAL DATA 15-METER BAND Report#: G610199



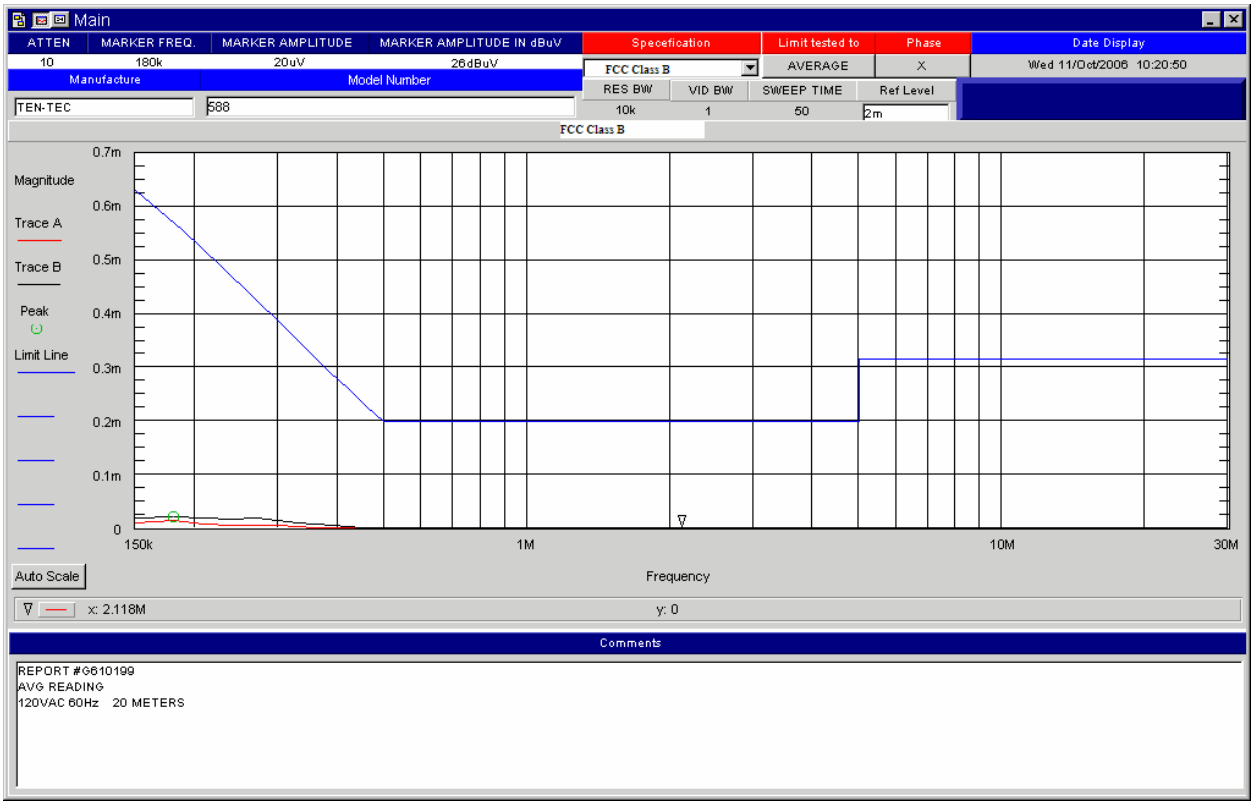
SUPPLEMENTAL DATA 17-METER BAND Report#: G610199



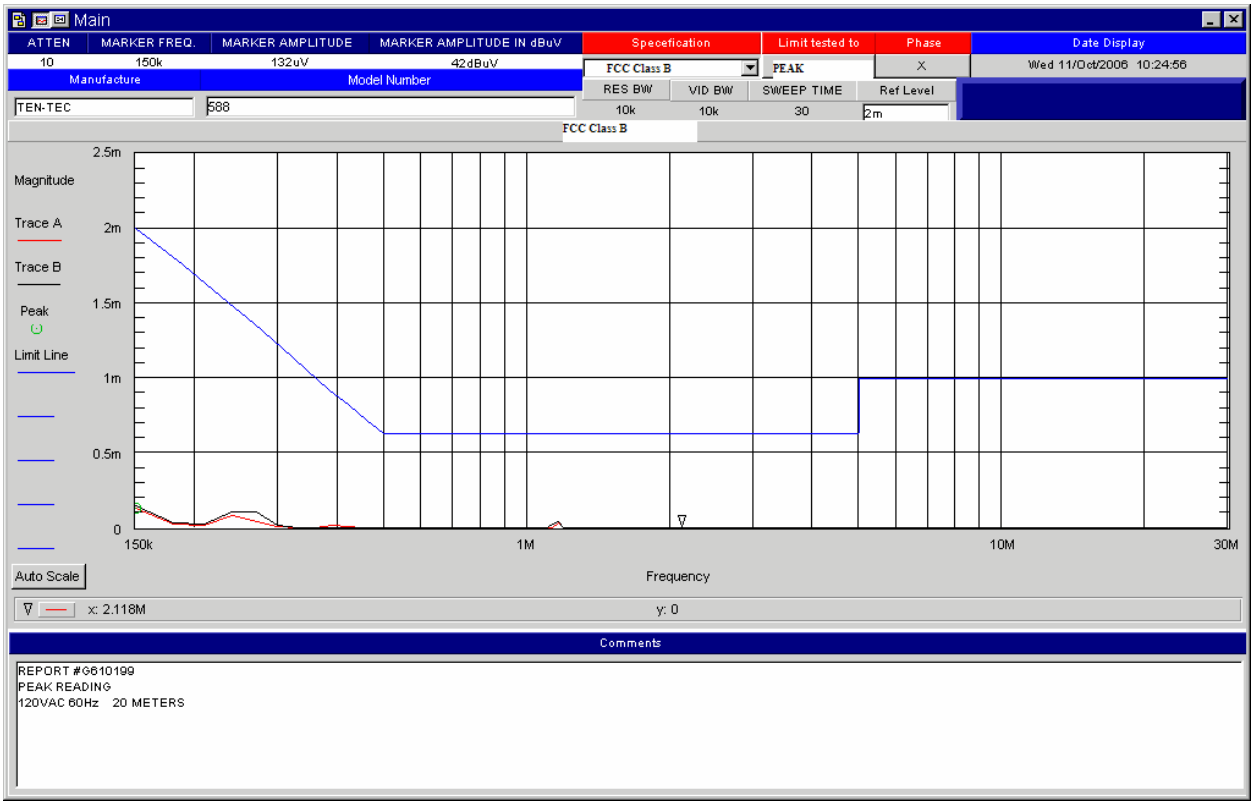
SUPPLEMENTAL DATA 17-METER BAND Report#: G610199



