

Test report no. : 150865-3**Item tested : KX-A405****Type of equipment : UPCS Repeater****FCC ID : ACJ96NKX-A405****Client : Panasonic System Networks Co., Ltd.****FCC Part 15, subpart D**Isochronous UPCS Device
1920 - 1930 MHz**Industry Canada RSS-213, Issue 2**2 GHz Licence-exempt Personal
Communications Service Devices
(LE-PCS)**21 June 2010****Authorized by :**Egil Hauger
Technical Verificator

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1 GENERAL INFORMATION

1.1 Testhouse Info

Name : Nemko AS
Address : Nemko Kjeller
Instituttveien 6
N-2007 Kjeller, NORWAY
Telephone : +47 64 84 57 00
Fax : +47 64 84 57 05
E-mail: comlab@nemko.com
FCC test firm registration # : 994405
IC OATS registration # : 2040D-1
Total Number of Pages: 16

1.2 Client Information

Name : Panasonic System Networks Co., Ltd.
Address : 1-62, 4-Chome, Minoshima, Hakata-ku, Fukuoka 812-8531 Japan
Telephone : +81-92-477-1405
Fax : +81-92-477-1487

Contact:

Name : Mr. Junji Sumi
Telephone : +81 92 477 1405
E-mail : sumi.junji@jp.panasonic.com

1.3 Responsible Manufacturer (if other than client)

Name : /
Address : /

2 Test Information

2.1 Tested Item

Name :	Panasonic
Model name :	KX-A405
FCC ID :	ACJ96NKX-A405
Industry Canada ID :	216A-KXA405
Serial number :	/
Hardware identity and/or version:	PNLB1754ZA
Software identity and/or version :	Version 4.11
Tested to IC Radio Standard (RSS) :	RSS-213 Issue 2, RSS-GEN Issue 2
Test Site IC Reg. Number :	2040D-1
Frequency Range :	1921.536 – 1928.448 MHz
Number of Channels :	5 RF Channels, 5x12 = 60 TDMA Duplex Channels
Type of Modulation :	Digital (Gaussian Frequency Shift Keying)
RF Power :	0.083 Watts (Conducted, Peak)
Occupied Bandwidth (99% BW) :	1306.1 kHz
Emission Designator (TRC-43) :	1M3F1E
Transmitter Spurious (worst case) :	Less then -50 dBm (Conducted)
Receiver Spurious (worst case) :	Less then -70 dBm (Conducted)
Antenna Connector :	None
Number of Antennas :	2
Antenna Diversity Supported :	Yes
Desktop Charger :	Integrated into Base
Power Supply :	Power Adaptor, Models: PQLV219(FW) and PQLV219(UC)

2.2 Description of Tested Device

The tested equipment is a DECT base which complies with ETSI EN 300 175. The frequencies have been reprogrammed, the output power reduced and the software updated to comply with the FCC requirements to an Isochronous UPCS device after FCC Part 15D.

The EUT is an responding device as described in ANSI C63.17 and is designed to operate together with a DECT portable part (i.e. a handset), which is then the initiating device.

2.3 Exposure Evaluation

The EUT is designed to be fixed to a wall etc. and the user manual contains text that it shall be mounted with a separation distance of at least 20cm from any persons. For the purposes of exposure evaluation this EUT is a mobile or fixed device. MPE Calculation at 20cm satisfying FCC requirements is submitted as a separate document.

The EUT is exempted from RF Exposure Evaluation to Industry Canada SAR requirements since the output power is below the limit in RSS-102 Issue 2, clause 2.5.2 for General Public Use.

2.4 Test Environment

Temperature:	24.7 °C
Relative humidity:	38 %
Normal test voltage:	120 V AC

The values are the limit registered during the test period.

2.5 Test Period

Item received date:	2010-06-04
Test period :	from 2010-06-11 to 2010-06-11

2.6 Test Engineers

Frode Sveinsen / Tore Løvlien

2.7 Test Equipment

See list of test equipment in clause 6.

