

Test Item:		Ultra Post Plus									
FCC ID:		BVCUMUPPLUS									
Date:		April 14,1999									
Test Location:		Sensormatic Electronics Corporation									
		951 Yamato Road, Boca Raton, FL 33431									
Design Engineer:		Kevin Lynch									
EMC Engineer:		Don Umbdenstock									
Results: Complies with requirements of 15.31, 15.35, 15.209											
EUT Set Up:	Phase Aiding										
	Pedestal Separation:					2.25m					
	Tx Loop Current:										
	Primary Pedestal:					15.4 A pk					
						14.0 A pk					
	Secondary Pedestal					14.4 A pk					
						14.8 A pk					
Measurement Setup:	Measurement antenna to HPF to Pre Amp to spectrum analyzer for harmonics only.										
Vnom:						120V/60Hz					
Turn table mounting surface height:						.15m					
Loop Ant Height						1.15m (compensates for turntable offset)					
Measurement Dist:						10 meters except as noted					
Signal maximized by rotation of turn table and rotation of measurement loop.											
DATA											
Freq	S.A.	Det	BW	Ant Fact	DCF	ACF	HPF		Actual	FCC Limit	Margin
kHz	dBuV		kHz	dBuV/m	dB				dBuV/m	dBuV/m	dB
58/10m	70.7	pk	9								
58/20m	52.8	pk	9								
58/30m	41.8	pk	9								
58(Vnom-15%)	69.0	pk	9	64	-88.6	-16.8			27.6	32.3/300	4.7
58(Vnom+15%)	71.7	pk	9	64	-88.6	-16.8			30.3	32.3/300	2.0
58	70.7	pk	9	64	-88.6	-16.8			29.3	32.3/300	3.0
116	22.0	pk	9	57	-88.6	-16.8	1.9		-24.5	26.3/300	50.8
174	38.4	pk	9	53	-88.6	-16.8	0.8		-13.2	22.8/300	36.0
232	18.6	pk	9	51	-88.6	-16.8	0.5		-35.3	20.3/300	55.6
290	29.3	pk	9	49	-88.6	-16.8	0.4		-26.7	18.4/300	45.1
348	7.1	pk	9	48	-88.6	-16.8	0.4		-49.9	16.8/300	66.7
406	19.2	pk	9	47.5	-88.6	-16.8	0.4		-38.3	15.4/300	53.7
464	-1.1	pk	9	46.5	-88.6	-16.8	0.2		-59.8	14.3/300	74.1
522	13.0	qp	9	46	-28.6	na	0.2		30.6	33.3/30	1.7
580	-11.0	qp	9	45.2	-28.6	na	0.2		5.8	32.3/30	27.5

Notes											
S.A. : Spectrum Analyzer											
DCF: Distance Correction Factor											
Calculation of Distance Correction Factor											
Dist_Corr_Factor = $20 \log(\text{Test Dist} / 300)^P = P \cdot 20 \log(\text{Test Dist} / 300)$											
Where P is the roll-off exponent . P is found as follows:											
$P = (\text{Level(at Distance 1)} - \text{Level(at Distance 2)}) / 20 \log(\text{Distance 2} / \text{Distance 1})$											
$P = (70.7 - 41.8) / 20 \log(30/10) = 28.9 / 9.54 = 3.0$											
DCF = $60 \log(10/300) = -88.6$											
DCF = $60 \log(10/30) = -28.6$											
ACF: Averaging Correction Factor (mathematical average)											
ACF = peak value * duty cycle											
duty cycle = (on time) / (rep rate) = 1.6 ms / 11.11ms = .144											
duty cycle = $20 \log(.144) = 16.8 \text{ dB}$											
na: not applicable											
Test Equipment Used											
Model	Description		Serial Number		Manufacturer						
ALP 70	Loop Antenna		164		Electro Metrics						
8447F	Pre Amp 9k-1.3G		2805A03474		HP						
8591EM	Spectrum Analyzer		3520A00191		HP						