



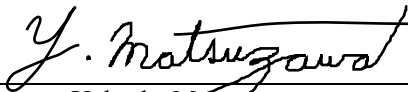
EMI TEST REPORT


Test Report No.: 13462774S-G-R1

Applicant : Panasonic Corporation
Type of EUT : Car Navigation
Model Number of EUT : AT2105
FCC ID : ACJ932AT2105
Test regulation : FCC Part 15 Subpart B: 2020
Test result : Complied (Refer to Section 3.2)

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this test report are traceable to the national or international standards.
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6. This test report covers EMC technical requirements.
It does not cover administrative issues such as Manual or non-EMC test related Requirements. (if applicable)
7. The all test items in this test report are conducted by UL Japan, Inc. Shonan EMC Lab.
8. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
9. This report is a revised version of 13462774S-G. 13462774S-G is replaced with this report.

Date of test: August 27 to September 5, 2020

Representative test engineer: 
Yohsuke Matsuzawa
Engineer
Consumer Technology Division

Approved by: 
Shinichi Takano
Engineer
Consumer Technology Division



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 There is no testing item of "Non-accreditation".

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REVISION HISTORY

Original Test Report No.: 13462774S-G

Revision	Test report No.	Date	Page revised	Contents
- (Original)	13462774S-G	October 22, 2020	-	-
1	13462774S-G-R1	November 20, 2020	P.9	Adding comment: “* Pre-checks were performed with Main port and Sub port, the final measurement was conducted with the worst Main port.”
			P.14	Adding comment: “The test was performed with 0 deg. fixed, since the position of the BT / WLAN antenna did not affect the noise of the FM reception characteristics.”
			P.60	Addition comment: *1)

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Reference: Abbreviations (Including words undescribed in this report)

AAN	Asymmetric Artificial Network	ISED	Innovation, Science and Economic Development Canada
AC	Alternating Current	ISN	Impedance Stabilization Network
AM	Amplitude Modulation	ISO	International Organization for Standardization
AMN	Artificial Mains Network	JAB	Japan Accreditation Board
Amp, AMP	Amplifier	LAN	Local Area Network
ANSI	American National Standards Institute	LCL	Longitudinal Conversion Loss
Ant, ANT	Antenna	LIMS	Laboratory Information Management System
AP	Access Point	LISN	Line Impedance Stabilization Network
ASK	Amplitude Shift Keying	MRA	Mutual Recognition Arrangement
Atten., ATT	Attenuator	NIST	National Institute of Standards and Technology
AV	Average	NS	No signal detect.
BPSK	Binary Phase-Shift Keying	NSA	Normalized Site Attenuation
BR	Bluetooth Basic Rate	NVLAP	National Voluntary Laboratory Accreditation Program
BT	Bluetooth	OBW	Occupied Band Width
BT LE	Bluetooth Low Energy	OFDM	Orthogonal Frequency Division Multiplexing
BW	BandWidth	PK	Peak
C.F	Correction Factor	P _{LT}	long-term flicker severity
Cal Int	Calibration Interval	POHC(A)	Partial Odd Harmonic Current
CAV	CISPR AV	Pol., Pola.	Polarization
CCK	Complementary Code Keying	PR-ASK	Phase Reversal ASK
CDN	Coupling Decoupling Network	P _{ST}	short-term flicker severity
Ch., CH	Channel	QAM	Quadrature Amplitude Modulation
CISPR	Comite International Special des Perturbations Radioelectriques	QP	Quasi-Peak
Corr.	Correction	QPSK	Quadri-Phase Shift Keying
CPE	Customer premise equipment	r.m.s., RMS	Root Mean Square
CW	Continuous Wave	RBW	Resolution Band Width
DBPSK	Differential BPSK	RE	Radio Equipment
DC	Direct Current	REV	Reverse
DET	Detector	RF	Radio Frequency
Dmax	maximum absolute voltage change during an observation period	RFID	Radio Frequency Identifier
DQPSK	Differential QPSK	RSS	Radio Standards Specifications
DSSS	Direct Sequence Spread Spectrum	Rx	Receiving
EDR	Enhanced Data Rate	SINAD	Ratio of (Signal + Noise + Distortion) to (Noise + Distortion)
e.i.r.p., EIRP	Equivalent Isotropically Radiated Power	S/N	Signal to Noise ratio
EM clamp	Electromagnetic clamp	SA, S/A	Spectrum Analyzer
EMC	ElectroMagnetic Compatibility	SG	Signal Generator
EMI	ElectroMagnetic Interference	SVSWR	Site-Voltage Standing Wave Ratio
EMS	ElectroMagnetic Susceptibility	THC(A)	Total Harmonic Current
EN	European Norm	THD(%)	Total Harmonic Distortion
e.r.p., ERP	Effective Radiated Power	TR	Test Receiver
EU	European Union	Tx	Transmitting
EUT	Equipment Under Test	VBW	Video BandWidth
Fac.	Factor	Vert.	Vertical
FCC	Federal Communications Commission	WLAN	Wireless LAN
FHSS	Frequency Hopping Spread Spectrum	xDSL	Generic term for all types of DSL technology (DSL: Digital Subscriber Line)
FM	Frequency Modulation		
Freq.	Frequency		
FSK	Frequency Shift Keying		
Fund	Fundamental		
FWD	Forward		
GFSK	Gaussian Frequency-Shift Keying		
GNSS	Global Navigation Satellite System		
GPS	Global Positioning System		
Hori.	Horizontal		
ICES	Interference-Causing Equipment Standard		
I/O	Input/Output		
IEC	International Electrotechnical Commission		
IEEE	Institute of Electrical and Electronics Engineers		
IF	Intermediate Frequency		
ILAC	International Laboratory Accreditation Conference		

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SECTION 1: Customer information

Company Name : Panasonic Corporation
Address : 4261 Ikonobe-cho, Tsuzuki-ku, Yokohama-shi, Kanagawa-ken,
224-8520, Japan
Telephone Number : +81-50-3689-7112
Contact Person : Takahisa Sakai

The information provided from the customer is as follows;

- Applicant, Type of Equipment, Model No. FCC ID on the cover and other relevant pages
 - Operating/Test Mode(s) (Mode(s)) on all the relevant pages
 - SECTION 1: Customer information
 - SECTION 2: Equipment under test (E.U.T.)
 - SECTION 4: Operation of E.U.T. during testing
- * The laboratory is exempted from liability of any test results affected from the above information in SECTION 2 and 4.

SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment : Car Navigation
Model No. : AT2105
Serial No. : Refer to SECTION 4.2
Rating : DC 13.2 V
Country of Mass-production : Japan, Mexico, Czech Republic
Condition of EUT : Production prototype
(Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT : No modification by the test lab.
Receipt Date of Sample : July 31, 2020
(Information from test lab.)

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2.2 Product description

Model: AT2105 (referred to as the EUT in this report) is a Car Navigation

Radio Specification

	IEEE802.11b	IEEE802.11g	IEEE802.11n (20 MHz band)	IEEE802.11n (40 MHz band)
Frequency of operation	2412 MHz - 2462 MHz	2412 MHz - 2462 MHz	2412 MHz – 2462 MHz, 5180 MHz – 5240 MHz, 5745 MHz – 5825 MHz	5190 MHz, 5230 MHz, 5755 MHz, 5795 MHz
Channel spacing	5 MHz		2.4 GHz band: 5 MHz 5 GHz band: 20 MHz	40 MHz
Modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (64QAM, 16QAM, QPSK, BPSK)	OFDM (64QAM, 16QAM, QPSK, BPSK)	
	IEEE802.11a	IEEE802.11ac (20 MHz band)	IEEE802.11ac (40 MHz band)	IEEE802.11ac (80 MHz band)
Frequency of operation	5180 MHz – 5240 MHz, 5745 MHz – 5825 MHz	5180 MHz – 5240 MHz, 5745 MHz – 5825 MHz	5190 MHz, 5230 MHz, 5755 MHz, 5795 MHz	5210 MHz, 5775 MHz
Channel spacing	20 MHz		40 MHz	80 MHz
Modulation	OFDM (64QAM, 16QAM, QPSK, BPSK)	OFDM (256QAM, 16QAM, QPSK, BPSK)		
	Bluetooth (BR/EDR)	Bluetooth Low Energy		
Frequency of operation	2402 MHz – 2480 MHz	2402 MHz – 2480 MHz		
Channel spacing	1 MHz	2 MHz		
Modulation	FHSS, GFSK, $\pi/4$ DQPSK, 8DPSK	FHSS, GFSK		
Antenna type	Inverted F type antenna			
Antenna Gain	RF0	2.4 GHz WLAN	-1.44 dBi	
		U-NII-1	-1.25 dBi	
		U-NII-3	0.24 dBi	
	RF1	BT, BT LE	0.05 dBi	
		U-NII-1	0.33 dBi	
		U-NII-3	0.01 dBi	
Antenna Connector type	HFC IV Coaxial connector			
Operating Temperature	-30 deg. C to + 65 deg. C			

FM tuner specification

Frequency of operation: 87.75 MHz - 107.9 MHz

Intermediate frequency: ± 388 kHz

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SECTION 3: Test specification, procedures & results

3.1 Test specification

Test specification : FCC Part 15 Subpart B: 2020
FCC Part 15 final revised on October 13, 2020
* The revision does not affect the test result conducted before its effective date.

Title : FCC 47CFR Part 15 Radio Frequency Device
Subpart B Unintentional Radiators

All the revisions made after testing date do not affect the test specification applied to the EUT.

3.2 Procedures & Results

Item	Test Procedure	Limits	Deviation	Worst margin	Result
Conducted emission	ANSI C63.4:2014+A1:2017 IEEE 187:2003	FCC 15.107 (a)	N/A *1)	N/A	N/A
Radiated emission *2)	ANSI C63.4:2014+A1:2017 IEEE 187:2003	FCC 15.109 (a)	N/A	5.8 dB Freq.: 3525.520 MHz Detector: AV Polarization: Vertical Mode: FM Receiving (87.75 MHz) analog	Complied a)
Antenna power conduction for receivers	ANSI C63.4:2014+A1:2017 IEEE 187:2003	FCC 15.111 (a)	N/A	7.6 dB Freq.: 3465.216 MHz Detector: PEAK Mode: FM Receiving (107.9 MHz) analog	Complied b)

Note: UL Japan's EMI Work Procedures No. 13-EM-W0420

*1) The test is not applicable since the EUT does not have AC Mains.

*2) Measurements have been performed up to 40 GHz since the highest frequency of internal source of the EUT is 5825 MHz.

a) Refer to Appendix 1 (data of Radiated emission)

b) Refer to Appendix 1 (data of Antenna Terminal)

Symbols:

Complied The data of this test item has enough margin, more than the measurement uncertainty.

Complied# The data of this test item meets the limits unless the measurement uncertainty is taken into consideration.

3.3 Additions to standards

No addition, deviation or exclusion has been made from standards.

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3.4 Confirmation

UL Japan, Inc. hereby confirms that E.U.T., in the configuration tested, complies with the specifications FCC Part 15 Subpart B: 2020

3.5 Uncertainty

The following uncertainties have been calculated to provide a confidence level of 95% using a coverage factor $k=2$.

Item	Frequency range	No.1 SAC ^{*1} /SR ^{*2} (±)	No.2 SAC/SR (±)	No.3 SAC/SR (±)
Radiated emission (Measurement distance: 3 m)	30 MHz-200 MHz	4.6 dB	4.6 dB	4.6 dB
	200 MHz-1 GHz	6.0 dB	6.0 dB	6.0 dB
	1 GHz-6 GHz	4.9 dB	4.9 dB	4.9 dB
	6 GHz-18 GHz	5.5 dB	5.5 dB	5.5 dB
Radiated emission (Measurement distance: 1 m)	1 GHz-18 GHz	5.8 dB	5.8 dB	5.8 dB
	18 GHz-40 GHz	5.7 dB	5.7 dB	5.7 dB
Antenna Terminal Voltage^{*3}	5 MHz-1000 MHz	2.8 dB		
	1 GHz-	2.4 dB		

*1: SAC=Semi-Anechoic Chamber

*2: SR= Shielded Room is applied besides radiated emission

*3: Value of Antenna Terminal Voltage measurement is also applies to the No.5 and No.6 Shielded Room.

3.6 Test location

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A2LA Certificate Number : 1266.03

FCC Test Firm Registration Number : 839876

ISED Lab Company Number : 2973D

	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measuremen t distance
No.1 Semi-anechoic chamber	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.2 Semi-anechoic chamber	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.3 Semi-anechoic chamber	12.7 x 7.7 x 5.35	12.7 x 7.7	5 m
No.4 Semi-anechoic chamber	8.1 x 5.1 x 3.55	8.1 x 5.1	-
No.1 Shielded room	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.2 Shielded room	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.3 Shielded room	6.3 x 4.7 x 2.7	6.3 x 4.7	-
No.4 Shielded room	4.4 x 4.7 x 2.7	4.4 x 4.7	-
No.5 Shielded room	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.6 Shielded room	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.7 Shielded room	2.76 x 3.76 x 2.4	2.76 x 3.76	-
No.8 Shielded room	3.45 x 5.5 x 2.4	3.45 x 5.5	-
No.1 Measurement room	2.55 x 4.1 x 2.5	2.55 x 4.1	-

3.7 Test Setup, Data of EMI & Test instruments

Refer to Appendix 1 to 3.

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SECTION 4: Operation of E.U.T. during testing

4.1 Operating mode

The EUT exercise program used during testing was designed to exercise the various system components in a manner similar to typical use.

Test sequence is used : FM Receiving (87.75 MHz / 97.9 MHz / 107.9 MHz)
*Analog and Digital
* Pre-checks were performed with Main port and Sub port, the final measurement was conducted with the worst Main port.

Firmware : YEP1RM06887 Ver.1.00

Justification: The system was configured in typical fashion (as a customer would normally use it) for testing.

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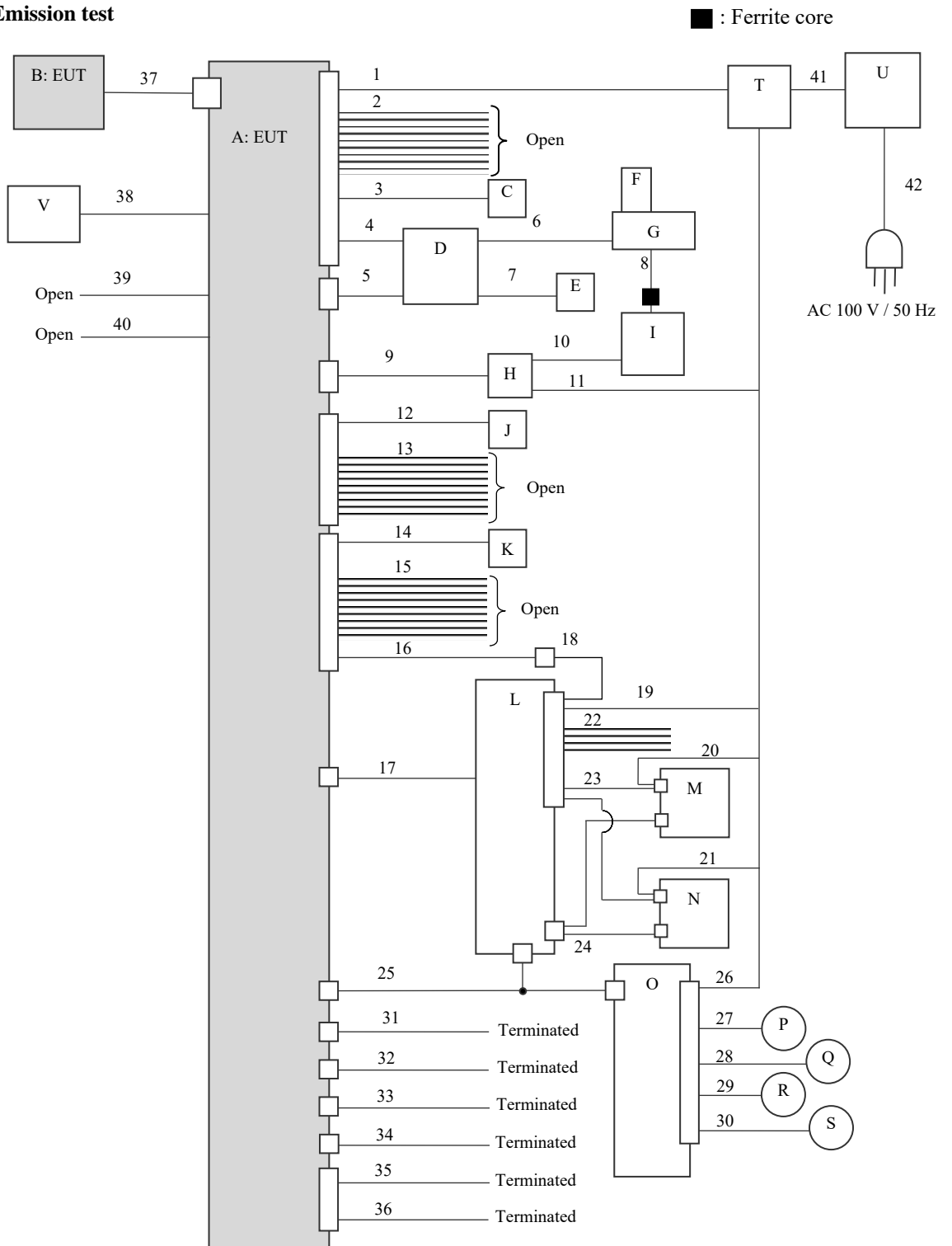
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4.2 Configuration and peripherals

Radiated Emission test



* Cabling and setup(s) were taken into consideration and test data was taken under worse case conditions.
* It was preliminary confirmed that there was no difference in emission level due to a standard ferrite core.

