

HFE1600

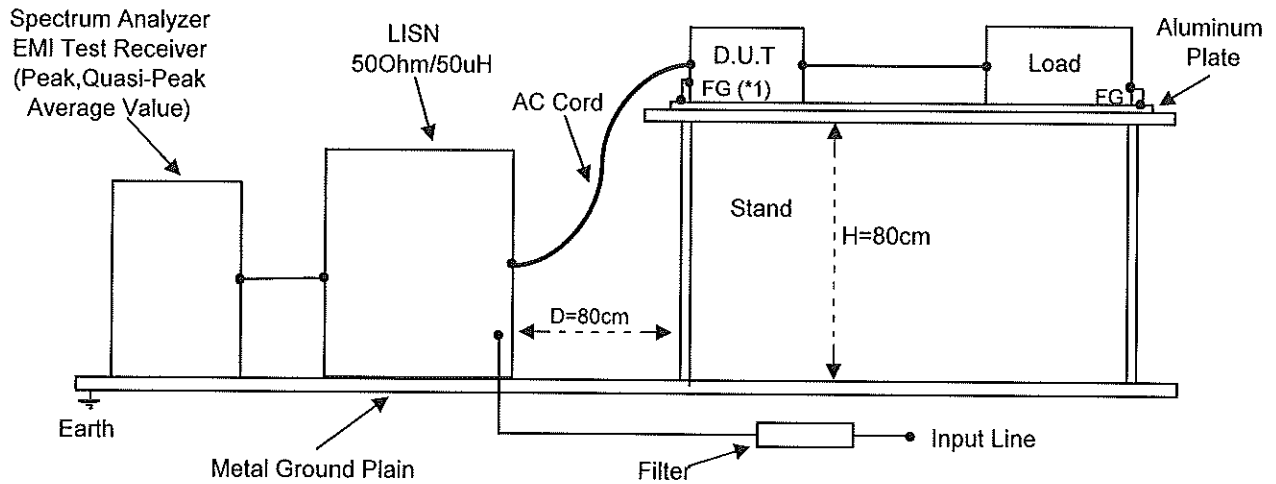
EMI TEST DATA

DWG: IA688-58-02		
APPD	CHK	DWG
<i>Shlomo Louy</i>	<i>Ami P.</i>	<i>MICHAEL G.</i>
<i>29-May-2011</i>	<i>29-May-2011</i>	<i>29.05.2011</i>

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The above data is typical value data.
The values are considered to be actual capability data.

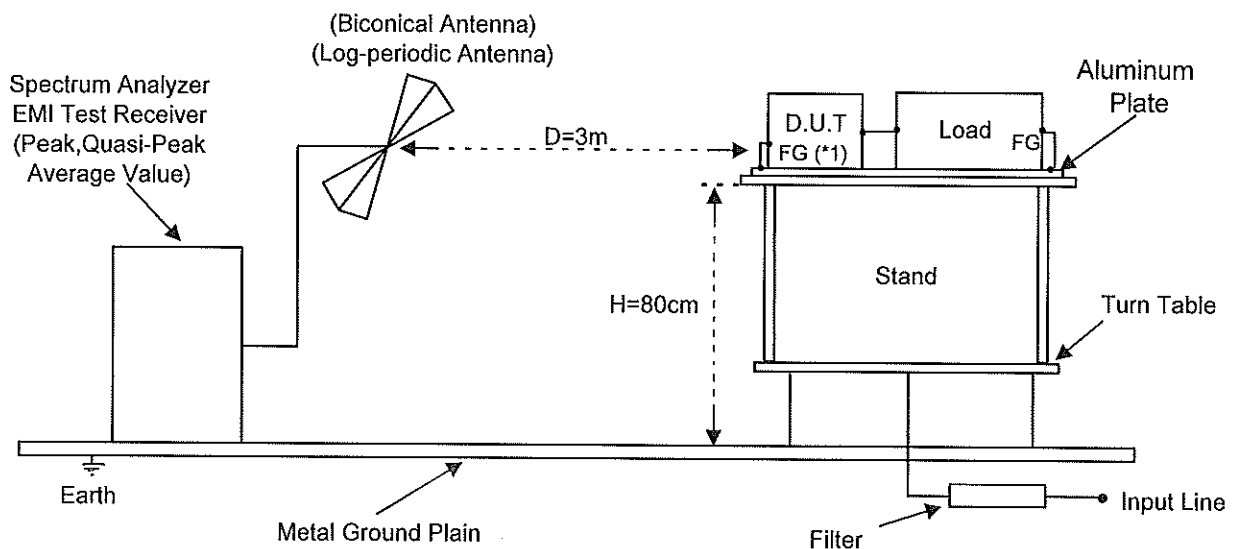
(1) Conducted Emission



TEST RECEIVER	ESPI	(ROHDE & SCHWARZ)
LISN	ENV4200	(ROHDE & SCHWARZ)

*1: D.U.T is installed inside HFE1600-S1U rack

(2) Radiated Emission



SPECTRUM ANALYZER	MS2601A	(ANRITSU)
EMI TEST RECEIVER	85462A	(HEWLETT. PACKARD)
BICONICAL ANTENNA	3110BA30/200	(EMCO)
LOG-PERIODIC ANTENNA	LP200000	(ELECTROMETRIX)
	LPA2530	(ELECTROMETRIX)

*1: D.U.T is installed inside HFE1600-S1U rack

2. Test Data

HFE1600

2.1 Conducted Emission

12V

(1) Test condition

Input voltage/frequency: 100VAC/50Hz
 Output current: 100%
 Ambient temperature: 25°C
 Regulation: EN55022-B

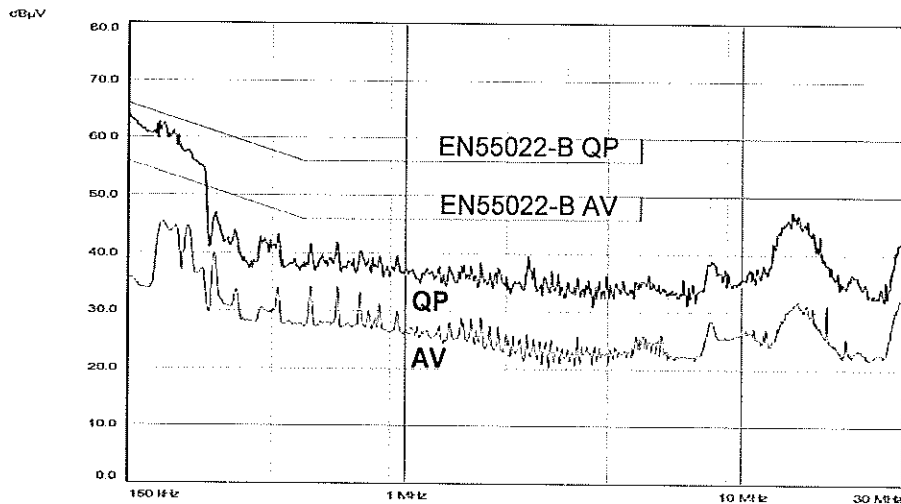
HFE 1600 installed in HFE-S1U Rack

(2) Test results

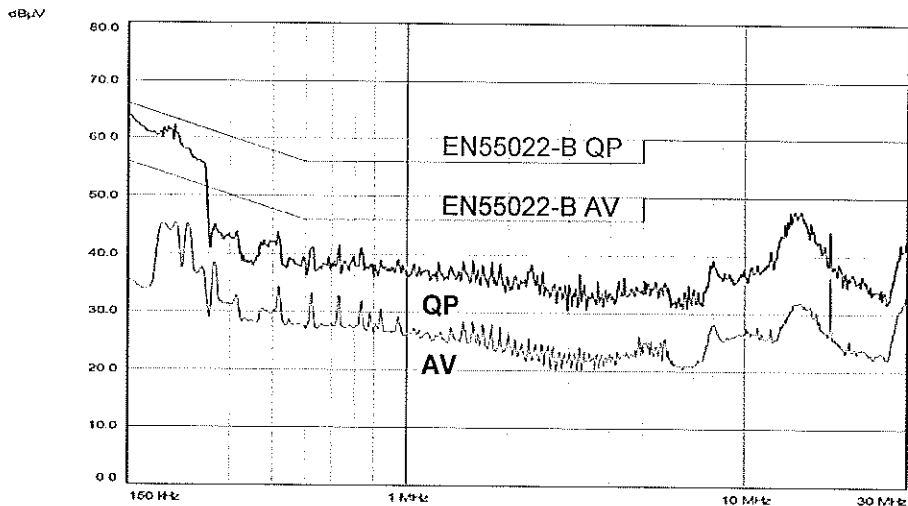
Intefrence wave list

PHASE	FREQ	EN55022-B					
		RESULT		LIMIT		MARGIN	
		QP	AV	QP	AV	QP	AV
	MHz	dB μ V	dB μ V	dB μ V	dB μ V	dB μ V	dB μ V
L	0.150000	57.18	35.41	66.00	56.00	-8.82	-20.59
	0.191237	54.68	44.98	63.98	53.98	-9.3	-9.00
N	0.150000	57.44	35.31	66.00	56.00	-8.56	-20.69
	0.208194	54.71	45.26	63.28	53.28	-8.57	-8.02

