FCC TEST REPORT
FOR THE
L-3 MARITIME SYSTEMS
AUTOMATIC IDENTIFICATION SYSTEM
MODEL AISA6-000-10
FCCID IB2AISA6

Prepared for:

L-3 Maritime Systems
100 Cattlemen Road
Sarasota, FL 34232
USA

Submitted by:

Green Mountain Electromagnetics, Inc.

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Revised: September 20 and 21, 2017

Test Lab
Cert 898.01

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For Model AISA6-000-10

L-3 Maritime Systems
FCC Testing
At
Green Mountain Electromagnetics, Inc.

Unit: Automatic Identification System Model AISA6-000-10
Received: 6/12/17 & 7/18/17
Tested: July 19 - 21, 2017
Revision: September 19 & 21, 2017 – Modified for responses per TUV SUD letter CB-17-0104

I. Applicable Standards

The unit described in this report was measured for certification with the Code of Federal Regulations (CFR) Title 47 – Chapter I – Subchapter A – "Telecommunication, Part 2 – Frequency Allocations and Radio Treaty Matters: General Rules and Regulations, Subpart J – Equipment Authorization Procedures (2017)." Measurements required were per paragraphs 2.1046 RF Power Output, 2.1047 Modulation Characteristics, 2.1049 Occupied Bandwidth, 2.1051 Spurious Emissions, 2.1053 Field Strength of Spurious Radiation, 2.1055 Frequency Stability, and 2.1091 Radiofrequency Radiation Exposure Evaluation: Mobile Devices.

The AIS was also measured for verification of compliance with CFR Title 47 – Chapter I – Subchapter D – "Telecommunication, Part 80 – Stations in the Maritime Services, Subpart E: General Technical Standards (2017)." Paragraphs used were 80.205 Bandwidths, 80.209 Transmitter Frequency Tolerances, 80.211 Emission Limitations, 80.213 Modulation Requirements, 80.215 Transmitter Power, and 80.217 Suppression of Interference Aboard Ships. Additionally, the AIS was measured for verification of compliance with "47 CFR, Part 15 – Radio Frequency Devices, Subpart C: Intentional Radiators (2017)," paragraph 15.209, Radiated Emission Limits.

Measurement procedures were in accordance with ANSI C63.4, "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (2014)," IEC 61993-2, "Maritime Navigation and Radiocommunication Equipment and Systems – Automatic Identification Systems (AIS), Part 2: Class A Shipborne Equipment of the AIS – Operational and Performance Requirements, Methods of Test and Required Test Results (October 2012)," FCC General RF Exposure Guidance KDB 447498 (2015), and the L-3 Test Plan.

II. Unit Tested

The L-3 Maritime Systems, Model AISA6-000-10 Automatic Identification System provides continuous RF signal and data transmission for ship identification. The AISA6-000-10 uses DC power, has a software-defined TDMA transmitter and a software-defined TDMA/GPS receiver. It consists of the multi-piece metal enclosure with connector hardware, the transmit/receive circuits, the microprocessor/data-storage electronics, and the antenna interfaces. The pilot cable contains a ferrite for suppression of radiated emissions. The table below describes the unit that was subjected to measurements determining compliance with applicable standards:

Model	Manufacturer	Serial Number
AISA6-000-10	L-3 Maritime Systems	100778

The following table describes the system physical and electrical properties:

Model	Volts/Watts	H/W/D in cm
AISA6-000-10	12-24 VDC, 18-W nominal, 50-W max	12/14/21

The following table describes the support equipment supplied for testing:

Product	Manufacturer	Model	Serial
AIS	L-3	AISA6-000-10	TE-AISA6-1
Power Supply	Newmar	115-24-10	L-3 ID 105264
Attenuator 30dB 50W (2)	Bird	25A-MEN30	819/820
GPS Antenna	Matsushita	n/a	n/a
PC/Display/KBD	Dell	Optiplex 96/21”/RT7D50	p/o HEN-WK1869
Mouse	Logitech	MBJ58	LNA22705853

Power and signal cables were used for testing and are not supplied by the manufacturer. The following table describes the system cables:

Cable	Manufacturer	Description
Power (DC)	n/a	Shielded Twisted Pair
Signal (Pilot)	Belden	Shielded 4PR24G, ULE108998 w/Ferrite
Signal (RF)	Pasternack	50Ω, N-Type
Signal (RF)	Pasternack	50Ω, TNC-Type, RG58CU

III. Summary of Results

The L-3 Maritime Systems, Model AISA6-000-10 Automatic Identification System complies with the requirements in FCC 47 CFR, Paragraphs 2, 15, and 80. Section X through XVI contain the results summarized in the table below:

	Test	Mode/Port	CFR 47 Paragraph	Frequency or Range	Specified Values	Measured Values
1	RF Power Output	Transmit	**2.1046** **80.215**	162.025 MHz	< 44 dBm (25 W)	41 dBm
2	Modulation Characteristic	Transmit	**2.1047** **80.213**	162.025 MHz	< ±5 kHz	4.8 kHz
3	Occupied Bandwidth	Transmit	**2.1049** **80.205** **80.211**	±10 kHz CF ±10 kHz ±20 kHz ±20 kHz ±50 kHz >± 50 kHz	0 dBc -25 dBc -35 dBc -54 dBc	Within All Limits
4	Frequency Stability	Transmit	**2.1055** **80.209**	±10 ppm 10.2 V ±10 ppm 27.6 V ±10 ppm -30˚C ±10 ppm +50˚C	162,025,000 Hz 162,025,000 Hz 162,025,000 Hz 162,025,000 Hz	162,024,683 Hz 162,024,683 Hz 162,024,687 Hz 162,024,683 Hz
5	Spurious Emissions	Transmit/ Receive	**2.1051** **80.211** **80.217**	>± 50 kHz Txf/ <30 MHz 30 – 100 MHz 100 – 300 MHz >300 MHz	-54 dBc/ 0.4 mW 4 mW 40 mW 400 mW	Within All Limits
6	Radiated Emissions	Enclosure	**2.1053** **15.209**	30 – 88 MHz 88 – 216 MHz 216 – 960 MHz 960 – 1630 MHz	40 dBuV/m 43.5 dBuV/m 46 dBuV/m 54 dBuV/m	Within 3m Limits
7	Exposure Evaluation	Enclosure	**2.1091** **KDB**	30 MHz – 6 GHz	< 237 mW per Appendix C	< 1 mW

Testing was performed by Kyle R. Kowalczyk, president, Green Mountain Electromagnetics and requested by:

L-3 Maritime Systems
100 Cattlemen Road
Sarasota, FL 34232 USA

KRK

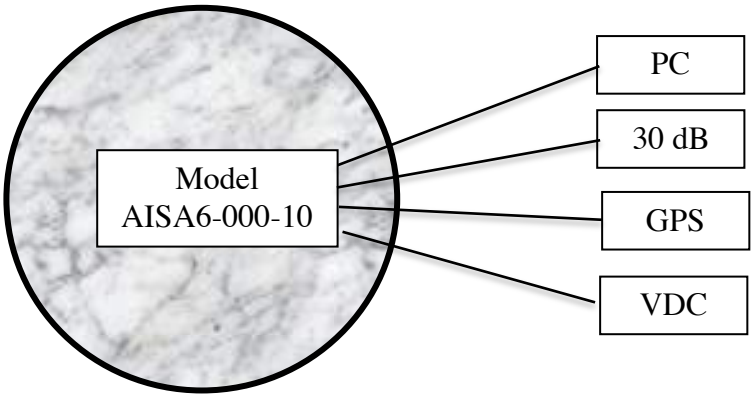
Kyle R. Kowalczyk
9/20/17

IV. Measurement Location

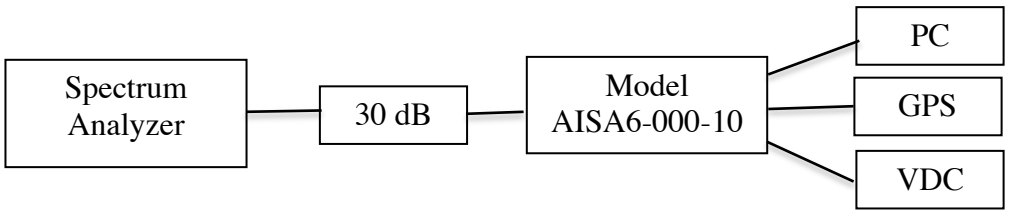
The GME laboratory and Open Area Test Site (OATS) are located at 219 Blake Roy Road, Middlebury, VT. The OATS is a 10/3/1-meter site complete with antenna positioner, ground plane and motorized turntable. The OATS is constructed in accordance with ANSI C63.7-2015 and complies with the requirements for radiated emissions testing in ANSI C63.4-2014 (6 GHz) and CISPR standards. GME is internationally accredited by the American Association for Laboratory Accreditation (A2LA) and meets the quality requirements in ISO/IEC 17025 (2005), "General Requirements for the Competence of Testing and Calibration Laboratories."

V. Equipment Configuration

GME witnessed the unit in satisfactory condition for testing, however the manufacturer is responsible for ensuring that the equipment under test (EUT) represents the product line. The manufacturer is also responsible for the EMC test plan and for assuring that this report is consistent with that plan. The EUT configuration was arranged to produce maximum radiated emissions as shown in the block diagram below. The EUT was operating in a continuous mode utilizing/testing its functions and subjected to complete emissions tests per the manufacturer's test plan.



Block Diagram of EUT on Turntable



Block Diagram of RF-Power Output, Modulation Characteristic, Occupied Bandwidth, Frequency Stability, and Spurious Emissions Tests

VI. Units of Measurement and Uncertainty

Measurements of radiated electric fields were made in units of dB referenced to 1 microvolt per meter (dBuV/m). Limits appearing on the spectrum analyzer data were corrected for the appropriate antenna factor, cable loss, amplifier gain (when used) and measurement distances X_{std} and X_{site} in meters.

The following equation was employed:
Corrected Limit (dBuV) = Limit (dBuV/m) + 20 Log(X_{std}/X_{site}) + Amplifier Gain (dB) – Antenna Factor (dB/m) – Cable Loss (dB).

Sample calculation at 30 MHz (Vertical Polarization):
48 dBuV corrected limit = 40 dBuV/m limit + 20 log(3/3) dB distance + 30 dB amp gain – 21 dB/m AF – 1 dB cable loss.

Uncertainty
The uncertainty budgets in GME EMC measurements are identified as follows:

Field strength between 30 MHz and 6 GHz on a ten-meter OATS using broadband antennas:

Contribution	Probability Distribution	Uncertainty (dB)
antenna factor calibration	normal k=2	0.5
cable loss calibration	normal k=2	0.5
analyzer specification	rectangular	1.5
distance variation	rectangular	0.6
height variation	rectangular	0.5
site imperfection	rectangular	2.0
mismatch	u-shaped	1.5
repeatability	standard deviation	0.5
combined uncertainty u(y)	normal	1.946
expanded uncertainty U	normal k=2	3.892

$$u(y) = \sqrt{(\frac{0.5}{2})^2 + (\frac{0.5}{2})^2 + \frac{1.5^2 + 0.6^2 + .5^2 + 2.0^2}{3} + \frac{1.5^2}{2} + 0.5^2}$$

U = k u(y)

Other GME uncertainty values are available upon request. Note: "U" represents an expanded uncertainty expressed at an approximately 95% confidence level using a coverage factor of k=2.

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VII. Measuring Equipment

The table below describes the instrumentation used by Green Mountain Electromagnetics to perform this testing:

Unit	Manufacturer	Model	Serial #	Last Cal.	Next Cal.
Spectrum Analyzer	Keysight	N9322C	CN0743A702	4/20/17	4/20/18
Spectrum Analyzer	Hewlett-Packard	8592A	2736A00296	3/20/17	3/20/18
Broadband E-field Antenna	ARA	LPB-2513/A	1224	5/5/17	5/5/18
Horn Antenna	Electro-Metrics	RGA-60	6139	11/8/16	11/8/18
Pre-Amplifier	MiniCircuits	ZKL-2R5+	739045986	2/4/17	2/4/18
Power Amplifier	Mini-Circuits	SVE-8G	n/a	2/4/17	2/4/18
Weather Station	Davis Insts.	Perception II	PC30923A07	2/14/17	2/14/18
Temperature-Humidity Probe	PTC	RHTemp101	N00532	9/28/16	9/28/17
Temperature-Humidity Chamber	Thermotron	SM8S	25-2300-04	n/a	n/a

VIII. Measurement Procedures

1. RF-Power Output.

Specification per Part 80.215(e)(1): $\leq$44 dBm (25 W) Normal Operation

a. Set up EUT and test instrumentation in laboratory.
   i. Connect AIS to DC power, PC, and GPS antenna.
b. Verify spectrum analyzer and AIS operation.
   i. Spectrum analyzer uses external 30-dB attenuator.
   ii. AIS channels are selected from front panel. Use 162.025 MHz channel.
c. Operate EUT at normal power unmodulated.
d. Record level displayed on analyzer.