2.8 Other Comments

The Model KX-A405 covered by this test report is identical to the previously tested model KX-TGA405 (FCC ID: ACJ96NKX-TGA405 and IC: 216A-KXTGA405), except for some changes to the control circuitry necessary for use with Panasonic PBX.

This test report covers only re-tests for test results that may have changed due to the changed control circuitry. All other tests are covered by Nemko test report no. 137945-5 for Panasonic Model KX-TGA405, FCC ID: ACJ96NKX-TGA405 and IC: 216A-KXTGA405.

All tests in this report were performed radiated with the integral antennas.

3 TEST REPORT SUMMARY

3.1 General

Manufacturer: Panasonic System Networks Co., Ltd.
Model No.: KX-A405
Serial No.: /

All measurements are traceable to national standards.

The tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC CFR47 Part 15D for Isochronous UPCS Devices and Industry Canada RSS-213 Issue 2.

The conducted test methods have been in accordance with ANSI C63.17-2006 where applicable.

All tests were conducted in accordance with ANSI C63.4-2009 and ANSI C63.10-2009. A description of the test facility is on file with the FCC and Industry Canada.

☒ New Submission	☒ Production Unit
☐ Class II Permissive Change	☐ Pre-production Unit
PUB Equipment Code	☐ Family Listing

THIS TEST REPORT APPLIES ONLY TO THE ITEM(S) AND CONFIGURATIONS TESTED.

**Deviations from, additions to, or exclusions from the test specifications
are described in "Summary of Test Data".**



TEST REPORT NO: 150865-3

TESTED BY :



Frode Sveinsen, Job title

DATE: 11 June 2010

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3.2 Test Summary

Name of test	FCC CFR 47 Paragraph #	IC RSS-213 Paragraph #	Verdict
Power Line Conducted Emission	15.107(a) 15.207(a)	6.3 RSS-GEN 7.2.2	Complies
Out-of-Band Emissions, Transmitter	14.323(d)	6.7.1	Complies
Receiver Spurious Emissions	N/A	6.8	Complies

4 TEST RESULTS

4.1 Power Line Conducted Emissions

Para. No.: 15.207 (a)

Test Performed By: Tore Løvlien

Date of Test: 11-June-2010

Measurement procedure: ANSI C63.4-2003 using 50 μ H/50 ohms LISN.

Test Results: Complies

Measurement Data: See attached graph, (Peak detector).

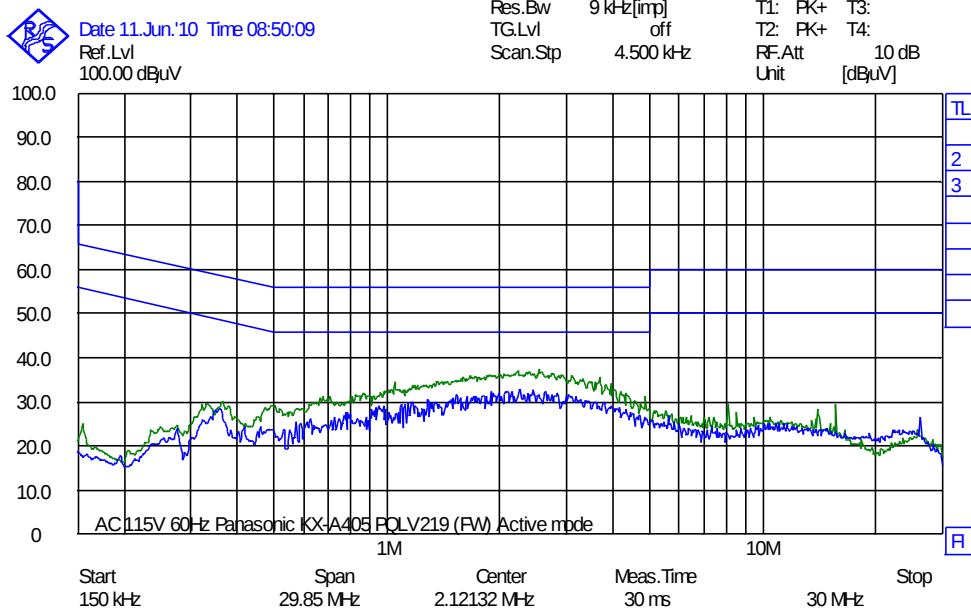
Adaptor PQLV219(UC):

All measured values are below the Average Limit, even when measured with Peak Detector.

