

FCC – Test Report

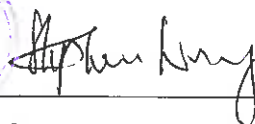
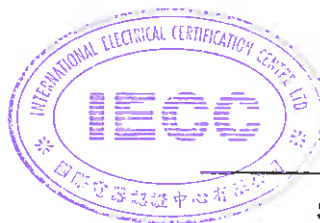
Date: 2010-01-12

No. 53409

Page 1 of 20

LABORATORY - REPORT**APPLICANT:** BRILLIANT RICH ELECTRONICS LTD**ADDRESS:** Flat I, 2/F, Universal Industrial Centre
19-21 Shan Mei Street
Fo Tan, Shatin, N.T.
Hong Kong**DATE OF SAMPLE RECEIVED:** 2009-12-31**DATE OF TESTING:** 2010-01-06 to 2010-01-08**DESCRIPTION OF SAMPLE:**

Product: AM FM Radio with Weather Band
Product class: Communication Receiver (Super Hetrodyne)
Model No.: VX341
Additional Model No.: AR290
Brand Name : VEXTRA
FCC ID number: T4G-VX341
Band combination: AM / FM / Weather Band
Rating: AC/DC adaptor - Input : AC 120V 60Hz, Output : DC 6V
or DC 6V (AA size battery x 4)

CONDITION OF TEST SAMPLE: The received sample was under good condition.**INVESTIGATIONS REQUESTED:** Measurements to the relevant clauses of F.C.C. Rules and Regulations
Part 15 Subpart B – 'Unintentional Radiators'**RESULTS:** See the attached test sheets**CONCLUSIONS:** From the measurement data obtained, the tested sample was considered
to have **COMPLIED** with the requirements for the relevant clauses of
Federal Communications Commission Rules as specified above.**REMARKS:** The above listed additional model is identical to the basic model VX341.**Stephen C.N. Wong**
Technical Manager

FCC – Test Report

No. 53409

Date: 2010-01-12

Page 2 of 20

TABLE OF CONTENTS

1. Laboratory Report Cover
2. Table of Contents
3. Test Location and Summary of Test Results
4. Test Equipment List
5. Radiated Emission Test Setup
6. Conducted Emission Test Setup
7. Test Procedure
8. Test Results
- 9-19. Measurement Data
20. Photo of sample

FCC – Test Report

No. 53409

Date: 2010-01-12

Page 3 of 20

Test Locations

Radiated Emission Test (30 – 1000 MHz) and Conducted Emission Test

International Electrical Certification Centre Ltd.

Units 602-605, 31 Lok Yip Road, On Lok Tsuen, Fanling, N.T., Hong Kong

Tel : +852 23052570

Fax : +852 27564480

Email : info@iecc.com.hk

Radiation Emission Test (1000 – 2000 MHz)

CMA Industrial Development Foundations Limited

1302, Yang Hing Centre

9-13 Wong Chuk Yueng Street

Fo Tan, Shatin, N.T.

Hong Kong

Tel : +852 26988198

Fax : +852 26954177

Email : stephenlam@cmatcl.com

Summary of Test Results

Radiated Emission:

Test result: O.K.

Test data: See attached data sheet

Conducted Emission:

Test result: O.K.

Test data: See attached data sheet

FCC – Test Report

Date: 2010-01-12

No. 53409

Page 4 of 20

TEST EQUIPMENT LISTRadiated Emission Test (30 – 1000 MHz) and Conducted Emission Test

Equipment	Manufacturer	Model	Serial No.	Last Calibration Date	Next Calibration Date
Test Receiver	Rohde & Schwarz	ESCS 30	100388	10/9/2009	9/9/2010
Artificial Mains Network (LISN)	Schwarzbeck	NSLK 8127	8127312	11/2/2009	10/2/2010
Antenna	Schaffner	CBL6111C	2791	22/07/2008	21/07/2010
Antenna Mast System	Schwarzbeck	AM9104	--	--	--
Turntable with Controller	Drehtisch	DT312	--	--	--

Radiation Emission Test (1000 – 2000 MHz)

Equipment	Manufacturer	Model	Serial No.	Last Calibration Date	Next Calibration Date
Test Receiver	Rohde & Schwarz	ESCI	100152	3/1/2010	2/1/2011
Horn Antenna	Schwarzbeck	BBHA9120D	9120D531	19/5/2009	18/5/2010
Pre-amplifier	Schwarzbeck	BBV9718	9718-119	9/5/2009	8/5/2010