Phase L



Phase N



2. Test Data

HFE1600

2.1 Conducted Emission

12V

(1) Test condition

Input voltage/frequency: 230VAC/50Hz
 Output current: 100%
 Ambient temperature: 25°C
 Regulation: EN55022-B

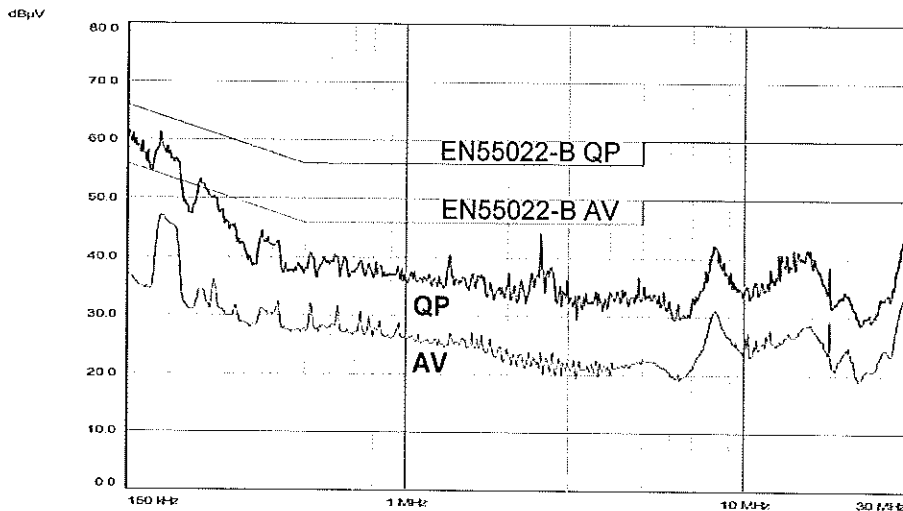
HFE 1600 installed in HFE-S1U Rack

(2) Test results

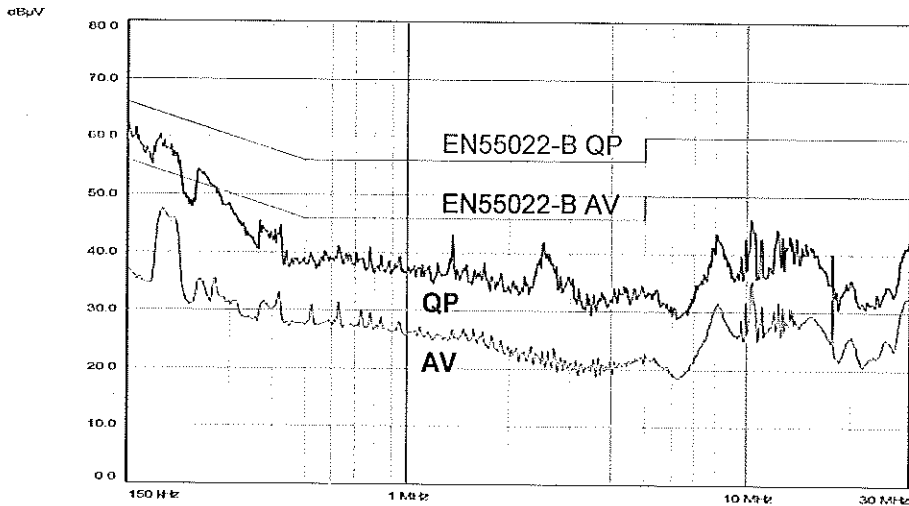
Inteference wave list

PHASE	FREQ	EN55022-B					
		RESULT		LIMIT		MARGIN	
		QP	AV	QP	AV	QP	AV
	MHz	dB μ V	dB μ V	dB μ V	dB μ V	dB μ V	dB μ V
L	0.151962	55.41	36.30	65.89	55.89	-10.48	-19.59
	0.191237	54.77	46.54	63.98	53.98	-9.21	-7.44
N	0.150601	56.16	35.93	65.97	55.97	-9.81	-20.04
	0.190094	54.65	46.83	64.03	54.03	-9.38	-7.20

Phase L



Phase N



2. Test Data

HFE1600

2.1 Conducted Emission

24V

(1) Test condition

Input voltage/frequency: 100VAC/50Hz
 Output current: 100%
 Ambient temperature: 25°C
 Regulation: EN55022-B

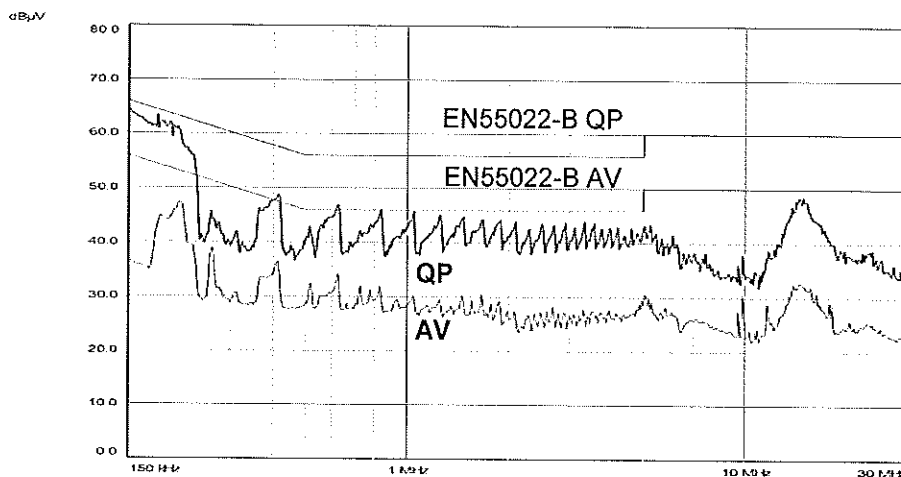
HFE 1600 installed in HFE-S1U Rack

(2) Test results

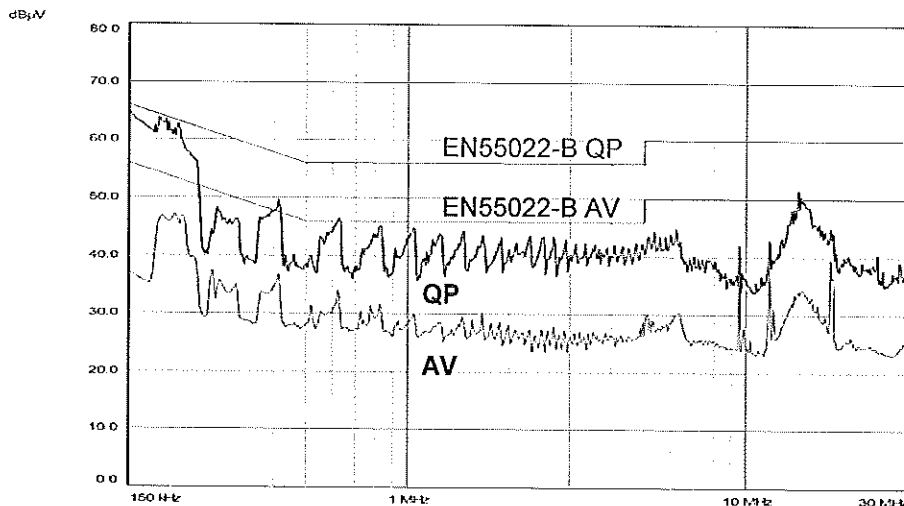
Inteferece wave list

PHASE	FREQ	EN55022-B					
		RESULT		LIMIT		MARGIN	
		QP	AV	QP	AV	QP	AV
	MHz	dBμV	dBμV	dBμV	dBμV	dBμV	dBμV
L	0.150300	58.78	36.90	65.98	55.98	-7.20	-19.58
	0.213249	57.07	46.59	63.08	53.08	-6.01	-6.49
N	0.150902	58.57	36.51	65.95	55.95	-7.38	-19.44
	0.204891	56.98	46.79	63.41	53.41	-6.43	-6.62