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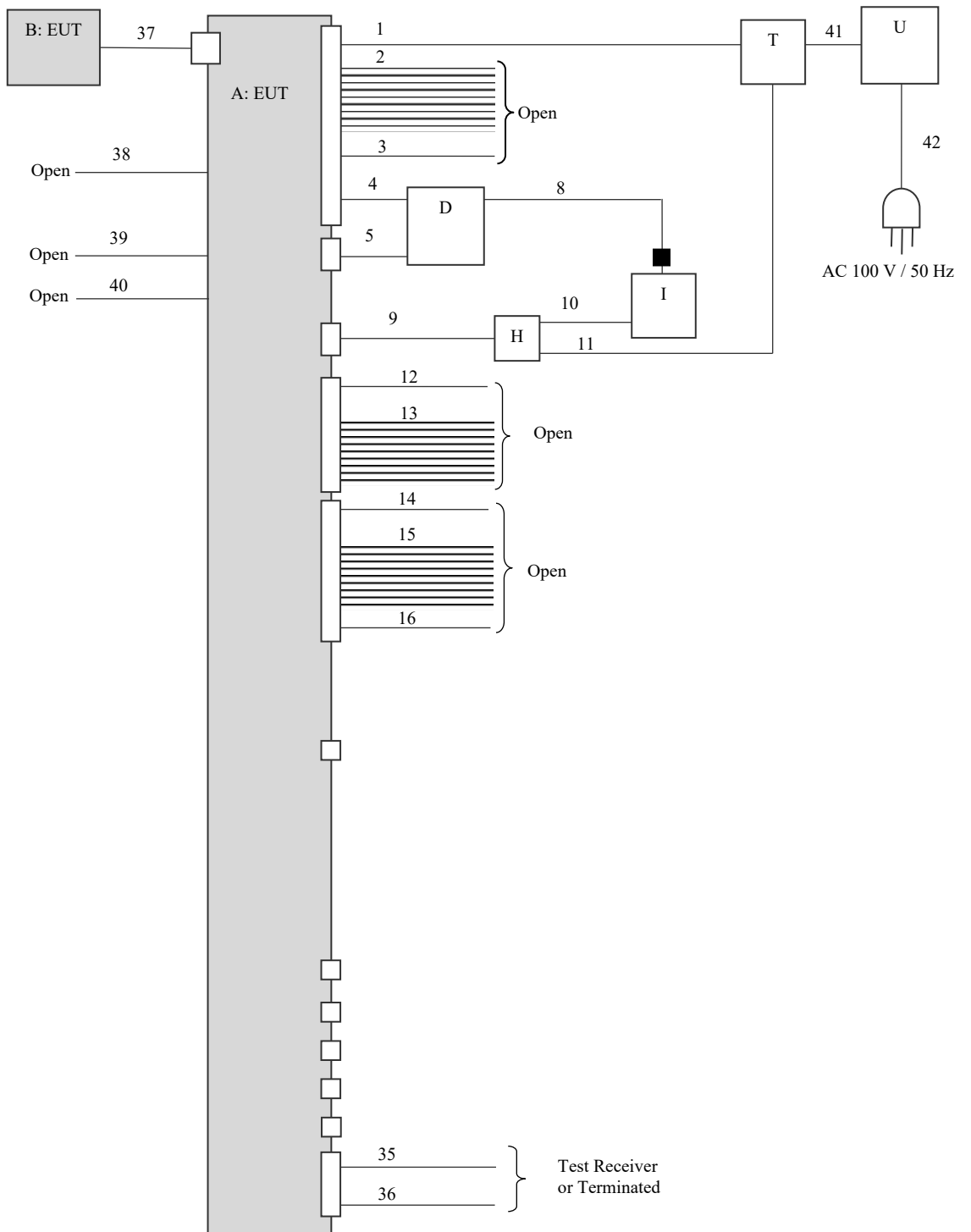
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Antenna Terminal test



Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Car Navigation	AT2105	002 *1) 001 *2)	Panasonic Corporation	EUT
B	Antenna	CA-AL8BX0AJ	001	Panasonic Corporation	EUT
C	Steering Switch	-	1142	Panasonic Corporation	-
D	IF Box	DEP32-10078	033	Panasonic Corporation	-
E	Bluetooth Speaker	SRS-X11	2154715	Sony Corporation	-
F	USB memory	USM4GU	-	Sony Corporation	-
G	USB Hub	U3H-A422BX	0600341	ELECOM	-
H	JIG Bord	GVIF2HDJIG	16	Panasonic Corporation	-
I	Separate Display	On-Lap 1102I	11102100908028	TEKWIND	-
J	Mic	GP-SDA3510A	0DC062856	Panasonic Corporation	-
K	Mic	GP-SDA3510A	0DC062519	Panasonic Corporation	-
L	RSE ECU	CR-EL3BX0AJ	1S-188	Panasonic Corporation	-
M	RSE Display	CR-FL3BJ0AJ	107	Panasonic Corporation	-
N	RSE Display	CR-FL3BJ0AJ	108	Panasonic Corporation	-
O	MOST AMP	CL-DL47X2AJ	-	Panasonic Corporation	-
P	Speaker	KFC-RS160	-	KENWOOD	-
Q	Speaker	KFC-RS160	-	KENWOOD	-
R	Speaker	KFC-RS160	-	KENWOOD	-
S	Speaker	KFC-RS160	-	KENWOOD	-
T	Terminal Block	-	-	-	-
U	Power Supply (DC)	PAN35-10A	DE001677	KIKUSUI	-
V	Jig board	RCarDBG_JTAG2	WR12-3224	WESTEK	-

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List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	DC	2.0	Unshielded	Unshielded	-
2	Signal	2.0	Unshielded	Unshielded	-
3	Signal	2.0 + 0.1	Unshielded	Unshielded	-
4	IF Box Power	2.0 + 0.3	Unshielded	Unshielded	-
5	Signal	2.0	Unshielded	Unshielded	-
6	USB	0.07	Shielded	Shielded	-
7	USB type C	0.9	Shielded	Shielded	-
8	USB	2.0	Shielded	Shielded	-
9	GVIF(Separate Display)	2.5	Shielded	Shielded	-
10	HDMI	1.2	Shielded	Shielded	-
11	DC	1.0	Unshielded	Unshielded	-
12	Mic	2.0 + 0.5 *1) 2.0 *2)	Unshielded	Unshielded	-
13	Signal	2.0	Unshielded	Unshielded	-
14	Mic	2.0 + 0.5 *1) 2.0 *2)	Unshielded	Unshielded	-
15	Signal	2.0	Unshielded	Unshielded	-
16	Signal	2.0	Unshielded	Unshielded	-
17	RSE	3.0	Shielded	Shielded	-
18	Signal	1.0	Unshielded	Unshielded	-
19	DC	1.0	Unshielded	Unshielded	-
20	DC	2.0	Unshielded	Unshielded	-
21	DC	2.0	Unshielded	Unshielded	-
22	Signal	1.0	Unshielded	Unshielded	-
23	Main(RSE)	1.0	Shielded	Shielded	-
24	RSE DISP-ECU	2.0	Unshielded	Unshielded	-
25	MOST AMP	2.5	Unshielded	Unshielded	-
26	DC	1.0	Unshielded	Unshielded	-
27	Speaker	1.0	Unshielded	Unshielded	-
28	Speaker	1.0	Unshielded	Unshielded	-
29	Speaker	1.0	Unshielded	Unshielded	-
30	Speaker	1.0	Unshielded	Unshielded	-
31	A2B	3.0	Unshielded	Unshielded	-
32	DCM	3.0	Shielded	Shielded	-
33	GPS	0.12 + 1.5	Shielded	Shielded	-
34	Sirius XM	2.5	Unshielded	Unshielded	-
35	FM	1.5	Shielded	Shielded	-
36	FM	1.5	Shielded	Shielded	-
37	BT/WLAN Antenna	0.3	Shielded	Shielded	-
38	Signal	0.1	Unshielded	Unshielded	*3)
39	Signal	0.2	Unshielded	Unshielded	*3)
40	UART	0.3	Unshielded	Unshielded	*3)
41	DC	2.4	Unshielded	Unshielded	-
42	AC	2.0	Unshielded	Unshielded	-

*1) Used for Radiated Emission test

*2) Used for Antenna Terminal test

*3) This cable is for testing and is not included with products.

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SECTION 5: Radiated emission

5.1 Operating environment

Test room : Refer to data
Temperature : Refer to data
Humidity : Refer to data

5.2 Test configuration

EUT was placed on a platform of nominal size, 1.0 m by 2.0 m, raised 0.8 m above the conducting ground plane. The table is made of expanded polystyrol and expanded polypropylene and the table top is covered with polycarbonate. That has very low permittivity. The rear of EUT, including its peripherals was aligned and flushed with rear of tabletop. I/O cables that were connected to the peripherals were bundled in center. They were folded back and for the forming a bundle 30 cm to 40 cm long and were hanged at a 40 cm height to the ground plane. Photographs of the set up are shown in Appendix 3.

5.3 Test conditions

Frequency range : 30 MHz - 40 GHz
EUT position : Table top

5.4 Test procedure

The Radiated Electric Field Strength intensity has been measured on an anechoic chamber with a ground plane and at a distance of 3 m. Measurements were performed with quasi-peak, peak and average detector. The measuring antenna height was varied between 1 and 4 m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity. Test antenna was aimed at the EUT for receiving the maximum signal and always kept within the illumination area of the 3 dB beamwidth of the antenna.

The measurements were performed for both vertical and horizontal antenna polarization. The radiated emission measurements were made with the following detector function of the test receiver.

The noise levels were confirmed at each position of 0 deg. and 30 deg. of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

The test was performed with 0 deg. fixed, since the position of the BT / WLAN antenna did not affect the noise of the FM reception characteristics.

	<u>30 MHz -1000 MHz (Test receiver)</u>	<u>1 GHz – 40 GHz (Spectrum analyzer)</u>
Detector Type	: QP	AV *1) PK
IF Band width	: 120 kHz	RBW 1 MHz/ VBW 10 Hz RBW 1 MHz/ VBW 3 MHz

*1) When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

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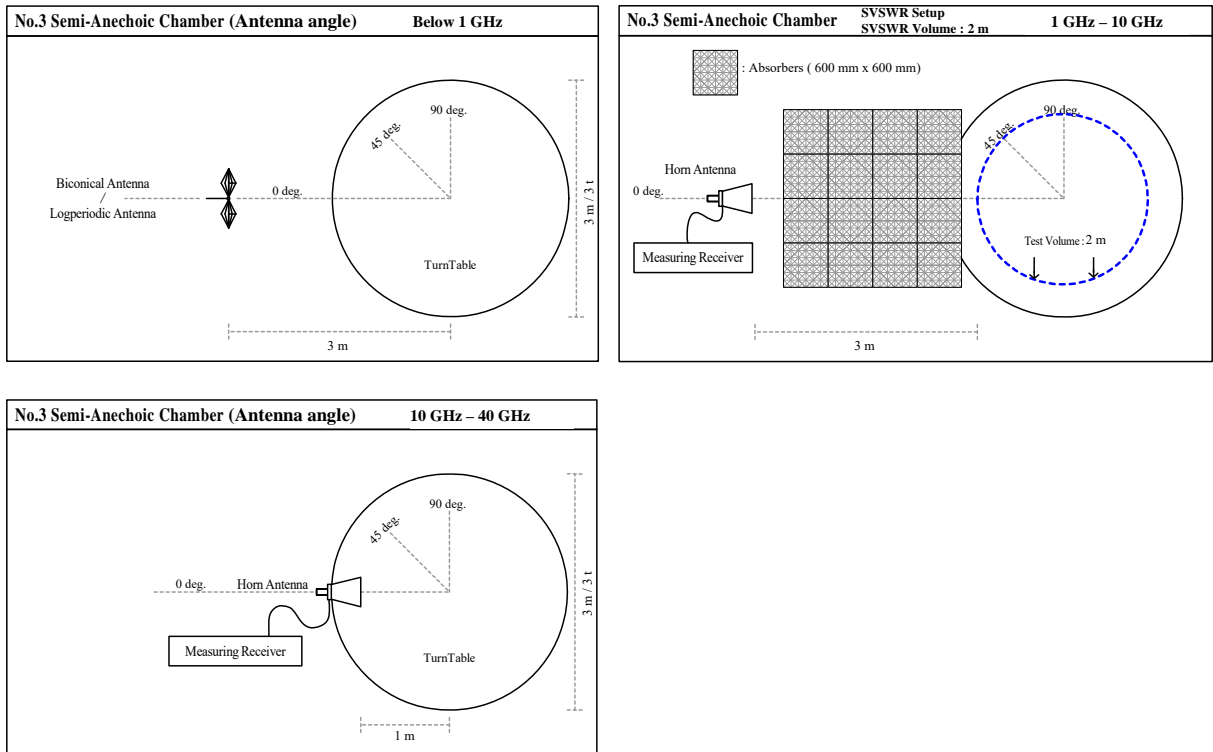
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Figure 1. Antenna angle



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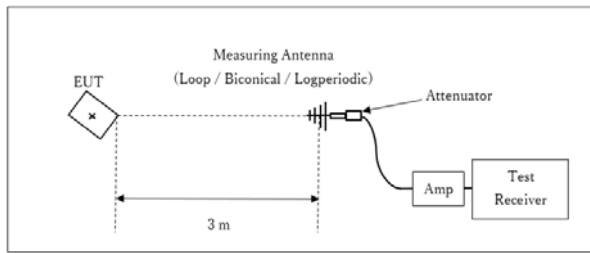
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Figure 2: Test Setup

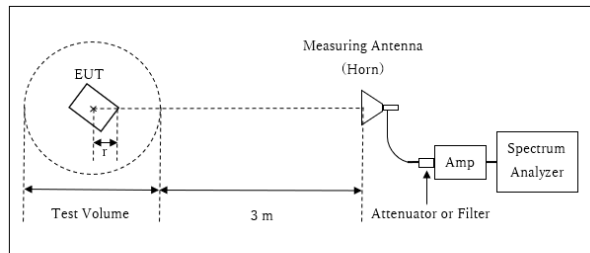
Below 1 GHz



× : Center of turn table

Test Distance: 3 m

1 GHz - 13 GHz (1 GHz - 10 GHz)

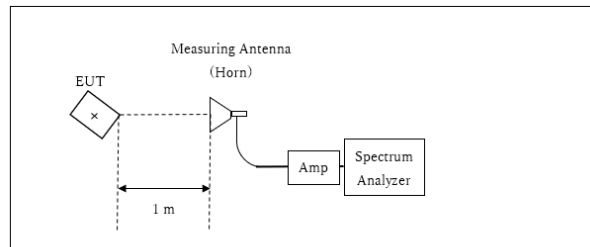


r : Radius of an outer periphery of EUT
× : Center of turn table

Distance Factor: $20 \times \log(3.00 \text{ m} / 3.00 \text{ m}) = 0.0 \text{ dB}$
* Test Distance: $(3 + \text{SVSWR Volume} / 2) - r = 3.00 \text{ m}$

SVSWR Volume : 2.00 m
(SVSWR Volume has been calibrated based on CISPR 16-1-4.)
r = 1.00 m

13 GHz - 40 GHz (10 GHz - 40 GHz)



× : Center of turn table

Distance Factor: $20 \times \log(1.0 \text{ m} / 3.0 \text{ m}) = -9.54 \text{ dB}$
*Test Distance: 1 m

5.5 Results

Summary of the test results : Pass

UL Japan, Inc.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone: +81 463 50 6400

Facsimile: +81 463 50 6401

SECTION 6: Antenna power conduction for receivers

6.1 Operating environment

Test room : Refer to data
Temperature : Refer to data
Humidity : Refer to data

6.2 Test configuration

The EUT was placed on a non-metallic table height of 0.8 m above the reference ground plane. Photographs of the set up are shown in Appendix 1.

6.3 Test conditions

Frequency range : 30 MHz - 40 GHz
EUT position : Table top

6.4 Test procedure

The antenna power conduction for receivers was made with the following detector function of the test receiver.