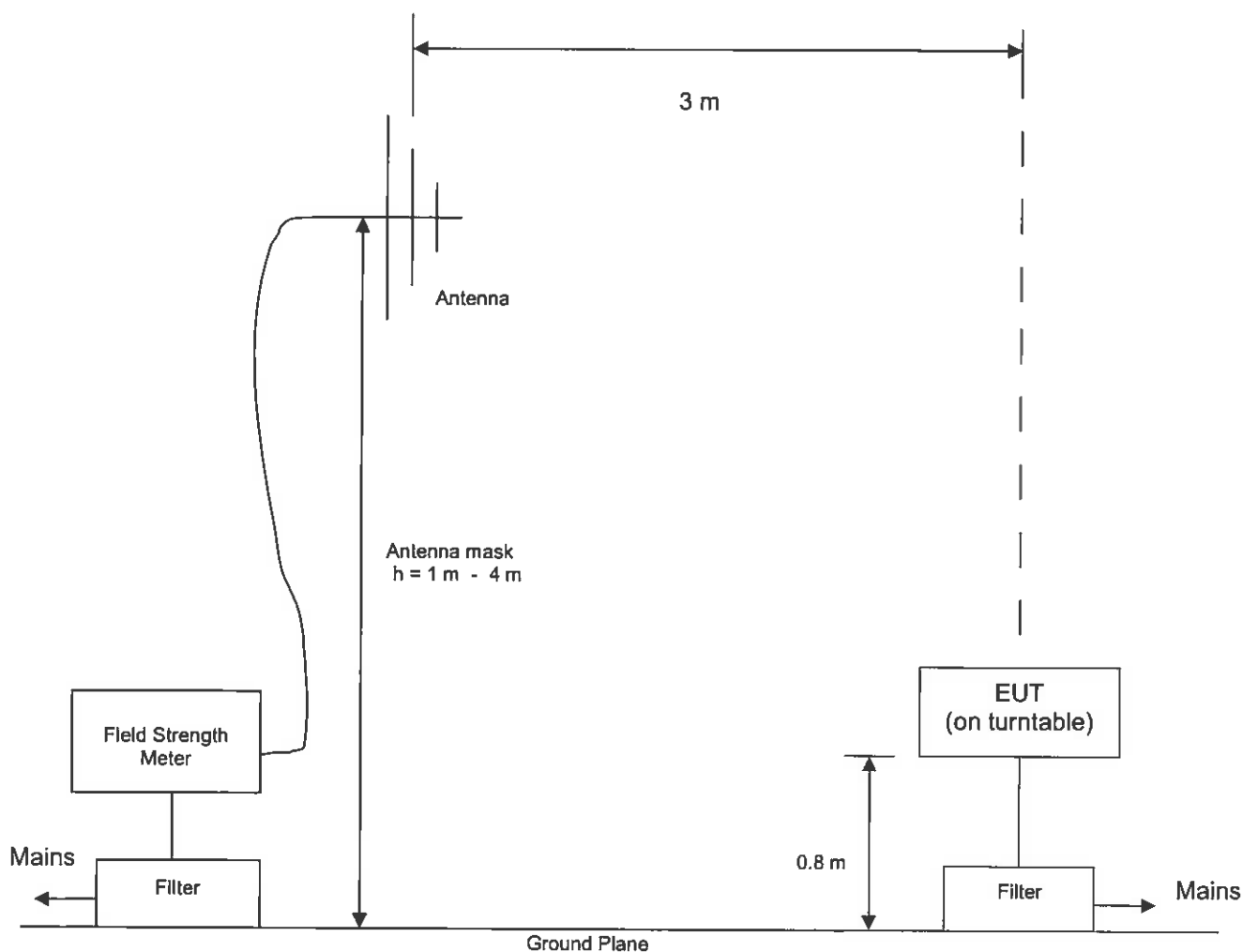
FCC – Test Report

No. 53409

Date: 2010-01-12

Page 5 of 20

Radiated Emission Test Setup (3 m distance)



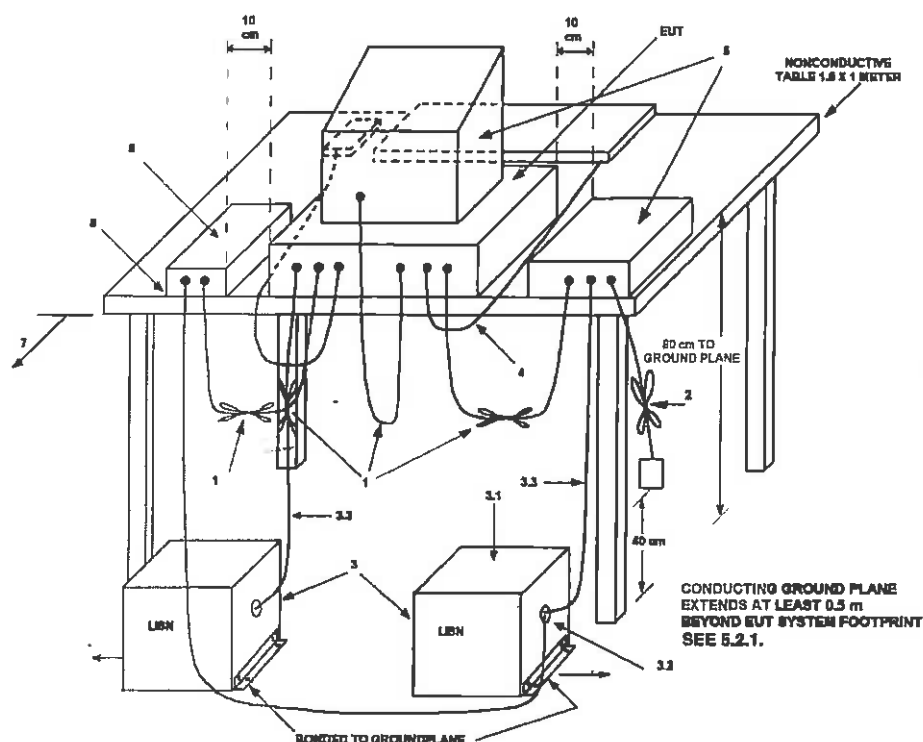
FCC – Test Report

No. 53409

Date: 2010-01-12

Page 6 of 20

Conducted Emission Test Setup



LEGEND:

- 1) Interconnecting cables that hang closer than 40 cm to the groundplane shall be folded back and forth in the center forming a bundle 30 to 40 cm long (see 6.1.4 and 11.2.4).
- 2) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m (see 6.1.4).
- 3) EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω . LISN can be placed on top of, or immediately beneath, reference groundplane (see 5.2.3 and 7.2.1).
 - 3.1) All other equipment powered from additional LISN(s).
 - 3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
 - 3.3) LISN at least 80 cm from nearest part of EUT chassis.
- 4) Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use (See 6.2.1.3 and 11.2.4).
- 5) Non-EUT components of EUT system being tested (see also Figure 13).
- 6) Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop (see 6.2.1.1 and 6.2.1.2).
- 7) Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the groundplane (see 5.2.2 for options).

FCC – Test Report

No. 53409

Date: 2010-01-12

Page 7 of 20

Test Procedure

Radiated Emission :

The EUT was tested according to ANSI 63.4-2003 for the requirements of FCC Part 15 Subpart B Section 15.109.

During the test, the sample was placed on a turn table and operated under various modes with supply at rated AC voltage (i.e AC120V 60Hz) to the host AC/DC adaptor. The table is 0.8 meter above the reference ground plane on the Test Site and can rotate 360 degrees to determine the position of the maximum emission level. Broad-band antennas for the frequency range 30 - 2000 MHz, connected with 10 meters coaxial cable to the test receiver was used for measurement. The antenna is capable of measuring both horizontal and vertical polarizations. The antenna was raised from 1 to 4 meters to find out the maximum emission level from the EUT.

An initial pre-scan was performed to find out the maximum emission level of the sample placed at 3 orthogonal planes. Final measurement (30 MHz –2000 MHz) was then performed to record the data for the emissions under worst-case condition for combination of the antenna orientation / height and turn table position.