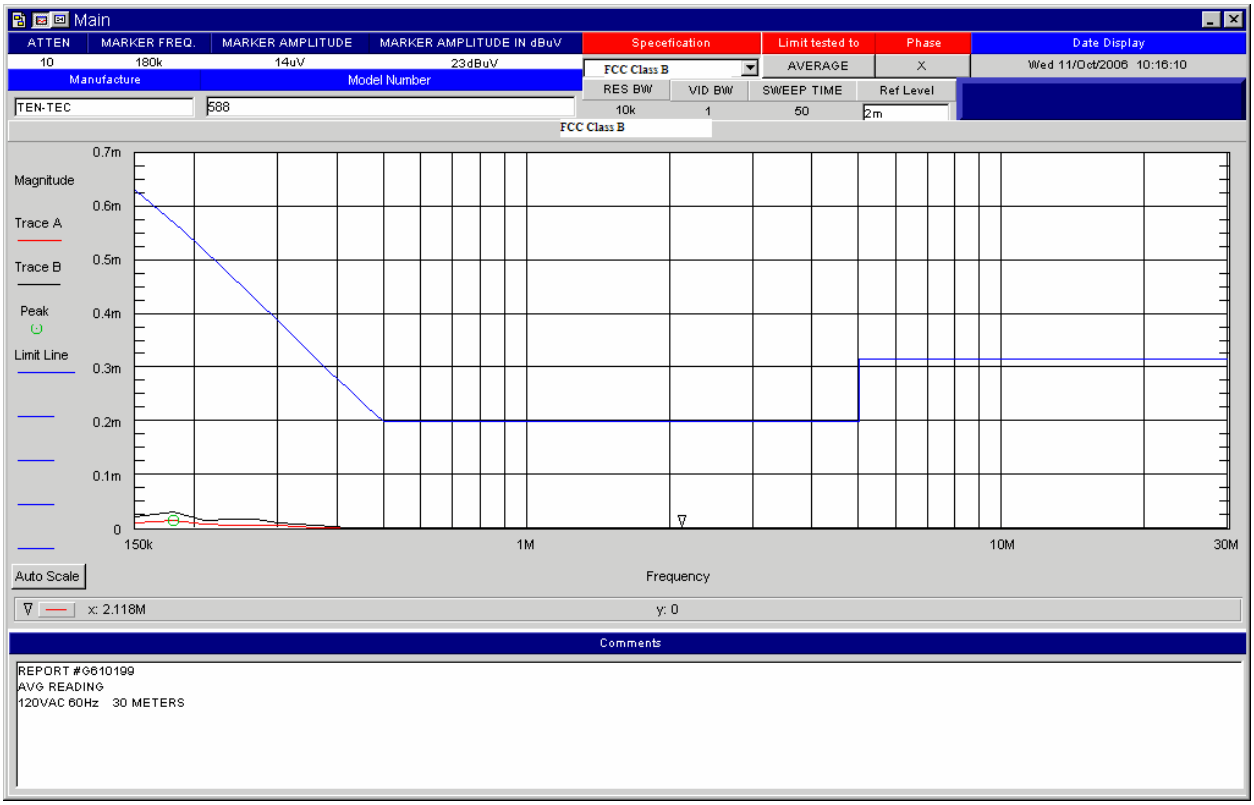
SUPPLEMENTAL DATA 20-METER BAND Report#: G610199



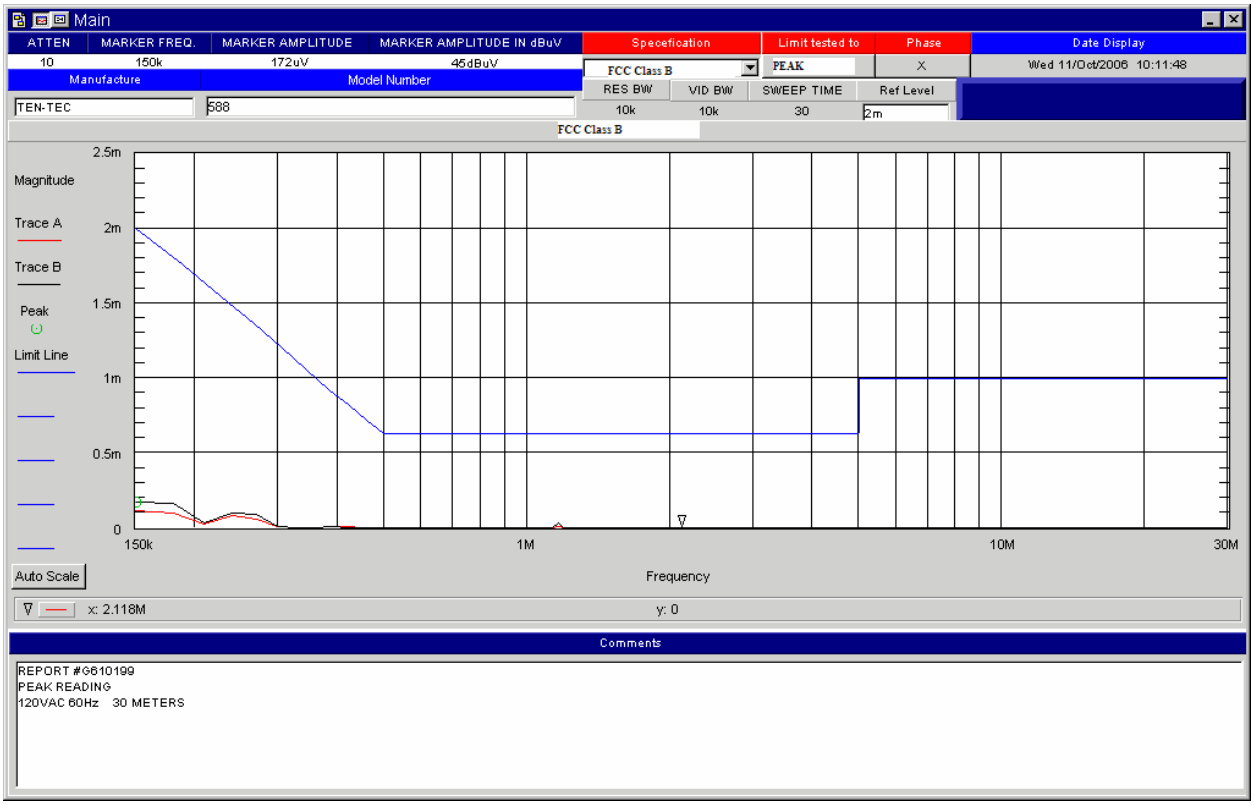
SUPPLEMENTAL DATA 20-METER BAND Report#: G610199



