TEST REPORT

Report Number : A-002-14-C

Date of Issue: 22 June 2015

FCC Rules and Regulations Part 15 Subpart C Intentional Radiators.

This test report is to certify that the device was tested according to the requirements of the above.
The results of this report should not be construed to imply compliance of devices other than the sample tested.
Without the laboratory approval by the documents, this report should not be copied in part.

1. Applicant

Company Name	: Panasonic Corporation
Mailing Address	: 1-15, Matsuo-cho, Kadoma-shi, Osaka, Japan

2. Identification of Tested Device

Type of Device	: Transmitter
FCC ID	: ACJ-LB-SC9
Device Name	: Data Archiver
Model Number	: LB-SC9
Serial Number	: Sample2
Trade Name	: Panasonic
Type of Test	: ☐ Production ☐ Pre-production ☒ Prototype

3. Test Items

AC Power Line Conducted Emission Measurement	☒ Pass	☐ Fail	☐ N/A
Radiated Emission (The Frequency Range of 9kHz to 30MHz)	☒ Pass	☐ Fail	☐ N/A
Radiated Emission (The Frequency Range of above 30MHz)	☒ Pass	☐ Fail	☐ N/A
20dB Bandwidth Measurement	☒ Pass	☐ Fail	☐ N/A
Frequency Tolerance of Carrier Signal	☒ Pass	☐ Fail	☐ N/A

Refer the below reason(s) with respect to the decision and justification not to test.
(*1) EUT Specifications (*2) Request of Applicant (*3) According to Test Plan

KEC Electronic Industry Development Center Testing Division
3-2-2, Hikari-dai, Seika-cho, Soraku-gun, Kyoto 619-0237 Japan

Test Engineer(s)

Naoki Norimoto

ilac-MRA JAB Testing RTL02810

Approved by Ikuya Minematsu / Group Manager

Table of Contents

0. REVISION HISTORY

Report Version	Page	Description	Date of Issue
A	-	Initial issue of report	11 July 2014
B	5	Addition of product description	18 June 2015
	6	Change of [Note] (2), (3)	
	9	Change of [Note] (1), (2)	
	12	Replacement of data 1), Change of [Note] (2), (3), (4)	
	17	Addition of test procedure	
C	9	Change of [Note] (2)	22 June 2015

1. LABORATORY INFORMATION

1.1. Laboratory Accreditation

The KEC has been accredited by the following organizations based on their criteria for testing laboratory (ISO/IEC 17025).

(1) Japan Accreditation Board for Conformity Assessment (JAB) : Accreditation Number: RTL02810
(2) Voluntary EMC Laboratory Accreditation Center Inc. (VLAC) : Accreditation Number: VLAC-005

1.2. Test Facility

All tests described in this report were performed by:

Name: KEC Electronic Industry Development Center
Testing Division

Address: 3-2-2, Hikari-dai, Seika-cho, Soraku-gun, Kyoto 619-0237 Japan

Anechoic Chamber	: ☐ No.1	☐ No.2	☒ No.3	☐ No.6	☐ No.7
	☐ No.8	☐ No.9	☐ No.10	☐ No.11	☐ No.12
Shielded Room	: ☐ No.1	☐ No.7	☐ No.8	☒ No.9	☐ No.10
Harmonic Current Meas. Room	: ☐				

1.3. Measurement Uncertainty

The result of a measurement is only an approximation or estimate of the value of a specific quantity.
And thus the measurand is complete only when a statement of uncertainty is given.
KEC quotes Measurement Uncertainty (U) as follows.

