Portable Approval
Test Report
And Application for Grant of Equipment Authorization

TEST REPORT PERTAINING TO:

Equipment Under Test	Model Number(s)
AXON Tactical Computer Com Hub (Std 24" Cable) Head Cam (60 degree lens)	70000 70001 70009

CONFIGURATION
802.15.4 ZigBee Low-Rate Wireless Personal Area Network (LR-WPAN) with an internal Pulse 900 MHz Ceramic Chip Antenna

MEASUREMENTS PERFORMED IN ACCORDANCE WITH THE FOLLOWING STANDARD (S)

Regulatory Standard(s)
47 CFR Part 15, Subpart C Section 15.247 Test Method: ANSI C63.4: 2003 American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

ACCREDITED

Certificate Number: 1111.01

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TASER
Protect Life

Test Report #: TASER-090513F - Rev. A1

Test Report Revision: NONE

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1.0 REGULATORY COMPLIANCE GUIDELINES

Aegis Labs, Inc. operates as both a Nevada and California Corporation with no organizational or financial relationship with any company, institution, or private individual. Testing and engineering functions provided by Aegis Labs were furnished by RF technicians and engineers with accredited qualifications and training credentials to carry out their duties.

The object of this report was to publish verifiable test results of an EUT subjected to the tests outlined in the standard listed on the cover page of this report.

1.1 Guidelines For Testing To Emissions Standards

This standard for EMC emission requirements apply to electrical equipment for Information Technology Equipment (ITE). Compliance to these standards and in combination with the other standards listed in this test report can be used to demonstrate presumption of compliance with the protection requirements of the appropriate agency standard.

The purpose of this standard is to specify minimum requirements for emissions regarding electromagnetic compatibility (EMC) and protect the radio frequency spectrum 9 kHz. – 400 GHz. from unwanted interference generated from electrical/digital systems that intentionally or unintentionally generated RF energy. The emissions standards, normative documents and/or publications were used to conduct all tests performed on the equipment herein referred to as “Equipment Under Test”.

2.0 SUMMARY OF TEST RESULTS

902-928 MHz

EMISSIONS STANDARD			
FCC Part 15 Section	**Description**	**Results**	**Comments**
15.247(a)(2)	The minimum 6dB bandwidth shall be at least 500 kHz.	PASSED	906 MHz = 750 kHz 914 MHz = 800 kHz 924 MHz = 820 kHz
15.247(b)(3)	The maximum conducted output power is the highest total transmit power occurring in any mode	PASSED	906 MHz = 10.66 dBm = 11.65 mW 914 MHz = 10.64 dBm = 11.60 mW 924 MHz = 10.52 dBm = 11.28 mW
15.247(b)(5)	The intentional radiator shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the FCC guidelines per Section 1.1307(b)(1).	PASSED	Refer to MPE Calculations
15.247(d)	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.	PASSED	See Data Sheets (Appendix A)
15.247(d)	Radiated emissions, which fall in the restricted bands, as defined in Sec. 15.205(a), must also comply with the radiated emission limits specified in Sec. 15.209(a). All others must be < -20dBc.	PASSED	See Data Sheets (Appendix A)
15.247(e)	The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.	PASSED	906 MHz = -4.00 dB 914 MHz = -3.50 dB 924 MHz = -3.170 dB
15.207	AC Conducted Emissions	PASSED	See Data Sheets (Appendix A)
15.209	Radiated Emissions (30-1000 MHz)	PASSED	

ANALYSIS AND CONCLUSIONS

Based upon the measurement results we find that this equipment is within the limits of the global standards listed on the cover page of this test report. All results are based on a test of one sample. If any significant changes are made to the unit, the changes shall be evaluated and a retest may be required.

Approval Signatories

Report Completed By:

Johnny Candelas 1/18/2010
Senior Test Engineer
Aegis Labs, Inc.

Report Approved By:

Rick Candelas 1/18/2010
Quality Assurance
Aegis Labs, Inc.

3.0 ADMINISTRATIVE DATA AND TEST DESCRIPTION

DEVICE TESTED:	ITE Type: AXON Tactical Computer with Com Hub & Head Cam Model Number(s): 70000 / 70001 / 70009 Serial Number: None FCC ID: X4GT00300ATC
DATE EUT RECEIVED:	January 4th, 2010
TEST DATE(S):	January 4th –08th, 2010
ORIGIN OF TEST SAMPLE(S):	Production
EQUIPMENT CLASS:	EUT tested as CLASS B device
RESPONSIBLE PARTY:	TASER International, Inc. 17800 N. 85th St. Scottsdale, AZ 85225
CLIENT CONTACT:	Mr. Mark Phelps
MANUFACTURER:	TASER International, Inc.
TEST LOCATION:	Aegis Labs, Inc. 32231 Trabuco Creek Road Trabuco Canyon, CA 92678 Open Area Test Site #1 & #2
ACCREDITATION CERTIFICATE(s):	A2LA Certificate Number: 1111.01, Valid through February 10, 2010
PURPOSE OF TEST:	To demonstrate compliance with the standards as described in Sections 1.0 & 2.0 of this report.
UNCERTAINTY BUDGET:	Proficiency Testing and Uncertainty Calculations for all tests indicated in this report have been conducted in accordance with ISO 17025: 2005 requirements Section 5.4.6, and 5.9. Uncertainty Budgets and Proficiency Test results available upon request.
STATEMENT OF CALIBRATION:	All accredited equipment calibrations were performed by Liberty Labs, Inc. and World Cal. with typical calibration uncertainty estimates derived from ISO Guide to the determination of uncertainties with a Coverage Factor of k=2 for 95% level of confidence.

4.0 DESCRIPTION OF EUT CONFIGURATION

4.1 EUT Description

Equipment Under Test (EUT)	
Trade Name:	AXON Tactical Computer with Com Hub & Head Cam
Model Number:	70000 / 70001 / 70009
Frequency Range:	902 – 928 MHz
Type of Transmission:	Direct Sequence Spread Spectrum
Number of Channels:	10 Channels (Tested Ch. 1, 5, & 10)
Modulation Type:	O-QPSK
Antenna Type:	Internal 900 MHz Ceramic Chip Antenna
Antenna Gain (See Note 2):	2.00dBi @ 900 MHz
Transmit Output Power:	Please see Appendix A (Data Sheets) for actual output power.
Power Supply:	5VDC from power supply
Number of External Test Ports Exercised:	1 Power Port 1 Proprietary Ports (Com Hub and Head Cam)

The AXON Tactical Computer with Com Hub & Head Cam is an embedded 802.15.4 ZigBee Low-Rate Wireless Personal Area Network (LR-WPAN) that operates in the 900 MHz spectrum.with an internal 900 MHz Ceramic Chip Antenna.

NOTE 1: For a more detailed description, please refer to the manufacture's specifications or User's Manual.

NOTE 2: The EUT was tested with an Internal 900 MHz Ceramic Chip Antenna. (Refer to the antenna information exhibits).

4.2 EUT Configuration

Configuration 1: Used for below 1GHz Testing & Immunity Testing
The EUT (AXON Tactical Computer with Com Hub & Head Cam) was tested as a standalone device. The EUT was then set to Event (Recording) mode and Playback mode during testing. Data for an Internal 900 MHz Ceramic Chip Antenna can be found in Appendix A (Data Sheets)

Configuration 2: Used for Radiated Emissions above 1GHz
The EUT (AXON Tactical Computer) was tested as a standalone device. Remotely located there is a host laptop connected to a wireless board connected via its serial port which then wirelessly connected to the EUT. Data for an Internal 900 MHz Ceramic Chip Antenna can be found in Appendix A (Data Sheets)

The low, middle, and high channels were tested in 802.15.4 ZigBee Low-Rate Wireless Personal Area Network (LR-WPAN). The EUT was placed in continuous transmit mode by a hyper terminal program setup and provided by the manufacturer.

4.3 List of EUT, Sub-Assemblies and Host Equipment

Equipment Under Test			
Manufacturer	**Equipment Name**	**Model or Part Number**	**Serial Number**
TASER International, Inc.	AXON Tactical Computer	70000	None
TASER International, Inc.	Com Hub	70001	None
TASER International, Inc.	Head Cam	70009	None

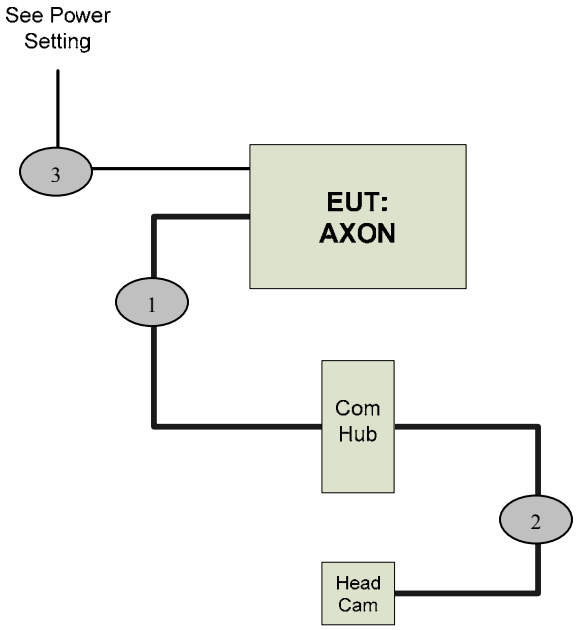
EUT Sub Assemblies			
Manufacturer	**Equipment Name**	**Model or Part Number**	**Serial Number**
Pulse	Chip Antenna	W3012	N/A
Tri-Mag Inc.	Power Supply	GS2U-010-050	N/A

HOST EQUIPMENT LIST			
Manufacturer	**Equipment Name**	**Model or Part Number**	**Serial Number**
Dell	Host Laptop	PP15L	6SBVH71
Dresden Elektronik	Wireless Board	0041.5255	None

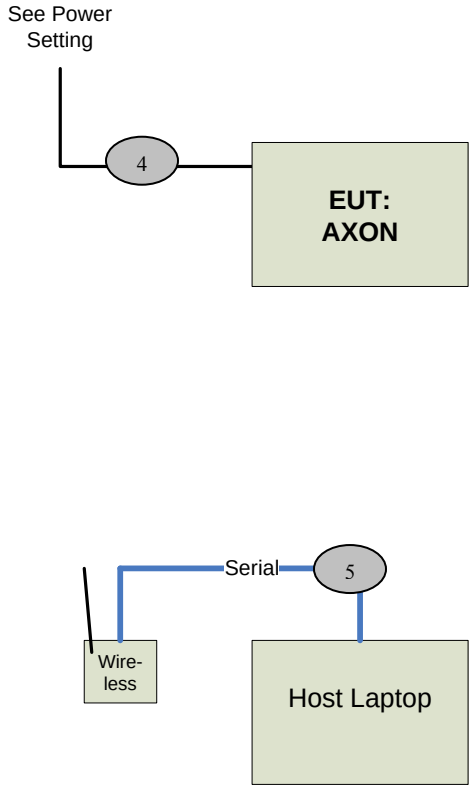
NOTE: All the power cords of the above support equipment are standard and non-shielded.

