

产 品 规 格 书

客户名称 : _____

客户品名 : _____

客户料号 : _____

产品名称 : LED驱动电源

产品型号 : MM-4029E-0600-ABML0

规格书版本: V1.0

产品生产商: 宁波市明微电子有限公司

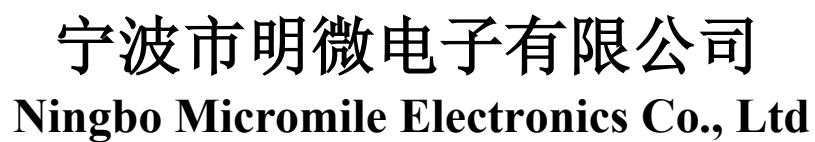
明微确认			客户确认		
拟 定	审 核	批 准	检 查	审 核	批 准
			合格口		
			不合格口		

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一、产品特性

- ※ 隔离电源，恒流输出，拨码调电流
- ※ 高效率，高 PF 值，低谐波，0-10V 调光，电阻调光，PWM 调光
- ※ 保护功能：短路保护，开路保护，过压保护

二、电气性能

产品型号		MM-4029E-0600-ABML0
输入性能	输入电压	100~240Vac
	输入频率	50/60Hz
	输入电流	<300mA
	浪涌电流	<30A
	空载功耗	0~1.5W 之间跳动
	总谐波失真	<20%
	功率因数	≥0.95(100Vac), ≥0.9(220Vac)
	效率	≥86%(100Vac) ≥88%(220Vac)
输出性能	输出电压	30~42Vdc
	输出电流	600mA
	电流精度	±5%
	纹波电流	<50%
	线性调整率	±5%
	温度漂移	±10%
	启动时间	<2S (100Vac), <1S(220Vac)
保护功能	开路保护	开路电压<50V
	短路保护	进入打嗝模式, 短路断开后自动恢复
环境描述	工作温度/湿度	-25℃~50℃/10%RH~80%RH
	存储温度/湿度	-40℃~85℃/3%RH~90%RH
安全及规范	认证	符合: TUV, SAA, CE
	耐压	I/P-O/P:3.75KVac, 5mA, 60S I/P-PE:1.6KVac, 5mA, 60S
	绝缘阻抗	I/P-O/P:0.5KVac, >100MΩ I/P-PE:1.6KVac, >100MΩ
	浪涌等级	符合 ICE61000-4-5 (L-N:1KV) (LN-PE: 2KV)
	EMC	符合 EN55015
其它	尺寸及重量	L*W*H:178*31.8*23mm, 重量: 135g±5%
	IP 等级	IP20
	质保	3 年(环境温度 Ta:50℃, 负载≤100%条件下)
补充说明	1、所有性能参数均在温度 25℃情况下, 100%负载测量的典型值, 特别注明除外。 2、电源作为整灯灯具中的一个零部件与终端设备结合使用, 因 EMC 性能受 LED 灯具及走线的影响, 终端设备制造商需对整套装置重新进行 EMC 确认。	

三、调光功能

1. 用外加 0-10V DC 电压

调光电压	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V
输出电流	0	10%	20%	30%	40%	50%	60%	75%	85%	100%	100%

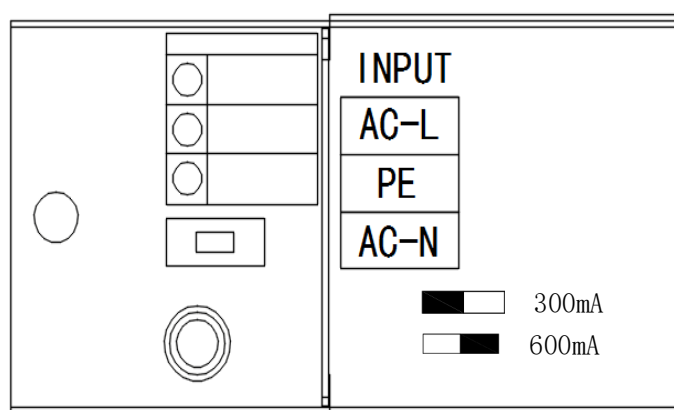
2. 外加 10V PWM 信号（频率范围 100Hz-3KHz）

PWM 信号	0	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
输出电流	0	10%	20%	30%	40%	50%	60%	75%	85%	100%	100%

