



TESTING LABORATORY
CERTIFICATE #4820.01



FCC PART 15B


TEST REPORT

For

HENAN ESHOW ELECTRONIC COMMERCE CO., LTD

Room 722, Sanjiang Building, No.170 Nanyang Road, Huiji District, Zhengzhou, Henan, China

FCC ID: 2AAR8TR102

Report Type: Original Report	Product Type: AM/FM/SW RADIO MP3 REC PLAYER
Report Number:	RDG190604003-00
Report Date:	2019-08-12
Reviewed By:	Redick Zhang EMC Engineer 
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan). This report must not be used by the customer to claim product certification, approval, or endorsement by A2LA* or any agency of the Federal Government. * This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk “*”.

TABLE OF CONTENTS

General Information	3
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....	3
OBJECTIVE	3
TEST METHODOLOGY	3
MEASUREMENT UNCERTAINTY	4
TEST FACILITY	4
System Test Configuration	5
DESCRIPTION OF TEST CONFIGURATION	5
EQUIPMENT MODIFICATIONS	5
EUT EXERCISE SOFTWARE	5
BLOCK DIAGRAM OF TEST SETUP	5
SUPPORT EQUIPMENT LIST AND DETAILS	7
SUPPORT CABLE LIST AND DETAILS	7
TEST EQUIPMENT LIST	8
ENVIRONMENTAL CONDITIONS	8
Summary of Test Results	9
1 – Conducted emissions	10
EUT SETUP	10
EMI TEST RECEIVER SETUP	10
TEST PROCEDURE	10
CORRECTED AMPLITUDE & MARGIN CALCULATION	11
TEST DATA	12
2 – Radiated emissions	26
EUT SETUP	26
EMI TEST RECEIVER SETUP	26
TEST PROCEDURE	27
CORRECTED AMPLITUDE & MARGIN CALCULATION	27
TEST DATA	28

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

EUT Name:	AM/FM/SW RADIO MP3 REC PLAYER
EUT Model:	TR102
Multiple Models:	TR601, TR602, TR603, V111, V115, V117, V117S, PR11
Rated Input Voltage:	3.7Vdc
The Highest Operating Frequency:	<108MHz
I/O Ports:	TF Card slot, Micro USB, AUX In, Audio Out
EUT Function:	AM/FM/SW RADIO MP3 REC PLAYER
External Dimension:	120mm(L)*80mm(W)*23mm(H)
Serial Number:	190604003
EUT Received Date:	2019.06.26

Note: The series product, models TR601, TR602, TR603, V111, V115, V117, V117S, PR11, TR102 are electrically identical, we selected TR102 for fully testing. The difference between them was explained in the declaration letter.

Objective

This report is prepared on behalf of *HENAN ESHOW ELECTRONIC COMMERCE CO., LTD* in accordance with Part 2, Part J, and Part 15, Subpart A and B of the Federal Communications Commission's rules..

The objective is to determine the compliance of EUT with:
FCC Part 15B .Class B.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014 American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

Measurement Uncertainty

Parameter	Measurement Uncertainty
Unwanted Emissions, radiated	30M~200MHz: 4.55 dB, 200M~1GHz: 5.92 dB, 1G~6GHz: 4.98 dB, 6G~18GHz: 5.89 dB, 18G~26.5G: 5.47 dB, 26.5G~40G: 5.63 dB
Temperature	±1 °C
Humidity	±5%
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218, the FCC Designation No. : CN1220.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier : CN0022.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

M1: FM Playing

M2: AM Playing

M3: TF Card Playing

M4: REC

M5: AUX Playing

M6: Downloading

M7: SW Playing

Equipment Modifications

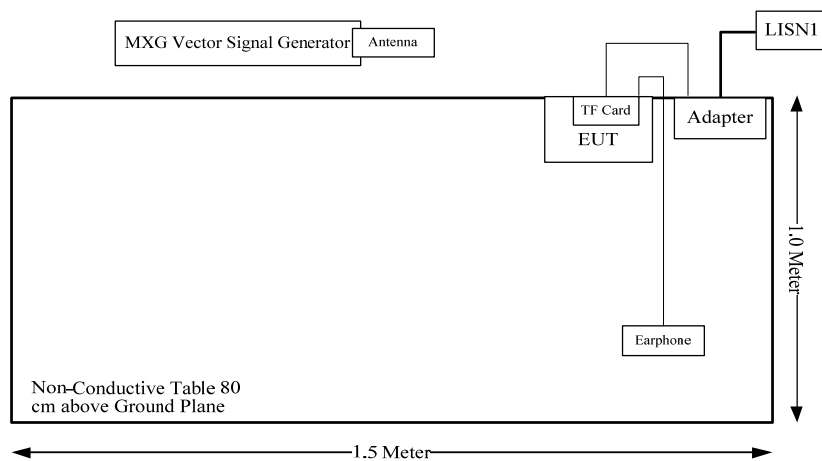
No modification was made to the EUT.

EUT Exercise Software

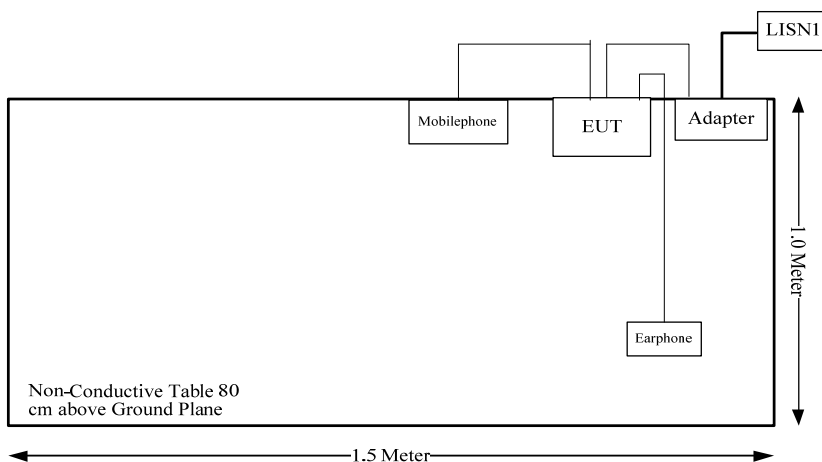
Software WINTHRAX.exe was used for testing.

Block Diagram of Test Setup

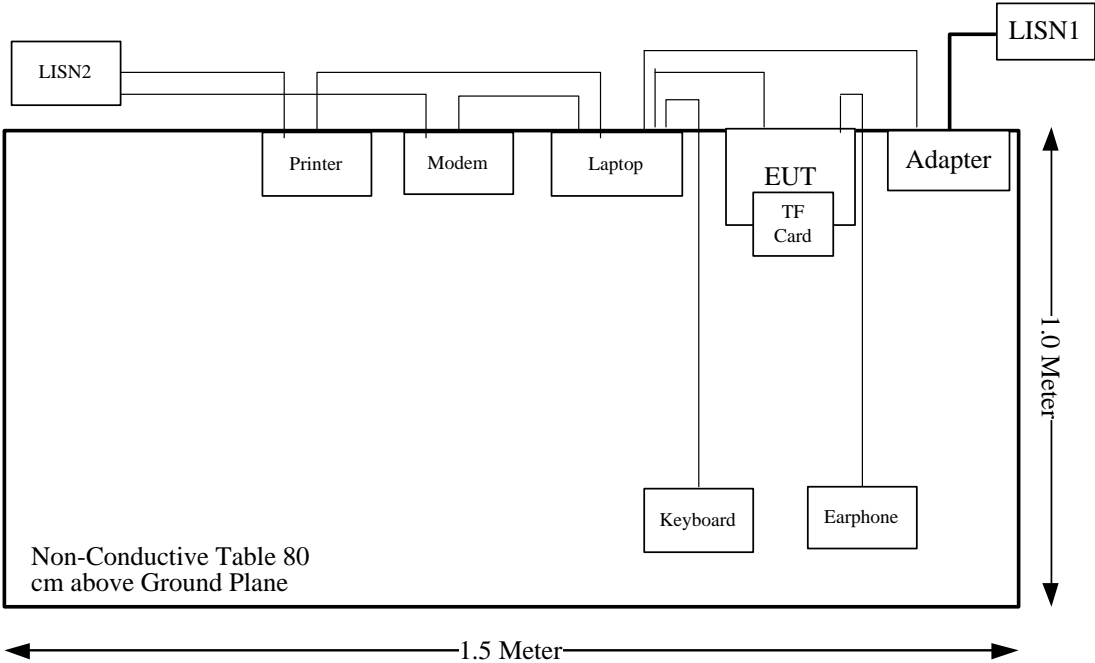
M1/2/3/4/7:



M5:



M6:



Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DELL	Laptop	PP11L	1CVM0C1
SAST	Modem	AEM-2100	90200213
DELL	Keyboard	SK-8115	CN-0J4628-71616-52H-0RT6
HP	Printer	C3941A	JPTV013237
Apple	Mobile Phone	MGAA2CG/A	FK1R96UYG5QT
XIANGEEEC	Adapter	XH012-050200USCU	N/A
Agilent	MXG Vector Signal Generator	N5182B	MY51350142
Sansisk	SD Card	8GB	N/A

Support Cable List and Details

Cable Description	Shielding Cable	Ferrite Core	Length (m)	From Port	To
USB Cable	Yes	Yes	0.8	EUT	Adapter/Laptop
Earphone	No	No	1.18	EUT	/
AUX Cable	Yes	No	1.11	EUT	Mobile Phone
Serial Cable	Yes	No	1.4	Serial Port of Laptop	Modem
Parallel Cable	Yes	No	2	Parallel Port of Laptop	Printer
Keyboard Cable	Yes	Yes	1.2	USB Port of Laptop	Keyboard

Test Equipment List

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted emission					
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-01	2018-09-05	2019-09-05
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A
R&S	Two-line V-network	ENV 216	101614	2018-12-10	2019-12-10
R&S	EMI Test Receiver	ESPI	100120	2019-05-09	2020-05-09
Radiated emissions below 1GHz					
R&S	EMI Test Receiver	ESR3	102453	2019-06-26	2020-06-26
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2020-11-10
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-1400-01	2019-05-06	2020-05-06
HP	Amplifier	8447D	2727A05902	2018-09-05	2019-09-05
Agilent	MXG Vector Signal Generator	N5182B	MY51350142	2018-07-19	2019-07-19
				2019-07-19	2020-07-19

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Environmental Conditions

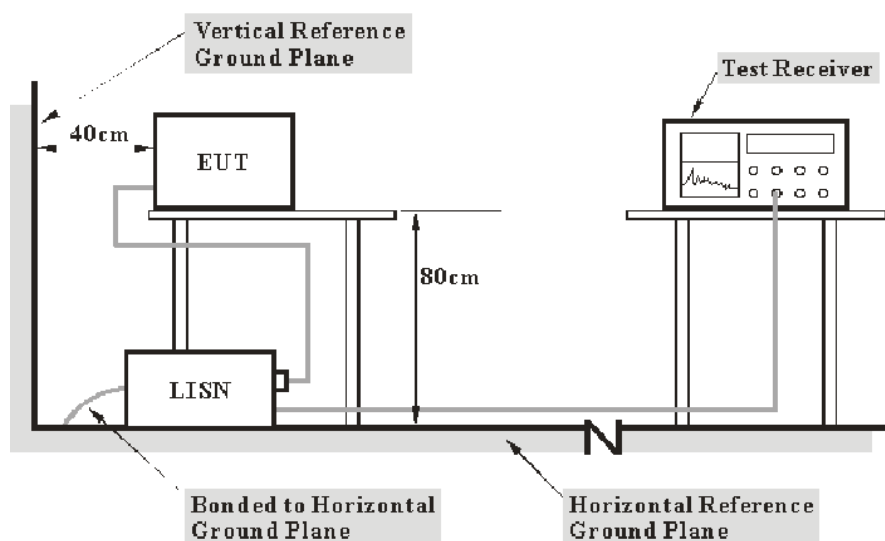
Temperature:	28.3~28.7 °C
Relative Humidity:	54~57%
ATM Pressure:	99.7~ 100.4 kPa
Tester:	Vern Shen, Ade Xiao
Test Date:	2019.06.28~2019.07.24

SUMMARY OF TEST RESULTS

SN	Rule and Clause	Description of Test	Test Result
1	FCC §15.107	Conducted emissions	Compliance
2	FCC §15.109	Radiated emissions	Compliance