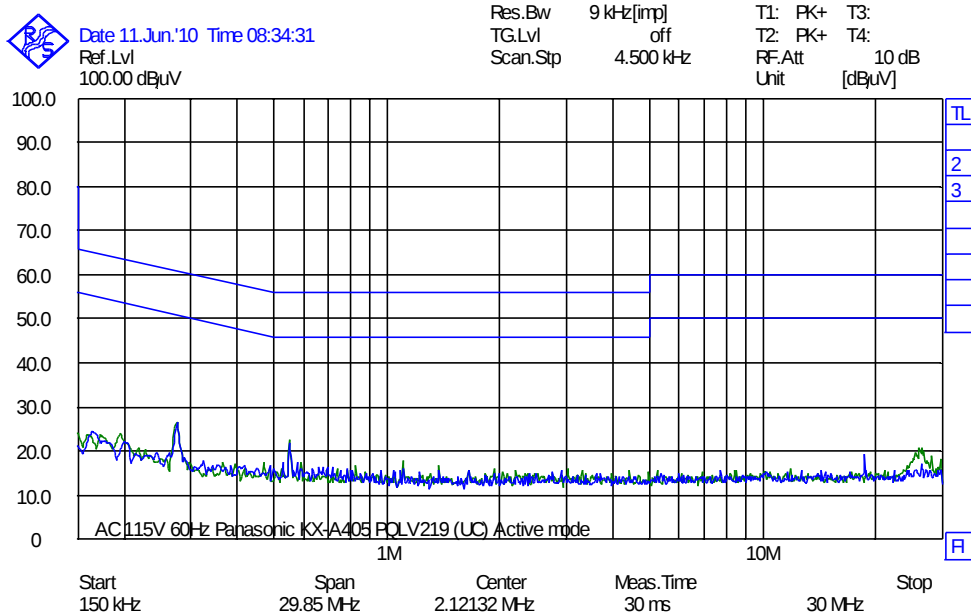
Adaptor PQLV219(FW):

Highest measured values (L1 and N):

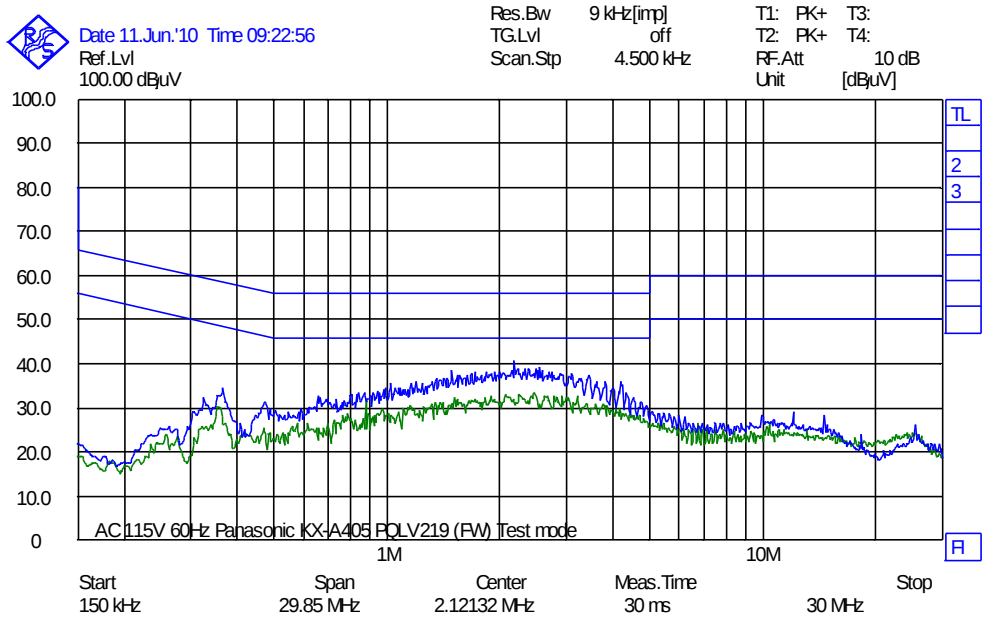
Frequency	Detector	Measured value	Limit	Margin
KHz	Peak/QP/AV	dB μ V	dB μ V	dB
/	/	/	/	/
/	/	/	/	/
/	/	/	/	/
/	/	/	/	/