	<u>30 MHz -1000 MHz (Test receiver)</u>	<u>1 GHz – 40 GHz (Spectrum analyzer)</u>
Detector Type	: QP	Peak
IF Band width	: 120 kHz	RBW: 1 MHz/ VBW: 3 MHz

6.5 Results

Summary of the test results : Pass

UL Japan, Inc.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone: +81 463 50 6400

Facsimile: +81 463 50 6401

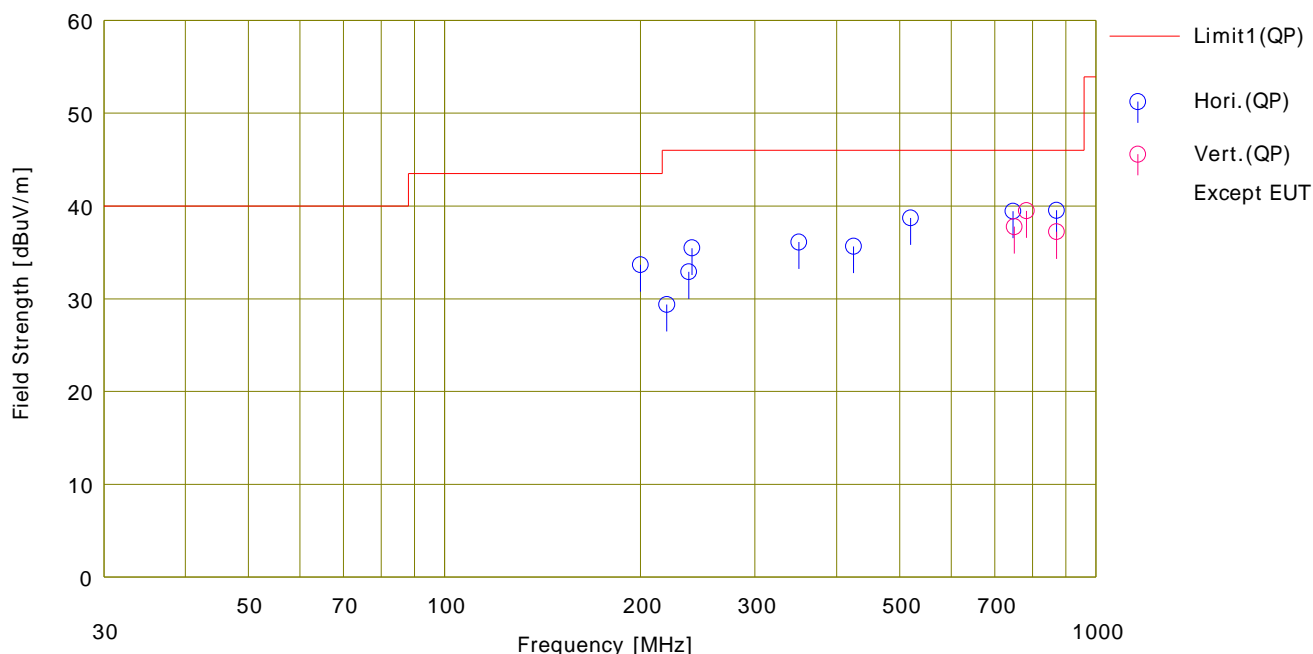
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/27

Company : Panasonic Corporation	Mode : FM Receiving (97.9 MHz)_analog
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 23 deg.C / 57 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori)	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Yasumasa Owaki



No.	Freq. [MHz]	Reading	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	S.Fac [dB]	Result	Limit	Margin	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<QP> [dBuV]					<QP> [dBuV/m]	<QP> [dBuV/m]	<QP> [dB]					
1	199.999	41.30	16.56	7.98	32.04	-0.15	33.65	43.50	9.8	Hori.	171	313	BC	
2	219.523	42.10	11.21	8.09	32.02	0.00	29.38	46.00	16.6	Hori.	155	336	LP	
3	237.331	45.20	11.51	8.19	32.00	0.00	32.90	46.00	13.1	Hori.	173	329	LP	
4	240.005	47.70	11.57	8.20	32.00	0.00	35.47	46.00	10.5	Hori.	138	332	LP	
5	350.011	44.20	15.03	8.79	31.93	0.00	36.09	46.00	9.9	Hori.	116	306	LP	
6	425.010	42.40	16.06	9.12	31.94	0.00	35.64	46.00	10.3	Hori.	100	287	LP	
7	519.752	43.50	17.67	9.49	31.95	0.00	38.71	46.00	7.2	Hori.	100	337	LP	
8	746.608	40.70	20.14	10.33	31.74	0.00	39.43	46.00	6.5	Hori.	100	36	LP	
9	870.610	38.00	22.00	10.73	31.21	0.00	39.52	46.00	6.4	Hori.	100	142	LP	
10	749.687	39.00	20.16	10.34	31.73	0.00	37.77	46.00	8.2	Vert.	100	168	LP	
11	782.904	40.20	20.53	10.44	31.69	0.00	39.48	46.00	6.5	Vert.	100	155	LP	
12	870.641	35.70	22.00	10.73	31.21	0.00	37.22	46.00	8.7	Vert.	100	12	LP	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/27

Company : Panasonic Corporation	Mode : FM Receiving (87.75 MHz)_analog
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 23 deg.C / 57 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori)	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Yasumasa Owaki

<< QP DATA >>

No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	S.Fac [dB]	Result	Limit	Margin	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<QP>	<QP>					<QP>							
		[dBuV/m]	[dBuV/m]					[dB]							
1	87.362	32.40	7.67	7.16	32.15	0.39	15.47	40.00	24.5	Hori.	392	262	BC		
2	88.138	32.20	7.83	7.17	32.14	0.38	15.44	43.50	28.0	Hori.	391	270	BC		
3	174.724	31.20	15.73	7.81	32.06	0.00	22.68	43.50	20.8	Hori.	183	86	BC		
4	176.276	32.10	15.87	7.82	32.06	-0.01	23.72	43.50	19.7	Hori.	200	84	BC		
5	262.086	36.00	12.32	8.33	31.98	0.00	24.67	46.00	21.3	Hori.	130	152	LP		
6	264.414	36.40	12.46	8.34	31.98	0.00	25.22	46.00	20.7	Hori.	140	155	LP		
7	349.448	34.20	15.02	8.79	31.93	0.00	26.08	46.00	19.9	Hori.	100	115	LP		
8	352.552	33.90	15.07	8.80	31.93	0.00	25.84	46.00	20.1	Hori.	100	117	LP		
9	87.362	28.60	7.67	7.16	32.15	0.39	11.67	40.00	28.3	Vert.	100	75	BC		
10	88.138	28.20	7.83	7.17	32.14	0.38	11.44	43.50	32.0	Vert.	100	72	BC		
11	174.724	27.50	15.73	7.81	32.06	0.00	18.98	43.50	24.5	Vert.	100	67	BC		
12	176.276	27.40	15.87	7.82	32.06	-0.01	19.02	43.50	24.4	Vert.	100	79	BC		
13	262.086	28.20	12.32	8.33	31.98	0.00	16.87	46.00	29.1	Vert.	100	137	LP		
14	264.414	29.40	12.46	8.34	31.98	0.00	18.22	46.00	27.7	Vert.	100	139	LP		
15	349.448	26.50	15.02	8.79	31.93	0.00	18.38	46.00	27.6	Vert.	100	359	LP		
16	352.552	26.80	15.07	8.80	31.93	0.00	18.74	46.00	27.2	Vert.	100	356	LP		

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/27

Company : Panasonic Corporation	Mode : FM Receiving (97.9 MHz)_analog
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 23 deg.C / 57 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori)	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Yasumasa Owaki

<< QP DATA >>

No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	S.Fac [dB]	Result	Limit	Margin	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<QP>													
		[dBuV/m]	[dBuV]					[dB]							
1	97.512	31.00	9.65	7.26	32.14	0.13	15.90	43.50	27.6	Hori.	206	107	BC		
2	98.288	30.60	9.81	7.26	32.14	0.11	15.64	43.50	27.8	Hori.	205	113	BC		
3	195.024	34.80	16.50	7.94	32.05	-0.14	27.05	43.50	16.4	Hori.	171	324	BC		
4	196.576	34.10	16.50	7.95	32.05	-0.14	26.36	43.50	17.1	Hori.	173	329	BC		
5	292.536	31.90	13.43	8.49	31.97	0.00	21.85	46.00	24.1	Hori.	107	89	LP		
6	294.864	32.00	13.44	8.50	31.96	0.00	21.98	46.00	24.0	Hori.	104	87	LP		
7	390.048	31.80	15.43	8.95	31.93	0.00	24.25	46.00	21.7	Hori.	100	96	LP		
8	393.152	32.70	15.53	8.96	31.93	0.00	25.26	46.00	20.7	Hori.	100	93	LP		
9	97.512	26.40	9.65	7.26	32.14	0.13	11.30	43.50	32.2	Vert.	100	292	BC		
10	98.288	25.60	9.81	7.26	32.14	0.11	10.64	43.50	32.8	Vert.	100	241	BC		
11	195.024	27.60	16.50	7.94	32.05	-0.14	19.85	43.50	23.6	Vert.	100	85	BC		
12	196.576	27.20	16.50	7.95	32.05	-0.14	19.46	43.50	24.0	Vert.	100	96	BC		
13	292.536	24.90	13.43	8.49	31.97	0.00	14.85	46.00	31.1	Vert.	166	323	LP		
14	294.864	27.90	13.44	8.50	31.96	0.00	17.88	46.00	28.1	Vert.	156	315	LP		
15	390.048	26.80	15.43	8.95	31.93	0.00	19.25	46.00	26.7	Vert.	127	58	LP		
16	393.152	27.90	15.53	8.96	31.93	0.00	20.46	46.00	25.5	Vert.	114	61	LP		

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/27

Company : Panasonic Corporation	Mode : FM Receiving (107.9 MHz)_analog
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 23 deg.C / 57 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori)	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Yasumasa Owaki

<< QP DATA >>

No.	Freq. [MHz]	Reading	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	S.Fac [dB]	Result	Limit	Margin	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<QP>					<QP>	<QP>						
		[dBuV]					[dBuV/m]	[dB]						
1	107.512	31.40	11.43	7.34	32.13	-0.09	17.95	43.50	25.5	Hori.	293	312	BC	
2	108.288	25.00	11.54	7.34	32.13	-0.10	11.65	43.50	31.8	Hori.	297	359	BC	
3	215.024	40.30	11.22	8.06	32.03	0.00	27.55	43.50	15.9	Hori.	149	349	LP	
4	216.576	39.80	11.21	8.07	32.02	0.00	27.06	46.00	18.9	Hori.	151	339	LP	
5	322.536	35.50	14.24	8.65	31.95	0.00	26.44	46.00	19.5	Hori.	100	58	LP	
6	324.864	36.30	14.32	8.66	31.95	0.00	27.33	46.00	18.6	Hori.	112	59	LP	
7	430.048	29.50	16.09	9.14	31.94	0.00	22.79	46.00	23.2	Hori.	100	149	LP	
8	433.152	27.70	16.13	9.15	31.94	0.00	21.04	46.00	24.9	Hori.	100	145	LP	
9	107.512	27.90	11.43	7.34	32.13	-0.09	14.45	43.50	29.0	Vert.	261	147	BC	
10	108.288	26.00	11.54	7.34	32.13	-0.10	12.65	43.50	30.8	Vert.	100	124	BC	
11	215.024	29.90	11.22	8.06	32.03	0.00	17.15	43.50	26.3	Vert.	100	81	LP	
12	216.576	31.70	11.21	8.07	32.02	0.00	18.96	46.00	27.0	Vert.	100	120	LP	
13	322.536	28.90	14.24	8.65	31.95	0.00	19.84	46.00	26.1	Vert.	185	268	LP	
14	324.864	29.90	14.32	8.66	31.95	0.00	20.93	46.00	25.0	Vert.	192	268	LP	
15	430.048	25.60	16.09	9.14	31.94	0.00	18.89	46.00	27.1	Vert.	139	182	LP	
16	433.152	23.70	16.13	9.15	31.94	0.00	17.04	46.00	28.9	Vert.	143	180	LP	

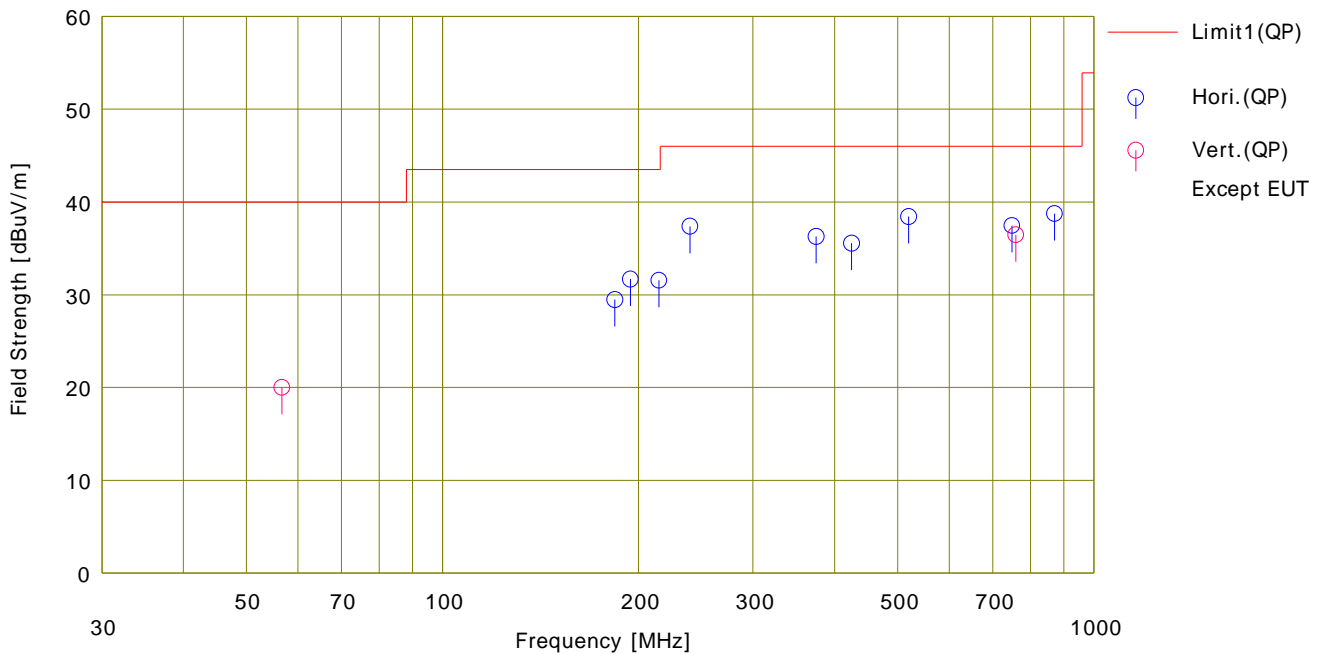
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/27

Company : Panasonic Corporation	Mode : FM Receiving (97.9 MHz)_digital
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 23 deg.C / 60 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori)	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Yohsuke Matsuzawa



No.	Freq. [MHz]	Reading	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	S.Fac [dB]	Result	Limit	Margin	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<QP> [dBuV]					<QP> [dBuV/m]	<QP> [dBuV/m]	<QP> [dB]					
1	184.007	37.60	16.14	7.87	32.06	-0.08	29.47	43.50	14.0	Hori.	257	208	BC	
2	194.389	39.50	16.45	7.93	32.05	-0.14	31.69	43.50	11.8	Hori.	161	316	BC	
3	214.974	44.30	11.22	8.06	32.03	0.00	31.55	43.50	11.9	Hori.	166	345	LP	
4	240.004	49.60	11.57	8.20	32.00	0.00	37.37	46.00	8.6	Hori.	159	331	LP	
5	375.025	44.20	15.11	8.89	31.93	0.00	36.27	46.00	9.7	Hori.	100	38	LP	
6	425.018	42.30	16.06	9.12	31.94	0.00	35.54	46.00	10.4	Hori.	100	285	LP	
7	520.073	43.20	17.67	9.49	31.95	0.00	38.41	46.00	7.5	Hori.	100	337	LP	
8	748.926	38.70	20.15	10.34	31.73	0.00	37.46	46.00	8.5	Hori.	100	23	LP	
9	870.819	37.20	22.00	10.73	31.20	0.00	38.73	46.00	7.2	Hori.	100	275	LP	
10	56.703	36.50	9.01	6.87	32.16	-0.21	20.01	40.00	19.9	Vert.	100	219	BC	
11	759.393	37.50	20.29	10.38	31.72	0.00	36.45	46.00	9.5	Vert.	100	163	LP	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/27

Company : Panasonic Corporation	Mode : FM Receiving (87.75 MHz)_digital
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 23 deg.C / 57 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori)	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Yasumasa Owaki

<< QP DATA >>

No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	S.Fac [dB]	Result	Limit	Margin	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<QP>	<QP>					<QP>							
		[dBuV/m]	[dBuV/m]					[dB]							
1	87.362	32.30	7.67	7.16	32.15	0.39	15.37	40.00	24.6	Hori.	396	269	BC		
2	88.138	31.90	7.83	7.17	32.14	0.38	15.14	43.50	28.3	Hori.	398	281	BC		
3	174.724	30.50	15.73	7.81	32.06	0.00	21.98	43.50	21.5	Hori.	182	350	BC		
4	176.276	28.70	15.87	7.82	32.06	-0.01	20.32	43.50	23.1	Hori.	189	350	BC		
5	262.086	32.00	12.32	8.33	31.98	0.00	20.67	46.00	25.3	Hori.	153	157	LP		
6	264.414	31.90	12.46	8.34	31.98	0.00	20.72	46.00	25.2	Hori.	144	151	LP		
7	349.448	34.10	15.02	8.79	31.93	0.00	25.98	46.00	20.0	Hori.	100	113	LP		
8	352.552	34.30	15.07	8.80	31.93	0.00	26.24	46.00	19.7	Hori.	100	110	LP		
9	87.362	29.20	7.67	7.16	32.15	0.39	12.27	40.00	27.7	Vert.	108	90	BC		
10	88.138	28.90	7.83	7.17	32.14	0.38	12.14	43.50	31.3	Vert.	109	78	BC		
11	174.724	26.60	15.73	7.81	32.06	0.00	18.08	43.50	25.4	Vert.	100	71	BC		
12	176.276	25.70	15.87	7.82	32.06	-0.01	17.32	43.50	26.1	Vert.	100	60	BC		
13	262.086	26.20	12.32	8.33	31.98	0.00	14.87	46.00	31.1	Vert.	208	26	LP		
14	264.414	26.40	12.46	8.34	31.98	0.00	15.22	46.00	30.7	Vert.	196	40	LP		
15	349.448	26.80	15.02	8.79	31.93	0.00	18.68	46.00	27.3	Vert.	174	300	LP		
16	352.552	27.10	15.07	8.80	31.93	0.00	19.04	46.00	26.9	Vert.	180	298	LP		