Conducted Disturbance at Mains Port (150kHz-30MHz)	+2.5 / -2.8 dB
Conducted Disturbance at Mains Port (9kHz-30MHz)	+2.9 / -3.4 dB
Conducted Disturbance at Telecommunication Ports ISN method (None-Shield type)	+2.5 / -2.8 dB
Conducted Disturbance at Telecommunication Ports ISN method (Shield type)	+2.4 / -2.6 dB
Conducted Disturbance at Telecommunication Ports Current Probe method	+2.2 / -2.7dB
Conducted Disturbance at Telecommunication Ports 150Ω Load voltage method (using a 150Ω Load to the out side surface of the shield)	+1.8 / -2.4 dB
Conducted Disturbance at Telecommunication Ports None Invasive method (using a combination of current probe and capacitive voltage probe)	+2.7 / -3.8 dB
Conducted Disturbance at Lead Terminals and Additional Terminals	+2.0 / -2.4 dB
Disturbance Power (30MHz -300MHz)	+3.1 / -4.0 dB
Radiated Disturbance at Frequency Range from 9kHz up to 30MHz 60cm Loop Antenna method	+3.6 / -4.1 dB
Radiated Disturbance at Frequency Range from 9kHz up to 30MHz LLA method	+2.1 / -2.7 dB
Radiated Disturbance at Frequency Range from 30MHz up to 300MHz 3m method	+3.1 / -4.5 dB
Radiated Disturbance at Frequency Range from 300MHz up to 1GHz 3m method	+3.4 / -3.6 dB
Radiated Disturbance at Frequency Range from 30MHz up to 300MHz 10m method	+3.4 / -3.6 dB
Radiated Disturbance at Frequency Range from 300MHz up to 1GHz 10m method	+3.8 / -3.9 dB
Radiated Disturbance at Frequency Range from 30MHz up to 1GHz 10m method (Hybrid Antenna used measurement)	+4.2 / -5.1 dB
Radiated Disturbance at Frequency Range from 1GHz up to 6GHz 3m method	+4.6 / -5.7 dB
Radiated Disturbance at Frequency Range from 6GHz up to 26.5GHz 3m method	+4.6 / -5.2 dB
Harmonics Currents Emissions	+/-4.4%
Voltage Change, Voltage Fluctuations and Flicker	+5.0 / -5.1%

Expiration Date : 2014/9/30

The above values are calculated as Expanded Uncertainty (k=2 [95%]).

[Note]

If the measured result is below the specification limit and a margin is less than the above measurement uncertainty, it is impossible to determine compliance at a level of confidence of 95%. However, the measured result indicates high probability that the tested device complies with the specification limit.

2. GENERAL INFORMATION

2.1. Product Description

(1) Technical Specifications

· maximum data size	: 1.2TB
· maximum data rate	: 18MB/s
· optical disc drive	: 1
· compatible magazines	: BD-R magazine, BD-RE magazine
· Maximum number of magazines	: 1

(2) Maximum Oscillators Frequency

· OPTICAL PICK UP HFM	: 370±20MHz
· RF ID CLK	: 27.12MHz

(3) Radio Specifications

· Tx Operating Frequency	: 13.56MHz

(4) Software Version

· ASPI	: 1.29

(5) Firmware Version : Ver.0.20

(6) Interface and Provide Terminal

· USB	: Host interface USB3.0

(7) Rated Power Supply : AC100-240V, 50/60Hz (DC16V)
(Test for AC120V, 60Hz (DC16V))

3. TESTED SYSTEM

3.1. Reference Rule and Specification

(1) Reference Rule and Regulation	: FCC Rule Part 15 Subpart C, Section 15.225 Operation within the band 13.110-14.010 MHz ☒ Section 15.205 ☒ Section 15.207 ☒ Section 15.209 ☒ Section 15.215 ☒ Section 15.225
(2) Test Procedure	: ANSI C63.4-2003

3.2. Date of Test

Receipt of Test Sample : 23 June 2014
Condition of Test Sample : ☒ Damage is not found on the set.
☐ Damage is found on the set. (Details are described in this report)

Test Completed on : 10 July 2014
Condition of Test Sample : ☒ Damage is not found on the set.
☐ Damage is found on the set. (Details are described in this report)

3.3. Test Mode

Test items	Test mode	Test frequency
AC Power Line Conducted Emission	Continuous transmission	13.56MHz
Radiated Emission (9kHz to 30MHz)		
Radiated Emission (above 30MHz)		
20dB Emission Bandwidth		
Frequency Tolerance of Carrier Signal		

[Note]
(1) The test program was prepared by applicant.
(2) The test arrangement of the EUT were checked in horizontal and vertical placement, and the data of the producing the maximum emissions (at the vertical placement) were reported at each frequency.
(3) The test modes were confirmed with and without tag, and the test was performed worst condition (without tag).

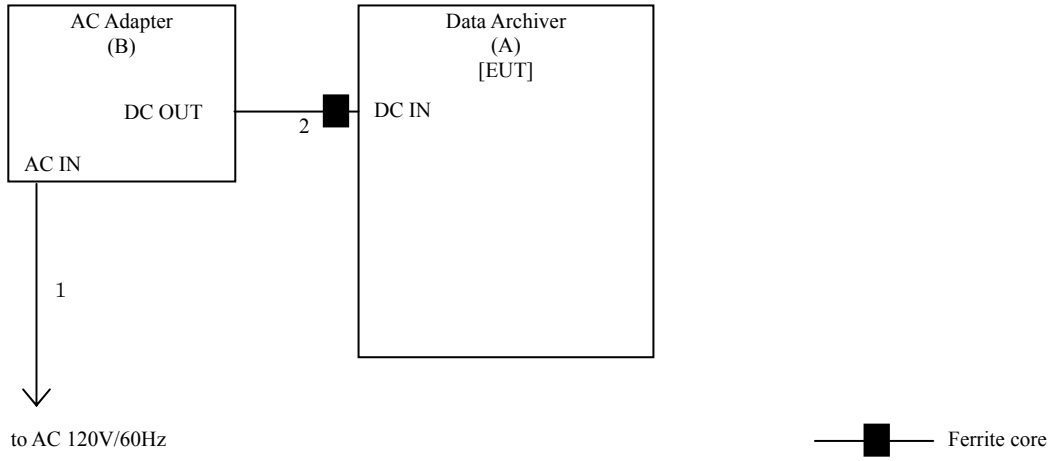
Extreme test condition	
Temperature	10 deg C to 40 deg C
Voltage	AC 102 V to 138 V