Note : 1. The Open Area Test Site located at IECC was placed on file with the FCC Pursuant to Section 2.948 of the FCC Rules (FCC Registration No. : 97774).

2. The Chamber Test Site located at CMA Industrial Development Foundations Limited was placed on file with the FCC Pursuant to Section 2.948 of the FCC Rules (FCC Registration No. : 552221).

Conducted Emission :

The EUT was tested according to ANSI 63.4-2003 for the requirements of FCC Part 15 Subpart B Section 15.107.

During the test, the sample was placed on a wooden table and operated under various modes with supply at rated AC voltage (i.e AC120V 60Hz) via the LISN to the host AC/DC adaptor. The table is 0.8 meter above the floor. The LISN was connected to the test receiver for conducted emission measurement (150kHz – 30MHz).

FCC – Test Report**No. 53409**

Date: 2010-01-12

Page 8 of 20

Test Results**Radiated Emission :**

Test Requirement:	FCC Part 15 Subpart B Section 15.109
Test Method:	ANSI C63.4 : 2003
Deviations from Standard Test Method:	Nil
Frequency Range:	30MHz – 1000MHz (FM mode) 30MHz – 2000MHz (Weather Band mode)
Measurement Distance:	3 m
Class:	Class B
Detector:	Quasi-Peak

Refer to page 9 - 13 for measurement data.

Conducted Emission :

Test Requirement:	FCC Part 15 Subpart B Section 15.107
Test Method:	ANSI C63.4 : 2003
Deviations from Standard Test Method:	Nil
Frequency Range:	150kHz – 30MHz
Class:	Class B
Detector:	Quasi-Peak / Average

Refer to page 14 - 19 for measurement data.

U1

Date : 2010-01-12

Page 9 of 20

Radiated Emission
According: FCC Part 15 Subpart B (15.109)

IECC Ref: 53409
Model: VX341
Applicant: BRILLIANT RICH ELECTRONICS LTD
Ser.Nr.: --
Oper. Mode: FM Mode
InterFreq: 10.7 MHz

Test Equipment
Receiver: Rohde & Schwarz ESCS 30
Antenna: Schaffner CBL6111C

Receiving - frequency (MHz)	Oscillator-frequency (MHz)	Harmonics	Reading dBμV	Polarization	Correction Factor (dB)	Test Result dB(μV/m)	Limit dB(μV/m)
89.8	100.5	1	22.0	H	9.6	31.6	43.5
	201.0	2	< 16.0	H	8.7	< 24.7	43.5
	301.5	3	< 16.0	H	14.2	< 30.2	46.0
	402.0	4	< 16.0	H	16.8	< 32.8	46.0
	502.5	5	< 16.0	H	19.0	< 35.0	46.0
	603.0	6	< 16.0	H	20.6	< 36.6	46.0
	703.5	7	< 16.0	H	22.3	< 38.3	46.0
	804.0	8	< 16.0	H	23.8	< 39.8	46.0
	904.5	9	< 16.0	H	24.7	< 40.7	46.0
98.3	109.0	1	27.0	H	11.0	38.0	43.5
	218.0	2	< 16.0	H	9.5	< 25.5	46.0
	327.0	3	< 16.0	H	14.6	< 30.6	46.0
	436.0	4	< 16.0	H	18.1	< 34.1	46.0
	545.0	5	< 16.0	H	20.3	< 36.3	46.0
	654.0	6	< 16.0	H	21.7	< 37.7	46.0
	763.0	7	< 16.0	H	23.5	< 39.5	46.0
	872.0	8	< 16.0	H	24.4	< 40.4	46.0
	981.0	9	< 16.0	H	26.4	< 42.4	54.0
108.0	118.7	1	28.0	H	11.4	39.4	43.5
	237.4	2	< 16.0	H	11.9	< 27.9	46.0
	356.1	3	< 16.0	H	15.3	< 31.3	46.0
	474.8	4	< 16.0	H	19.0	< 35.0	46.0
	593.5	5	< 16.0	H	20.7	< 36.7	46.0
	712.2	6	< 16.0	H	22.4	< 38.4	46.0
	830.9	7	< 16.0	H	24.2	< 40.2	46.0
	949.6	8	< 16.0	H	25.9	< 41.9	46.0

The measurement results indicate that the test unit meets the FCC requirements

Note :

1. The above measured data are in Quasi-Peak values
2. The above results were the worst case results with the sample positioned in all 3 axis during the test.
The worst case data were obtained with the sample placed normally on the table and with the telescopic antenna positioned horizontally.

Operator : YH

U1

Date : 2010-01-12

Page 10 of 20

Radiated Emission
According: FCC Part 15 Subpart B (15.109)

IECC Ref: 53409
Model: VX341
Applicant: BRILLIANT RICH ELECTRONICS LTD
Ser.Nr.: --
Oper. Mode: FM Mode
InterFreq: 10.7 MHz

Test Equipment
Receiver: Rohde & Schwarz ESCS 30
Antenna: Schaffner CBL6111C

Receiving - frequency (MHz)	Oscillator-frequency (MHz)	Harmonics	Reading dBμV	Polarization	Correction Factor (dB)	Test Result dB(μV/m)	Limit dB(μV/m)
89.8	100.5	1	27.0	V	9.6	36.6	43.5
	201.0	2	< 16.0	V	8.7	< 24.7	43.5
	301.5	3	< 16.0	V	14.2	< 30.2	46.0
	402.0	4	< 16.0	V	16.8	< 32.8	46.0
	502.5	5	< 16.0	V	19.0	< 35.0	46.0
	603.0	6	< 16.0	V	20.6	< 36.6	46.0
	703.5	7	< 16.0	V	22.3	< 38.3	46.0
	804.0	8	< 16.0	V	23.8	< 39.8	46.0
	904.5	9	< 16.0	V	24.7	< 40.7	46.0
98.3	109.0	1	28.0	V	11.0	39.0	43.5
	218.0	2	< 16.0	V	9.5	< 25.5	46.0
	327.0	3	< 16.0	V	14.6	< 30.6	46.0
	436.0	4	< 16.0	V	18.1	< 34.1	46.0
	545.0	5	< 16.0	V	20.3	< 36.3	46.0
	654.0	6	< 16.0	V	21.7	< 37.7	46.0
	763.0	7	< 16.0	V	23.5	< 39.5	46.0
	872.0	8	< 16.0	V	24.4	< 40.4	46.0
	981.0	9	< 16.0	V	26.4	< 42.4	54.0
108.0	118.7	1	30.0	V	11.4	41.4	43.5
	237.4	2	< 16.0	V	11.9	< 27.9	46.0
	356.1	3	< 16.0	V	15.3	< 31.3	46.0
	474.8	4	< 16.0	V	19.0	< 35.0	46.0
	593.5	5	< 16.0	V	20.7	< 36.7	46.0
	712.2	6	< 16.0	V	22.4	< 38.4	46.0
	830.9	7	< 16.0	V	24.2	< 40.2	46.0
	949.6	8	< 16.0	V	25.9	< 41.9	46.0