Phase L



Phase N



2. Test Data

HFE1600

2.1 Conducted Emission

24V

(1) Test condition

Input voltage/frequency: 230VAC/50Hz
 Output current: 100%
 Ambient temperature: 25°C
 Regulation: EN55022-B

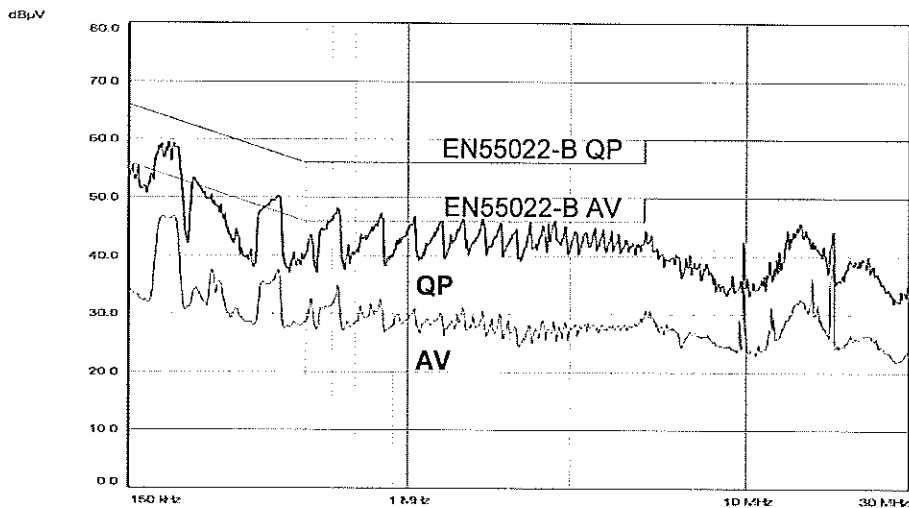
HFE 1600 installed in HFE-S1U Rack

(2) Test results

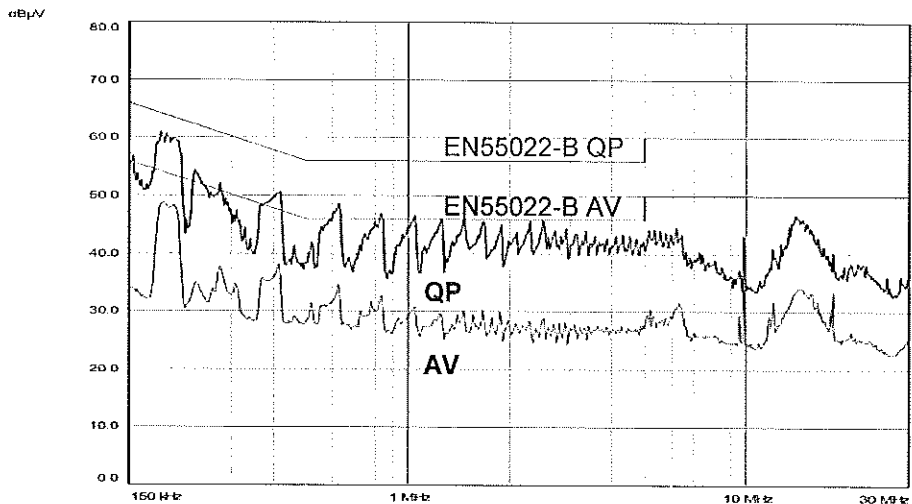
Inteferece wave list

PHASE	FREQ	EN55022-B					
		RESULT		LIMIT		MARGIN	
		QP	AV	QP	AV	QP	AV
	MHz	dBμV	dBμV	dBμV	dBμV	dBμV	dBμV
L	0.196468	54.6	46.34	63.76	53.76	-9.16	-7.48
	0.416183	48.01	37.31	57.52	47.52	-9.51	-10.21
N	0.185217	57.08	48.15	64.25	54.25	-7.17	-6.10
	0.204891	57.08	47.68	63.41	53.41	-6.33	-5.73

Phase L



Phase N



2. Test Data

HFE1600

2.1 Conducted Emission

48V

(1) Test condition

Input voltage/frequency: 100VAC/50Hz
 Output current: 100%
 Ambient temperature: 25°C
 Regulation: EN55022-B

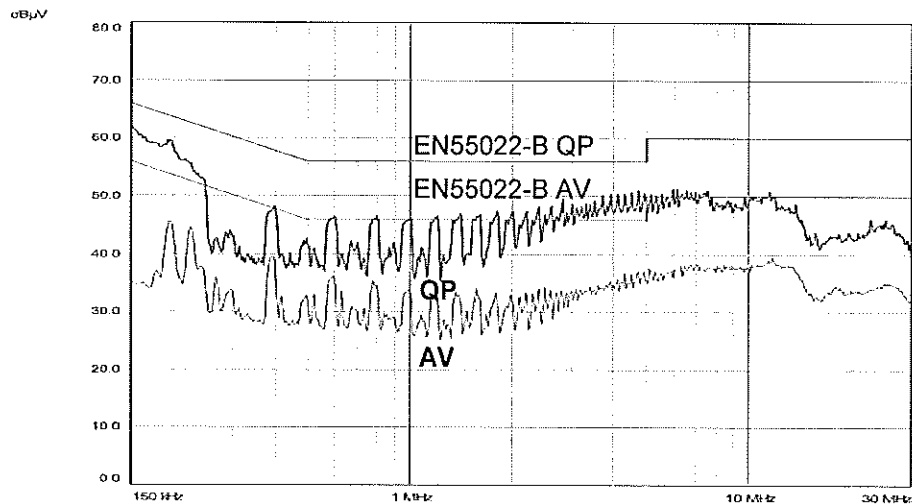
HFE 1600 installed in HFE-S1U Rack

(2) Test results

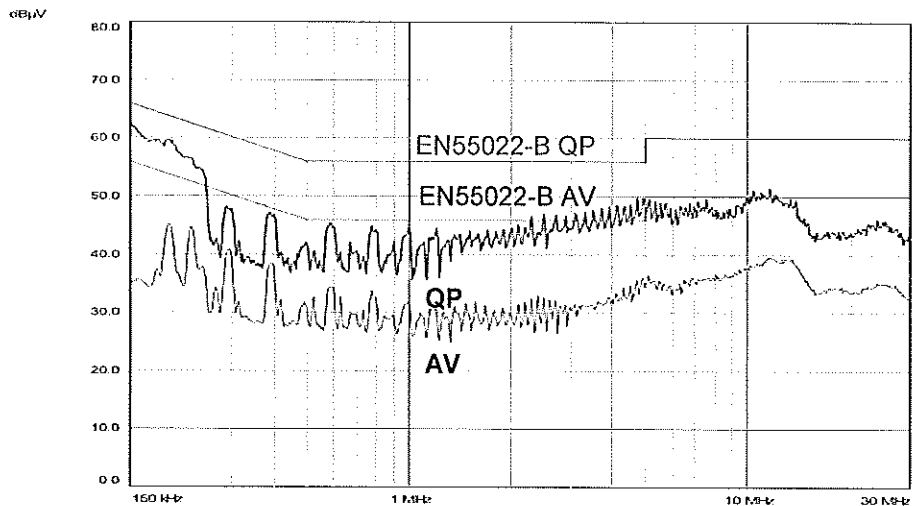
Inteferece wave list

PHASE	FREQ	EN55022-B					
		RESULT		LIMIT		MARGIN	
		QP	AV	QP	AV	QP	AV
	MHz	dBμV	dBμV	dBμV	dBμV	dBμV	dBμV
L	0.195293	54.93	45.24	63.81	53.81	-8.88	-8.57
	0.393135	45.81	39.29	58.00	48.00	-12.19	-8.71
N	0.195098	55.03	44.87	63.82	53.82	-8.79	-8.95
	0.228018	51.14	44.73	62.52	52.52	-11.38	-7.79