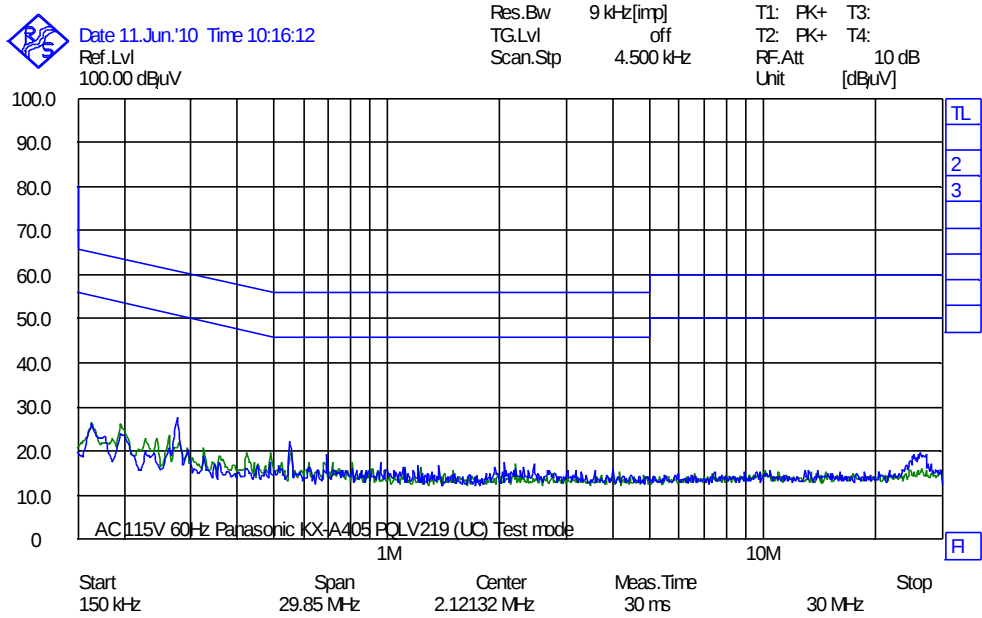
Mains L1 and N, Standby, Adaptor PQLV219(FW)



Mains L1 and N, Standby, Adaptor PQLV219(UC)



Mains L1 and N, Transmitting, Adaptor PQLV219(FW)



Mains L1 and N, Transmitting, Adaptor PQLV219(UC)

4.2 Out-of-band Emissions, Conducted

Test Method:

ANSI C63.17, clause 6.1.6.2.