The measurement results indicate that the test unit meets the FCC requirements

Note :

1. The above measured data are in Quasi-Peak values
2. The above results were the worst case results with the sample positioned in all 3 axis during the test.
The worst case data were obtained with the sample placed normally on the table and with the telescopic antenna positioned vertically.

Operator : YH

IT 5/6

Date : 2010-01-12

Page 11 of 20

Radiated Emission
 Acc: FCC Part 15 Subpart B (15.109)

IECC Ref: 53409
 Model: VX341
 Applicant: BRILLIANT RICH ELECTRONICS LTD

Test Equipment
 Receiver: Rohde & Schwarz ESCS 30
 Rohde & Schwarz ESCI
 Antenna: Schaffner CBL6111C
 Schwarzbeck BBHA9120D

Ser.Nr.: --
 Set under test: AM FM Radio with Weather Band

Operating mode: Weather Band

Weather Band - Receiving Frequency : 162.4 MHz

Frequency (MHz)	Horz. Reading dB(μV)	Vert. Reading dB(μV)	Corr. Factor (dB)	Horiz. Test Result dB(μV/m)	Vert. Test Result dB(μV/m)	Limit dB(μV/m)
30	< 16.0	< 16.0	19.1	< 35.1	< 35.1	40.0
100	< 16.0	< 16.0	9.5	< 25.5	< 25.5	43.5
173.1	19.0	26.0	9.8	28.8	35.8	43.5
519.3	< 16.0	16.0	19.3	< 35.3	35.3	46.0
550	< 16.0	< 16.0	20.8	< 36.8	< 36.8	46.0
700	< 16.0	< 16.0	22.3	< 38.3	< 38.3	46.0
1000	< 16.0	< 16.0	26.2	< 42.2	< 42.2	54.0

1038.61	--	--	--	29.3	-	54.0
1211.71	--	--	--	26.9	-	54.0
1384.81	--	--	--	27.4	-	54.0
1557.9	--	--	--	28.1	-	54.0

The measurement results indicate that the test unit meets the FCC requirements.

Note :

- The above measured data are in Quasi-Peak values.
- The above results were the worst case results with the sample positioned in all 3 axis during the test.
 The worst test data were obtained with the sample placed normally on the table and the telescopic antenna of the sample was positioned horizontally and vertically for horizontal and vertical measurement respectively.

Operator : KT

IT 5/6

Date : 2010-01-12

Page 12 of 20

Radiated Emission
Acc: FCC Part 15 Subpart B (15.109)

IECC Ref: 53409
 Model: VX341
 Applicant: BRILLIANT RICH ELECTRONICS LTD
 Ser.Nr.: --
 Set under test: AM FM Radio with Weather Band
 Operating mode: Weather Band

Test Equipment
 Receiver: Rohde & Schwarz ESCS 30
 Rohde & Schwarz ESCI
 Antenna: Schaffner CBL6111C
 Schwarzbeck BBHA9120D

Weather Band - Receiving Frequency : 162.475 MHz

Frequency (MHz)	Horz. Reading dB(μV)	Vert. Reading dB(μV)	Corr. Factor (dB)	Horiz. Test Result dB(μV/m)	Vert. Test Result dB(μV/m)	Limit dB(μV/m)
30	< 16.0	< 16.0	19.1	< 35.1	< 35.1	40.0
100	< 16.0	< 16.0	9.5	< 25.5	< 25.5	43.5
173.175	19.0	26.0	9.8	28.8	35.8	43.5
519.525	< 16.0	16.0	19.3	< 35.3	35.3	46.0
550	< 16.0	< 16.0	20.8	< 36.8	< 36.8	46.0
700	< 16.0	< 16.0	22.3	< 38.3	< 38.3	46.0
1000	< 16.0	< 16.0	26.2	< 42.2	< 42.2	54.0
1039.06	--	--	--	30.1	-	54.0
1212.22	--	--	--	29.0	-	54.0
1385.4	--	--	--	29.4	-	54.0
1558.58	--	--	--	28.3	-	54.0

The measurement results indicate that the test unit meets the FCC requirements.

Note :

- The above measured data are in Quasi-Peak values.
- The above results were the worst case results with the sample positioned in all 3 axis during the test.
 The worst test data were obtained with the sample placed normally on the table and the telescopic antenna of the sample was positioned horizontally and vertically for horizontal and vertical measurement respectively.

Operator : KT

IT 5/6

Date : 2010-01-12

Page 13 of 20

Radiated Emission

Acc: FCC Part 15 Subpart B (15.109)

IECC Ref: 53409

Model: VX341

Applicant: BRILLIANT RICH ELECTRONICS LTD

Ser.Nr.: --

Set under test: AM FM Radio with Weather Band

Test Equipment

Receiver: Rohde & Schwarz ESCS 30

Rohde & Schwarz ESCI

Antenna: Schaffner CBL6111C

Schwarzbeck BBHA9120D

Operating mode: Weather Band

Weather Band - Receiving Frequency : 162.55 MHz

Frequency (MHz)	Horz. Reading dB(μV)	Vert. Reading dB(μV)	Corr. Factor (dB)	Horiz. Test Result dB(μV/m)	Vert. Test Result dB(μV/m)	Limit dB(μV/m)
30	< 16.0	< 16.0	19.1	< 35.1	< 35.1	40.0
100	< 16.0	< 16.0	9.5	< 25.5	< 25.5	43.5
173.25	19.0	26.0	9.8	28.8	35.8	43.5
519.75	< 16.0	16.0	19.3	< 35.3	35.3	46.0
550	< 16.0	< 16.0	20.8	< 36.8	< 36.8	46.0
700	< 16.0	< 16.0	22.3	< 38.3	< 38.3	46.0
1000	< 16.0	< 16.0	26.2	< 42.2	< 42.2	54.0

1039.51	--	--	--	29.4	-	54.0
1212.76	--	--	--	28.8	-	54.0
1386.02	--	--	--	29.6	-	54.0
1559.27	--	--	--	28.6	-	54.0

The measurement results indicate that the test unit meets the FCC requirements.