Phase L



Phase N



2. Test Data

HFE1600

2.1 Conducted Emission

48V

(1) Test condition

Input voltage/frequency: 230VAC/50Hz
 Output current: 100%
 Ambient temperature: 25°C
 Regulation: EN55022-B

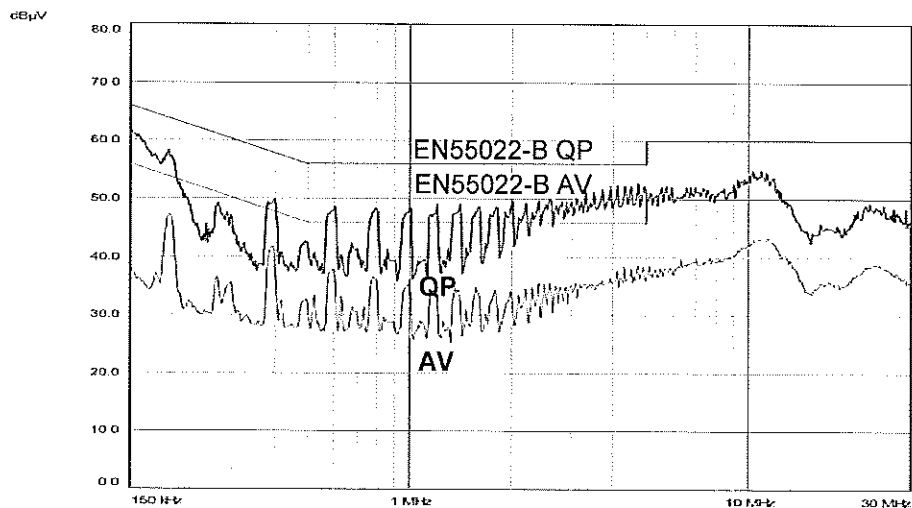
HFE 1600 installed in HFE-S1U Rack

(2) Test results

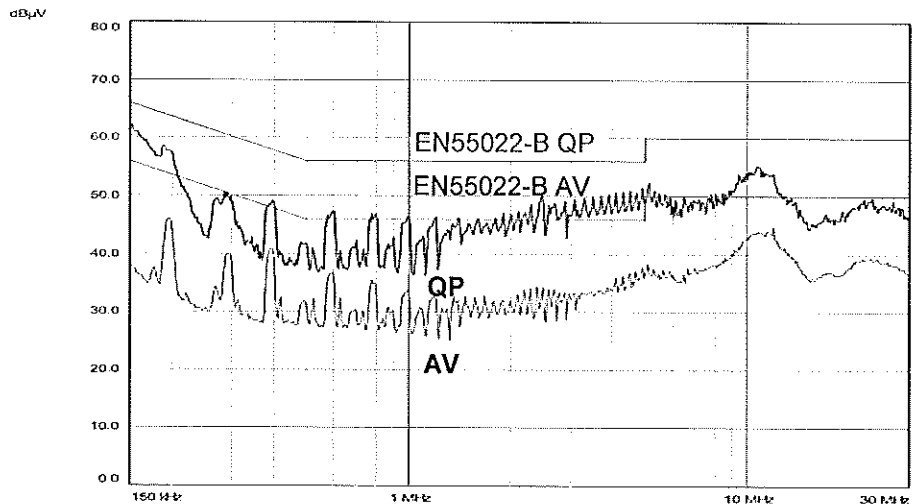
Inteferece wave list

PHASE	FREQ	EN55022-B					
		RESULT		LIMIT		MARGIN	
		QP	AV	QP	AV	QP	AV
	MHz	dBμV	dBμV	dBμV	dBμV	dBμV	dBμV
L	0.196272	52.84	47.09	63.77	53.77	-19.93	-6.68
	0.395500	48.00	41.38	57.95	47.95	-9.95	-6.57
N	0.195293	54.38	46.47	63.81	53.81	-9.48	-7.34
	0.393135	46.75	40.51	58.00	48.00	-11.25	-7.49