2. Modulation Characteristics.

Specification per Part 80.213(d): $<\pm$5 kHz

a. Set up EUT and test instrumentation in laboratory.
   i. Connect AIS to DC power, PC, and GPS antenna; attach attenuator to VHF port.
b. Verify spectrum analyzer and AIS operation. Set for 162.025 MHz.

i. Spectrum analyzer is connected to external 30-dB attenuator.
ii. AIS test signal is selected from front panel.

c. Operate EUT test signal with standard modulation.
d. Record deviation displayed on analyzer. Use modulation analysis mode.

3. Occupied Bandwidth.

20 kHz authorized BW per Part 80.205(a)
Specification per Part 80.211(f):
0 dBc ±10 kHz CF
-25 dBc -10 kHz to -20 kHz CF & +10 kHz to +20 kHz CF
-35 dBc -20 kHz to -50 kHz CF & +20 kHz to +50 kHz CF
-54 dBc (-43 – 10 log 12.5 W) >±50 kHz CF

a. Set up EUT and test instrumentation in laboratory.
i. Connect AIS to DC power, PC, and GPS antenna; attach attenuator to VHF port.
b. Verify spectrum analyzer and AIS operation. Set for 162.025 MHz.
i. Spectrum analyzer is connected to external 30-dB attenuator.
ii. AIS test signal is selected from front panel.
c. Verify AIS test signal on spectrum analyzer.
d. Operate EUT at selected test signal 2 with standard modulation.
e. Record peak frequency spectrum displayed on analyzer.

4. Frequency Stability.

Frequency: 162.025 MHz
Specification per Part 80.209 (a) (5) (ii): ±10 ppm (1620 Hz)
Temperature Specification Part 2.1055 (a): -30˚C to +50˚C
Voltage Specification Part 2.1055 (d) (1): 10.2 (0.85*12) VDC to 27.6 (1.15*24) VDC

a. Set up EUT and test instrumentation in temperature chamber.
i. Connect AIS to DC power, PC, and GPS antenna; attach attenuator to VHF port.
b. Verify spectrum analyzer and AIS operation. Set for 162.025 MHz.
i. Spectrum analyzer is connected to external 30-dB attenuator.
ii. AIS test signal is selected from front panel.
c. Operate EUT with no modulation at high and low voltage.
d. Record frequency displayed on analyzer.
e. Repeat d. with EUT at high and low temperatures, normal voltage.

5. Spurious Emissions.

Specification into artificial antenna per Part 80.217 (b):
<30 MHz: .4 mW
30 – 100 MHz: 4 mW

100 – 300 MHz: 40 mW
>300 MHz: 400 mW

a. Set up EUT and test instrumentation in laboratory.
   i. Connect AIS to DC power, PC, and GPS antenna; attach attenuator to VHF port.
b. Verify spectrum analyzer and AIS operation. Set for 162.025 MHz.
   i. Spectrum analyzer is connected to external 30-dB attenuator.
   ii. AIS test signal is selected from front panel.
c. Operate EUT with no modulation at high RF power.
d. Record required frequency spectrum displayed on analyzer.

6. Radiated Emissions.

Frequency range: 30 MHz to 88 MHz
Limit per Part 15.209: 40 dBuV/m @ 3 meters
Frequency range: 88 kHz to 216 MHz
Limit per Part 15.209: 43.5 dBuV/m @ 3 meters
Frequency range: 216 MHz to 960 MHz
Limit per Part 15.209: 46 dBuV/m @ 3 meters
Frequency range: 960 MHz to 1630 MHz
Limit per Part 15.209: 54 dBuV/m @ 3 meters

a. Set up instrumentation at open area test site.
   i. Mount EUT on ground plane and broadband antenna on antenna positioner.
   ii. Observe temperature, humidity and atmospheric pressure.
   iii. Measurement distance is 3 meters and antenna scan height is 1 to 4 meters.
b. Verify spectrum analyzer and antenna operation.
   i. Spectrum analyzer is connected to antenna.
   ii. Preamplifier is inserted between antenna and analyzer to ensure analyzer noise threshold is at least 6 dB below specification limit.
c. Set up, power and operate EUT as in block diagram in Section V.
d. Perform preliminary evaluation of equipment in the near field.
   i. Vary antenna height, antenna polarization, and antenna orientation to EUT.
   ii. Repeat step d.i. while evaluating radiation in the 30-MHz to 1.63-GHz spectrum.
e. Determine frequencies and equipment orientations that produce maximum radiation.
   i. Identify processor, clock and beat frequencies, and harmonics.
f. Perform final evaluation of unit by recording spectrum analyzer data.
   i. Ensure the EUT is producing the maximum radiation found in step e.
   ii. Collect data over the entire frequency range.

IX. Test Setup Photographs

Photograph 1 – Radiated Emissions - Model AISA6-000-10

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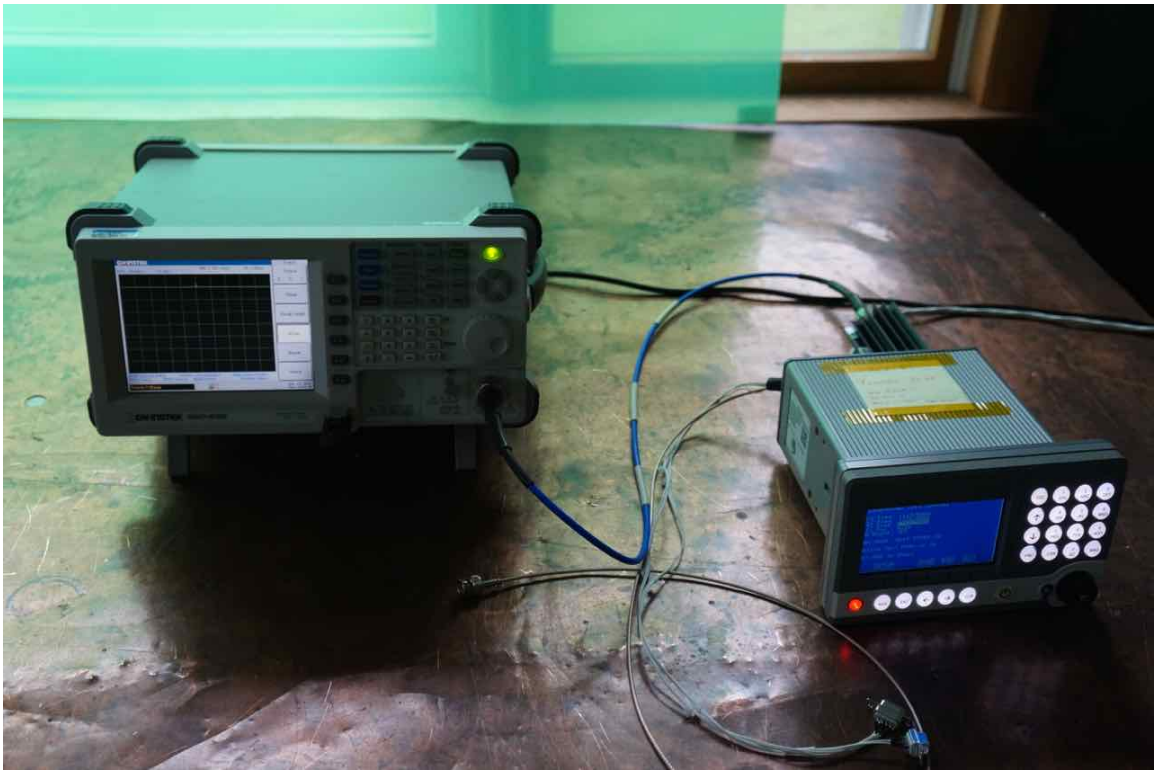
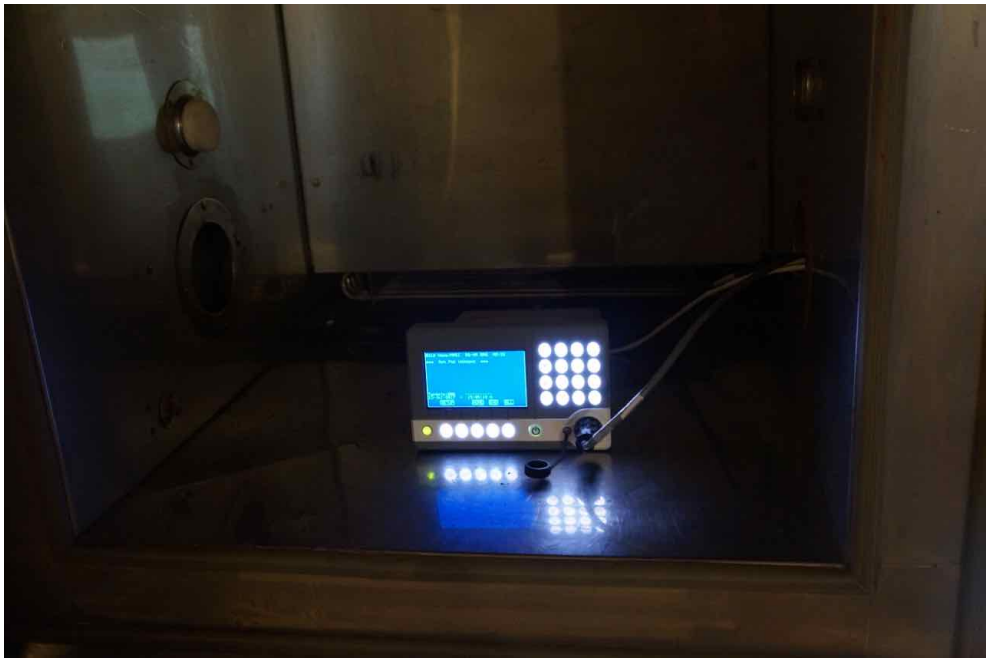
IX. Test Setup Photographs Cont'd.



Photograph 2 – Spurious Emissions - Model AISA6-000-10

IX. Test Setup Photographs Cont'd.



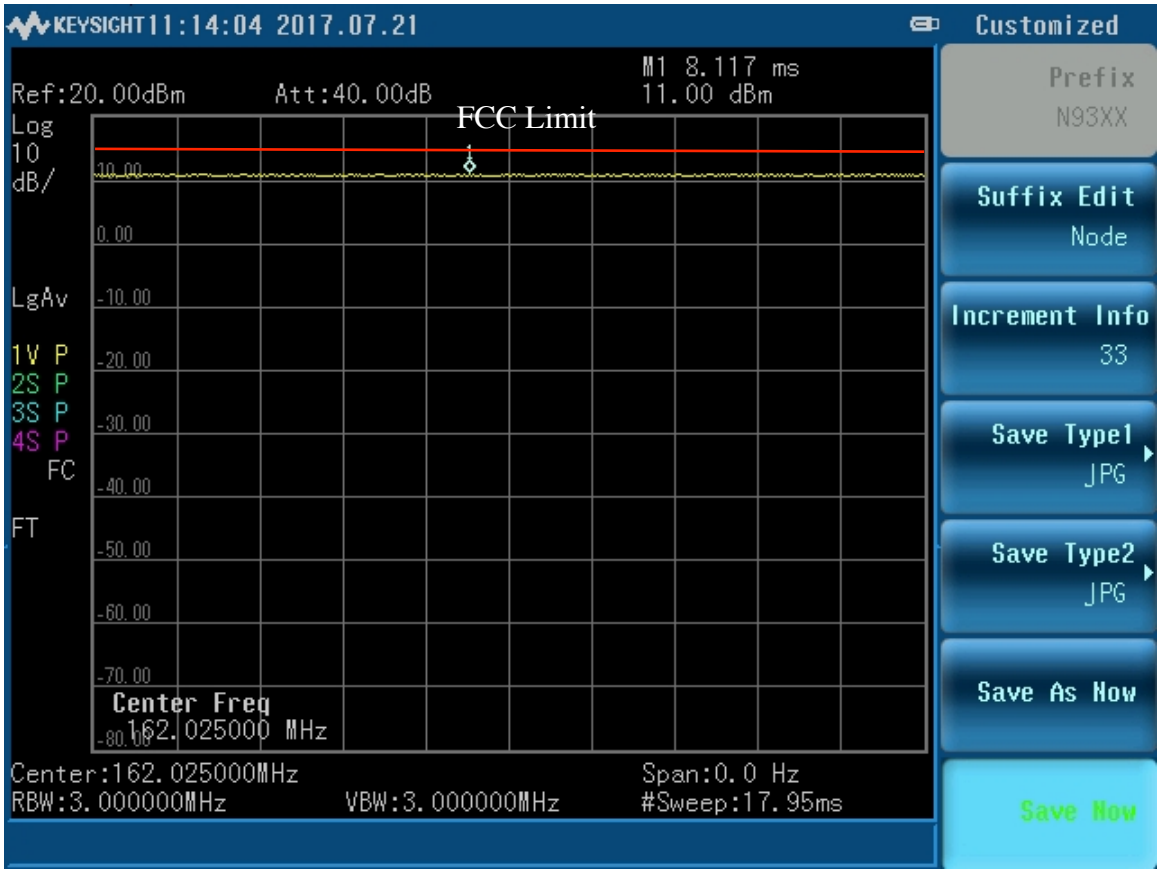
Photograph 3 – Temperature Chamber - Model AISA6-000-10