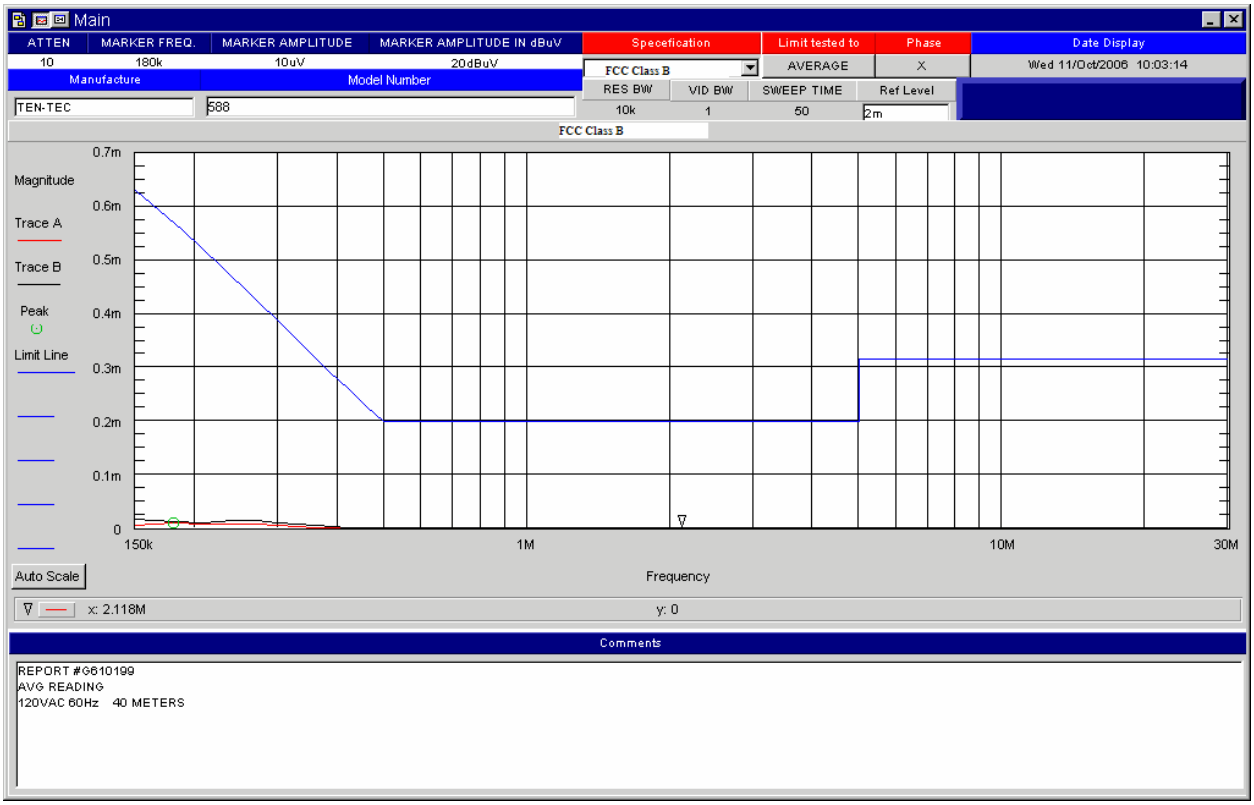
SUPPLEMENTAL DATA 30-METER BAND Report#: G610199



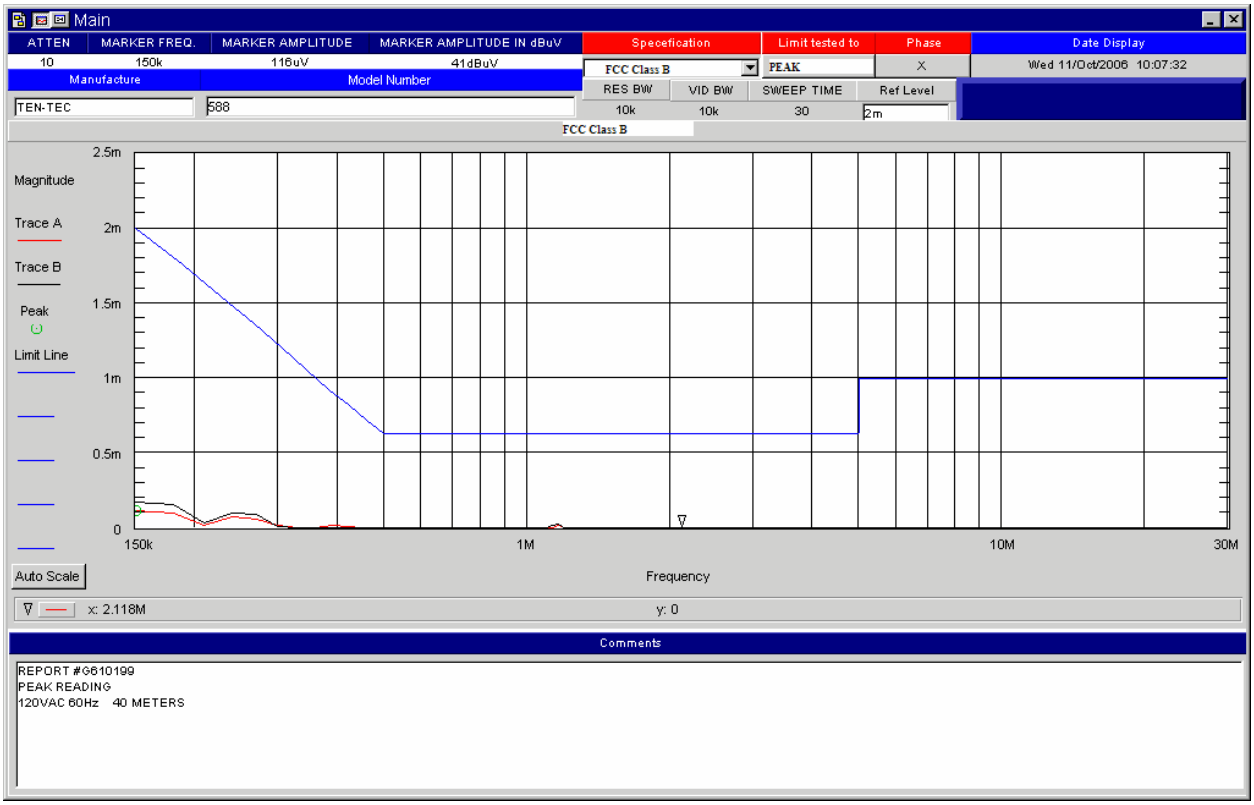
SUPPLEMENTAL DATA 30-METER BAND Report#: G610199