Phase L



Phase N



2. Test Data

HFE1600

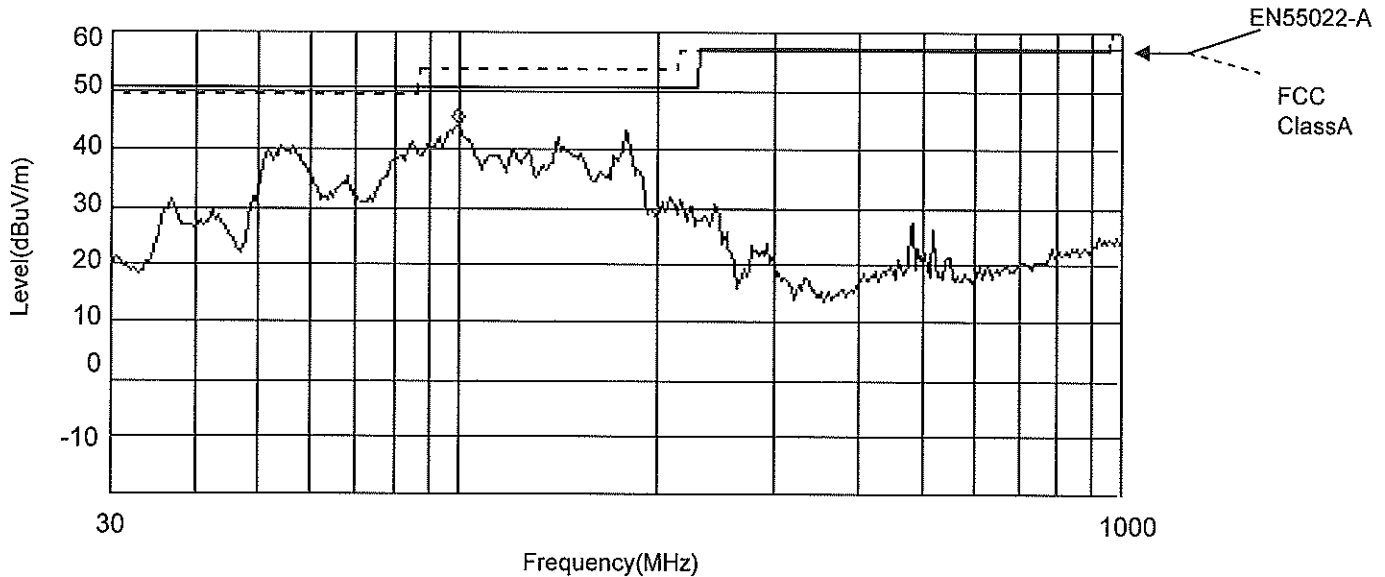
2.2 Radiated Emission

12V

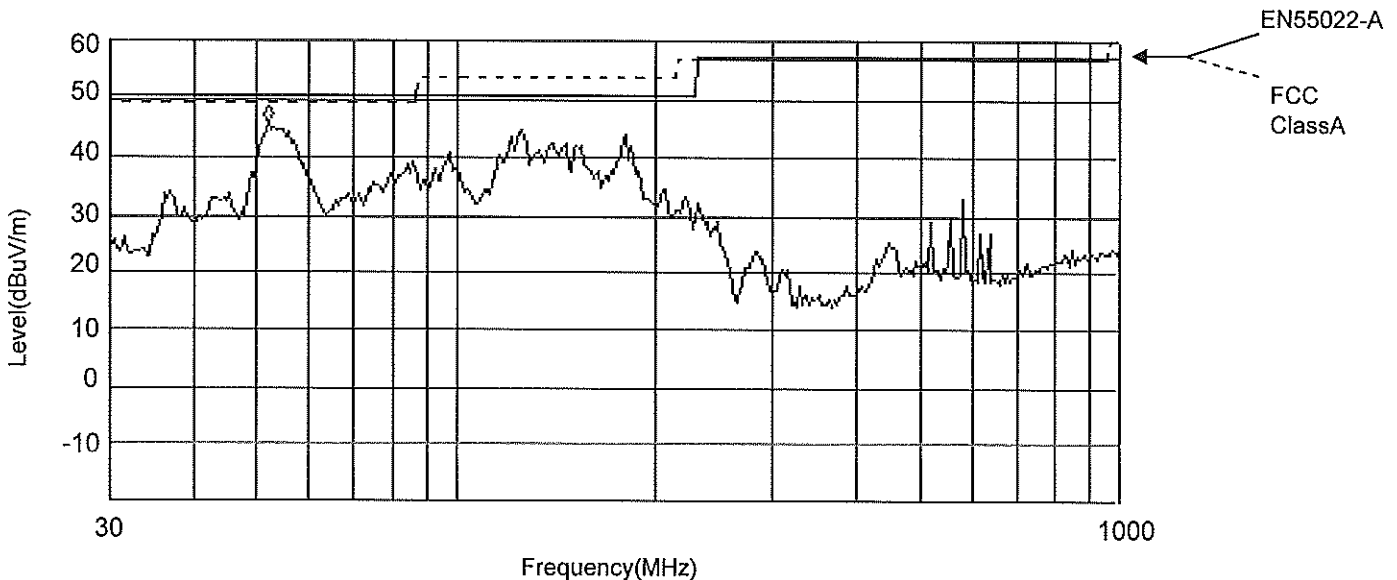
HFE 1600 installed in HFE-S1U Rack

Conditions: Vin: 100VAC
 Vout: 12V
 Iout: 100%
 Ta: 25°C

HORIZONTAL



VERTICAL



Freq (MHz)	Peak Amp (dBuV/m)	QP Amp (dBuV/m)	Limit (dBuV/m)	QP margin (dB)	Polariz.
53.9323	46.61	42.48	49.5(FCC)	-7.02	Vertical
53.9323	46.61	42.48	50.5(EN)	8.02	Vertical
100.1244	45.62	41.36	54(FCC)	-12.64	Horizontal
100.1244	45.62	41.36	50.5(EN)	-9.14	Horizontal

Limits of EN55022-A are same as VCCI-A

2. Test Data

2.2 Radiated Emission

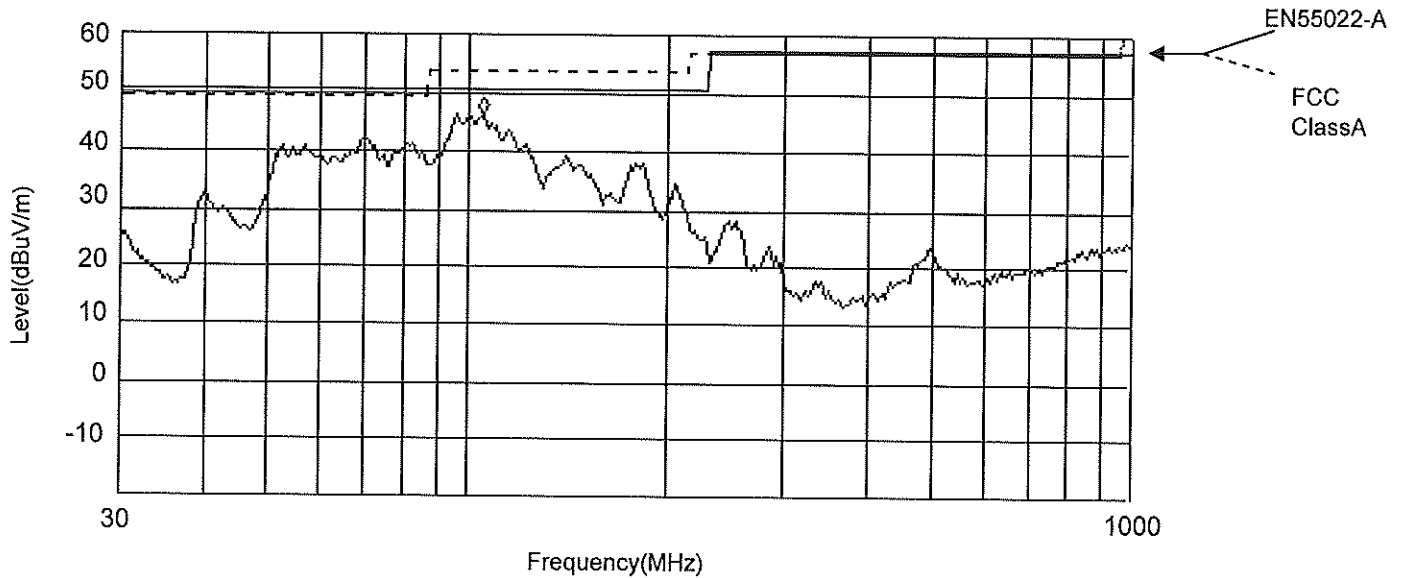
HFE1600

12V

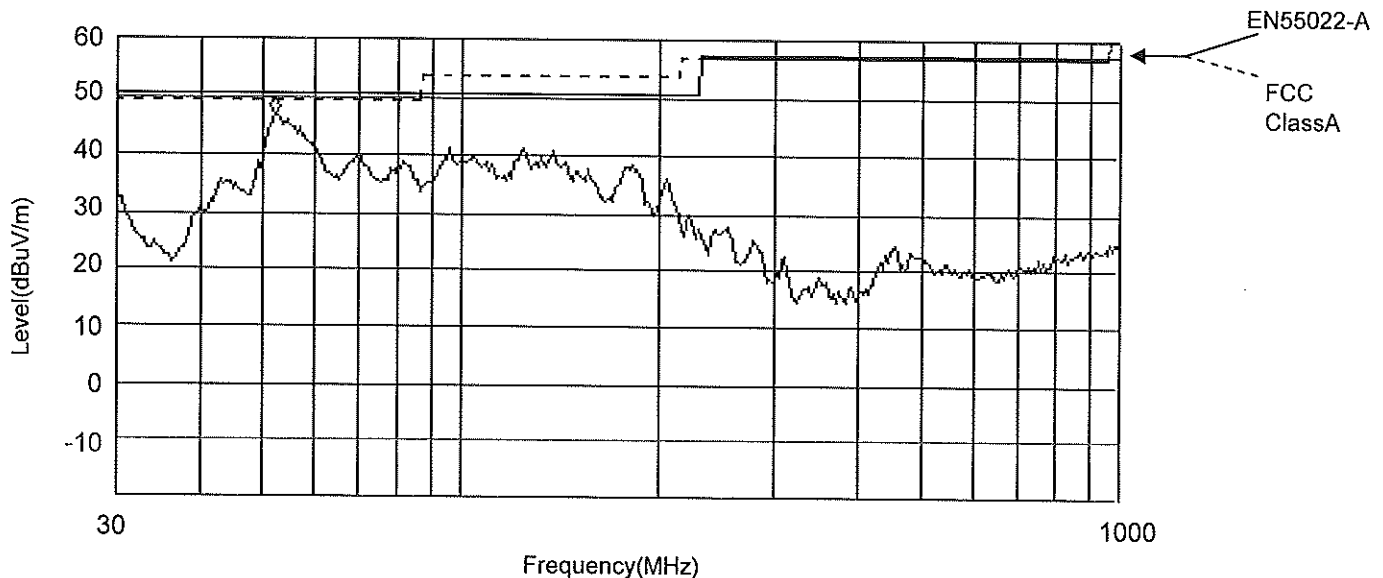
HFE 1600 installed in HFE-S1U Rack

Conditions: Vin: 230VAC
 Vout: 12V
 Iout: 100%
 Ta: 25°C

HORIZONTAL



VERTICAL



Freq (MHz)	Peak Amp (dBuV/m)	QP Amp (dBuV/m)	Limit (dBuV/m)	QP margin (dB)	Polariz.
53.5425	47.82	43.62	49.5(FCC)	-5.88	Vertical
53.5425	47.82	43.62	50.5(EN)	-6.88	Vertical
103.6134	47.26	43.16	54(FCC)	-10.84	Horizontal
103.6134	47.26	43.16	50.5(EN)	-7.34	Horizontal