Test Results: Complies

Measurement Data:

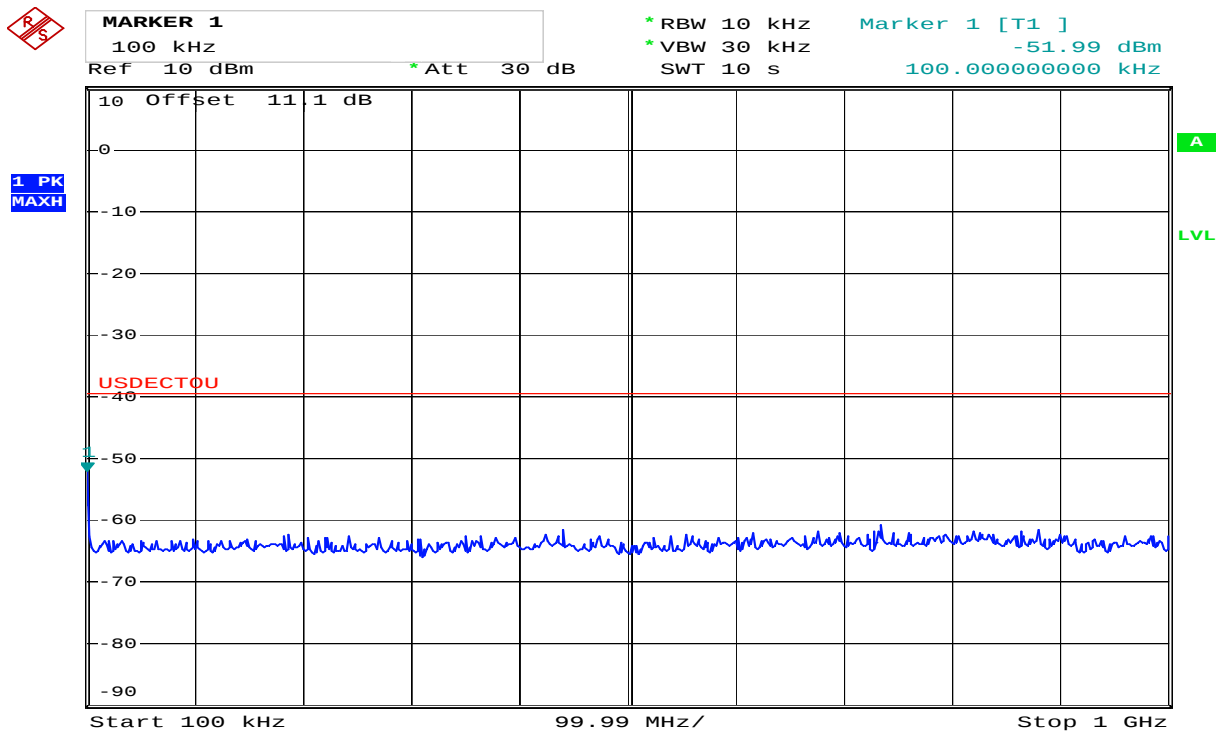
See plots.

Requirements, FCC 15.323(d):

$f \leq 1.25\text{MHz}$ outside UPCS band :	$\leq -9.5\text{dBm}$
$1.25\text{MHz} \leq f \leq 2.5\text{MHz}$ outside UPCS band :	$\leq -29.5\text{ dBm}$
$f \geq 2.5\text{MHz}$ outside UPCS band :	$\leq -39.5\text{ dBm}$