1 - CONDUCTED EMISSIONS

EUT Setup



Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15 B Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The adapter was connected to the Main LISN with 120V/60Hz AC power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the first LISN and the other support equipments were connected to the outlet of the second LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$$V_C = V_R + A_C + VDF$$

Herein,

V_C : corrected voltage amplitude

V_R : reading voltage amplitude

A_C : attenuation caused by cable loss

VDF: voltage division factor of AMN or ISN

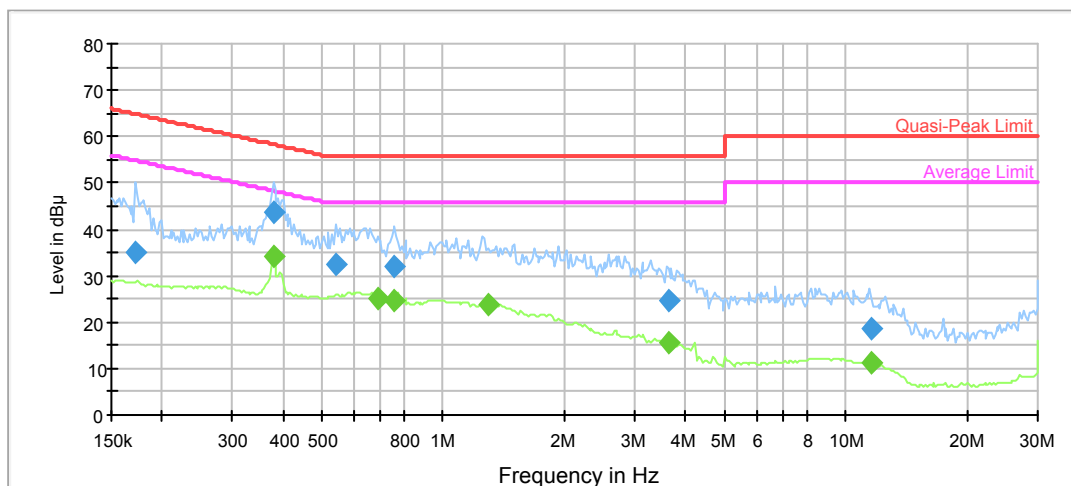
The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

Test Data

Please refer to following table and plots:

Model Number: TR102
Port: L
Test Mode: M1
Power Source: AC 120V/60Hz
Note:



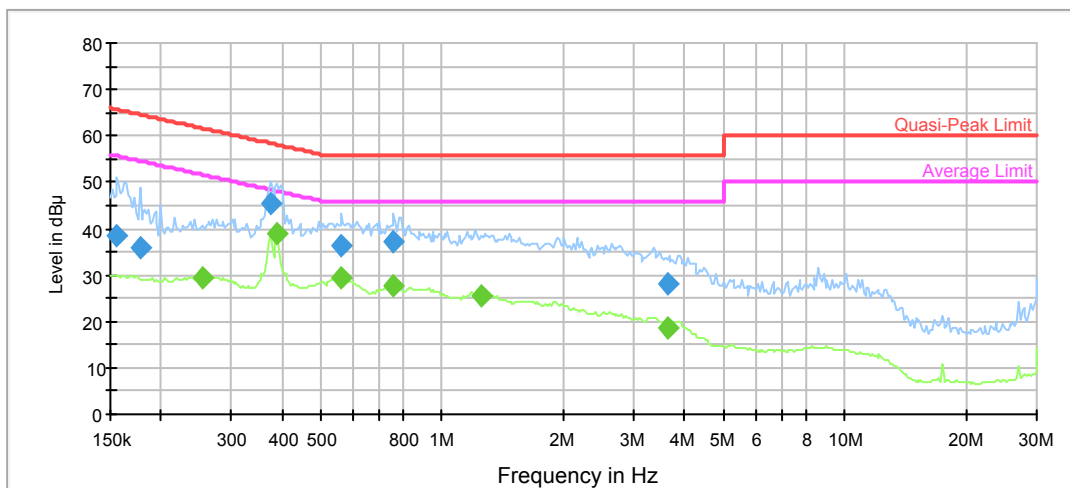
Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.172421	35.0	9.000	L1	10.9	29.8	64.8
0.378425	43.8	9.000	L1	10.0	14.5	58.3
0.541438	32.2	9.000	L1	9.9	23.8	56.0
0.759409	31.8	9.000	L1	9.8	24.2	56.0
3.621856	24.7	9.000	L1	9.8	31.3	56.0
11.601974	18.7	9.000	L1	9.8	41.3	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.378425	34.0	9.000	L1	10.0	14.3	48.3
0.687483	25.0	9.000	L1	9.8	21.0	46.0
0.759409	24.8	9.000	L1	9.8	21.2	46.0
1.299660	23.9	9.000	L1	9.8	22.1	46.0
3.621856	15.5	9.000	L1	9.8	30.6	46.0
11.601974	11.1	9.000	L1	9.8	39.0	50.0

Model Number: TR102
Port: N
Test Mode: M1
Power Source: AC 120V/60Hz
Note:



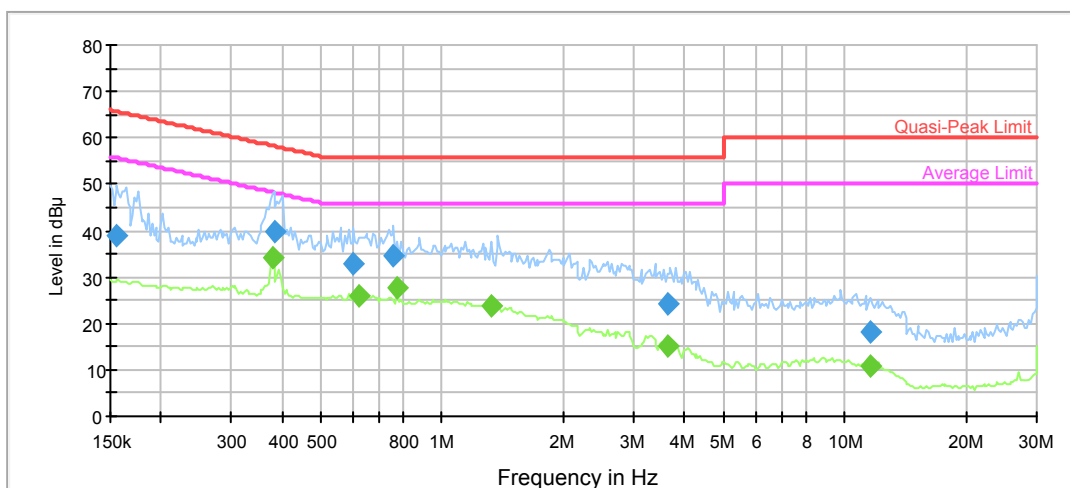
Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.156091	38.5	9.000	N	11.1	27.2	65.7
0.177646	35.7	9.000	N	10.8	28.9	64.6
0.374678	45.6	9.000	N	10.0	12.8	58.4
0.563423	36.3	9.000	N	9.8	19.7	56.0
0.759409	37.4	9.000	N	9.8	18.6	56.0
3.621856	28.0	9.000	N	9.8	28.0	56.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.254170	29.6	9.000	N	10.3	22.0	51.6
0.389891	39.0	9.000	N	10.0	9.1	48.1
0.563423	29.4	9.000	N	9.8	16.6	46.0
0.759409	27.5	9.000	N	9.8	18.5	46.0
1.248947	25.4	9.000	N	9.8	20.6	46.0
3.621856	18.8	9.000	N	9.8	27.2	46.0

Model Number: TR102
Port: L
Test Mode: M2
Power Source: AC 120V/60Hz
Note:



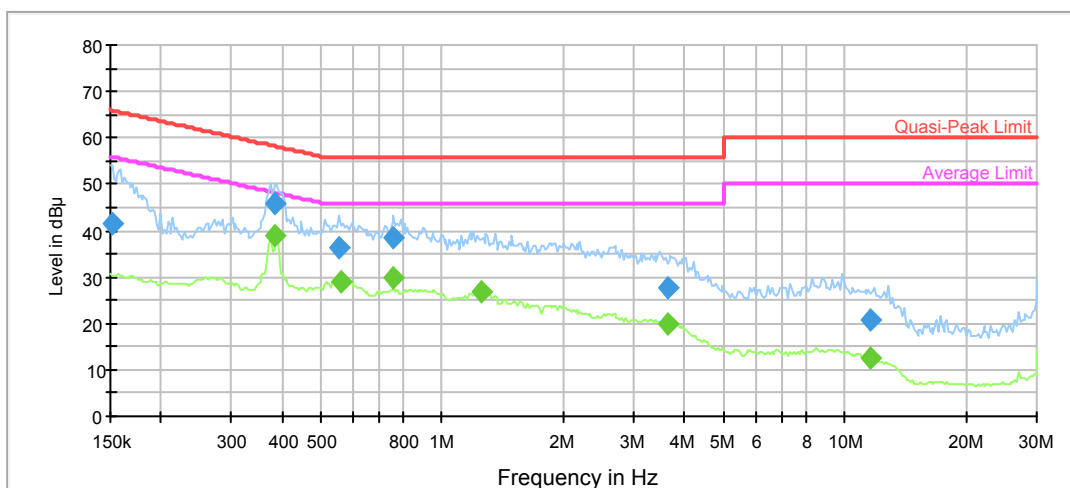
Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.156091	38.8	9.000	L1	11.1	26.9	65.7
0.382209	39.7	9.000	L1	10.0	18.5	58.2
0.604065	32.8	9.000	L1	9.8	23.2	56.0
0.759409	34.7	9.000	L1	9.8	21.3	56.0
3.621856	24.2	9.000	L1	9.8	31.8	56.0
11.601974	18.2	9.000	L1	9.8	41.8	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.378425	34.2	9.000	L1	10.0	14.1	48.3
0.622369	26.1	9.000	L1	9.8	19.9	46.0
0.774673	27.6	9.000	L1	9.8	18.4	46.0
1.325783	23.7	9.000	L1	9.8	22.3	46.0
3.621856	15.0	9.000	L1	9.8	31.0	46.0
11.601974	10.9	9.000	L1	9.8	39.1	50.0

Model Number: TR102
Port: N
Test Mode: M2
Power Source: AC 120V/60Hz
Note:



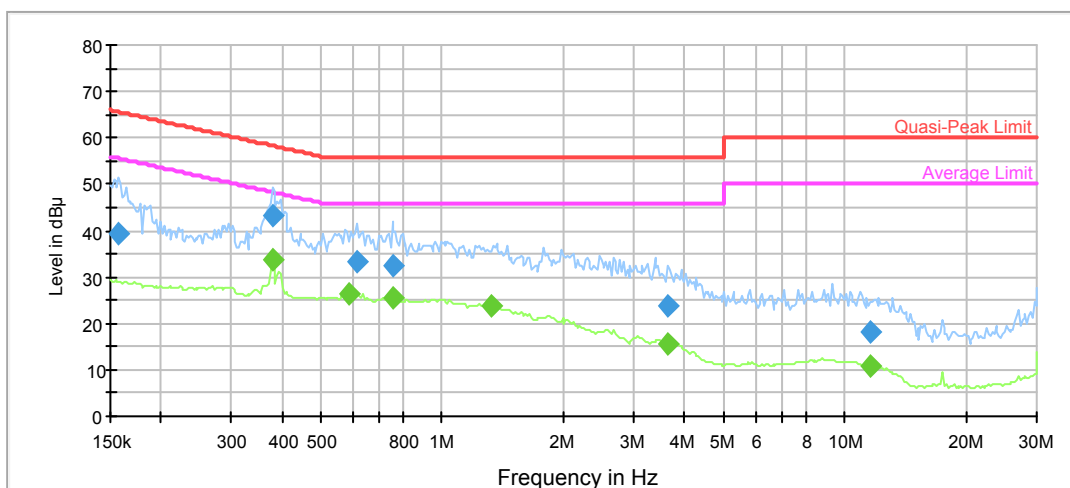
Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.151500	41.3	9.000	N	11.1	24.6	65.9
0.386031	45.7	9.000	N	10.0	12.4	58.1
0.552321	36.4	9.000	N	9.8	19.6	56.0
0.759409	38.3	9.000	N	9.8	17.7	56.0
3.621856	27.7	9.000	N	9.8	28.3	56.0
11.601974	21.0	9.000	N	9.8	39.0	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.386031	38.8	9.000	N	10.0	9.3	48.1
0.563423	29.1	9.000	N	9.8	16.9	46.0
0.759409	29.7	9.000	N	9.8	16.3	46.0
1.248947	26.7	9.000	N	9.8	19.3	46.0
3.621856	20.0	9.000	N	9.8	26.0	46.0
11.601974	12.5	9.000	N	9.8	37.5	50.0

