



Zacta

TEST REPORT

Report number : JPD-TR-17103-0

Issue date : May 16, 2017

The device, as described herewith, was tested pursuant to applicable test procedure and complies with the requirements of;

FCC Part15 Subpart C

The test results are traceable to the international or national standards.

Applicant	: KYOCERA Corporation
Equipment under test (EUT)	: Mobile Phone
Model number	: DA58
FCC ID	: JOYDA58

Date of test : April 21, 2017
May 11, 2017
Test place : TÜV SÜD Zacta Ltd. Yonezawa Testing Center
5-4149-7, Hachimanpara, Yonezawa-shi,
Yamagata, 992-1128 Japan
Phone: +81-238-28-2881 Fax: +81-238-28-2888
Test results : Complied

The results in this report are applicable only to the equipment tested.

This report shall not be re-produced except in full without the written approval of TÜV SÜD Zacta Ltd.

This test report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, ILAC-MRA or any agency of the federal government.

Tested by : Taiki Watanabe Tadahiro Seino
Taiki Watanabe Tadahiro Seino

Tested by : Chiaki Kanno
Chiaki Kanno

Approved by : Hiroaki Suzuki
Hiroaki Suzuki
Lab Manager of RF Lab



NVLAP LAB CODE 200306-0

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1. Summary of Test

1.1 Purpose of test

It is the original test in order to verify conformance to FCC Part 15 Subpart C.

1.2 Standards

CFR47 FCC Part 15 Subpart C

1.2.1 Test Methods

ANSI C63.10-2013

1.2.2 Deviation from standards

None

1.3 List of applied test to the EUT

Test items Section	Classification of EUT	Condition	Result
RSS-Gen 4.6.1	Occupied Bandwidth	Conducted	PASS
15.209 15.225 (a)(b)(c)(d)	Operation within the band 13.110-14.010MHz	Radiated	PASS
15.209 15.225 (d)	Transmitter Radiated Spurious Emissions	Radiated	PASS
15.225 (e)	Frequency Tolerance	Conducted	PASS
15.207	AC Power Line Conducted Emissions	Conducted	PASS

1.3.1 Test set up

Table-Top

1.4 Modification to the EUT by laboratory

None

2. Equipment Under Test

2.1 General Description of equipment

EUT is the Mobile Phone.

2.2 EUT information

Applicant : KYOCERA Corporation
Yokohama Office2-1-1 Kagahara, Tsuzuki-ku, Yokohama-shi, Kanagawa,
Japan
Phone: +81-45-943-6253 Fax: +81-45-943-6314

Equipment under test : Mobile Phone

Trade name : Kyocera

Model number : DA58

Serial number : N/A

EUT condition : Pre-production

Power ratings : Battery: DC 3.8V

Size : (W) 71.0 × (D) 13.6 × (H) 145.0 mm

Environment : Indoor and Outdoor USE

Terminal limitation : -20°C to 60°C

RF Specification
Frequency range : 13.56MHz

Modulation method : ASK

Antenna type : Loop antenna

2.3 Variation of the family model(s)

Not applicable

2.4 Description of Test mode

The field strength of spurious emissions was measured at each position of all three axis X, Y and Z to compare the level, and the maximum noise.

The worst emission was found in Y axis and the worst case recorded.

2.5 Operating mode

[Transmit mode]

- i) NFC test program setup to the DM tool
- ii) Start test mode

3. Configuration of equipment

3.1 Equipment(s) used

No.	Equipment	Company	Model No.	Serial No.	FCC ID / DoC	Comment
1	Mobile Phone	KYOCERA	DA58	N/A	JOYDA58	EUT
2	AC Adapter	au	N/A	N/A	N/A	*

*: AC power line Conducted Emission Test.

3.2 Cable(s) used

No.	Cable	Length[m]	Shield	Connector	Comment
a	Micro USB cable (for AC Adapter)	1.0	Yes	Metal	*

*: AC power line Conducted Emission Test.

3.3 System configuration



Note1: Numbers assigned to equipment or cables on this diagram correspond to the list in "3.1 Equipment(s) used" and "3.2 Cable(s) used".

4. Occupied Bandwidth

4.1 Measurement procedure [IC RSS-Gen 4.6.1]

The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99% bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

The spectrum analyzer is set to;

- RBW=1kHz, VBW=3kHz, Span=100kHz, Sweep=auto, Detector=Sample

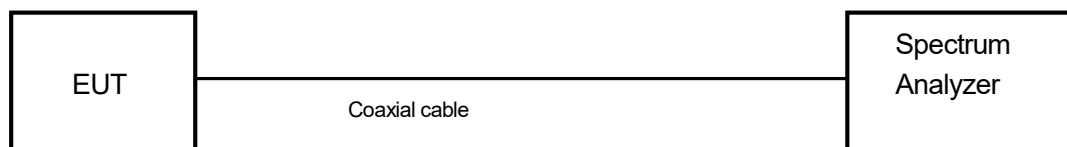
The EUT was set to operate with following conditions.

- 13.56MHz

The test mode of EUT is as follows.

- Transmit mode

- Test configuration



4.2 Limit

None

4.3 Measurement result

Date : April 21, 2017

Temperature : 22.4 [°C]

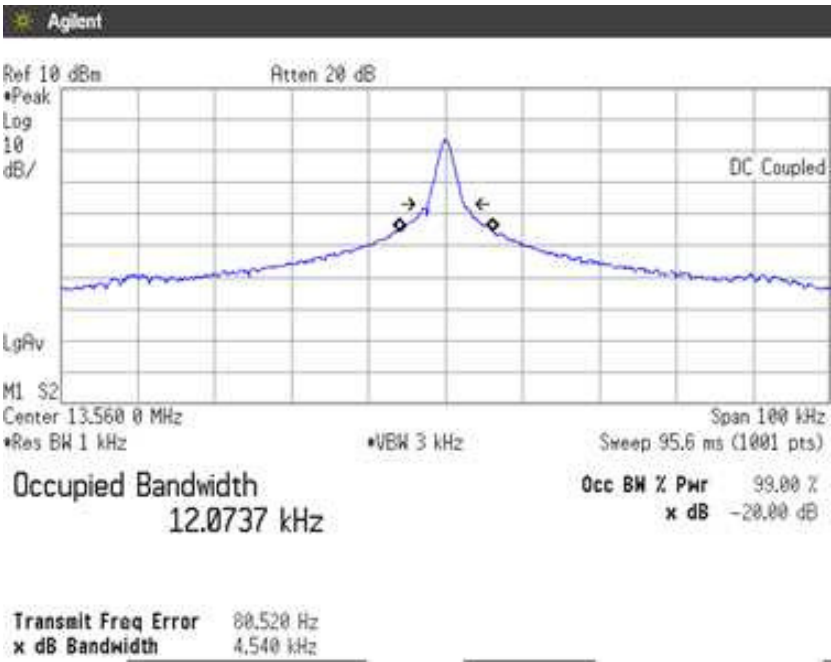
Humidity : 38.9 [%]