Limits of EN55022-A are same as VCCI-A

2. Test Data

2.2 Radiated Emission

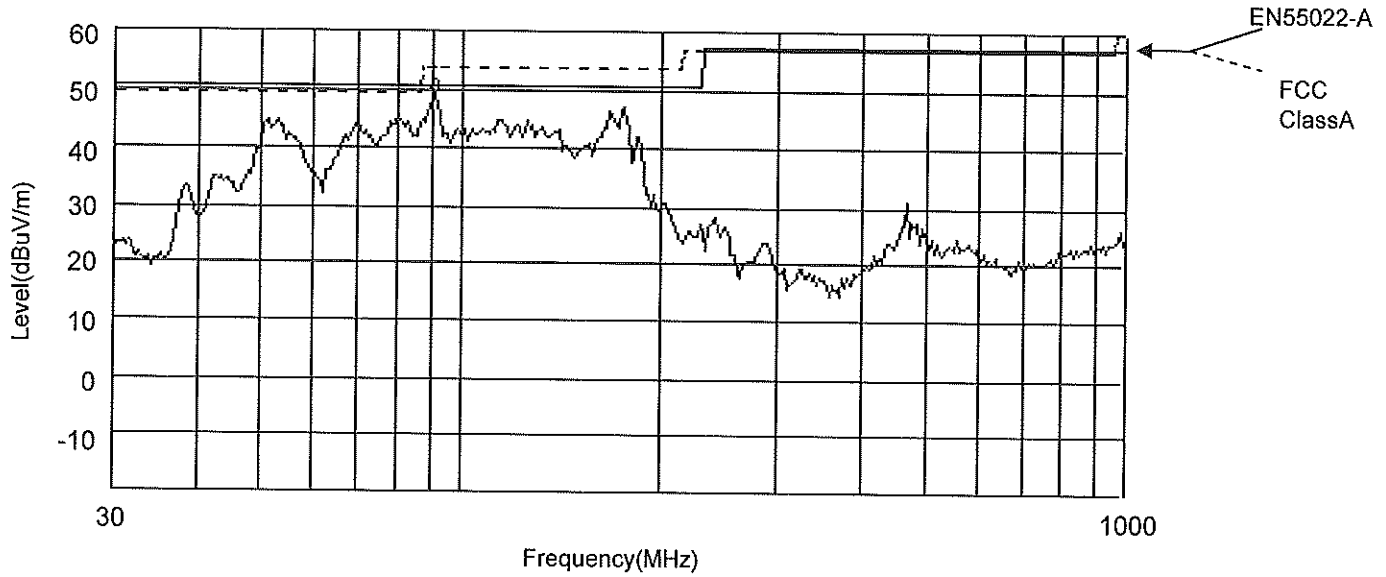
HFE1600

24V

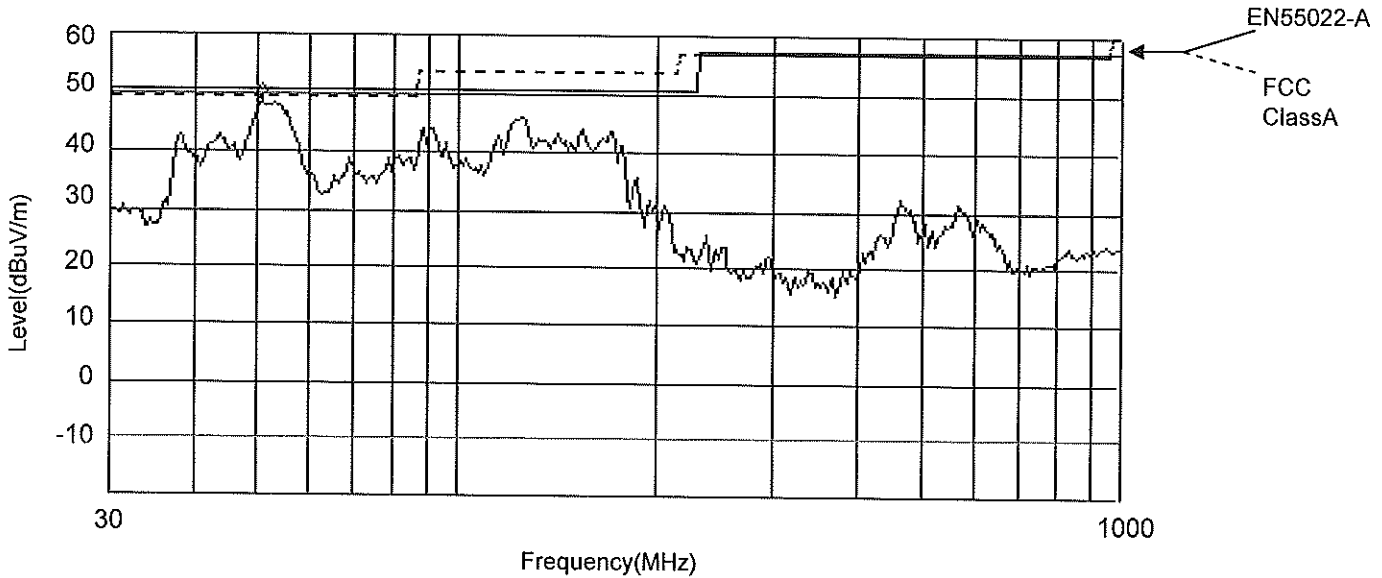
HFE 1600 installed in HFE-S1U Rack

Conditions: Vin: 100VAC
 Vout: 24V
 Iout: 100%
 Ta: 25°C

HORIZONTAL



VERTICAL



Freq (MHz)	Peak Amp (dBuV/m)	QP Amp (dBuV/m)	Limit (dBuV/m)	QP margin (dB)	Polariz.
53.8266	49.22	45.12	49.5(FCC)	-4.38	Vertical
53.8266	49.22	45.12	50.5(EN)	-5.38	Vertical
93.6124	50.52	46.32	54(FCC)	-7.68	Horizontal
93.6124	50.52	46.32	50.5(EN)	-4.18	Horizontal