Model Number: TR102
Port: L
Test Mode: M3
Power Source: AC 120V/60Hz
Note:



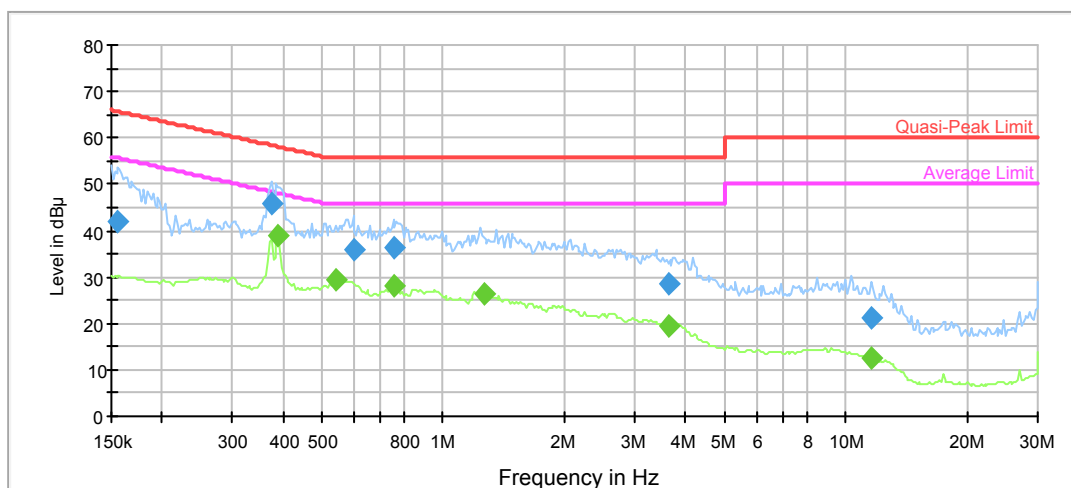
Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.157652	39.4	9.000	L1	11.1	26.2	65.6
0.378425	43.2	9.000	L1	10.0	15.1	58.3
0.616207	33.3	9.000	L1	9.8	22.7	56.0
0.751890	32.6	9.000	L1	9.8	23.4	56.0
3.621856	23.9	9.000	L1	9.8	32.1	56.0
11.601974	18.2	9.000	L1	9.8	41.8	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.378425	33.7	9.000	L1	10.0	14.6	48.3
0.586300	26.5	9.000	L1	9.8	19.5	46.0
0.751890	25.4	9.000	L1	9.8	20.6	46.0
1.325783	23.9	9.000	L1	9.8	22.1	46.0
3.621856	15.5	9.000	L1	9.8	30.5	46.0
11.601974	10.7	9.000	L1	9.8	39.3	50.0

Model Number: TR102
 Port: N
 Test Mode: M3
 Power Source: AC 120V/60Hz
 Note:



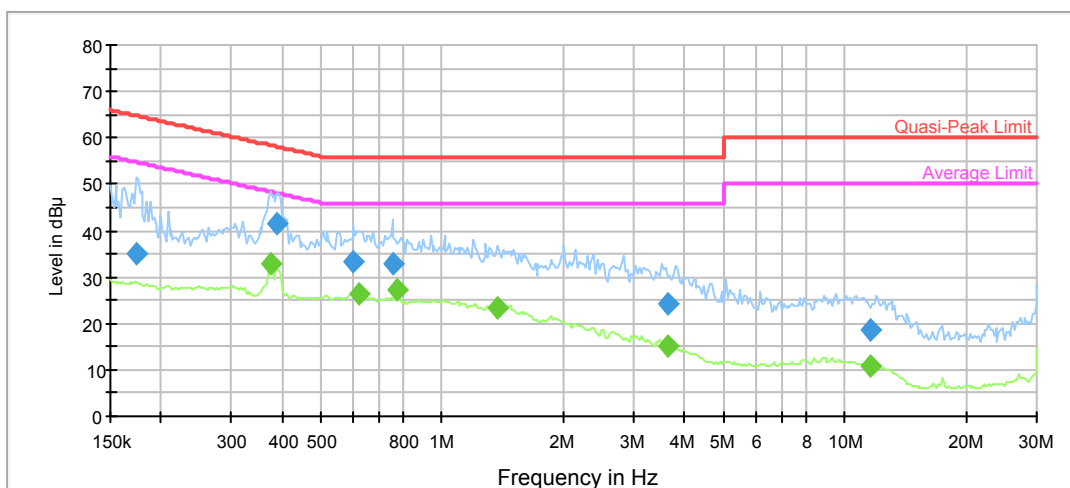
Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.156091	42.1	9.000	N	11.1	23.6	65.7
0.374678	45.9	9.000	N	10.0	12.5	58.4
0.598084	35.9	9.000	N	9.8	20.1	56.0
0.751890	36.5	9.000	N	9.8	19.5	56.0
3.621856	28.5	9.000	N	9.8	27.5	56.0
11.601974	21.2	9.000	N	9.8	38.8	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.389891	39.0	9.000	N	10.0	9.1	48.1
0.541438	29.3	9.000	N	9.8	16.7	46.0
0.759409	28.2	9.000	N	9.8	17.8	46.0
1.261437	26.3	9.000	N	9.8	19.7	46.0
3.621856	19.3	9.000	N	9.8	26.7	46.0
11.601974	12.7	9.000	N	9.8	37.3	50.0

Model Number: TR102
Port: L
Test Mode: M4
Power Source: AC 120V/60Hz
Note:



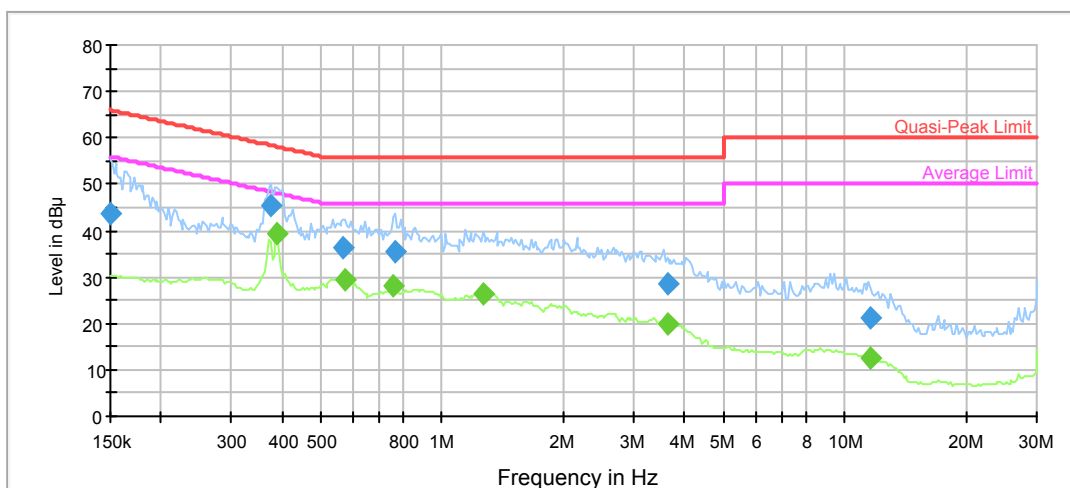
Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.174145	35.0	9.000	L1	10.9	29.8	64.8
0.389891	41.3	9.000	L1	10.0	16.8	58.1
0.604065	33.3	9.000	L1	9.8	22.7	56.0
0.751890	32.7	9.000	L1	9.8	23.3	56.0
3.621856	24.3	9.000	L1	9.8	31.7	56.0
11.601974	18.5	9.000	L1	9.8	41.5	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.374678	32.8	9.000	L1	10.0	15.6	48.4
0.622369	26.3	9.000	L1	9.8	19.7	46.0
0.774673	27.0	9.000	L1	9.8	19.0	46.0
1.365955	23.5	9.000	L1	9.8	22.5	46.0
3.621856	15.2	9.000	L1	9.8	30.8	46.0
11.601974	10.9	9.000	L1	9.8	39.1	50.0

Model Number: TR102
 Port: N
 Test Mode: M4
 Power Source: AC 120V/60Hz
 Note:



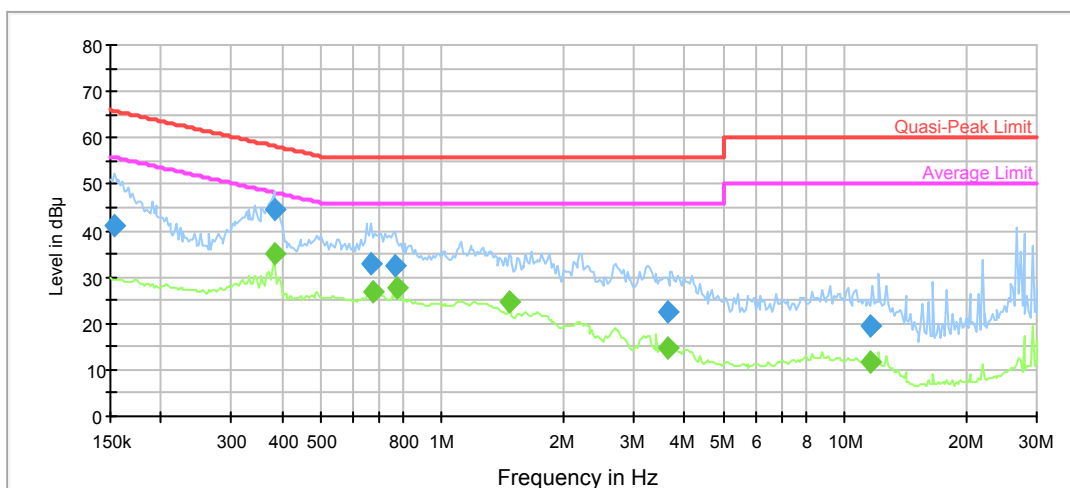
Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150000	43.8	9.000	N	11.2	22.2	66.0
0.374678	45.4	9.000	N	10.0	13.0	58.4
0.569057	36.2	9.000	N	9.8	19.8	56.0
0.767003	35.4	9.000	N	9.8	20.6	56.0
3.621856	28.4	9.000	N	9.8	27.6	56.0
11.601974	21.1	9.000	N	9.8	38.9	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.389891	39.4	9.000	N	10.0	8.7	48.1
0.574747	29.2	9.000	N	9.8	16.8	46.0
0.759409	28.1	9.000	N	9.8	17.9	46.0
1.261437	26.4	9.000	N	9.8	19.6	46.0
3.621856	19.7	9.000	N	9.8	26.3	46.0
11.601974	12.6	9.000	N	9.8	37.4	50.0

Model Number: TR102
Port: L
Test Mode: M5
Power Source: AC 120V/60Hz
Note:



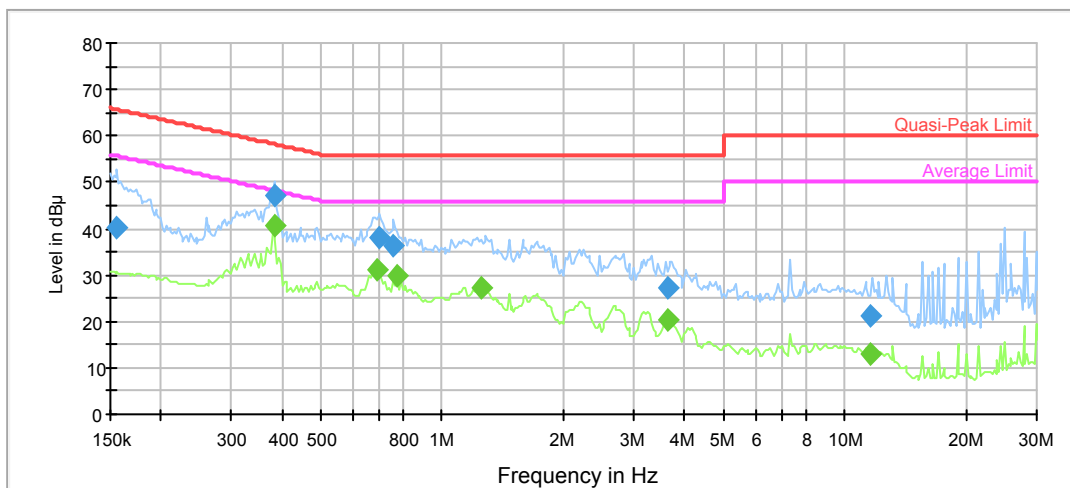
Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.153015	41.0	9.000	L1	11.1	24.8	65.8
0.382209	44.3	9.000	L1	10.0	13.9	58.2
0.667264	33.0	9.000	L1	9.8	23.0	56.0
0.767003	32.2	9.000	L1	9.8	23.8	56.0
3.621856	22.3	9.000	L1	9.8	33.7	56.0
11.601974	19.4	9.000	L1	9.8	40.6	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.382209	35.0	9.000	L1	10.0	13.2	48.2
0.673937	26.7	9.000	L1	9.8	19.3	46.0
0.774673	27.5	9.000	L1	9.8	18.5	46.0
1.464489	24.7	9.000	L1	9.8	21.3	46.0
3.621856	14.7	9.000	L1	9.8	31.3	46.0
11.601974	11.8	9.000	L1	9.8	38.2	50.0