Test place : Shielded room No.4

Test engineer : Chiaki Kanno

Frequency (MHz)	Occupied Bandwidth (kHz)
13.56	12.0737

4.4 Trace data



5. Operation within the band 13.110-14.010MHz

5.1 Measurement procedure

[FCC 15.209, 15.225 (a)(b)(c)(d)]

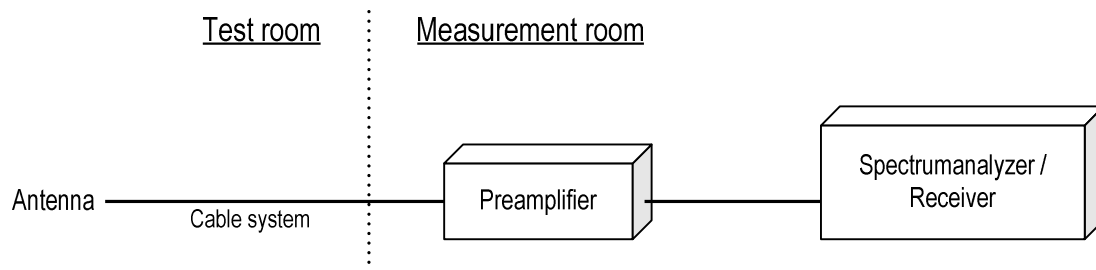
Test was applied by following conditions.

Test method	: ANSI C63.10
Frequency range	: 13.110MHz to 14.010MHz
Test place	: 3m Semi-anechoic chamber
EUT was placed on	: Styrofoam table / (W)0.6m × (D)0.6m × (H)0.8m
Antenna distance	: 3m

Test receiver setting	
- Detector	: Quasi-peak
- Bandwidth	: 9kHz

EUT operating mode is selected to emit the maximum noise. Overall frequency range is investigated with spectrum analyzer using peak detector. Then, emission measurements frequency range 13.110MHz to 14.010MHz were performed with test receiver in above setting. The turntable and the Loop antenna are rotated by 360 degrees and stopped at azimuth of producing the maximum emission. Sufficient time for EUT, peripherals and test equipment is provided in order for them to warm up to their normal operating condition.

- Test configuration



5.2 Calculation method

Emission level = Reading + (Ant. factor + Cable system loss – Amp. Gain)

Margin = Limit – Emission level

5.3 Limit

- (a) The field strength of any emissions within the band 13.553-13.567MHz shall not exceed 15,848uV/m at 30m.
- (b) Within the band 13.410-13.553MHz and 13.567-13.710MHz, the field strength of any emissions shall not exceed 334uV/m at 30m.
- (c) Within the band 13.110-13.410MHz and 13.710-14.010MHz, the field strength of any emissions shall not exceed 106uV/m at 30m.
- (d) The field strength of any emissions appearing outside of the 13.110-14.010MHz and shall not exceed the general radiated emission limits in FCC 15.209.

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level [dBuV/m] = 20log Emission [uV/m]
3. Measurements were corrected to 30m using $40\log(3/30) = -40.0\text{dB}$

5.4 Test data

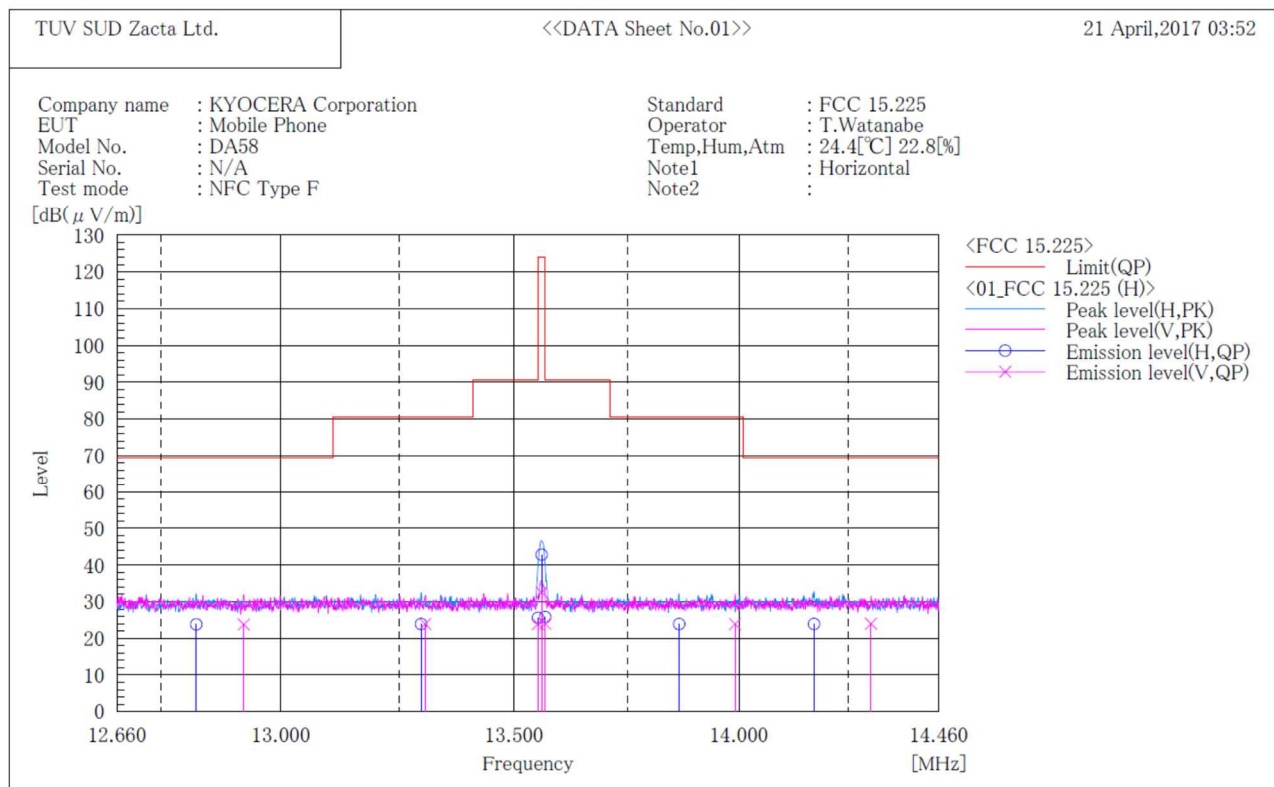
Date : April 21, 2017
 Temperature : 24.4 [°C]
 Humidity : 22.8 [%]
 Test place : 3m Semi-anechoic chamber

