

# ***GEN 5kw SERIES***

## ***EMI TEST DATA***

DWG: IA657-58-02		
APPD	CHK	DWG
<i>kw</i> 11 May 08	<i>Ami P.</i> 11-May-08	<i>MICHAEL G.</i> 6.02.2008

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The above data is typical value data.

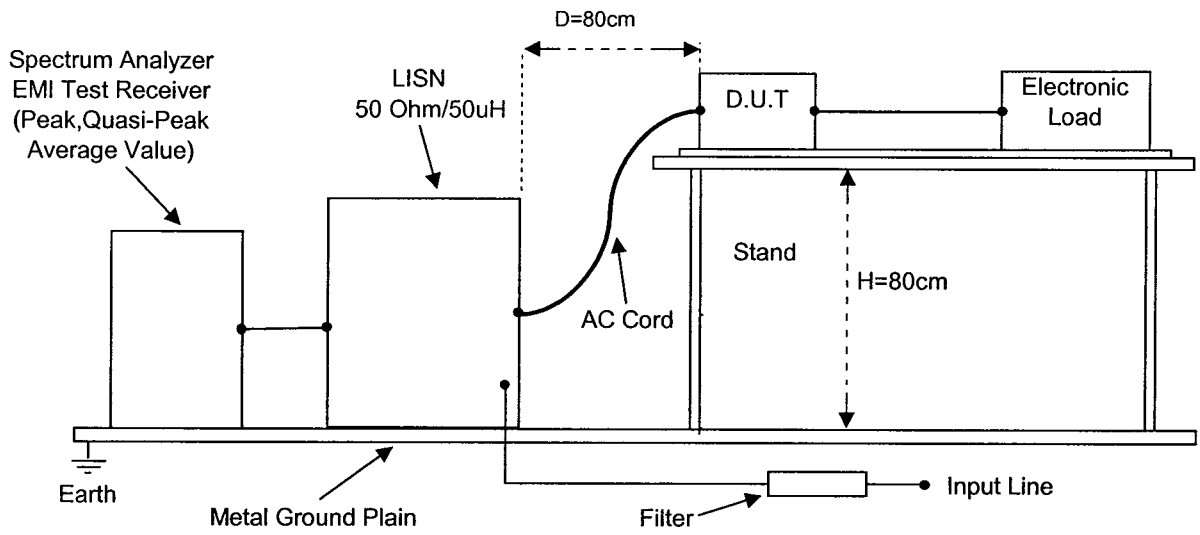
The values are considered to be actual capability data.

***NEMIC-LAMBDA***

# 1. Test Method

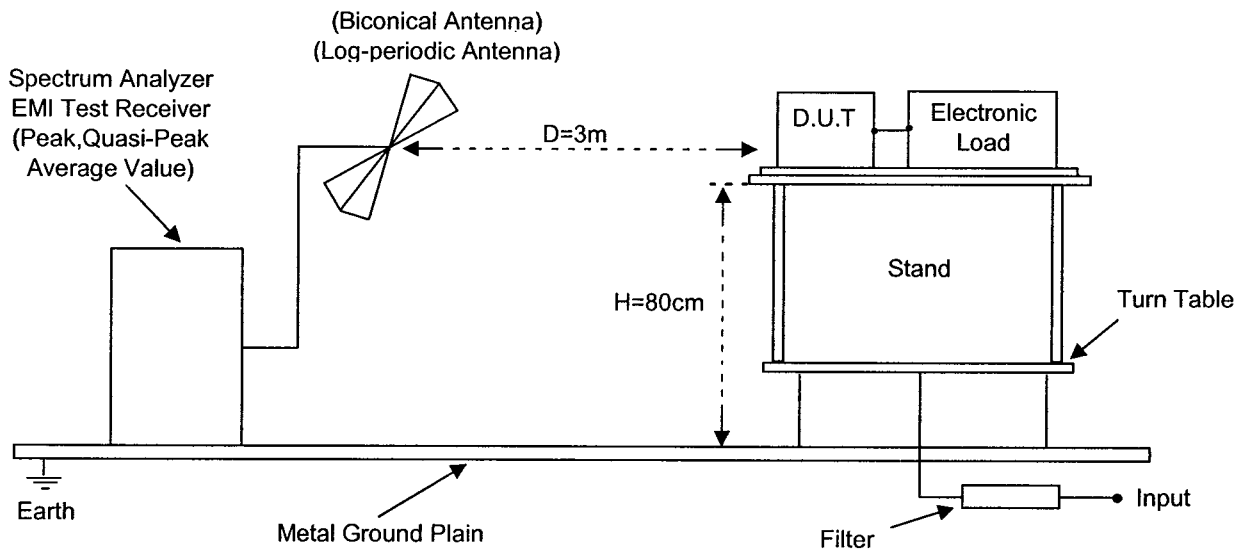
**GEN 5kW**

## (1) Conducted Emission



SPECTRUM ANALYZER	8567A	(HEWLETT. PACKARD)
EMI TEST RECEIVER	ESS	(ROHDE & SCHWARZ)
LISN	ENV4200	(ROHDE & SCHWARZ)

## (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)

## 2. Test Data

**GEN 5kW**

### 2.1 Conducted Emission

**MODEL: GEN 8-600 3P200**

#### (1) Test condition

Input voltage/frequency: 3PHASE 208VAC/50Hz  
Output current: 100%  
Output voltage: 100%  
Ambient temperature: 25°C  
Regulation: FCC Class A, EN55022-A

#### (2) Test results

Under the above test condition, emission level was below the limit line.  
Refer to the following interference wave list and next page for spectrum data.

Inteference wave list

EN55022-A, FCC Class A				
PHASE	FREQ	RESULT	LIMIT	MARGIN
		AV	AV	AV
	MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V
L1	0.20040	59.59	66.00	6.41
L2	0.20080	58.78	66.00	7.22
L3	0.20040	59.80	66.00	6.20

## EMI Electro-Magnetic Interference characteristics

**MODEL: GEN 8-600 3P200**

Conditions:

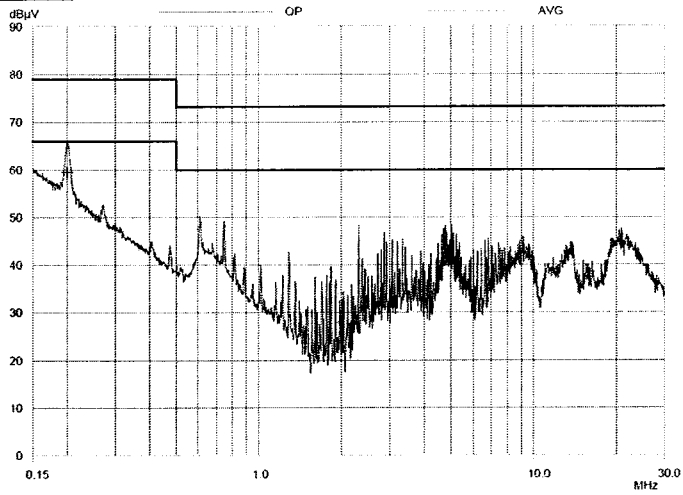
Vin: 3PHASE 208VAC

Iout: 100%

Vout: 100%

Ta: 25°C

### Phase L1

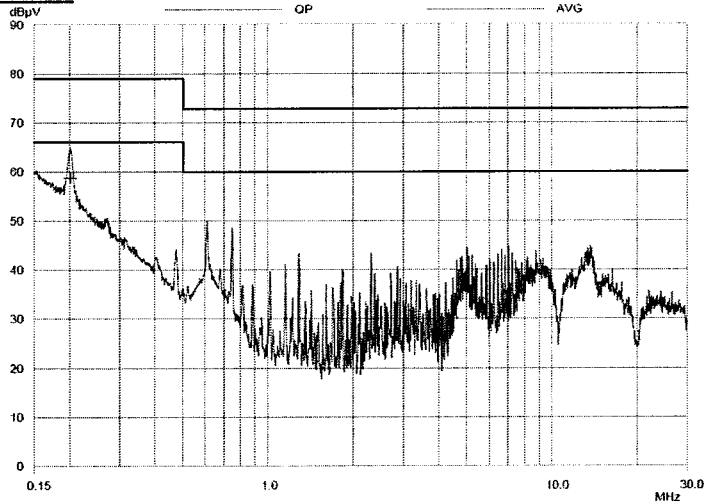


EN55022-A (QP)

EN55022-A (AV)

FCC Class A

### Phase L2

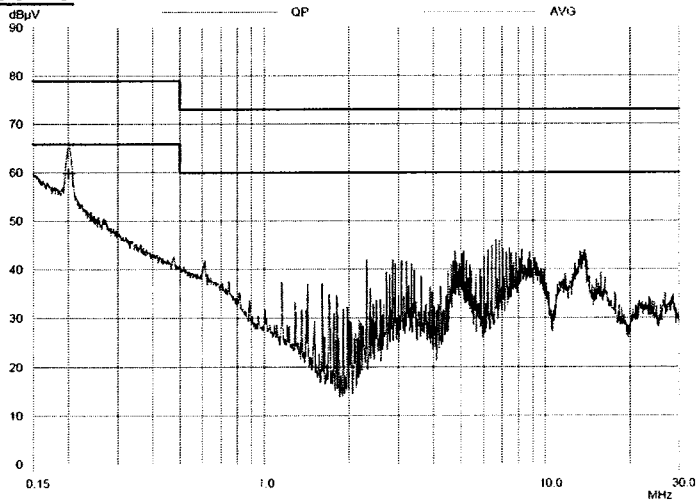


EN55022-A (QP)

EN55022-A (AV)

FCC Class A

### Phase L3



EN55022-A (QP)

EN55022-A (AV)

FCC Class A

## 2. Test Data

**GEN 5kW**

### 2.1 Conducted Emission

**MODEL: GEN 8-600 3P400**

#### (1) Test condition

Input voltage/frequency: 3PHASE 400VAC/50Hz  
Output current: 100%  
Output voltage: 100%  
Ambient temperature: 25°C  
Regulation: FCC Class A, EN55022-A

#### (2) Test results

Under the above test condition, emission level was below the limit line.  
Refer to the following interference wave list and next page for spectrum data.