Limits of EN55022-A are same as VCCI-A

2. Test Data

HFE1600

2.2 Radiated Emission

24V

HFE 1600 installed in HFE-S1U Rack

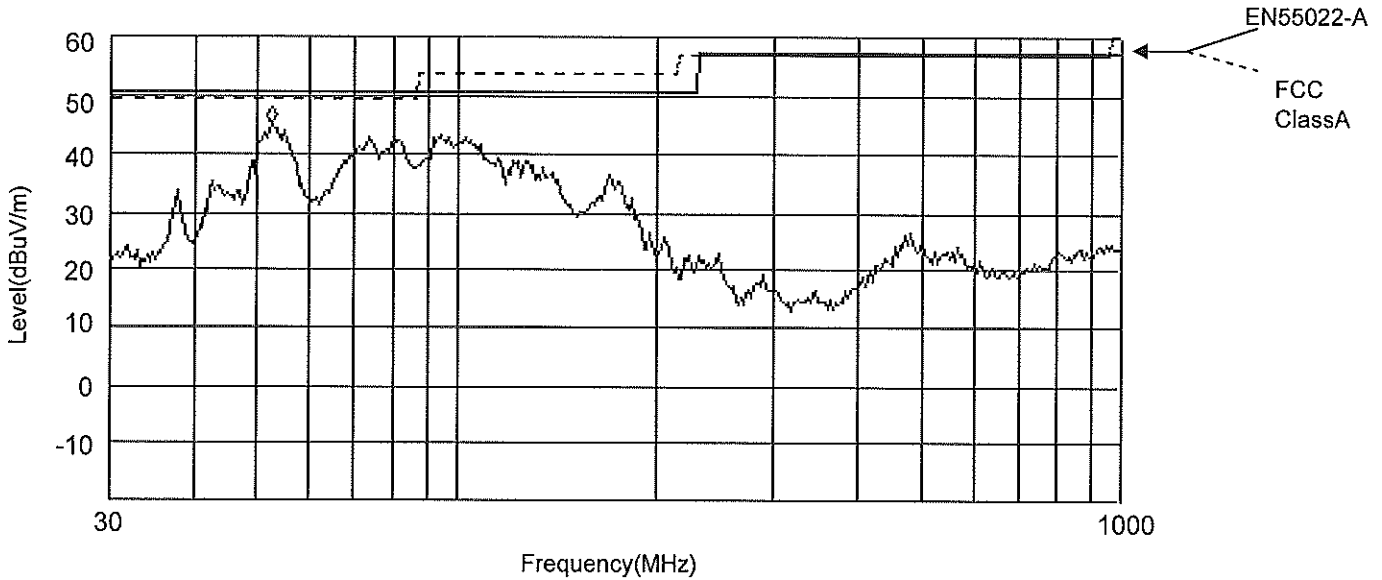
Conditions: Vin: 230VAC

Vout: 24V

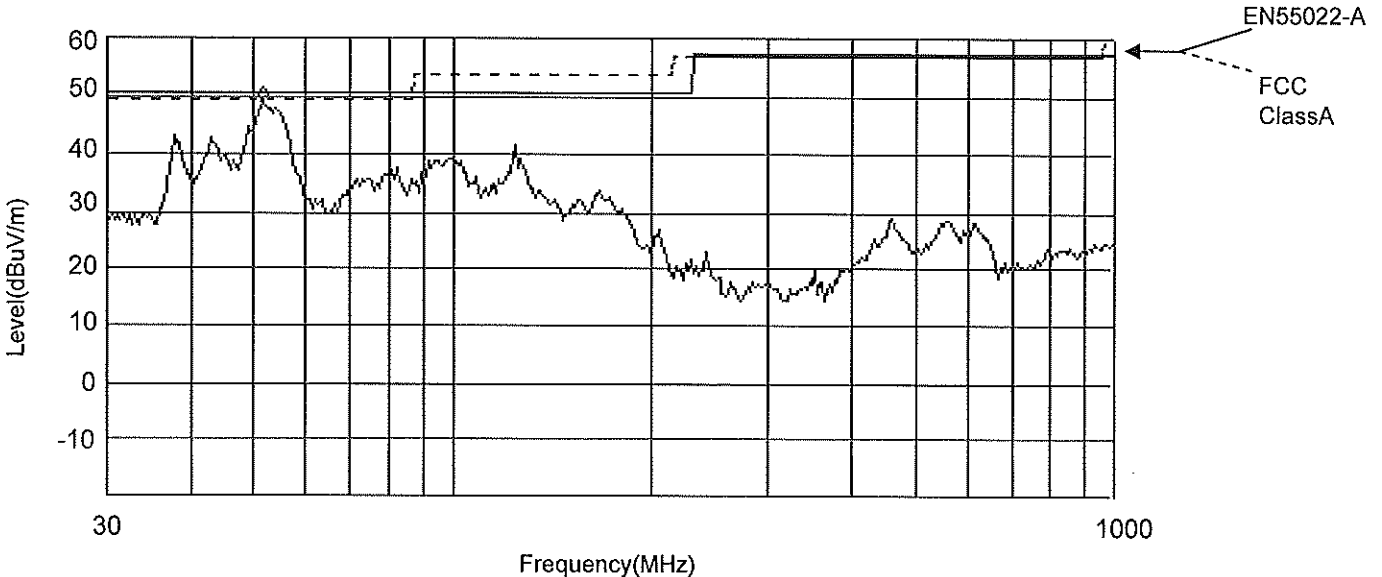
Iout: 100%

Ta: 25°C

HORIZONTAL



VERTICAL



Freq (MHz)	Peak Amp (dBuV/m)	QP Amp (dBuV/m)	Limit (dBuV/m)	QP margin (dB)	Polariz.
53.2466	49.74	45.54	49.5(FCC)	-3.96	Vertical
53.2466	49.74	45.54	50.5(EN)	-4.96	Vertical
51.8261	46.16	42.4	49.5(FCC)	-7.1	Horizontal
51.8261	46.16	42.4	50.5(EN)	-8.1	Horizontal