Test engineer : Taiki Watanabe

Frequency range (MHz)	Frequency (MHz)	Level		Limit (dBuV/m)	Margin (dB)	Result
		Measured at 3m (dBuV/m)	Measured at 30m (dBuV/m)			
13.553-13.567	13.560	54.7	14.7	84.0	69.3	PASS
13.41-13.553	13.552	36.1	-3.9	50.5	54.4	PASS
13.567-13.71	13.568	36.6	-3.4	50.5	53.9	PASS
13.11-13.41	13.211	23.9	-16.1	40.5	56.6	PASS
13.71-14.01	13.771	25.5	-14.5	40.5	55.0	PASS
12.66-13.11	12.935	23.8	-16.2	29.5	45.7	PASS
14.01-14.46	14.217	24.0	-16.0	29.5	45.5	PASS

5.5 Trace data

***** RADIATED EMISSION *****
[3m Semi-anechoic chamber]



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c. f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]	Remark
1	13.560	V	36.0	-3.5	32.5	124.0	91.5	100.0	77.0	
2	13.552	V	27.4	-3.5	23.9	90.5	66.6	100.0	77.0	
3	13.568	V	27.5	-3.5	24.0	90.5	66.5	100.0	77.0	
4	13.307	V	27.4	-3.5	23.9	80.5	56.6	100.0	135.0	
5	13.991	V	27.4	-3.5	23.9	80.5	56.6	100.0	154.0	
6	12.922	V	27.4	-3.6	23.8	69.5	45.7	100.0	214.0	
7	14.302	V	27.5	-3.5	24.0	69.5	45.5	100.0	7.0	
8	13.560	H	46.3	-3.5	42.8	124.0	81.2	100.0	350.0	
9	13.552	H	29.1	-3.5	25.6	90.5	64.9	100.0	350.0	
10	13.568	H	29.3	-3.5	25.8	90.5	64.7	100.0	350.0	
11	13.298	H	27.4	-3.5	23.9	80.5	56.6	100.0	326.0	
12	13.865	H	27.4	-3.5	23.9	80.5	56.6	100.0	45.0	
13	12.823	H	27.4	-3.6	23.8	69.5	45.7	100.0	349.0	
14	14.171	H	27.4	-3.5	23.9	69.5	45.6	100.0	30.0	

***** RADIATED EMISSION *****
[3m Semi-anechoic chamber]

TUV SUD Zacta Ltd.

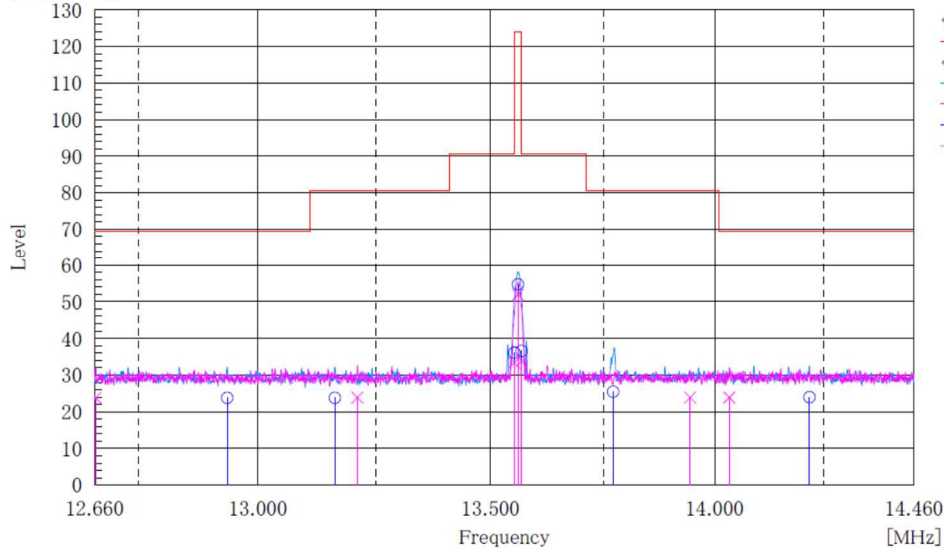
<<DATA Sheet No.02>>

21 April, 2017 03:52

Company name : KYOCERA Corporation
EUT : Mobile Phone
Model No. : DA58
Serial No. : N/A
Test mode : NFC Type F

Standard : FCC 15.225
Operator : T.Watanabe
Temp,Hum,Atm : 24.4[°C] 22.8[%]
Note1 : Vertical
Note2 :

[dB(μV/m)]



<FCC 15.225>

Limit(QP)

<02_FCC 15.225 (V)>

Peak level(H,PK)

Peak level(V,PK)

Emission level(H,QP)

Emission level(V,QP)

Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c. f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]	Remark
1	13.560	V	55.4	-3.5	51.9	124.0	72.1	100.0	105.0	
2	13.552	V	36.9	-3.5	33.4	90.5	57.1	100.0	105.0	
3	13.568	V	37.3	-3.5	33.8	90.5	56.7	100.0	105.0	
4	13.211	V	27.4	-3.5	23.9	80.5	56.6	100.0	305.0	
5	13.944	V	27.4	-3.5	23.9	80.5	56.6	100.0	77.0	
6	12.662	V	27.4	-3.6	23.8	69.5	45.7	100.0	334.0	
7	14.033	V	27.4	-3.5	23.9	69.5	45.6	100.0	314.0	
8	13.560	H	58.2	-3.5	54.7	124.0	69.3	100.0	191.0	
9	13.552	H	39.6	-3.5	36.1	90.5	54.4	100.0	191.0	
10	13.568	H	40.1	-3.5	36.6	90.5	53.9	100.0	191.0	
11	13.163	H	27.3	-3.5	23.8	80.5	56.7	100.0	327.0	
12	13.771	H	29.0	-3.5	25.5	80.5	55.0	100.0	6.0	
13	12.935	H	27.4	-3.6	23.8	69.5	45.7	100.0	81.0	
14	14.217	H	27.5	-3.5	24.0	69.5	45.5	100.0	170.0	

6. Radiated Emissions

6.1 Measurement procedure [FCC 15.209, 15.225 (d)]

Test was applied by following conditions.