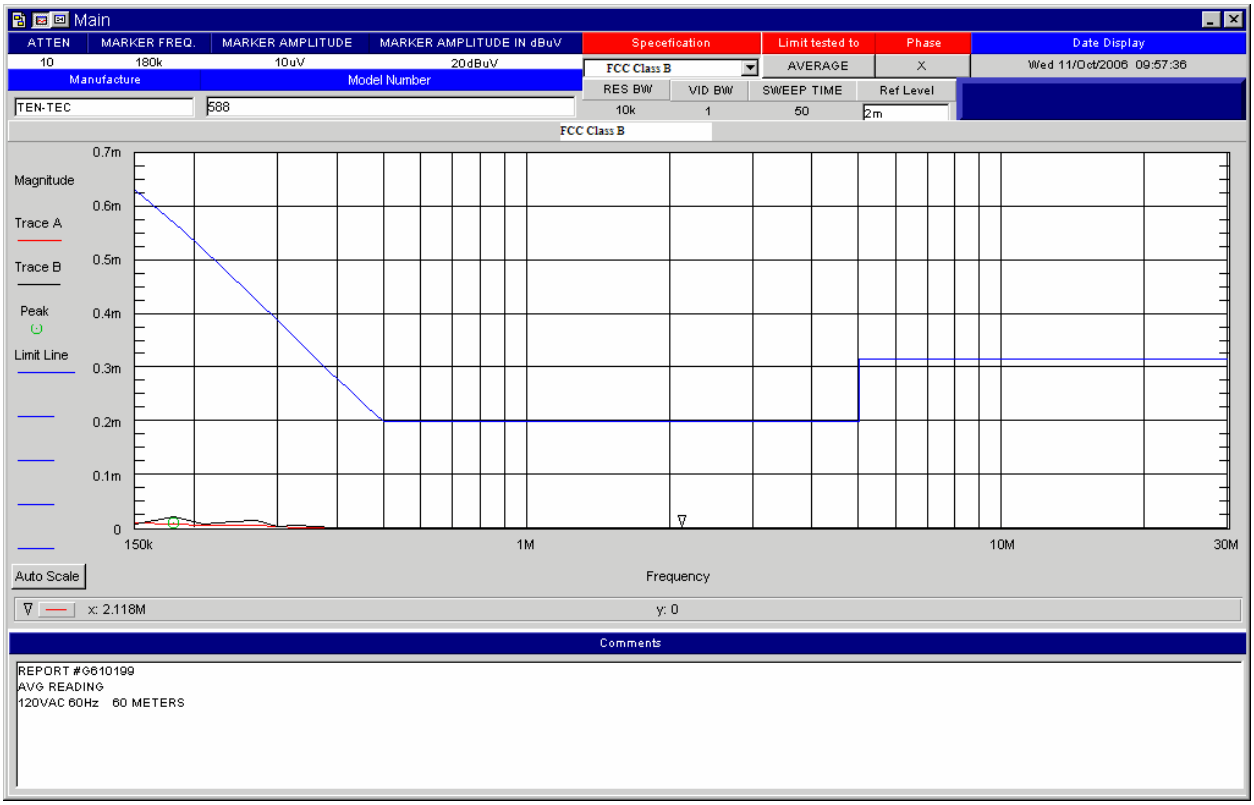
SUPPLEMENTAL DATA 40-METER BAND Report#: G610199



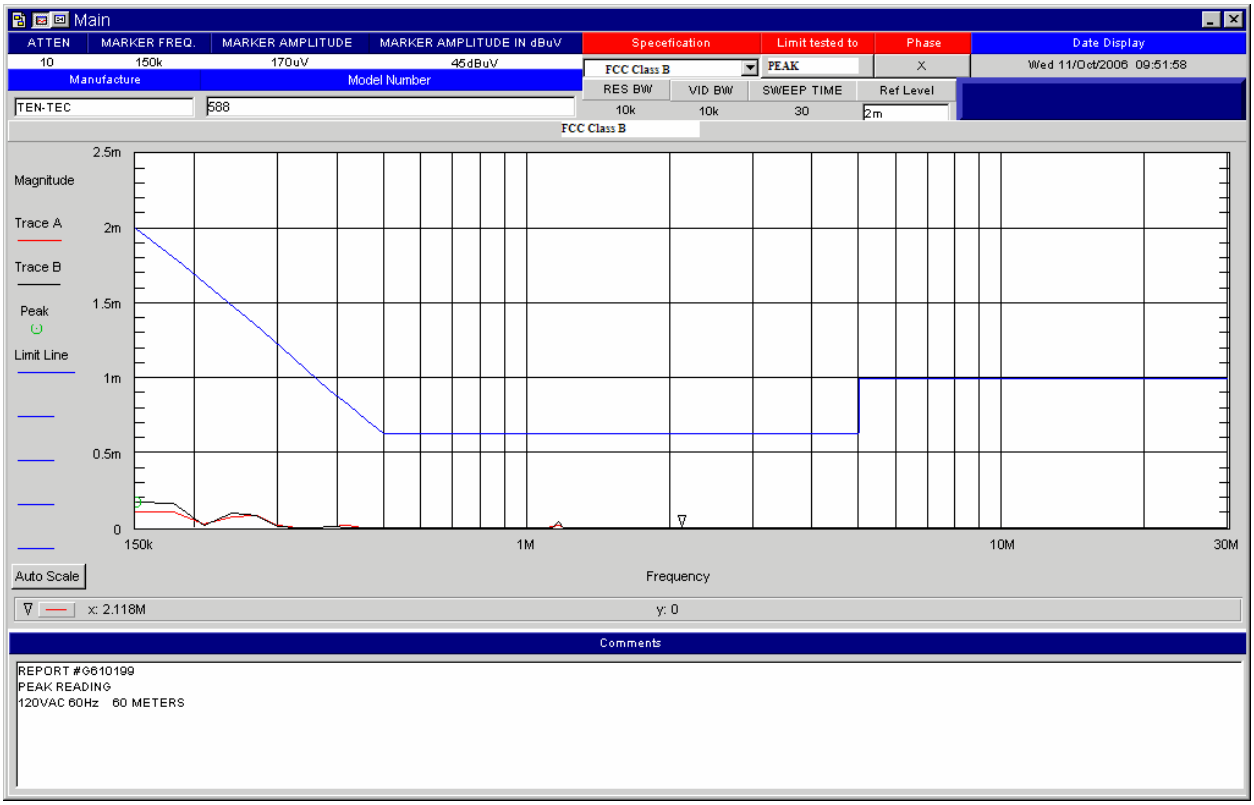
SUPPLEMENTAL DATA 40-METER BAND Report#: G610199



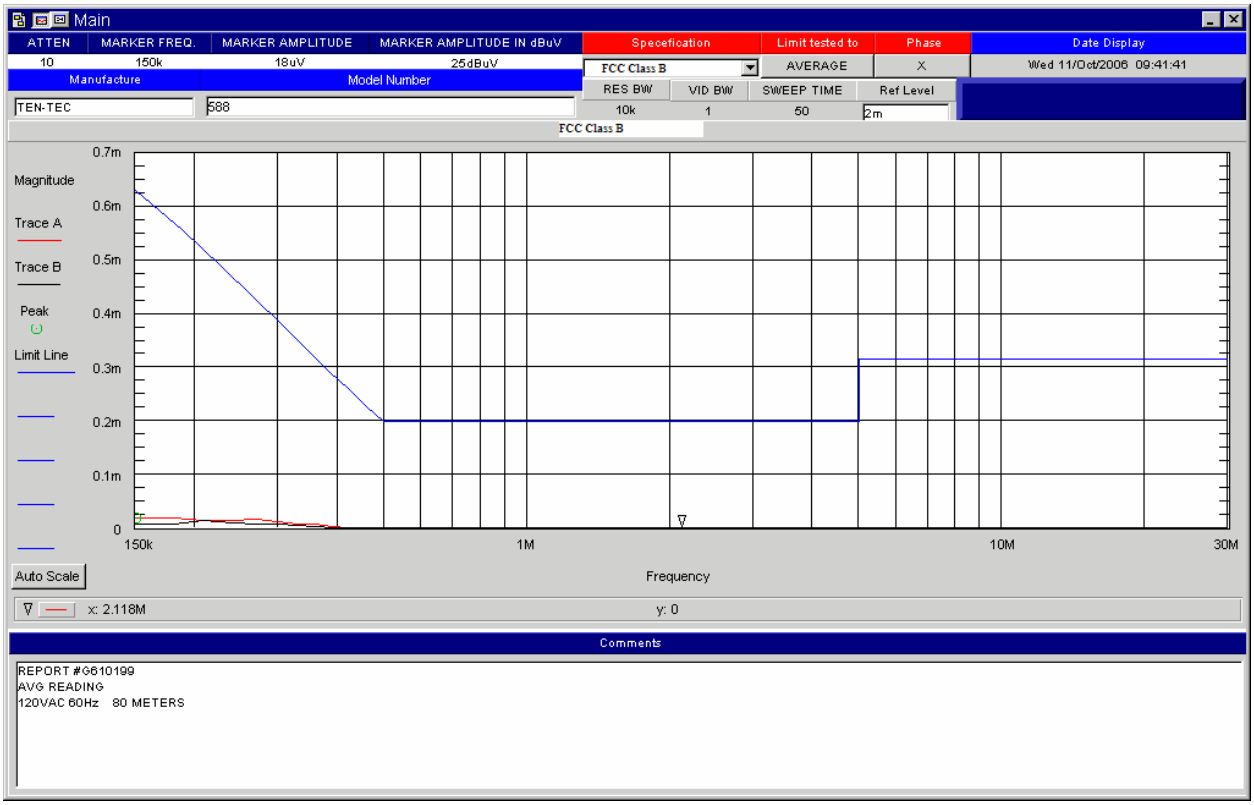
SUPPLEMENTAL DATA 60-METER BAND Report#: G610199