Limits of EN55022-A are same as VCCI-A

2. Test Data

2.2 Radiated Emission

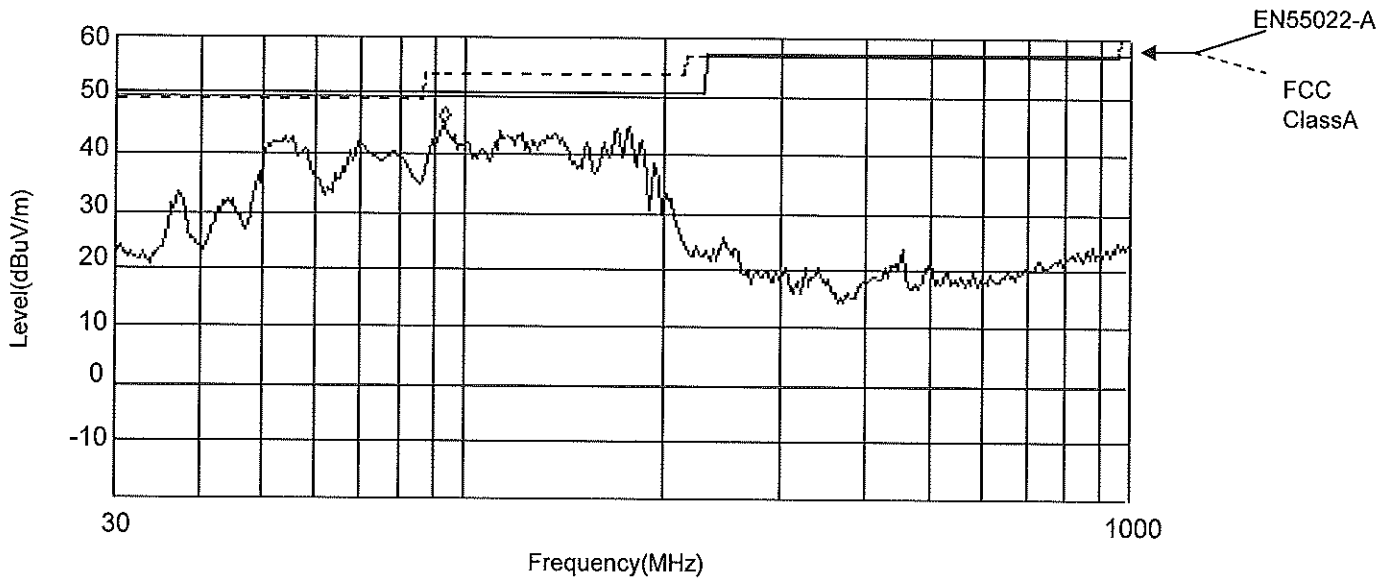
HFE1600

48V

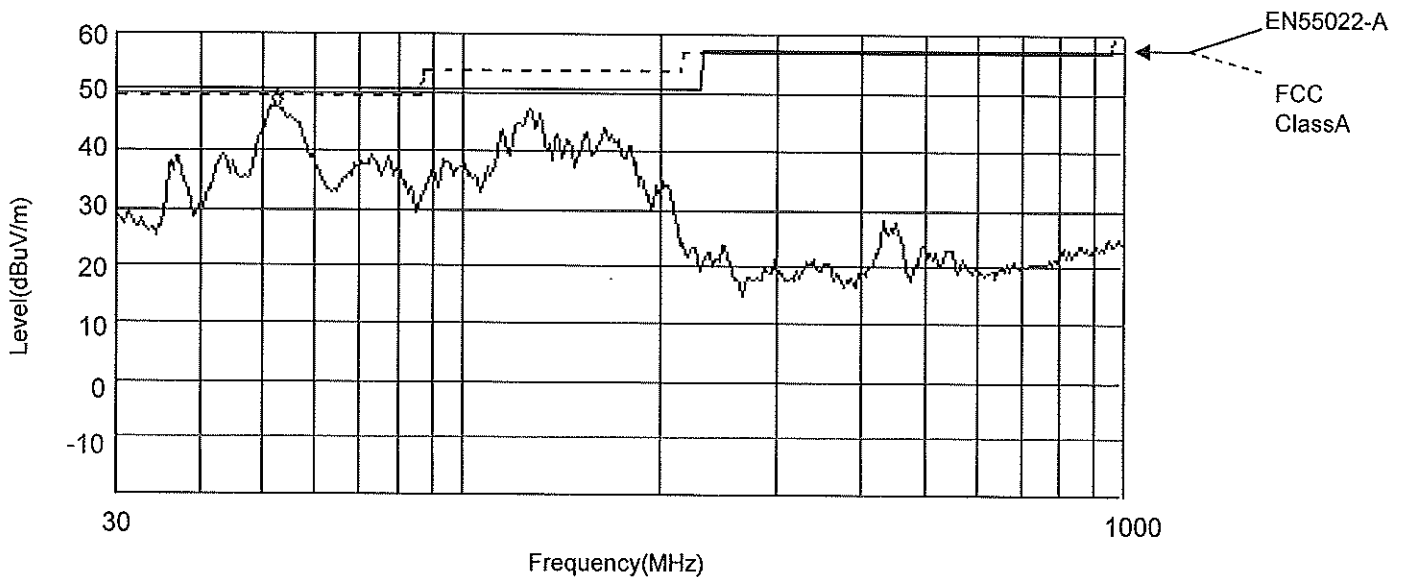
HFE 1600 installed in HFE-S1U Rack

Conditions: Vin: 100VAC
 Vout: 48V
 Iout: 100%
 Ta: 25°C

HORIZONTAL



VERTICAL



Freq (MHz)	Peak Amp (dBuV/m)	QP Amp (dBuV/m)	Limit (dBuV/m)	QP margin (dB)	Polariz.
53.4522	48.56	44.46	49.5(FCC)	-5.04	Vertical
53.4522	48.56	44.46	50.5(EN)	-6.04	Vertical
91.9675	46.24	42.14	54(FCC)	-11.86	Horizontal
91.9675	46.24	42.14	50.5(EN)	-8.36	Horizontal

Limits of EN55022-A are same as VCCI-A

2. Test Data
2.2 Radiated Emission

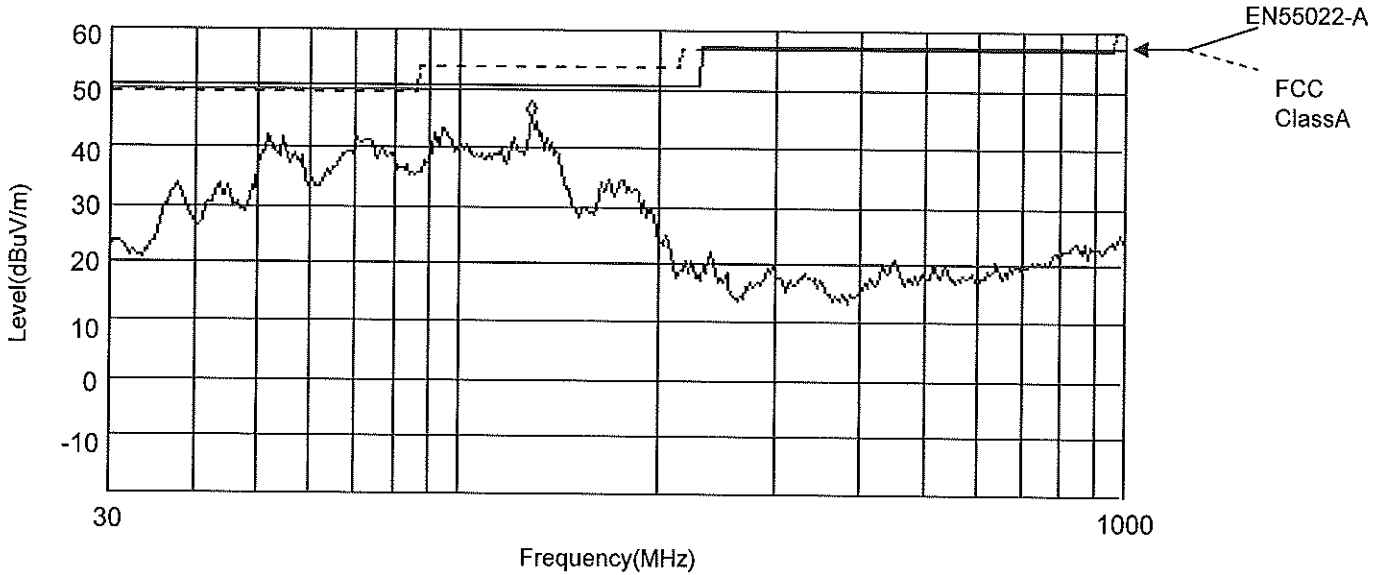
HFE1600

48V

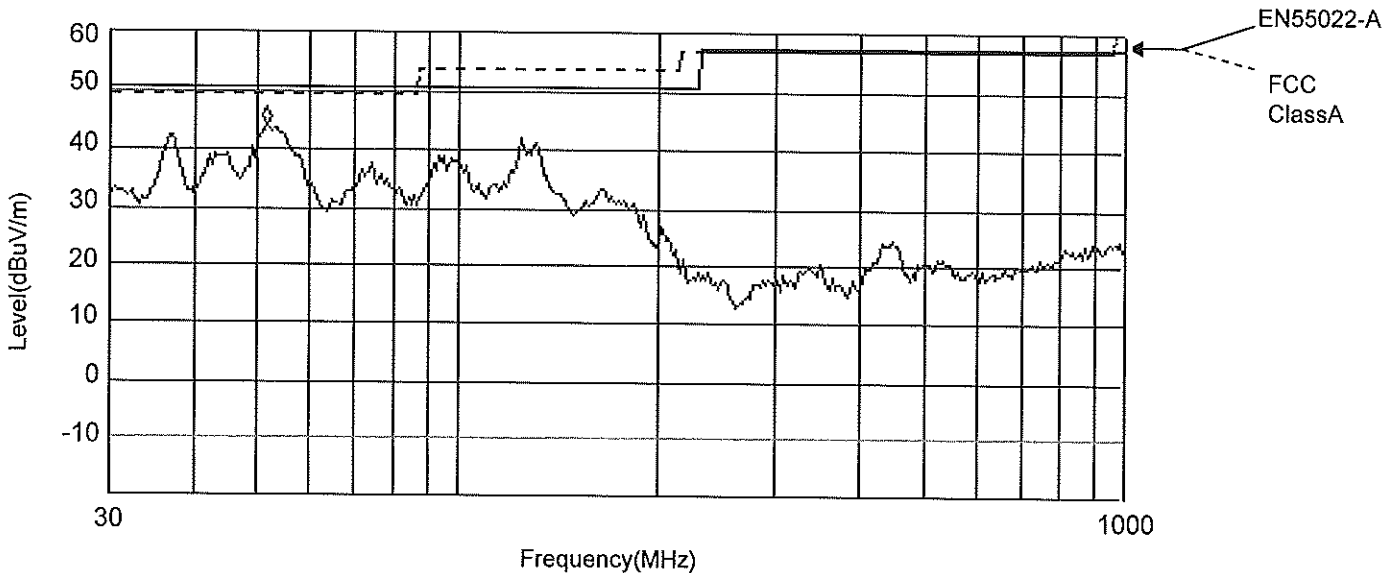
HFE 1600 installed in HFE-S1U Rack

Conditions: Vin: 230VAC
 Vout: 48V
 Iout: 100%
 Ta: 25°C

HORIZONTAL



VERTICAL



Freq (MHz)	Peak Amp (dBuV/m)	QP Amp (dBuV/m)	Limit (dBuV/m)	QP margin (dB)	Polariz.
52.9814	45.16	41.18	49.5(FCC)	-8.32	Vertical
52.9814	45.16	41.18	50.5(EN)	-9.32	Vertical
133.3488	46.44	42.3	54(FCC)	-11.7	Horizontal
133.3488	46.44	42.3	50.5(EN)	-8.2	Horizontal

Limits of EN55022-A are same as VCCI-A