Note :

1. The above measured data are in Quasi-Peak values.
2. The above results were the worst case results with the sample positioned in all 3 axis during the test.

The worst test data were obtained with the sample placed normally on the table and the telescopic antenna of the sample was positioned horizontally and vertically for horizontal and vertical measurement respectively.

Operator : KT



U 5 / 6

Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Subpart B Section 15.107 (a) Class B

Model: VX341

Sp1./Ser.No.: 01/--

Client: BRILLIANT RICH

Product: AM/FM RADIO W/ WB

IECC-No.: 53409

Date: 5 Jan 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

FM

(L)

--

RFI suppression parts:

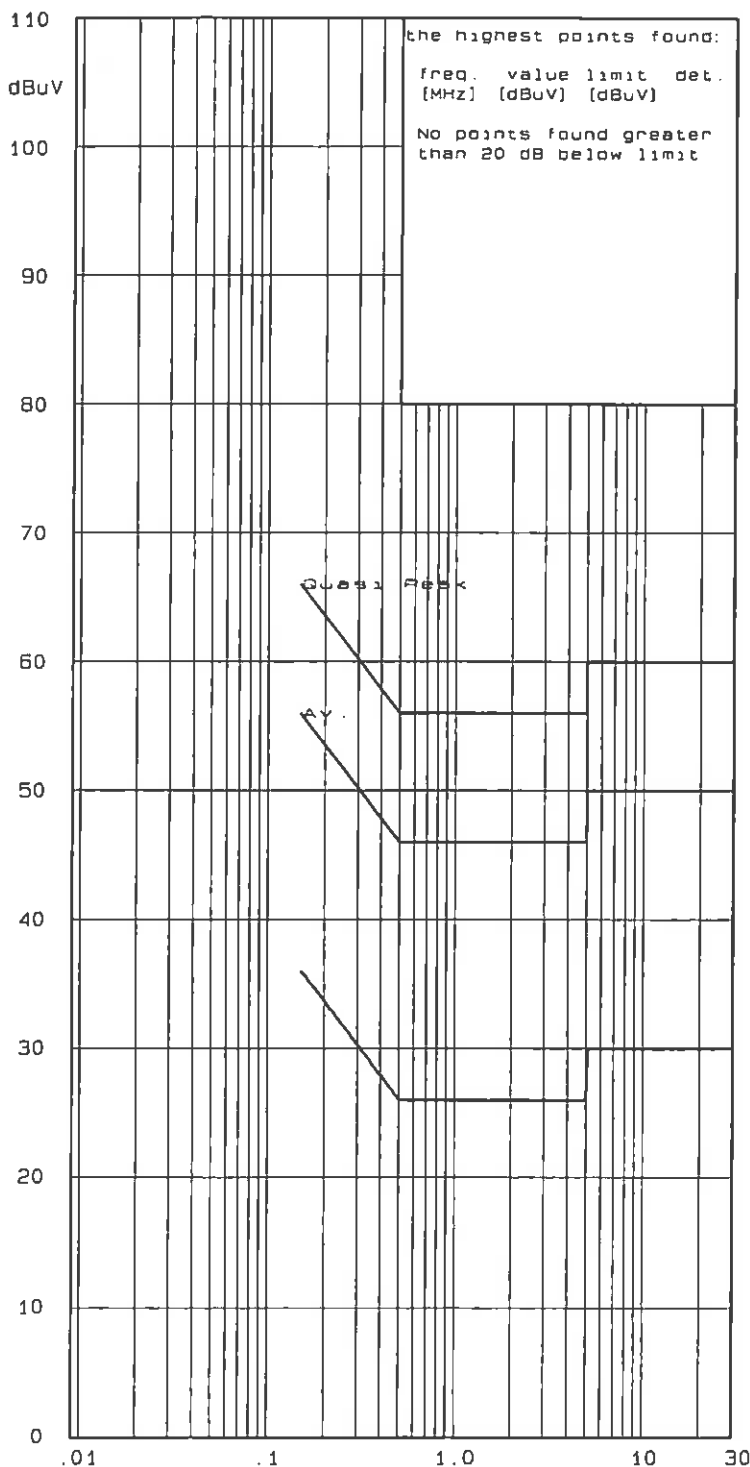
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* two dB safety margin for
type approval necessary

Operator: KT

Result:

IECC





U 5 / 6

Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Subpart B Section 15.107(a) Class B

Model: VX341

Sp1./Ser.No.: 01/--

Client : BRILLIANT RICH

Product: AM/FM RADIO W/ WB

IECC-No.: 53409

Date: 5 Jan 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

FM
(N)

--

RFI suppression parts:

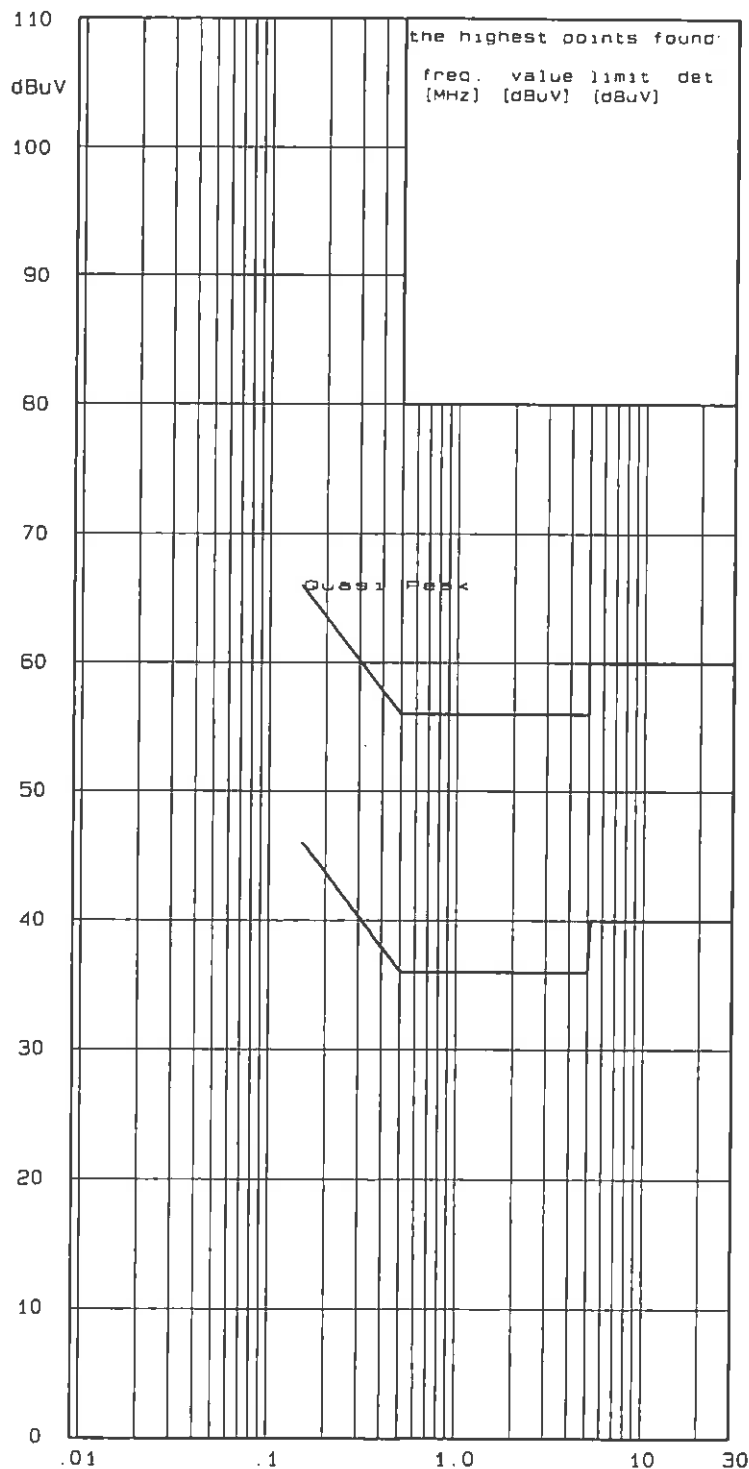
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* two dB safety margin for
type approval necessary

Operator: KT

Result:

IECC





U 5 / 6

Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Subpart B Section 15.107 (a) Class B

Model: VX341

Spl./Ser.No.: 01/--

Client : BRILLIANT RICH

Product: AM/FM RADIO W/ WB

IECC-No.: 53409

Date: 5 Jan 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

FM
(N)

--

RFI suppression parts:

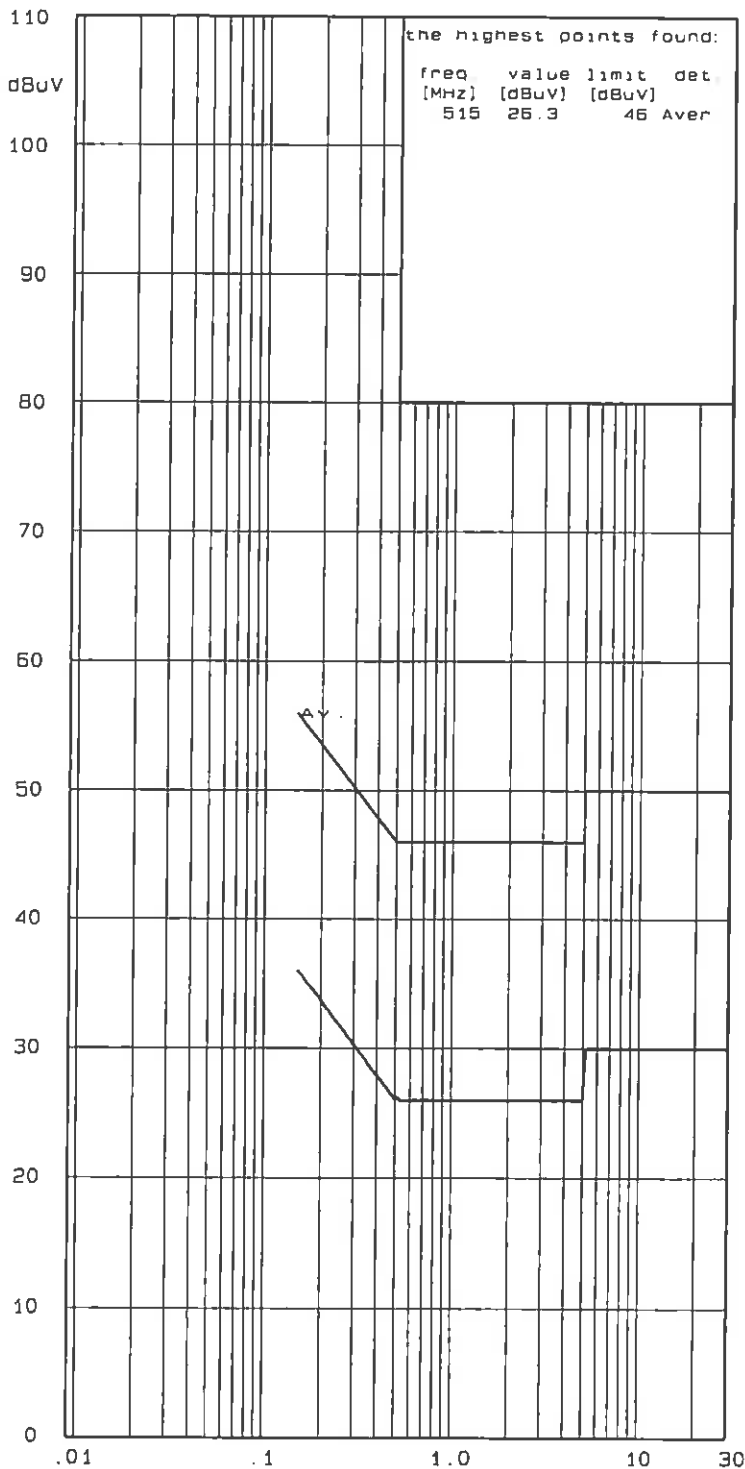
--

* two dB safety margin for
type approval necessary

Operator: KT

Result: *OK*

IECC





U 5 / 6

Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Subpart B Section 15.107(a) Class B