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/27

Company : Panasonic Corporation	Mode : FM Receiving (97.9 MHz)_digital
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 23 deg.C / 57 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori)	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Yasumasa Owaki

<< QP DATA >>

No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	S.Fac [dB]	Result	Limit	Margin	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<QP>													
		[dBuV/m]	[dBuV]					[dB]							
1	97.512	31.10	9.65	7.26	32.14	0.13	16.00	43.50	27.5	Hori.	203	102	BC		
2	98.288	30.50	9.81	7.26	32.14	0.11	15.54	43.50	27.9	Hori.	198	114	BC		
3	195.024	34.60	16.50	7.94	32.05	-0.14	26.85	43.50	16.6	Hori.	180	328	BC		
4	196.576	33.90	16.50	7.95	32.05	-0.14	26.16	43.50	17.3	Hori.	176	321	BC		
5	292.536	31.50	13.43	8.49	31.97	0.00	21.45	46.00	24.5	Hori.	112	91	LP		
6	294.864	32.40	13.44	8.50	31.96	0.00	22.38	46.00	23.6	Hori.	117	92	LP		
7	390.048	31.80	15.43	8.95	31.93	0.00	24.25	46.00	21.7	Hori.	100	323	LP		
8	393.152	32.90	15.53	8.96	31.93	0.00	25.46	46.00	20.5	Hori.	100	321	LP		
9	97.512	25.70	9.65	7.26	32.14	0.13	10.60	43.50	32.9	Vert.	100	31	BC		
10	98.288	25.50	9.81	7.26	32.14	0.11	10.54	43.50	32.9	Vert.	123	42	BC		
11	195.024	26.30	16.50	7.94	32.05	-0.14	18.55	43.50	24.9	Vert.	100	355	BC		
12	196.576	27.30	16.50	7.95	32.05	-0.14	19.56	43.50	23.9	Vert.	100	355	BC		
13	292.536	25.40	13.43	8.49	31.97	0.00	15.35	46.00	30.6	Vert.	162	325	LP		
14	294.864	28.80	13.44	8.50	31.96	0.00	18.78	46.00	27.2	Vert.	155	319	LP		
15	390.048	26.90	15.43	8.95	31.93	0.00	19.35	46.00	26.6	Vert.	330	52	LP		
16	393.152	27.50	15.53	8.96	31.93	0.00	20.06	46.00	25.9	Vert.	104	64	LP		

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/27

Company : Panasonic Corporation	Mode : FM Receiving (107.9 MHz)_digital
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 23 deg.C / 57 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori)	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Yasumasa Owaki

<< QP DATA >>

No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	S.Fac [dB]	Result	Limit	Margin	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<QP>													
		[dBuV/m]	[dBuV/m]					[dB]							
1	107.512	31.70	11.43	7.34	32.13	-0.09	18.25	43.50	25.2	Hori.	288	308	BC		
2	108.288	25.10	11.54	7.34	32.13	-0.10	11.75	43.50	31.7	Hori.	288	351	BC		
3	215.024	40.20	11.22	8.06	32.03	0.00	27.45	43.50	16.0	Hori.	152	339	LP		
4	216.576	39.80	11.21	8.07	32.02	0.00	27.06	46.00	18.9	Hori.	162	339	LP		
5	322.536	34.40	14.24	8.65	31.95	0.00	25.34	46.00	20.6	Hori.	100	103	LP		
6	324.864	35.80	14.32	8.66	31.95	0.00	26.83	46.00	19.1	Hori.	100	61	LP		
7	430.048	29.30	16.09	9.14	31.94	0.00	22.59	46.00	23.4	Hori.	100	165	LP		
8	433.152	27.90	16.13	9.15	31.94	0.00	21.24	46.00	24.7	Hori.	100	168	LP		
9	107.512	29.80	11.43	7.34	32.13	-0.09	16.35	43.50	27.1	Vert.	100	306	BC		
10	108.288	25.30	11.54	7.34	32.13	-0.10	11.95	43.50	31.5	Vert.	100	126	BC		
11	215.024	28.10	11.22	8.06	32.03	0.00	15.35	43.50	28.1	Vert.	100	79	LP		
12	216.576	28.50	11.21	8.07	32.02	0.00	15.76	46.00	30.2	Vert.	100	80	LP		
13	322.536	28.90	14.24	8.65	31.95	0.00	19.84	46.00	26.1	Vert.	194	269	LP		
14	324.864	29.90	14.32	8.66	31.95	0.00	20.93	46.00	25.0	Vert.	191	267	LP		
15	430.048	25.70	16.09	9.14	31.94	0.00	18.99	46.00	27.0	Vert.	146	186	LP		
16	433.152	24.20	16.13	9.15	31.94	0.00	17.54	46.00	28.4	Vert.	125	139	LP		

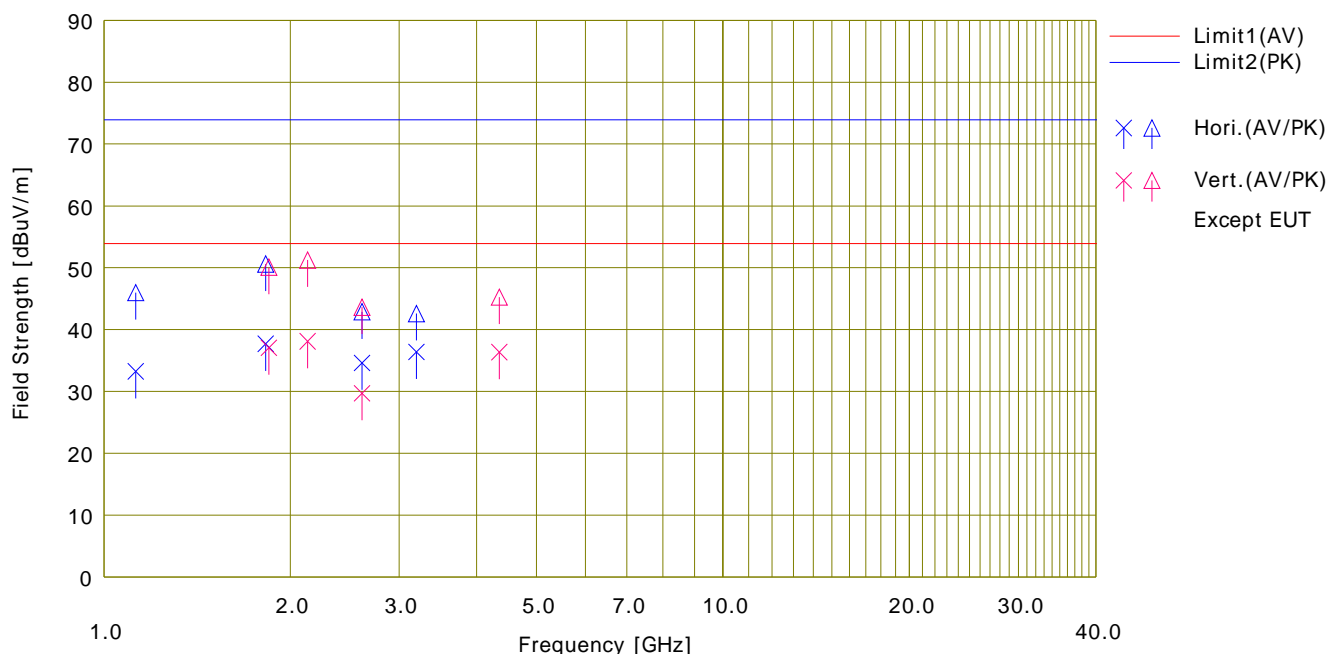
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/27

Company : Panasonic Corporation	Mode : FM Receiving (97.9 MHz)_analog
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 23 deg.C / 57 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori), Test Distance: 300 cm	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Yohsuke Matsuzawa



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<AV>	<PK>				<AV>	<PK>	<AV>	<PK>	<AV>	<PK>					
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]					
1	1125.779	46.32	59.05	25.18	2.90	41.15	33.25	45.98	53.90	73.90	20.6	27.9	Hori.	203	141	31SH3	
2	1825.250	49.55	62.45	25.84	3.71	41.39	37.71	50.61	53.90	73.90	16.1	23.2	Hori.	100	50	31SH3	
3	2612.152	43.62	51.88	28.28	4.45	41.73	34.62	42.88	53.90	73.90	19.2	31.0	Hori.	309	179	31SH3	
4	3198.712	44.18	50.38	29.23	4.95	41.97	36.39	42.59	53.90	73.90	17.5	31.3	Hori.	100	144	31SH3	
5	1848.070	48.86	61.87	25.90	3.73	41.41	37.08	50.09	53.90	73.90	16.8	23.8	Vert.	100	198	31SH3	
6	2132.330	47.68	60.81	27.99	4.02	41.57	38.12	51.25	53.90	73.90	15.7	22.6	Vert.	138	53	31SH3	
7	2611.585	38.69	52.63	28.28	4.45	41.73	29.69	43.63	53.90	73.90	24.2	30.2	Vert.	100	210	31SH3	
8	4353.592	42.62	51.50	30.64	5.81	42.72	36.35	45.23	53.90	73.90	17.5	28.6	Vert.	100	156	31SH3	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/27

Company : Panasonic Corporation	Mode : FM Receiving (87.75 MHz)_analog
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 23 deg.C / 57 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori), Test Distance: 300 cm	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Yohsuke Matsuzawa

<< AV/PK DATA >>

No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<AV>	<PK>				<AV>	<PK>	<AV>	<PK>	<AV>	<PK>					
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]					
1	1850.898	47.71	60.74	25.91	3.74	41.41	35.95	48.98	53.90	73.90	17.9	24.9	Hori.	121	48	31SH3	
2	2115.312	42.87	59.61	27.81	4.00	41.57	33.11	49.85	53.90	73.90	20.7	24.0	Hori.	100	216	31SH3	
3	3172.968	35.48	46.58	29.29	4.93	41.95	27.75	38.85	53.90	73.90	26.1	35.0	Hori.	100	1	31SH3	
4	3437.382	35.72	47.93	28.84	5.15	42.14	27.57	39.78	53.90	73.90	26.3	34.1	Hori.	100	358	31SH3	
5	3525.520	54.47	57.55	29.26	5.21	42.20	46.74	49.82	53.90	73.90	7.1	24.0	Hori.	175	206	31SH3	
6	4406.900	37.38	50.45	30.72	5.85	42.78	31.17	44.24	53.90	73.90	22.7	29.6	Hori.	103	119	31SH3	
7	5200.142	37.36	49.33	31.94	6.43	43.17	32.56	44.53	53.90	73.90	21.3	29.3	Hori.	100	357	31SH3	
8	1850.898	47.76	60.37	25.91	3.74	41.41	36.00	48.61	53.90	73.90	17.9	25.2	Vert.	100	67	31SH3	
9	2115.312	45.81	58.86	27.81	4.00	41.57	36.05	49.10	53.90	73.90	17.8	24.8	Vert.	151	52	31SH3	
10	3172.968	35.73	47.15	29.29	4.93	41.95	28.00	39.42	53.90	73.90	25.9	34.4	Vert.	100	356	31SH3	
11	3437.382	36.16	48.38	28.84	5.15	42.14	28.01	40.23	53.90	73.90	25.8	33.6	Vert.	103	355	31SH3	
12	3525.520	55.78	58.18	29.26	5.21	42.20	48.05	50.45	53.90	73.90	5.8	23.4	Vert.	105	221	31SH3	
13	4406.900	36.83	49.02	30.72	5.85	42.78	30.62	42.81	53.90	73.90	23.2	31.0	Vert.	100	171	31SH3	
14	5200.142	37.27	49.58	31.94	6.43	43.17	32.47	44.78	53.90	73.90	21.4	29.1	Vert.	100	3	31SH3	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable)[dB]+D.Fac[dB]-Gain(AMP)[dB]
Ant.Type=BC:Biconical Antenna LP:Logperiodic Antenna **SH*: Horn Antenna

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/27

Company : Panasonic Corporation	Mode : FM Receiving (97.9 MHz)_analog
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 23 deg.C / 57 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori), Test Distance: 300 cm	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Yohsuke Matsuzawa

<< AV/PK DATA >>

No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<AV>	<PK>				<AV>	<PK>	<AV>	<PK>	<AV>	<PK>					
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]					
1	1852.728	48.83	62.48	25.92	3.74	41.41	37.08	50.73	53.90	73.90	16.8	23.1	Hori.	100	1	31SH3	
2	1950.240	40.18	53.17	26.35	3.84	41.49	28.88	41.87	53.90	73.90	25.0	32.0	Hori.	100	50	31SH3	
3	2340.288	39.52	53.12	28.50	4.21	41.65	30.58	44.18	53.90	73.90	23.3	29.7	Hori.	203	170	31SH3	
4	3120.384	35.12	49.38	29.31	4.89	41.92	27.40	41.66	53.90	73.90	26.5	32.2	Hori.	100	230	31SH3	
5	3510.432	54.45	57.65	29.18	5.21	42.19	46.65	49.85	53.90	73.90	7.2	24.0	Hori.	170	207	31SH3	
6	3607.944	34.84	48.03	29.59	5.28	42.22	27.49	40.68	53.90	73.90	26.4	33.2	Hori.	100	245	31SH3	
7	4802.968	36.55	49.63	31.60	6.15	42.92	31.38	44.46	53.90	73.90	22.5	29.4	Hori.	100	118	31SH3	
8	1852.728	47.66	61.84	25.92	3.74	41.41	35.91	50.09	53.90	73.90	17.9	23.8	Vert.	235	174	31SH3	
9	1950.240	44.54	57.01	26.35	3.84	41.49	33.24	45.71	53.90	73.90	20.6	28.1	Vert.	100	183	31SH3	
10	2340.288	39.45	51.50	28.50	4.21	41.65	30.51	42.56	53.90	73.90	23.3	31.3	Vert.	100	130	31SH3	
11	3120.384	40.63	52.27	29.31	4.89	41.92	32.91	44.55	53.90	73.90	20.9	29.3	Vert.	100	145	31SH3	
12	3510.432	55.06	57.66	29.18	5.21	42.19	47.26	49.86	53.90	73.90	6.6	24.0	Vert.	100	224	31SH3	
13	3607.944	34.86	47.50	29.59	5.28	42.22	27.51	40.15	53.90	73.90	26.3	33.7	Vert.	100	359	31SH3	
14	4802.968	37.68	49.81	31.60	6.15	42.92	32.51	44.64	53.90	73.90	21.3	29.2	Vert.	208	160	31SH3	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable)[dB]+D.Fac[dB]-Gain(AMP)[dB]
Ant.Type=BC:Biconical Antenna LP:Logperiodic Antenna **SH*: Horn Antenna

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/27

Company : Panasonic Corporation	Mode : FM Receiving (107.9 MHz)_analog
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 23 deg.C / 57 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori), Test Distance: 300 cm	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Yohsuke Matsuzawa

<< AV/PK DATA >>

No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<AV>	<PK>				<AV>	<PK>	<AV>	<PK>	<AV>	<PK>					
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]					
1	1840.896	51.68	65.94	25.88	3.72	41.40	39.88	54.14	53.90	73.90	14.0	19.7	Hori.	126	51	31SH3	
2	2165.760	41.42	53.79	28.33	4.05	41.59	32.21	44.58	53.90	73.90	21.6	29.3	Hori.	240	145	31SH3	
3	2923.776	38.81	51.61	28.96	4.72	41.81	30.68	43.48	53.90	73.90	23.2	30.4	Hori.	100	215	31SH3	
4	3465.216	55.31	57.89	28.97	5.18	42.16	47.30	49.88	53.90	73.90	6.6	24.0	Hori.	187	206	31SH3	
5	3898.368	39.37	50.96	30.12	5.47	42.30	32.66	44.25	53.90	73.90	21.2	29.6	Hori.	100	318	31SH3	
6	4223.232	38.30	50.55	30.37	5.72	42.58	31.81	44.06	53.90	73.90	22.0	29.8	Hori.	100	154	31SH3	
7	5414.400	39.78	52.45	32.12	6.58	43.40	35.08	47.75	53.90	73.90	18.8	26.1	Hori.	186	2	31SH3	
8	5955.840	38.02	51.38	33.26	6.94	43.39	34.83	48.19	53.90	73.90	19.0	25.7	Hori.	100	241	31SH3	
9	1840.896	50.36	64.76	25.88	3.72	41.40	38.56	52.96	53.90	73.90	15.3	20.9	Vert.	100	70	31SH3	
10	2165.760	44.12	56.46	28.33	4.05	41.59	34.91	47.25	53.90	73.90	18.9	26.6	Vert.	243	147	31SH3	
11	2923.776	40.89	53.07	28.96	4.72	41.81	32.76	44.94	53.90	73.90	21.1	28.9	Vert.	222	70	31SH3	
12	3465.216	55.09	58.20	28.97	5.18	42.16	47.08	50.19	53.90	73.90	6.8	23.7	Vert.	168	235	31SH3	
13	3898.368	39.63	52.64	30.12	5.47	42.30	32.92	45.93	53.90	73.90	20.9	27.9	Vert.	112	296	31SH3	
14	4223.232	38.47	52.02	30.37	5.72	42.58	31.98	45.53	53.90	73.90	21.9	28.3	Vert.	133	32	31SH3	
15	5414.400	38.90	51.16	32.12	6.58	43.40	34.20	46.46	53.90	73.90	19.7	27.4	Vert.	100	203	31SH3	
16	5955.840	38.23	51.35	33.26	6.94	43.39	35.04	48.16	53.90	73.90	18.8	25.7	Vert.	100	198	31SH3	

