I. General Information

PRODUCT TESTED:	Scan Thru Platform FCC ID: BVCDEACSTP	
TEST DATE:	December 7-14, 1998	
SUMMARY OF RESULTS:		
47 CFR 15.207	CONDUCTED EMISSIONS	PASS
47 CFR 15.209	RADIATED EMISSIONS	PASS

1.1 Test Methodology

Both conducted and radiated emissions testing were performed according to the procedures in ANSI C63.4-1992, and the requirements of 15.31, 15.33, 15.35, 15.207, and 15.209. Radiated emissions measurements were performed at a distance of 10 meters and the results extrapolated to the distance specified per 15.31 and 15.209.

1.2 Test Facility

The shielded room conducted emissions measurement facility is located at Sensormatic Electronics Corporation Headquarters at 951 Yamato Road, Boca Raton, Florida, 33431. The radiated emissions site is located at Sensormatic Electronics Corporation manufacturing location, 6600 Congress Avenue, Boca Raton, Florida 33487. These sites have been found acceptable by and are on file with the FCC per FCC letter 31040/SIT 1300F2.

1.3 Test System Description.

The Scan Thru Platform consists of a power pack and a separate antenna pad assembly connected by a 10′ cable. The power pack consists of a power supply, transmit electronics, receive electronics, deactivation electronics and scanner interface electronics. The power supply accepts inputs of 85 –

250 V, 50-60 Hz. The antenna pad consists of 2 loop antennas that serve as transmit, receive and deactivation antennas on a multiplexed basis.

The product tested was an engineering prototype built to production drawings.

II. Conducted Emissions

Conducted emissions data are presented in Section V “Data”, Part A “Conducted Emissions”. The product demonstrated compliance with the requirements of 15.207. Signals were sufficiently low to allow peak detector measurements to demonstrate compliance with the requirements. The product was tested at 120 V, 60 Hz.

III. Radiated Emissions

Radiated emissions data are presented in Section V “Data”, Part B “Conducted Emissions”. The product demonstrated compliance with the requirements of 15.209. Radiated emissions measurements were performed at 10 meters. Propagation loss was determined by square law extrapolation per 15.31(f)(2).

Maximum radiation was determined by first assessing symmetry while applying incremental rotation of the measurement loop. The product exhibited quadrant symmetry. Measurements were taken at radials of 22.5° throughout one quadrant; the measurement antenna was rotated for maximum pickup about the vertical axis of the measurement antenna at each radial. The radiation pattern was also investigated with the measurement antenna in the horizontal plane. The maximum emission was determined to be with the measurement loop antenna in the vertical polarization, parallel to the long radiating loop of the pad.

The product was tested at input voltages ranging from 102 – 138 V, 60 Hz with no measurable change in transmitter output.

IV. LIST OF MEASURING EQUIPMENT

The equipment used for determining compliance of the Ultra Post system with the requirements of 15.207 and 15.209 is marked with an "X" in the first column of the table below.

	Model	Description	Vendor	Serial #
X	ALP -70	Loop Antenna	Electro Metrics	163
	3110B	Biconnical Antenna	Electro Metrics	1017
	3146	Log Periodic Antenna	EMCO	3909
	3825/2	Line Imp Stable Network	EMCO	1562
X	3816/2NM	Line Imp Stable Network	EMCO	9703 1064
	6060B	Frequency Generator	Giga-tronics	5850202
	FM2000	Isotropic Field Monitor	Amplifier Research	15171
	FP2000	Isotropic Field Probe	Amplifier Research	15214
	888	Leveler	Amplifier Research	14998
	75A220	Low Band Amplifier	Amplifier Research	15208
	10W1000A	High Band Amplifier	Amplifier Research	15138
	PEFT Junior	EFT Generator	Haefely Trench	083 180-16
	PEFT Junior	Capacitive Cable Clamp	Haefely Trench	083-078-31
	NSG435	ESD Simulator	Schaffner	1197
	NSG431	ESD Simulator	Schaffner	1267
X	HP8591EM	EMC Analyzer	Hewlett - Packard	3520A00190
		Power Source	Pacific Instruments	
	F-2031	EM Injection Clamp	Fischer Cust. Comm.	30
	FCC-801-M3-16	Coupling Decoupling Nwk	Fischer Cust. Comm.	58
	FCC-801-M3-16	Coupling Decoupling Nwk	Fischer Cust. Comm.	59
	F-33-1	RF Current Probe	Fischer Cust. Comm.	304
	EM 7600	Transient Limiter	Electro-Metrics	187
	Roberts Ant	Tunable Dipole Set	Compliance Design	003282
	Roberts Ant	Tunable Dipole Set	Compliance Design	003283
	HP8594E	Spectrum Analyzer	Hewlett Packard	3246A00300
X	HP8447F Opt 64	Dual Preamplifier	Hewlett Packard	2805A03473