#### Inteference wave list

EN55022-A, FCC Class A				
PHASE	FREQ	RESULT	LIMIT	MARGIN
		AV	AV	AV
	MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V
L1	0.22057	56.80	66.00	9.20
L2	0.22101	57.91	66.00	8.09
L3	0.22057	55.50	66.00	10.50

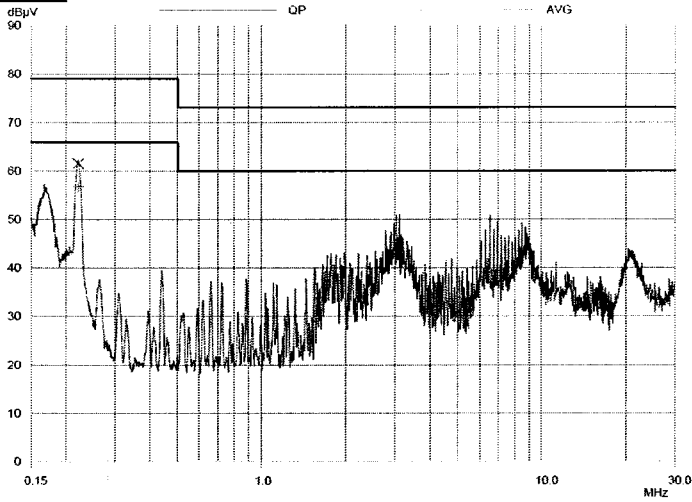
EMI  
Electro-Magnetic Interference characteristics

**MODEL: GEN 8-600 3P400**

Conditions:

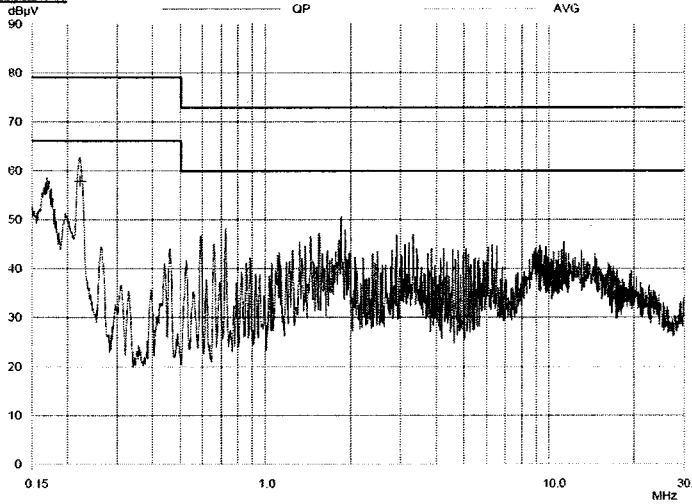
Vin: 3PHASE 400VAC  
Iout: 100%  
Vout: 100%  
Ta: 25°C

Phase L1



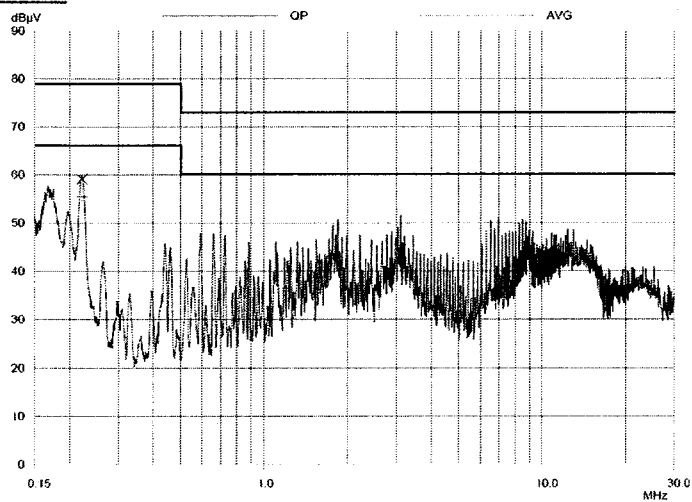
EN55022-A (QP)  
EN55022-A (AV)  
FCC Class A

Phase L2



EN55022-A (QP)  
EN55022-A (AV)  
FCC Class A

Phase L3



EN55022-A (QP)  
EN55022-A (AV)  
FCC Class A

## 2. Test Data

**GEN 5kW**

### 2.1 Conducted Emission

**MODEL: GEN 60-85 3P200**

#### (1) Test condition

Input voltage/frequency: 3PHASE 208VAC/50Hz  
Output current: 100%  
Output voltage: 100%  
Ambient temperature: 25°C  
Regulation: FCC Class A, EN55022-A

#### (2) Test results

Under the above test condition, emission level was below the limit line.  
Refer to the following interference wave list and next page for spectrum data.

Intefereance wave list

EN55022-A, FCC Class A				
PHASE	FREQ	RESULT	LIMIT	MARGIN
		AV	AV	AV
	MHz	dBμV	dBμV	dBμV
L1	0.19960	58.79	66.00	7.21
L2	0.19960	58.32	66.00	7.68
L3	0.19920	59.12	66.00	6.88



## EMI Electro-Magnetic Interference characteristics

**MODEL: GEN 60-85 3P200**

Conditions:

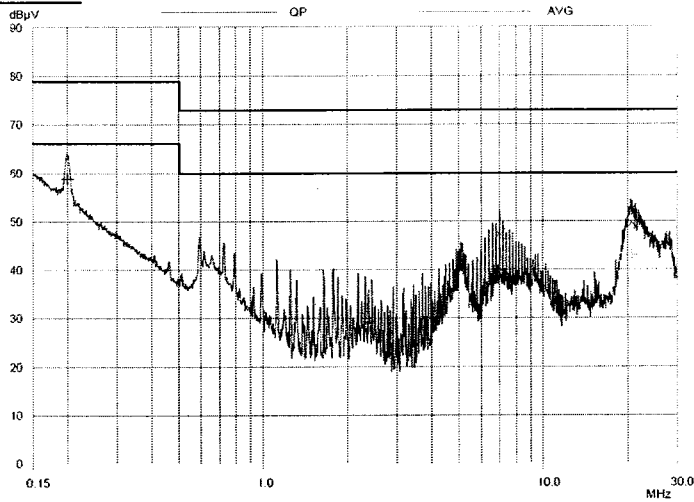
Vin: 3PHASE 208VAC

Iout: 100%

Vout: 100%

Ta: 25°C

### Phase L1

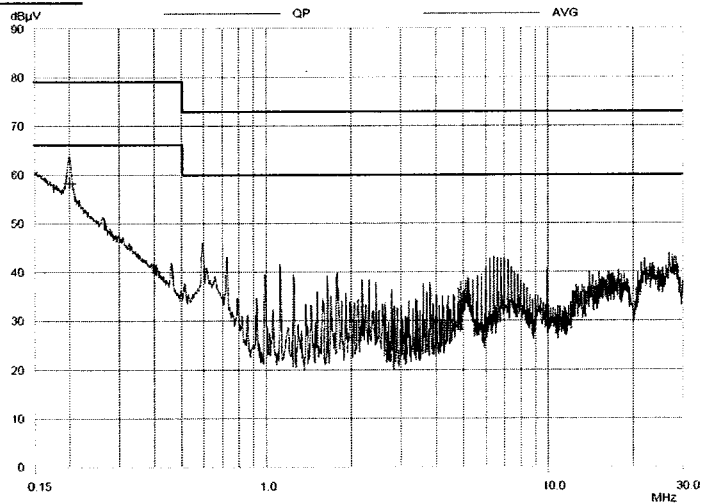


EN55022-A (QP)

EN55022-A (AV)

FCC Class A

### Phase L2

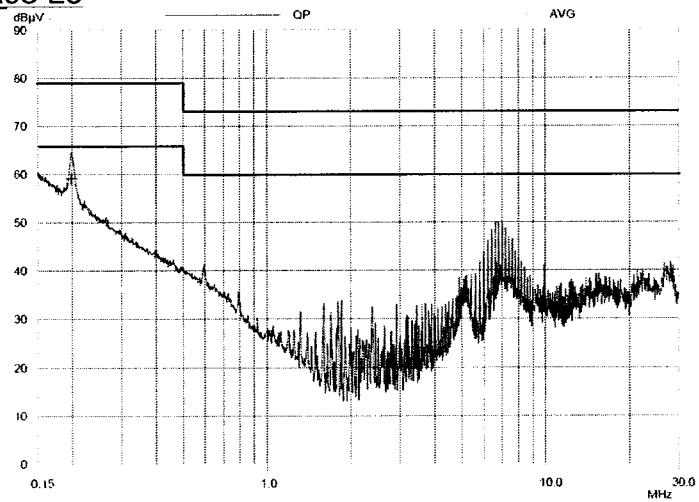


EN55022-A (QP)

EN55022-A (AV)

FCC Class A

### Phase L3



EN55022-A (QP)

EN55022-A (AV)

FCC Class A

## 2. Test Data

**GEN 5kW**

### 2.1 Conducted Emission

**MODEL: GEN 60-85 3P400**

#### (1) Test condition

Input voltage/frequency: 3PHASE 400VAC/50Hz  
Output current: 100%  
Output voltage: 100%  
Ambient temperature: 25°C  
Regulation: FCC Class A, EN55022-A

#### (2) Test results

Under the above test condition, emission level was below the limit line.  
Refer to the following interference wave list and next page for spectrum data.

Inteference wave list

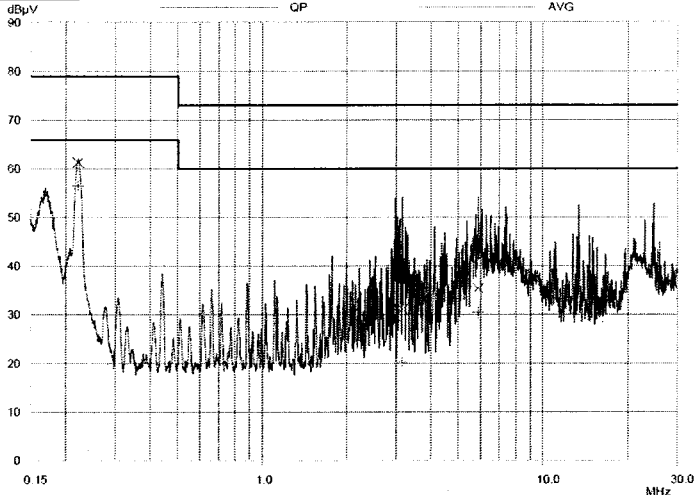
EN55022-A, FCC Class A				
PHASE	FREQ	RESULT	LIMIT	MARGIN
		AV	AV	AV
	MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V
L1	0.22057	56.61	66.00	9.39
	0.22101	56.44	66.00	9.56
L2	0.22057	57.99	66.00	8.01
L3	0.21925	54.70	66.00	11.30