Model Number: TR102
Port: N
Test Mode: M5
Power Source: AC 120V/60Hz
Note:



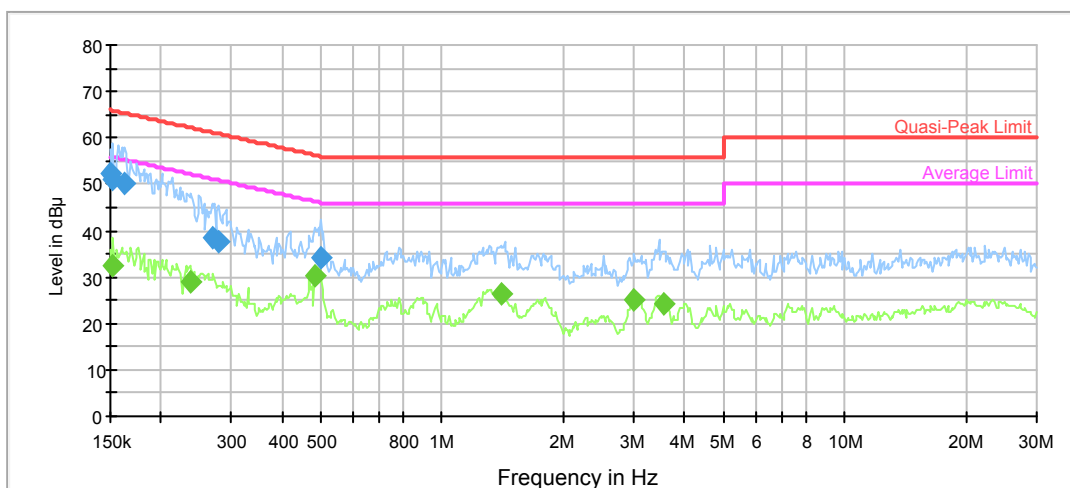
Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.156091	40.1	9.000	N	11.1	25.6	65.7
0.382209	47.3	9.000	N	10.0	10.9	58.2
0.701301	38.1	9.000	N	9.8	17.9	56.0
0.759409	36.5	9.000	N	9.8	19.5	56.0
3.621856	27.2	9.000	N	9.8	28.8	56.0
11.601974	21.2	9.000	N	9.8	38.8	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.382209	40.8	9.000	N	10.0	7.5	48.2
0.687483	30.9	9.000	N	9.8	15.1	46.0
0.774673	29.6	9.000	N	9.8	16.4	46.0
1.248947	27.1	9.000	N	9.8	18.9	46.0
3.621856	20.2	9.000	N	9.8	25.8	46.0
11.601974	12.8	9.000	N	9.8	37.2	50.0

Model Number: TR102
Port: L
Test Mode: M6
Power Source: AC 120V/60Hz
Note:



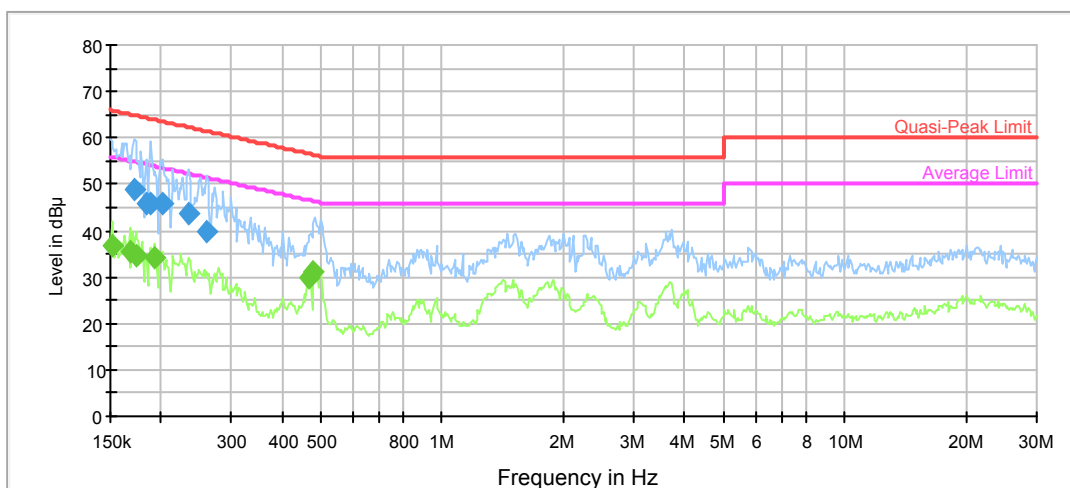
Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150000	52.4	9.000	L1	11.2	13.6	66.0
0.152410	51.2	9.000	L1	11.1	14.7	65.9
0.162441	50.1	9.000	L1	11.0	15.3	65.3
0.268355	38.6	9.000	L1	10.2	22.6	61.2
0.279263	37.6	9.000	L1	10.2	23.2	60.8
0.499611	34.1	9.000	L1	9.9	22.0	56.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.152410	32.5	9.000	L1	11.1	23.4	55.9
0.236234	28.8	9.000	L1	10.4	23.4	52.2
0.483938	30.4	9.000	L1	9.9	15.9	46.3
1.407671	26.3	9.000	L1	9.8	19.7	46.0
3.000901	25.0	9.000	L1	9.8	21.0	46.0
3.547503	24.3	9.000	L1	9.8	21.7	46.0

Model Number: TR102
Port: N
Test Mode: M6
Power Source: AC 120V/60Hz
Note:



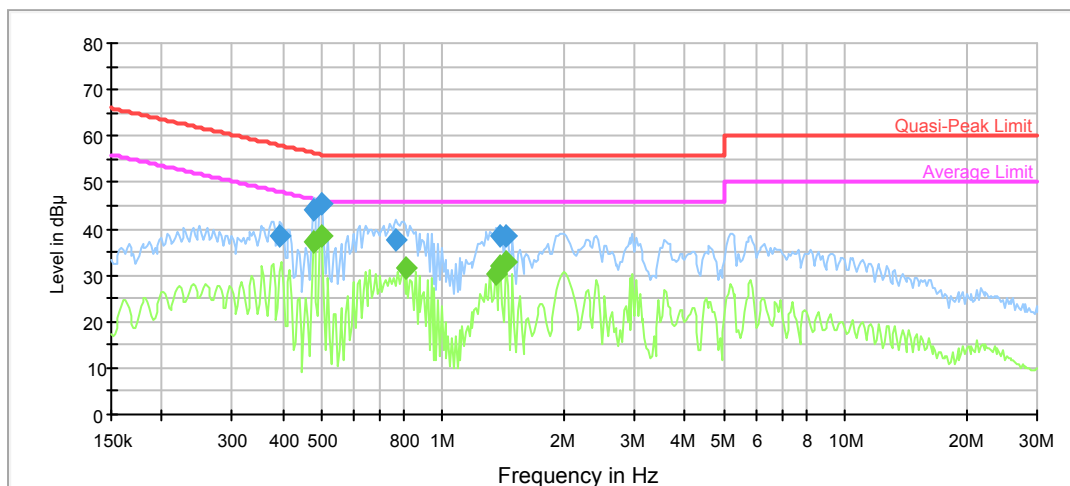
Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.171759	49.0	9.000	N	10.9	15.8	64.9
0.184529	45.9	9.000	N	10.7	18.4	64.3
0.188994	45.7	9.000	N	10.7	18.3	64.1
0.203045	45.7	9.000	N	10.6	17.8	63.5
0.234359	43.7	9.000	N	10.4	18.6	62.3
0.259937	39.6	9.000	N	10.3	21.9	61.4

Final Result 2

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.152410	36.7	9.000	N	11.1	19.2	55.9
0.167702	35.5	9.000	N	10.9	19.6	55.1
0.173134	34.4	9.000	N	10.9	20.4	54.8
0.193566	34.0	9.000	N	10.7	19.9	53.9
0.468757	30.0	9.000	N	9.9	16.5	46.5
0.480097	31.3	9.000	N	9.9	15.0	46.3

Model Number: TR102
Port: L
Test Mode: M7
Power Source: AC 120V/60Hz
Note:



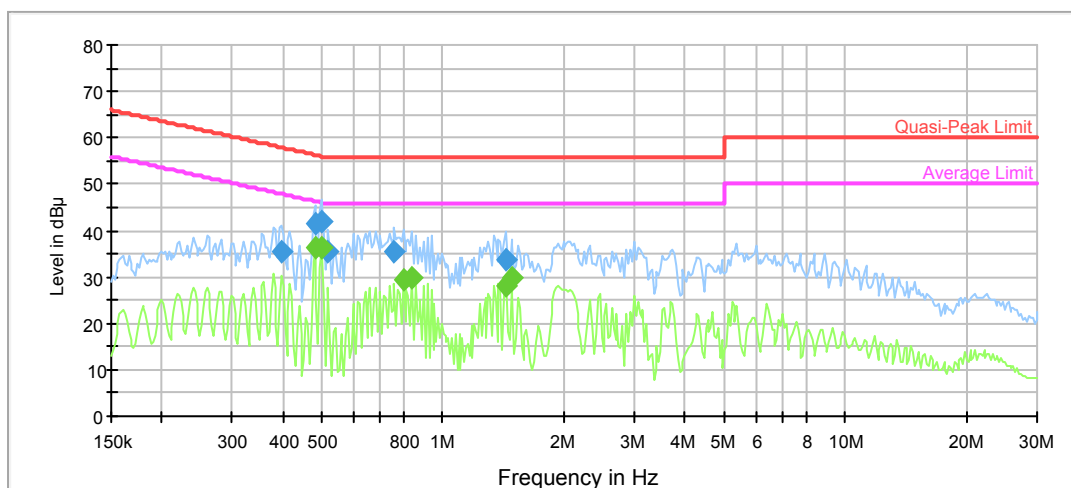
Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.393790	38.4	9.000	L1	10.0	19.6	58.0
0.475741	44.3	9.000	L1	9.9	12.2	56.4
0.500009	45.5	9.000	L1	9.9	10.5	56.0
0.767003	37.8	9.000	L1	9.8	18.2	56.0
1.393411	38.5	9.000	L1	9.8	17.5	56.0
1.435633	38.7	9.000	L1	9.8	17.4	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.475741	37.3	9.000	L1	9.9	9.1	46.4
0.500009	38.5	9.000	L1	9.9	7.5	46.0
0.814189	31.6	9.000	L1	9.8	14.4	46.0
1.352431	30.5	9.000	L1	9.8	15.5	46.0
1.393411	32.2	9.000	L1	9.8	13.8	46.0
1.435633	32.9	9.000	L1	9.8	13.1	46.0

Model Number: TR102
Port: N
Test Mode: M7
Power Source: AC 120V/60Hz
Note:



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.397728	35.3	9.000	N	10.0	22.6	57.9
0.480499	41.5	9.000	N	9.9	14.9	56.3
0.500009	41.7	9.000	N	9.9	14.3	56.0
0.520311	35.7	9.000	N	9.9	20.3	56.0
0.759409	35.4	9.000	N	9.8	20.6	56.0
1.435633	33.7	9.000	N	9.8	22.3	56.0