V. Data

Part A contains conducted emissions data; Part B contains radiated emissions data.

Part A **Conducted Emissions**

Project Name	ScanThru Platform	Filename	STP_Conducted Emissions, FCC
EUT Name	STP	Serial Number	
Engineer	Steve Maitin	Phone Number	
Date of Test	12/14/98 1:33:05 PM	Test Name	Conducted Emissions 47CFR15.207
Reg. Technician	Steve Krizmanich	Proj. Ldr	Don Umbdenstock

Comments	

Table 1, Signal List

Signal	Freq (MHz)	Peak Amp (dBuV)	QP Amp (dBuV)	Avg Amp (dBuV)	Corrections (dB)	Limit (dB)
1	25.352755	38.74	25.38	3.10	0.00	48
2	23.599695	31.27	23.56	11.03	0.00	48
3	1.682813	33.86	30.89	15.91	0.00	48

Figure 1. Line 1 Conducted Emissions

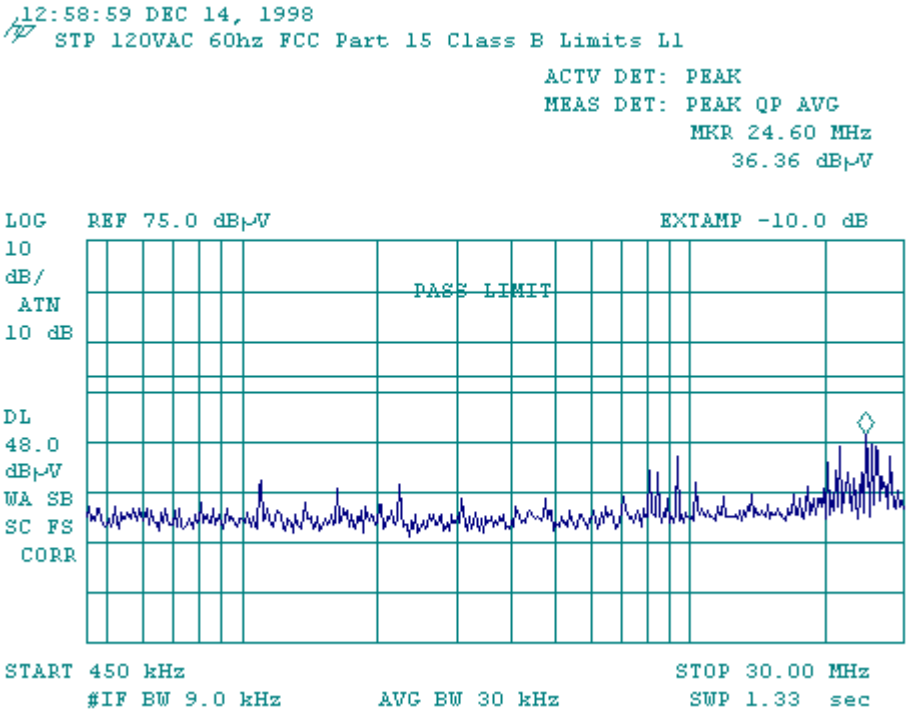
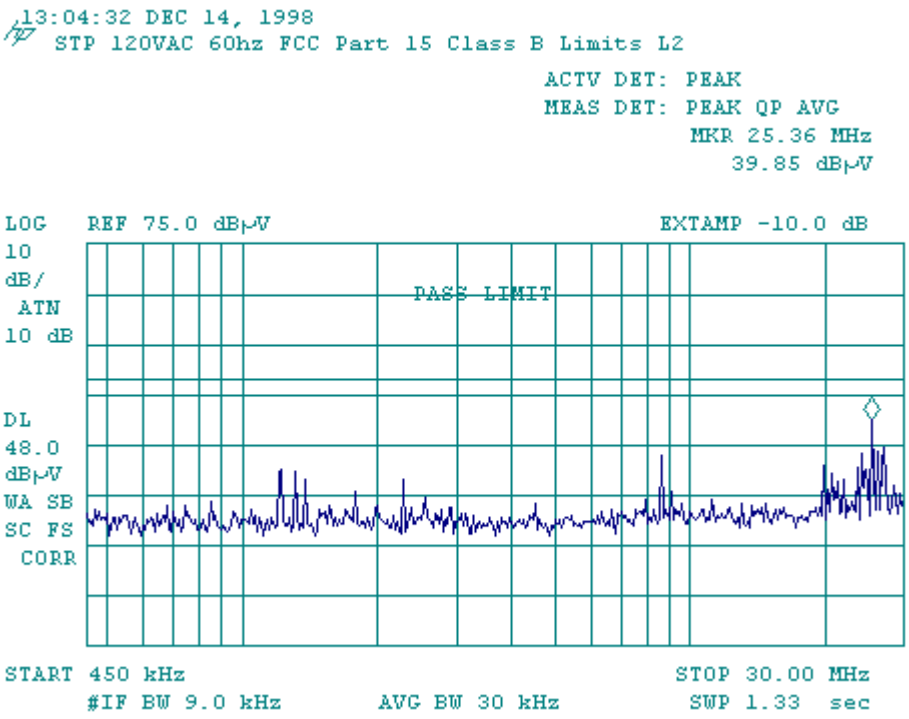