**EMI**  
Electro-Magnetic Interference characteristics

**MODEL: GEN 60-85 3P400**

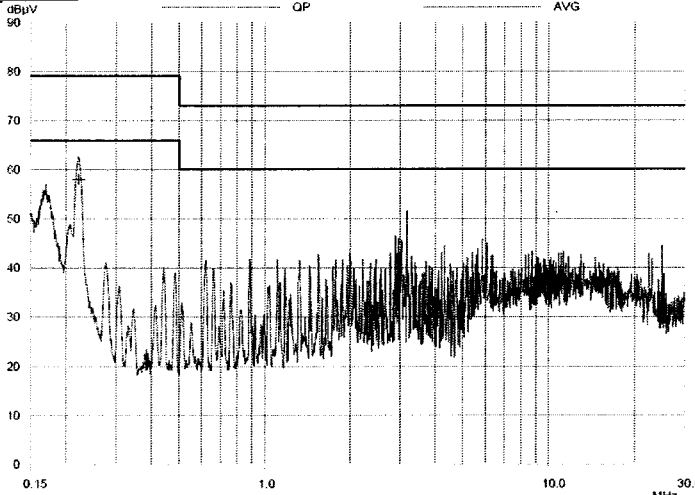
Conditions: Vin: 3PHASE 400VAC  
Iout: 100%  
Vout: 100%  
Ta: 25°C

**Phase L1**



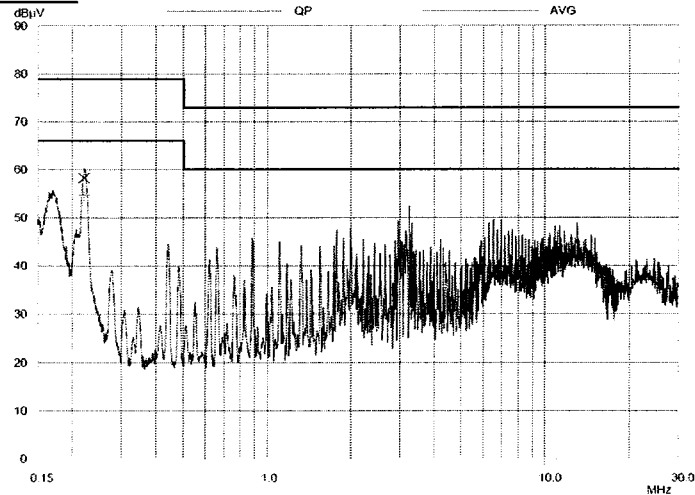
← EN55022-A (QP)  
← EN55022-A (AV)  
← FCC Class A

**Phase L2**



← EN55022-A (QP)  
← EN55022-A (AV)  
← FCC Class A

**Phase L3**



← EN55022-A (QP)  
← EN55022-A (AV)  
← FCC Class A

## 2. Test Data

**GEN 5kW**

### 2.1 Conducted Emission

**MODEL: GEN 150-34 3P200**

#### (1) Test condition

Input voltage/frequency: 3PHASE 208VAC/50Hz  
Output current: 100%  
Output voltage: 100%  
Ambient temperature: 25°C  
Regulation: FCC Class A, EN55022-A

#### (2) Test results

Under the above test condition, emission level was below the limit line.  
Refer to the following interference wave list and next page for spectrum data.

#### Interference wave list

EN55022-A, FCC Class A				
PHASE	FREQ	RESULT	LIMIT	MARGIN
		AV	AV	AV
	MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V
L1	0.19960	58.76	66.00	7.24
	19.88557	51.20	60.00	8.80
L2	0.20000	58.02	66.00	7.98
L3	0.20000	58.96	66.00	7.04

## EMI Electro-Magnetic Interference characteristics

**MODEL: GEN 150-34 3P200**

Conditions:

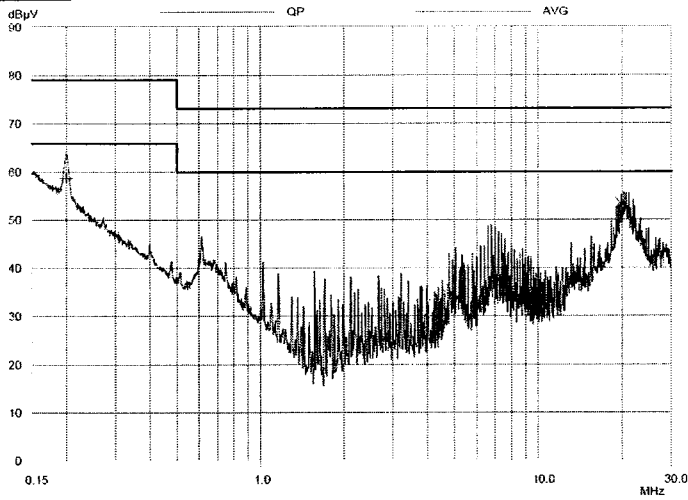
Vin: 3PHASE 208VAC

Iout: 100%

Vout: 100%

Ta: 25°C

### Phase L1

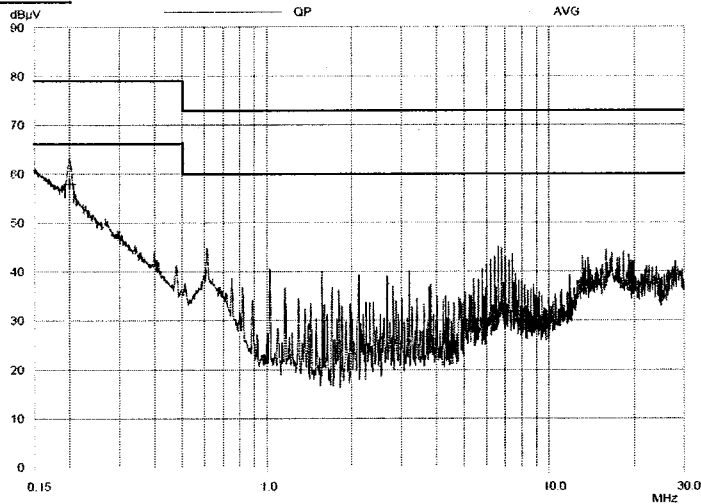


EN55022-A (QP)

EN55022-A (AV)

FCC Class A

### Phase L2

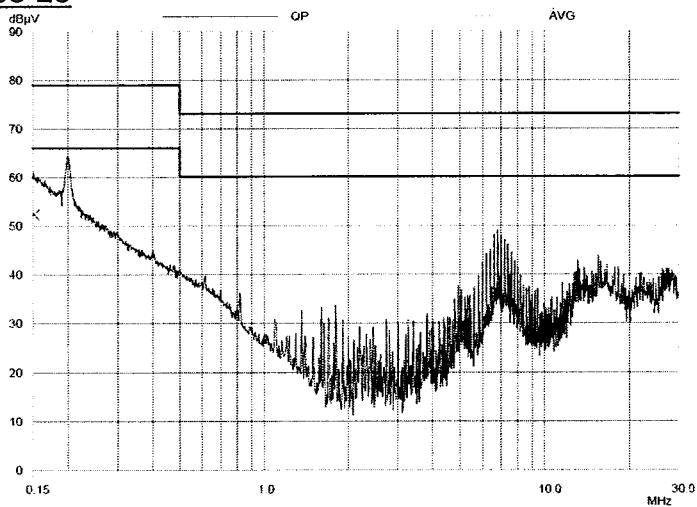


EN55022-A (QP)

EN55022-A (AV)

FCC Class A

### Phase L3



EN55022-A (QP)

EN55022-A (AV)

FCC Class A

## 2. Test Data

**GEN 5kW**

### 2.1 Conducted Emission

**MODEL: GEN 150-34 3P400**

#### (1) Test condition

Input voltage/frequency: 3PHASE 400VAC/50Hz  
Output current: 100%  
Output voltage: 100%  
Ambient temperature: 25°C  
Regulation: FCC Class A, EN55022-A

#### (2) Test results

Under the above test condition, emission level was below the limit line.  
Refer to the following interference wave list and next page for spectrum data.

Interference wave list

EN55022-A, FCC Class A				
PHASE	FREQ	RESULT	LIMIT	MARGIN
		AV	AV	AV
	MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V
L1	0.22057	56.97	66.00	9.03
	20.69629	49.04	60.00	10.96
L2	0.22013	58.16	66.00	7.84

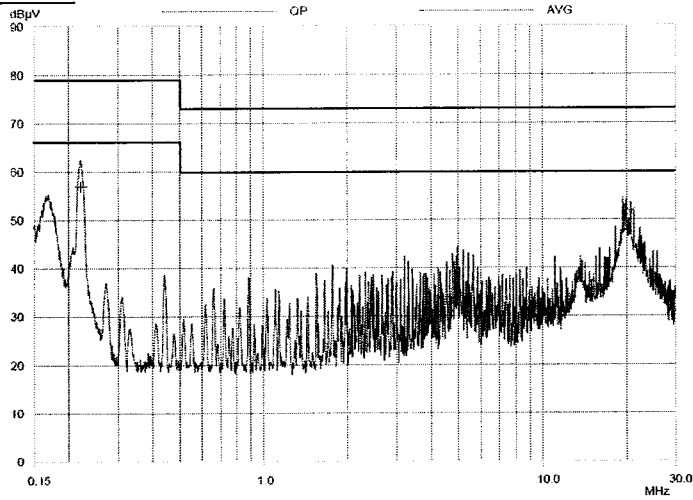
EMI  
Electro-Magnetic Interference characteristics

**MODEL: GEN 150-34 3P400**

Conditions:

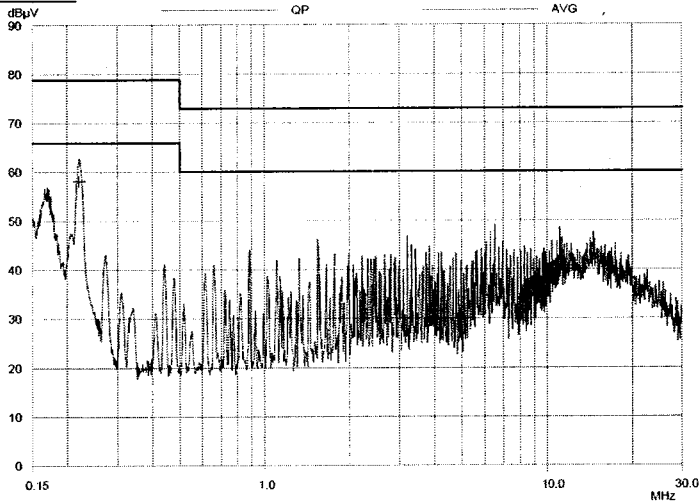
Vin: 3PHASE 400VAC  
Iout: 100%  
Vout: 100%  
Ta: 25°C