IX. Test Setup Photographs Cont'd.

Photograph 4 – Support/Test Equipment - Model AISA6-000-10

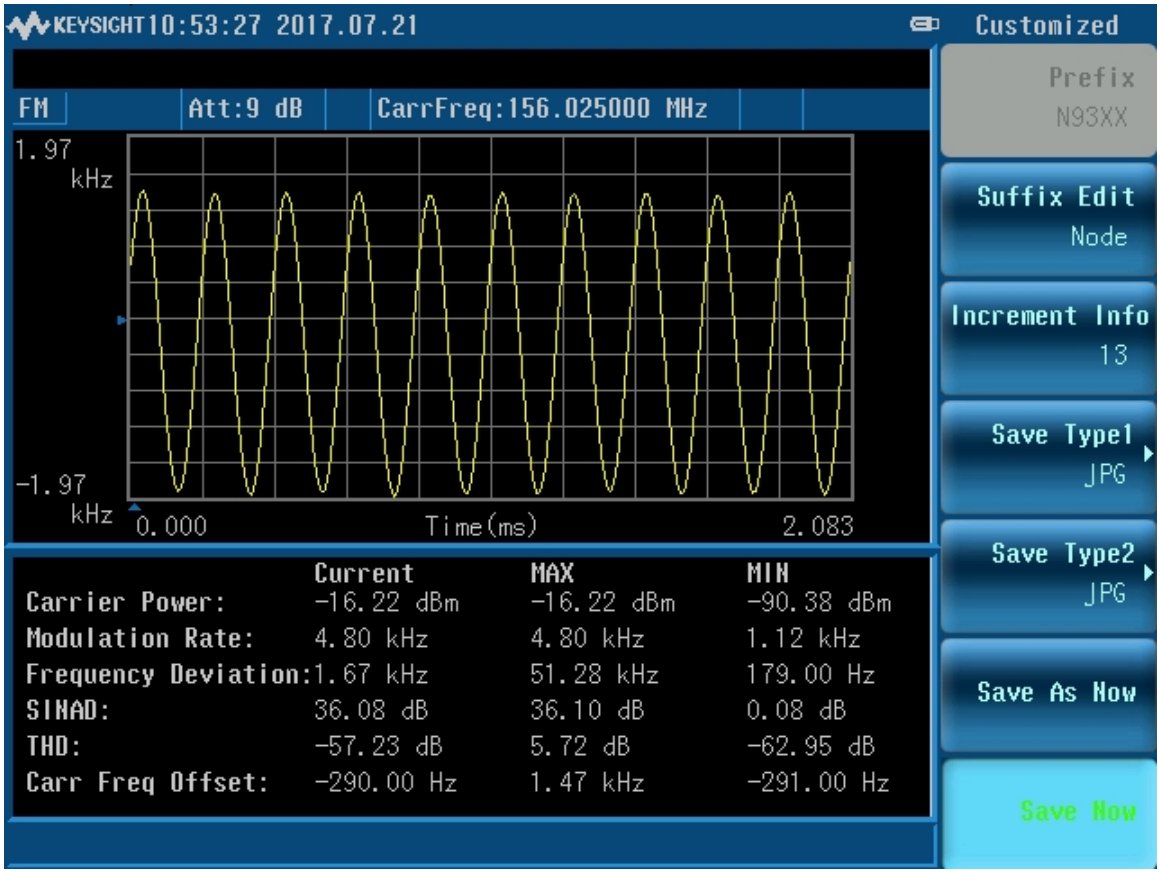
X. RF-Power Output Results

Specification: <14 dBm = 44 dBm – 30-dB external attenuation.
Measured: 41 dBm = 11 dBm + 30-dB attenuation.



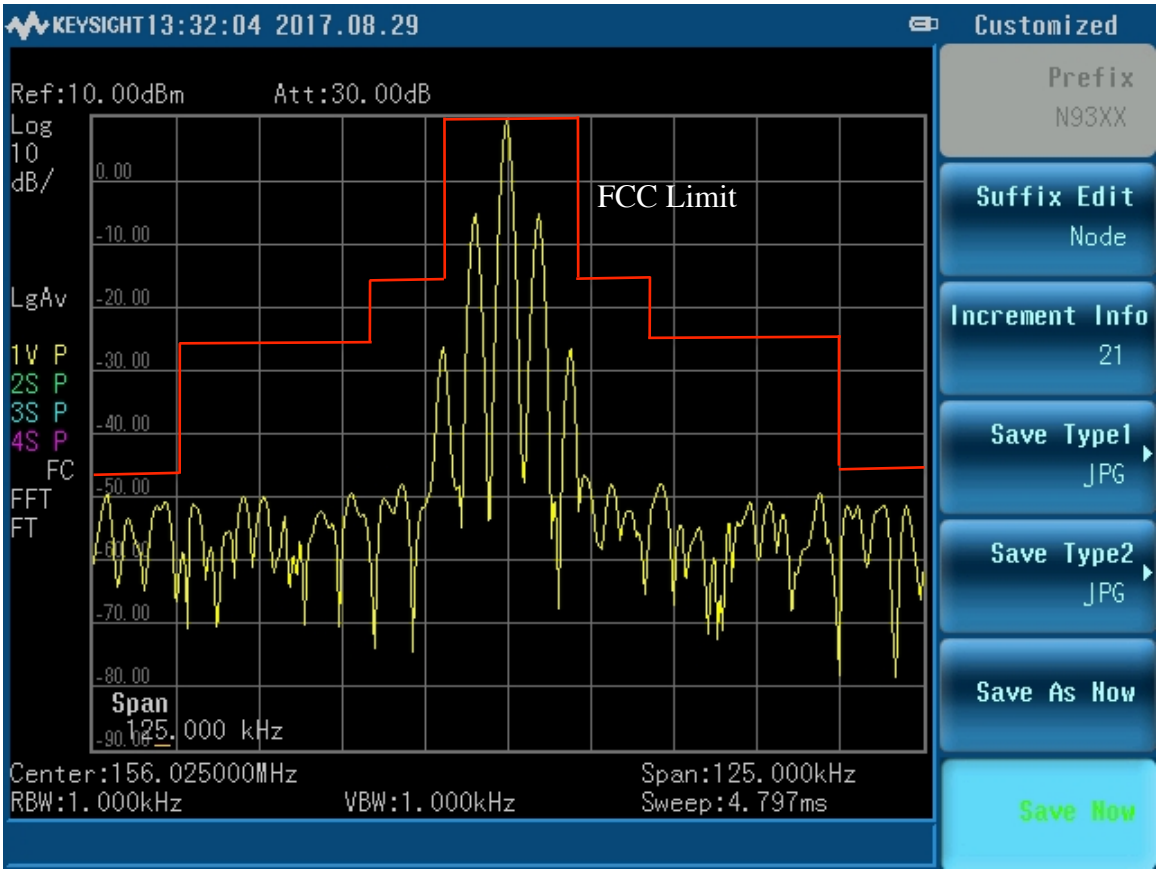
XI. Modulation Characteristic Results

Specification: < ±5 kHz
Measured: 4.8 kHz



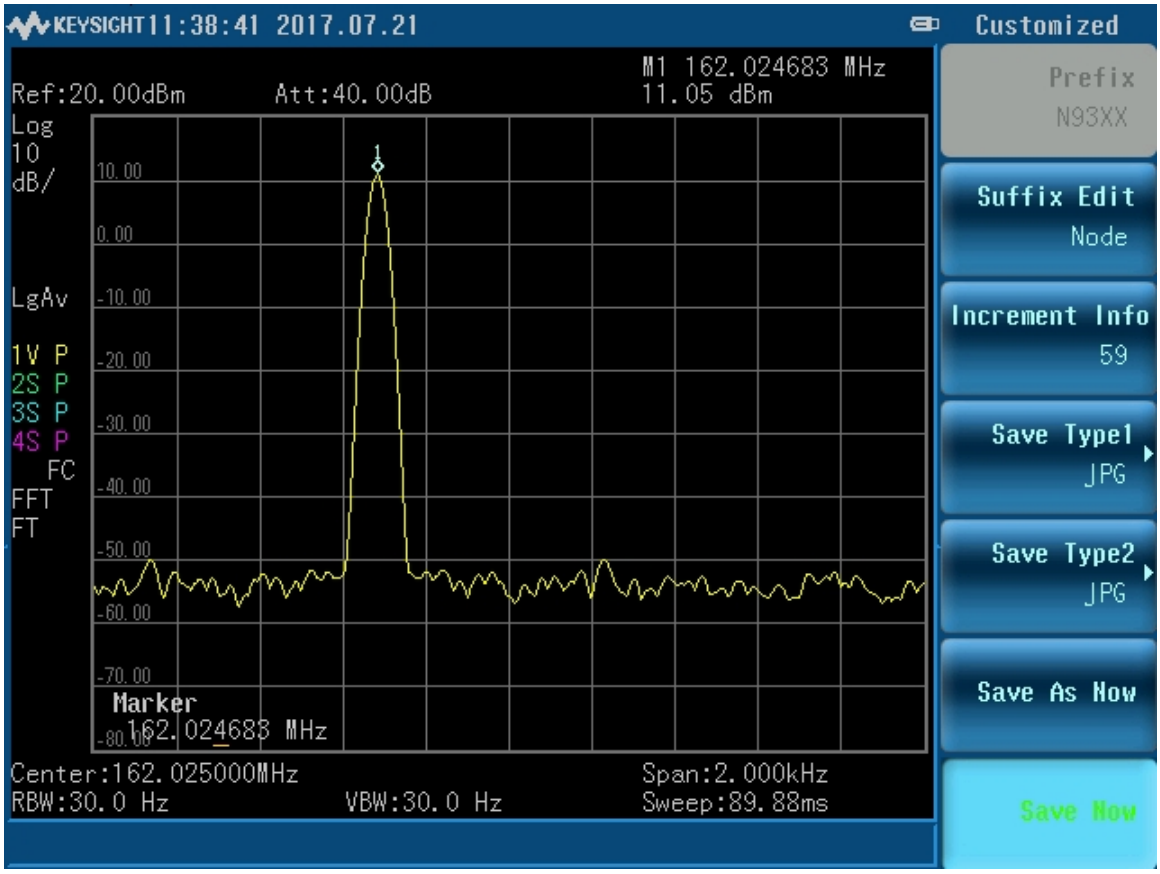
XII. Occupied Bandwidth Results

Specification: 0 dBc ±10 kHz CF
-25 dBc ±10 kHz ±20 kHz
-35 dBc ±20 kHz ±50 kHz
-54 dBc >±50 kHz