4.4 I/O Cabling Diagram and Description

Configuration 1:



Configuration 2:



4.4 I/O Cabling Diagram and Description

Signal Line Cable Description							
Cable	**Length**	**Construction**	**Source Connector**	**Destination Connector**	**Bundled Length**	**Ferrite Attached**	**Note**
1	0.6m	Round, Braid & Foil Shielded	EUT: AXON: Proprietary Port	Com Hub: Hardwired	N/A	N/A	N/A
2	0.8m	Round, Braid, Foil Shielded, & Coiled	Com Hub: Proprietary Port	Head Cam: Hardwired	N/A	N/A	N/A
3	1.8m	Flat Un-shielded	EUT: AXON: Power Port	Power Supply: Hardwired	N/A	N/A	Note 1
4	1.8m	Flat Un-shielded	EUT: AXON: Power Port	Power Supply: Hardwired	N/A	N/A	Note 1
5	0.8m	Round Un-shielded	Host Laptop: Serial	Wireless Board: Soldered	N/A	N/A	N/A

Note 1: Same Power Supply used for both Configurations.

4.5 EMC Test Hardware and Software Measurement Equipment

TEST EQUIPMENT LIST - Emissions					
Equipment Name	**Manufacturer**	**Model Number**	**Serial Number**	**Calibration Due Date**	**Maintenance Calibration Cycle**
Spectrum Analyzer	Agilent	8564EC	4046A00387	07/24/2010	1 Year
Antenna – Horn	ETS	3117	00057423	12/23/2010	2 Year
Preamp	Aegis Labs, Inc.	AEGIS-OATS1-1-18	001	6/26/2010	1 Year
30 Foot Coax	Semflex	S130SFBS10360	0619	10/12/2010	1 Year
EMI Receiver - RF Section	Hewlett Packard	8546A	3325A00137	12/21/2011	2 Year
EMI Receiver - RF Filter Section	Hewlett Packard	85460A	3330A00138	12/21/2011	2 Year
10 dB Attenuator	Pasternack	PE7014-10	N/A	09/05/2009	1 Year
LISN (EUT)	Fisher Custom Communications	FCC-LISN-50-25-2	9931	06/03/2010	1 Year
LISN (Access)	EMCO	3825/2	9108-1848	06/03/2010	1 Year
Spectrum Analyzer	Hewlett Packard	8568B	2634A03093	10/06/2010	2 Year
Spectrum Analyzer Display Section	Hewlett Packard	8568B	1833A00389	10/06/2010	2 Year
RF Preselector	Hewlett Packard	85685B	2620A00281	10/06/2010	2 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2043A00176	10/06/2010	2 Year
Antenna - Biconical	EMCO	3110	9108-1421	06/05/2010	1 Year
Antenna - Log Periodic	EMCO	3148	4947	06/12/2010	1 Year
Power Meter	Anritsu	ML2487A	6K00001785	05/29/2010	1 Year
Wide Bandwidth Sensor	Anritsu	MA2491A	31193	05/29/2010	1 Year
12dB Attenuator	Narda	4779-12	203	06/09/2010	1 Year
Temperature/Humidity Monitor	Dickson	TH550	7255185	12/15/2010	1 Year

NCR – No Calibration Required.

5.0 CONDITIONS DURING EMISSIONS MEASUREMENTS

5.1 General

All measurements were made according to the procedures defined in or referred to by the standard listed on the cover page of this report. The measurements were made in the operating mode producing the largest emissions consistent with normal operation and connected to the minimum configuration of auxiliary devices.

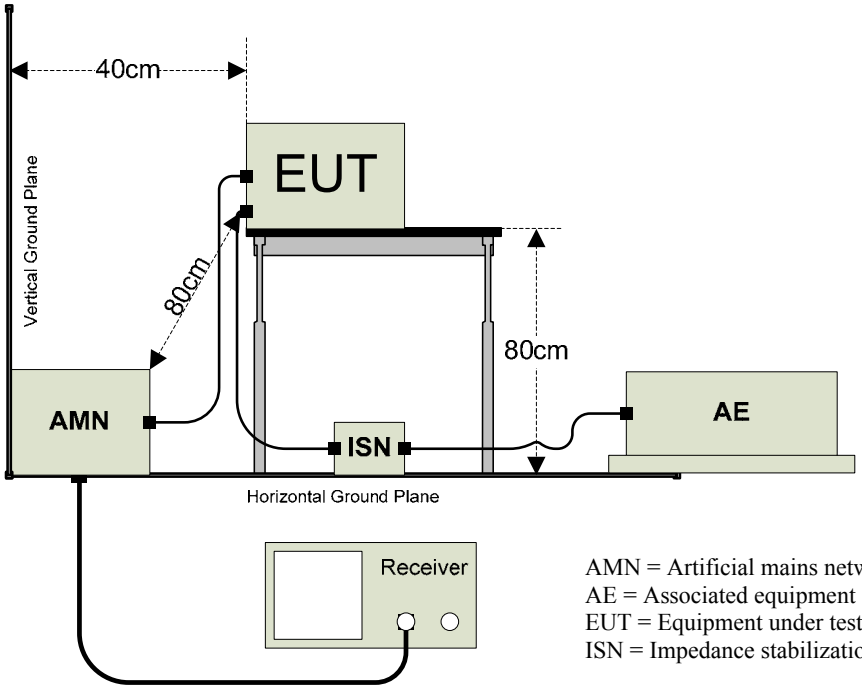
5.2 Conducted Emissions Test Setup

The following was the test configuration.

EUT signal cables that hung closer than 40 cm to the horizontal metal ground plane were folded back and forth forming a bundle 30 cm to 40 cm long. The power cord of the EUT was also bundled in the center and plugged into one of the artificial mains network (AMN). All peripheral equipment was powered from a second AMN via a multiple outlet strip placed at a distance on 10cm from each other. The AMN and ISN were positioned 80cm from the EUT. Signal cables that were not connected to an AE were terminated using the correct termination. If applicable, the current probe was placed at 0.1 m from the ISN.

Peak, quasi-peak and/or average detectors were used for testing performed between 150 kHz and 30 MHz. A swept frequency scan was performed for both Line 1 and Line 2. The six highest readings were compared against the limit and recorded in the data sheet along with a snapshot image of the sweep scan. The graphical scans in Appendix A only reflect peak readings while the tabulated data sheets reflect peak, average, and/or quasi-peak measurements.

Climatic Conditions:
The EUT was tested within its intended operating and climatic conditions.



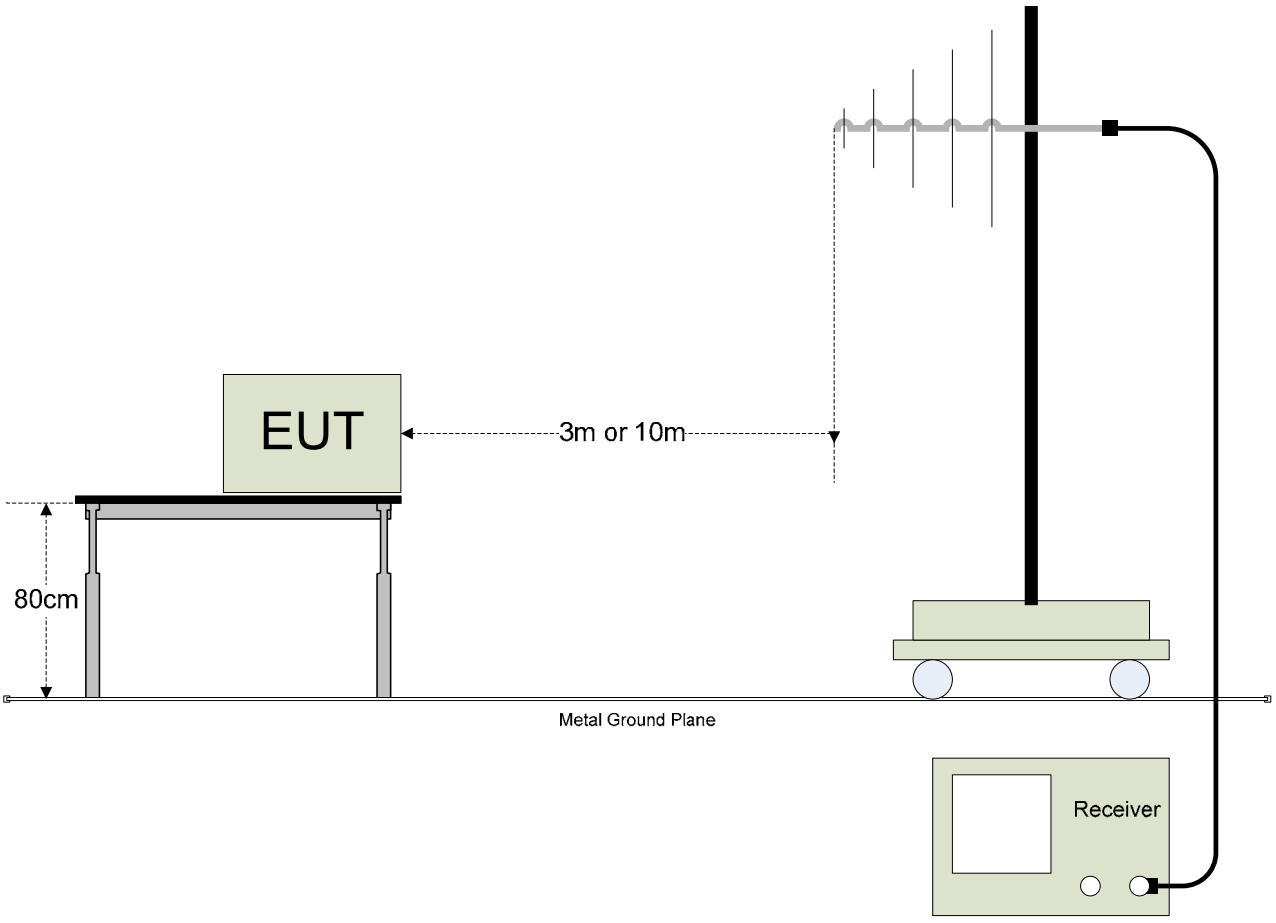
AMN = Artificial mains network
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