Phase L1



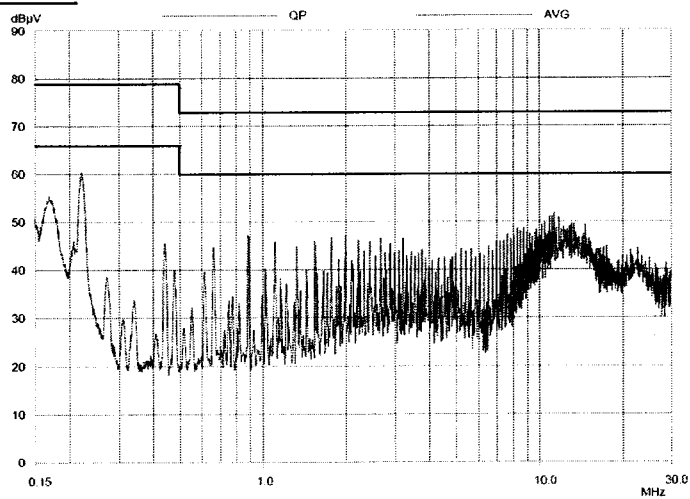
← EN55022-A (QP)  
← EN55022-A (AV)  
← FCC Class A

Phase L2



← EN55022-A (QP)  
← EN55022-A (AV)  
← FCC Class A

Phase L3



← EN55022-A (QP)  
← EN55022-A (AV)  
← FCC Class A

## 2. Test Data

**GEN 5kW**

### 2.1 Conducted Emission

**MODEL: GEN 600-8.5 3P200**

#### (1) Test condition

Input voltage/frequency: 3PHASE 208VAC/50Hz  
Output current: 100%  
Output voltage: 100%  
Ambient temperature: 25°C  
Regulation: FCC Class A, EN55022-A

#### (2) Test results

Under the above test condition, emission level was below the limit line.  
Refer to the following interference wave list and next page for spectrum data.

Inteference wave list

EN55022-A, FCC Class A

PHASE	FREQ	RESULT	LIMIT	MARGIN
		AV	AV	AV
	MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V
L1	0.20000	58.49	66.00	7.51
	5.10058	51.14	60.00	8.86
L2	0.19920	57.92	66.00	8.08
L3	0.20000	58.64	66.00	7.36

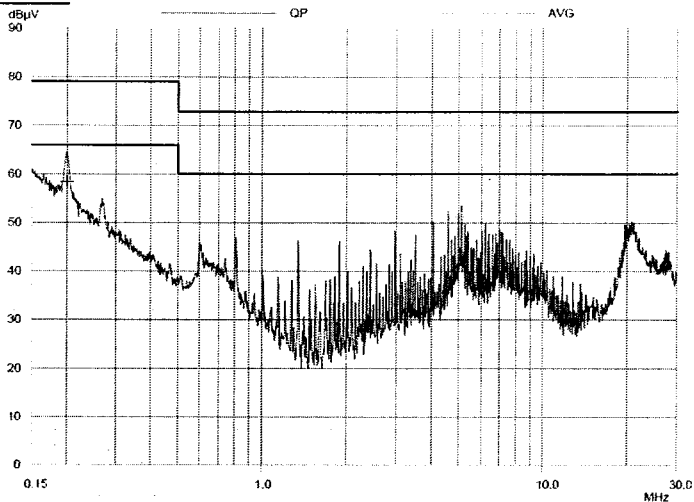


EMI  
Electro-Magnetic Interference characteristics

**MODEL: GEN 600-8.5 3P200**

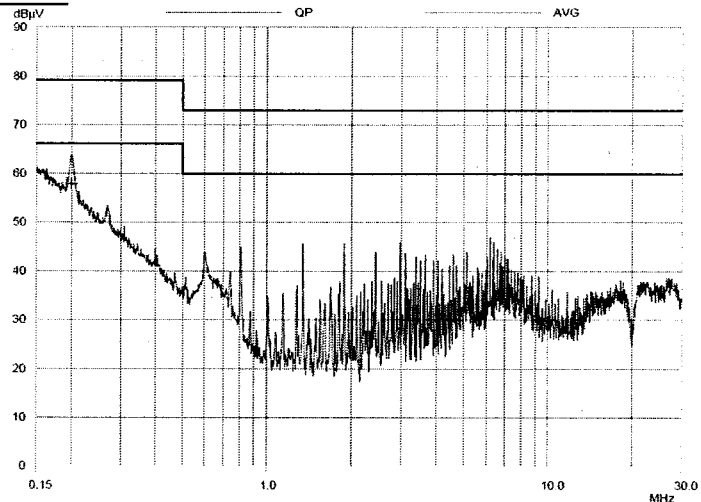
Conditions: Vin: 3PHASE 208VAC  
Iout: 100%  
Vout: 100%  
Ta: 25°C

Phase L1



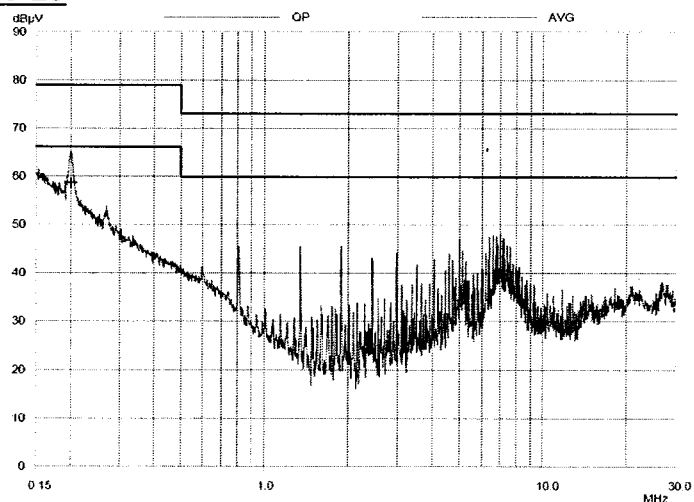
EN55022-A (QP)  
EN55022-A (AV)  
FCC Class A

Phase L2



EN55022-A (QP)  
EN55022-A (AV)  
FCC Class A

Phase L3



EN55022-A (QP)  
EN55022-A (AV)  
FCC Class A

## 2. Test Data

**GEN 5kW**

### 2.1 Conducted Emission

**MODEL: GEN 600-8.5 3P400**

#### (1) Test condition

Input voltage/frequency: 3PHASE 400VAC/50Hz  
Output current: 100%  
Output voltage: 100%  
Ambient temperature: 25°C  
Regulation: FCC Class A, EN55022-A

#### (2) Test results

Under the above test condition, emission level was below the limit line.  
Refer to the following interference wave list and next page for spectrum data.

Inteference wave list

EN55022-A, FCC Class A				
PHASE	FREQ	RESULT	LIMIT	MARGIN
		AV	AV	AV
	MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V
L1	0.22101	56.66	66.00	9.34
	4.29532	50.65	60.00	9.35
	4.83271	52.02	60.00	7.98
L2	0.22057	57.70	66.00	8.30
	0.22101	57.52	66.00	8.48
L3	0.22146	55.44	66.00	10.56

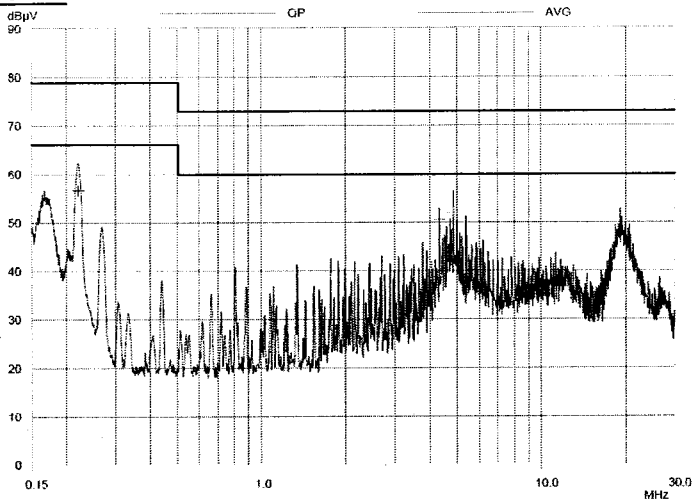
## EMI Electro-Magnetic Interference characteristics

**MODEL: GEN 600-8.5 3P400**

Conditions:

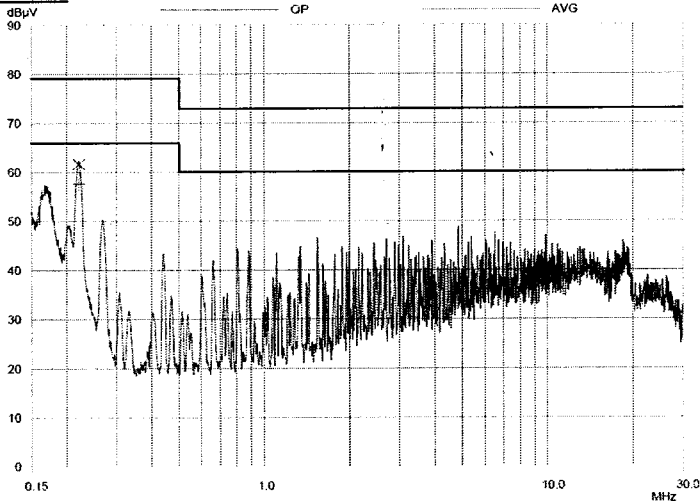
Vin: 3PHASE 400VAC  
Iout: 100%  
Vout: 100%  
Ta: 25°C

### Phase L1



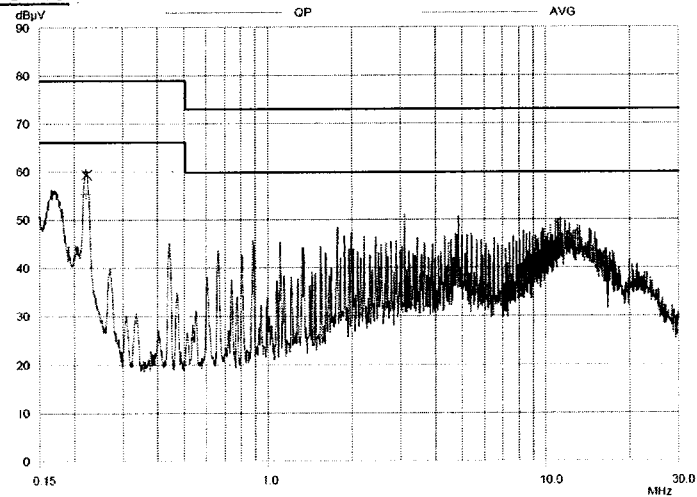
EN55022-A (QP)  
←  
EN55022-A (AV)  
←  
FCC Class A