3. 外加电阻（0-100K Ω 可调电阻）

电阻阻值	0 Ω	10K	20K	30K	40K	50K	60K	70K	80K	90K	100K
输出电流	0	10%	20%	30%	40%	50%	60%	75%	85%	100%	100%

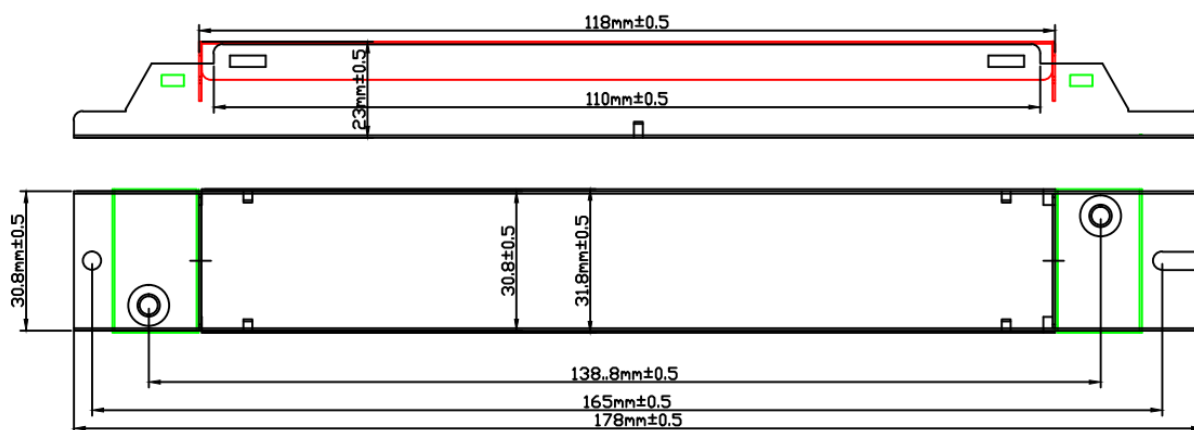
四、拨码调电流



五、产品外观图



六、产品尺寸 (单位 mm)



七、EMC

7.1 传导骚扰/ EN 55015 Conduction QP

L1:AC120V/60Hz



Shenzhen Alpha Product Testing Co., Ltd.
Building i, No.2, Lixin Road, Fuyong Street,
Bao'an District, 518103, Shenzhen, Guangdong, China

Site LAB

Phase: **L1**

Temperature: 24

Limit: EN 55015 Conduction QP

Power: AC 120V/60Hz

Humidity: 56 %

EUT:

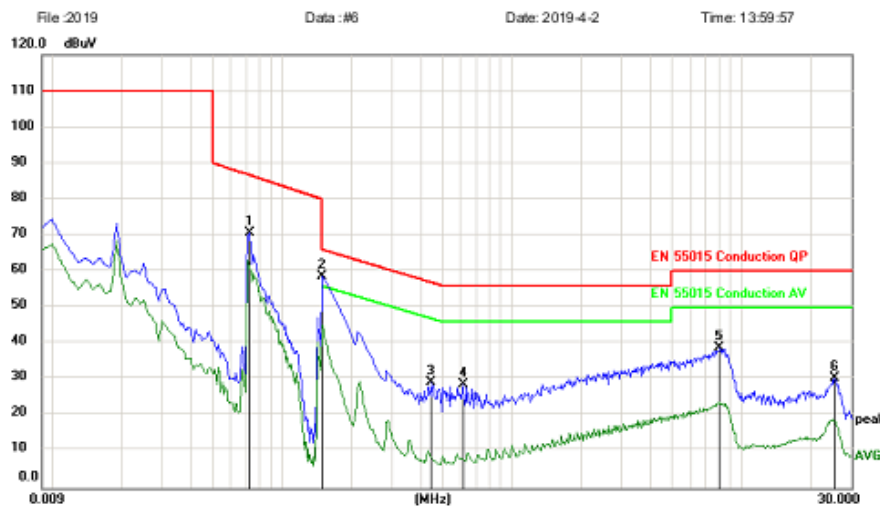
M/N: MM-4029E

Mode:

Note:

Engineer Signature:

Conducted Emission Measurement



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector Comment
1		0.0720	60.97	9.59	70.56	86.68	-16.12	peak
2	*	0.1500	49.13	9.63	58.76	66.00	-7.24	peak
3		0.4470	19.69	9.68	29.37	56.93	-27.56	peak
4		0.6134	18.91	9.69	28.60	56.00	-27.40	peak
5		8.0405	28.69	10.13	38.82	60.00	-21.18	peak
6		25.3805	20.03	10.33	30.36	60.00	-29.64	peak

*:Maximum data x:Over limit !:over margin

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

N:AC120V/60Hz



Shenzhen Alpha Product Testing Co., Ltd.
Building i, No.2, Lixin Road, Fuyong Street,
Bao'an District, 518103, Shenzhen, Guangdong, China

Site LAB

Phase: **N**

Temperature: 24

Limit: EN 55015 Conduction QP

Power: AC 120V/60Hz

Humidity: 56 %

EUT:

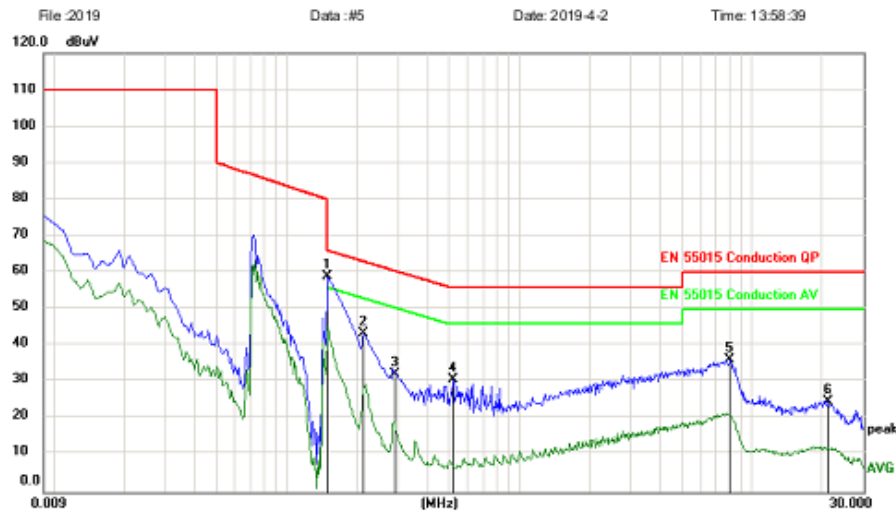
M/N: MM-4029E

Mode:

Note:

Engineer Signature:

Conducted Emission Measurement



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1	*	0.1500	49.25	9.63	58.88	66.00	-7.12	peak	
2		0.2130	33.69	9.65	43.34	63.09	-19.75	peak	
3		0.2940	22.70	9.66	32.36	60.41	-28.05	peak	
4		0.5190	21.06	9.69	30.75	56.00	-25.25	peak	
5		8.0405	26.10	10.13	36.23	60.00	-23.77	peak	
6		21.0605	14.51	10.18	24.69	60.00	-35.31	peak	

*:Maximum data x:Over limit !:over margin

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

N:AC230V/50Hz



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Building i, No.2, Lixin Road, Fuyong Street,
Bao'an District, 518103, Shenzhen, Guangdong, China

Site LAB

Phase: **N**

Temperature: 24

Limit: EN 55015 Conduction QP

Power: AC 230V/50Hz

Humidity: 56 %

EUT:

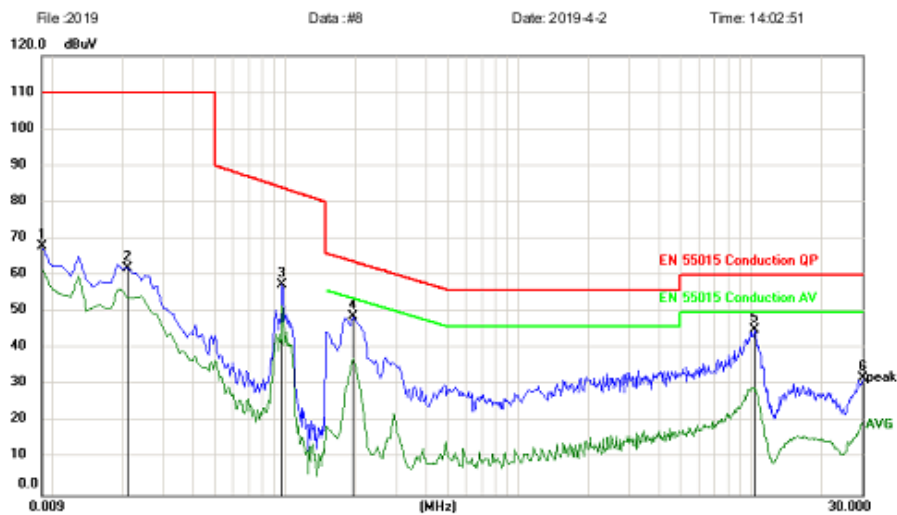
M/N: MM-4029E

Mode:

Note:

Engineer Signature:

Conducted Emission Measurement



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.0090	58.16	9.82	67.98	110.0	-42.02	peak	
2		0.0211	52.12	9.76	61.88	110.0	-48.12	peak	
3		0.0970	47.92	9.60	57.52	83.97	-26.45	peak	
4		0.1949	39.02	9.64	48.66	63.83	-15.17	peak	
5	*	10.3805	34.90	10.13	45.03	60.00	-14.97	peak	
6		30.0000	21.45	10.55	32.00	60.00	-28.00	peak	

*:Maximum data x:Over limit !:over margin

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable



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Site LAB

Phase: **L1**

Temperature: 24

Limit: EN 55015 Conduction QP

Power: AC 230V/50Hz

Humidity: 56 %

EUT:

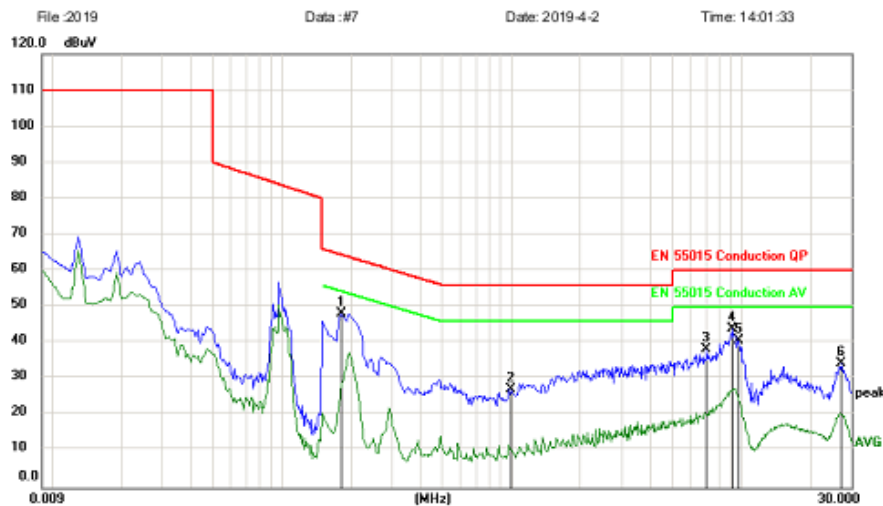
M/N: MM-4029E

Mode:

Note:

Engineer Signature:

Conducted Emission Measurement



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1815	38.37	9.64	48.01	64.42	-16.41	peak	
2		0.9870	17.41	9.73	27.14	56.00	-28.86	peak	
3		7.0405	28.23	10.11	38.34	60.00	-21.66	peak	
4	*	9.1205	33.92	10.12	44.04	60.00	-15.96	peak	
5		9.7405	30.38	10.13	40.51	60.00	-19.49	peak	
6		27.1205	23.92	10.39	34.31	60.00	-25.69	peak	

*:Maximum data x:Over limit !:over margin

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

7.2 辐射骚扰/EN55015 Radiation

水平:AC120V/60Hz, 3m



Shenzhen Alpha Product Testing Co., Ltd.
Building i, No.2, Lixin Road, Fuyong Street,
Bao'an District, 518103, Shenzhen, Guangdong, China

Site LAB

Polarization: **Horizontal**

Temperature: 24

Limit: EN55015 Radiation

Power: AC 120V/60Hz

Humidity: 56 %

EUT: 灯

Distance: 3m

M/N: MM-4029E

Mode: ON

Note:

Engineer Signature:

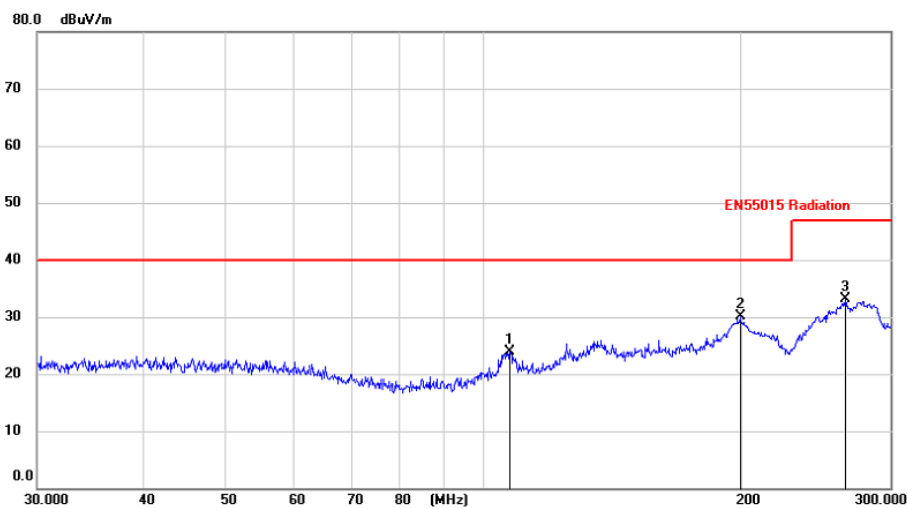
Radiated Emission Measurement

File :2019

Data :#1

Date: 2019/4/2

Time: 15:10:36



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		107.4289	12.56	11.28	23.84	40.00	-16.16	peak	
2	*	200.0420	19.75	10.33	30.08	40.00	-9.92	peak	
3		265.5347	20.52	12.59	33.11	47.00	-13.89	peak	

Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

垂直:AC120V/60Hz, 3m



Shenzhen Alpha Product Testing Co., Ltd.
Building i, No.2, Lixin Road, Fuyong Street,
Bao'an District, 518103, Shenzhen, Guangdong, China