5.3 Radiated Emissions Test Setup

The Open Area Test Site (OATS) was used for radiated emission testing. The receiving (Rx) antenna(s) was placed 10m from the nearest side of the EUT facing the Rx antenna. The EUT (if floor-standing) was placed directly on the flush-mounted 360 degree rotating turntable. The EUT (if table-top) was placed directly on an 80cm high non-metallic table, and the table was placed on the rotating turntable. During the initial EMI scan, all the suspect frequencies, i.e.; harmonics, broadband signals were checked with the Rx broadband antennas in both vertical and horizontal polarities. The biconical Rx, log periodic Rx, and horn Rx antennas were used from 30MHz – 299.99MHz, 300MHz – 1000MHz, and 1GHz – 18GHz respectively.

Upon completion of all harmonic and broadband measurements, the balance of any remaining frequencies was checked between 30MHz – 18GHz. Any signals appearing within 20 dB of the classification limit was measured. Each signal was maximized by first rotating the turntable at least 360 degrees and recording the azimuth in the data sheet. Lastly, the Rx antenna was raised and/or lowered to maximize the signal elevation. If the measured signal was obtained using the peak detector and that signal appeared within 3 dB of the regulatory limit line, then the same signal was re-measured using the quasi-peak detector on the EMI receiver. Both meter readings if necessary were recorded on the data sheet.

Climatic Conditions:
The EUT was tested within its intended operating and climatic conditions.



APPENDIX A

TEST DATA

AC POWER PORT - CONDUCTED EMISSIONS TEST RESULTS

CLIENT:	TASER International, Inc.	**DATE:**	01/07/2010
EUT:	AXON Tactical Computer Com Hub & Head Cam	**PROJECT NUMBER:**	TASER-090513
MODEL NUMBER:	70000 / 70001 / 70009	**TEST ENGINEER:**	JC
SERIAL NUMBER:	None	**SITE #:**	1
CONFIGURATION:	1 in Event Mode (Recording)	**TEMPERATURE:**	16 deg. C
		HUMIDITY:	33%
		TIME:	8:30 AM

Description:	Conducted Power RF Emissions (150 kHz – 30 MHz)
Results:	**PASSED** LINE 1 and LINE 2 Limits
Note:	Conducted Emissions Measurements were performed on the EUT with the power supply set at the following voltage and frequency. • 120VAC / 60 Hz

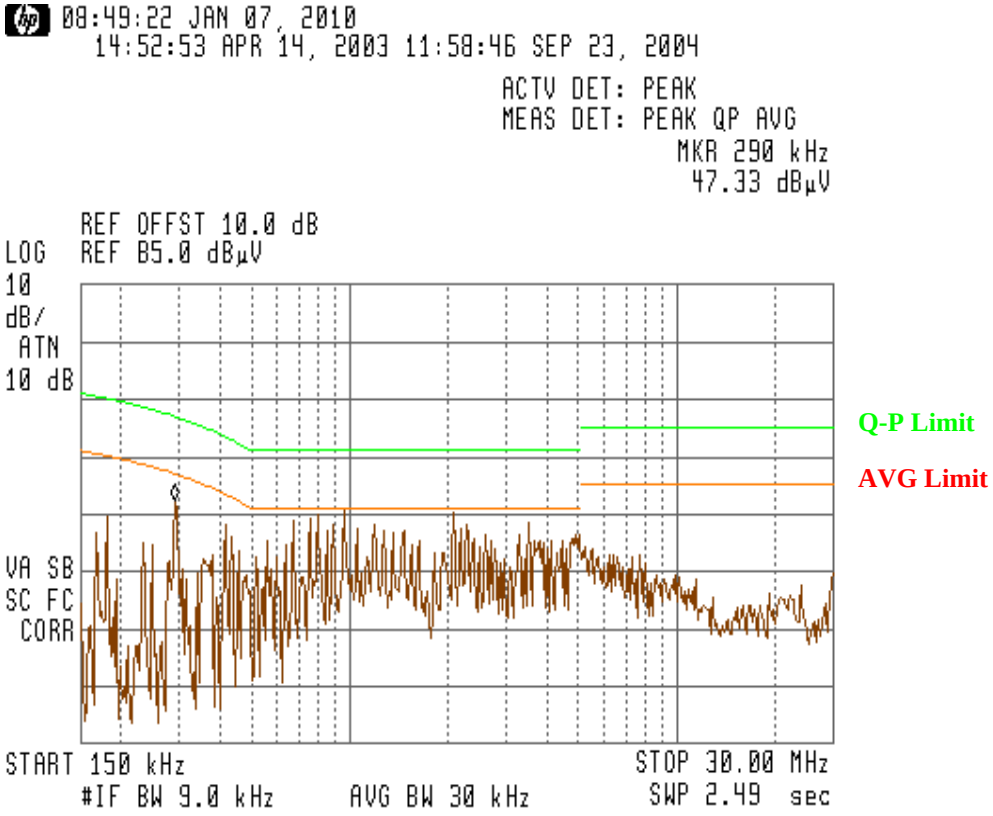
Conducted Limits		
Frequency (MHz)	**Quasi-Peak Limit (dBuV)**	**Average Limit (dBuV)**
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

AC Power Port – Conducted Emissions Test Results (Continued)

Continuously Transmitting @ 120VAC/60Hz (TASER-090513-05)

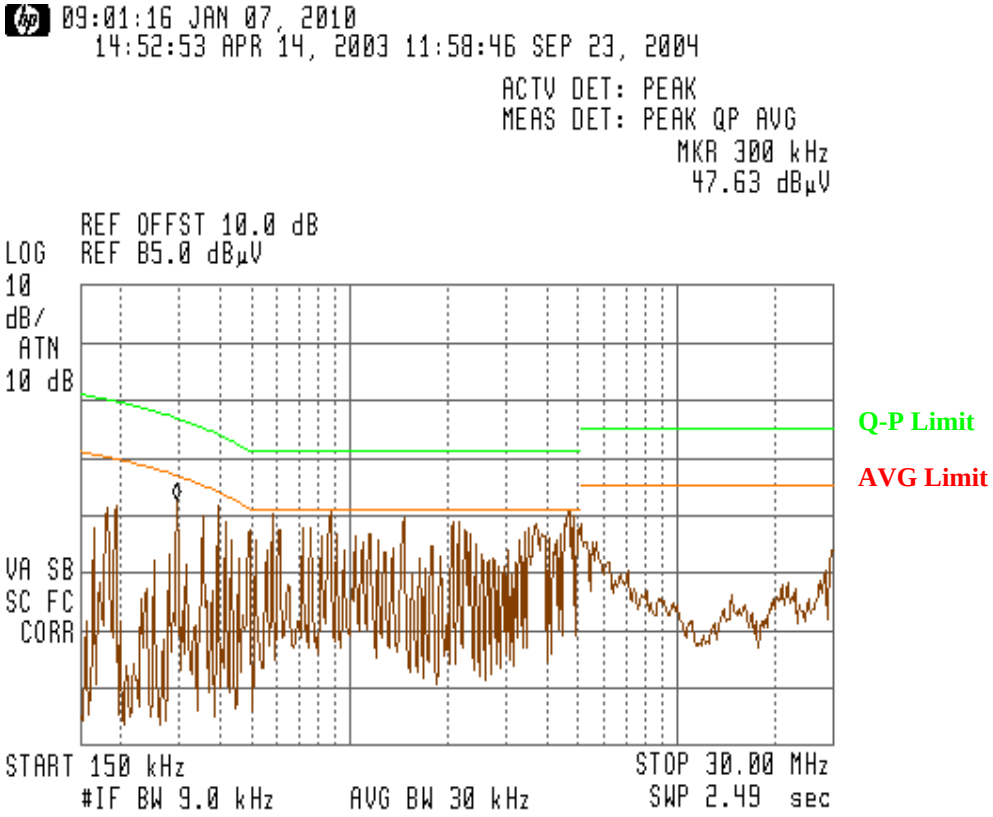
FCC CLASS B CONDUCTED EMISSIONS – LINE 1						
Freq. (MHz)	*Meter Reading (dBuV)*	*Detector (PK/QP/AV)*	*Average Limit (dBuV)*	*Average Delta(dB)*	*Quasi-Peak Limit (dBuV)*	*Quasi-Peak Delta(dB)*
0.18	44.33	PK	55.14	-10.81	65.14	-20.81
0.29	47.33	PK	52.00	-4.67	62.00	-14.67
0.76	44.03	PK	46.00	-1.97	56.00	-11.97
0.76	31.78	AV	46.00	-14.22	56.00	-24.22
0.79	44.95	PK	46.00	-1.05	56.00	-11.05
0.79	32.56	AV	46.00	-13.44	56.00	-23.44
0.96	45.53	PK	46.00	-0.47	56.00	-10.47
0.96	31.67	AV	46.00	-14.33	56.00	-24.33
2.06	45.13	PK	46.00	-0.87	56.00	-10.87
2.06	33.29	AV	46.00	-12.71	56.00	-22.71