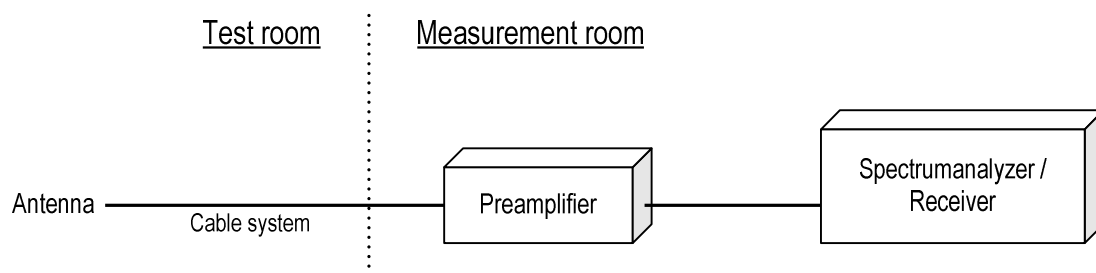
Test method	: ANSI C63.10
Frequency range	: 9kHz to 30MHz
Test place	: 3m Semi-anechoic chamber
EUT was placed on	: Styrofoam table / (W)0.6m × (D)0.6m × (H)0.8m
Antenna distance	: 3m

Test receiver setting	
- Detector	: Average (9kHz-90kHz, 110kHz-490kHz), Quasi-peak
- Bandwidth	: 200Hz, 9kHz

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open area 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.

EUT operating mode is selected to emit the maximum noise. Overall frequency range is investigated with spectrum analyzer using peak detector. Then, emission measurements up to 30MHz were performed with test receiver in above setting. The turntable and the Loop antenna are rotated by 360 degrees and stopped at azimuth of producing the maximum emission. Sufficient time for EUT, peripherals and test equipment is provided in order for them to warm up to their normal operating condition.

- Test configuration



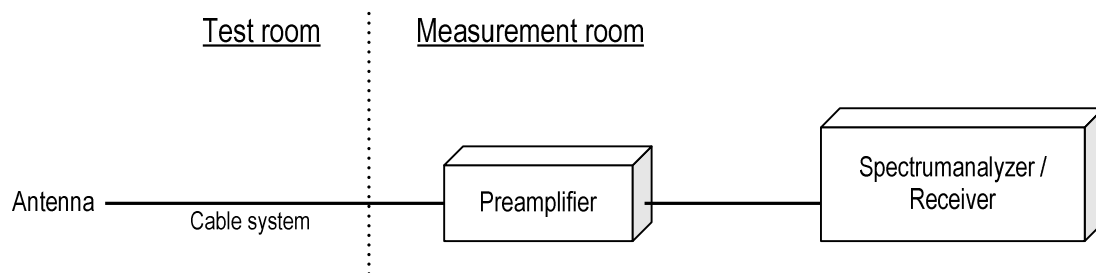
Test was applied by following conditions.

Test method	: ANSI C63.10
Frequency range	: 30MHz to 1000MHz
Test place	: 3m Semi-anechoic chamber
EUT was placed on	: Styrofoam table / (W)0.6m × (D)0.6m × (H)0.8m
Antenna distance	: 3m

Test receiver setting	
- Detector	: Quasi-peak
- Bandwidth	: 120kHz

EUT operating mode is selected to emit the maximum noise. Overall frequency range is investigated with spectrum analyzer using peak detector. Then, emission measurements up to 1000MHz were performed with test receiver in above setting. In order to find the maximum emissions, antenna is adjusted between 1m and 4m in height and varied its polarization (horizontal and vertical), and EUT azimuth was also varied by rotating turntable 0 to 360 degrees. Sufficient time for EUT, peripherals and test equipment is provided in order for them to warm up to their normal operating condition.

- Test configuration



6.2 Calculation method

[9kHz to 150kHz]

Emission level = Reading + (Ant. factor + Cable system loss)

Margin = Limit – Emission level

[150kHz to 1000MHz]

Emission level = Reading + (Ant. factor + Cable system loss – Amp. Gain)

Margin = Limit – Emission level

6.3 Limit

Frequency [MHz]	Field strength		Distance [m]
	[uV/m]	[dBuV/m]	
0.009-0.490	$2400 / F$ [kHz]	$20\log E$ [uV/m]	300
0.490-1.705	$24000 / F$ [kHz]	$20\log E$ [uV/m]	30
1.705-30	30	29.5	30
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level [dBuV/m] = $20\log$ Emission [uV/m]
3. Measurements were corrected to 30m using $40\log (3/30) = -40.0\text{dB}$

6.4 Test data

Date : April 21, 2017
 Temperature : 24.4 [°C]
 Humidity : 22.8 [%]
 Test place : 3m Semi-anechoic chamber