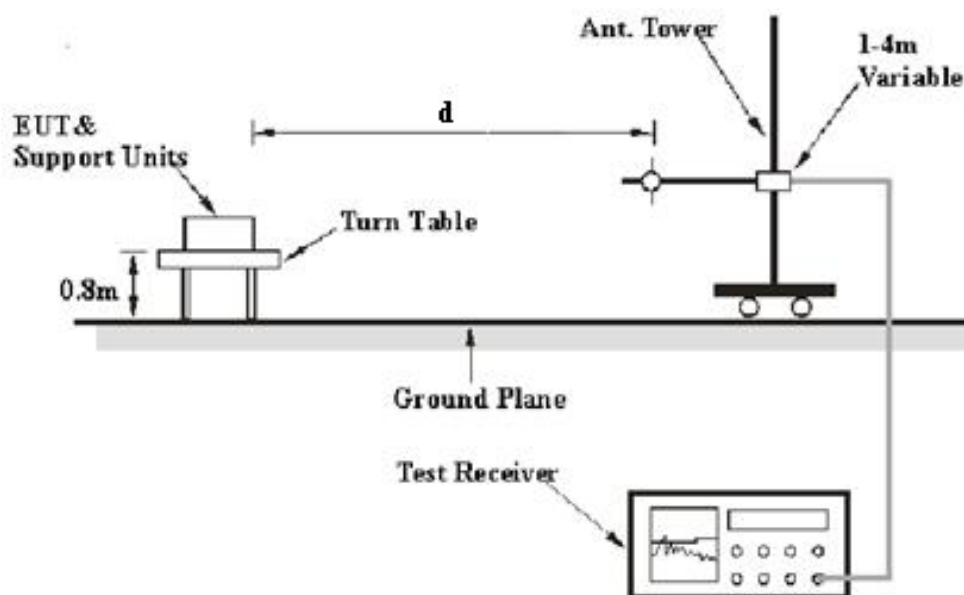
Final Result 2

Frequency (MHz)	Average (dB μ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.480499	36.3	9.000	N	9.9	10.1	46.3
0.500009	36.1	9.000	N	9.9	9.9	46.0
0.798146	29.5	9.000	N	9.8	16.5	46.0
0.838859	29.8	9.000	N	9.8	16.2	46.0
1.435633	28.1	9.000	N	9.8	17.9	46.0
1.479134	29.7	9.000	N	9.8	16.3	46.0

2 - RADIATED EMISSIONS

EUT Setup

Below 1GHz:



The radiated emission below 1GHz tests were performed in test site Chamber A at the 3 meters distance, using the setup accordance with the ANSI C63.4-2014. The specification used was the FCC Part 15.109 Class B limits.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 1GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

Test Procedure

During the radiated emissions, the adapter was connected to the first AC floor outlet and the other support equipments were connected to the second AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The data was recorded in the Quasi-peak detection mode for below 1 GHz.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Meter Reading+ Corrected

Note:

Corrected = Antenna Factor + Cable Loss - Amplifier Gain

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

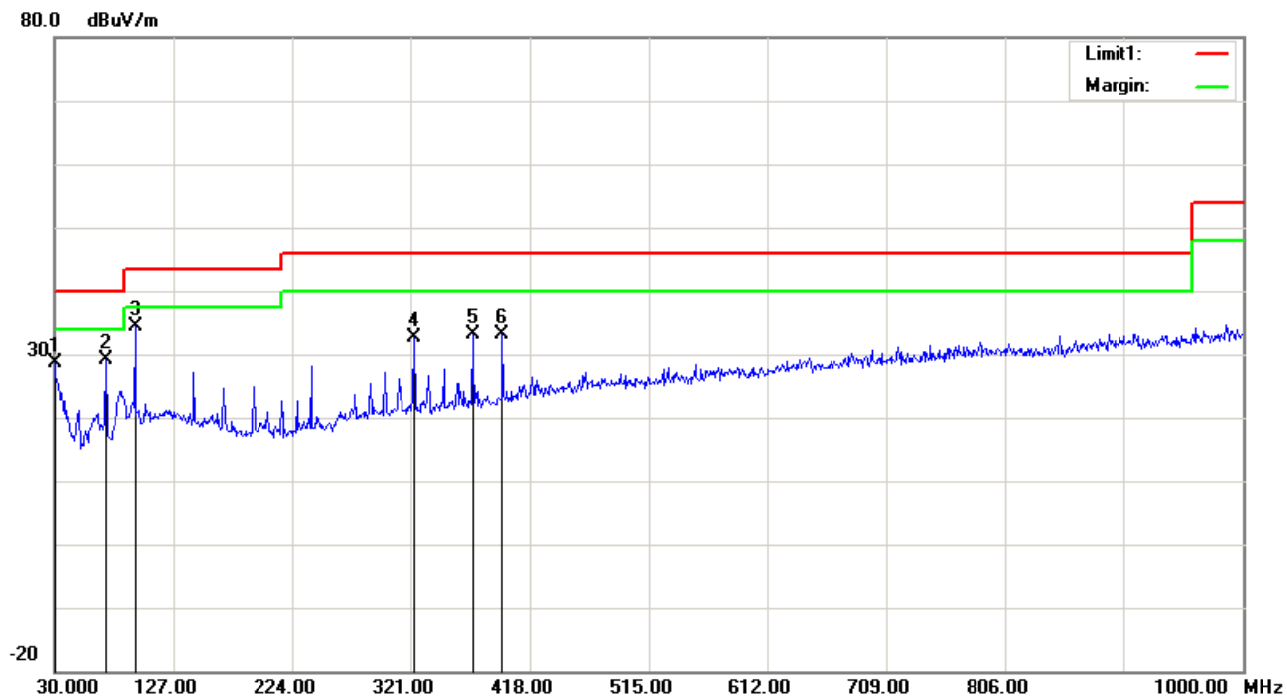
$$\text{Margin} = \text{Limit} - \text{Result}$$

Test Data

Please refer to following table and plots:

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M1
Note:

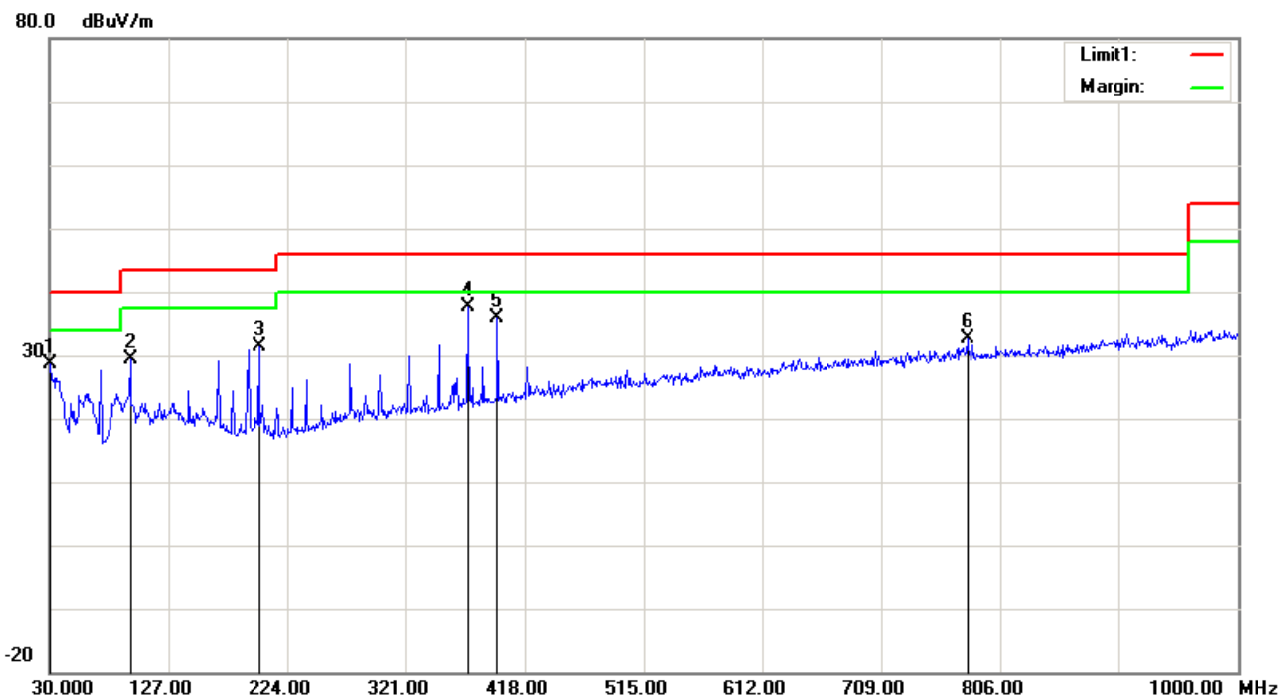
Polarization: Horizontal
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1	30.0000	26.95	peak	1.72	28.67	40.00	11.33
2	71.7100	40.26	peak	-11.06	29.20	40.00	10.80
3	95.9600	44.41	peak	-9.99	34.42	43.50	9.08
4	323.9100	36.09	peak	-3.37	32.72	46.00	13.28
5	371.4400	35.92	peak	-2.75	33.17	46.00	12.83
6	395.6900	35.09	peak	-2.07	33.02	46.00	12.98

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M1
Note:

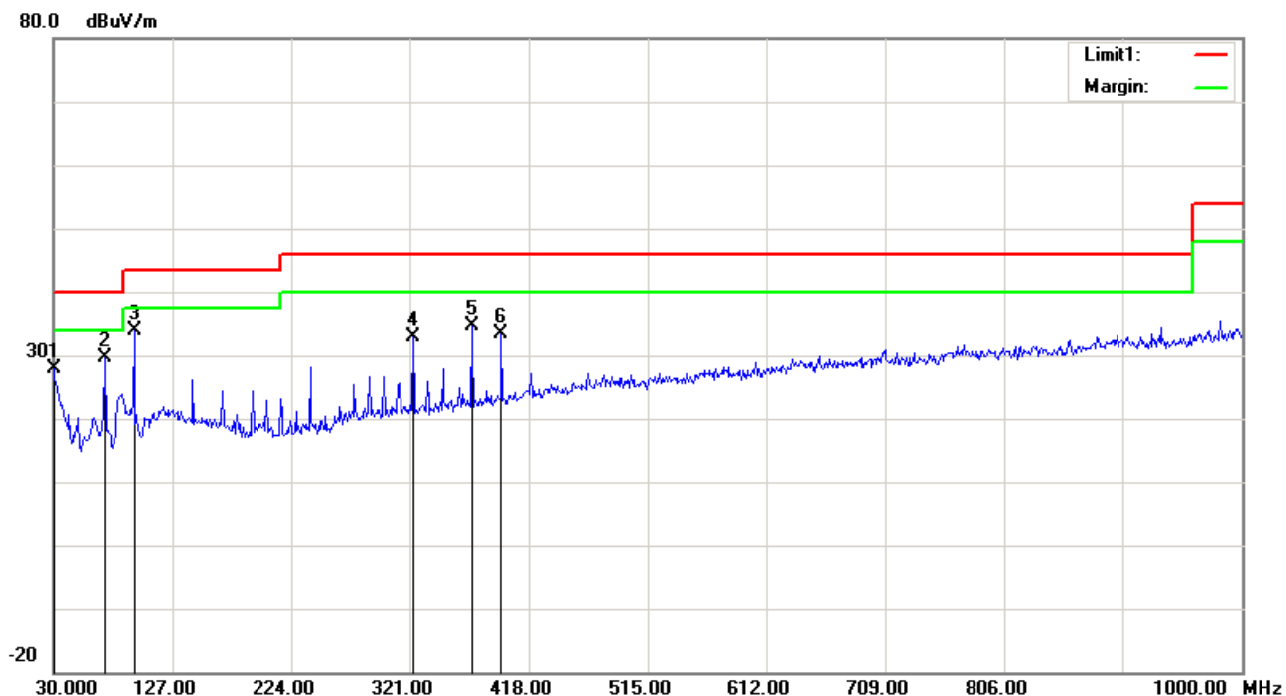
Polarization: Vertical
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB/m)	Result (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1	30.0000	26.90	peak	1.72	28.62	40.00	11.38
2	95.9600	39.27	peak	-9.99	29.28	43.50	14.22
3	200.7200	37.22	peak	-5.88	31.34	43.50	12.16
4	371.4400	40.48	peak	-2.75	37.73	46.00	8.27
5	395.6900	38.02	peak	-2.07	35.95	46.00	10.05
6	778.8400	28.31	peak	4.36	32.67	46.00	13.33

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M2
Note:

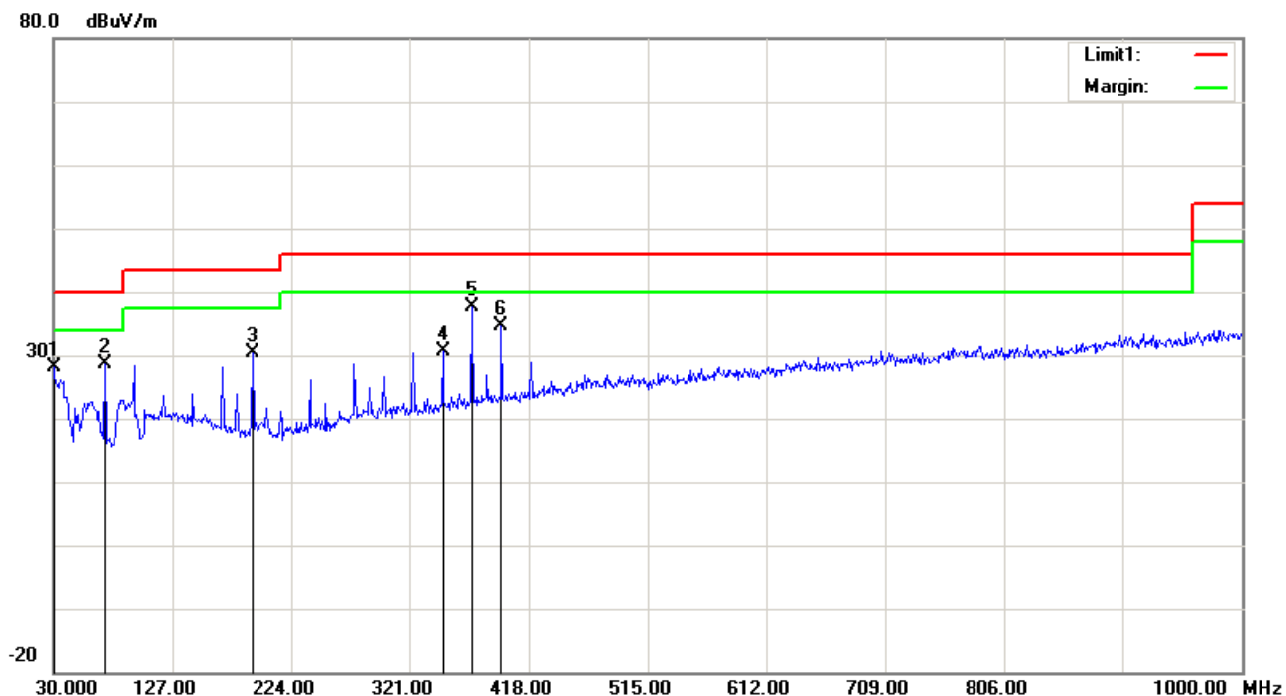
Polarization: Horizontal
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB/m)	Result (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1	30.0000	26.05	peak	1.72	27.77	40.00	12.23
2	71.7100	40.74	peak	-11.06	29.68	40.00	10.32
3	95.9600	43.97	peak	-9.99	33.98	43.50	9.52
4	323.9100	36.16	peak	-3.37	32.79	46.00	13.21
5	371.4400	37.31	peak	-2.75	34.56	46.00	11.44
6	395.6900	35.44	peak	-2.07	33.37	46.00	12.63

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M2
Note:

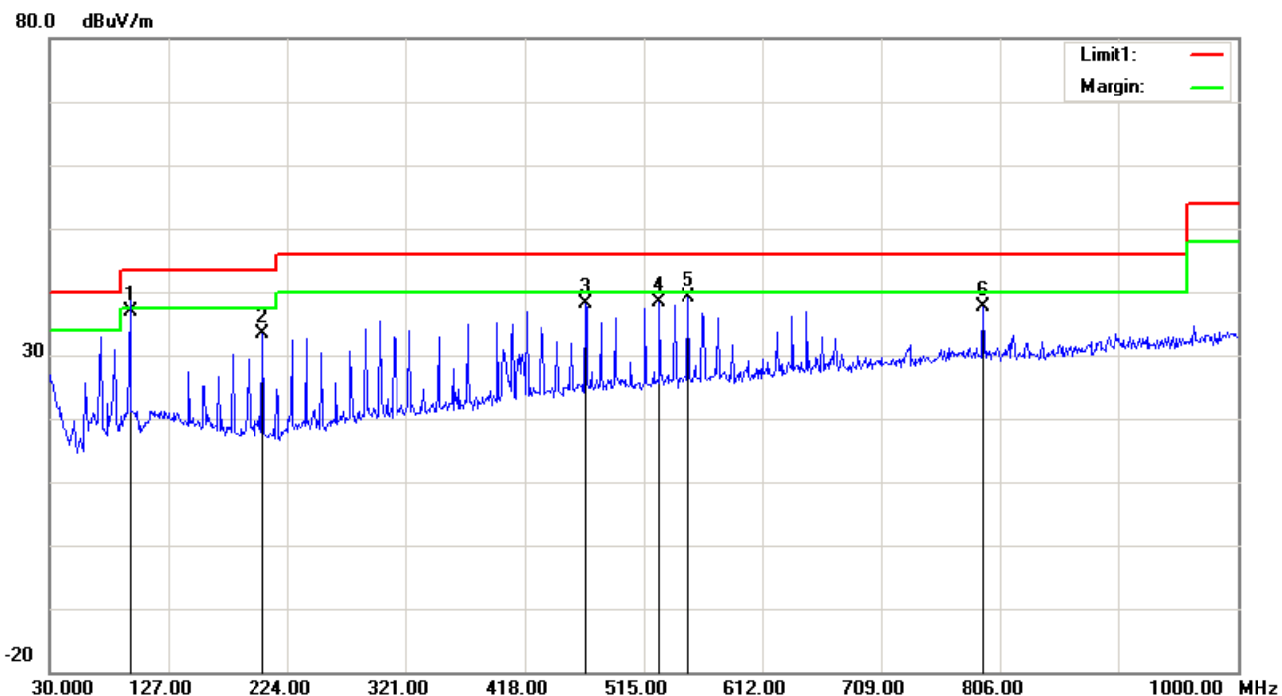
Polarization: Vertical
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB/m)	Result (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1	30.0000	26.46	peak	1.72	28.18	40.00	11.82
2	71.7100	39.78	peak	-11.06	28.72	40.00	11.28
3	191.9900	37.27	peak	-7.01	30.26	43.50	13.24
4	348.1600	33.78	peak	-3.11	30.67	46.00	15.33
5	371.4400	40.37	peak	-2.75	37.62	46.00	8.38
6	395.6900	36.70	peak	-2.07	34.63	46.00	11.37

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M3
Note:

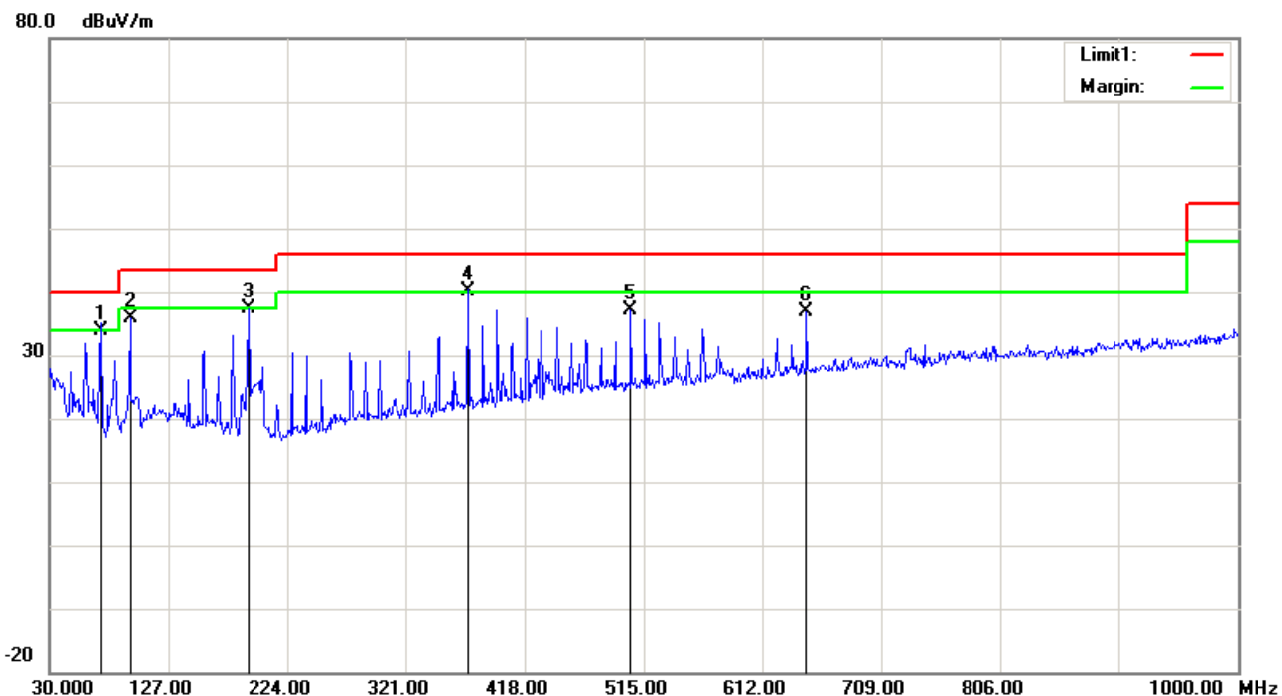
Polarization: Horizontal
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB/m)	Result (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1	95.9600	46.80	QP	-9.99	36.81	43.50	6.69
2	203.6300	39.72	peak	-6.29	33.43	43.50	10.07
3	467.4700	38.58	peak	-0.47	38.11	46.00	7.89
4	527.6100	38.06	peak	0.29	38.35	46.00	7.65
5	551.8600	38.84	peak	0.35	39.19	46.00	6.81
6	792.4200	33.18	peak	4.34	37.52	46.00	8.48

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M3
Note:

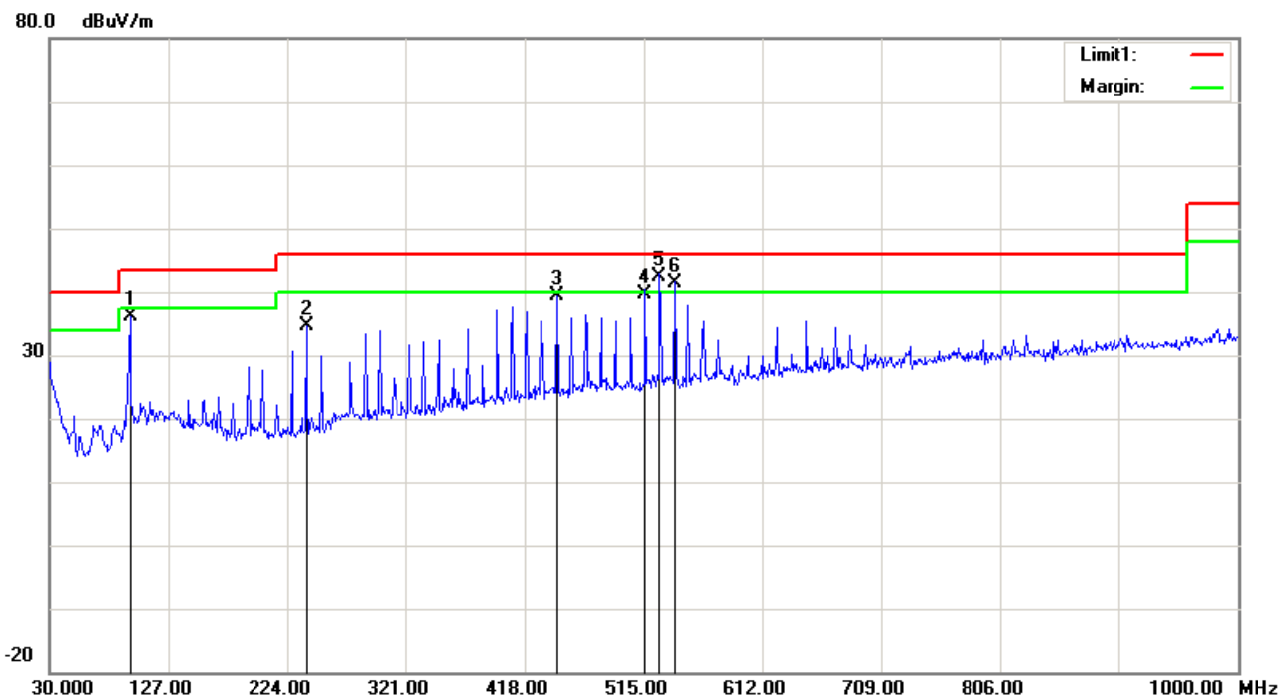
Polarization: Vertical
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB/m)	Result (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1	71.7100	45.00	QP	-11.06	33.94	40.00	6.06
2	95.9600	45.97	peak	-9.99	35.98	43.50	7.52
3	191.9900	44.49	peak	-7.01	37.48	43.50	6.02
4	371.4400	43.00	QP	-2.75	40.25	46.00	5.75
5	504.3300	37.44	peak	-0.28	37.16	46.00	8.84
6	647.8900	34.79	peak	2.15	36.94	46.00	9.06