AC Power Port – Conducted Emissions Test Results (Continued)

Continuously Transmitting @ 120VAC/60Hz (TASER-090513-05)

FCC CLASS B CONDUCTED EMISSIONS - LINE 2						
Freq. (MHz)	*Meter Reading (dBuV)*	*Detector (PK/QP/AV)*	*Average Limit (dBuV)*	*Average Delta(dB)*	*Quasi-Peak Limit (dBuV)*	*Quasi-Peak Delta(dB)*
0.20	46.46	PK	54.57	-8.11	64.57	-18.11
0.30	47.63	PK	51.71	-4.08	61.71	-14.08
0.40	46.76	PK	48.86	-2.10	58.86	-12.10
0.40	37.30	AV	48.86	-11.56	58.86	-21.56
0.59	45.09	PK	46.00	-0.91	56.00	-10.91
0.59	30.06	AV	46.00	-15.94	56.00	-25.94
0.88	45.55	PK	46.00	-0.45	56.00	-10.45
0.88	31.32	AV	46.00	-14.68	56.00	-24.68
4.69	45.41	PK	46.00	-0.59	56.00	-10.59
4.69	36.84	AV	46.00	-9.16	56.00	-19.16



RADIATED EMISSIONS TEST RESULTS

CLIENT:	TASER International, Inc.	**DATE:**	01/04/2010
EUT:	AXON Tactical Computer Com Hub & Head Cam	**PROJECT NUMBER:**	TASER-090513
MODEL NUMBER:	70000 / 70001 / 70009	**TEST ENGINEER:**	JC
SERIAL NUMBER:	None	**SITE #:**	2
CONFIGURATION:	1 in Event Mode (Recording/ Charging Mode) 2 Continuously Transmitting Battery Mode	**TEMPERATURE:**	20 deg. C
		HUMIDITY:	31%
		TIME:	12:00 PM

Description:	Radiated RF Emissions (30 MHz – 1000 MHz)
Results:	**PASSED** Horizontal and Vertical Antenna Polarizations Class B Limits
Note:	Radiated Emissions Measurements were performed on the EUT with the power supply set at the following voltage and frequency. • 120VAC / 60 Hz.

Radiated Emissions Sample Calculations

Corrected Meter Reading = Meter Reading + F +C - D

Where, F = Antenna Factor
C = Cable Factor
G = Amplifier Gain
D = Distance Factor (if applicable)

Therefore, the equation for determining the Corrected Meter Reading Limit (CML) is:

CML = Specification Limit - F - C + D

Radiated Emissions Test Results (Continued)

Continuously Transmitting in Battery Mode (TASER-090513-01)

Horizontal Open Field Maximized Data										
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Effective Gain Cable +Amp (dB)*	*Antenna Factor (dB)*	*Corrected Reading (dBuV/m)*	*Limits (dBuV/m)*	*Diff (dB) +=FAIL*
49.84	40.70	400	225			-34.54	10.22	16.38	30.00	-13.62
72.90	44.10	400	0			-34.92	9.51	18.69	30.00	-11.31
120.53	41.00	400	135			-34.17	11.13	17.95	30.00	-12.05
184.88	42.20	400	315			-33.55	14.35	22.99	30.00	-7.01
250.03	40.60	400	45			-33.13	17.40	24.87	37.00	-12.13
300.00	37.80	300	180			-32.69	14.10	19.21	37.00	-17.79
353.87	37.50	300	135			-32.34	15.52	20.68	37.00	-16.32
365.97	39.40	300	45			-32.29	15.28	22.39	37.00	-14.61
385.01	38.70	300	90			-32.47	15.30	21.53	37.00	-15.47
400.05	41.50	250	135			-32.80	15.60	24.30	37.00	-12.70
500.32	45.10	200	180	40.20	Q	-31.09	18.60	27.71	37.00	-9.29
530.34	39.80	200	135			-31.16	18.85	27.49	37.00	-9.51

Vertical Open Field Maximized Data										
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Effective Gain Cable +Amp (dB)*	*Antenna Factor (dB)*	*Corrected Reading (dBuV/m)*	*Limits (dBuV/m)*	*Diff (dB) +=FAIL*
49.86	44.20	100	135			-34.54	10.41	20.07	30.00	-9.93
72.82	47.90	100	90			-34.92	9.21	22.19	30.00	-7.81
120.69	41.40	100	180			-34.18	10.99	18.21	30.00	-11.79
185.21	44.50	100	135	39.20	Q	-33.54	15.32	20.97	30.00	-9.03
250.04	41.20	100	225			-33.13	18.60	26.67	37.00	-10.33
300.00	39.90	100	135			-32.69	14.90	22.11	37.00	-14.89
353.87	44.20	100	90			-32.34	15.55	27.41	37.00	-9.59
385.03	45.30	100	315			-32.47	15.78	28.61	37.00	-8.39
400.05	42.70	100	135			-32.80	16.50	26.40	37.00	-10.60
530.96	39.40	100	45			-31.16	19.51	27.75	37.00	-9.25

Radiated Emissions Test Results (Continued)

Continuously Recording @ 120VAC/60Hz (TASER-090513-01)

Horizontal Open Field Maximized Data

Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Effective Gain Cable +Amp (dB)*	*Antenna Factor (dB)*	*Corrected Reading (dBuV/m)*	*Limits (dBuV/m)*	*Diff (dB) +=FAIL*
80.00	44.80	400	135			-34.94	9.30	19.16	30.00	-10.84
120.01	45.90	400	135			-34.17	11.10	22.83	30.00	-7.17
143.97	46.00	400	315			-34.31	12.06	23.75	30.00	-6.25
230.36	42.80	400	225			-33.02	16.38	26.16	37.00	-10.84
240.02	49.20	400	180	45.40	Q	-33.07	16.88	29.21	37.00	-7.79
249.61	43.50	400	270			-33.13	17.38	27.75	37.00	-9.25
278.40	40.50	400	135			-32.89	19.15	26.76	37.00	-10.24
288.01	49.60	400	315	45.30	Q	-32.80	19.57	32.07	37.00	-4.93
304.00	56.10	300	225	52.20	Q	-32.66	14.26	33.80	37.00	-3.20
320.01	54.40	300	45	51.00	Q	-32.53	14.90	33.37	37.00	-3.63
335.98	52.20	350	225	49.50	Q	-32.44	15.32	32.38	37.00	-4.62
351.99	45.70	300	225			-32.35	15.56	28.91	37.00	-8.09

Vertical Open Field Maximized Data

Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Effective Gain Cable +Amp (dB)*	*Antenna Factor (dB)*	*Corrected Reading (dBuV/m)*	*Limits (dBuV/m)*	*Diff (dB) +=FAIL*
80.00	43.60	100	225			-34.94	9.50	18.16	30.00	-11.84
120.01	42.70	100	180			-34.17	11.00	19.53	30.00	-10.47
143.97	41.90	100	315			-34.31	12.37	19.97	30.00	-10.03
230.36	44.50	100	135			-33.02	17.66	29.14	37.00	-7.86
240.02	46.20	100	225			-33.07	18.12	31.25	37.00	-5.75
249.61	42.70	100	45			-33.13	18.58	28.15	37.00	-8.85
288.01	44.80	100	135	40.60	Q	-32.80	20.27	28.07	37.00	-8.93
304.01	47.50	100	180			-32.66	15.04	29.89	37.00	-7.11
336.02	41.70	100	180			-32.44	15.71	24.98	37.00	-12.02
353.88	40.30	100	225			-32.34	15.55	23.51	37.00	-13.49

RADIATED EMISSIONS TEST RESULTS

CLIENT:	TASER International, Inc.	**DATE:**	01/07/2010
EUT:	AXON Tactical Computer	**PROJECT NUMBER:**	TASER-090513
MODEL NUMBER:	70000	**TEST ENGINEER:**	JC
SERIAL NUMBER:	None	**SITE #:**	2
CONFIGURATION:	2 Wirelessly Communicating with Host Laptop	**TEMPERATURE:**	20° C
		HUMIDITY:	30% RH
		TIME:	12:00 PM

Description:	Radiated RF Emissions (30MHz – 1 GHz)
Results:	**PASSED** Horizontal and Vertical Antenna Polarizations Class B Limits
Note:	Radiated Emissions Measurements were performed on the EUT with power supply set at the following voltage and frequency. • 120VAC / 60 Hz.

Unwanted Spurious Emissions Limits			
Frequency (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m) (Emissions in the restricted bands)**	**Field Strength (dBm/MHz) (Emissions outside the restricted bands)**
Below 960	500	54.00 (Average) 74.00 (Peak)	< -20 dBc

Radiated Emissions Sample Calculations

Corrected Meter Reading = Meter Reading + F +C - D

Where, F = Antenna Factor
C = Cable Factor
G = Amplifier Gain
D = Distance Factor (if applicable)

Therefore, the equation for determining the Corrected Meter Reading Limit (CML) is:

CML = Specification Limit - F - C + D

Radiated Emissions Test Results (Continued)

Fundamental Measurements ***(902-928 MHz)***
Channels 1, 5, & 10
Continuous TX *at Antenna port with* ***Pulse Ceramic Chip Antenna***
Aegis Labs, Inc. File #: TASER-090513-06

RADIATED EMISSIONS - Horizontal Antenna Polarization											
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV/m)*	*Limits (dBuV/m)*	*Diff (dB) +=FAIL*	*Comments*
906.00	75.33	100	135			4.68	23.82	103.83			**Ch. 1**
906.00				72.01	A	4.68	23.82	100.51			
914.00	76.00	100	90			4.71	23.98	104.69			**Ch. 5**
914.00				73.67	A	4.71	23.98	102.36			
924.00	75.17	100	90			4.76	24.18	104.11			**Ch. 10**
924.00				71.45	A	4.76	24.18	100.39			

RADIATED EMISSIONS - Vertical Antenna Polarization											
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV/m)*	*Limits (dBuV/m)*	*Diff (dB) +=FAIL*	*Comments*
906.00	65.33	100	0			4.68	22.68	92.68			**Ch. 1**
906.00				61.75	A	4.68	22.68	89.10			
914.00	66.17	100	0			4.71	22.64	93.53			**Ch. 6**
914.00				64.30	A	4.71	22.64	91.66			
924.00	68.00	100	0			4.76	22.60	95.36			**Ch. 11**
924.00				65.73	A	4.76	22.60	93.09			

NOTE: Fundamental signals measured to calculate the band edge field strengths using the “Marker Delta Method”.