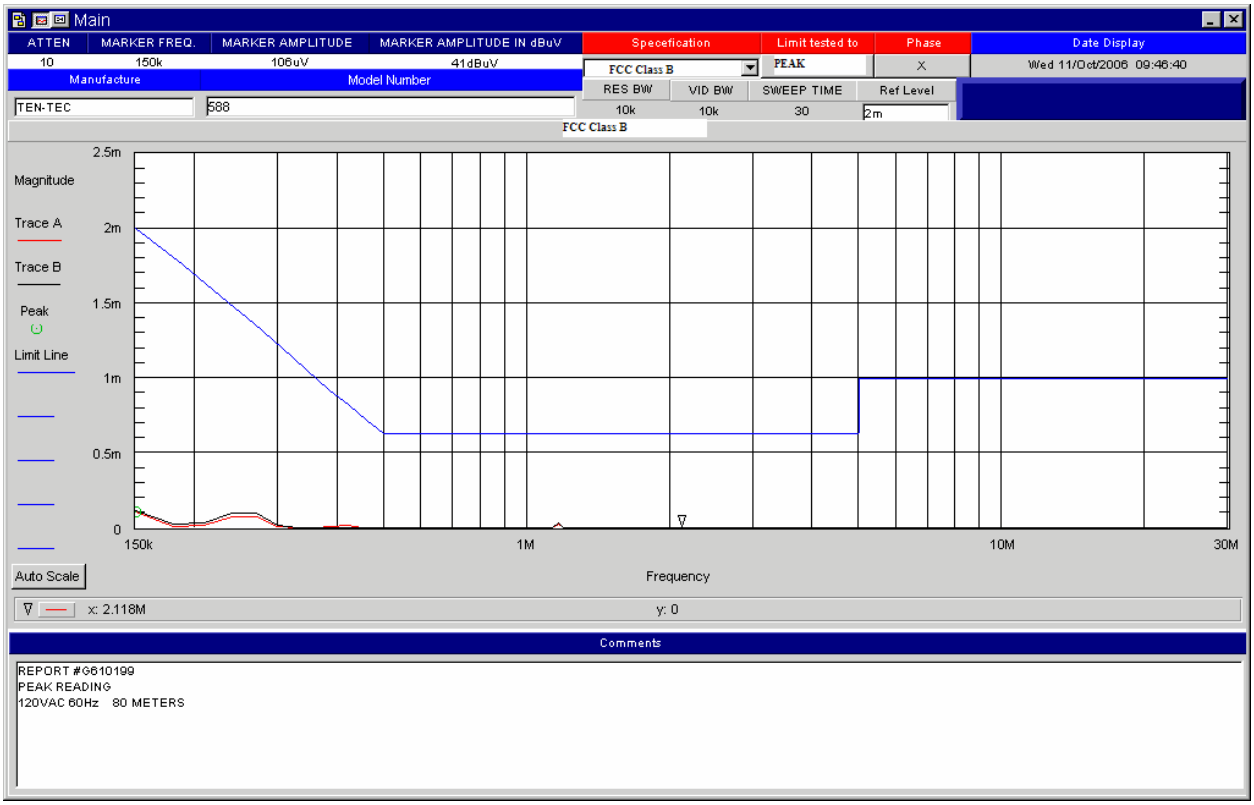
SUPPLEMENTAL DATA 60-METER BAND Report#: G610199