[Note]
The tests at 50 deg C, 0 deg C, -10 deg C and -20 deg C were not applied since the specification of operating temperature of EUT was 10 deg C to 40 deg C and the EUT was only used in this temperature range.

3.4. Deviation of Standard

☒ without deviation, ☐ with deviation (details are found inside of this report)

3.5. Block Diagram of TEST System



3.6. List of Test System

No.	Device Name	Model Number	Serial Number	Trade Name	Note
A	Data Archiver	LB-SC9	Sample2	Panasonic	EUT
B	AC Adapter	CF-AA6373A	6373AM113101969B	Panasonic	

[Note]
(1): Option of EUT

3.7. List of Cables

No.	Cable Name	Shielded (Y/N)	Length (m)	Note	
1	AC Power Cord	N	1.9		(2),(3)
2	DC Power Cord	Y	1.1	With one ferrite core (1-turn)	(1),(2)

[Note]
(1) : Undetachable cable type
(2) : Accessories cable of EUT
(3) : 3-wires type,earth plug is grounded
(4) : 2-wires type

4. AC POWER LINE CONDUCTED EMISSION MEASUREMENT

4.1. Test Procedure

(1) The EUT is placed in accordance with ANSI C63.4-2003 section 7.
(2) The EUT is activated as to simulate an actual operation.
(3) Connect the EUT's AC power cord to one Line Impedance Stabilization Network (LISN).
(4) Any other power cord of other equipment is connected to a LISN different from the LISN used for the EUT.
(5) Connect the spectrum analyzer (*1) to the measuring port of the LISN for the EUT, using a calibrated coaxial cable.
(6) To find out the maximum emission of the configuration of the EUT System, the operation mode and the position of the cables are changed, then preliminary conducted measurement are performed.
(7) The spectrums are scanned from 150kHz to 30MHz and collect the six highest emissions minimum on the spectrum analyzer relative to the limits in the whole range.
(8) The test receiver (*2) is connected to the LISN for the EUT, and the six highest emissions minimum recorded above are measured.

[Note]
(*1) Spectrum Analyzer Set Up Conditions
Frequency range : 150kHz – 30MHz
Resolution bandwidth : 10kHz
Video bandwidth : 1MHz
Detector function : Peak mode
(*2) Test Receiver Set Up Conditions
Detector function : Quasi – Peak / Average (if necessary)
IF bandwidth : 10kHz

4.2. Test Results

Measured Frequency	LISN Factor	Meter Reading				Maximum RF Voltage		Limit		Margin for Limit	
		Q-Peak		Average							
(MHz)	(dB)	Va (dBμV)	Vb (dBμV)	Va (dBμV)	Vb (dBμV)	Q-Peak (dBμV)	Average (dBμV)	Q-Peak (dBμV)	Average (dBμV)	Q-Peak (dB)	Average (dB)
0.150	10.4	28.6	30.0	8.1	7.9	40.4	18.5	66.0	56.0	25.6	37.5
0.203	10.3	22.6	24.2	10.3	9.8	34.5	20.6	63.5	53.5	29.0	32.9
0.568	10.2	9.8	10.7	2.8	3.2	20.9	13.4	56.0	46.0	35.1	32.6
13.560	10.7	29.7	29.7	29.6	29.5	40.4	40.3	60.0	50.0	19.6	9.7
15.850	10.8	11.0	11.2	2.5	2.6	22.0	13.4	60.0	50.0	38.0	36.6
27.120	11.3	5.8	6.2	1.8	2.0	17.5	13.3	60.0	50.0	42.5	36.7