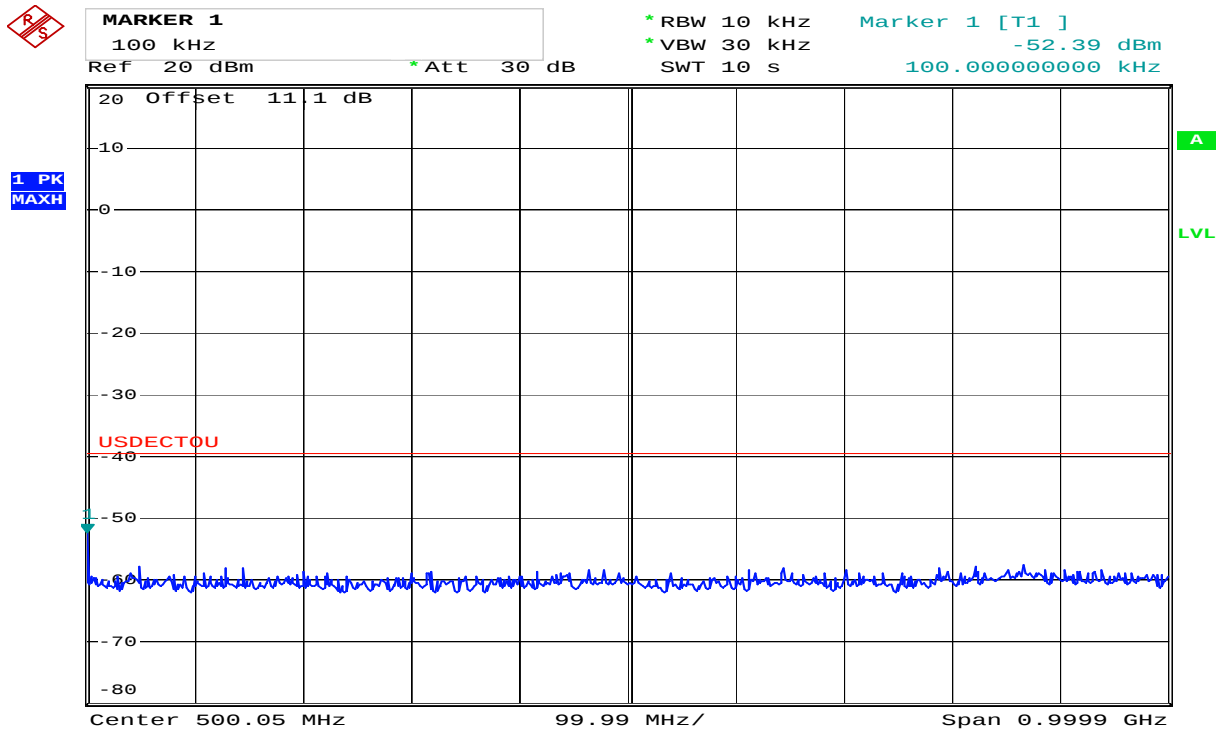
Out-of-Band Emissions, Conducted

PQLV219(FW):



Date: 11. JUN. 2010 13:24:29

PQLV219(UC):



Date: 11. JUN. 2010 13:14:26

4.3 Receiver Spurious Emissions

Measurement Procedure:

Industry Canada RSS-213 paragraph 6.8 and RSS-GEN paragraphs 4.8 and 6.

Test results:

Frequency MHz	Carrier No.	Measured Value Conducted dBm	Conducted Limit dBm	Margin dB
30 – 1000	all	< -60	-57	>3