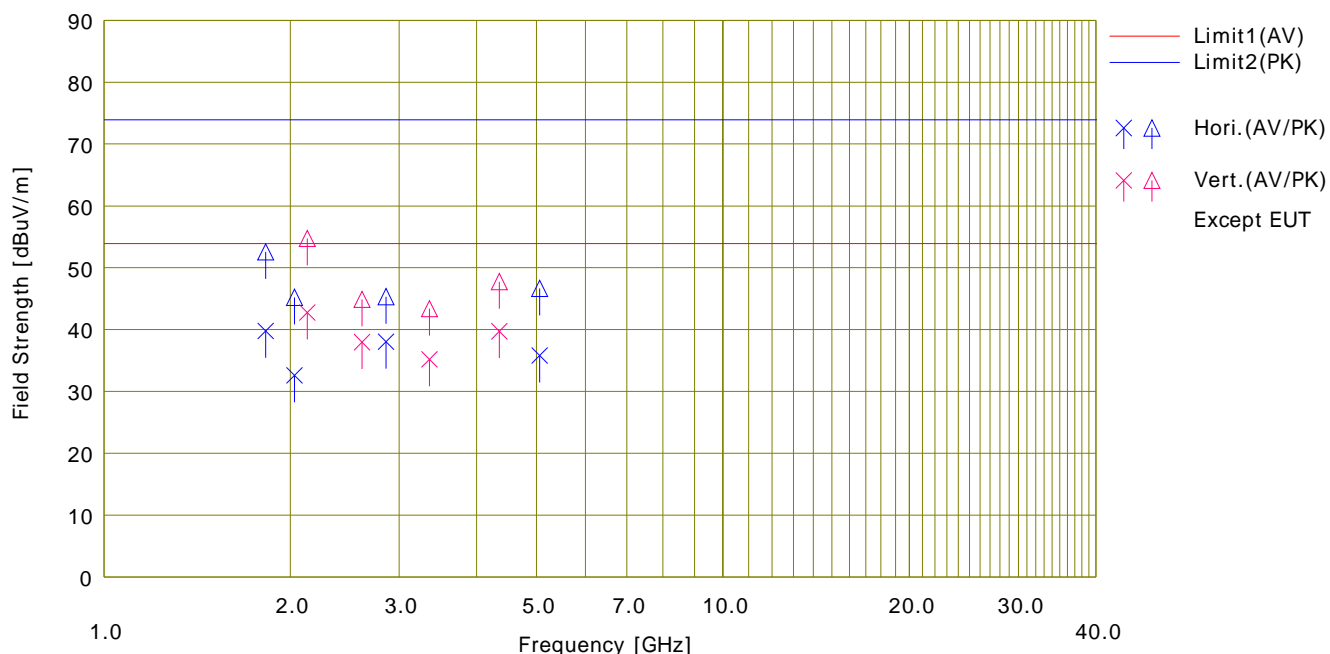
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/28

Company : Panasonic Corporation	Mode : FM Receiving (97.9 MHz)_digital
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 23 deg.C / 57 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori), Test Distance: 300 cm	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Yohsuke Matsuzawa



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<AV>	<PK>				<AV>	<PK>	<AV>	<PK>	<AV>	<PK>					
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]					
1	1824.473	51.66	64.43	25.83	3.71	41.39	39.81	52.58	53.90	73.90	14.0	21.3	Hori.	145	51	31SH3	
2	2032.551	43.32	55.92	26.92	3.91	41.54	32.61	45.21	53.90	73.90	21.2	28.6	Hori.	119	13	31SH3	
3	2857.711	46.30	53.59	28.85	4.67	41.79	38.03	45.32	53.90	73.90	15.8	28.5	Hori.	186	347	31SH3	
4	5057.730	40.37	51.22	32.13	6.33	43.01	35.82	46.67	53.90	73.90	18.0	27.2	Hori.	112	134	31SH3	
5	2131.336	52.32	64.31	27.98	4.02	41.57	42.75	54.74	53.90	73.90	11.1	19.1	Vert.	254	7	31SH3	
6	2611.895	46.98	53.90	28.28	4.45	41.73	37.98	44.90	53.90	73.90	15.9	29.0	Vert.	100	143	31SH3	
7	3357.294	43.50	51.67	28.71	5.09	42.09	35.21	43.38	53.90	73.90	18.6	30.5	Vert.	100	165	31SH3	
8	4353.779	46.01	54.04	30.64	5.81	42.72	39.74	47.77	53.90	73.90	14.1	26.1	Vert.	100	222	31SH3	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/28

Company : Panasonic Corporation	Mode : FM Receiving (87.75 MHz)_digital
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 24 deg.C / 62 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori), Test Distance: 300 cm	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Shiro Kobayashi

<< AV/PK DATA >>

No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<AV>	<PK>				<AV>	<PK>	<AV>	<PK>	<AV>	<PK>					
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]					
1	2115.312	48.60	60.87	27.81	4.00	41.57	38.84	51.11	53.90	73.90	15.0	22.7	Hori.	105	25	31SH3	
2	3172.968	36.66	48.20	29.29	4.93	41.95	28.93	40.47	53.90	73.90	24.9	33.4	Hori.	196	145	31SH3	
3	3437.382	36.10	48.03	28.84	5.15	42.14	27.95	39.88	53.90	73.90	25.9	34.0	Hori.	100	128	31SH3	
4	3525.520	55.05	57.81	29.26	5.21	42.20	47.32	50.08	53.90	73.90	6.5	23.8	Hori.	127	206	31SH3	
5	4406.900	39.28	51.02	30.72	5.85	42.78	33.07	44.81	53.90	73.90	20.8	29.0	Hori.	195	64	31SH3	
6	5200.142	38.09	49.66	31.94	6.43	43.17	33.29	44.86	53.90	73.90	20.6	29.0	Hori.	100	177	31SH3	
7	2115.312	48.25	59.72	27.81	4.00	41.57	38.49	49.96	53.90	73.90	15.4	23.9	Vert.	100	240	31SH3	
8	3172.968	36.16	47.33	29.29	4.93	41.95	28.43	39.60	53.90	73.90	25.4	34.3	Vert.	183	162	31SH3	
9	3437.382	36.06	48.31	28.84	5.15	42.14	27.91	40.16	53.90	73.90	25.9	33.7	Vert.	100	130	31SH3	
10	3525.520	55.72	58.29	29.26	5.21	42.20	47.99	50.56	53.90	73.90	5.9	23.3	Vert.	100	221	31SH3	
11	4406.900	39.12	51.12	30.72	5.85	42.78	32.91	44.91	53.90	73.90	20.9	28.9	Vert.	110	7	31SH3	
12	5200.142	39.85	51.00	31.94	6.43	43.17	35.05	46.20	53.90	73.90	18.8	27.7	Vert.	100	190	31SH3	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/28

Company : Panasonic Corporation	Mode : FM Receiving (97.9 MHz)_digital
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 24 deg.C / 62 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori), Test Distance: 300 cm	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Shiro Kobayashi

<< AV/PK DATA >>

No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<AV>	<PK>				<AV>	<PK>	<AV>	<PK>	<AV>	<PK>					
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]					
1	1852.528	50.65	62.30	25.92	3.74	41.41	38.90	50.55	53.90	73.90	15.0	23.3	Hori.	100	144	31SH3	
2	1950.240	51.63	62.89	26.35	3.84	41.49	40.33	51.59	53.90	73.90	13.5	22.3	Hori.	133	144	31SH3	
3	2340.288	42.03	53.46	28.50	4.21	41.65	33.09	44.52	53.90	73.90	20.8	29.3	Hori.	111	44	31SH3	
4	3120.384	36.85	48.49	29.31	4.89	41.92	29.13	40.77	53.90	73.90	24.7	33.1	Hori.	179	147	31SH3	
5	3510.432	55.00	57.85	29.18	5.21	42.19	47.20	50.05	53.90	73.90	6.7	23.8	Hori.	161	206	31SH3	
6	3607.944	36.09	47.95	29.59	5.28	42.22	28.74	40.60	53.90	73.90	25.1	33.3	Hori.	100	70	31SH3	
7	4802.968	39.07	51.22	31.60	6.15	42.92	33.90	46.05	53.90	73.90	20.0	27.8	Hori.	280	163	31SH3	
8	1852.528	49.70	60.89	25.92	3.74	41.41	37.95	49.14	53.90	73.90	15.9	24.7	Vert.	100	75	31SH3	
9	1950.240	51.93	64.00	26.35	3.84	41.49	40.63	52.70	53.90	73.90	13.2	21.2	Vert.	118	136	31SH3	
10	2340.288	42.92	55.22	28.50	4.21	41.65	33.98	46.28	53.90	73.90	19.9	27.6	Vert.	100	134	31SH3	
11	3120.384	37.15	48.80	29.31	4.89	41.92	29.43	41.08	53.90	73.90	24.4	32.8	Vert.	100	324	31SH3	
12	3510.432	55.65	58.10	29.18	5.21	42.19	47.85	50.30	53.90	73.90	6.0	23.6	Vert.	100	222	31SH3	
13	3607.944	36.10	47.46	29.59	5.28	42.22	28.75	40.11	53.90	73.90	25.1	33.7	Vert.	100	121	31SH3	
14	4802.968	38.65	50.02	31.60	6.15	42.92	33.48	44.85	53.90	73.90	20.4	29.0	Vert.	119	181	31SH3	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2020/08/28

Company : Panasonic Corporation	Mode : FM Receiving (107.9 MHz)_digital
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 24 deg.C / 62 %RH
Remarks : Local, EUT: 0 deg(Vert), 0 deg(Hori) Ant: 0 deg(Vert), 0 deg(Hori), Test Distance: 300 cm	

Limit : FCC_Part 15 Subpart B(15.109)_Class B

Engineer : Shiro Kobayashi

<< AV/PK DATA >>

No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<AV>	<PK>				<AV>	<PK>	<AV>	<PK>	<AV>	<PK>					
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]					
1	1840.896	49.54	61.18	25.88	3.72	41.40	37.74	49.38	53.90	73.90	16.1	24.5	Hori.	100	154	31SH3	
2	2165.760	44.56	56.84	28.33	4.05	41.59	35.35	47.63	53.90	73.90	18.5	26.2	Hori.	100	353	31SH3	
3	2923.776	42.40	53.77	28.96	4.72	41.81	34.27	45.64	53.90	73.90	19.6	28.2	Hori.	306	177	31SH3	
4	3465.216	55.43	58.18	28.97	5.18	42.16	47.42	50.17	53.90	73.90	6.4	23.7	Hori.	179	205	31SH3	
5	3898.368	38.15	49.35	30.12	5.47	42.30	31.44	42.64	53.90	73.90	22.4	31.2	Hori.	100	324	31SH3	
6	4223.232	39.17	50.29	30.37	5.72	42.58	32.68	43.80	53.90	73.90	21.2	30.1	Hori.	105	121	31SH3	
7	5414.400	37.84	49.72	32.12	6.58	43.40	33.14	45.02	53.90	73.90	20.7	28.8	Hori.	100	118	31SH3	
8	5955.840	37.43	49.21	33.26	6.94	43.39	34.24	46.02	53.90	73.90	19.6	27.8	Hori.	100	178	31SH3	
9	1840.896	53.67	64.56	25.88	3.72	41.40	41.87	52.76	53.90	73.90	12.0	21.1	Vert.	241	144	31SH3	
10	2165.760	48.01	59.09	28.33	4.05	41.59	38.80	49.88	53.90	73.90	15.1	24.0	Vert.	273	57	31SH3	
11	2923.776	40.30	51.19	28.96	4.72	41.81	32.17	43.06	53.90	73.90	21.7	30.8	Vert.	100	72	31SH3	
12	3465.216	55.94	58.45	28.97	5.18	42.16	47.93	50.44	53.90	73.90	5.9	23.4	Vert.	100	224	31SH3	
13	3898.368	38.81	50.79	30.12	5.47	42.30	32.10	44.08	53.90	73.90	21.8	29.8	Vert.	102	65	31SH3	
14	4223.232	39.64	51.66	30.37	5.72	42.58	33.15	45.17	53.90	73.90	20.7	28.7	Vert.	295	179	31SH3	
15	5414.400	38.04	49.73	32.12	6.58	43.40	33.34	45.03	53.90	73.90	20.5	28.8	Vert.	153	196	31SH3	
16	5955.840	37.51	49.24	33.26	6.94	43.39	34.32	46.05	53.90	73.90	19.5	27.8	Vert.	100	197	31SH3	

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 04 / Sep / 2020

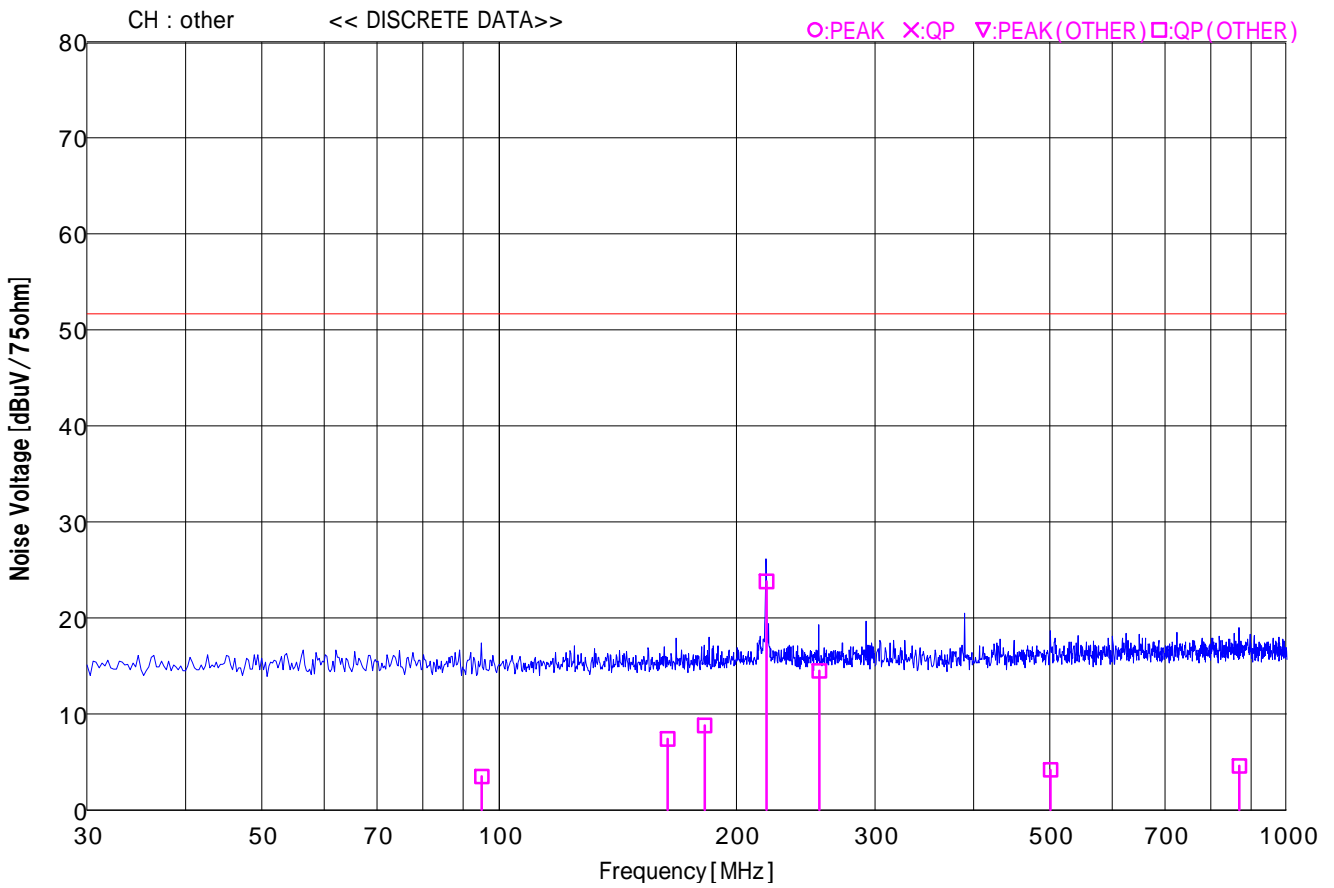
Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (97.9 MHz)_analog
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 25 deg.C / 56 %RH