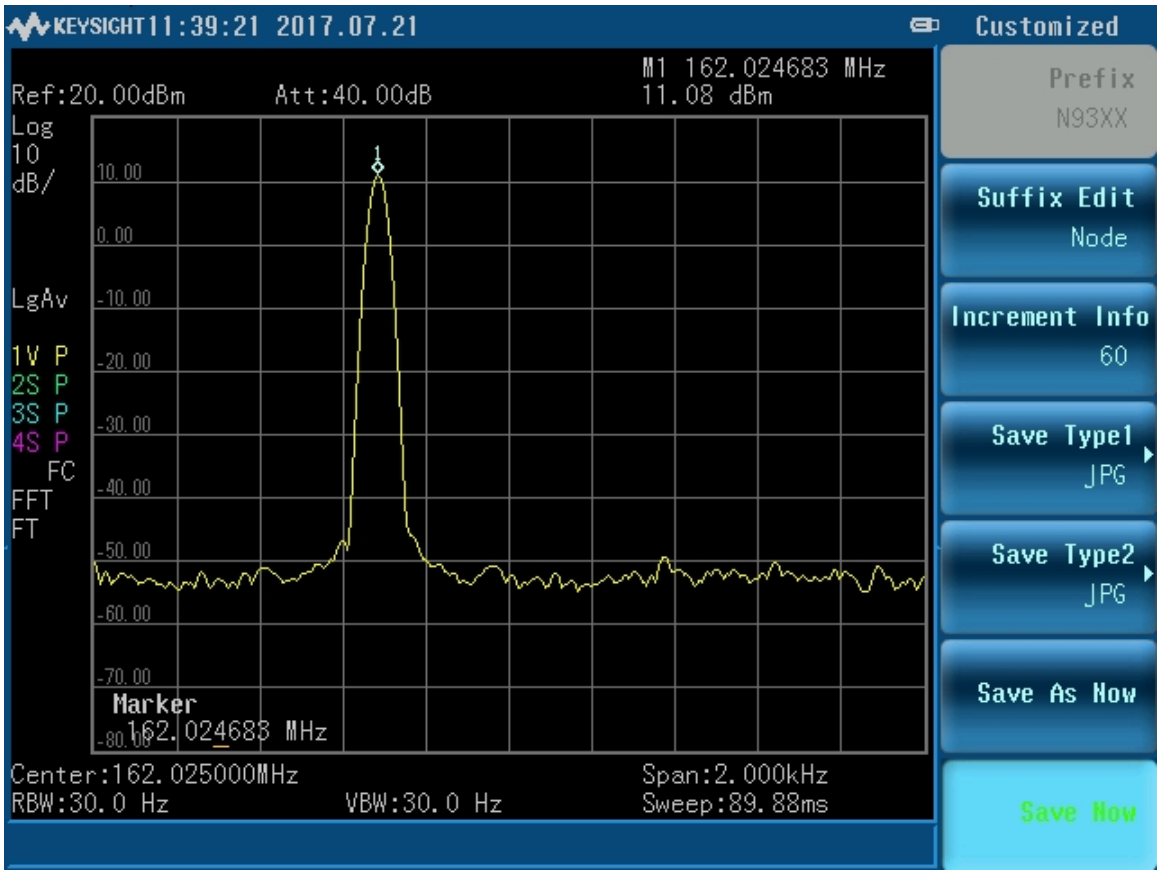
XIII. Frequency Stability Results

Specification: 162,025,000 ±1620 Hz: 162,023,380 <f <162,026,620
Measure: 162,024,683 at 10.2 VDC



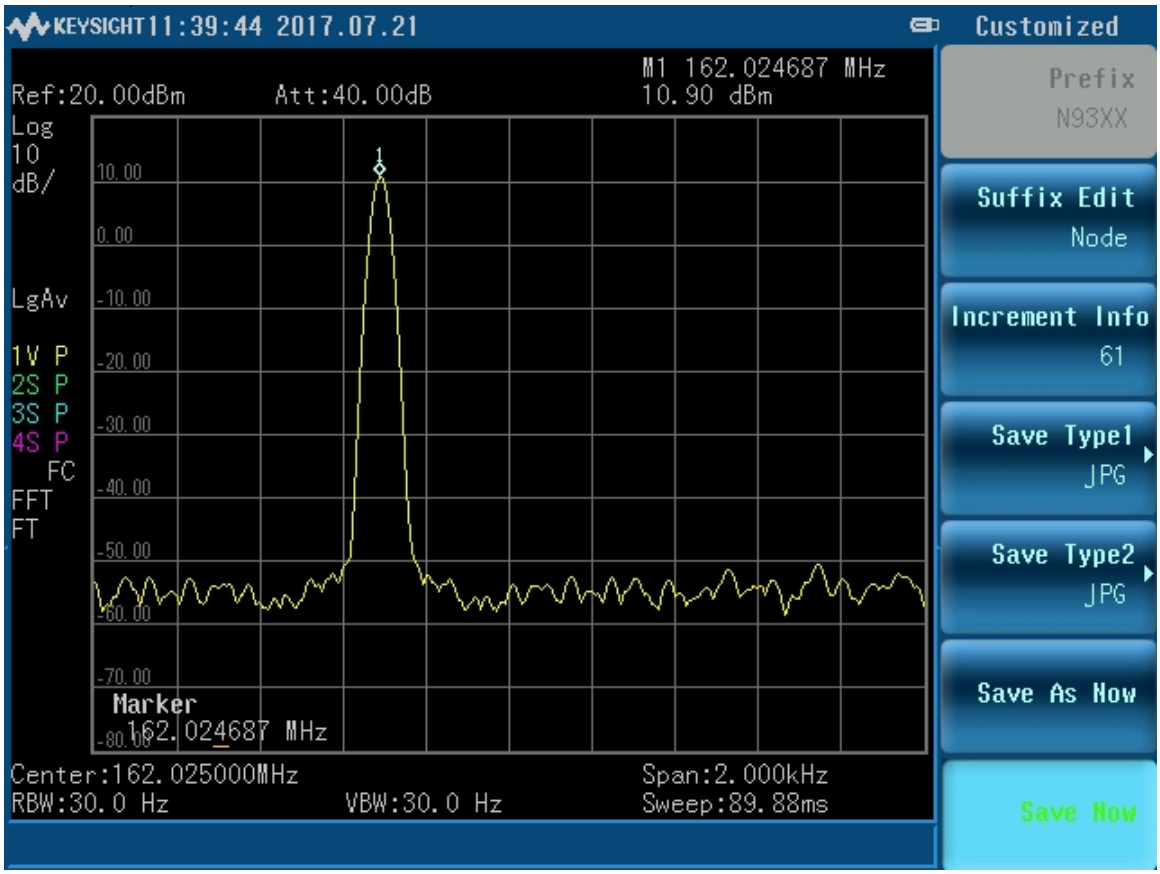
XIII. Frequency Stability Results Cont'd.

Specification: 162,025,000 ±1620 Hz: 162,023,380 <f <162,026,620
Measured: 162,024,683 Hz at 27.6 VDC



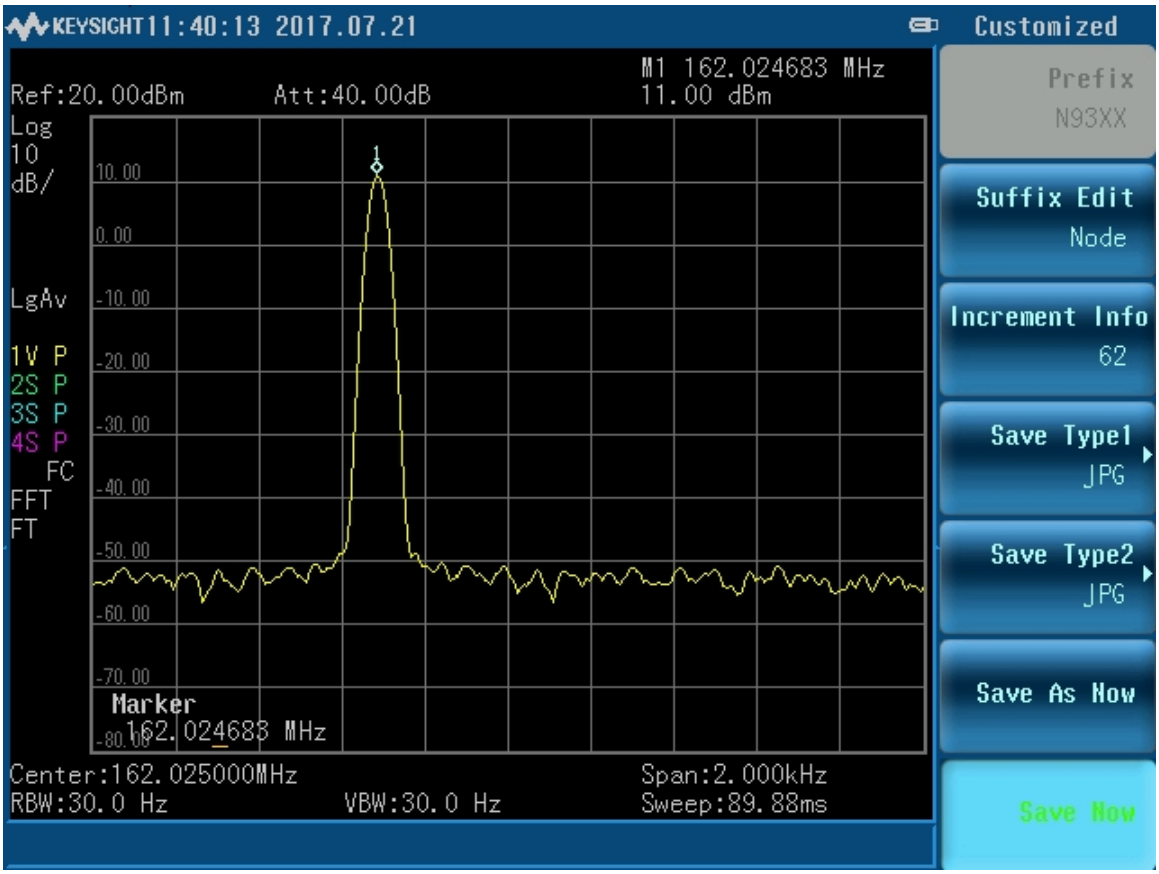
XIII. Frequency Stability Results Cont'd.

Specification: 162,025,000 ±1620 Hz: 162,023,380 <f <162,026,620
Measured: 162,024,687 Hz at -30˚C



XIII. Frequency Stability Results Cont'd.

Specification:162,025,000 ±1620 Hz: 162,023,380 <f <162,026,620
Measured: 162,024,683 at +50˚C