### Phase L2



EN55022-A (QP)  
←  
EN55022-A (AV)  
←  
FCC Class A

### Phase L3



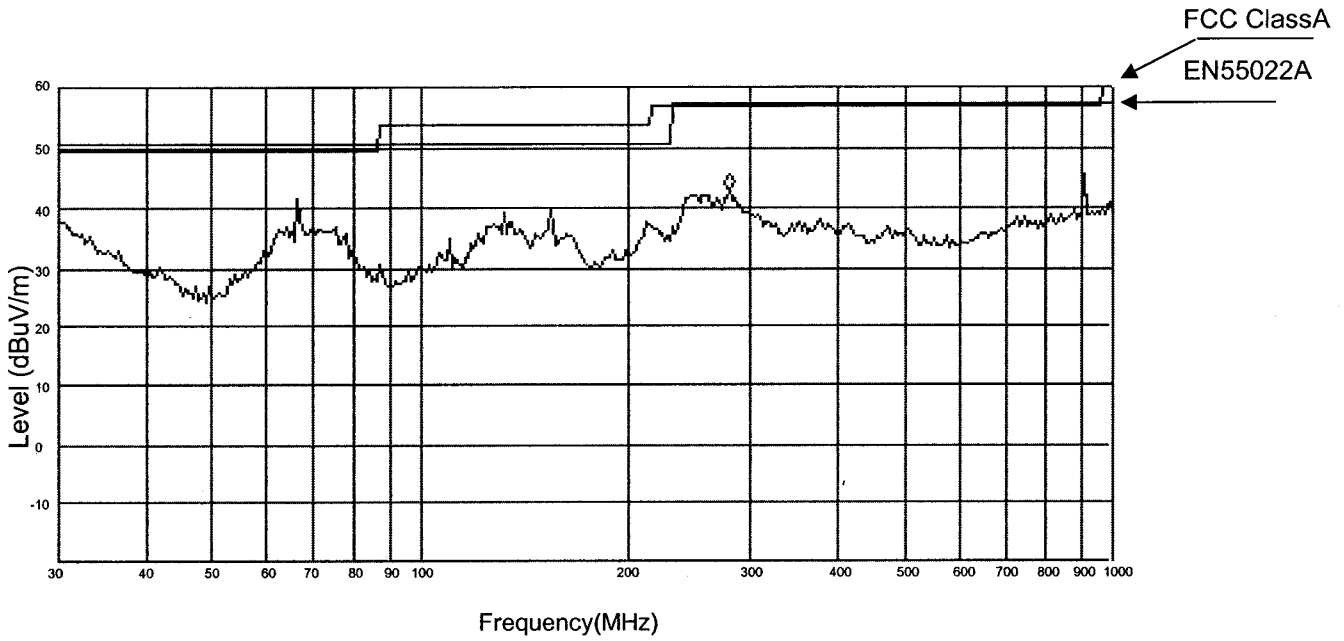
EN55022-A (QP)  
←  
EN55022-A (AV)  
←  
FCC Class A