Radiated Emissions Test Results (Continued)

Band Edge Field Strength Measurements ***(902-928 MHz)***
Channels 1 & 10
Continuous TX *at Antenna port with* ***Pulse Ceramic Chip Antenna***
Aegis Labs, Inc. File #: TASER-090513-06

RADIATED EMISSIONS - Horizontal Antenna Polarization											
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV/m)*	*Limits (dBuV/m)*	*Diff (dB) +=FAIL*	*Comments*
902.00								60.00	74.00	-14.00	**Ch. 1**
902.00					A			48.13	54.00	-5.87	
928.00								60.94	74.00	-13.06	**Ch. 10**
928.00					A			49.39	54.00	-4.61	

RADIATED EMISSIONS - Vertical Antenna Polarization											
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV/m)*	*Limits (dBuV/m)*	*Diff (dB) +=FAIL*	*Comments*
902.00								48.85	74.00	-25.15	**Ch. 1**
902.00					A			36.72	54.00	-17.28	
928.00								52.19	74.00	-21.81	**Ch. 10**
928.00					A			42.09	54.00	-11.91	

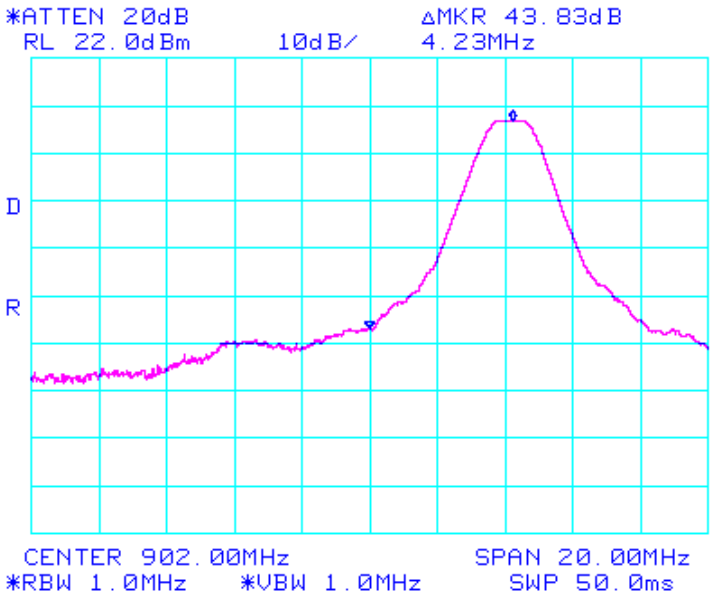
NOTE: The “Band Edge Field Strength” was calculated using the “Fundamental” and “Conducted Band Edge” measurements per the “Marker-Delta Method” with the following formula:

BE = Fm – Δm

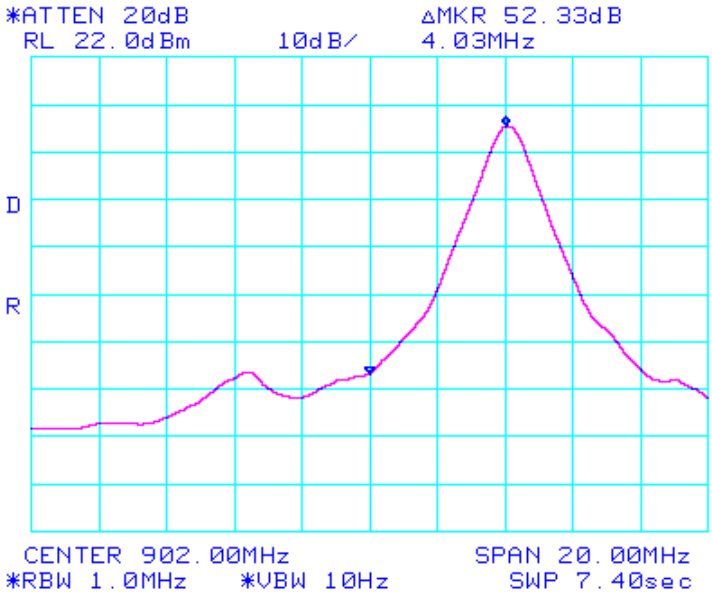
Where
BE = Band Edge Field Strength
Fm = Measured Fundamental (Peak or Average)
Δm = Measured Conducted Band Edge Delta (Peak or Average)

Marker Delta Band-Edge (Continued)

Test Date	*Description (RBW/VBW)*	*Test Eng.*
01/06/10	Cond BE, Ch. 1, PK (1MHz/1MHz)	JC

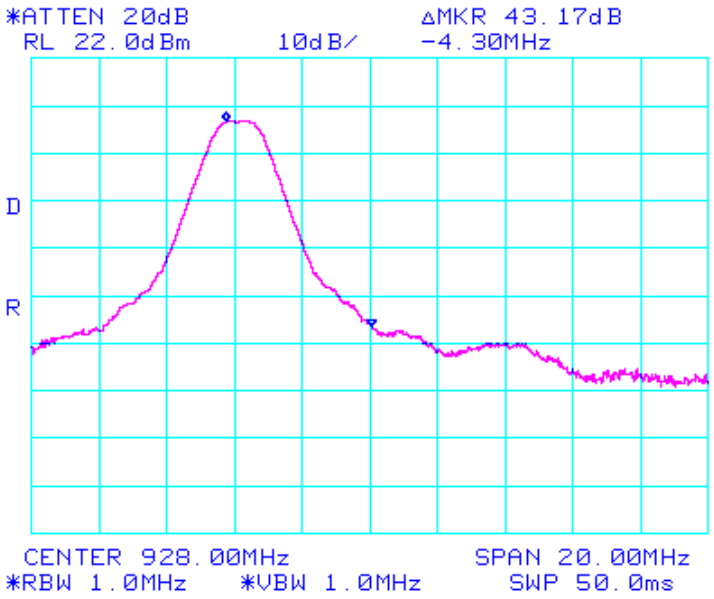


Test Date	*Description (RBW/VBW)*	*Test Eng.*
01/06/10	Cond BE, Ch. 1, AV (1MHz/10Hz)	JC

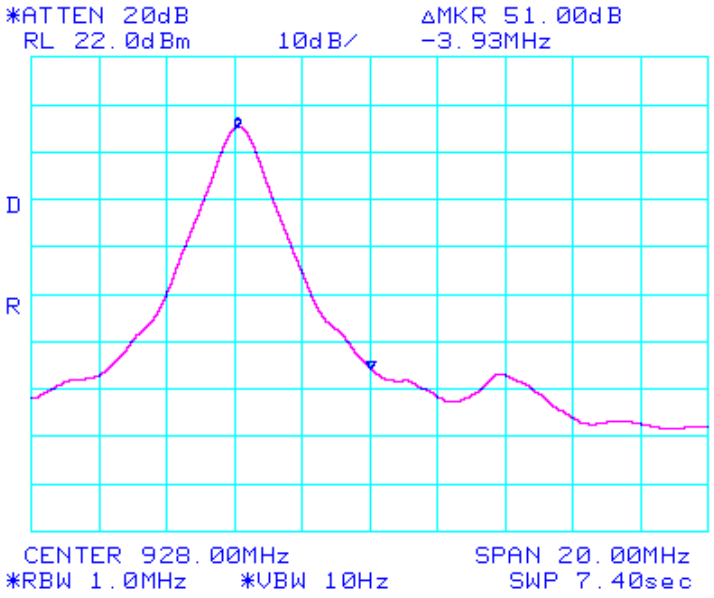


Marker Delta Band-Edge (Continued)

Test Date	*Description (RBW/VBW)*	*Test Eng.*
01/06/10	Cond BE, Ch. 10, PK (1MHz/1MHz)	JC



Test Date	*Description (RBW/VBW)*	*Test Eng.*
01/06/10	Cond BE, Ch. 10, AV (1MHz/10Hz)	JC



Radiated Emissions Test Results (Continued)

Spurious Emissions Measurements ***(902-928 MHz)***
Channels 1, 5, & 10
Continuous TX *at Antenna ports with* ***Pulse Ceramic Chip Antenna***
Aegis Labs, Inc. File #: TASER-090513-02

RADIATED EMISSIONS - Horizontal Antenna Polarization												
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Preamp Factor (dB)*	*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV)*	*Limits (dBuV)*	*Diff (dB) +=FAIL*	*Channel/ Chain Tested*
1812.00	71.00	100	135			41.34	2.46	30.32	62.44	74.00	-11.56	**Ch. 1**
2718.00	70.50	100	135			41.30	3.14	32.47	64.81	74.00	-9.19	
2718.00				56.61	A	41.30	3.14	32.47	50.92	54.00	-3.08	
3624.00	62.17	100	135			41.34	3.62	32.95	57.40	74.00	-16.60	
3624.00				53.74	A	41.34	3.62	32.95	48.97	54.00	-5.03	
4530.00	60.67	100	135			41.67	3.85	34.19	57.04	74.00	-16.96	
4530.00				50.59	A	41.67	3.85	34.19	46.96	54.00	-7.04	
1828.00	71.83	100	270			41.34	2.40	30.43	63.33	74.00	-10.67	**Ch. 5**
2742.00	64.17	100	270			41.26	3.10	32.49	58.50	74.00	-15.50	
2742.00				54.75	A	41.26	3.10	32.49	49.08	54.00	-4.92	
3656.00	65.50	100	270			41.33	3.57	32.99	60.72	74.00	-13.28	
3656.00				55.36	A	41.33	3.57	32.99	50.58	54.00	-3.42	
4570.00	59.67	100	135			41.67	3.65	34.19	55.84	74.00	-18.16	
4570.00				49.88	A	41.67	3.65	34.19	46.05	54.00	-7.95	
5484.00	60.33	100	135			41.84	4.31	34.58	57.39	74.00	-16.61	
1848.00	72.33	100	270			41.34	2.34	30.57	63.90	74.00	-10.10	**Ch. 10**
2772.00	64.17	100	270			41.21	3.05	32.52	58.52	74.00	-15.48	
2772.00				55.46	A	41.21	3.05	32.52	49.81	54.00	-4.19	
3696.00	65.00	100	270			41.33	3.51	33.04	60.21	74.00	-13.79	
3696.00				55.08	A	41.33	3.51	33.04	50.29	54.00	-3.71	
4620.00	60.33	100	225			41.70	3.59	34.18	56.40	74.00	-17.60	
4620.00				47.24	A	41.70	3.59	34.18	43.31	54.00	-10.69	
5544.00	58.50	100	225			41.89	4.30	34.65	55.56	74.00	-18.44	
6468.00	54.83	100	225			42.82	5.56	35.67	53.24	74.00	-20.76	