Remarks : Main port, Other

Engineer : Shuma Terasawa

LIMIT : — FCC Part15 SubpartB_Antenna terminal



Calculation:Result [dBuV]=Reading [dBuV]+Fac(Cable+Matching Pad - Amp) [dB]+1.76(50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 04/Sep/2020

Company : Panasonic Corporation	Mode : FM Receiving (97.9 MHz)_analog
Kind of EUT : Car Navigation	Order No. : 13462774S
Model No. : AT2105	Power : DC 13.2 V
Serial No. : No.002	Temp./Humi. : 25 deg.C / 56 %RH

Remarks : Main port, Other

Engineer : Shuma Terasawa

LIMIT : FCC Part15 SubpartB_Antenna terminal

CH	Freq	Reading		Factor	Result		Limit	Margin
		PEAK	QP		PEAK	QP		
	[MHz]	[dBuV]		[dB]	[dBuV/75]		[dBuV/75]	[dB]
other	*95.070	----	16.6	-13.1	----	3.5	51.7	48.2
	*163.650	----	20.2	-12.8	----	7.4	51.7	44.3
	*182.280	----	21.6	-12.8	----	8.8	51.7	42.9
	*218.461	----	36.6	-12.8	----	23.8	51.7	27.9
	*254.911	----	27.3	-12.8	----	14.5	51.7	37.2
	*500.904	----	16.4	-12.2	----	4.2	51.7	47.5
	*869.810	----	16.4	-11.8	----	4.6	51.7	47.1

Calculation:Result[dBuV]=Reading[dBuV]+Fac(Cable+Matching Pad - Amp) [dB]+1.76(50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 04/Sep/2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (87.75 MHz)_analog
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 25 deg.C / 56 %RH

Remarks : Main port, Local

Engineer : Shuma Terasawa

LIMIT (Fundamental) : FCC Part15 SubpartB_Antenna terminal
LIMIT (Harmonics) : FCC Part15 SubpartB_Antenna terminal

CH	Freq [MHz]	Reading		Factor [dB]	Result		Limit [dBuV/75]	Margin [dB]
		PEAK	QP		PEAK	QP		
		[dBuV]			[dBuV/75]			
87.75 MHz	87.362	----	16.4	-13.1	----	3.3	51.7	48.4
	174.724	----	16.5	-12.8	----	3.7	51.7	48.0
	262.086	----	16.7	-12.8	----	3.9	51.7	47.8
	349.448	----	16.5	-12.6	----	3.9	51.7	47.8
	436.810	----	17.7	-12.3	----	5.4	51.7	46.3
	524.172	----	16.2	-12.2	----	4.0	51.7	47.7
	611.534	----	16.3	-11.9	----	4.4	51.7	47.3
	698.896	----	16.3	-11.8	----	4.5	51.7	47.2
	786.258	----	16.4	-11.8	----	4.6	51.7	47.1
	873.620	----	16.4	-11.8	----	4.6	51.7	47.1
	960.982	----	16.6	-11.9	----	4.7	51.7	47.0
	88.138	----	18.3	-13.1	----	5.2	51.7	46.5
	176.276	----	17.6	-12.8	----	4.8	51.7	46.9
	264.414	----	25.5	-12.7	----	12.8	51.7	38.9
	352.552	----	34.1	-12.5	----	21.6	51.7	30.1
	440.690	----	19.1	-12.3	----	6.8	51.7	44.9
	528.828	----	16.6	-12.2	----	4.4	51.7	47.3
	616.966	----	16.4	-11.9	----	4.5	51.7	47.2
	705.104	----	21.5	-11.8	----	9.7	51.7	42.0
	793.242	----	16.4	-11.8	----	4.6	51.7	47.1
881.380	----	16.6	-11.8	----	4.8	51.7	46.9	
969.518	----	16.7	-11.9	----	4.8	51.7	46.9	

Calculation:Result[dBuV]=Reading[dBuV]+Fac(Cable+Matching Pad-Amp)[dB]+1.76(50 ohm to 75 ohm)[dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 04 / Sep / 2020

Company : Panasonic Corporation
 Kind of EUT : Car Navigation
 Model No. : AT2105
 Serial No. : No.002
 Mode : FM Receiving (97.9 MHz)_analog
 Order No. : 13462774S
 Power : DC 13.2 V
 Temp./Humi. : 25 deg.C / 56 %RH
 Remarks : Main port, Local

Engineer : Shuma Terasawa

LIMIT (Fundamental) : FCC Part15 SubpartB_Antenna terminal
 LIMIT (Harmonics) : FCC Part15 SubpartB_Antenna terminal

CH	Freq [MHz]	Reading		Factor [dB]	Result		Limit [dBuV / 75]	Margin [dB]
		PEAK	QP		PEAK	QP		
		[dBuV]			[dBuV / 75]			
97.9 MHz	97.512	----	19.0	-13.1	----	5.9	51.7	45.8
	195.024	----	18.3	-12.8	----	5.5	51.7	46.2
	292.536	----	28.4	-12.6	----	15.8	51.7	35.9
	390.048	----	30.6	-12.5	----	18.1	51.7	33.6
	487.560	----	17.1	-12.3	----	4.8	51.7	46.9
	585.072	----	16.5	-12.0	----	4.5	51.7	47.2
	682.584	----	16.5	-11.8	----	4.7	51.7	47.0
	780.096	----	19.5	-11.8	----	7.7	51.7	44.0
	877.608	----	16.4	-11.8	----	4.6	51.7	47.1
	975.120	----	16.6	-11.9	----	4.7	51.7	47.0
	98.288	----	16.5	-13.1	----	3.4	51.7	48.3
	196.576	----	17.2	-12.8	----	4.4	51.7	47.3
	294.864	----	18.9	-12.6	----	6.3	51.7	45.4
	393.152	----	16.4	-12.5	----	3.9	51.7	47.8
	491.440	----	16.4	-12.2	----	4.2	51.7	47.5
	589.728	----	16.2	-12.0	----	4.2	51.7	47.5
	688.016	----	16.3	-11.8	----	4.5	51.7	47.2
	786.304	----	16.4	-11.8	----	4.6	51.7	47.1
884.592	----	16.5	-11.8	----	4.7	51.7	47.0	
982.880	----	16.6	-12.0	----	4.6	51.7	47.1	

Calculation: Result [dBuV] = Reading [dBuV] + Fac (Cable + Matching Pad - Amp) [dB] + 1.76 (50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 04 / Sep / 2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (107.9 MHz)_analog
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 25 deg.C / 56 %RH

Remarks : Main port, Local

Engineer : Shuma Terasawa

LIMIT (Fundamental) : FCC Part15 SubpartB_Antenna terminal
LIMIT (Harmonics) : FCC Part15 SubpartB_Antenna terminal

CH	Freq [MHz]	Reading		Factor [dB]	Result		Limit [dBuV / 75]	Margin [dB]
		PEAK	QP		PEAK	QP		
		[dBuV]			[dBuV / 75]			
107.9 MHz	108.288	----	17.6	-13.0	----	4.6	51.7	47.1
	216.576	----	25.2	-12.8	----	12.4	51.7	39.3
	324.864	----	29.2	-12.6	----	16.6	51.7	35.1
	433.152	----	27.8	-12.3	----	15.5	51.7	36.2
	541.440	----	17.0	-12.2	----	4.8	51.7	46.9
	649.728	----	17.4	-11.9	----	5.5	51.7	46.2
	758.016	----	16.4	-11.8	----	4.6	51.7	47.1
	866.304	----	20.4	-11.8	----	8.6	51.7	43.1
	974.592	----	16.7	-11.9	----	4.8	51.7	46.9
	107.512	----	16.4	-13.0	----	3.4	51.7	48.3
	215.024	----	24.0	-12.8	----	11.2	51.7	40.5
	322.536	----	16.5	-12.6	----	3.9	51.7	47.8
	430.048	----	16.6	-12.4	----	4.2	51.7	47.5
	537.560	----	16.3	-12.2	----	4.1	51.7	47.6
	645.072	----	16.5	-11.9	----	4.6	51.7	47.1
	752.584	----	16.3	-11.8	----	4.5	51.7	47.2
860.096	----	16.4	-11.8	----	4.6	51.7	47.1	
967.608	----	16.6	-11.9	----	4.7	51.7	47.0	

Calculation: Result [dBuV] = Reading [dBuV] + Fac (Cable + Matching Pad - Amp) [dB] + 1.76 (50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 04 / Sep / 2020

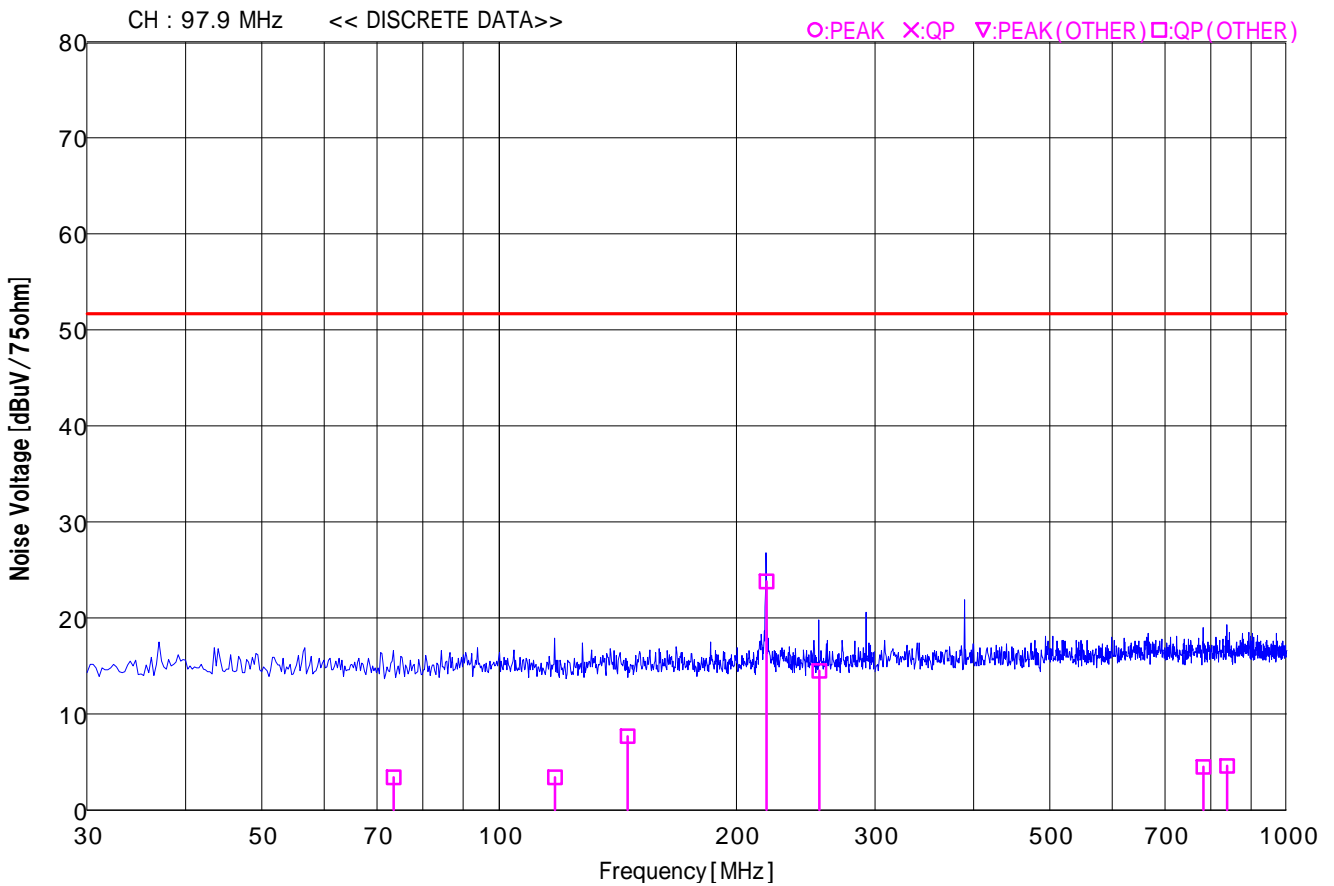
Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (97.9 MHz)_digital
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 25 deg.C / 56 %RH

Remarks : Main port, Other

Engineer : Shuma Terasawa

LIMIT : — FCC Part15 SubpartB_Antenna terminal



Calculation:Result [dBuV]=Reading [dBuV]+Fac(Cable+Matching Pad - Amp) [dB]+1.76(50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 04 / Sep / 2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (97.9 MHz)_digital
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 25 deg.C / 56 %RH

Remarks : Main port, Other

Engineer : Shuma Terasawa

LIMIT : FCC Part15 SubpartB_Antenna terminal

CH	Freq	Reading		Factor	Result		Limit	Margin
		PEAK	QP		PEAK	QP		
	[MHz]	[dBuV]		[dB]	[dBuV/75]		[dBuV/75]	[dB]
other	*73.470	----	16.5	-13.1	----	3.4	51.7	48.3
	*117.749	----	16.4	-13.0	----	3.4	51.7	48.3
	*145.560	----	20.7	-13.0	----	7.7	51.7	44.0
	*218.461	----	36.6	-12.8	----	23.8	51.7	27.9
	*254.911	----	27.3	-12.8	----	14.5	51.7	37.2
	*783.008	----	16.3	-11.8	----	4.5	51.7	47.2
	*839.009	----	16.4	-11.8	----	4.6	51.7	47.1

Calculation:Result[dBuV]=Reading[dBuV]+Fac(Cable+Matching Pad - Amp) [dB]+1.76(50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 04 / Sep / 2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (87.75 MHz)_digital
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 25 deg.C / 56 %RH

Remarks : Main port, Local

Engineer : Shuma Terasawa

LIMIT (Fundamental) : FCC Part15 SubpartB_Antenna terminal
LIMIT (Harmonics) : FCC Part15 SubpartB_Antenna terminal

CH	Freq [MHz]	Reading		Factor [dB]	Result		Limit [dBuV / 75]	Margin [dB]
		PEAK	QP		PEAK	QP		
		[dBuV]			[dBuV / 75]			
87.75 MHz	87.362	----	16.4	-13.1	----	3.3	51.7	48.4
	174.724	----	16.4	-12.8	----	3.6	51.7	48.1
	262.086	----	16.7	-12.8	----	3.9	51.7	47.8
	349.448	----	16.4	-12.6	----	3.8	51.7	47.9
	436.810	----	17.6	-12.3	----	5.3	51.7	46.4
	524.172	----	16.2	-12.2	----	4.0	51.7	47.7
	611.534	----	16.3	-11.9	----	4.4	51.7	47.3
	698.896	----	16.3	-11.8	----	4.5	51.7	47.2
	786.258	----	16.4	-11.8	----	4.6	51.7	47.1
	873.620	----	16.4	-11.8	----	4.6	51.7	47.1
	960.982	----	16.6	-11.9	----	4.7	51.7	47.0
	88.138	----	18.3	-13.1	----	5.2	51.7	46.5
	176.276	----	17.6	-12.8	----	4.8	51.7	46.9
	264.414	----	25.5	-12.7	----	12.8	51.7	38.9
	352.552	----	34.1	-12.5	----	21.6	51.7	30.1
	440.690	----	19.1	-12.3	----	6.8	51.7	44.9
	528.828	----	16.6	-12.2	----	4.4	51.7	47.3
	616.966	----	16.4	-11.9	----	4.5	51.7	47.2
	705.104	----	21.5	-11.8	----	9.7	51.7	42.0
	793.242	----	16.4	-11.8	----	4.6	51.7	47.1
881.380	----	16.4	-11.8	----	4.6	51.7	47.1	
969.518	----	16.6	-11.9	----	4.7	51.7	47.0	

Calculation: Result [dBuV] = Reading [dBuV] + Fac (Cable + Matching Pad - Amp) [dB] + 1.76 (50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 04 / Sep / 2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (97.9 MHz)_digital
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 25 deg.C / 56 %RH

Remarks : Main port, Local

Engineer : Shuma Terasawa

LIMIT (Fundamental) : FCC Part15 SubpartB_Antenna terminal
LIMIT (Harmonics) : FCC Part15 SubpartB_Antenna terminal

CH	Freq [MHz]	Reading		Factor [dB]	Result		Limit [dBuV / 75]	Margin [dB]
		PEAK	QP		PEAK	QP		
		[dBuV]			[dBuV / 75]			
97.9 MHz	97.512	----	19.1	-13.1	----	6.0	51.7	45.7
	195.024	----	18.4	-12.8	----	5.6	51.7	46.1
	292.536	----	28.1	-12.6	----	15.5	51.7	36.2
	390.048	----	30.7	-12.5	----	18.2	51.7	33.5
	487.560	----	17.1	-12.3	----	4.8	51.7	46.9
	585.072	----	16.9	-12.0	----	4.9	51.7	46.8
	682.584	----	16.5	-11.8	----	4.7	51.7	47.0
	780.096	----	19.5	-11.8	----	7.7	51.7	44.0
	877.608	----	16.4	-11.8	----	4.6	51.7	47.1
	975.120	----	16.6	-11.9	----	4.7	51.7	47.0
	98.288	----	16.5	-13.1	----	3.4	51.7	48.3
	196.576	----	17.2	-12.8	----	4.4	51.7	47.3
	294.864	----	20.5	-12.6	----	7.9	51.7	43.8
	393.152	----	16.3	-12.5	----	3.8	51.7	47.9
	491.440	----	16.4	-12.2	----	4.2	51.7	47.5
	589.728	----	16.1	-12.0	----	4.1	51.7	47.6
	688.016	----	16.3	-11.8	----	4.5	51.7	47.2
	786.304	----	16.4	-11.8	----	4.6	51.7	47.1
884.592	----	16.5	-11.8	----	4.7	51.7	47.0	
982.880	----	16.5	-12.0	----	4.5	51.7	47.2	