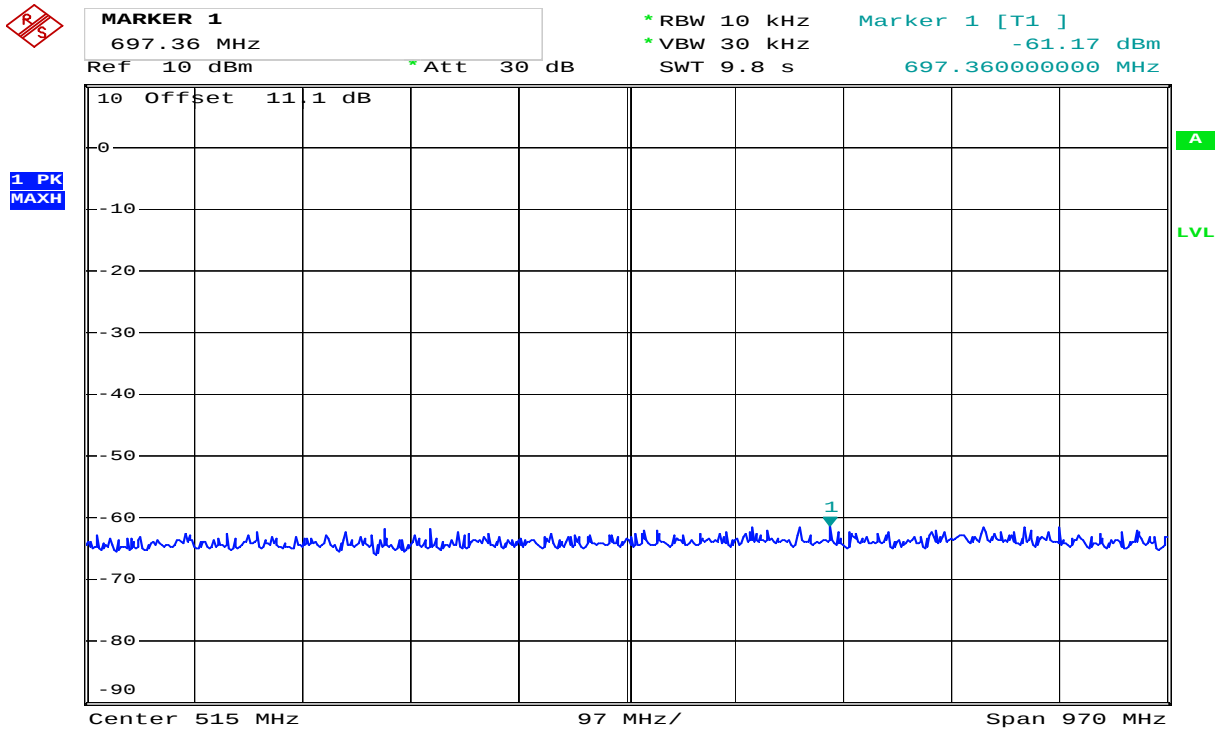
The measurement was performed conducted.

Requirements, RSS-GEN Issue 2, clause 6

The measurement can be performed either radiated or conducted.

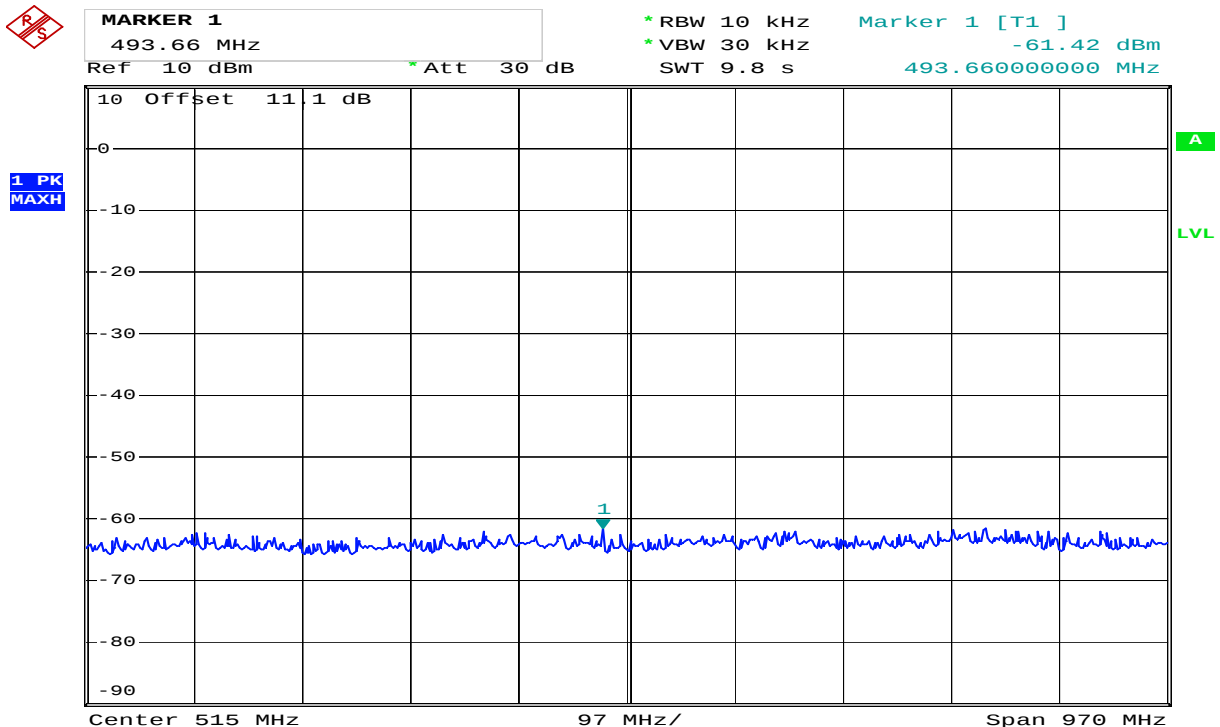
When measured Conducted: no spurious signals appearing at the antenna terminals shall exceed 2 nW per any 4 kHz spurious frequency in the band 30-1000 MHz, or 5 nW above 1 GHz.