Radiated Emissions Test Results (Continued)

RADIATED EMISSIONS - Vertical Antenna Polarization												
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Preamp Factor (dB)*	*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV)*	*Limits (dBuV)*	*Diff (dB) +=FAIL*	*Channel/ Chain Tested*
1812.00	67.33	200	180			41.34	2.46	29.86	58.31	74.00	-15.69	**Ch. 1**
2718.00	56.67	100	225			41.30	3.14	32.22	50.73	74.00	-23.27	
2718.00				47.37	A	41.30	3.14	32.22	41.43	54.00	-12.57	
3624.00	53.00	100	180			41.34	3.62	32.80	48.08	74.00	-25.92	
3624.00				44.51	A	41.34	3.62	32.80	39.59	54.00	-14.41	
1828.00	68.00	200	180			41.34	2.40	29.99	59.06	74.00	-14.94	**Ch. 5**
2742.00	58.12	100	225			41.26	3.10	32.24	52.20	74.00	-21.80	
2742.00				45.30	A	41.26	3.10	32.24	39.38	54.00	-14.62	
3656.00	53.50	100	225			41.33	3.57	32.85	48.59	74.00	-25.41	
3656.00				42.44	A	41.33	3.57	32.85	37.53	54.00	-16.47	
1848.00	68.33	200	315			41.34	2.34	30.15	59.49	74.00	-14.51	**Ch. 10**
2772.00	60.67	100	315			41.21	3.05	32.27	54.77	74.00	-19.23	
2772.00				50.06	A	41.21	3.05	32.27	44.16	54.00	-9.84	
3696.00	55.83	100	315			41.33	3.51	32.91	50.92	74.00	-23.08	
3696.00				44.69	A	41.33	3.51	32.91	39.78	54.00	-14.22	
4620.00	54.17	100	315			41.70	3.59	34.30	50.36	74.00	-23.64	
4620.00				40.88	A	41.70	3.59	34.30	37.07	54.00	-16.93	

MAXIMUM CONDUCTED OUTPUT POWER

CLIENT:	TASER International, Inc.	**DATE:**	01/06/2010
EUT:	AXON Tactical Computer	**PROJECT NUMBER:**	TASER-090513
MODEL NUMBER:	70000	**TEST ENGINEER:**	JC
SERIAL NUMBER:	None	**SITE #:**	2
CONFIGURATION:	2 Wirelessly Communicating with Host Laptop	**TEMPERATURE:**	15 deg. C
		HUMIDITY:	42% RH
		TIME:	9:00 AM

Description:	The maximum conducted output power is the highest total transmit power occurring in any mode
Results:	Passed (See Data Sheet)
Note:	Conducted Emissions Measurements were performed on the EUT with power supply set at the following voltage and frequency. • 120VAC / 60 Hz.

Maximum Conducted Output Power (Continued)

Channel	Frequency (MHz)	Power Setting	Duty Cycle	Average Power (dBm)	Average Power (mW)	Output Power (dBm)	Output Power (mW)
1	906	10	99%	9.58	**9.09**	10.66	**11.65**
5	914	10	99%	9.47	**8.86**	10.64	**11.60**
10	924	10	99%	9.42	**8.76**	10.52	**11.28**

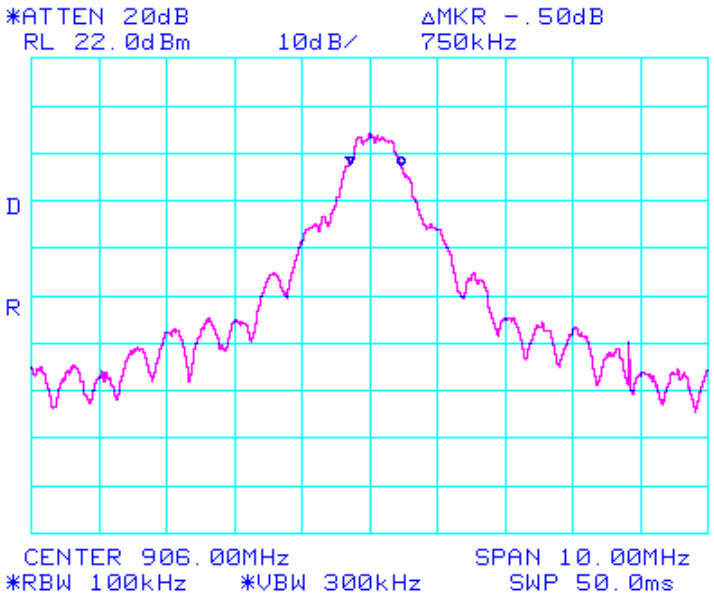
6dB EMISSIONS BANDWIDTH

CLIENT:	TASER International, Inc.	**DATE:**	01/06/2010
EUT:	AXON Tactical Computer	**PROJECT NUMBER:**	TASER-090513
MODEL NUMBER:	70000	**TEST ENGINEER:**	JC
SERIAL NUMBER:	None	**SITE #:**	2
CONFIGURATION:	2 Wirelessly Communicating with Host Laptop	**TEMPERATURE:**	14 deg. C
		HUMIDITY:	41% RH
		TIME:	9:30 AM

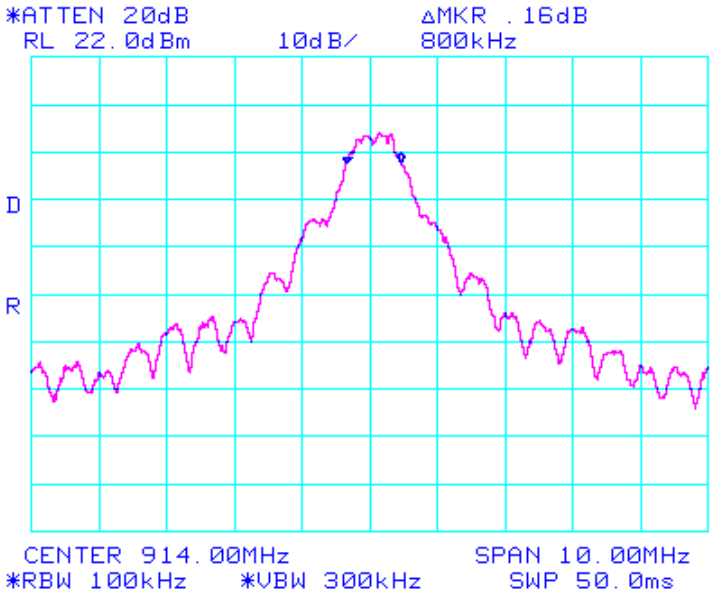
Description:	The minimum 6dB bandwidth shall be at least 500 kHz.
Results:	See Data Sheet
Note:	Conducted Emissions Measurements were performed on the EUT with power supply set at the following voltage and frequency. • 120VAC / 60 Hz.

6dB Emissions Bandwidth (Continued)

Test Date	*Data*	*Test Eng.*
01/06/10	906 MHz	JC

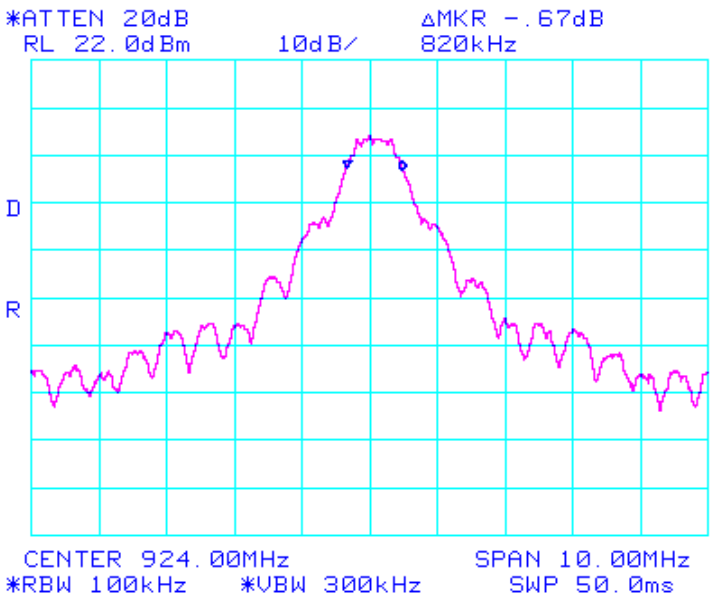


Test Date	*Data*	*Test Eng.*
01/06/10	914 MHz	JC



6dB Emissions Bandwidth (Continued)