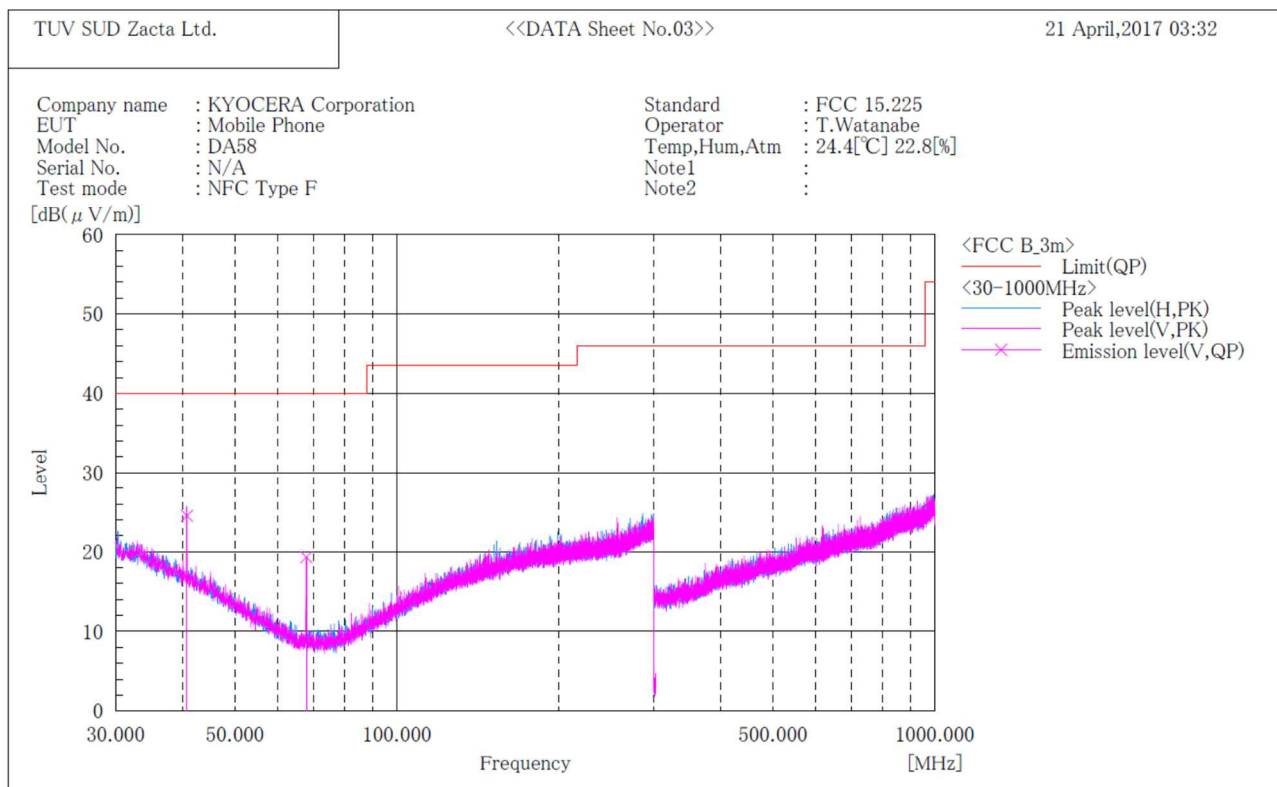
Test engineer : Taiki Watanabe

[9kHz to 30MHz]

Frequency (MHz)	Reading [dBuV] At 3m	c.f [dB(1/m)]	Result [dBuV/m] At 3m	Result [dBuV/m] At 30m	Limit [dBuV/m] At 30m	Margin (dB)	Result
27.12	26.1	-2.3	23.8	-16.2	29.5	45.7	PASS

[30MHz to 1000MHz]

***** RADIATED EMISSION *****
 [3m Semi-anechoic chamber]



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c. f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]	Remark
1	40.680	V	32.8	-8.3	24.5	40.0	15.5	100.0	107.0	
2	67.800	V	35.5	-16.2	19.3	40.0	20.7	100.0	277.0	

7. Frequency Tolerance

7.1 Measurement procedure [FCC 15.205 (e)]

The EUT was placed inside of a constant temperature chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10°C intervals and the unit was allowed to stabilize at each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.

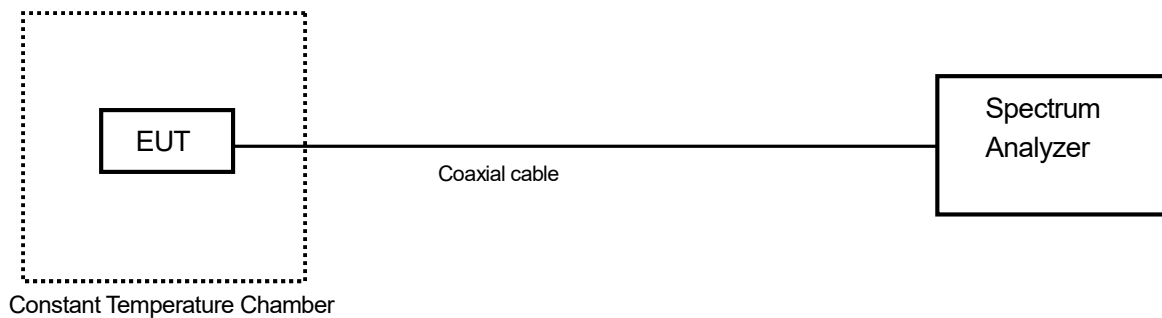
The EUT was set to operate with the following conditions.

- 13.56MHz

The test mode of EUT is as follows.

- Transmit mode

- Test configuration



7.2 Limit

The Frequency tolerance of the carrier signal shall be maintained within +/- 0.01% over a temperature variation of -30 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

7.3 Test data

Date : April 21, 2017
 Temperature : 22.4 [°C]
 Humidity : 38.9 [%]
 Test place : Shielded room No.4