When measured Radiated: See Table 1 in RSS-GEN Issue 2, clause 6.



Date: 11.JUN.2010 13:23:04

Receiver Spurious Emissions, Conducted, 30 – 1000 MHz, PQLV219(FW)

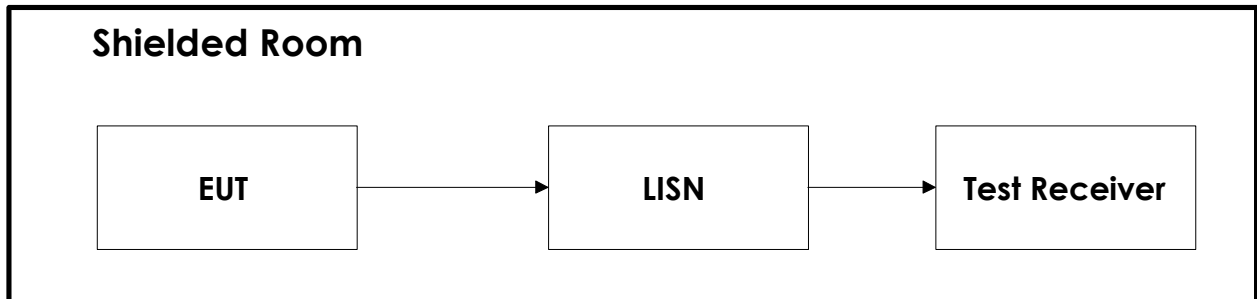


Date: 11.JUN.2010 13:20:32

Receiver Spurious Emissions, Conducted, 30 – 1000 MHz, PQLV219(UC)

5 Test Setups

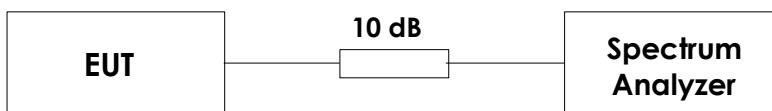
5.1 Power Line Conducted Emissions Test



Test equipment: 1, 3, 4, 8

Test Set-Up 1

5.2 Conducted Emission Test



Test equipment included: 2, 5, 6, 8

Test Set-up 3

This setup is used for all conducted emission tests.

6 Test Equipment Used

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment and ancillaries are identified (numbered) by the Testhouse.

No.	Model number	Description	Manufacturer	Ref. no.	Cal. date	Cal. due
1	ESAI	Measuring Receiver	Rohde & Schwarz	LR 1090	2010.03.04	2012.03.04
2	6810.17B	Attenuator	Suhner	LR 1212	2008.09.25	2010.09.25
3	ESH3-Z5	Two Line V-Network	Rohde & Schwarz	LR 1076	2009.10.22	2011.10.22
4	80S	Signal Generator	Powertron	LT 502	cal B4 use	N/A
5	6812B	AC Power Source	Agilent	LR 1515	2010.04.13	2011.04.13
6	FSP30	Spectrum Analyzer	Rohde & Schwarz	LR 1551	2009-02	2011-02
7	JS3	Pre-Amplifier	Miteq	LR 1552	2009.03.18	2011.03.18
8	Model 77	Multimeter	Fluke	LR 312	2009.04.23	2011.04.23