Test Date	*Data*	*Test Eng.*
01/06/10	924 MHz	JC



PEAK POWER SPECTRAL DENSITY

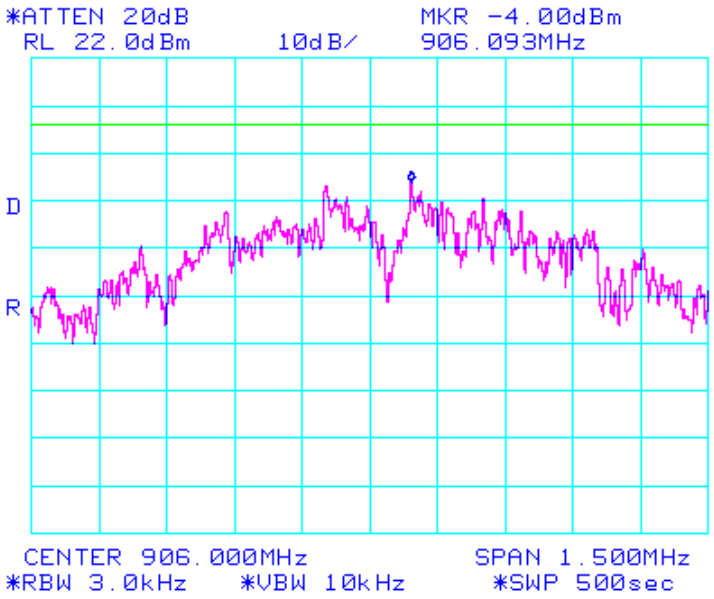
CLIENT:	TASER International, Inc.	**DATE:**	01/06/2010
EUT:	AXON Tactical Computer	**PROJECT NUMBER:**	TASER-090513
MODEL NUMBER:	70000	**TEST ENGINEER:**	JC
SERIAL NUMBER:	None	**SITE #:**	2
CONFIGURATION:	2 Wirelessly Communicating with Host Laptop	**TEMPERATURE:**	16 deg. C
		HUMIDITY:	38% RH
		TIME:	10:00 AM

Description:	The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.
Results:	See Data Sheet
Note:	Conducted Emissions Measurements were performed on the EUT with power supply set at the following voltage and frequency. • 120VAC / 60 Hz.

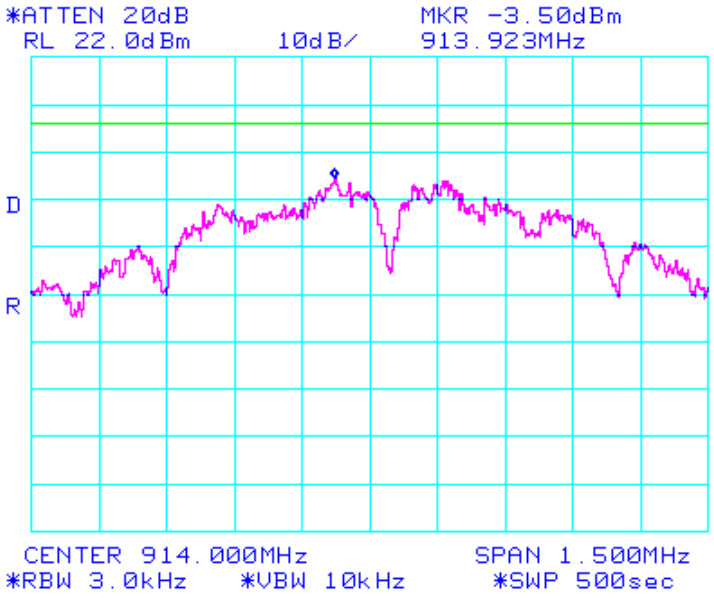
Peak Power Spectral Density Limits	
Frequency (MHz)	**Limit (dBm)**
902-928	8

Peak Power Spectral Density (Continued)

Test Date	*Data*	*Test Eng.*
01/06/10	906 MHz	JC

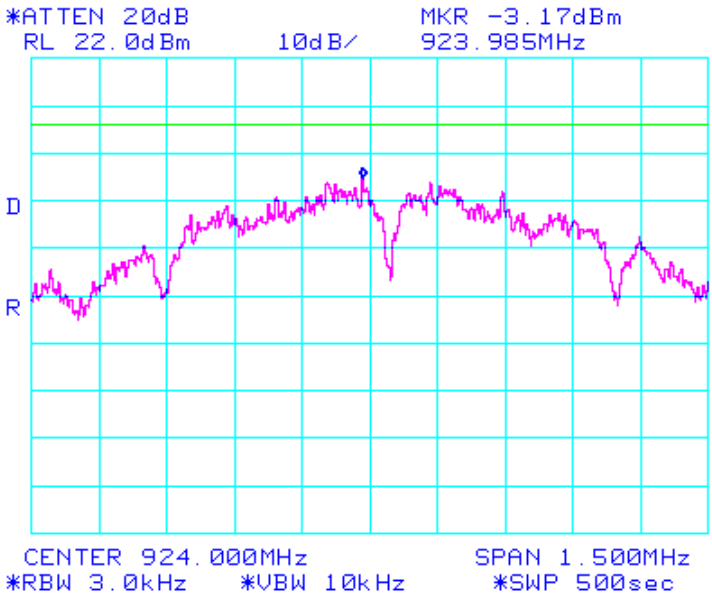


Test Date	*Data*	*Test Eng.*
01/06/10	914 MHz	JC



Peak Power Spectral Density (Continued)

Test Date	*Data*	*Test Eng.*
01/06/10	924 MHz	JC



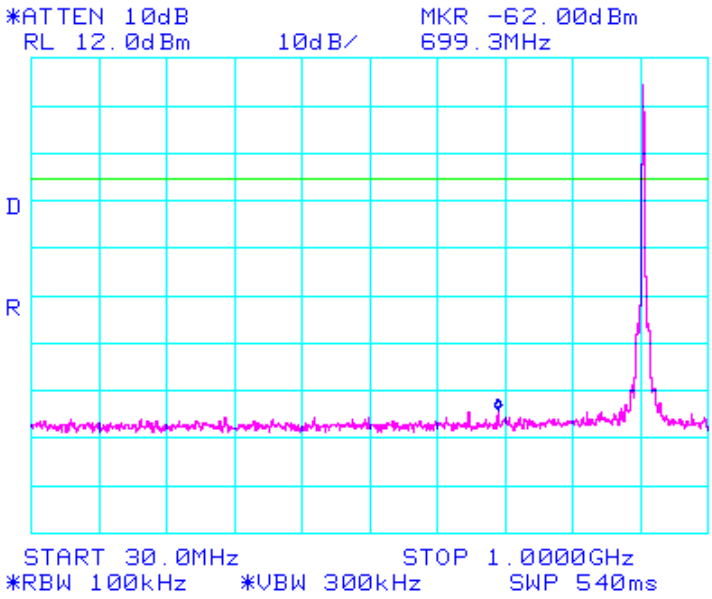
CONDUCTED OUT OF BAND EMISSIONS

CLIENT:	TASER International, Inc.	**DATE:**	01/06/2010
EUT:	AXON Tactical Computer	**PROJECT NUMBER:**	TASER-090513
MODEL NUMBER:	70000	**TEST ENGINEER:**	JC
SERIAL NUMBER:	None	**SITE #:**	2
CONFIGURATION:	2 Wirelessly Communicating with Host Laptop	**TEMPERATURE:**	18 deg. C
		HUMIDITY:	33% RH
		TIME:	11:30 AM

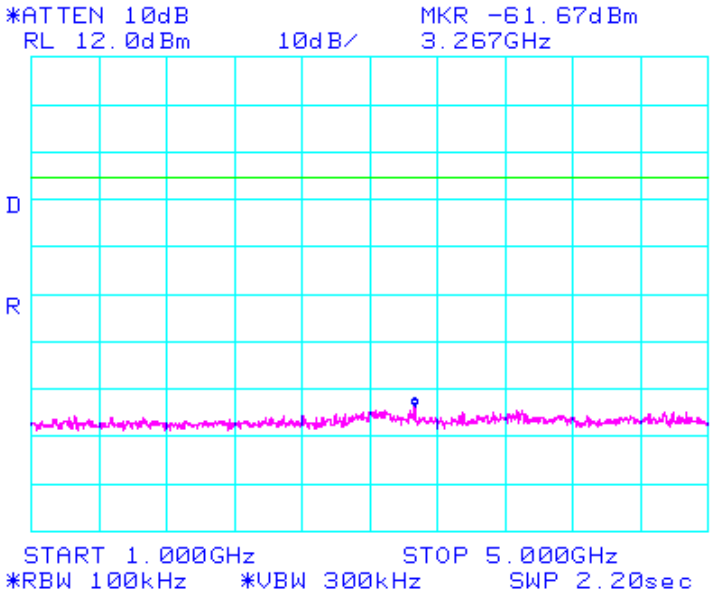
Description:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.
Results:	See Data Sheet
Note:	Conducted Emissions Measurements were performed on the EUT with power supply set at the following voltage and frequency. • 120VAC / 60 Hz.