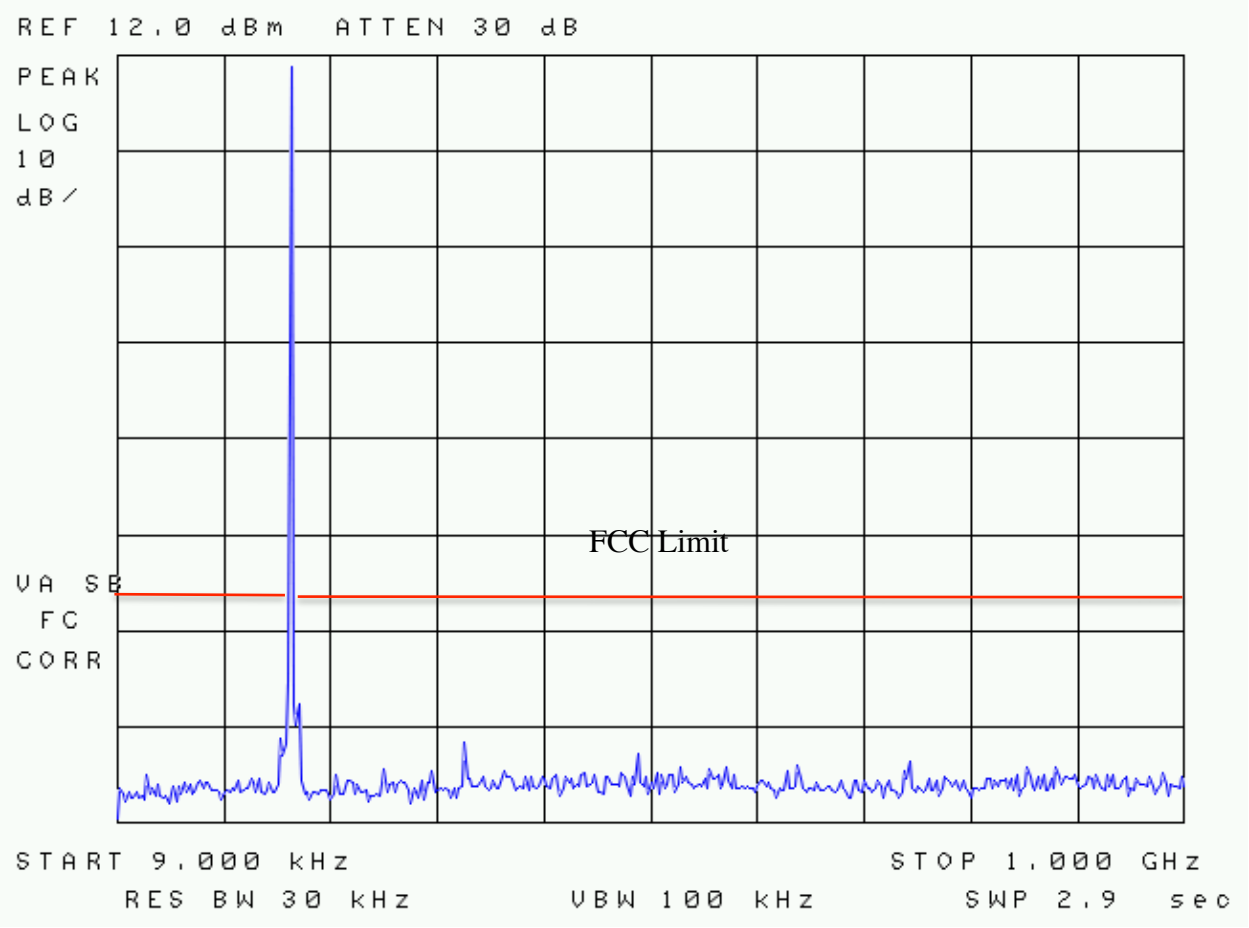
XIII. Frequency Stability Results Cont'd.

Specification:162,025,000 ±1620 Hz: 162,023,380 <f <162,026,620

Unit	Temperature ˚C	Specified Frequency Hz	Measured Frequency Hz
AISA6-000-10	-30 ˚C	162,025,000	162,024,687
AISA6-000-10	-20 ˚C	162,025,000	162,024,687
AISA6-000-10	-10 ˚C	162,025,000	162,024,687
AISA6-000-10	0 ˚C	162,025,000	162,024,687
AISA6-000-10	10 ˚C	162,025,000	162,024,687
AISA6-000-10	20 ˚C	162,025,000	162,024,687
AISA6-000-10	30 ˚C	162,025,000	162,024,683
AISA6-000-10	40 ˚C	162,025,000	162,024,683
AISA6-000-10	50 ˚C	162,025,000	162,024,683

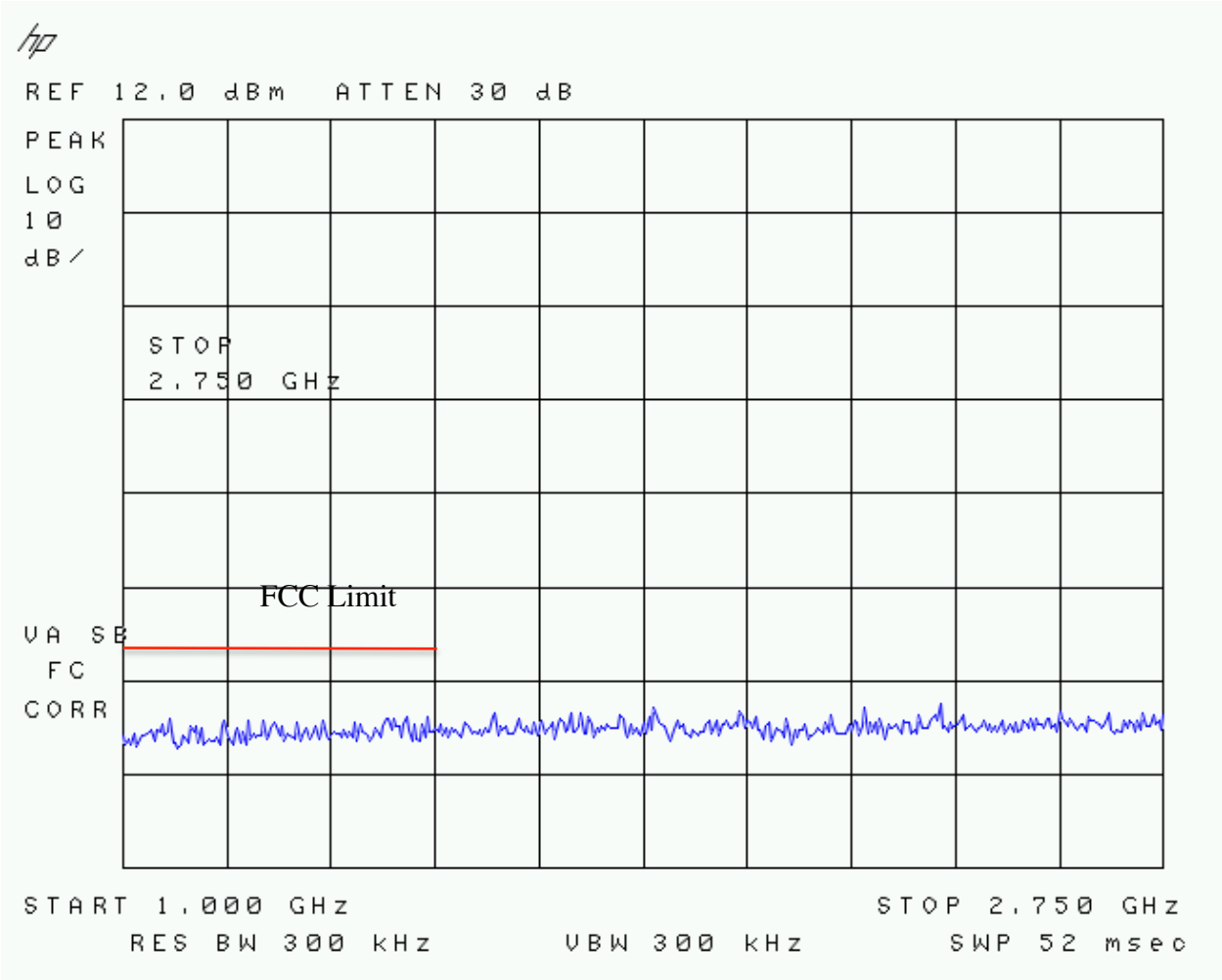
XIV. Spurious Emissions Results – Transmit Mode

Specification: -54 dBc >± 50 kHz Txf (41 dBm – 54 – 30 dB attenuator = -43 dBm)



XIV. Spurious Emissions Results Cont'd. – Transmit Mode

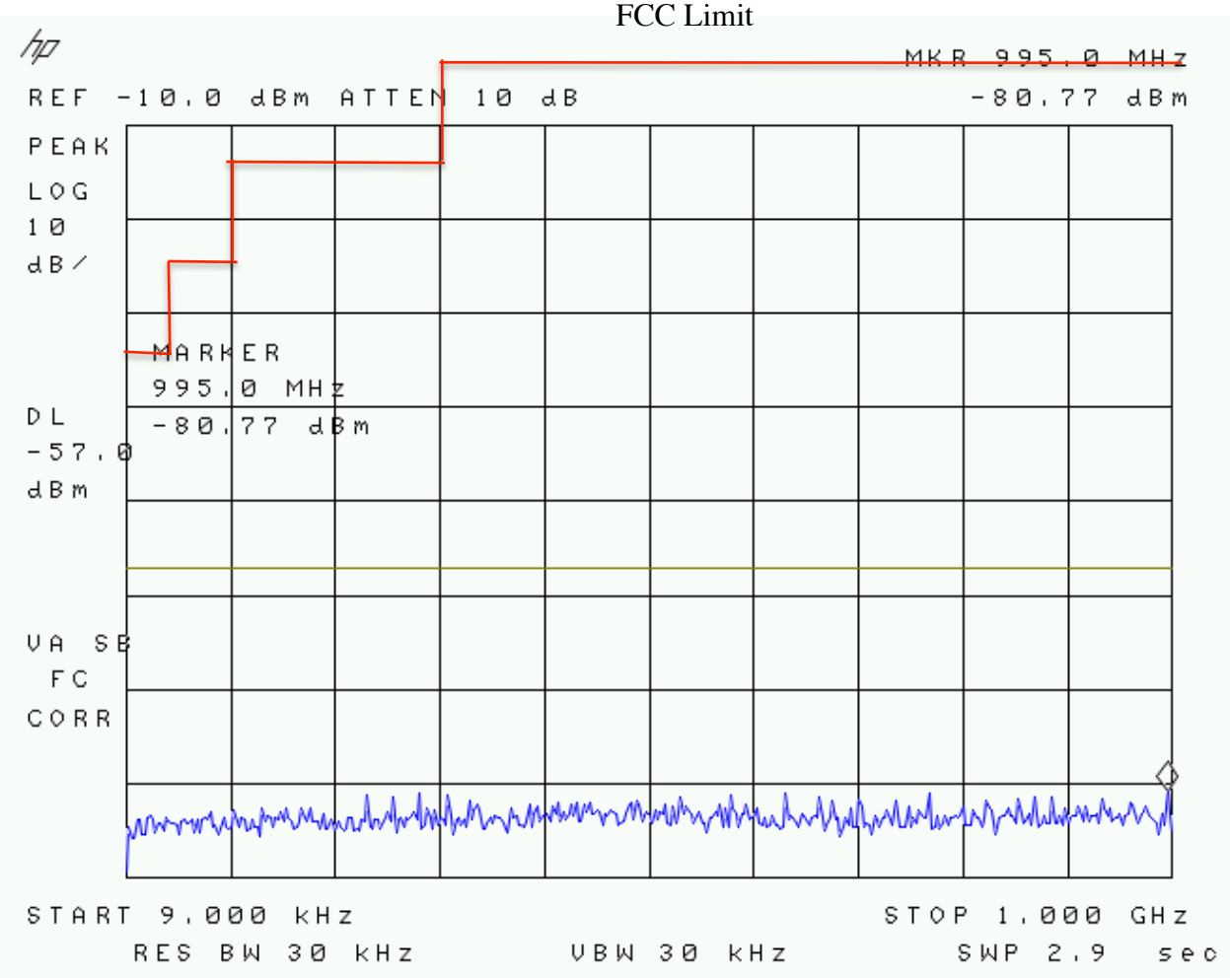
Specification: -54 dBc >± 50 kHz Txf (41 dBm – 54 – 30 dB attenuator = -43 dBm)
Stop frequency is 10x Txf = 1.620 GHz