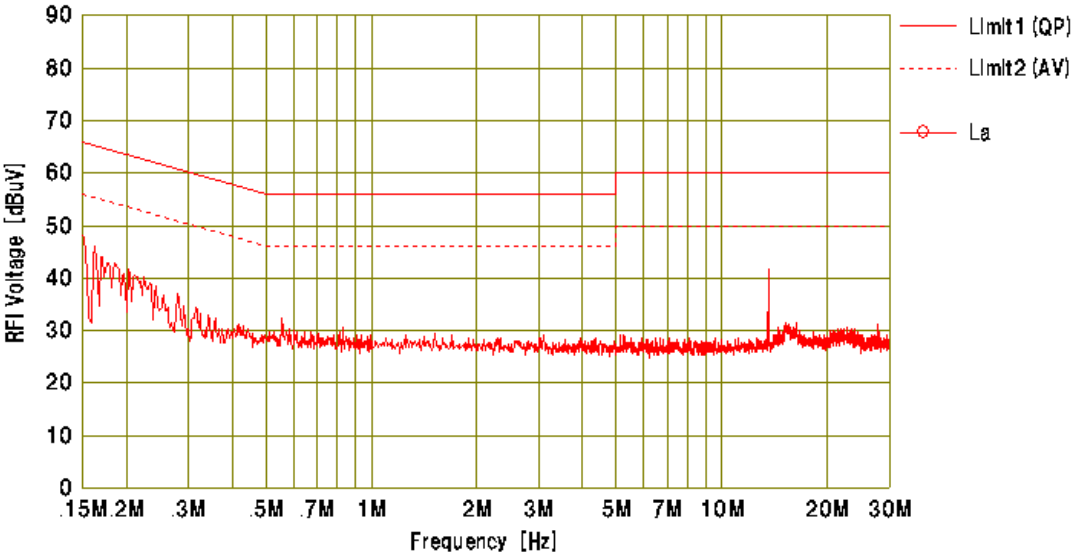
[Note]
(1) LISN Factor includes the cable loss and attenuator loss.
(2) Test condition : continuous transmission (non-terminated)

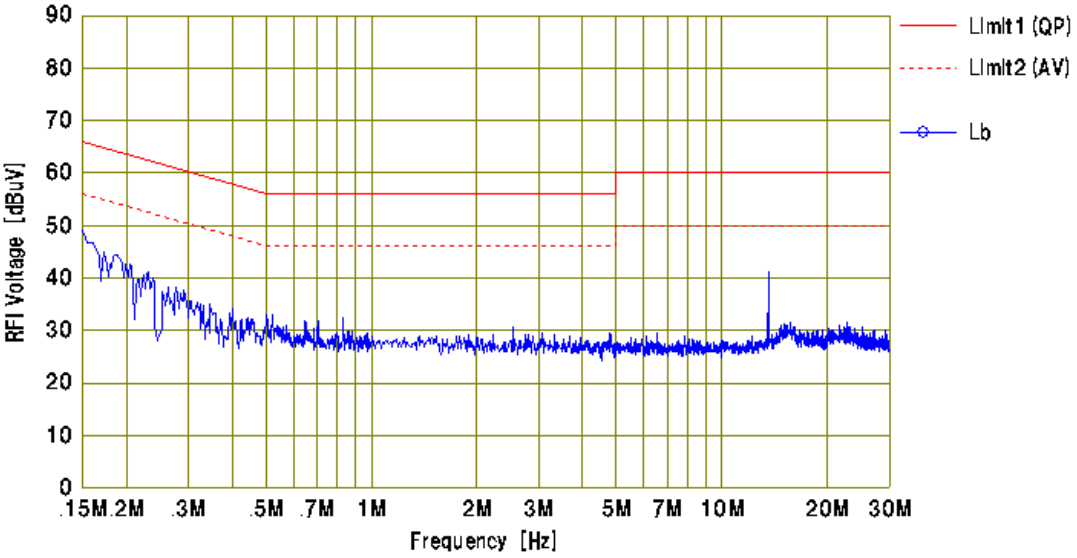
[Calculation method]
Maximum RF Voltage (dBμV)
= Meter Reading (at maximum level of Va or Vb) (dBμV) + LISN Factor (dB)

At the next page, the result of exploratory conducted emission measurement by using the spectrum analyzer is shown by the spectrum chart.

Tested Date	Environment	
	Temperature	Humidity
26 June 2014	23 °C	35 %

Test Results in Graph





5. Radiated Emission (The Frequency Range of 9kHz to 30MHz)

5.1. Test Procedure

(1) The EUT is placed in accordance with ANSI C63.4-2003 section 8.
(2) The EUT is activated as to simulate an actual operation.
(3) To find out the maximum emission of the configuration of the EUT System, the operation mode and the position of the cables are changed, then preliminary radiated measurement are performed using the spectrum analyzer (*1) and the loop antenna.
(4) The emissions recorded are measured at the specified distance using the loop antenna and the test receiver (*2).
(5) If the emission level is low and not detected at the specified distance, compliance test is performed at a closer distance and judged from calculating field strength at specified distance by using the measured data at a closer distance.