Site LAB

Polarization: **Vertical**

Temperature: 24

Limit: EN55015 Radiation

Power: AC 120V/60Hz

Humidity: 56 %

EUT: 灯

Distance: 3m

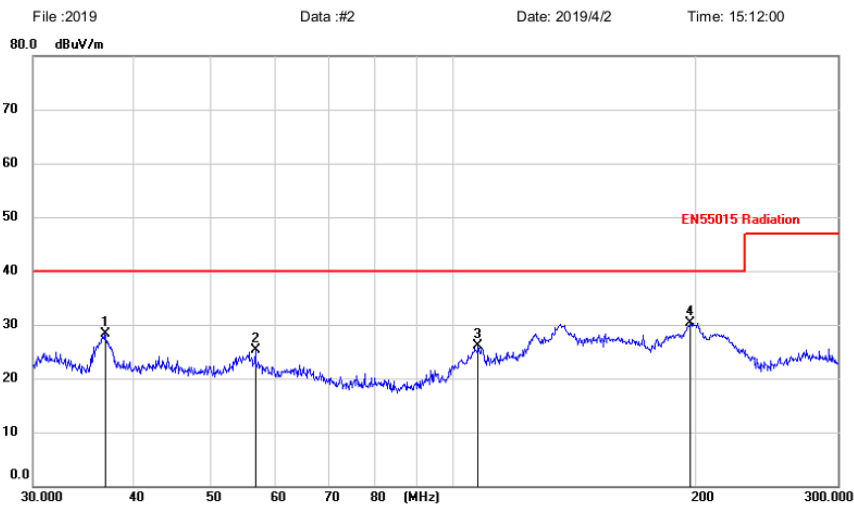
M/N: MM-4029E

Mode: ON

Note:

Engineer Signature:

Radiated Emission Measurement



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		36.9081	14.56	13.80	28.36	40.00	-11.64	peak		
2		56.6397	12.18	13.12	25.30	40.00	-14.70	peak		
3		107.1819	14.81	11.25	26.06	40.00	-13.94	peak		
4	*	196.8436	19.81	10.52	30.33	40.00	-9.67	peak		

Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

垂直:AC230V/50Hz, 3m



Shenzhen Alpha Product Testing Co., Ltd.
Building i, No.2, Lixin Road, Fuyong Street,
Bao'an District, 518103, Shenzhen, Guangdong, China

Site LAB
Limit: EN55015 Radiation
EUT: 灯
M/N: MM-4029E
Mode: ON
Note:
Engineer Signature:

Polarization: **Vertical** Temperature: 24
Power: AC 230V/50Hz Humidity: 56 %
Distance: 3m

Radiated Emission Measurement

File :2019

Data :#3

Date: 2019/4/2

Time: 15:13:33



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree Comment
1	*	33.7381	23.28	13.45	36.73	40.00	-3.27	peak		
2		138.7143	15.12	13.76	28.88	40.00	-11.12	peak		
3		195.4885	19.95	10.60	30.55	40.00	-9.45	peak		

Note: 1. *: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

水平:AC230V/50Hz, 3m



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Site LAB

Polarization: **Horizontal**

Temperature: 24

Limit: EN55015 Radiation

Power: AC 230V/50Hz

Humidity: 56 %

EUT: 灯

Distance: 3m

M/N: MM-4029E

Mode: ON

Note:

Engineer Signature:

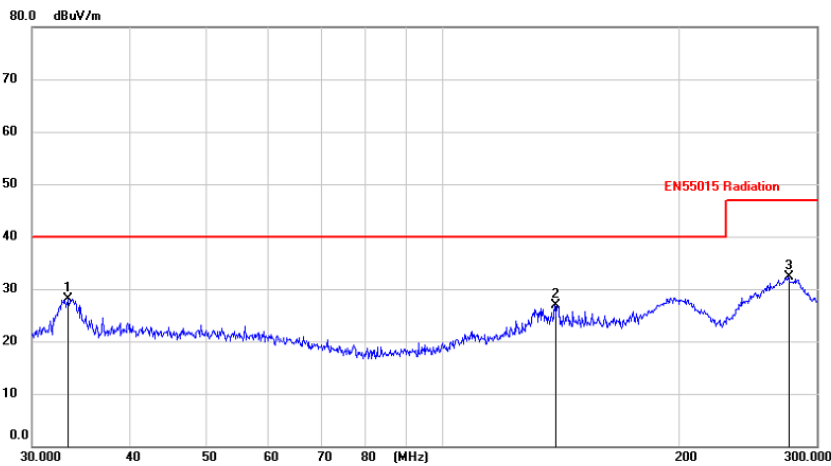
Radiated Emission Measurement

File :2019

Data :#4

Date: 2019/4/2

Time: 15:14:47



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	33.3520	14.76	13.44	28.20	40.00	-11.80	peak		
2		139.3546	13.06	13.79	26.85	40.00	-13.15	peak		
3		276.1349	19.41	12.89	32.30	47.00	-14.70	peak		

Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.