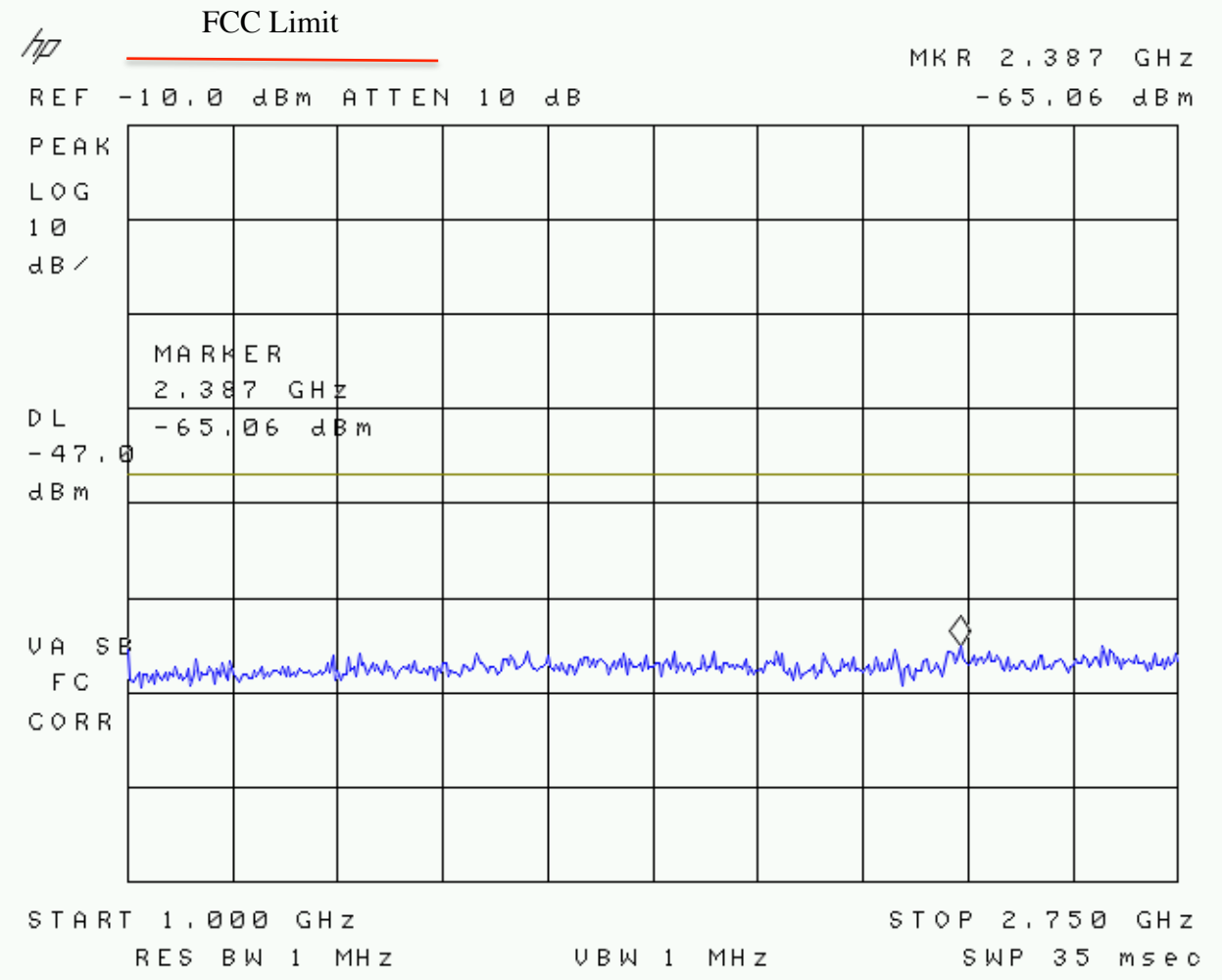
XIV. Spurious Emissions Results Cont'd. – Receive Mode

Specification: <30 MHz: -4 dBm (0.4 mW) – 30 dB for attenuator = -34 dBm.
30 – 100 MHz: 6 dBm (4 mW) – 30 dB for attenuator = -24 dBm.
100 – 300 MHz: 16 dBm (40 mW) – 30 dB for attenuator = -14 dBm.
>300 MHz: 26 dBm (400 mW) – 30 dB for attenuator = -4 dBm.

FCC Limit



XIV. Spurious Emissions Results Cont'd. – Receive Mode



XV. Radiated Emissions Results

Vertical Polarization.

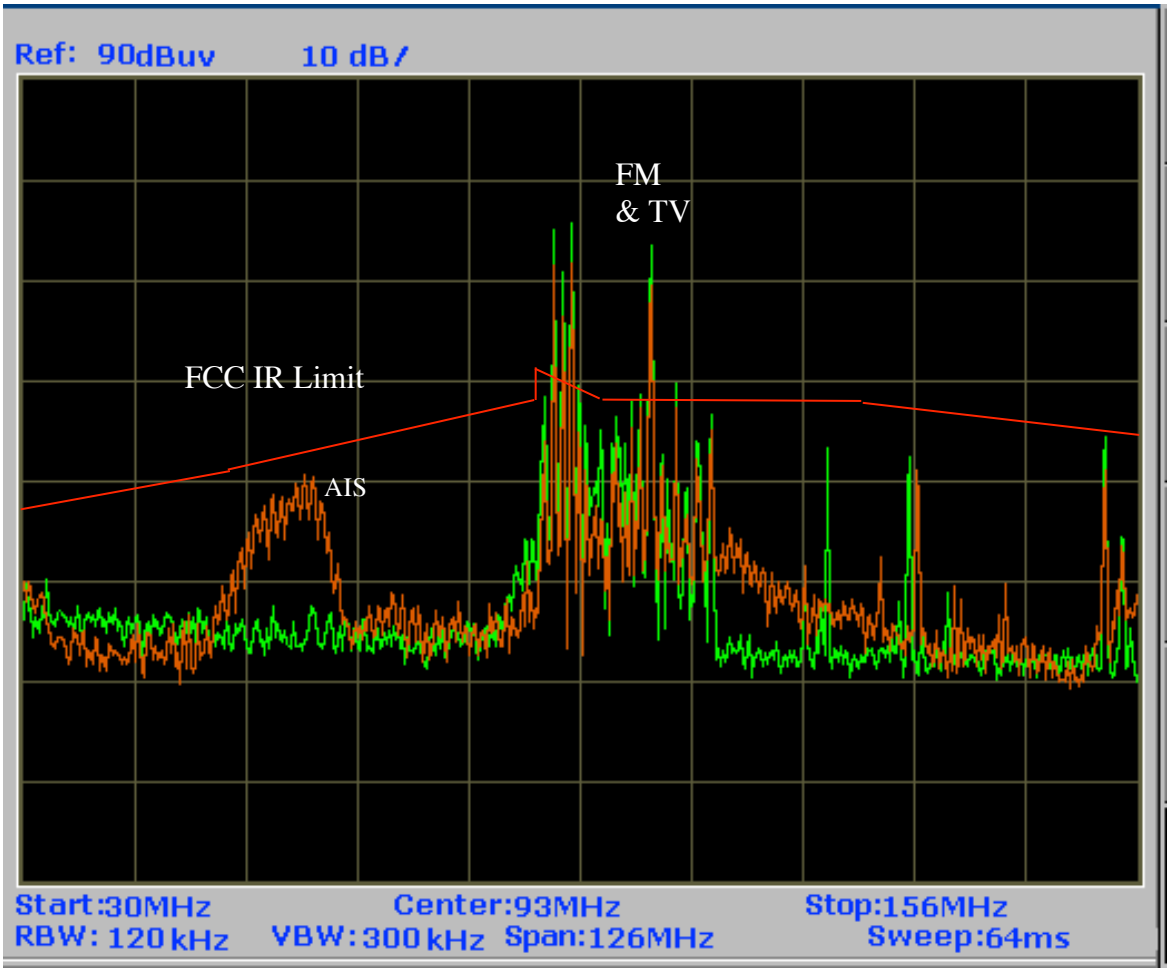
The table below describes the correction factors necessary to apply the limit to the spectrum analyzer output. The following pages contain the spectrum analyzer output with the corrected specification limits superimposed. The green trace is the ambient condition, and the orange trace identifies EUT emissions. Maximum amplitudes of vertical polarization are shown in the results below.

Frequency MHz	IR limit @ 3m dBuV	Amp Gain dB	Antenna Factor dB	Cable Loss dB	Corrected Limit dBuV
30	40	30	21	1	48
50	40	30	18	1	51
88	40	30	11	1	58
89	43.5	30	11	1	61.5
100	43.5	30	14	2	57.5
125	43.5	30	14	2	57.5
155	43.5	30	15	3	55.5
165	43.5	30	15	3	55.5
216	43.5	30	16	3	54.5
217	46	30	16	3	57
300	46	30	18	4	54
500	46	30	21	6	49
960	46	30	27	10	39
961	54	30	27	10	47
1630	54	30	30	12	42

Table 1 – Corrected Limit - Vertical Polarization

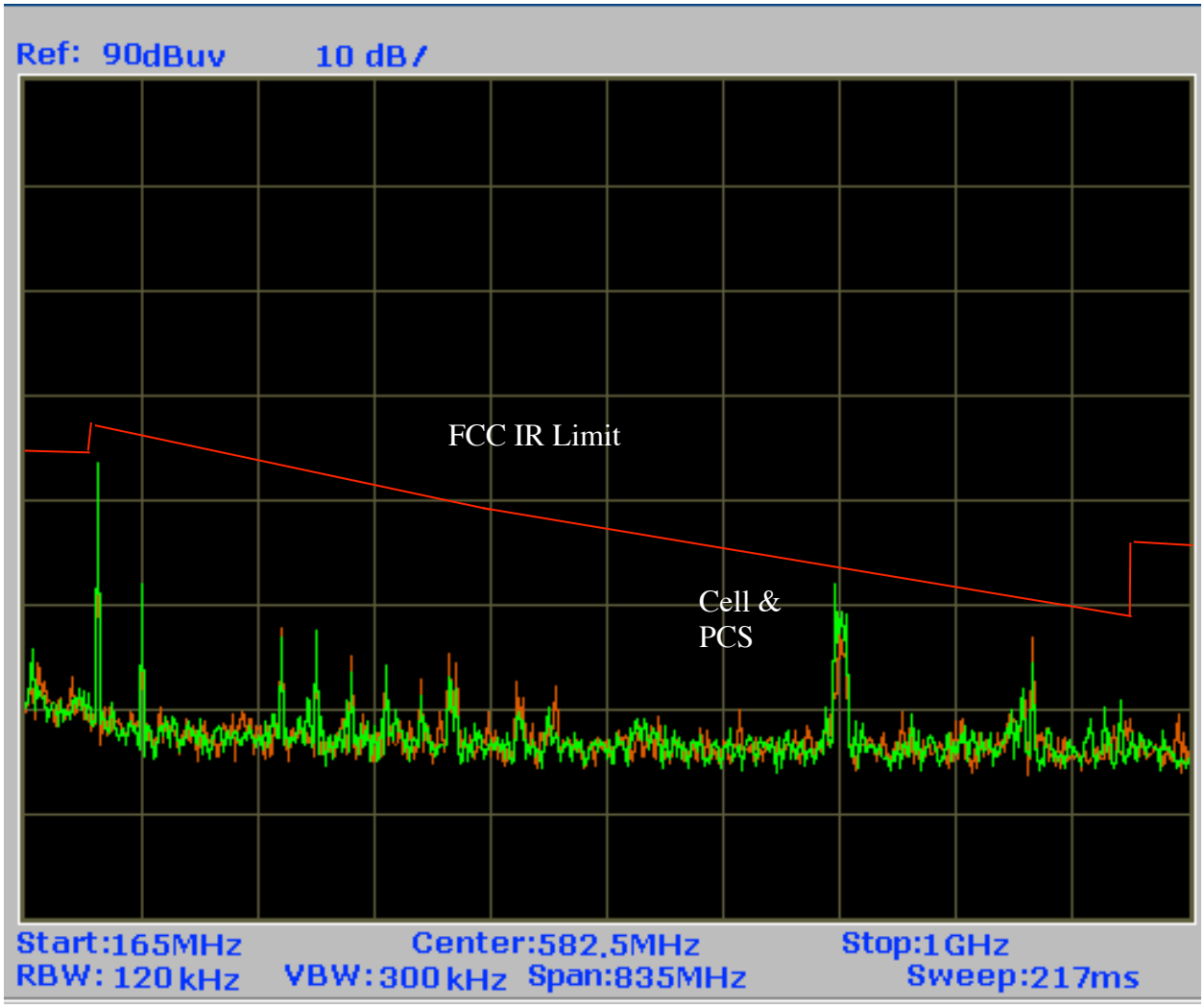
XV. Radiated Emissions Results Cont'd.