Figure 2. Line 2 Conducted Emissions.



Part B **Radiated Emissions**

Project Name	ScanThru Platform	Filename	Scan Thru Platform Radiated Emissions
EUT Name	STP	Serial Number	
Engineer	Steve Maitin	Phone Number	
Date of Test	12/10/98	Test Name	Radiated Emissions 47CFR15.209
Reg. Technician	Steve Krizmanich	Proj. Ldr	Don Umbdenstock

Freq	S.A.	Ant Fact	DCF	Actual	Limit	Det	BW	Comments
kHz	dB	dBuV/m	dB	dBuV/m	dBuV/m		kHz	
58	24.6	62.5	-59.1	28	32.3/300	peak	9	
58	24.6	62.5	-59.1	28	32.3/300	peak	1	Note 3.
116	-8	56.5	-59.1	-10.6	26.3/300	peak	1	system noise floor
174	2.7	53	-59.1	-3.4	22.8/300	peak	1	
232	-13	50	-59.1	-22.1	20.3/300	peak	1	noise floor
290	-3	48.3	-59.1	-13.8	18.4/300	peak	1	
348	-14	47	-59.1	-26.1	16.8/300	peak	1	noise floor
406	-11	46	-59.1	-24.1	15.4/300	peak	1	ambient
464	-17	44.9	-59.1	-31.2	14.3/300	peak	1	noise floor
522	-17	43.9	-19.1	7.8	33.3/30	peak	1	noise floor
580	-14	43.2	-19.1	10.1	32.3/30	peak	1	ambient

Notes:

1. FS = SA + Ant Fac + DCF
   Where FS = Field Strength (Actual)
   SA = Spectrum Analyzer reading
   Ant Fac = Antenna Factor
   DCF = Distance Correction Factor
2. DCF = 40 * log (300/10) = 59.1 for frequencies between 58 kHz and 464 kHz.
   DCF = 40 * log (30/10) = 19.1 for frequencies between 522 kHz and 580 kHz.
3. Same SA reading for both 1 and 9 kHz BW; therefore, 1kHz is a valid BW, allowing a lower noise floor.