EMI  
Electro-Magnetic interference characteristics

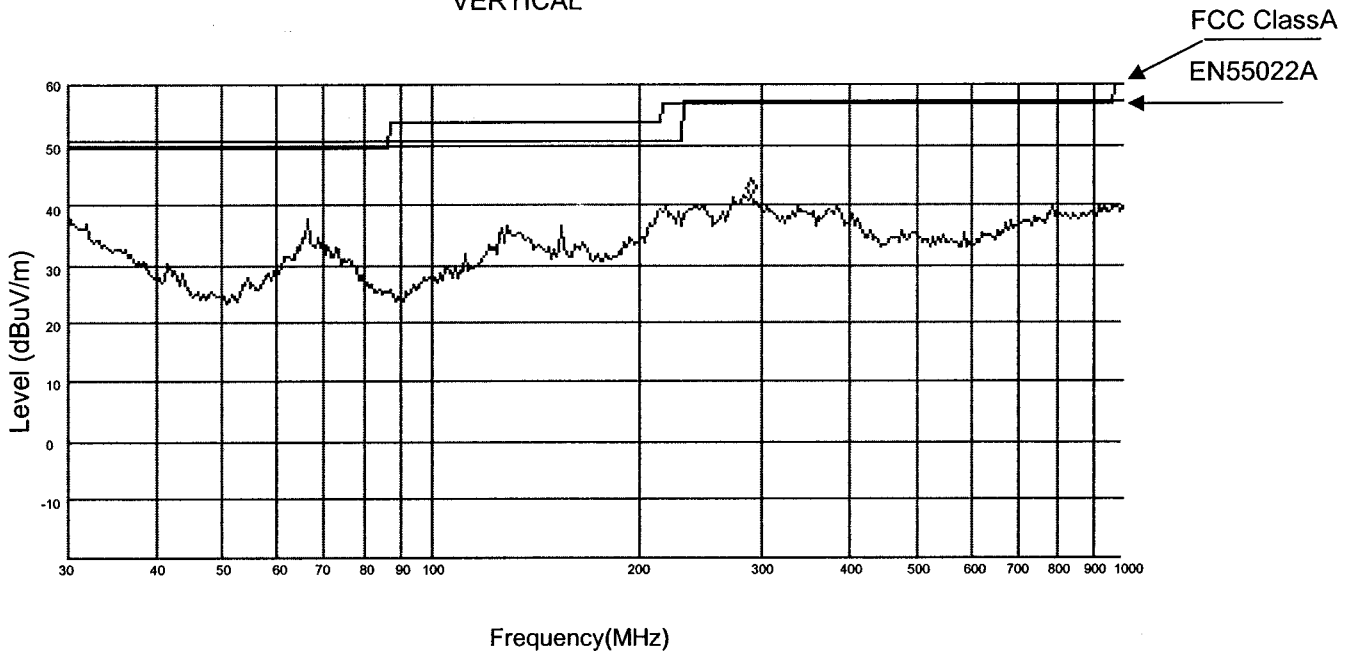
**MODEL: GEN 8-600 3P200**

Conditions: Vin: 208Vac (L-L)  
Vout: 100%  
Iout: 100%  
Ta: 25°C

HORIZONTAL



VERTICAL

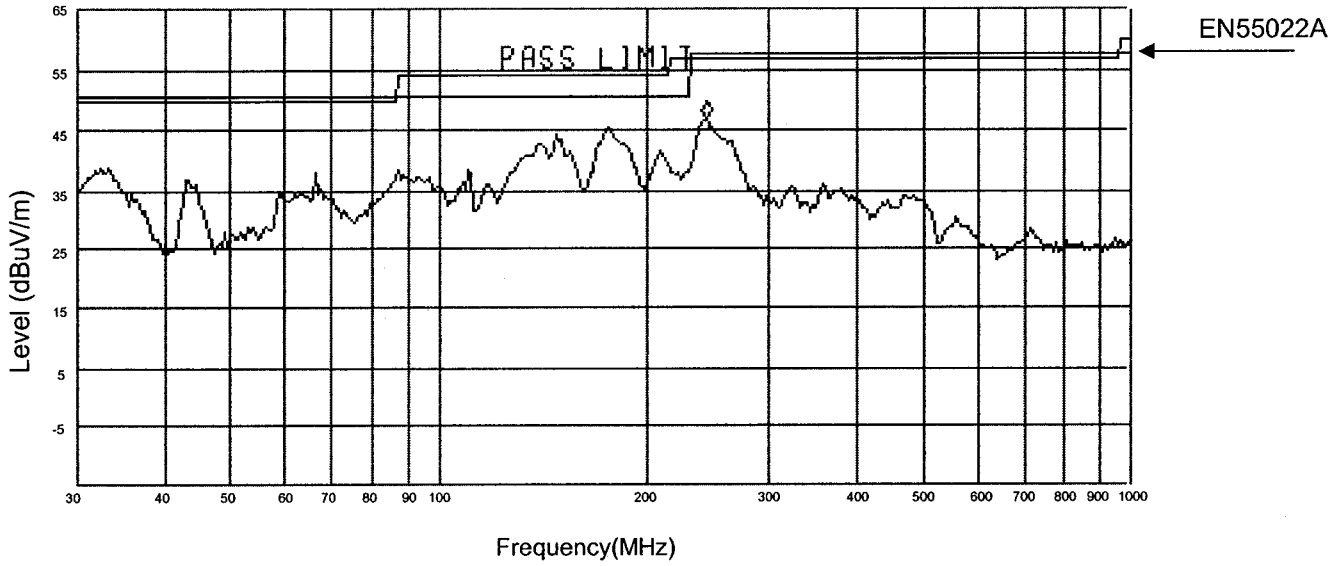


## EMI Electro-Magnetic interference characteristics

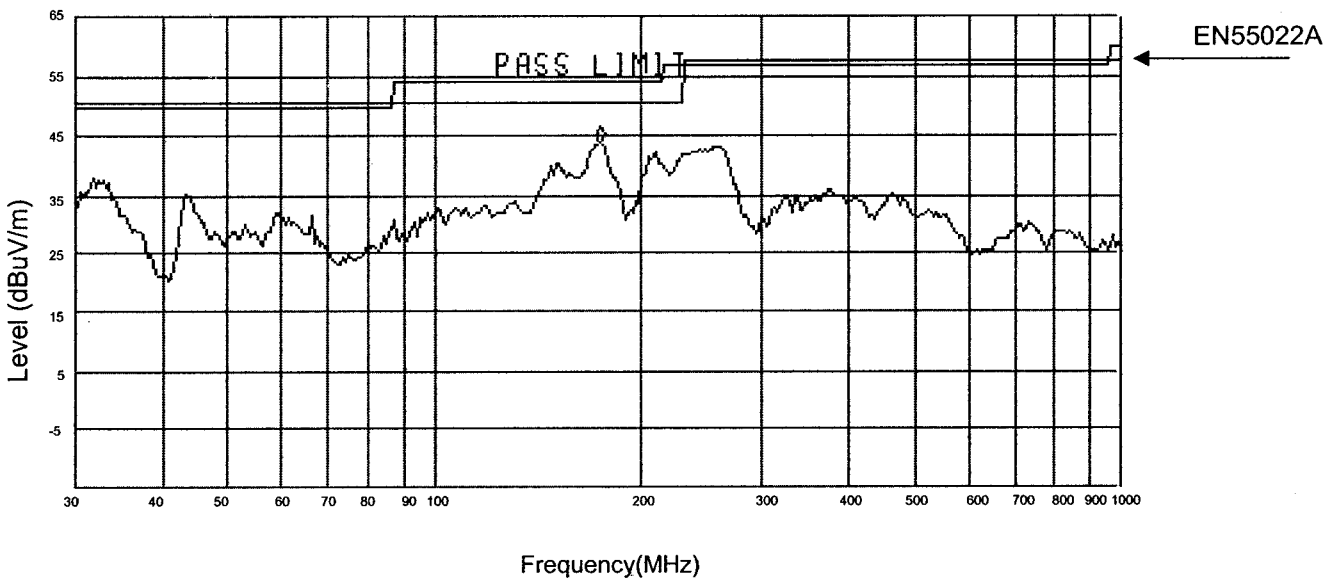
**MODEL: GEN 8-600 3P400**

Conditions: Vin: 400Vac (L-L)  
Vout: 100%  
Iout: 100%  
Ta: 25°C

HORIZONTAL



VERTICAL