Conducted Out Of Band Emissions (Continued)

Test Date	*Data*	*Range*	*Test Eng.*
01/06/10	906 MHz	30-1000 MHz	JC

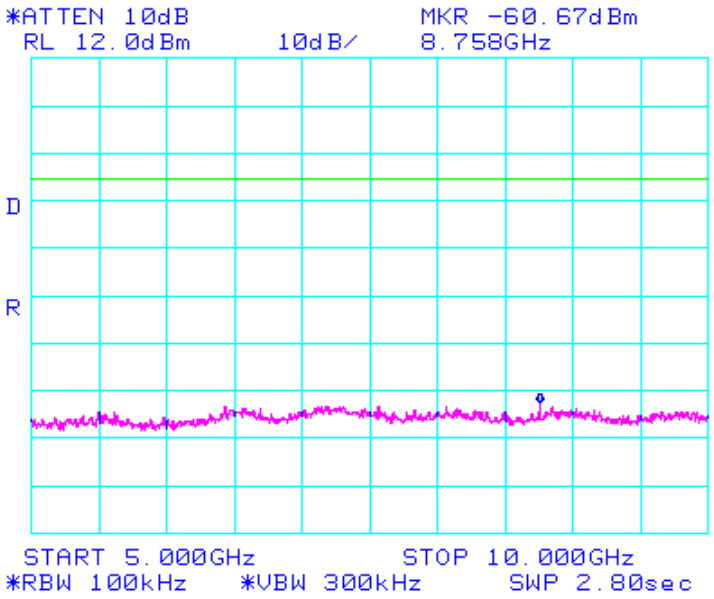


Test Date	*Data*	*Range*	*Test Eng.*
01/06/10	906 MHz	1-5 GHz	JC



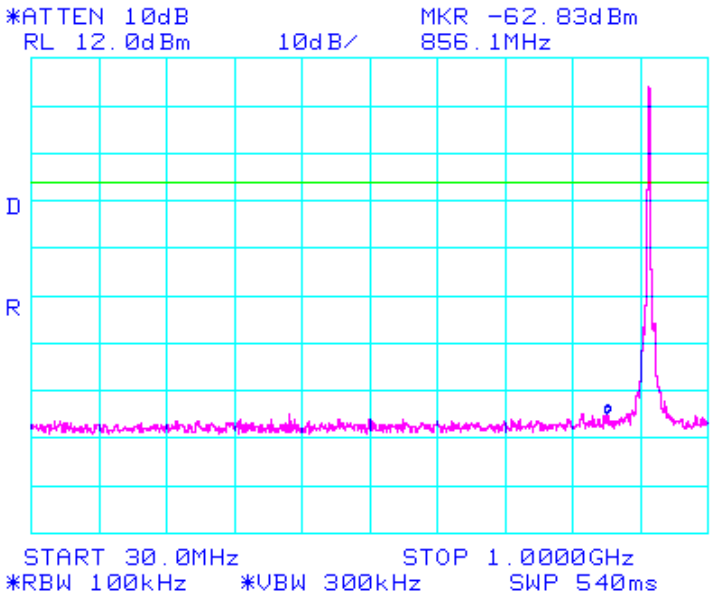
Conducted Out Of Band Emissions (Continued)

Test Date	*Data*	*Range*	*Test Eng.*
01/06/10	906 MHz	5-10 GHz	JC

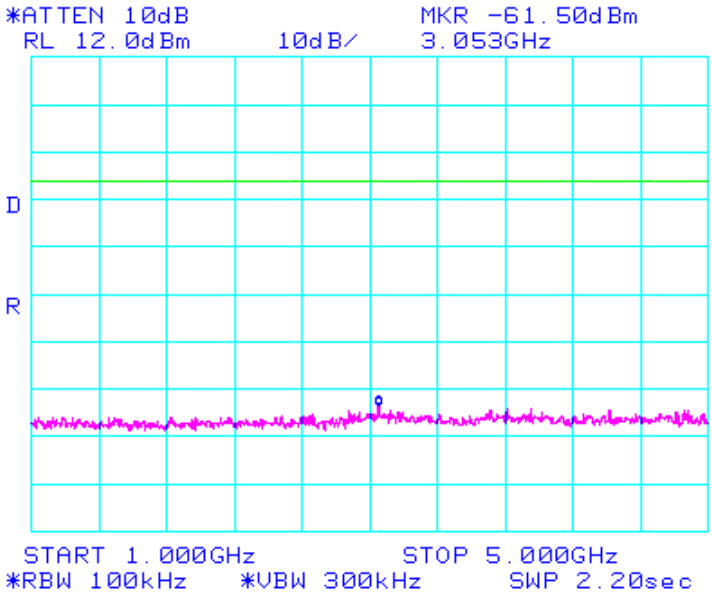


Conducted Out Of Band Emissions (Continued)

Test Date	*Data*	*Range*	*Test Eng.*
01/06/10	914 MHz	30-1000 MHz	JC

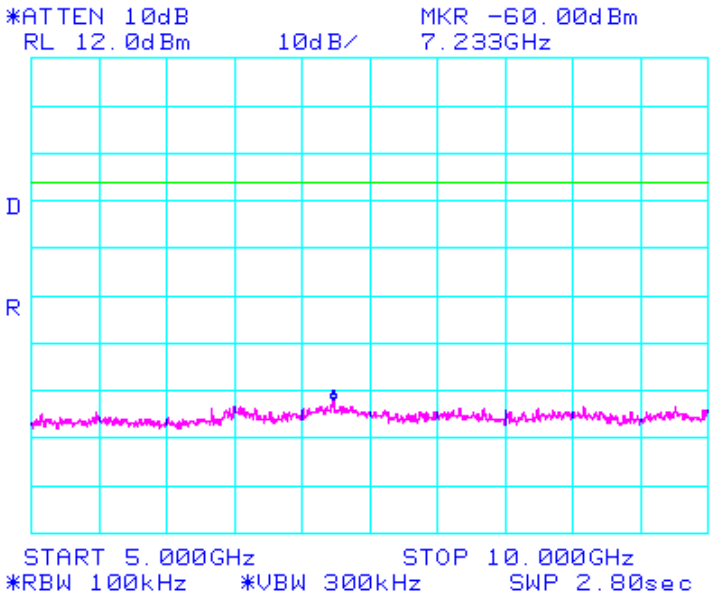


Test Date	*Data*	*Range*	*Test Eng.*
01/06/10	914 MHz	1-5 GHz	JC



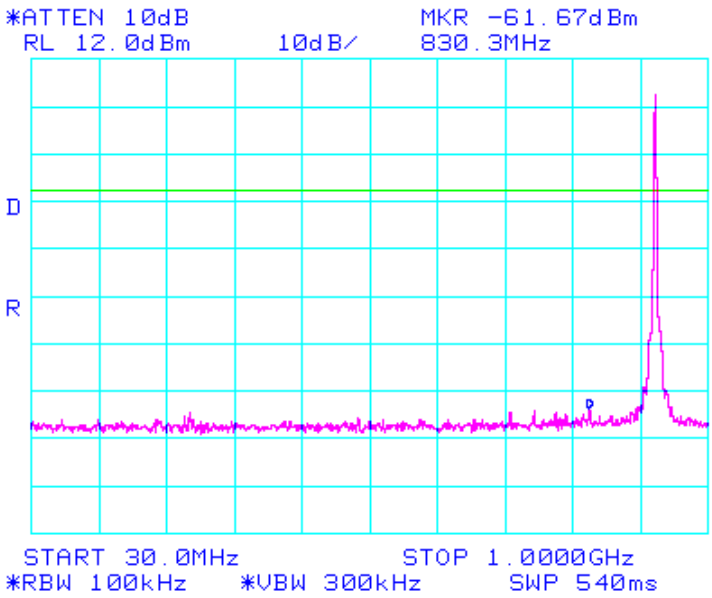
Conducted Out Of Band Emissions (Continued)

Test Date	*Data*	*Range*	*Test Eng.*
01/06/10	914 MHz	5-10 GHz	JC

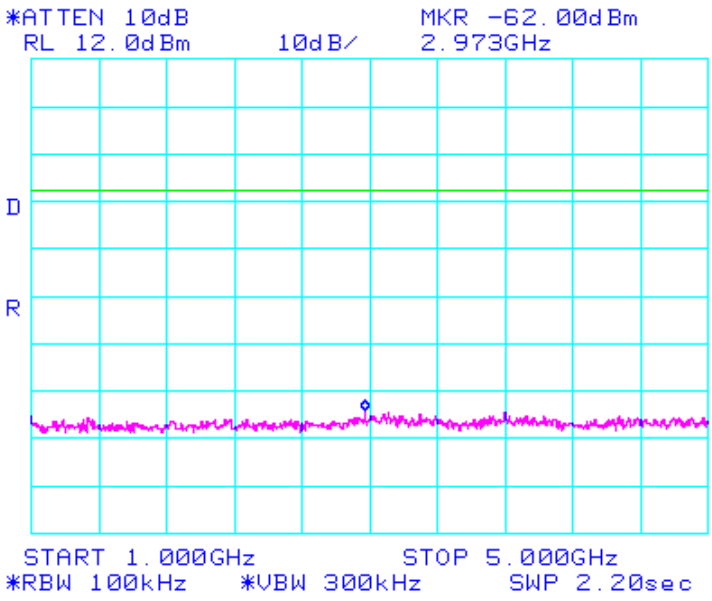


Conducted Out Of Band Emissions (Continued)

Test Date	*Data*	*Range*	*Test Eng.*
01/06/10	924 MHz	30-1000 MHz	JC

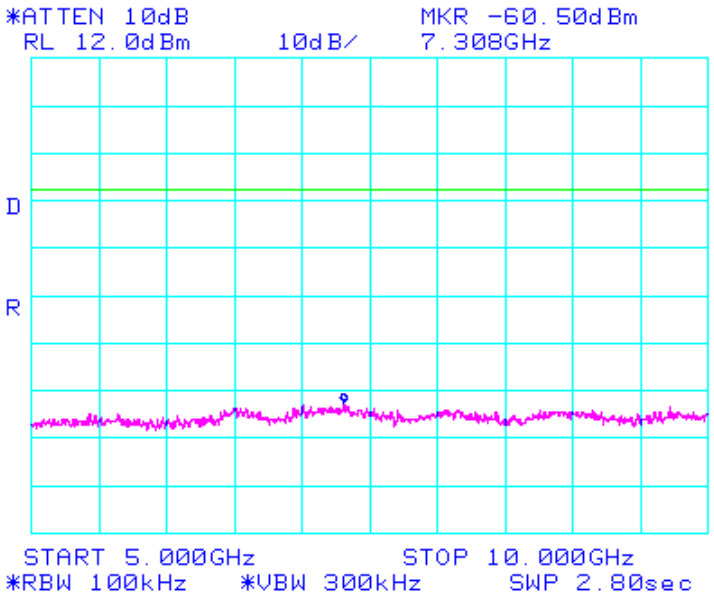


Test Date	*Data*	*Range*	*Test Eng.*
01/06/10	924 MHz	1-5 GHz	JC



Conducted Out Of Band Emissions (Continued)

Test Date	*Data*	*Range*	*Test Eng.*
01/06/10	924 MHz	5-10 GHz	JC



APPENDIX B

MODIFICATIONS AND RECOMMENDATIONS

1.0	NONE