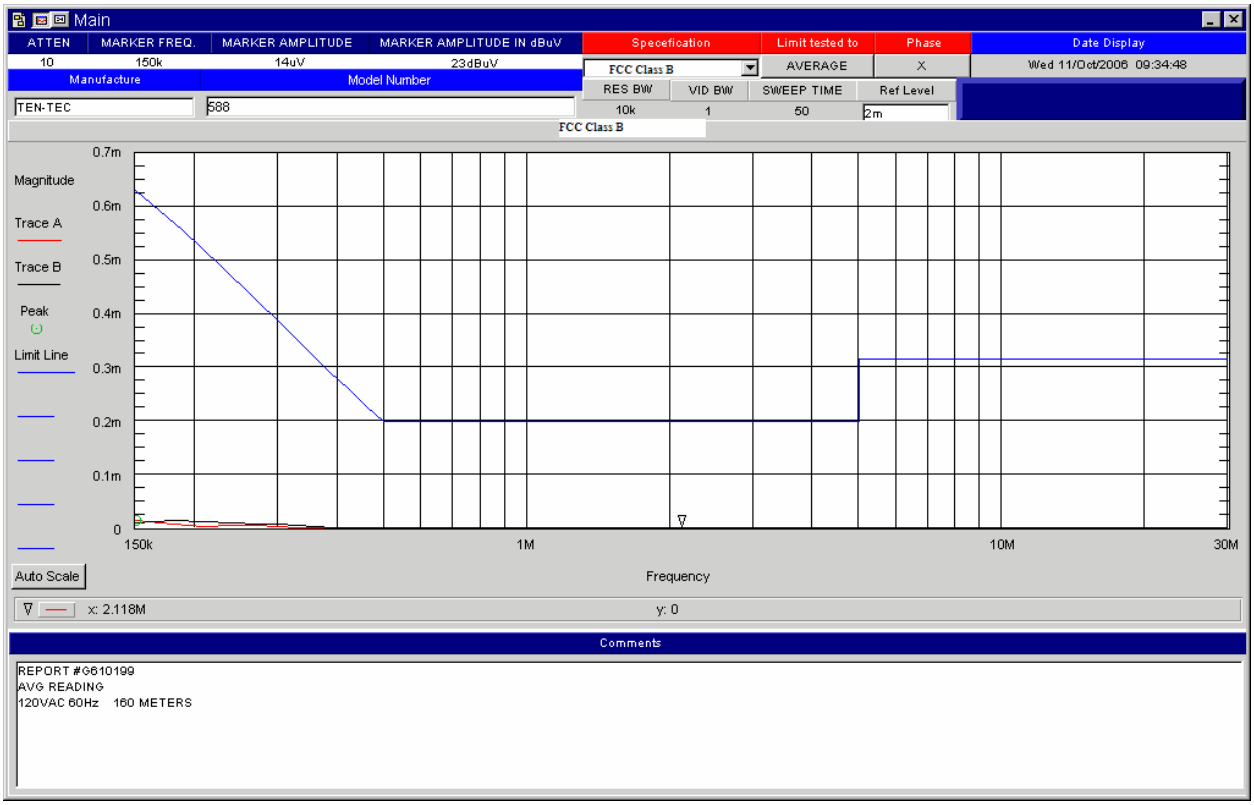


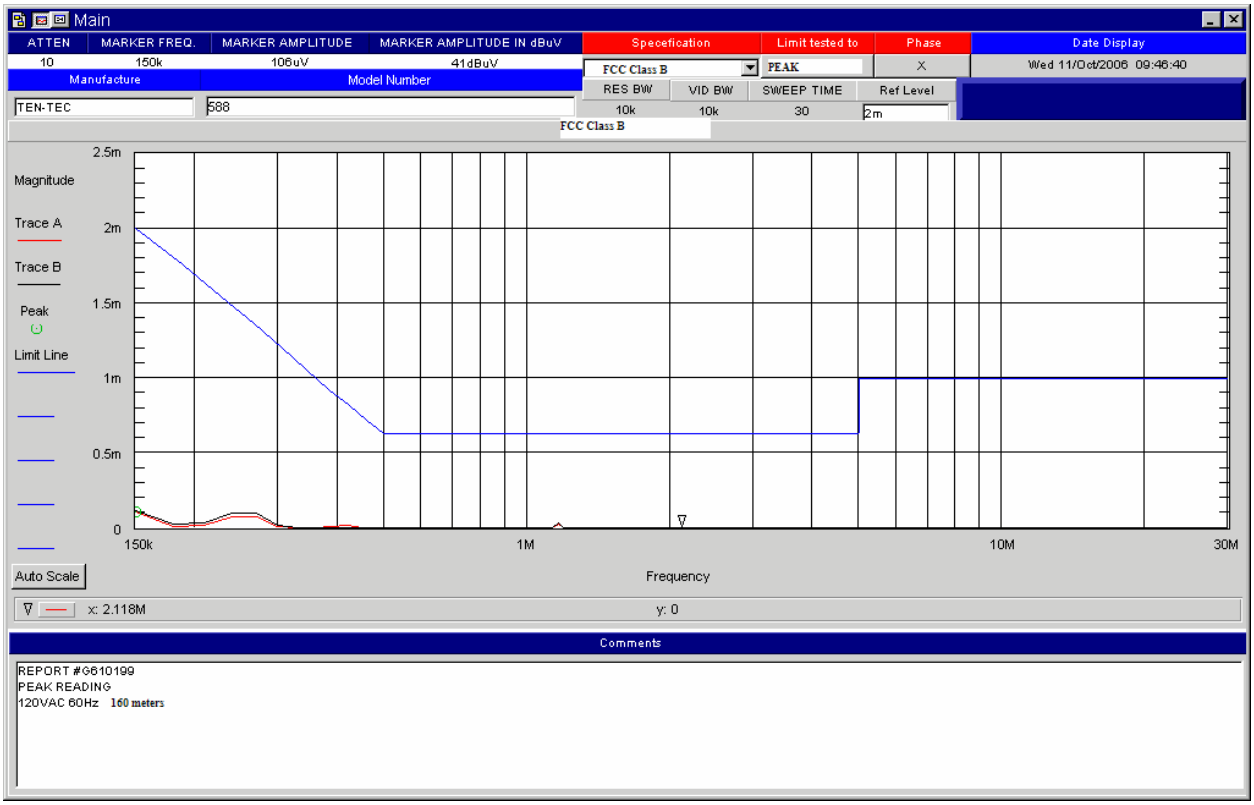
SUPPLEMENTAL DATA 80-METER BAND Report#: G610199



SUPPLEMENTAL DATA 80-METER BAND Report#: G610199




Main
ATTEN
MARKER FREQ.
MARKER AMPLITUDE
MARKER AMPLITUDE IN dBuV
Specefication
Limit tested to
Phase
Date Display
10
150k
14uV
23dBuV
FCC Class B
AVERAGE
X
Wed 11/Oct/2006 09:34:48
Manufacture
Model Number
RES BW
VID BW
SWEEP TIME
Ref Level
TEN-TEC
588
10k
1
50
2m
FCC Class B
Magnitude
Trace A
Trace B
Peak
Limit Line
0.7m
0.6m
0.5m
0.4m
0.3m
0.2m
0.1m
0
150k
1M
10M
30M
Auto Scale
Frequency
x: 2.118M
y: 0
Comments
REPORT #G610199
AVG READING
120VAC 60Hz 160 METERS


Main
ATTEN
MARKER FREQ.
MARKER AMPLITUDE
MARKER AMPLITUDE IN dBuV
Specefication
Limit tested to
Phase
Date Display
10
150k
106uV
41dBuV
FCC Class B
PEAK
X
Wed 11/Oct/2006 09:46:40
Manufacture
Model Number
RES BW
VID BW
SWEEP TIME
Ref Level
TEN-TEC
588
10k
10k
30
2m
FCC Class B
Magnitude
Trace A
Trace B
Peak
Limit Line
2.5m
2m
1.5m
1m
0.5m
0
150k
1M
10M
30M
Auto Scale
Frequency
x: 2.118M
y: 0
Comments
REPORT #G610199
PEAK READING
120VAC 60Hz 160 meters

SECTION 6
IMMUNITY to CELLULAR SIGNALS
Report Number G610199

FCC RULES PART 15 SECTION 15.121

Compliance test of a Scanning Receiver, per Federal Regulation 47 CFR 15.121(b), "Scanning Receiver and Frequency Converters used with Scanning Receivers".

Test Conditions:

Equipment: 1 each, Ten-Tec Amateur Radio Receiver, model 588 w/outboard Power Supply. 2 each, Hewlett Packard RF Signal Generators, Model: HP 8656B and HP 83602A. 1 each ANZAC H9 Combiner.

Test Procedure:

The testing of the Ten-Tec model 588 Amateur Radio Receiver was divided into two separate test. **The first test** was to investigate the receiver's ability to reject any response to a strong cellular signal that was presented at any of the receiver's antenna inputs. To perform this test, the following conditions were established:

(1) One of the Hewlett Packard RF Generators was connected directly to one of the two antenna inputs.
(2) The "Mode" switch was set to select FM receiver operation within the band for the antenna which was connected to the HP Generator.
(3) The Receiver "Volume" control was adjusted to mid-range and the "Squelch" control was adjusted for a constant speaker noise level.
(4) The HP Generator was set to provide a RF output on one of the selected Cellular Telephone frequencies with an output power level of -47dBm. This signal was FM modulated with a 1000Hz tone with a deviation of 3kHz.