AISA6-000-10
Maximum of Vertical Polarization – Peak Detect



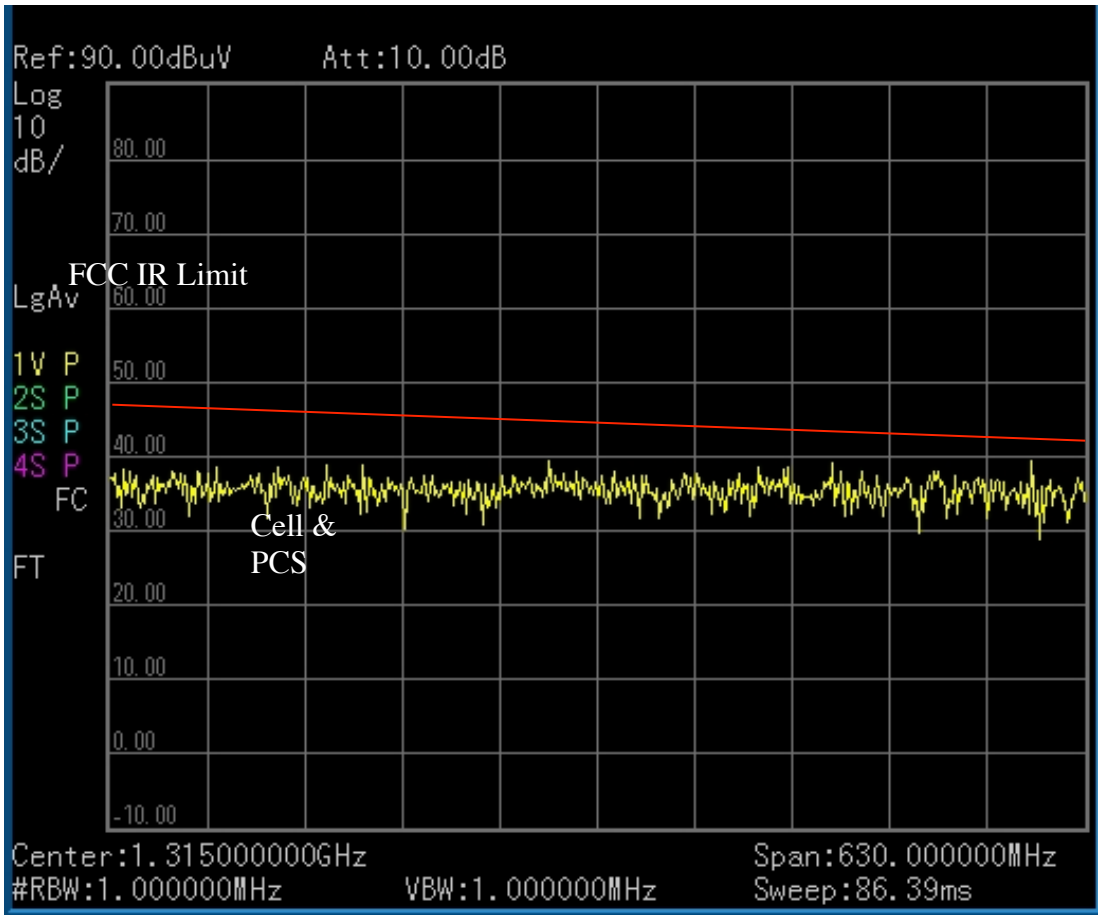
XV. Radiated Emissions Results Cont'd.

AISA6-000-10
Maximum of Vertical Polarization – Peak Detect



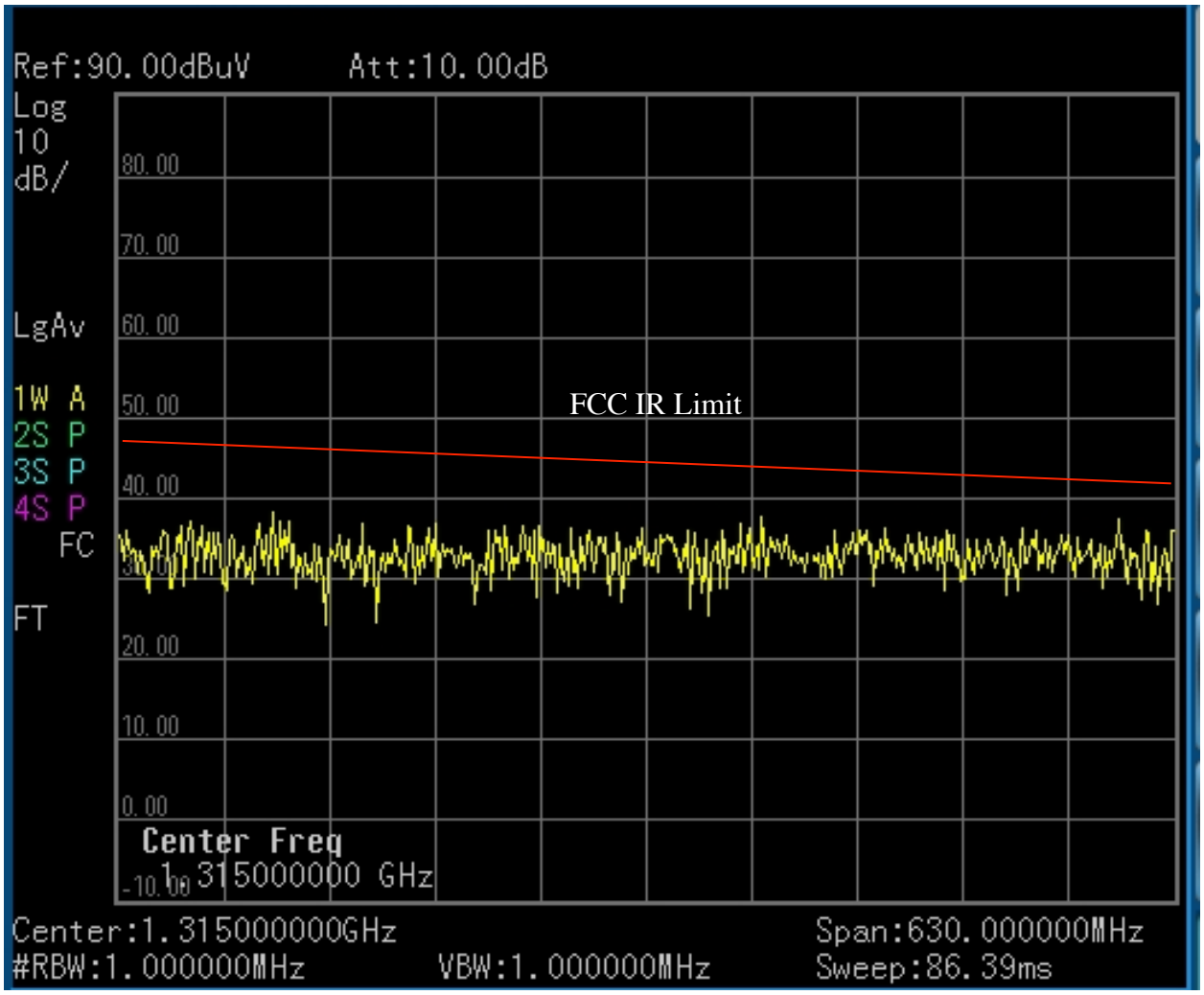
XV. Radiated Emissions Results Cont'd.

AISA6-000-10
Maximum of Vertical Polarization – Peak Detect



XV. Radiated Emissions Results Cont'd.

AISA6-000-10
Maximum of Vertical Polarization – Average Detect



XV. Radiated Emissions Results Cont'd.

Horizontal Polarization.

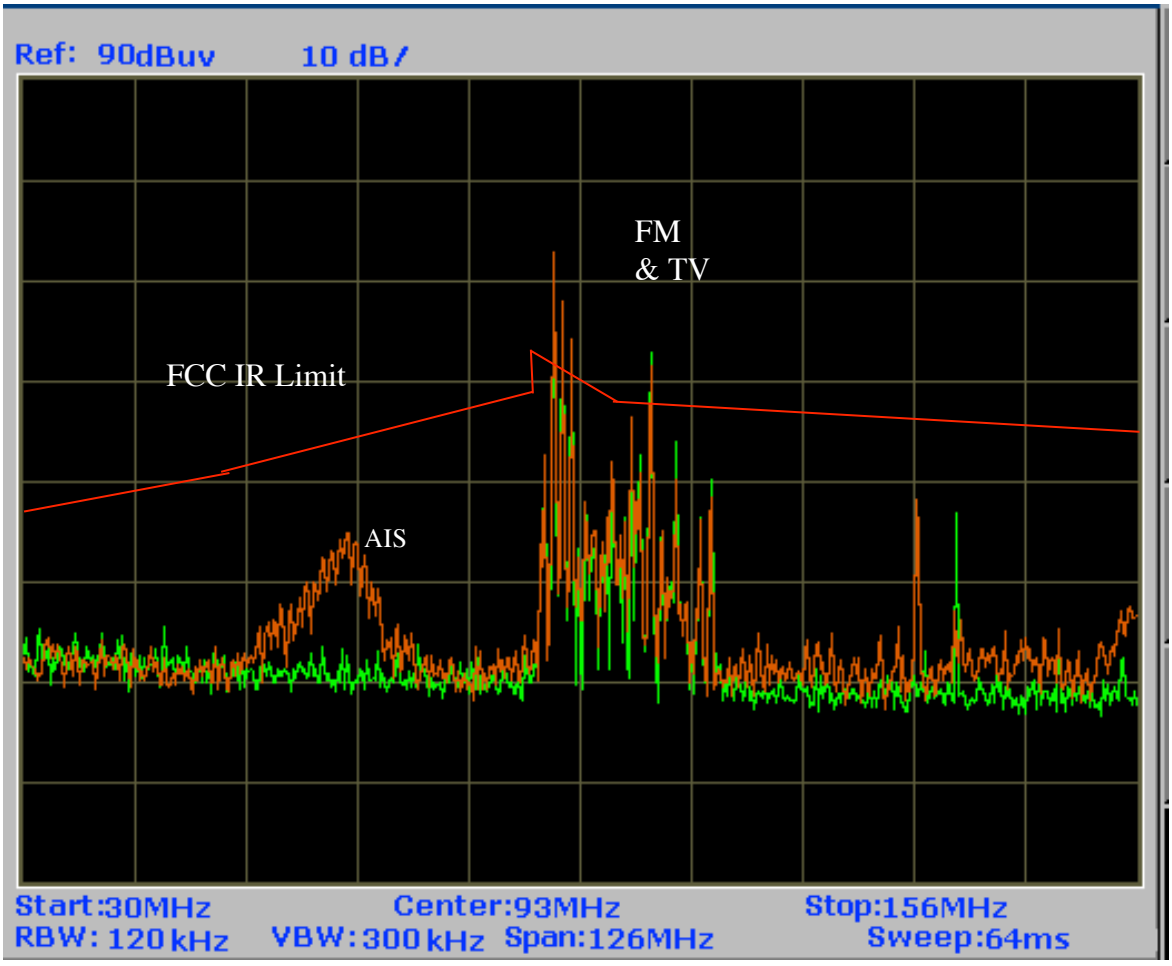
The table below describes the correction factors necessary to apply the limit to the spectrum analyzer output. The following pages contain the spectrum analyzer output with the corrected specification limits superimposed. The green trace is the ambient condition, and the orange trace identifies EUT emissions. Maximum amplitudes of horizontal polarization are shown in the results below.

Frequency MHz	IR limit @ 3m dBuV	Amp Gain dB	Antenna Factor dB	Cable Loss dB	Corrected Limit dBuV
30	40	30	22	1	47
50	40	30	18	1	51
88	40	30	10	1	59
89	43.5	30	10	1	62.5
100	43.5	30	14	2	57.5
125	43.5	30	15	2	56.5
155	43.5	30	15	3	55.5
165	43.5	30	15	3	55.5
216	43.5	30	16	3	54.5
217	46	30	16	3	57
300	46	30	18	4	54
500	46	30	21	6	49
960	46	30	26	10	40
961	54	30	26	10	48
1630	54	30	30	12	42