Calculation: Result [dBuV] = Reading [dBuV] + Fac (Cable + Matching Pad - Amp) [dB] + 1.76 (50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 04 / Sep / 2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (107.9 MHz)_digital
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 25 deg.C / 56 %RH

Remarks : Main port, Local

Engineer : Shuma Terasawa

LIMIT (Fundamental) : FCC Part15 SubpartB_Antenna terminal
LIMIT (Harmonics) : FCC Part15 SubpartB_Antenna terminal

CH	Freq [MHz]	Reading		Factor [dB]	Result		Limit [dBuV / 75]	Margin [dB]
		PEAK	QP		PEAK	QP		
		[dBuV]			[dBuV / 75]			
107.9 MHz	108.288	----	17.5	-13.0	----	4.5	51.7	47.2
	216.576	----	25.2	-12.8	----	12.4	51.7	39.3
	324.864	----	29.2	-12.6	----	16.6	51.7	35.1
	433.152	----	27.8	-12.3	----	15.5	51.7	36.2
	541.440	----	17.0	-12.2	----	4.8	51.7	46.9
	649.728	----	17.4	-11.9	----	5.5	51.7	46.2
	758.016	----	16.3	-11.8	----	4.5	51.7	47.2
	866.304	----	20.6	-11.8	----	8.8	51.7	42.9
	974.592	----	16.7	-11.9	----	4.8	51.7	46.9
	107.512	----	16.4	-13.0	----	3.4	51.7	48.3
	215.024	----	24.0	-12.8	----	11.2	51.7	40.5
	322.536	----	16.6	-12.6	----	4.0	51.7	47.7
	430.048	----	16.6	-12.4	----	4.2	51.7	47.5
	537.560	----	16.3	-12.2	----	4.1	51.7	47.6
	645.072	----	16.4	-11.9	----	4.5	51.7	47.2
	752.584	----	16.4	-11.8	----	4.6	51.7	47.1
	860.096	----	16.4	-11.8	----	4.6	51.7	47.1
967.608	----	16.7	-11.9	----	4.8	51.7	46.9	

Calculation: Result [dBuV] = Reading [dBuV] + Fac (Cable + Matching Pad - Amp) [dB] + 1.76 (50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 05 / Sep / 2020

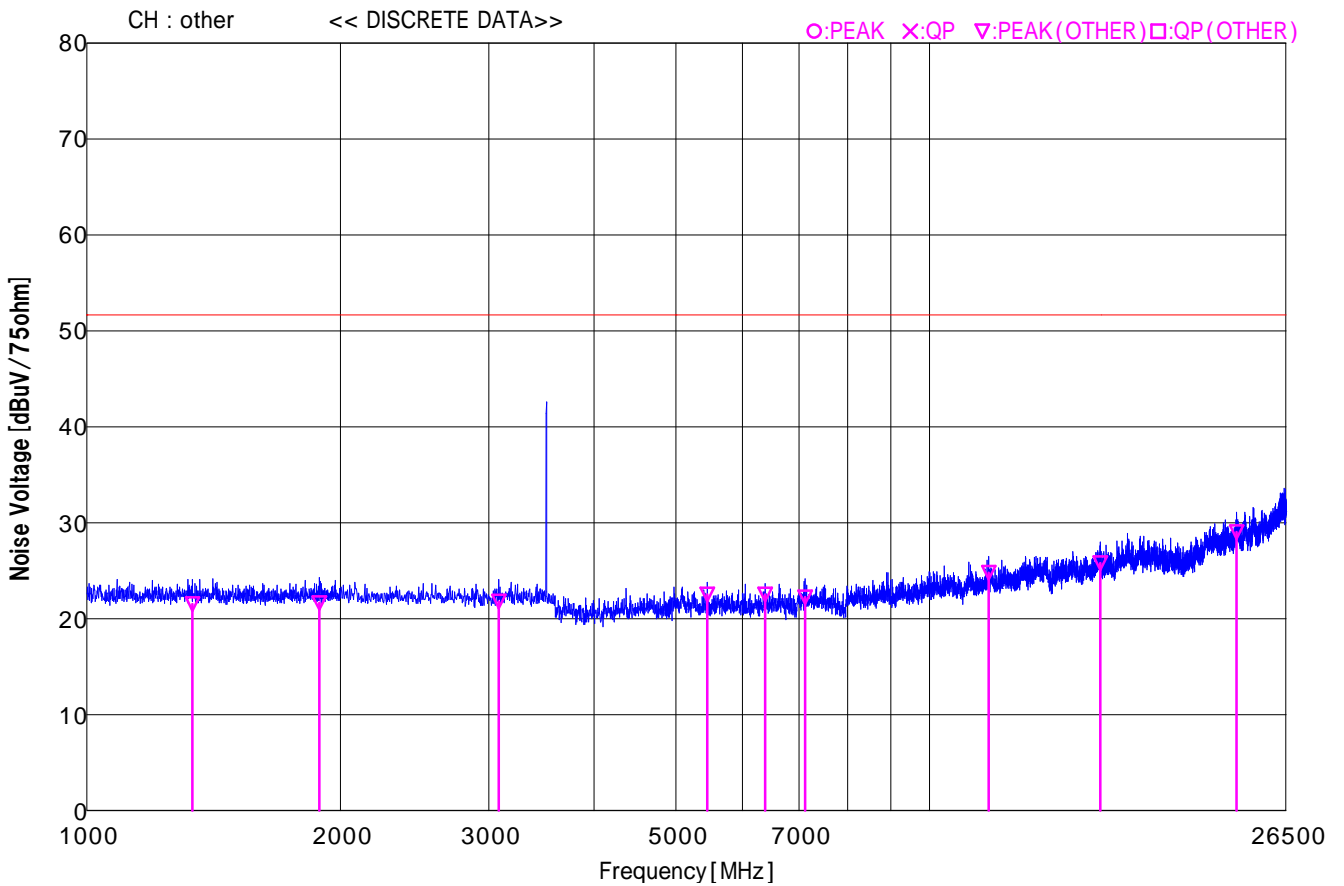
Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (97.9 MHz)_analog
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 24 deg.C / 52 %RH

Remarks : Main port, Other

Engineer : Kouki Yamada

LIMIT : — FCC Part15 SubpartB_Antenna terminal



Calculation:Result [dBuV]=Reading [dBuV]+Fac(Cable+ATT - Amp) [dB]+1.76(50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 05 / Sep / 2020

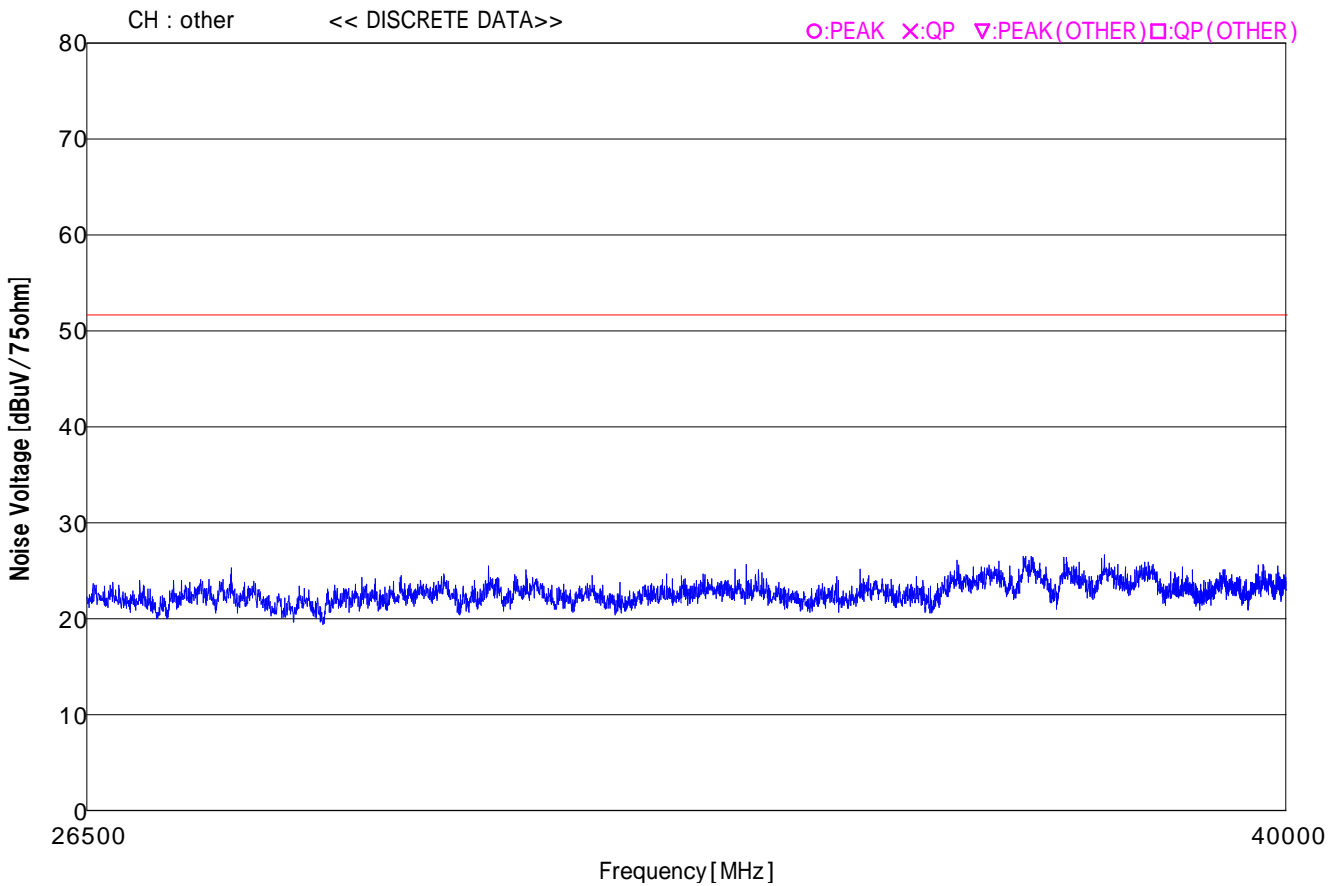
Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (97.9 MHz)_analog
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 24 deg.C / 52 %RH

Remarks : Main port, Other

Engineer : Kouki Yamada

LIMIT : — FCC Part15 SubpartB_Antenna terminal



Calculation:Result [dBuV]=Reading [dBuV]+Fac(Cable+ATT - Amp) [dB]+1.76(50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 05 / Sep / 2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (97.9 MHz)_analog
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 24 deg.C / 52 %RH

Remarks : Main port, Other

Engineer : Kouki Yamada

LIMIT : FCC Part15 SubpartB_Antenna terminal

CH	Freq [MHz]	Reading		Factor [dB]	Result		Limit [dBuV/75]	Margin [dB]
		PEAK	QP		PEAK	QP		
		[dBuV]			[dBuV/75]			
other	*1335.000	46.7	----	-25.1	21.6	----	51.7	30.2
	*1888.000	46.0	----	-24.3	21.7	----	51.7	30.0
	*3083.000	45.8	----	-24.0	21.8	----	51.7	29.9
	*5450.000	45.2	----	-22.7	22.5	----	51.7	29.2
	*6386.000	45.2	----	-22.6	22.6	----	51.7	29.2
	*7121.000	44.9	----	-22.6	22.3	----	51.7	29.4
	*11762.000	45.7	----	-20.9	24.8	----	51.7	26.9
	*15956.000	45.7	----	-19.9	25.8	----	51.7	25.9
	*23162.000	46.5	----	-17.4	29.1	----	51.7	22.6

Calculation: Result [dBuV] = Reading [dBuV] + Fac (Cable + ATT - Amp) [dB] + 1.76 (50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 05 / Sep / 2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (87.75 MHz)_analog
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 24 deg.C / 52 %RH

Remarks : Main port, Local

Engineer : Kouki Yamada

LIMIT (Fundamental) : FCC Part15 SubpartB_Antenna terminal
LIMIT (Harmonics) : FCC Part15 SubpartB_Antenna terminal

CH	Freq [MHz]	Reading		Factor [dB]	Result		Limit [dBuV/75]	Margin [dB]
		PEAK	QP		PEAK	QP		
		[dBuV]			[dBuV/75]			
87.75 MHz	1410.208	47.2	----	-24.9	22.3	----	51.7	29.4
	1747.240	45.8	----	-24.4	21.4	----	51.7	30.3
	1762.760	46.1	----	-24.3	21.8	----	51.7	29.9
	2115.312	45.7	----	-24.2	21.5	----	51.7	30.2
	2467.864	45.8	----	-24.0	21.8	----	51.7	29.9
	3172.968	46.0	----	-23.9	22.1	----	51.7	29.6
	3494.480	45.6	----	-23.6	22.0	----	51.7	29.8
	3525.520	65.8	----	-23.6	42.2	----	51.7	9.5
	7051.040	46.0	----	-22.6	23.4	----	51.7	28.3

Calculation:Result [dBuV]=Reading [dBuV]+Fac (Cable+ATT - Amp) [dB]+1.76(50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 05 / Sep / 2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (97.9 MHz)_analog
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 24 deg.C / 52 %RH

Remarks : Main port, Local

Engineer : Kouki Yamada

LIMIT (Fundamental) : FCC Part15 SubpartB_Antenna terminal
LIMIT (Harmonics) : FCC Part15 SubpartB_Antenna terminal

CH	Freq	Reading		Factor	Result		Limit	Margin
		PEAK	QP		PEAK	QP		
	[MHz]	[dBuV]		[dB]	[dBuV/75]		[dBuV/75]	[dB]
97.9 MHz	1560.192	46.4	----	-24.7	21.7	----	51.7	30.0
	1755.216	46.0	----	-24.3	21.7	----	51.7	30.0
	1950.240	46.1	----	-24.2	21.9	----	51.7	29.8
	3120.384	45.4	----	-23.9	21.5	----	51.7	30.2
	3510.432	66.0	----	-23.6	42.4	----	51.7	9.3
	6630.816	45.2	----	-22.5	22.7	----	51.7	29.0
	7020.864	45.3	----	-22.6	22.7	----	51.7	29.0

Calculation: Result [dBuV] = Reading [dBuV] + Fac (Cable + ATT - Amp) [dB] + 1.76 (50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 05/Sep/2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (107.9 MHz)_analog
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 24 deg.C / 52 %RH

Remarks : Main port, Local

Engineer : Kouki Yamada

LIMIT (Fundamental) : FCC Part15 SubpartB_Antenna terminal
LIMIT (Harmonics) : FCC Part15 SubpartB_Antenna terminal

CH	Freq	Reading		Factor	Result		Limit	Margin
		PEAK	QP		PEAK	QP		
	[MHz]	[dBuV]		[dB]	[dBuV/75]		[dBuV/75]	[dB]
107.9 MHz	1299.456	47.4	----	-25.2	22.2	----	51.7	29.5
	1732.608	46.4	----	-24.4	22.0	----	51.7	29.7
	1840.896	46.2	----	-24.3	21.9	----	51.7	29.8
	2165.760	45.2	----	-24.2	21.0	----	51.7	30.7
	3032.064	45.4	----	-24.1	21.3	----	51.7	30.4
	3465.216	67.7	----	-23.6	44.1	----	51.7	7.6
	6930.432	46.4	----	-22.6	23.8	----	51.7	27.9

Calculation:Result[dBuV]=Reading[dBuV]+Fac(Cable+ATT-Amp)[dB]+1.76(50 ohm to 75 ohm)[dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 05 / Sep / 2020