Model: VX341

Spl./Ser.No.: 01/--

Client : BRILLIANT RICH

Product: AM/FM RADIO W/ WB

IECC-No.: 53409

Date: 6 Jan 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

WEATHER BAND
(L)

--

RFI suppression parts:

--

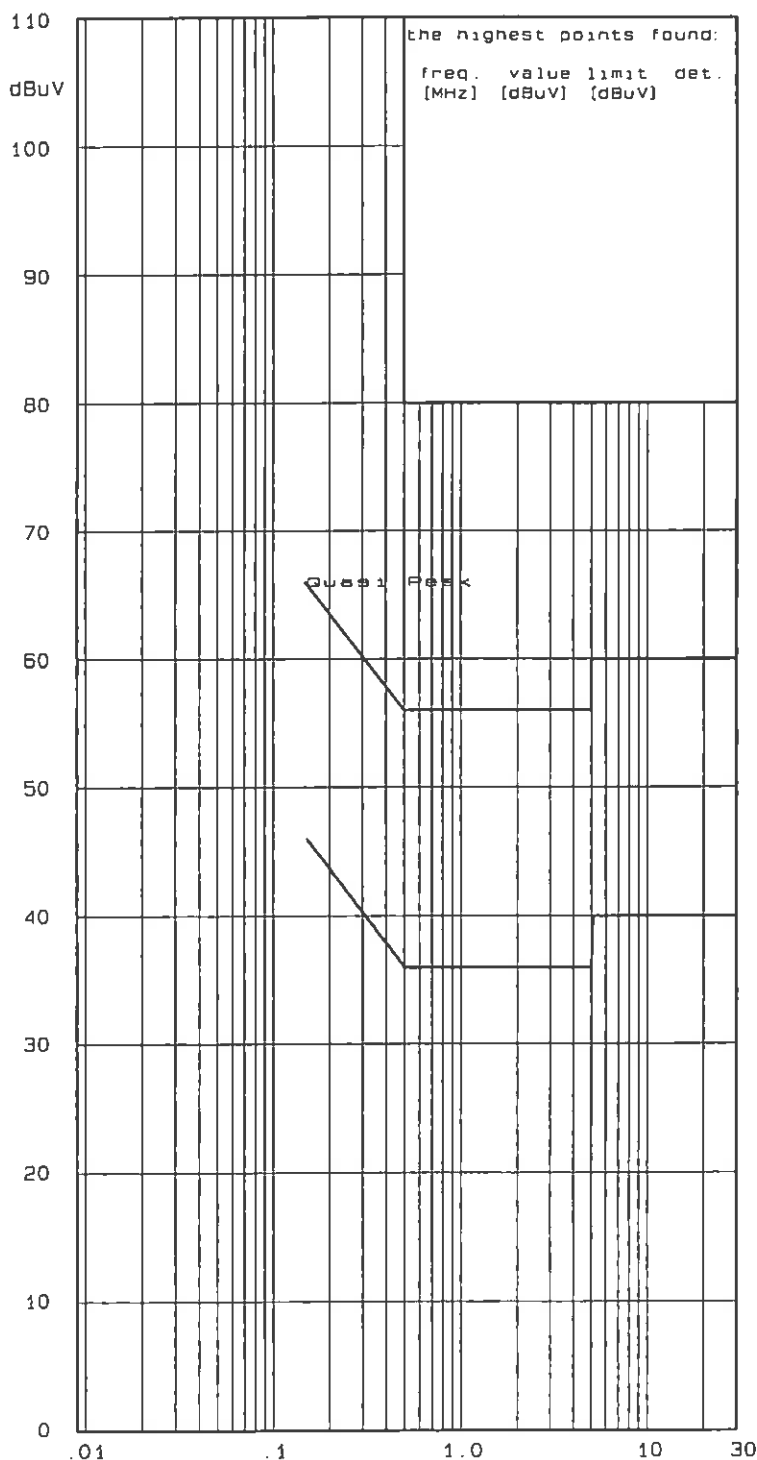
* two dB safety margin for
type approval necessary

Operator: KT

Result:

ok

IECC



U 5 / 6

Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Subpart B Section 15.107 (a) Class B

Model: VX341

Spl./Ser.No.: 01/--

Client : BRILLIANT RICH

Product: AM/FM RADIO W/ W3

IECC-No.: 53409

Date: 6 Jan 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

WEATHER BAND
(L)

--

RFI suppression parts:

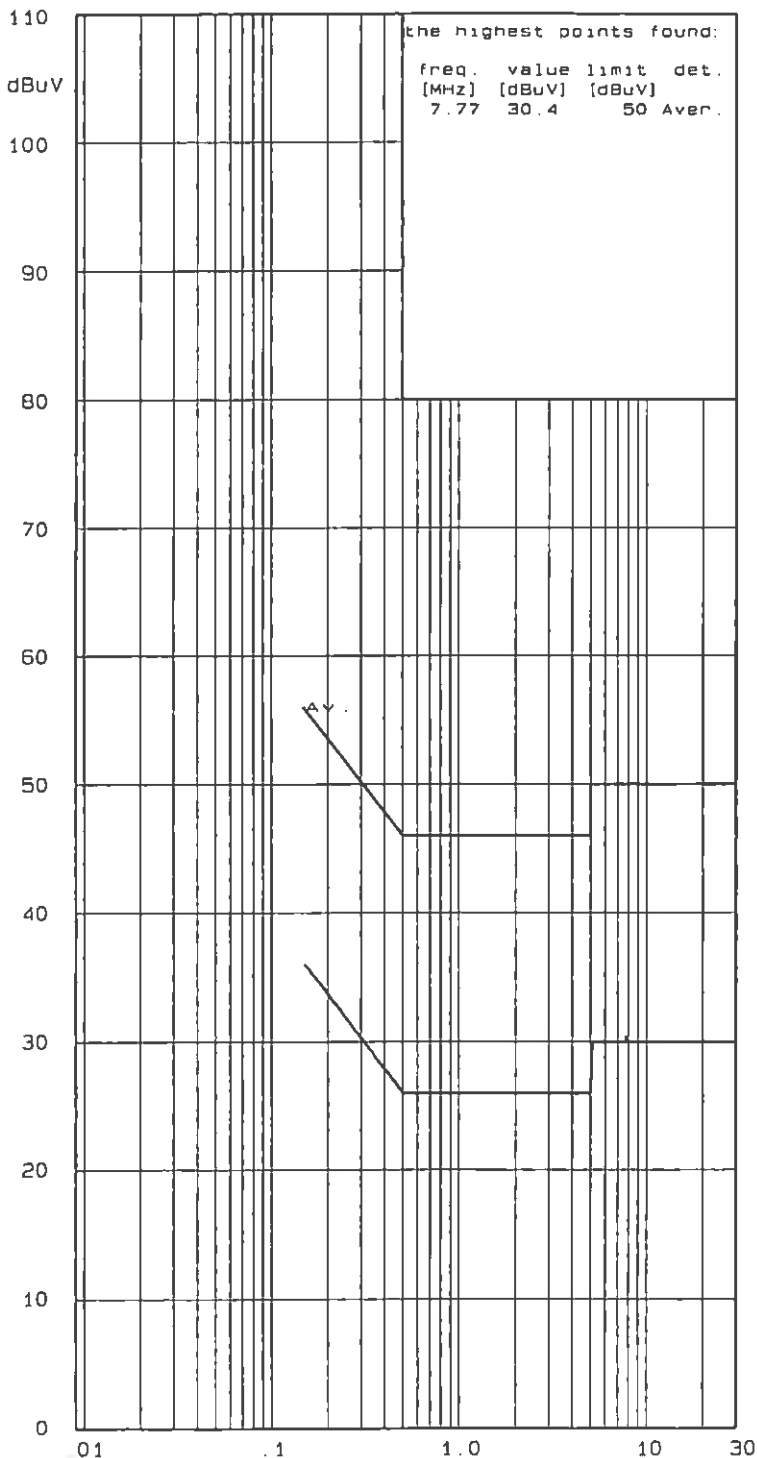
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* two dB safety margin for
type approval necessary

Operator: KT

Result: *ok*

IECC





U 5 / 6

Interference Voltage 150 KHz - 30 MHz

acc. FCC PART 15 Subpart B Section 15.107 (a) Class B

Model: VX341

Spl./Ser.No.: 01/--

Client : BRILLIANT RICH

Product: AM/FM RADIO W/ WB

IECC-No.: 53409

Date: 6 Jan 2010

Test equipment:

Rohde & Schwarz ESHS30

Schwarzbeck NSLK8127

Connected sets:

--

Operating mode:

WEATHER BAND
(N)

--

RFI suppression parts:

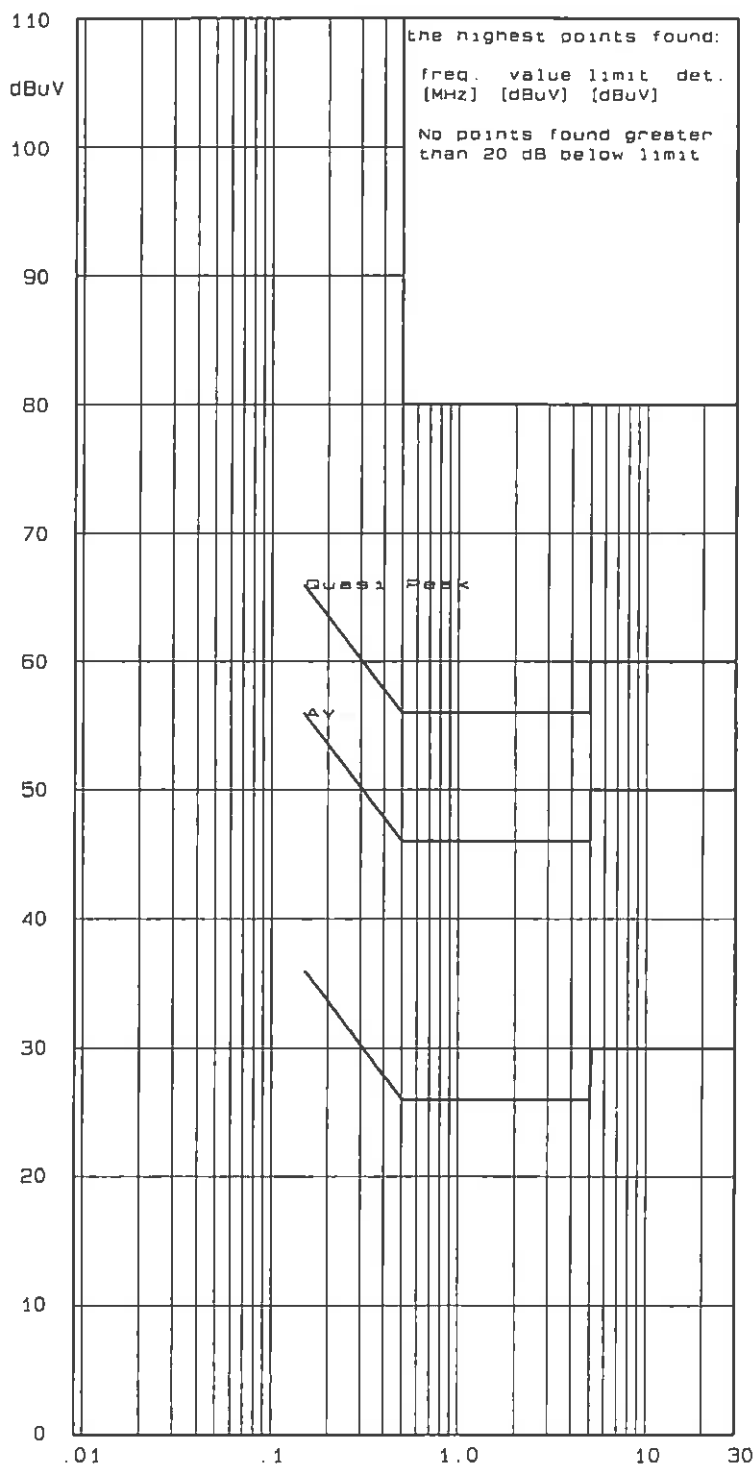
--

* two dB safety margin for
type approval necessary

Operator: KT

Result: *OK*

IECC



FCC – Test Report**No. 53409**

Date: 2010-01-12

Page 20 of 20

Photo of Sample