Test engineer : Chiaki Kanno

Reference Frequency: EUT Channel 13.56MHz at 20°C											
Limit: $\pm 0.01\% = \pm 100\text{ppm} = \pm 0.135603\text{MHz}$											
Power Supply	Temperature	Measurements Frequency (startup)	Frequency Tolerance (startup)	Measurements Frequency (2mins)	Frequency Tolerance (2mins)	Measurements Frequency (5mins)	Frequency Tolerance (5mins)	Measurements Frequency (10mins)	Frequency Tolerance (10mins)	Limit	Result
[V]	[°C]	[MHz]	[ppm]	[MHz]	[ppm]	[MHz]	[ppm]	[MHz]	[ppm]	[ppm]	
3.80	50	13.560045	-2.58110572	13.560045	-2.58110572	13.560055	-1.84364694	13.560030	-3.68729388	± 100	PASS
	40	13.560055	-1.84364694	13.560020	-4.42475266	13.560030	-3.68729388	13.560040	-2.94983510		
	30	13.560025	-4.05602327	13.560060	-1.47491755	13.560060	-1.47491755	13.560035	-3.31856449		
	20	13.560080	-	13.560085	0.36872939	13.560070	-0.73745878	13.560085	0.36872939		
	10	13.560050	-2.21237633	13.560110	2.21237633	13.560100	1.47491755	13.560065	-1.10618816		
	0	13.560110	2.21237633	13.560090	0.73745878	13.560115	2.58110572	13.560105	1.84364694		
	-10	13.560110	2.21237633	13.560120	2.94983510	13.560115	2.58110572	13.560105	1.84364694		
	-20	13.560105	1.84364694	13.560115	2.58110572	13.560085	0.36872939	13.560110	2.21237633		
	-30	13.560075	-0.36872939	13.560055	-1.84364694	13.560040	-2.94983510	13.559980	-7.37458776		
3.42	20	13.560060	-1.47491755	13.560055	-1.84364694	13.560090	0.73745878	13.560060	-1.47491755		
4.18	20	13.560065	-1.10618816	13.560055	-1.84364694	13.560060	-1.47491755	13.560085	0.36872939		

Note. Frequency Tolerance (ppm) = Measurements Frequency (MHz) – Reference Frequency (MHz) / Reference Frequency (MHz) x 1000000

The primary power supply voltage rating of this EUT is 90% to 110%.

8. AC Power Line Conducted Emissions

8.1 Measurement procedure [FCC 15.207]

Test was applied by following conditions.

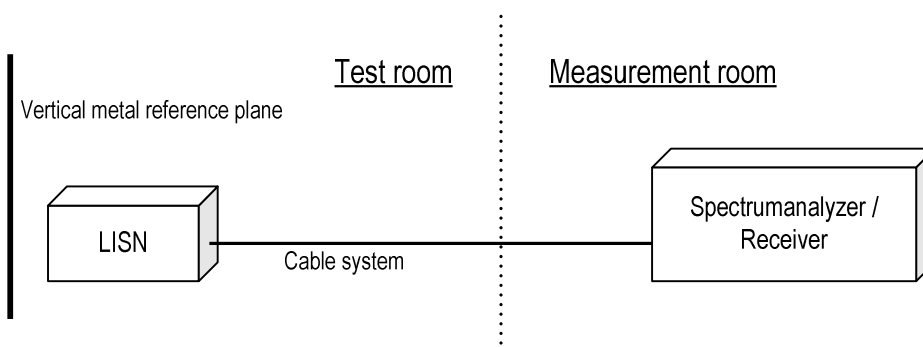
Test method	: ANSI C63.10
Frequency range	: 0.15MHz to 30MHz
Test place	: 3m Semi-anechoic chamber
EUT was placed on	: FRP table / (W)2.0m × (D)1.0m × (H)0.8m
Vertical Metal Reference Plane	: (W)2.0m × (H)2.0m 0.4m away from EUT
Test receiver setting	
- Detector	: Quasi-peak, Average
- Bandwidth	: 9kHz

EUT and peripherals are connected to 50Ω/50μH Line Impedance Stabilization Network (LISN) which are connected to reference ground plane, and are placed 80cm away from EUT. Excess of AC power cable is bundled in center.

LISN for peripheral is terminated in 50Ω.

EUT operating mode is selected to emit the maximum noise. Overall frequency range is investigated with spectrum analyzer using peak detector. Maximum emission configuration is determined by manipulating the EUT, peripherals, interconnecting cables. Then, emission measurements are performed with test receiver in above setting to each current-carrying conductor of the mains port. Sufficient time for EUT, peripherals and test equipment is provided in order for them to warm up to their normal operating condition. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits.

- Test configuration



8.2 Calculation method

Emission level = Reading + (LISN. factor + Cable system loss)

Margin = Limit – Emission level

8.3 Limit

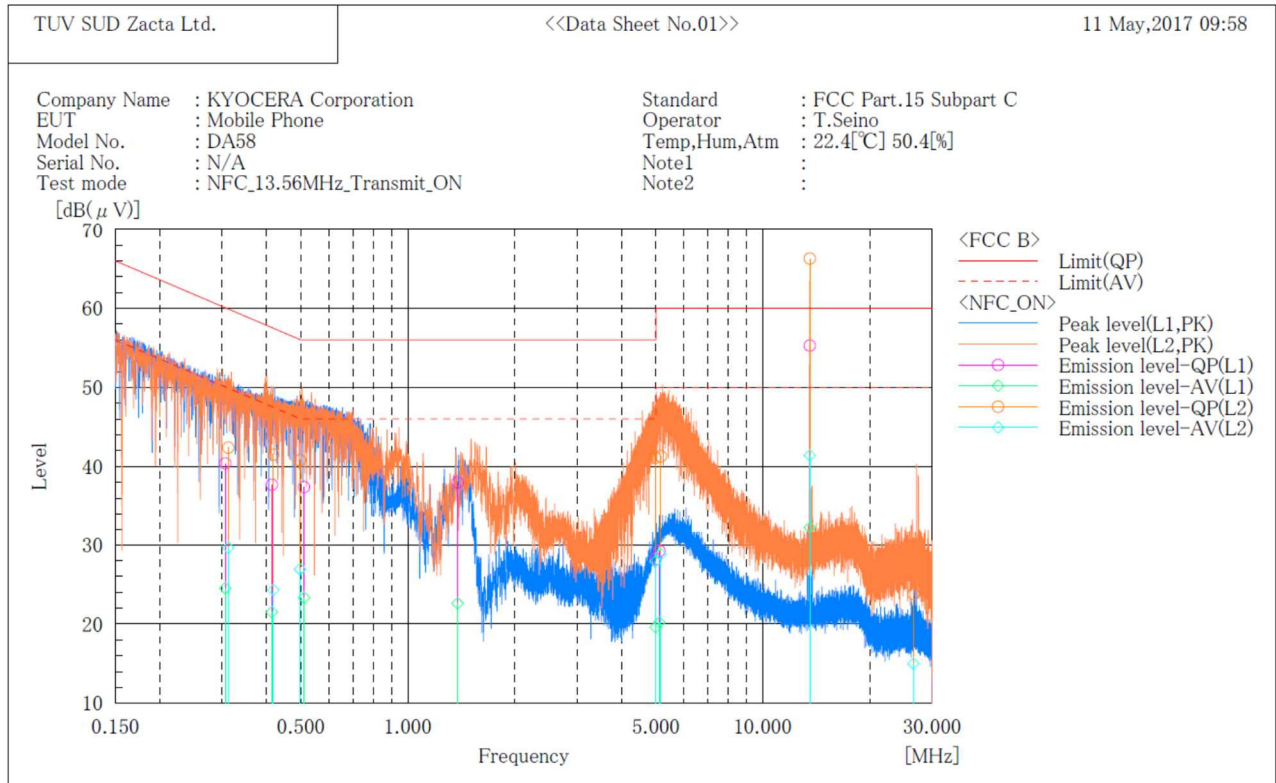
Frequency [MHz]	Limit	
	QP [dBuV]	AV [dBuV]
0.15-0.5	66-56*	56-46*
0.5-5	56	46
5-30	60	50