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M4
Note:

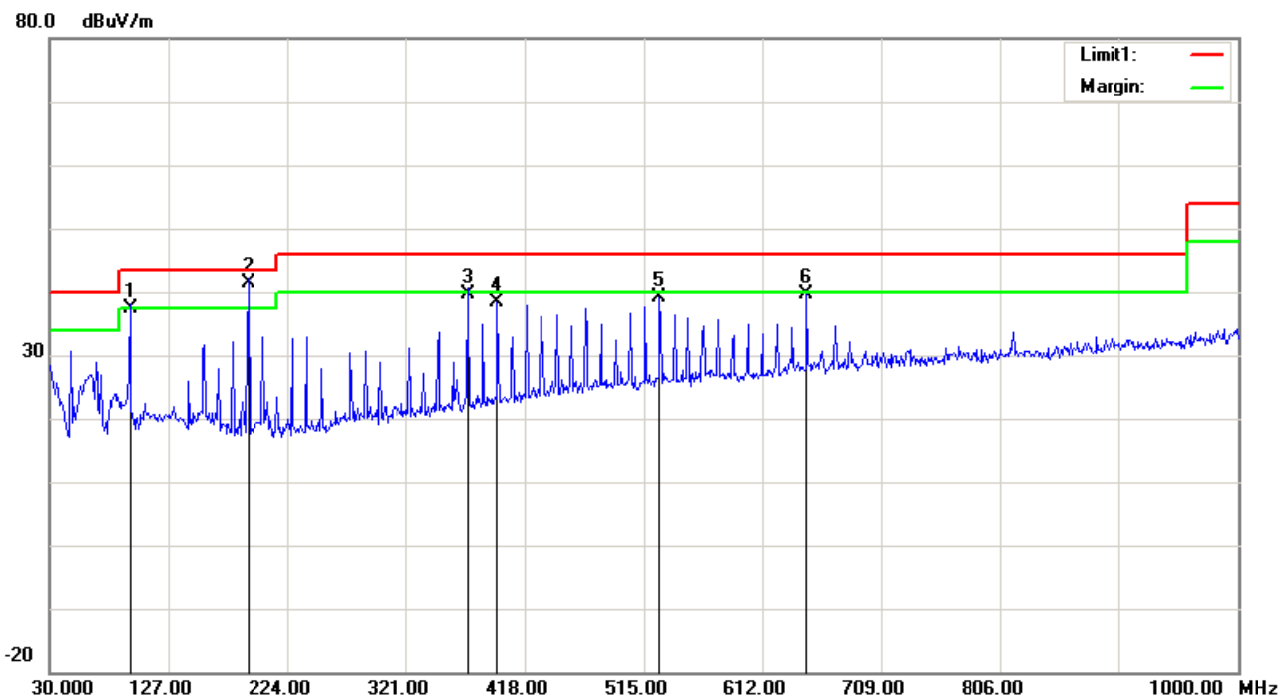
Polarization: Horizontal
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB/m)	Result (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1	95.9600	46.21	peak	-9.99	36.22	43.50	7.28
2	239.5200	40.77	peak	-6.02	34.75	46.00	11.25
3	444.1900	40.63	peak	-1.15	39.48	46.00	6.52
4	515.9700	39.80	QP	-0.13	39.67	46.00	6.33
5	527.6100	42.00	QP	0.29	42.29	46.00	3.71
6	540.2200	41.00	QP	0.31	41.31	46.00	4.69

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M4
Note:

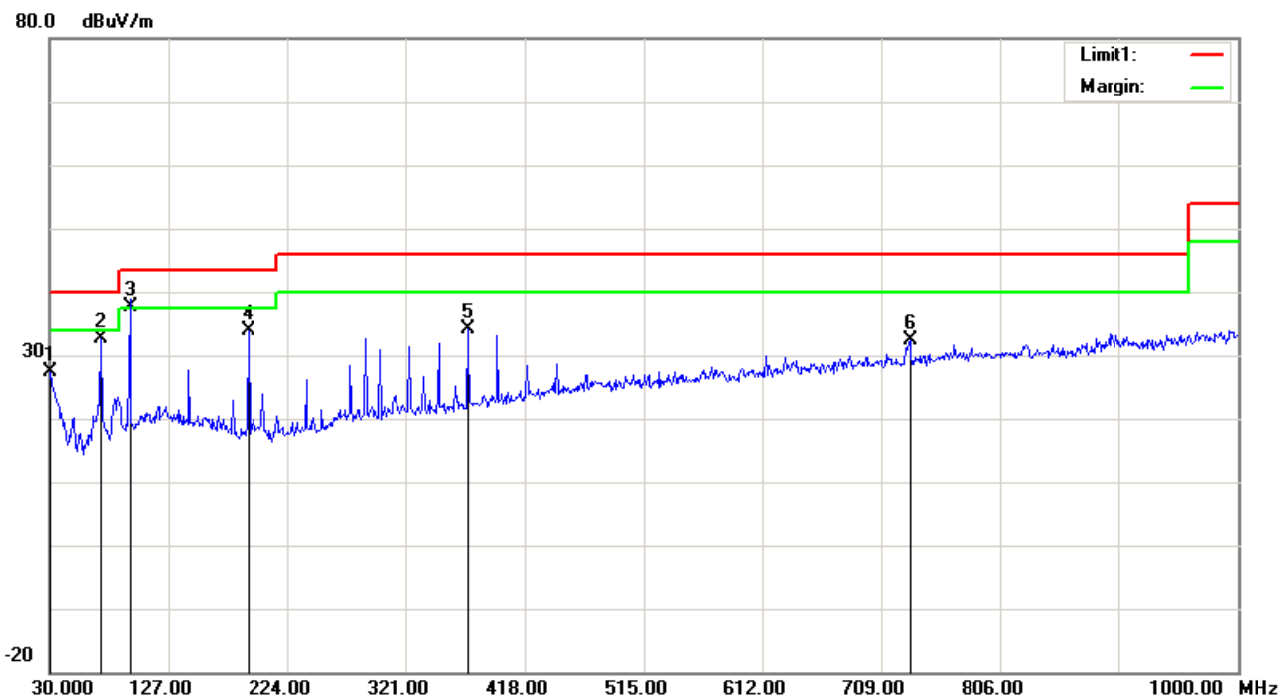
Polarization: Vertical
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB/m)	Result (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1	95.9600	47.40	QP	-9.99	37.41	43.50	6.09
2	191.9900	48.40	QP	-7.01	41.39	43.50	2.11
3	371.4400	42.40	QP	-2.75	39.65	46.00	6.35
4	395.6900	40.36	peak	-2.07	38.29	46.00	7.71
5	527.6100	38.93	peak	0.29	39.22	46.00	6.78
6	647.8900	37.58	peak	2.15	39.73	46.00	6.27

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M5
Note:

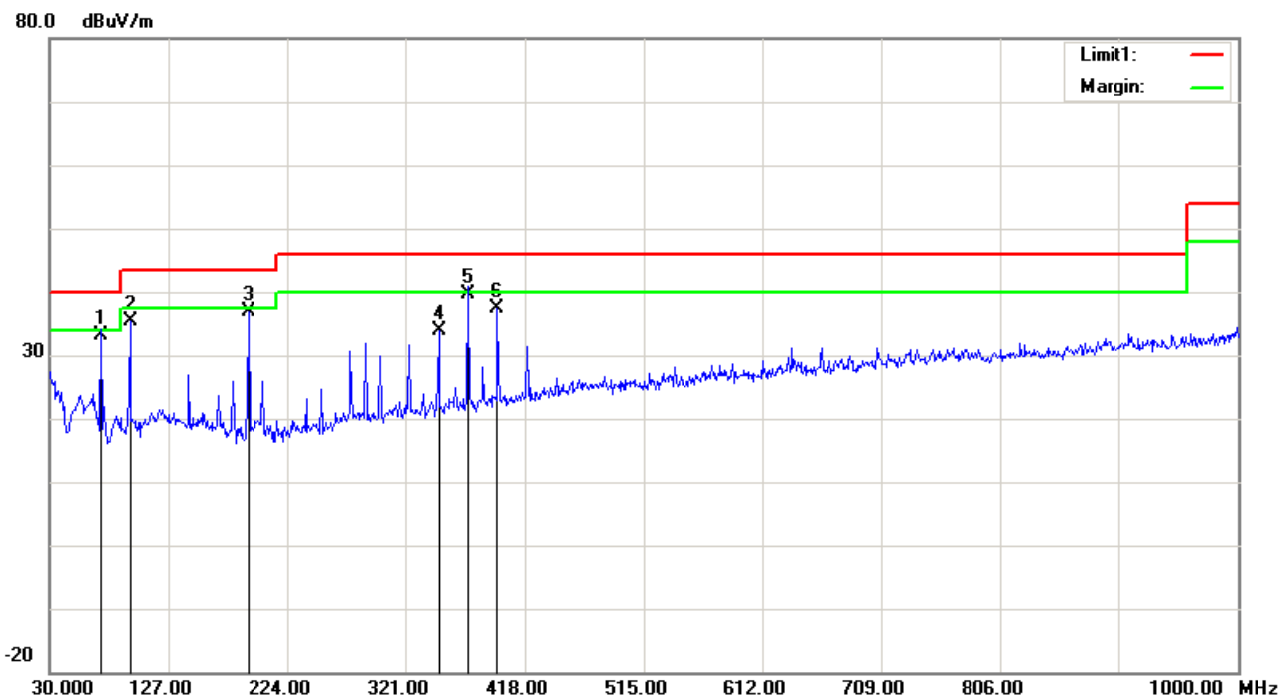
Polarization: Horizontal
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB/m)	Result (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1	30.9700	26.39	peak	0.91	27.30	40.00	12.70
2	71.7100	43.77	peak	-11.06	32.71	40.00	7.29
3	95.9600	47.50	QP	-9.99	37.51	43.50	5.99
4	191.9900	40.86	peak	-7.01	33.85	43.50	9.65
5	371.4400	36.99	peak	-2.75	34.24	46.00	11.76
6	732.2800	29.19	peak	3.25	32.44	46.00	13.56

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M5
Note:

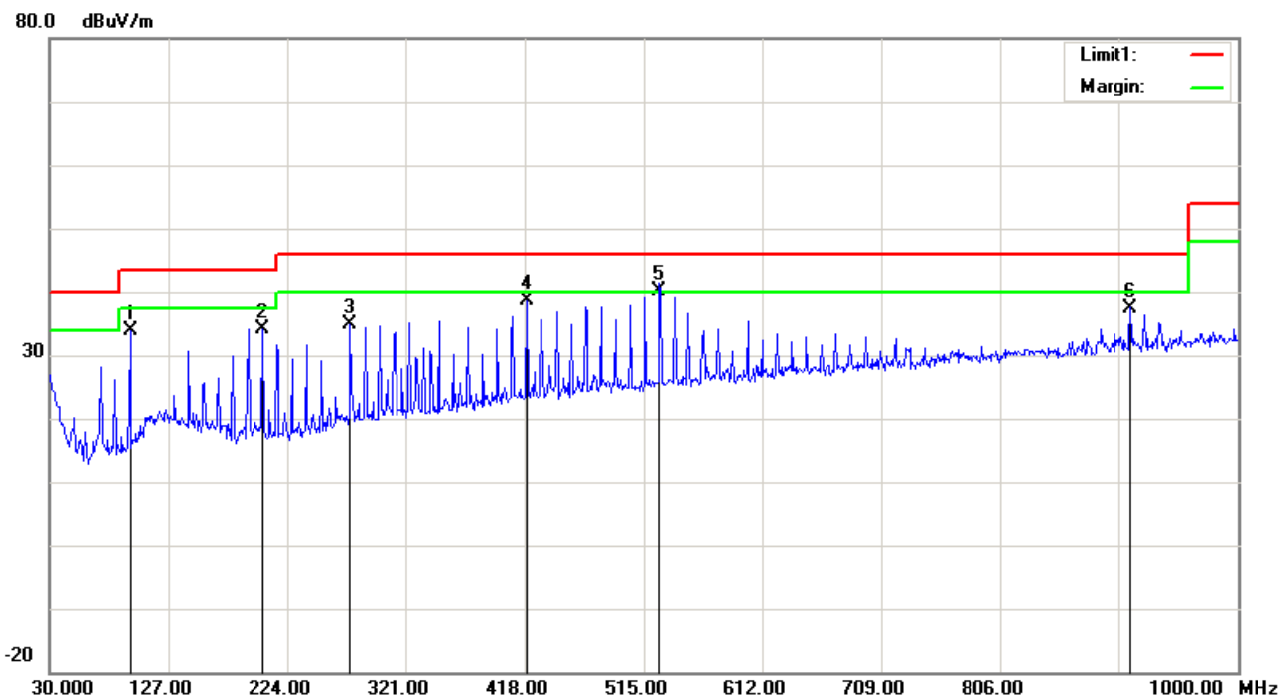
Polarization: Vertical
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB/m)	Result (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1	71.7100	44.10	QP	-11.06	33.04	40.00	6.96
2	95.9600	45.28	peak	-9.99	35.29	43.50	8.21
3	191.9900	43.97	peak	-7.01	36.96	43.50	6.54
4	348.1600	36.94	peak	-3.11	33.83	46.00	12.17
5	371.4400	42.40	QP	-2.75	39.65	46.00	6.35
6	395.6900	39.54	peak	-2.07	37.47	46.00	8.53