[Note]
(*1) Spectrum Analyzer Set Up Conditions
Frequency range : 9kHz – 150kHz / 150kHz – 30MHz
Resolution bandwidth : 300Hz / 10kHz
Detector function : Peak mode
(*2) Test Receiver Set Up Conditions
Detector function : Quasi – Peak
IF bandwidth : 200Hz (9kHz – 150kHz)
: 10kHz (150kHz – 30MHz)

5.2. Test Results

1) Field Strength at 300m

Field Strength at 300m

Measured Frequnecy (MHz)	Antenna Factor (dB)	Meter Reading including 20dB Constant Antenna Factor (dBμV/m)	Conversion Factor 3m to 300m (dB)	Maximum Field Strength (dBμV/m)	Limit at 300m (dBμV/m)	Margin for Limit (dB)
Peak measurement						
0.20312	0.5	38.5	-80.0	-41.0	21.4	62.4

2) Field Strength at 30m

Measured Frequnecy (MHz)	Antenna Factor (dB)	Meter Reading including 20dB Constant Antenna Factor (dBμV/m)	Conversion Factor 3m to 30m (dB)	Maximum Field Strength (dBμV/m)	Limit at 30m (dBμV/m)	Margin for Limit (dB)
13.11000	1.7	23.8	-40.0	-14.5	29.5	44.0
13.41000	1.7	24.0	-40.0	-14.3	40.5	54.8
13.55300	1.7	31.7	-40.0	-6.6	50.4	57.0
13.56000	1.7	46.7	-40.0	8.4	83.9	75.5
13.56700	1.7	30.1	-40.0	-8.2	50.4	58.6
13.71000	1.7	24.0	-40.0	-14.3	40.5	54.8
14.01000	1.8	23.8	-40.0	-14.4	29.5	43.9
27.12000	3.7	22.0	-40.0	-14.3	29.5	43.8

[Note]
(1) Antenna Factor includes the cable loss.
(2) Measurement Distance : 3m
(3) Conversion Factor : FCC Part 15 Subpart A Section 15.31(f) (2) is applied.
(4) Although these tests were performed other than open field area test site, adequate comparison measurements were confirmed against 30 m open field are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 937606.

[Calculation method]
Maximum Field Strength (dBμV/m) = Meter Reading (dBμV/m) + Antenna Factor (dB) + Conversion Factor (dB)

Tested Date	Environment	
	Temperature	Humidity
24 June 2014	23°C	50 %

6. Radiated Emission (The Frequency Range of above 30MHz)

6.1. Test Procedure

(1) The EUT is placed in accordance with ANSI C63.4-2003 section 8.
(2) The EUT is activated as to simulate an actual operation.
(3) To find out the maximum emission of the configuration of the EUT System, the operation mode and the position of the cables are changed, then preliminary radiated measurement are performed using the spectrum analyzer (*1) and the broad band antenna.
(4) The spectrums are scanned from 30MHz to 1GHz, and collect the highest emissions on the spectrum analyzer relative to the limits in the whole range.
In the frequency above 1GHz, it is performed using the spectrum analyzer (*2) and the horn antenna.
(5) The highest emissions are measured at the specified distance using the test receiver (*3) and the broad band antenna or the tuned dipole. In the frequency above 1GHz, they are measured using the spectrum analyzer (*4) and the horn antenna.

[Note]

(*1) Spectrum Analyzer Set Up Conditions

Frequency range	: 30MHz – 1GHz
Resolution bandwidth	: 100kHz
Detector function	: Peak mode

(*2) Spectrum Analyzer Set Up Conditions (Pre-measurement)

Frequency range	: 1GHz – Upper frequency of measurement range
Resolution bandwidth	: 1MHz

(*3) Test Receiver Set Up Conditions

Detector function	: Quasi – Peak
IF bandwidth	: 120kHz

(*4) Spectrum Analyzer Set Up Conditions

Center Frequency	: Measurement Frequency
Resolution bandwidth	: 1MHz
Video bandwidth	: 1MHz (Peak measurement) 10Hz or 30Hz (Average measurement)
Attenuator	: 10dB
Y axis	: Linear (Average measurement)