*: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

8.4 Test data

[Transmit ON]

***** CONDUCTED EMISSION at MAINS PORT *****
[3m Semi-anechoic chamber]



Final Result

--- L1 Phase ---

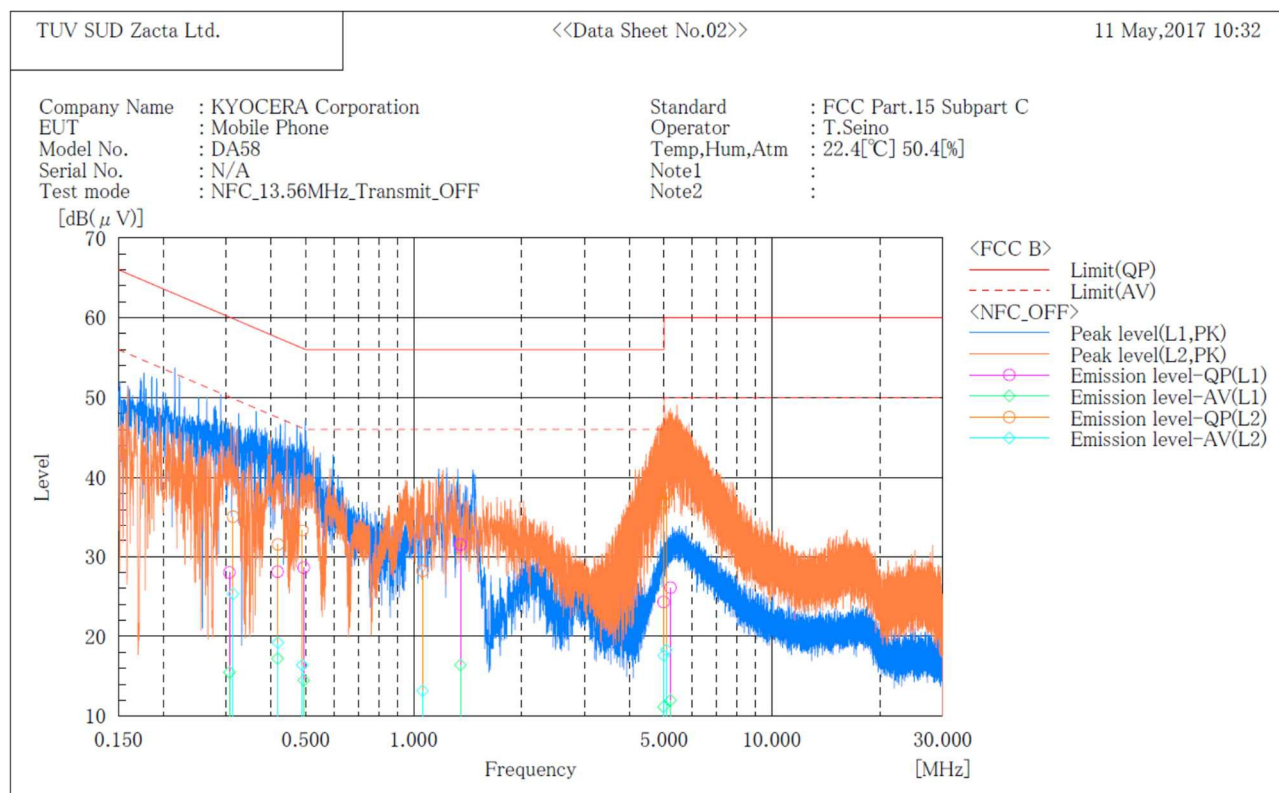
No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	0.306	30.1	14.2	10.3	40.4	24.5	60.1	50.1	19.7	25.6
2	0.414	27.4	11.2	10.3	37.7	21.5	57.6	47.6	19.9	26.1
3	0.510	27.1	13.0	10.3	37.4	23.3	56.0	46.0	18.6	22.7
4	1.381	27.7	12.3	10.3	38.0	22.6	56.0	46.0	18.0	23.4
5	4.992	17.7	9.1	10.5	28.2	19.6	56.0	46.0	27.8	26.4
6	5.113	18.7	9.7	10.5	29.2	20.2	60.0	50.0	30.8	29.8
7	13.560	44.5	21.5	10.8	55.3	32.3	60.0	50.0	4.7	17.7

--- L2 Phase ---

No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	0.312	32.1	19.3	10.3	42.4	29.6	59.9	49.9	17.5	20.3
2	0.418	31.2	14.0	10.3	41.5	24.3	57.5	47.5	16.0	23.2
3	0.497	30.5	16.6	10.3	40.8	26.9	56.0	46.0	15.2	19.1
4	4.985	30.6	17.4	10.5	41.1	27.9	56.0	46.0	14.9	18.1
5	5.162	30.8	18.3	10.5	41.3	28.8	60.0	50.0	18.7	21.2
6	13.560	55.5	30.6	10.8	66.3	41.4	60.0	50.0	-6.3	8.6
7	26.568	12.6	3.8	11.2	23.8	15.0	60.0	50.0	36.2	35.0

[Transmit OFF]