With these conditions maintained, the receiver was slowly tuned from one limit to the other (see Receiver Band for range). **Any** responses (demodulated audio at the speaker) that contained a 1000Hz tone modulation was presumed to be a response to the RF generator's input signal. At the completion of the tuned sweep of one of the receiver's bands, the RF generator signal was transferred to the other antenna input. The receiver "BAND" was changed to another operational band and test was repeated (see test Data). The receiver was tested using (6) separate Cellular Band frequencies and any responses were noted.

Gen. Frequency MHz	Receiver Band MHz	Observed Responses	Gen. Frequency MHz	Receiver Band MHz	Observed Responses
824	1.8 - 2	None	869	1.8 - 2	None
824	3.5 - 4	None	869	3.5 - 4	None
824	5.3305 - 5.4035	None	869	5.3305 - 5.4035	None
824	7 - 7.3	None	869	7 - 7.3	None
824	10.1 - 10.15	None	869	10.1 - 10.15	None
824	14 - 14.35	None	869	14 - 14.35	None
824	18.068 - 18.168	None	869	18.068 - 18.168	None
824	21 - 21.45	None	869	21 - 21.45	None
824	24.89 - 24.99	None	869	24.89 - 24.99	None
824	28 - 29.7	None	869	28 - 29.7	None
824	50 - 54	None	869	50 - 54	None
836.5	1.8 - 2	None	881	1.8 - 2	None
836.5	3.5 - 4	None	881	3.5 - 4	None
836.5	5.3305 - 5.4035	None	881	5.3305 - 5.4035	None
836.5	7 - 7.3	None	881	7 - 7.3	None
836.5	10.1 - 10.15	None	881	10.1 - 10.15	None
836.5	14 - 14.35	None	881	14 - 14.35	None
836.5	18.068 - 18.168	None	881	18.068 - 18.168	None
836.5	21 - 21.45	None	881	21 - 21.45	None
836.5	24.89 - 24.99	None	881	24.89 - 24.99	None
836.5	28 - 29.7	None	881	28 - 29.7	None
836.5	50 - 54	None	881	50 - 54	None
849	1.8 - 2	None	894	1.8 - 2	None
849	3.5 - 4	None	894	3.5 - 4	None
849	5.3305 - 5.4035	None	894	5.3305 - 5.4035	None
849	7 - 7.3	None	894	7 - 7.3	None
849	10.1 - 10.15	None	894	10.1 - 10.15	None
849	14 - 14.35	None	894	14 - 14.35	None
849	18.068 - 18.168	None	894	18.068 - 18.168	None
849	21 - 21.45	None	894	21 - 21.45	None
849	24.89 - 24.99	None	894	24.89 - 24.99	None
849	28 - 29.7	None	894	28 - 29.7	None
849	50 - 54	None	894	50 - 54	None

The Second Test on this receiver was conducted to examine its performance when two separate signals were presented to the receiver's antenna input simultaneously, one in-band and the second, a stronger Cellular Band signal. To perform this test, the following conditions were established:

(1) Two Hewlett Packard RF Generators were connected to the RF input of the receiver through a low-loss, wide band RF combining network.
(2) One HP RF Signal generator was the source of the "Undesired" signal. It supplied a Cellular Band signal at -47dBm modulated with a 1000Hz tone. The second HP RF Signal generator supplied the "Desired" signal to the receiver. This was a frequency that was either at the low end, mid-range, or upper end of the selected receiver's operating band. The generator output was set to provide a 30µV signal, FM modulated with a 400Hz tone.
(3) The receiver "Mode" switch was set to select FM receiver operation within the band for the antenna which the combined RF generators was connected.
(4) The receiver "Volume" control was adjusted to mid-range and the "Squelch" control was adjusted for a constant speaker noise level.

With these conditions maintained, the receiver was slowly tuned from one limit to the other (see data sheets). **Any** responses other than a clean 400Hz modulated tone (demodulated audio at the speaker) was presumed to be a response to either the Undesired signal or a mix product of the Undesired and the Desired signals. At the completion of the tuned sweep of each of the receivers bands, the RF generator's signal was transferred to the other antenna input. The receiver "Band" switch was changed to another operational band. The frequency of the Desired generator was reset to the next appropriate test frequency within the band being tested. Then, while listening for any audio responses other than a 400Hz tone in the speaker output audio, another slow tuning of the receiver was performed. When this second receiver tuned sweep was completed, the frequency of the Undesired RF generator was set the next Cellular Band frequency and these two receiver bands were tested again. The receiver was tested using six (6) separate Cellular Band frequencies and any response other than a 400 Hz response is noted.

Conclusions: The Ten-Tec Model 588 meets the requirements set forth in FCC Rules and Regulations Part 15 Section 15.121.

Gen. Undesired MHz	Gen. Desired MHz	Receiver Band MHz	Observed Responses
824	1.8000	1.8 - 2	None
824	1.9000	1.8 - 2	None
824	2.0000	1.8 - 2	None
824	3.5000	3.5 - 4	None
824	3.7500	3.5 - 4	None
824	4.0000	3.5 - 4	None
824	5.3305	5.3305 - 5.4035	None
824	5.3665	5.3305 - 5.4035	None
824	5.4035	5.3305 - 5.4035	None
824	7.0000	7 - 7.3	None
824	7.1500	7 - 7.3	None
824	7.3000	7 - 7.3	None
824	10.1000	10.1 - 10.15	None
824	10.1250	10.1 - 10.15	None
824	10.1500	10.1 - 10.15	None
824	14.0000	14 - 14.35	None
824	14.1750	14 - 14.35	None
824	14.3500	14 - 14.35	None
824	18.0680	18.068 - 18.168	None
824	18.1180	18.068 - 18.168	None
824	18.1680	18.068 - 18.168	None
824	21.0000	21 - 21.45	None
824	21.2250	21 - 21.45	None
824	21.4500	21 - 21.45	None
824	24.8900	24.89 - 24.99	None
824	24.9400	24.89 - 24.99	None
824	24.9900	24.89 - 24.99	None
824	28.0000	28 - 29.7	None
824	28.8500	28 - 29.7	None
824	29.7000	28 - 29.7	None
824	50.0000	50 - 54	None
824	52.0000	50 - 54	None
824	54.0000	50 - 54	None