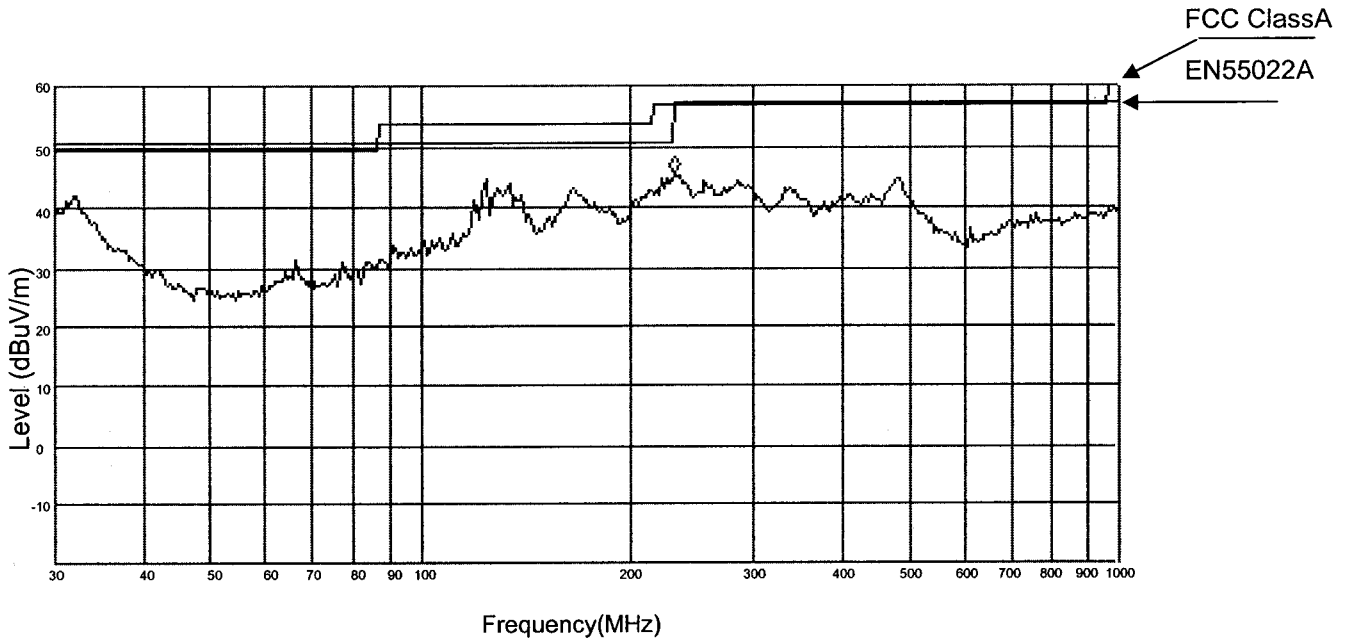


EMI  
Electro-Magnetic interference characteristics

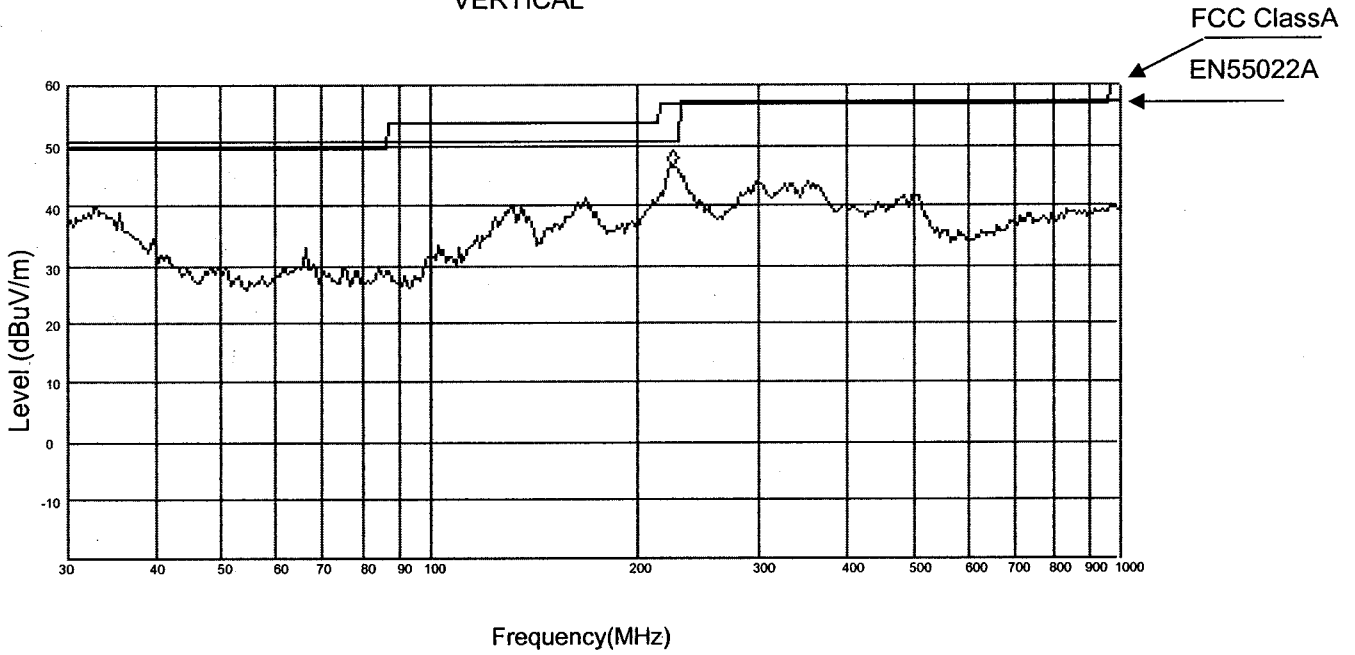
**MODEL: GEN 60-85 3P200**

Conditions: Vin: 208Vac (L-L)  
Vout: 100%  
Iout: 100%  
Ta: 25°C

HORIZONTAL



VERTICAL

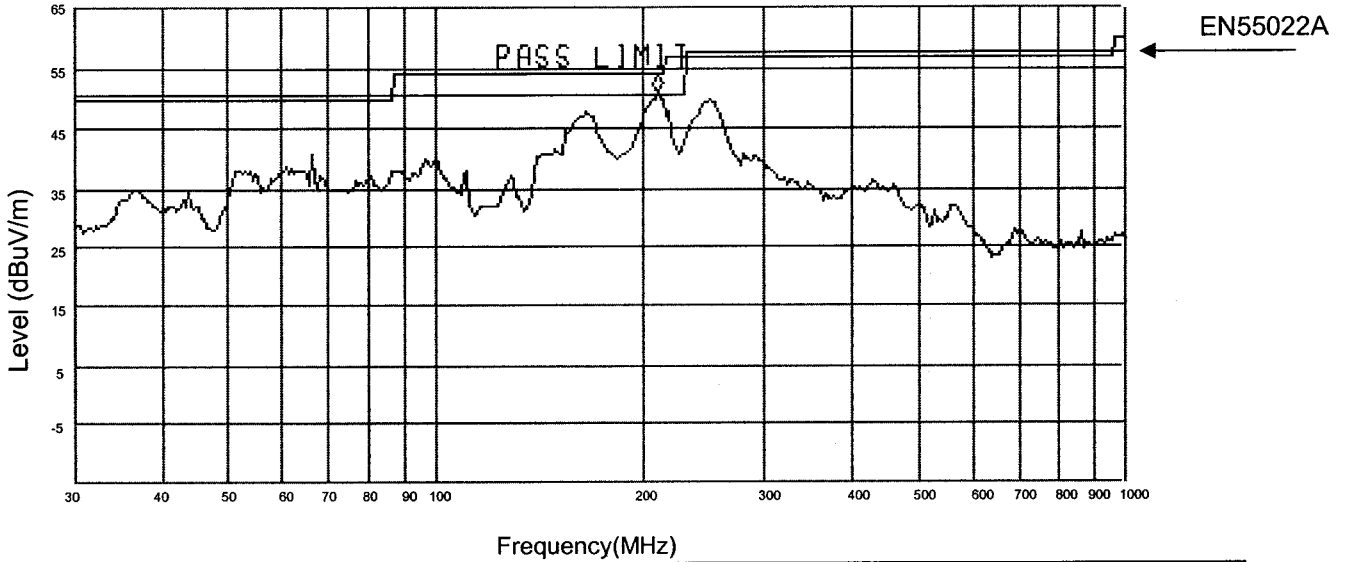


EMI  
Electro-Magnetic interference characteristics

**MODEL: GEN 60-85 3P400**

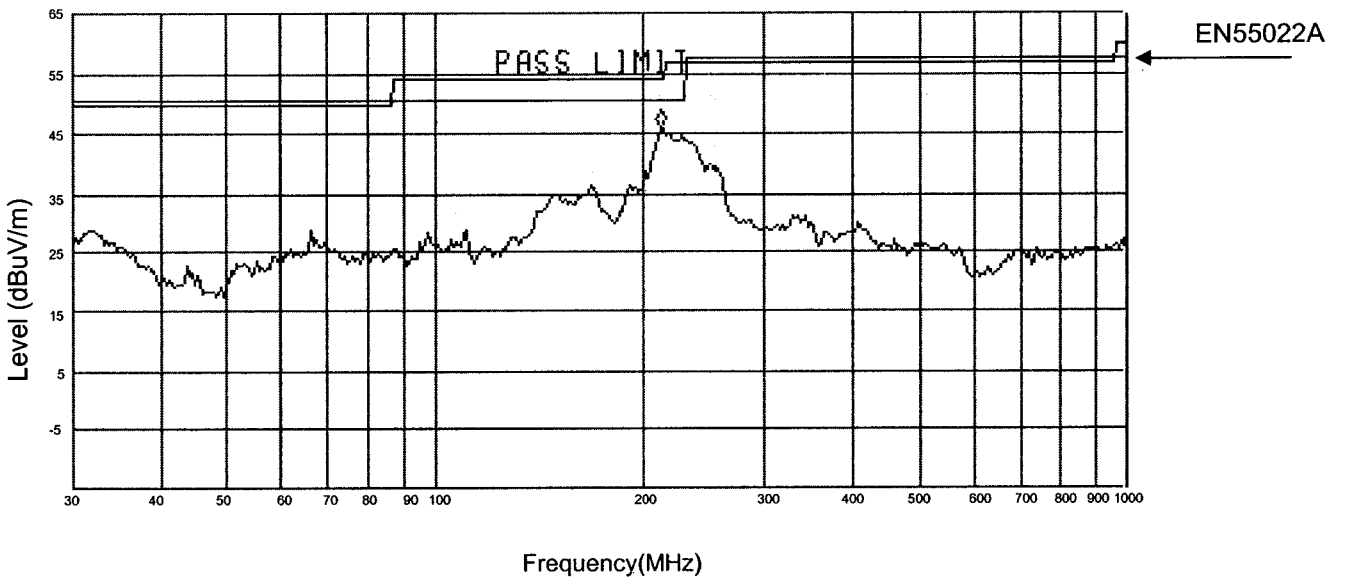
Conditions: Vin: 400Vac (L-L)  
Vout: 100%  
Iout: 100%  
Ta: 25°C