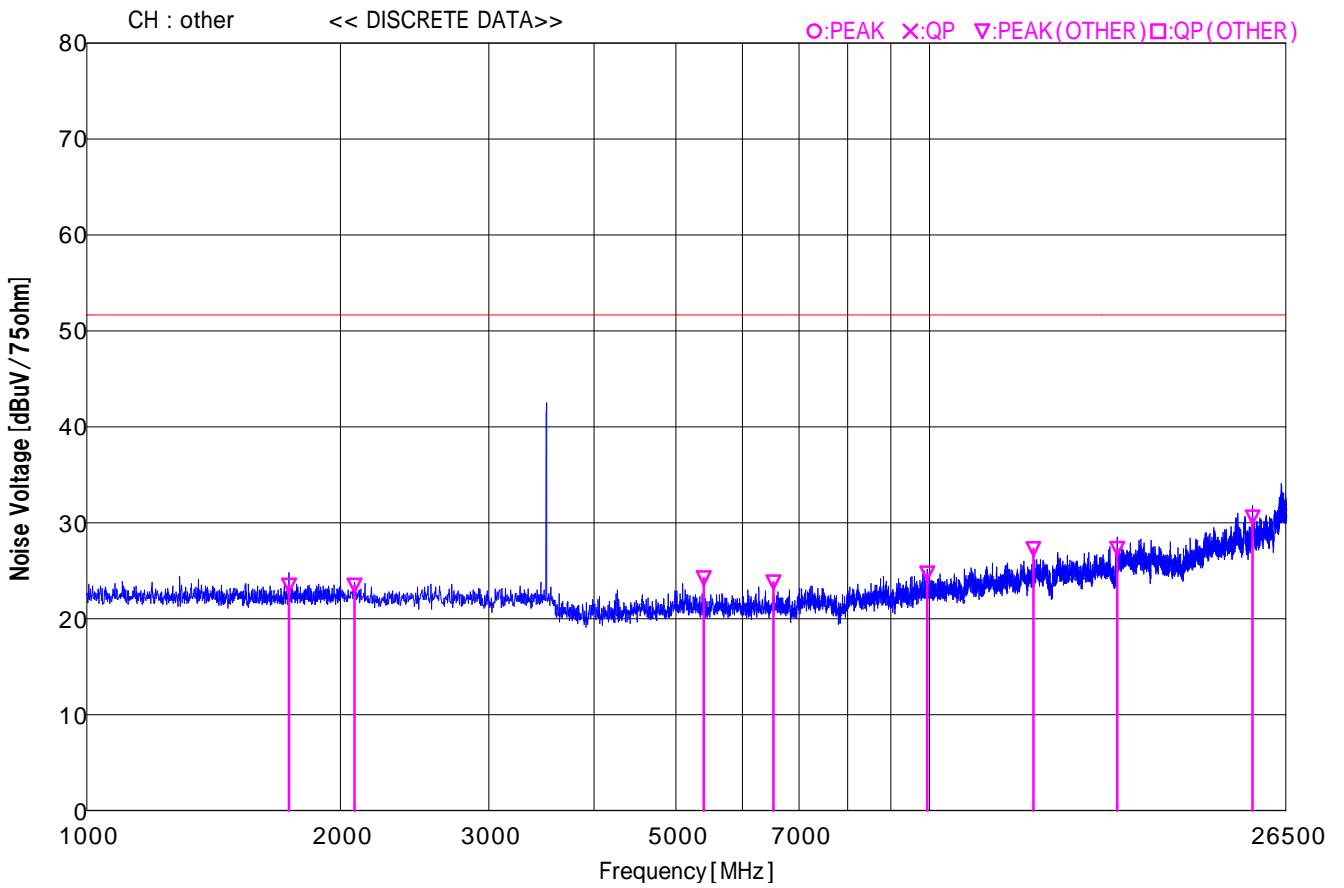
Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (97.9 MHz)_digital
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 24 deg.C / 52 %RH

Remarks : Main port, Other

Engineer : Kouki Yamada

LIMIT : — FCC Part15 SubpartB_Antenna terminal



Calculation:Result [dBuV]=Reading [dBuV]+Fac(Cable+ATT - Amp) [dB]+1.76(50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 05 / Sep / 2020

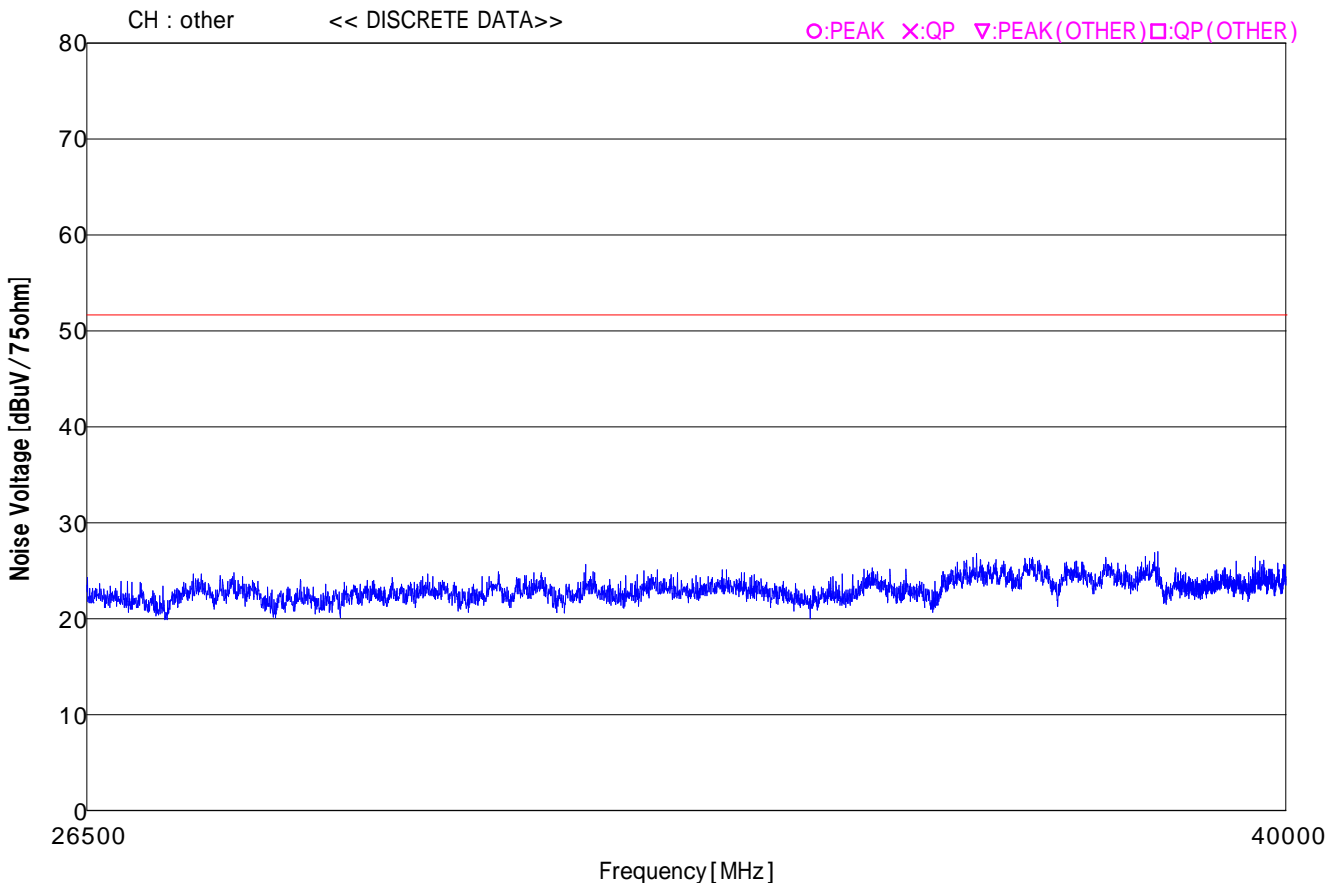
Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (97.9 MHz)_digital
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 24 deg.C / 52 %RH

Remarks : Main port, Other

Engineer : Kouki Yamada

LIMIT : — FCC Part15 SubpartB_Antenna terminal



Calculation:Result [dBuV]=Reading [dBuV]+Fac(Cable+ATT - Amp) [dB]+1.76(50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 05 / Sep / 2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (97.9 MHz)_digital
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 24 deg.C / 52 %RH

Remarks : Main port, Other

Engineer : Kouki Yamada

LIMIT : FCC Part15 SubpartB_Antenna terminal

CH	Freq [MHz]	Reading		Factor [dB]	Result		Limit [dBuV/75]	Margin [dB]
		PEAK	QP		PEAK	QP		
		[dBuV]			[dBuV/75]			
other	*1737.000	47.9	----	-24.4	23.5	----	51.7	28.2
	*2078.000	47.7	----	-24.2	23.5	----	51.7	28.2
	*5396.000	47.0	----	-22.7	24.3	----	51.7	27.5
	*6530.000	46.3	----	-22.5	23.8	----	51.7	27.9
	*9941.000	46.8	----	-22.0	24.8	----	51.7	27.0
	*13283.000	46.2	----	-18.9	27.3	----	51.7	24.4
	*16706.000	46.3	----	-19.0	27.3	----	51.7	24.4
	*24194.000	47.7	----	-17.1	30.6	----	51.7	21.1

Calculation: Result [dBuV] = Reading [dBuV] + Fac (Cable+ATT - Amp) [dB] + 1.76 (50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 05 / Sep / 2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (87.75 MHz)_digital
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 24 deg.C / 52 %RH

Remarks : Main port, Local

Engineer : Kouki Yamada

LIMIT (Fundamental) : FCC Part15 SubpartB_Antenna terminal
LIMIT (Harmonics) : FCC Part15 SubpartB_Antenna terminal

CH	Freq	Reading		Factor	Result		Limit	Margin
		PEAK	QP		PEAK	QP		
	[MHz]	[dBuV]		[dB]	[dBuV/75]		[dBuV/75]	[dB]
87.75 MHz	1410.208	47.5	----	-24.9	22.6	----	51.7	29.1
	1747.240	45.9	----	-24.4	21.5	----	51.7	30.2
	1762.760	45.8	----	-24.3	21.5	----	51.7	30.2
	2115.312	45.5	----	-24.2	21.3	----	51.7	30.4
	2467.864	45.8	----	-24.0	21.8	----	51.7	29.9
	3172.968	45.0	----	-23.9	21.1	----	51.7	30.6
	3494.480	44.8	----	-23.6	21.2	----	51.7	30.5
	3525.520	65.6	----	-23.6	42.0	----	51.7	9.7
	7051.040	44.7	----	-22.6	22.1	----	51.7	29.6

Calculation:Result[dBuV]=Reading[dBuV]+Fac(Cable+ATT-Amp)[dB]+1.76(50 ohm to 75 ohm)[dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 05 / Sep / 2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (97.9 MHz)_digital
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 24 deg.C / 52 %RH

Remarks : Main port, Local

Engineer : Kouki Yamada

LIMIT (Fundamental) : FCC Part15 SubpartB_Antenna terminal
LIMIT (Harmonics) : FCC Part15 SubpartB_Antenna terminal

CH	Freq	Reading		Factor	Result		Limit	Margin
		PEAK	QP		PEAK	QP		
	[MHz]	[dBuV]		[dB]	[dBuV/75]		[dBuV/75]	[dB]
97.9 MHz	1560.192	46.5	----	-24.7	21.8	----	51.7	29.9
	1755.216	45.6	----	-24.3	21.3	----	51.7	30.4
	1950.240	46.9	----	-24.2	22.7	----	51.7	29.0
	3120.384	45.5	----	-23.9	21.6	----	51.7	30.1
	3510.432	66.0	----	-23.6	42.4	----	51.7	9.3
	6630.816	44.7	----	-22.5	22.2	----	51.7	29.5
	7020.864	45.5	----	-22.6	22.9	----	51.7	28.8

Calculation: Result [dBuV] = Reading [dBuV] + Fac (Cable+ATT - Amp) [dB] + 1.76 (50 ohm to 75 ohm) [dB]

DATA OF ANTENNA TERMINAL TEST

UL Japan,Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 05 / Sep / 2020

Company : Panasonic Corporation
Kind of EUT : Car Navigation
Model No. : AT2105
Serial No. : No.002

Mode : FM Receiving (107.9 MHz)_digital
Order No. : 13462774S
Power : DC 13.2 V
Temp./Humi. : 24 deg.C / 52 %RH

Remarks : Main port, Local

Engineer : Kouki Yamada

LIMIT (Fundamental) : FCC Part15 SubpartB_Antenna terminal
LIMIT (Harmonics) : FCC Part15 SubpartB_Antenna terminal

CH	Freq	Reading		Factor	Result		Limit	Margin
		PEAK	QP		PEAK	QP		
	[MHz]	[dBuV]		[dB]	[dBuV/75]		[dBuV/75]	[dB]
107.9 MHz	1299.456	46.1	----	-25.2	20.9	----	51.7	30.8
	1732.608	46.5	----	-24.4	22.1	----	51.7	29.6
	1840.896	45.6	----	-24.3	21.3	----	51.7	30.4
	2165.760	45.4	----	-24.2	21.2	----	51.7	30.5
	3032.064	44.9	----	-24.1	20.8	----	51.7	30.9
	3465.216	67.4	----	-23.6	43.8	----	51.7	7.9
	6930.432	46.1	----	-22.6	23.5	----	51.7	28.2

Calculation:Result [dBuV]=Reading [dBuV]+Fac(Cable+ATT - Amp) [dB]+1.76(50 ohm to 75 ohm) [dB]

APPENDIX 3

Test Instruments

EMI test equipment

Test Name	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Calibration Interval (Month)
AT	COTS-SEMI-2	144866	EMI Software for AV Equipment	TSJ (Techno Science Japan)	TEPTO-DV(AT,TV)	2	-	-
AT	KAF-02	144878	Pre Amplifier	Hewlett Packard	8449B	3008A01268	2020/04/02	12
AT	SAF-07	145006	Pre Amplifier	TSJ (Techno Science Japan)	MLA-8k03-D01-35	81212	2020/06/24	12
AT	SAT10-09	145132	Attenuator	Weinschel Corp.	54A-10	W5692	2019/11/05	12
AT	SCC-AT1/AT2/KM P-09	180424	Coaxial cable, Matching pad	TAMAGAWA	5D2W/ZT-130	-/1454514E	2020/06/24	12
AT	SCC-G12	145040	Coaxial Cable	Suhner	SUCOFLEX 102	30790/2	2020/03/02	12
AT	SCC-G63	196946	Coaxial Cable	HUBER+SUNER	SUCOFLEX 102	803411/2	2020/03/10	12
AT	SOS-16	167990	Humidity Indicator	CUSTOM. Inc	CTH-202	708Q08R	2019/12/19	12
AT	STR-01	145790	Test Receiver	Rohde & Schwarz	ESU40	100093	2020/04/24	12
AT	STS-01	145792	Digital Hitester	Hioki	3805-50	80997812	2019/10/01	12
AT,RE	SAF-10	145129	Pre Amplifier	Toyo Corporation	HAP26-40W	10	2020/03/03	12
RE	COTS-SEMI-5	170932	EMI Software	TSJ (Techno Science Japan)	TEPTO-DV3(RE,CE,ME,PE)	-	-	-
RE	KJM-02	146432	Measure	TAJIMA	GL19-55	-	-	-
RE	SAEC-03(NSA)	145565	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	2020/04/12	12
RE	SAEC-03(SVSWR)	145566	Semi-Anechoic Chamber	TDK	SAEC-03(SVSWR)	3	2020/05/11	12
RE	SAF-03	145126	Pre Amplifier	SONOMA	310N	290213	2020/02/19	12
RE	SAF-06	145005	Pre Amplifier	Toyo Corporation	TPA0118-36	1440491	2020/02/20	12
RE	SAF-08	145007	Pre Amplifier	Toyo Corporation	HAP18-26W	19	2020/03/03	12
RE	SAT6-13	167094	Attenuator	JFW	50HF-006N	-	2020/02/21	12
RE	SBA-03	145023	Biconical Antenna	Schwarzbeck Mess - Elektronik	BBA9106	91032666	2020/05/17	12
RE	SCC-C1/C2/C3/C4/C5/C10/SRSE-03	145171	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271(RF Selector)	2020/04/12	12
RE	SCC-G15	145176	Coaxial Cable	Suhner	SUCOFLEX 102	32703/2	2020/03/04	12
RE	SCC-G40	166491	Coaxial Cable	Junkosha	MWX221-01000NFSNMS/B	1612S005	2020/01/08	12
RE	SCC-G43	156380	Coaxial Cable	HUBER+SUNER	SUCOFLEX_104_E	SN MY 13406/4E	2020/06/04	12
RE	SCC-G57	179540	Coaxial Cable	Huber+Suhner	SUCOFLEX 102	802815/2	2020/05/12	12
RE	SCC-G58	183047	Coaxial Cable	HUBER+SUNER	SUCOFLEX 104	800287/4A	2020/06/04	12
RE	SCC-G70	200010	Coaxial Cable	HUBER+SUNER	SUCOFLEX 104	575618/4	2020/07/07	12
RE	SHA-03	145501	Horn Antenna	Schwarzbeck Mess - Elektronik	BBHA9120D	9120D-739	2020/06/15	12
RE	SHA-04	145512	Horn Antenna	ETS LINDGREN	3160-09	00094868	2020/06/15	12
RE	SHA-06	145514	Horn Antenna	ETS LINDGREN	3160-10	00092383	2020/07/16	12
RE	SHA-10	194685	Horn Antenna	Schwarzbeck Mess - Elektronik	BBHA 9120 C	711	2020/02/17	12

EMI test equipment

Test Name	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Calibration Interval (Month)
RE	SLA-07	145529	Logperiodic Antenna	Schwarzbeck Mess - Elektronik	VUSLP9111B	196	2020/05/17	12
RE	SOS-23	191840	Humidity Indicator	CUSTOM. Inc	CTH-201	-	2019/12/12	12
RE	SSA-02	145800	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY48250106	2020/04/16	12
RE	STR-08	150463	Test Receiver	Rohde & Schwarz	ESW44	101581	2019/11/22	12
RE	STS-03	146210	Digital Hitester	Hioki	3805-50	80997823	2019/10/01	12

*Hyphens for Last Calibration Date and Cal Int (month) are instruments that Calibration is not required (e.g. software), or instruments checked in advance before use.

The expiration date of the calibration is the end of the expired month.

As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations.

All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards

Test Item:

RE: Radiated emission,

AT: Antenna terminal disturbance voltage