***** CONDUCTED EMISSION at MAINS PORT *****
 [3m Semi-anechoic chamber]

**Final Result****--- L1 Phase ---**

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.306	17.7	5.2	10.3	28.0	15.5	60.1	50.1	32.1	34.6
2	0.417	17.8	6.9	10.3	28.1	17.2	57.5	47.5	29.4	30.3
3	0.493	18.3	4.2	10.3	28.6	14.5	56.1	46.1	27.5	31.6
4	1.351	21.2	6.1	10.3	31.5	16.4	56.0	46.0	24.5	29.6
5	4.985	13.8	0.7	10.5	24.3	11.2	56.0	46.0	31.7	34.8
6	5.213	15.6	1.5	10.5	26.1	12.0	60.0	50.0	33.9	38.0

--- L2 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.313	24.8	15.0	10.3	35.1	25.3	59.9	49.9	24.8	24.6
2	0.418	21.2	8.9	10.3	31.5	19.2	57.5	47.5	26.0	28.3
3	0.489	23.0	6.1	10.3	33.3	16.4	56.2	46.2	22.9	29.8
4	1.059	17.9	2.9	10.3	28.2	13.2	56.0	46.0	27.8	32.8
5	4.991	26.3	7.1	10.5	36.8	17.6	56.0	46.0	19.2	28.4
6	5.075	27.6	7.8	10.5	38.1	18.3	60.0	50.0	21.9	31.7

9. Uncertainty of measurement

Expanded uncertainties stated are calculated with a coverage Factor $k=2$.

Please note that these results are not taken into account when determining compliance or non-compliance with test result.

Test item	Measurement uncertainty
Conducted emission at mains port	$\pm 3.0\text{dB}$
Radiated emission (9kHz – 30MHz)	$\pm 4.4\text{dB}$
Radiated emission (30MHz – 1000MHz)	$\pm 4.5\text{dB}$
Radiated emission (1000MHz – 26GHz)	$\pm 3.9\text{dB}$

10. Laboratory Information

1. Location

Name: Yonezawa Testing Center
 Address: 5-4149-7, Hachimanpara, Yonezawa-shi, Yamagata, 992-1128 Japan
 Phone: +81-238-28-2881
 Fax: +81-238-28-2888

2. Accreditation and Registration

1) NVLAP

LAB CODE: 200306-0

2) VLAC

Accreditation No.: VLAC-013

3) BSMI

Laboratory Code: SL2-IN-E-6018, SL2-A1-E-6018

4) Industry Canada

Site number	Facility	Expiration date
4224A-4	3m Semi-anechoic chamber	2017-12-03
4224A-5	10m Semi-anechoic chamber No.1	2017-12-03
4224A-6	10m Semi-anechoic chamber No.2	2019-12-14

5) VCCI Council

Registration number	Expiration date
A-0166	2017-07-03

Appendix A. Test equipment

Radiated emission

Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
Spectrum analyzer	Agilent Technologies	E4440A	US40420937	Jul. 31, 2017	Jul. 15, 2016
Microwave cable	SUHNER	SUCOFLEX104/1.5m	322087/4	Jul. 31, 2017	Jul. 20, 2016
Coaxial cable	FUJIKURA	3D-2W/0.8m	N/A(S320)	Nov. 30, 2017	Nov. 1, 2016
EMI Probe	ANRITSU	MA2601C	N/A(1753)	Oct. 31, 2017	Oct. 30, 2016
EMI Receiver	ROHDE&SCHWARZ	ESCI	100764	Aug. 31, 2017	Aug. 19, 2016
Preamplifier	ANRITSU	MH648A	M96057	Feb. 28, 2018	Feb. 1, 2017
Loop antenna	ROHDE&SCHWARZ	HFH2-Z2	892246/010	Feb. 28, 2018	Feb. 17, 2017
Attenuator	TDC	TAT-43B-06	N/A(S209)	May 31, 2017	May 10, 2016
Biconical antenna	Schwarzbeck	VHA9103/BBA9106	2155	Jun. 30, 2017	Jun. 2, 2016
Log periodic antenna	Schwarzbeck	UHALP9108A	0560	Jun. 30, 2017	Jun. 2, 2016
Attenuator	TME	CFA-01NPJ-6	N/A(S275)	Feb. 28, 2018	Feb. 3, 2017
Attenuator	TME	CFA-01NPJ-3	N/A(S272)	Feb. 28, 2018	Feb. 2, 2017
Microwave cable	SUHNER	SUCOFLEX104/9m	MY30037/4	Feb. 28, 2018	Feb. 3, 2017
		SUCOFLEX104/1m	my24610/4	Feb. 28, 2018	Feb. 2, 2017
		SUCOFLEX104/1.5m	317226/4	May 31, 2017	May 10, 2016
		SUCOFLEX106/7m	41625/6	Feb. 28, 2018	Feb. 3, 2017
PC	DELL	DIMENSION E521	75465BX	N/A	N/A
Software	TOYO Corporation	EP5/RE-AJ	0611193/V5.6.0	N/A	N/A
3m Semi an-echoic Chamber	TOKIN	N/A	N/A(9002-NSA)	May 31, 2017	May 11, 2016
Temperature and humidity chamber	ESPEC	PL1KP	14007261	Jan. 31, 2018	Jan. 20, 2017

Conducted emission at mains port

Equipment	Company	Model No.	Serial No.	Cal. due	Cal. date
EMI Receiver	ROHDE&SCHWARZ	ESCI	100764	Aug. 31, 2017	Aug. 19, 2016
Attenuator	HUBER+SUHNER	6810.01.A	N/A(S411)	Feb. 28, 2018	Feb. 2, 2017
Line impedance stabilization network for EUT	Kyoritsu Electrical Works, Ltd.	KNW-407F	8-2003-1	Mar. 31, 2018	Mar. 13, 2017
Coaxial cable	FUJIKURA	5D-2W/4m	N/A(S350)	Feb. 28, 2018	Feb. 2, 2017
Coaxial cable	FUJIKURA	5D-2W/1m	N/A(S193)	Feb. 28, 2018	Feb. 3, 2017
Coaxial cable	SUHNER	RG214/U/10m	N/A(S194)	Feb. 28, 2018	Feb. 3, 2017
PC	DELL	DIMENSION E521	75465BX	N/A	N/A
Software	TOYO Corporation	EP5/CE-AJ	0611193/V5.4.11	N/A	N/A

*: The calibrations of the above equipment are traceable to NIST or equivalent standards of the reference organizations.