6.2. Test Results

Measured Frequency (MHz)	Antenna Factor (dB/m)	Meter Reading		Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
		Horizontal Polarization (dBμV)	Vertical Polarization (dBμV)			
40.68	21.7	<0.0	<0.0	<21.7	40.0	>18.3
54.24	17.0	<0.0	<0.0	<17.0	40.0	>23.0
81.30	14.2	<0.0	5.7	19.9	40.0	20.1
650.88	25.2	10.4	9.0	35.6	46.0	10.4
664.44	25.4	11.6	9.6	37.0	46.0	9.0
678.00	25.7	6.5	3.2	32.2	46.0	13.8
705.12	26.0	6.2	1.6	32.2	46.0	13.8
718.68	26.1	7.8	0.2	33.9	46.0	12.1
732.24	26.3	6.1	1.5	32.4	46.0	13.6
786.48	26.8	8.3	6.5	35.1	46.0	10.9
813.60	27.2	6.0	4.3	33.2	46.0	12.8
894.96	29.2	5.8	6.6	35.8	46.0	10.2
949.20	30.3	4.9	2.5	35.2	46.0	10.8

[Note]

(1) ☐ Antenna Factor includes the cable loss, attenuator loss and pre-amplifier gain.
☒ Antenna Factor includes the cable loss and attenuator loss.
Above 1000MHz, the antenna factor includes the cable loss and pre-amplifier gain.

(2) * mark in Measured Frequency : Measured with the tuned dipole antenna.
no mark in Measured Frequency : Measured with the broadband antenna.

(3) Upper Frequency : ☒ 1GHz ☐ 2GHz ☐ 5GHz
☐ 5th harmonic of the highest frequency ☐ 40GHz

The emissions were checked to the upper frequency, and the lower emissions than the listed emissions in the above tables were omitted.

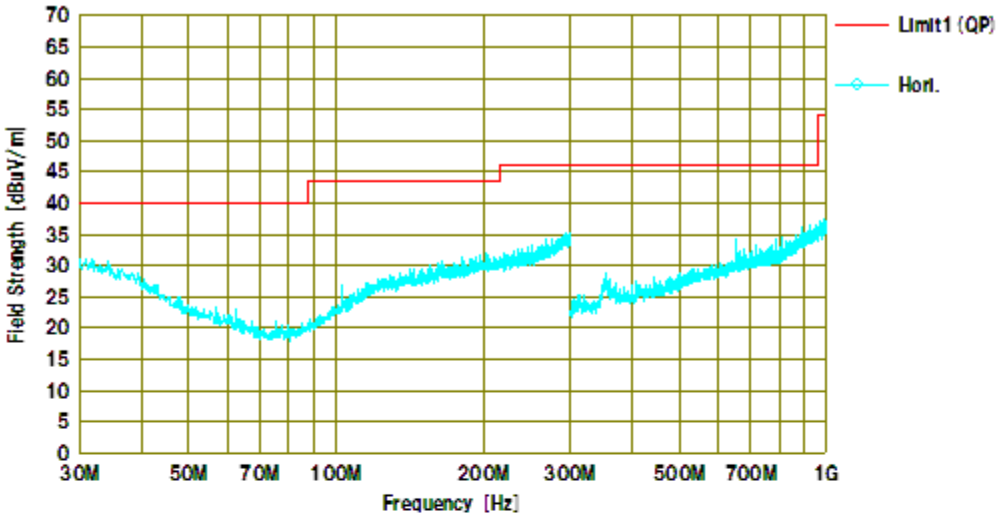
(4) Measurement Distance : <below 1GHz> ☒ 3m ☐ 10m
<above 1GHz> ☐ 3m ☐ 10m

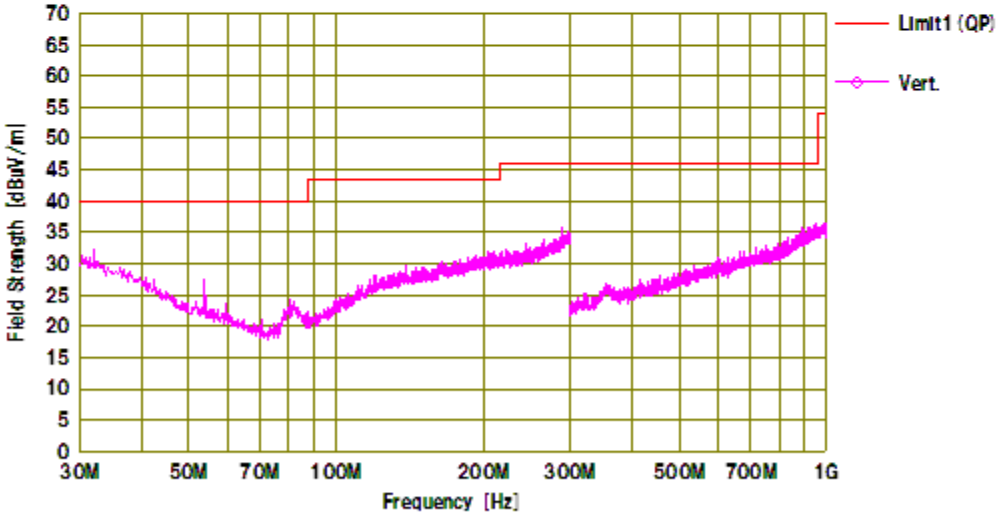
[Calculation method]