Table 2 – Corrected Limit - Horizontal Polarization

XV. Radiated Emissions Results Cont'd.

AISA6-000-10
Maximum of Horizontal Polarization - Peak Detect



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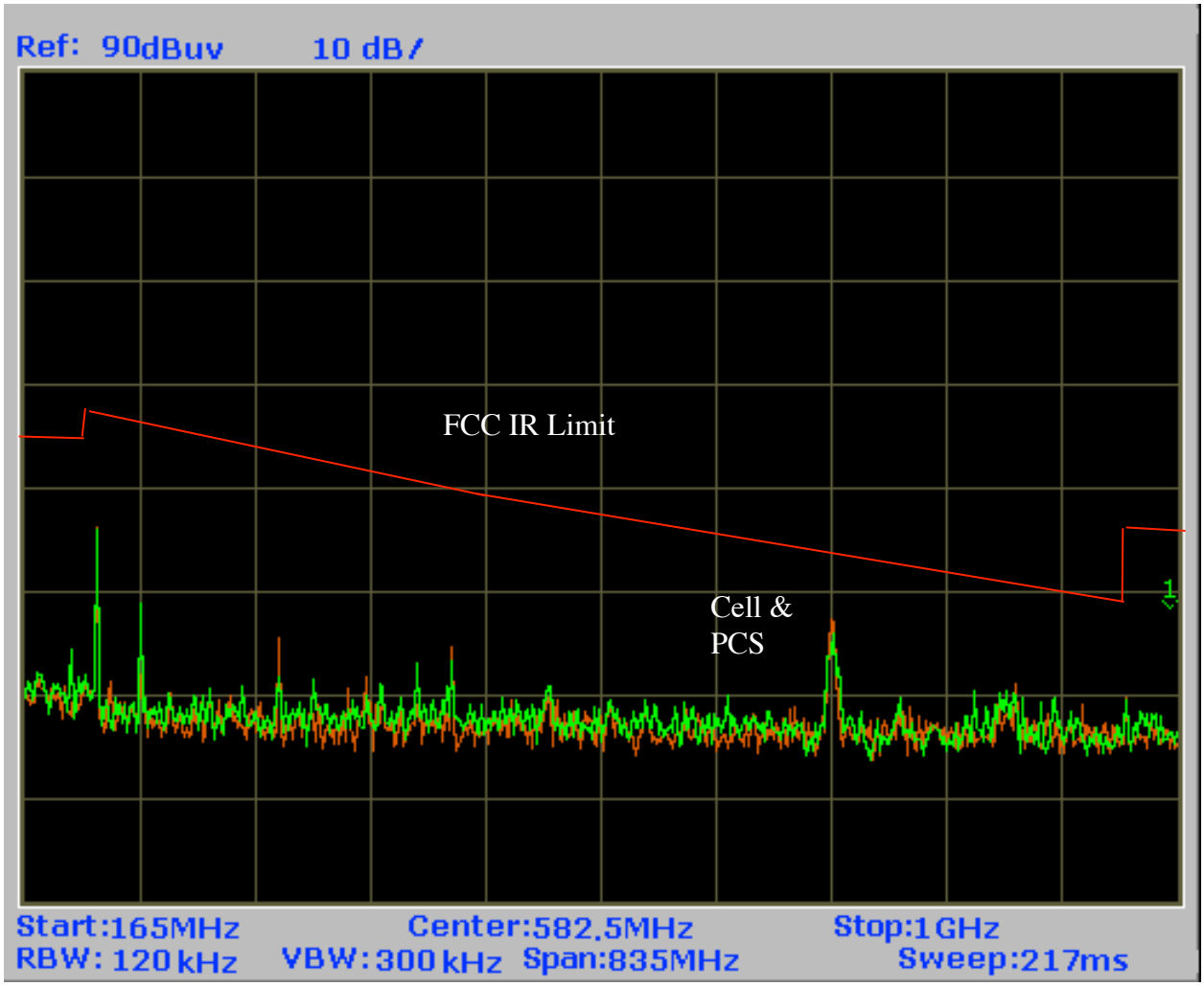
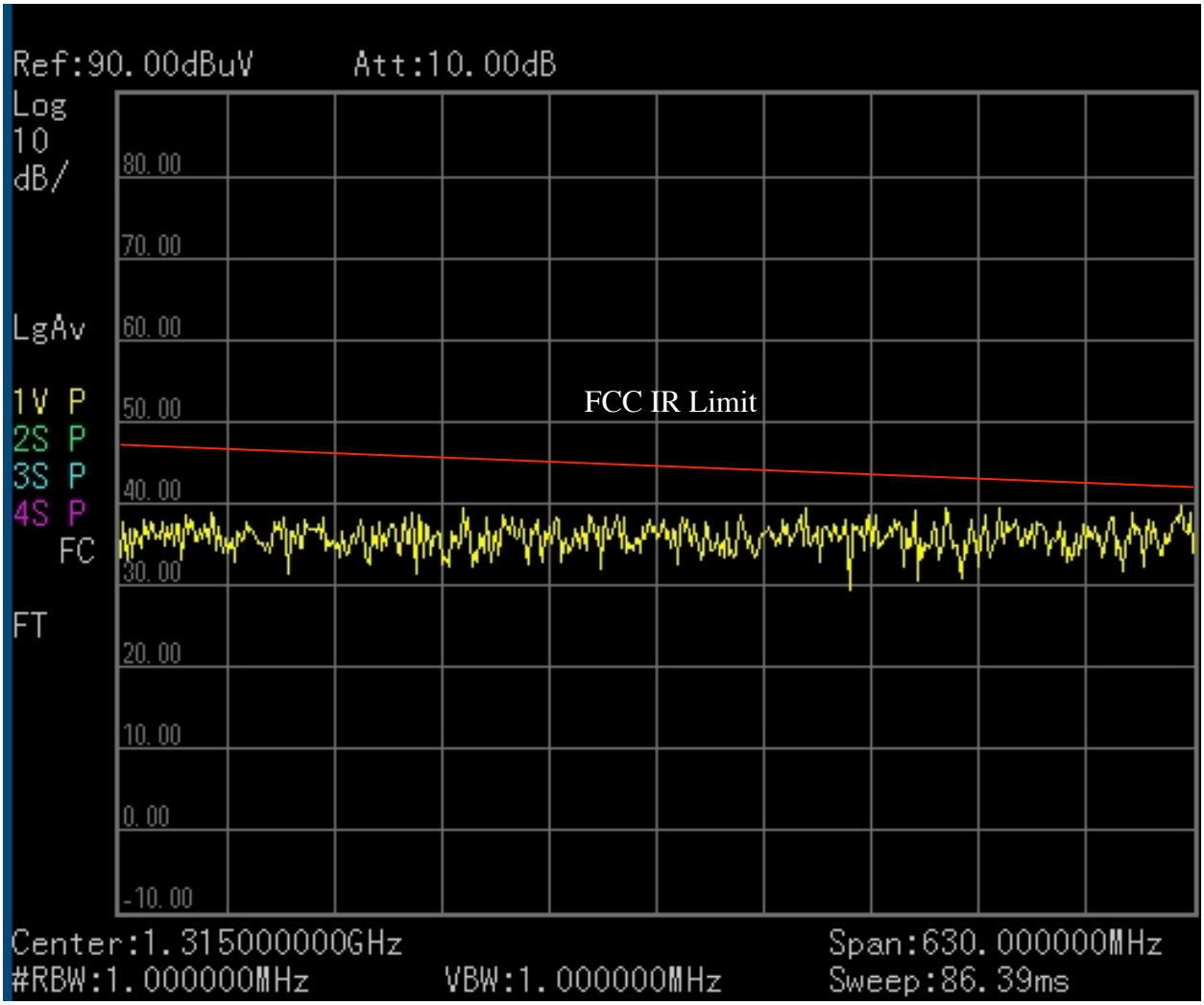
XV. Radiated Emissions Results Cont'd.

AISA6-000-10
Maximum of Horizontal Polarization - Average Detect



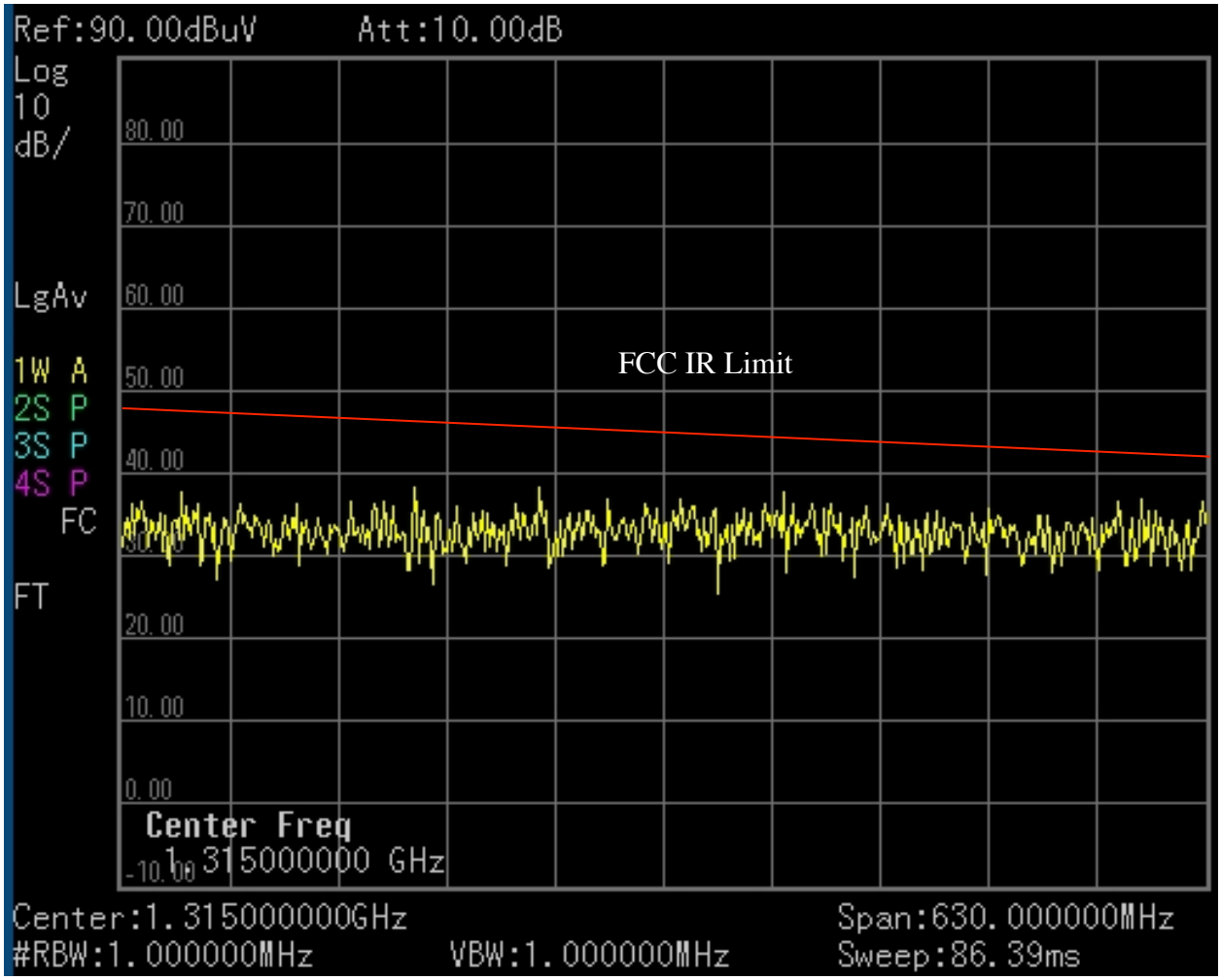
XV. Radiated Emissions Results Cont'd.

AISA6-000-10
Maximum of Horizontal Polarization - Peak Detect



XV. Radiated Emissions Results Cont'd.

AISA6-000-10
Maximum of Horizontal Polarization – Average Detect



XVI. Exposure Evaluation

The table below compares the measured fields to an occupational exposure limit. The unit does not produce significant electric or magnetic fields that would create an exposure hazard. Above 300 MHz the power density in mW/cm^2 is related to the electric field in V/m by: $S = E^2/3770$.

Freq MHz	H-field A/m	Limit A/m	Dev A/m	E-Field V/m	Limit V/m	Dev V/m	Power (S) mW/cm^2	Limit mW/cm^2	Dev mW/cm^2
0.3	< 0.1	1.63	-1.53	< 0.1	614	-613.9			
0.5	0.1	1.63	-1.53	0.1	614	-613.9			
1	0.1	1.63	-1.53	0.1	614	-613.9			
3	0.1	1.63	-1.53	0.1	614	-613.9			
5	0.1	0.98	-0.88	0.1	368	-367.9			
10	0.1	0.49	-0.39	0.1	184	-183.9			
30	0.01	0.163	-0.153	0.1	61.4	-61.3			
50	0.01	0.163	-0.153	0.1	61.4	-61.3			
100	0.01	0.163	-0.153	0.1	61.4	-61.3			
156	0.01	0.163	-0.153	0.1	61.4	61.3			
163	0.01	0.163	-0.153	0.1	61.4	61.3			
300	0.01	0.163	-0.153	0.1	61.4	-61.3			
500							< 0.1	1.7	-1.6
600							0.1	2.0	-1.9
800							0.1	2.7	-2.6
1000							0.1	3.3	-3.2
1200							0.1	4.0	-3.9
1500							0.1	5.0	-4.9
1630							0.1	5.4	-5.3

Table 3 – Exposure Evaluation Results - Model AISA6-000-10

Note: Measurements made radially at 20 cm.