Gen. Undesired MHz	Gen. Desired MHz	Receiver Band MHz	Observed Responses
836.5	1.8000	1.8 - 2	None
836.5	1.9000	1.8 - 2	None
836.5	2.0000	1.8 - 2	None
836.5	3.5000	3.5 - 4	None
836.5	3.7500	3.5 - 4	None
836.5	4.0000	3.5 - 4	None
836.5	5.3305	5.3305 - 5.4035	None
836.5	5.3665	5.3305 - 5.4035	None
836.5	5.4035	5.3305 - 5.4035	None
836.5	7.0000	7 - 7.3	None
836.5	7.1500	7 - 7.3	None
836.5	7.3000	7 - 7.3	None
836.5	10.1000	10.1 - 10.15	None
836.5	10.1250	10.1 - 10.15	None
836.5	10.1500	10.1 - 10.15	None
836.5	14.0000	14 - 14.35	None
836.5	14.1750	14 - 14.35	None
836.5	14.3500	14 - 14.35	None
836.5	18.0680	18.068 - 18.168	None
836.5	18.1180	18.068 - 18.168	None
836.5	18.1680	18.068 - 18.168	None
836.5	21.0000	21 - 21.45	None
836.5	21.2250	21 - 21.45	None
836.5	21.4500	21 - 21.45	None
836.5	24.8900	24.89 - 24.99	None
836.5	24.9400	24.89 - 24.99	None
836.5	24.9900	24.89 - 24.99	None
836.5	28.0000	28 - 29.7	None
836.5	28.8500	28 - 29.7	None
836.5	29.7000	28 - 29.7	None
836.5	50.0000	50 - 54	None
836.5	52.0000	50 - 54	None
836.5	54.0000	50 - 54	None

Gen. Undesired MHz	Gen. Desired MHz	Receiver Band MHz	Observed Responses
849	1.8000	1.8 - 2	None
849	1.9000	1.8 - 2	None
849	2.0000	1.8 - 2	None
849	3.5000	3.5 - 4	None
849	3.7500	3.5 - 4	None
849	4.0000	3.5 - 4	None
849	5.3305	5.3305 - 5.4035	None
849	5.3665	5.3305 - 5.4035	None
849	5.4035	5.3305 - 5.4035	None
849	7.0000	7 - 7.3	None
849	7.1500	7 - 7.3	None
849	7.3000	7 - 7.3	None
849	10.1000	10.1 - 10.15	None
849	10.1250	10.1 - 10.15	None
849	10.1500	10.1 - 10.15	None
849	14.0000	14 - 14.35	None
849	14.1750	14 - 14.35	None
849	14.3500	14 - 14.35	None
849	18.0680	18.068 - 18.168	None
849	18.1180	18.068 - 18.168	None
849	18.1680	18.068 - 18.168	None
849	21.0000	21 - 21.45	None
849	21.2250	21 - 21.45	None
849	21.4500	21 - 21.45	None
849	24.8900	24.89 - 24.99	None
849	24.9400	24.89 - 24.99	None
849	24.9900	24.89 - 24.99	None
849	28.0000	28 - 29.7	None
849	28.8500	28 - 29.7	None
849	29.7000	28 - 29.7	None
849	50.0000	50 - 54	None
849	52.0000	50 - 54	None
849	54.0000	50 - 54	None

Gen. Undesired MHz	Gen. Desired MHz	Receiver Band MHz	Observed Responses
869	1.8000	1.8 - 2	None
869	1.9000	1.8 - 2	None
869	2.0000	1.8 - 2	None
869	3.5000	3.5 - 4	None
869	3.7500	3.5 - 4	None
869	4.0000	3.5 - 4	None
869	5.3305	5.3305 - 5.4035	None
869	5.3665	5.3305 - 5.4035	None
869	5.4035	5.3305 - 5.4035	None
869	7.0000	7 - 7.3	None
869	7.1500	7 - 7.3	None
869	7.3000	7 - 7.3	None
869	10.1000	10.1 - 10.15	None
869	10.1250	10.1 - 10.15	None
869	10.1500	10.1 - 10.15	None
869	14.0000	14 - 14.35	None
869	14.1750	14 - 14.35	None
869	14.3500	14 - 14.35	None
869	18.0680	18.068 - 18.168	None
869	18.1180	18.068 - 18.168	None
869	18.1680	18.068 - 18.168	None
869	21.0000	21 - 21.45	None
869	21.2250	21 - 21.45	None
869	21.4500	21 - 21.45	None
869	24.8900	24.89 - 24.99	None
869	24.9400	24.89 - 24.99	None
869	24.9900	24.89 - 24.99	None
869	28.0000	28 - 29.7	None
869	28.8500	28 - 29.7	None
869	29.7000	28 - 29.7	None
869	50.0000	50 - 54	None
869	52.0000	50 - 54	None
869	54.0000	50 - 54	None

Gen. Undesired MHz	Gen. Desired MHz	Receiver Band MHz	Observed Responses
881	1.8000	1.8 - 2	None
881	1.9000	1.8 - 2	None
881	2.0000	1.8 - 2	None
881	3.5000	3.5 - 4	None
881	3.7500	3.5 - 4	None
881	4.0000	3.5 - 4	None
881	5.3305	5.3305 - 5.4035	None
881	5.3665	5.3305 - 5.4035	None
881	5.4035	5.3305 - 5.4035	None
881	7.0000	7 - 7.3	None
881	7.1500	7 - 7.3	None
881	7.3000	7 - 7.3	None
881	10.1000	10.1 - 10.15	None
881	10.1250	10.1 - 10.15	None
881	10.1500	10.1 - 10.15	None
881	14.0000	14 - 14.35	None
881	14.1750	14 - 14.35	None
881	14.3500	14 - 14.35	None
881	18.0680	18.068 - 18.168	None
881	18.1180	18.068 - 18.168	None
881	18.1680	18.068 - 18.168	None
881	21.0000	21 - 21.45	None
881	21.2250	21 - 21.45	None
881	21.4500	21 - 21.45	None
881	24.8900	24.89 - 24.99	None
881	24.9400	24.89 - 24.99	None
881	24.9900	24.89 - 24.99	None
881	28.0000	28 - 29.7	None
881	28.8500	28 - 29.7	None
881	29.7000	28 - 29.7	None
881	50.0000	50 - 54	None
881	52.0000	50 - 54	None
881	54.0000	50 - 54	None

Gen. Undesired MHz	Gen. Desired MHz	Receiver Band MHz	Observed Responses
894	1.8000	1.8 - 2	None
894	1.9000	1.8 - 2	None
894	2.0000	1.8 - 2	None
894	3.5000	3.5 - 4	None
894	3.7500	3.5 - 4	None
894	4.0000	3.5 - 4	None
894	5.3305	5.3305 - 5.4035	None
894	5.3665	5.3305 - 5.4035	None
894	5.4035	5.3305 - 5.4035	None
894	7.0000	7 - 7.3	None
894	7.1500	7 - 7.3	None
894	7.3000	7 - 7.3	None
894	10.1000	10.1 - 10.15	None
894	10.1250	10.1 - 10.15	None
894	10.1500	10.1 - 10.15	None
894	14.0000	14 - 14.35	None
894	14.1750	14 - 14.35	None
894	14.3500	14 - 14.35	None
894	18.0680	18.068 - 18.168	None
894	18.1180	18.068 - 18.168	None
894	18.1680	18.068 - 18.168	None
894	21.0000	21 - 21.45	None
894	21.2250	21 - 21.45	None
894	21.4500	21 - 21.45	None
894	24.8900	24.89 - 24.99	None
894	24.9400	24.89 - 24.99	None
894	24.9900	24.89 - 24.99	None
894	28.0000	28 - 29.7	None
894	28.8500	28 - 29.7	None
894	29.7000	28 - 29.7	None
894	50.0000	50 - 54	None
894	52.0000	50 - 54	None
894	54.0000	50 - 54	None