Maximum Field Strength (dBμV/m)
= Meter Reading (at maximum level of Horizontal or Vertical) (dBμV) + Antenna Factor (dB/m)

Tested Date	Environment	
	Temperature	Humidity
24 June 2014	23°C	50 %

Test Results in Graph



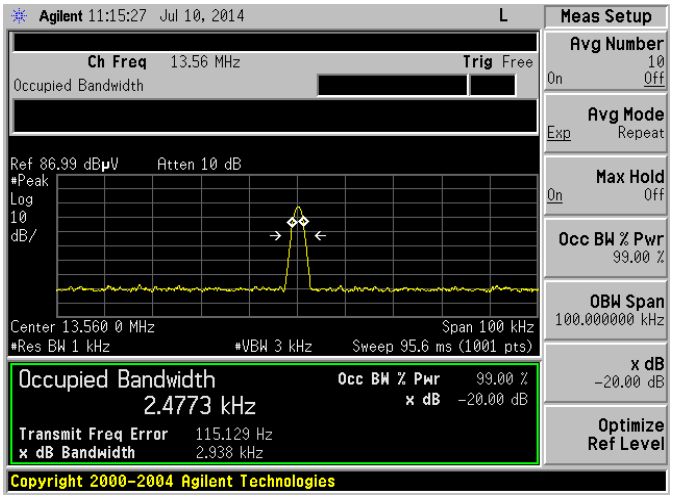


7. 20dB BANDWIDTH MEASUREMENT

7.1. Test Procedure

(1) Connect the EUT RF output port to spectrum analyzer (*1) via calibrated coaxial cable and suitable attenuator (if necessary). (2) Activates the EUT System and execute the software prepared for test, if necessary. (3) To find out the maximum emission condition, the transmitting data rate of EUT is set to maximum data rate. (4) 20dB Bandwidth is measured using the function of spectrum analyzer.
[Note] (*1) Spectrum Analyzer Set Up Conditions Frequency Span : 1kHz Resolution bandwidth : 3kHz Video bandwidth :≧RBW Detector function : Peak x dB : -20dB

7.2. Test Results



Test Items	Result(kHz)
20dB Bandwidth	2.938
99% Occupied Bandwidth	2.477

Tested Date	Environment	
	Temperature	Humidity
10 July 2014	20 °C	37 %

8. FREQUENCY TOLERANCE OF CARRIER SIGNAL

8.1. Test Procedure

(1) Connect the EUT RF output port to spectrum analyzer via calibrated coaxial cable and suitable attenuator (if necessary). (2) Activates the EUT System and execute the software prepared for test, if necessary. (3) To find out the maximum emission condition, the transmitting data rate of EUT is set to maximum data rate. (4) The operating frequency measured by using frequency counter function of spectrum analyzer (*1) . (5) Frequency stability measurement was carried out from the high temperature to low temperature in order.
[Note] (*1) Spectrum Analyzer Set Up Conditions Center Frequency : Equal to operating frequency of EUT Resolution bandwidth : 3 kHz Video bandwidth : 100 Hz Sweep : Auto Function : Frequency counter

8.2. Test Results

[Temperature : 40deg.C]

Test Condition	Original Frequency (MHz)	Measured Frequency (MHz)	Tolerance (kHz)	Tolerance (%)	Limit (%)
startup	13.56	13.560110	0.110	0.0008	±0.01
after 2minutes	13.56	13.560101	0.101	0.0007	±0.01
after 5minutes	13.56	13.560098	0.098	0.0007	±0.01
after 10minutes	13.56	13.560096	0.096	0.0007	±0.01

[Temperature : 30deg.C]

Test Condition	Original Frequency (MHz)	Measured Frequency (MHz)	Tolerance (kHz)	Tolerance (%)	Limit (%)
startup	13.56	13.560153	0.153	0.0011	±0.01
after 2minutes	13.56	13.560140	0.140	0.0010	±0.01
after 5minutes	13.56	13.560134	0.134	0.0010	±0.01
after 10minutes	13.56	13.560131	0.131	0.0010	±0.01

[Temperature : 20deg.C]