HORIZONTAL



Freq(MHz)	Peak Amp.(dBuV/m)	QP Amp (dBuV/m)	Limit linedBuV/m	Margin(dB)
210.9	52	46.1	50.5	4.4

VERTICAL

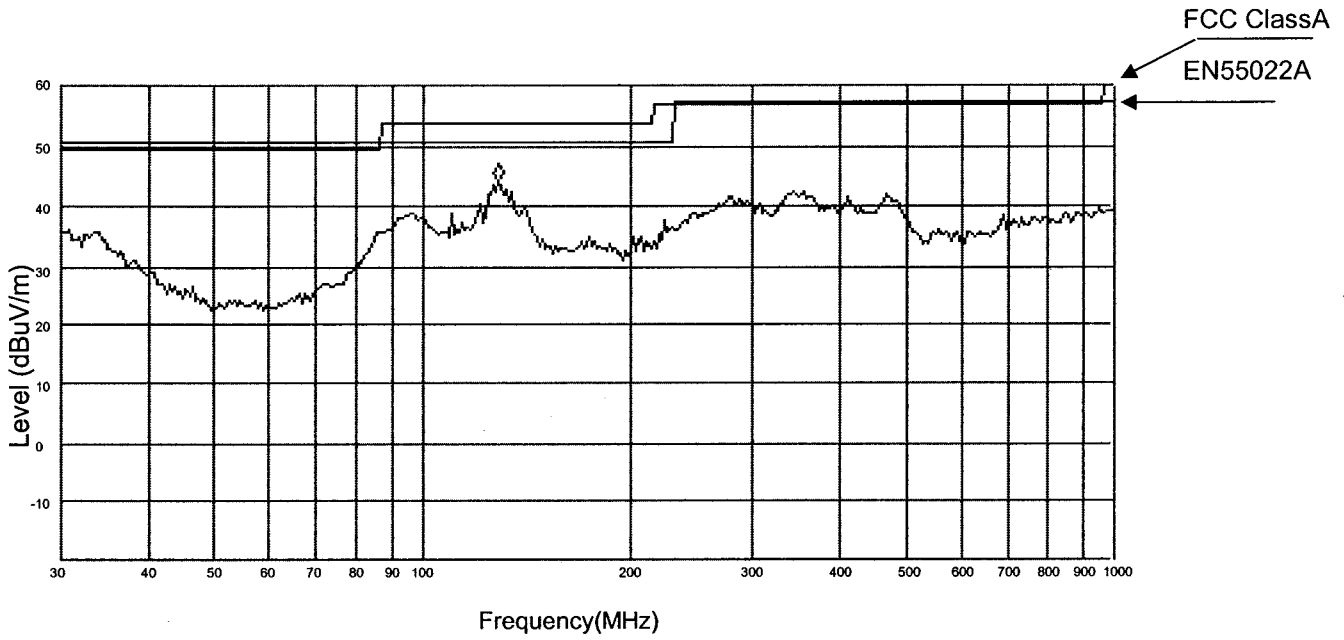


## EMI Electro-Magnetic interference characteristics

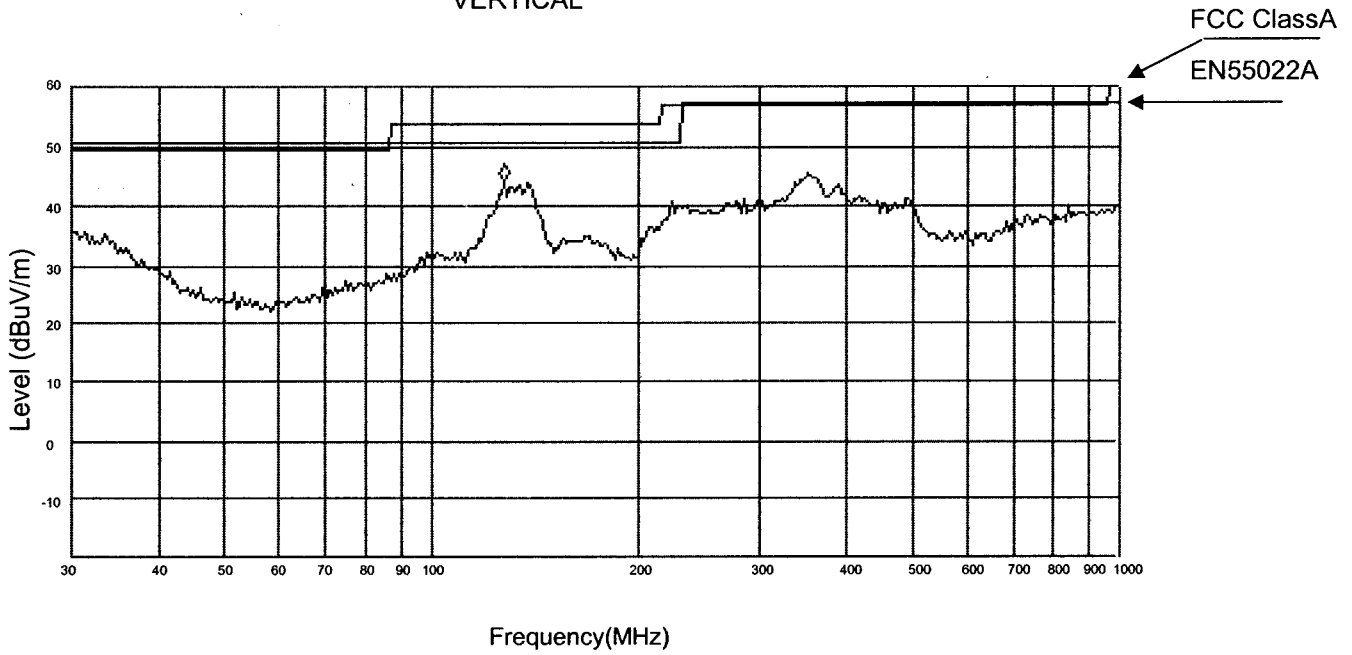
**MODEL: GEN 150-34 3P200**

Conditions: Vin: 208Vac (L-L)  
Vout: 100%  
Iout: 100%  
Ta: 25°C

HORIZONTAL



VERTICAL



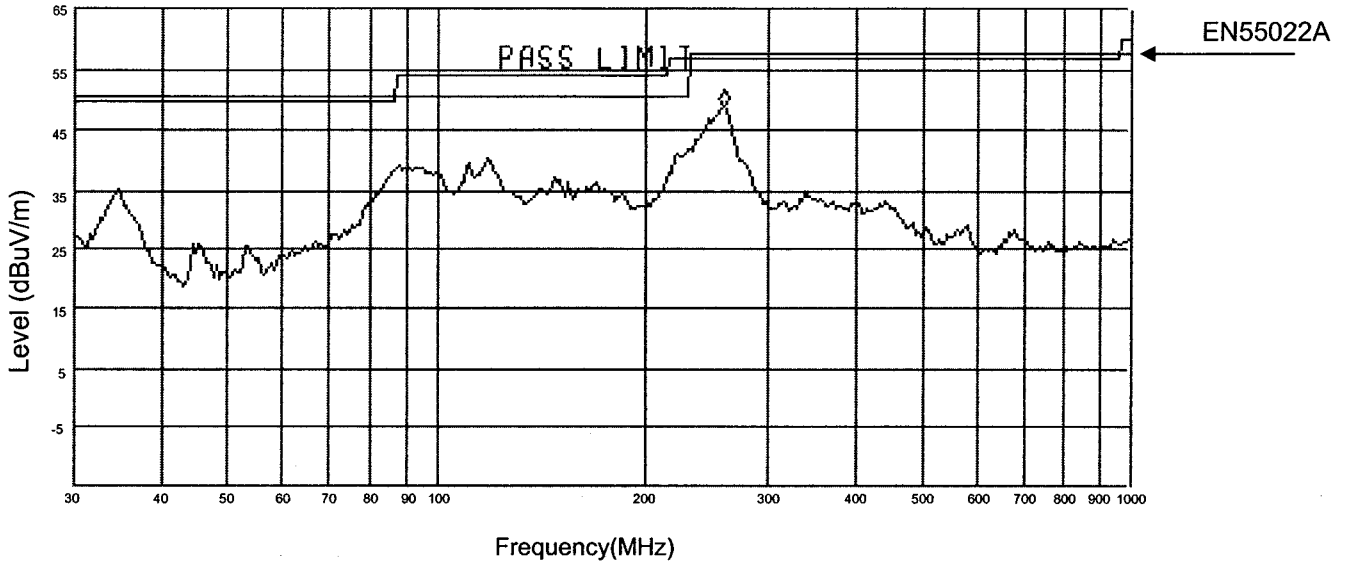


EMI  
Electro-Magnetic interference characteristics

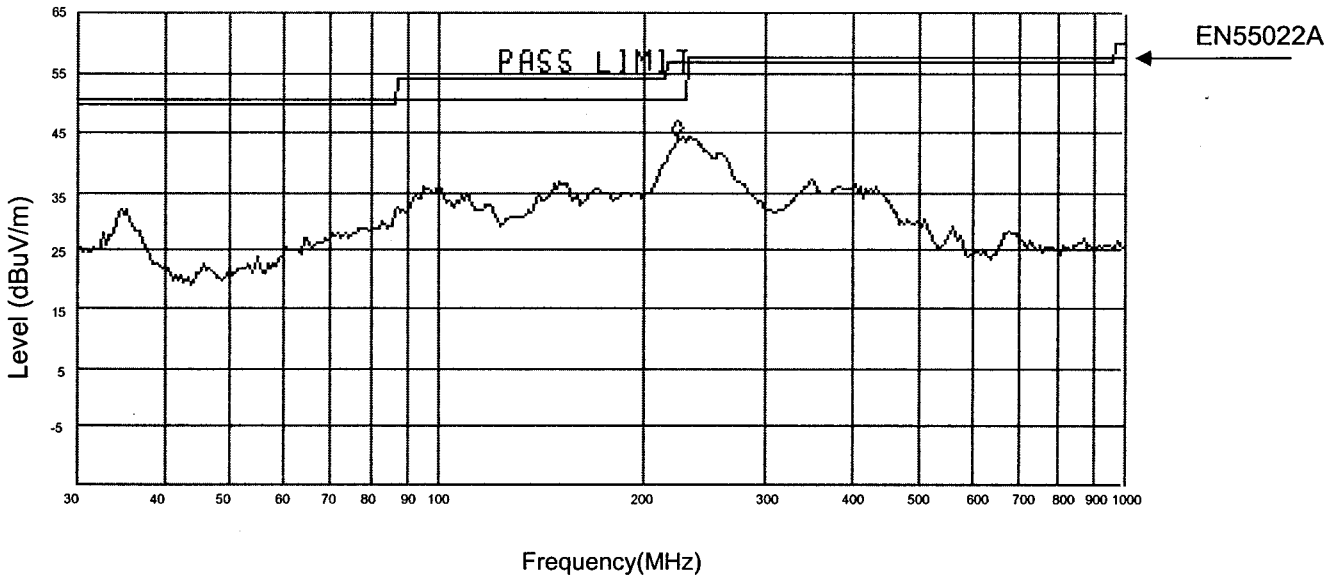
**MODEL: GEN 150-34 3P400**

Conditions: Vin: 400Vac (L-L)  
Vout: 100%  
Iout: 100%  
Ta: 25°C

HORIZONTAL



VERTICAL

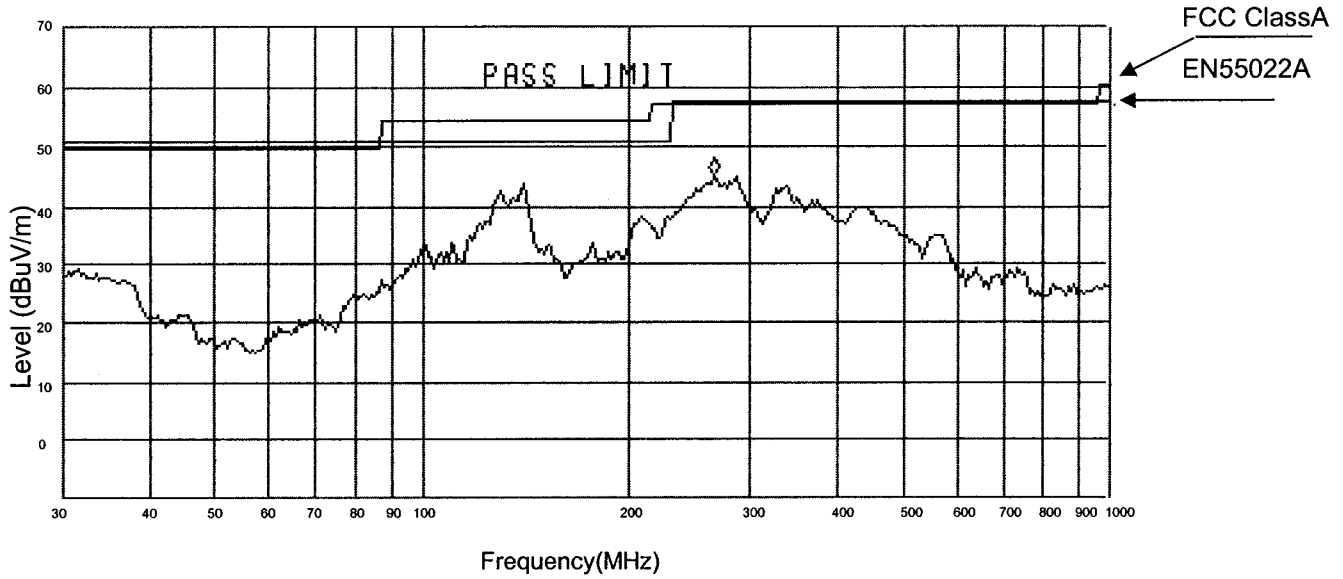


## EMI Electro-Magnetic interference characteristics

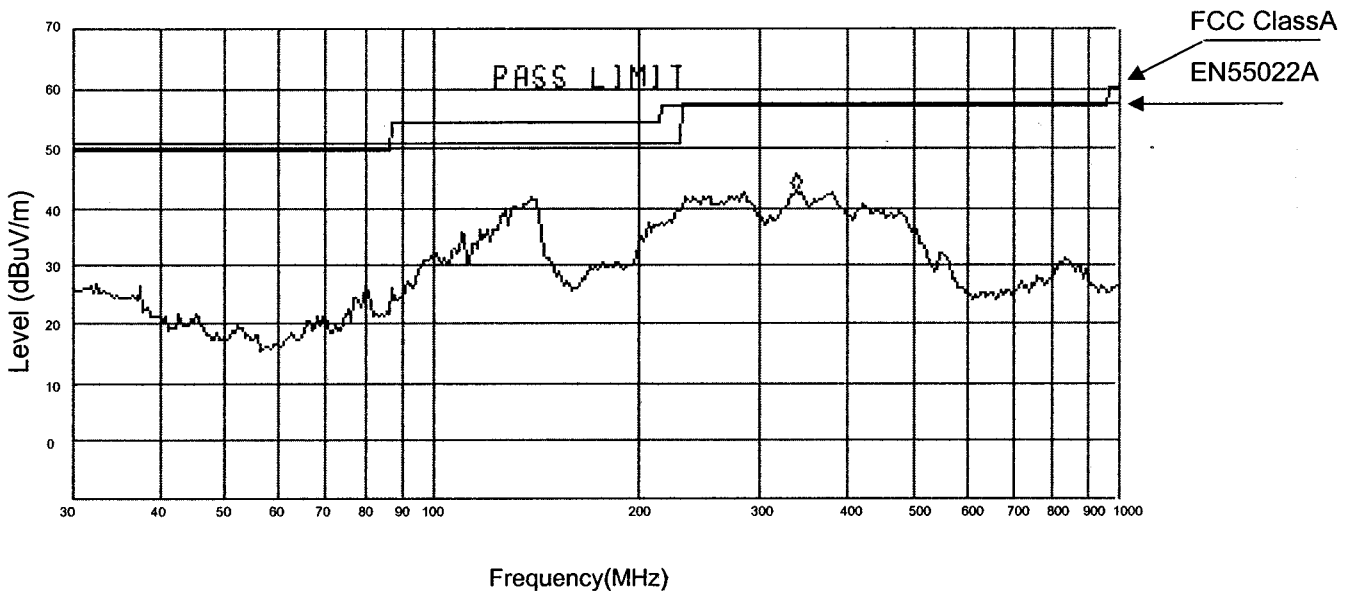
**MODEL: GEN 600-8.5 3P200**

Conditions: Vin: 208Vac (L-L)  
Vout: 100%  
Iout: 100%  
Ta: 25°C

HORIZONTAL



VERTICAL

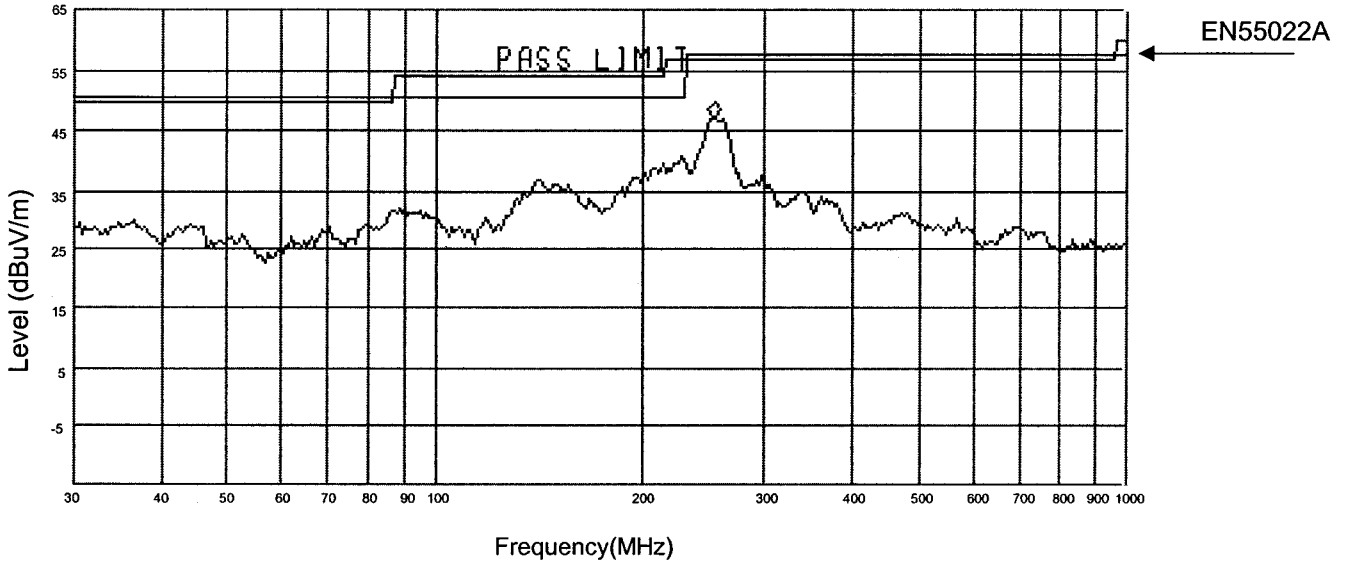


EMI  
Electro-Magnetic interference characteristics

**MODEL: GEN 600-8.5 3P400**

Conditions: Vin: 400Vac (L-L)  
Vout: 100%  
Iout: 100%  
Ta: 25°C

HORIZONTAL



VERTICAL