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M6
Note:

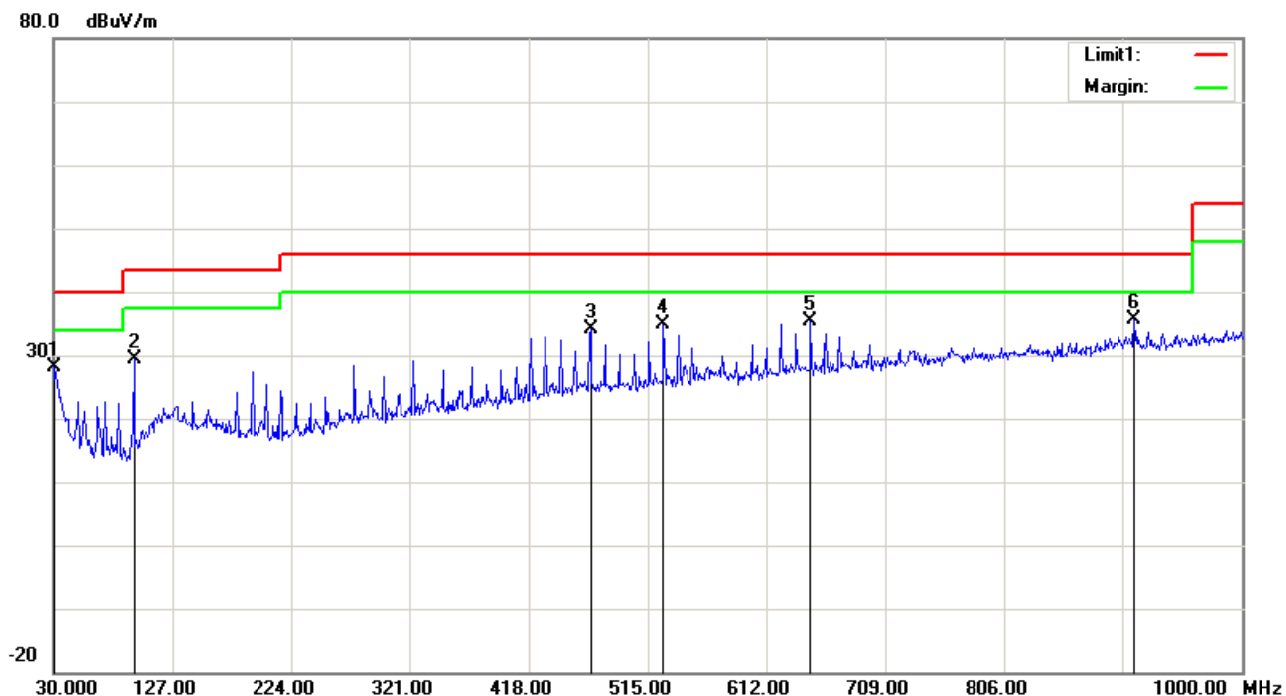
Polarization: Horizontal
Power: DC3.7 from battery
Distance: 3m



No.	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB/m)	Result (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1	95.9600	43.89	peak	-9.99	33.90	43.50	9.60
2	203.6300	40.51	peak	-6.29	34.22	43.50	9.28
3	275.4100	38.90	peak	-4.13	34.77	46.00	11.23
4	419.9400	40.22	peak	-1.56	38.66	46.00	7.34
5	527.6100	39.81	QP	0.29	40.10	46.00	5.90
6	912.7000	37.28	peak	0.22	37.50	46.00	8.50

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M6
Note:

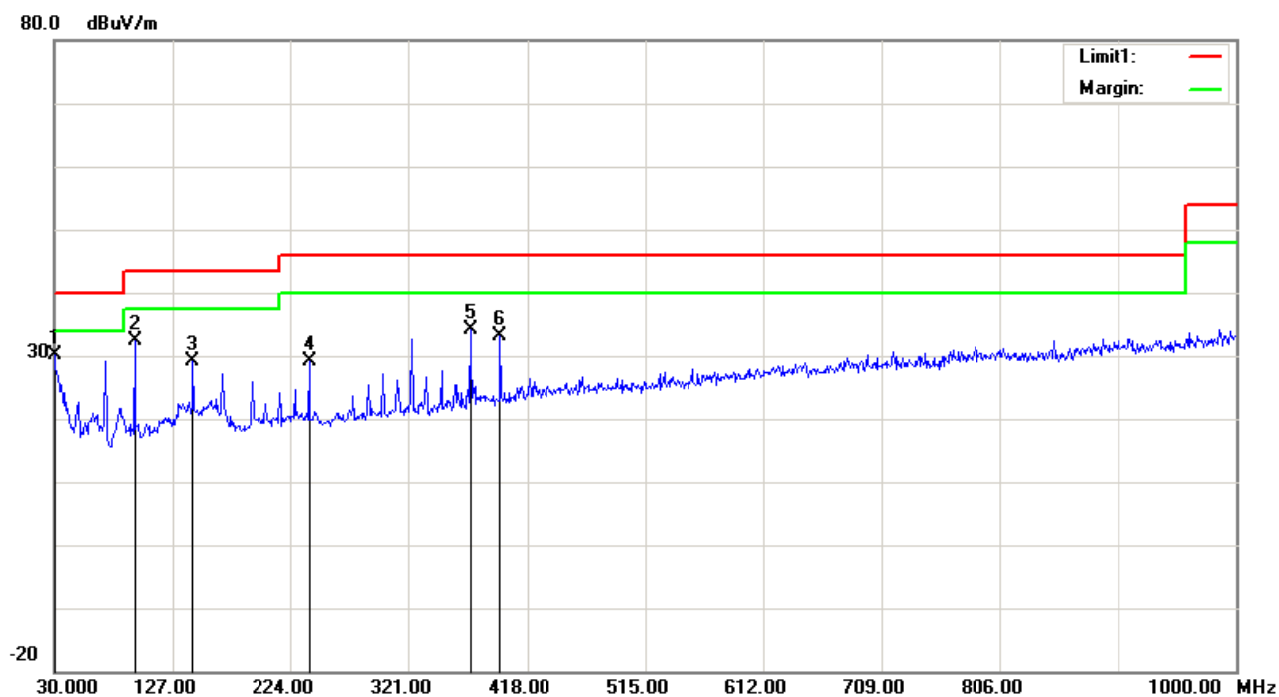
Polarization: Vertical
Power: DC3.7 from battery
Distance: 3m



No.	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB/m)	Result (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1	30.0000	26.53	peak	1.72	28.25	40.00	11.75
2	95.9600	39.40	peak	-9.99	29.41	43.50	14.09
3	468.4400	34.56	peak	-0.45	34.11	46.00	11.89
4	527.6100	34.57	peak	0.29	34.86	46.00	11.14
5	647.8900	33.14	peak	2.15	35.29	46.00	10.71
6	912.7000	35.31	peak	0.22	35.53	46.00	10.47

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M7
Note:

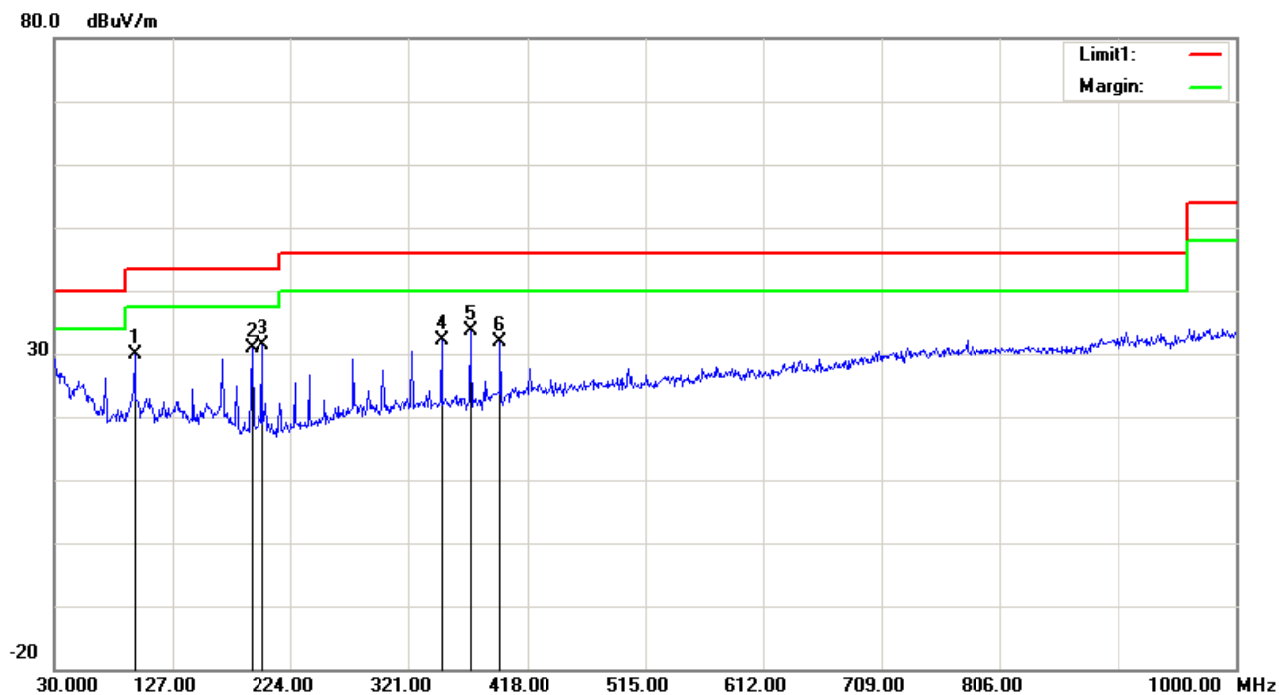
Polarization: Horizontal
Power: DC3.7 from battery
Distance: 3m



No.	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1	30.0000	28.46	peak	1.72	30.18	40.00	9.82
2	95.9600	42.41	peak	-9.99	32.42	43.50	11.08
3	143.4900	35.14	peak	-5.95	29.19	43.50	14.31
4	239.5200	35.24	peak	-6.02	29.22	46.00	16.78
5	371.4400	36.92	peak	-2.75	34.17	46.00	11.83
6	395.6900	35.09	peak	-2.07	33.02	46.00	12.98

Condition: FCC Part 15B Class B
EUT: AM/FM/SW RADIO MP3 REC PLAYER
Model: TR102
Test Mode: M7
Note:

Polarization: Vertical
Power: DC3.7 from battery
Distance: 3m



No.	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1	95.9600	39.77	peak	-9.99	29.78	43.50	13.72
2	191.9900	37.99	peak	-7.01	30.98	43.50	12.52
3	200.7200	37.22	peak	-5.88	31.34	43.50	12.16
4	348.1600	35.18	peak	-3.11	32.07	46.00	13.93
5	371.4400	36.48	peak	-2.75	33.73	46.00	12.27
6	395.6900	34.02	peak	-2.07	31.95	46.00	14.05

*****END OF REPORT*****