Test Condition	Original Frequency (MHz)	Measured Frequency (MHz)	Tolerance (kHz)	Tolerance (%)	Limit (%)
startup	13.56	13.560193	0.193	0.0014	±0.01
after 2minutes	13.56	13.560178	0.178	0.0013	±0.01
after 5minutes	13.56	13.560173	0.173	0.0013	±0.01
after 10minutes	13.56	13.560170	0.170	0.0013	±0.01

[Temperature : 10deg.C]

Test Condition	Original Frequency (MHz)	Measured Frequency (MHz)	Tolerance (kHz)	Tolerance (%)	Limit (%)
startup	13.56	13.560236	0.236	0.0017	±0.01
after 2minutes	13.56	13.560223	0.223	0.0016	±0.01
after 5minutes	13.56	13.560218	0.218	0.0016	±0.01
after 10minutes	13.56	13.560216	0.216	0.0016	±0.01

[Temperature : 20deg.C, Voltage : AC102V(85%)]

Test Condition	Original Frequency (MHz)	Measured Frequency (MHz)	Tolerance (kHz)	Tolerance (%)	Limit (%)
startup	13.56	13.560192	0.192	0.0014	±0.01
after 2minutes	13.56	13.560179	0.179	0.0013	±0.01
after 5minutes	13.56	13.560174	0.174	0.0013	±0.01
after 10minutes	13.56	13.560172	0.172	0.0013	±0.01

[Temperature : 20deg.C, Voltage : AC138V(115%)]

Test Condition	Original Frequency (MHz)	Measured Frequency (MHz)	Tolerance (kHz)	Tolerance (%)	Limit (%)
startup	13.56	13.560195	0.195	0.0014	±0.01
after 2minutes	13.56	13.560181	0.181	0.0013	±0.01
after 5minutes	13.56	13.560176	0.176	0.0013	±0.01
after 10minutes	13.56	13.560172	0.172	0.0013	±0.01

[Calculation method]
Tolerance (kHz) = Result – Channel Frequency
Tolerance (%) = (Tolerance (kHz) / Channel Frequency (kHz))×10^2

Tested Date	Environment	
	Temperature	Humidity
10 July 2014	20°C	37 %

9. TEST EQUIPMENT

· AC Power Line Conducted Emission Measurement

KEC No.	Equipment	Manufacturer	Model No.	Last Cal.	Next Cal.
AT-144	Low Power Attenuator	HUBER+SUHNER	6810.01.A	2013/09	2014/09
FL-107	LISN	KYORITSU	KNW-407	2013/09	2014/09
FS-083	Test Receiver	ROHDE & SCHWARZ	ESHS10	2013/12	2014/12
FS-103	Test Receiver	Schwarzbeck	FCKL1528	2013/12	2014/12
MM-252	RF Relay Matrix	TSJ	RFM-E121	2013/09	2014/09
SA-049	Spectrum Analyzer	Agilent	E4403B	2013/11	2014/11

· Radiated Emission (9kHz to 30MHz)

KEC No.	Equipment	Manufacturer	Model No.	Last Cal.	Next Cal.
AN-054	Loop Antenna	ROHDE & SCHWARZ	HFH2-Z2	2014/04	2016/04
FS-062	Test Receiver	ROHDE & SCHWARZ	ESS	2013/08	2014/08
SA-063	Test Receiver	Agilent	N9038A	2014/05	2015/05

· Radiated Emission (above 30MHz)

KEC No.	Equipment	Manufacturer	Model No.	Last Cal.	Next Cal.
AM-093	Pre-Amplifier	MITEQ	MLA-10K01-B01-40	2014/04	2015/04
AN-248	Biconical Antenna	Schwarzbeck	VHA9103B	2014/04	2015/04
AN-250	LPDA Antenna	Schwarzbeck	UHALP9108A	2014/04	2015/04
AT-157	Fixed Attenuator	Anritsu	MP721B	2014/03	2015/04
FS-062	Test Receiver	ROHDE & SCHWARZ	ESS	2013/08	2014/08
MM-300	RF Relay Matrix Unit	TSJ	RFM-E421	2014/04	2015/04
SA-063	Test Receiver	Agilent	N9038A	2014/05	2015/05

· 20dB Bandwidth Measurement
· Frequency Tolerance of Carrier Signal

KEC No.	Equipment	Manufacturer	Model No.	Last Cal.	Next Cal.
AT-148	Fixed Attenuator	Anritsu	41KC-10	2014/04	2015/04
SA-052	Spectrum Analyzer	Agilent	E4446A	2013/10	2014/10
SF-093	Temperature Chamber	ESPEC CORP.	SH-641	2013/07	2014/07

Note : (*1) We check the performance, before using this device.

The overall program of calibration and verification of equipment is designed and operated so as to ensure that measurements made by KEC are traceable to national standards of measurement or equivalent abroad.