## Report on the RF Testing of:

**KYOCERA Corporation** 

Mobile Phone, Model: DB62

FCC ID: JOYDB62

# In accordance with FCC Part15 Subpart C

Prepared for: KYOCERA Corporation

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### **COMMERCIAL-IN-CONFIDENCE**

Document Number: JPD-TR-19173-0

### **SIGNATURE**

Hiro Sugueles

NAME	JOB TITLE	RESPONSIBLE FOR	ISSUE DATE
Hiroaki Suzuki	Deputy Manager of RF Group	Approved Signatory	1 0 OCT 2019

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD Japan Ltd. document control rules.

#### **EXECUTIVE SUMMARY**

A sample(s) of this product was tested and found to be compliant with FCC Part15 Subpart C.



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## 1 Summary of Test

### 1.1 Modification history of the test report

Document Number	Modification History	Issue Date
JPD-TR-19173-0	First Issue	Refer to the cover page

#### 1.2 Standards

CFR47 FCC Part 15 Subpart C

### 1.3 Test methods

ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02

#### 1.4 Deviation from standards

None

### 1.5 List of applied test(s) of the EUT

Test item section	Test item	Condition	Result	Remark
15.247(a)(2)	DTS Bandwidth / Occupied Bandwidth (99%)	Conducted	PASS	-
15.247(b)(3)	Maximum conducted (average) output power	Conducted	PASS	-
15.247(d)	Band Edge Compliance of RF Conducted Emissions	Conducted	PASS	-
15.247(d) 15.205 15.209	Spurious Emissions	Conducted Radiated	PASS	-
15.247(d) 15.205 15.209	Restricted Bands of Operation	Radiated	PASS	-
15.247(e)	Transmitter Power Spectral Density	Conducted	PASS	-
15.207	AC Power Line Conducted Emissions	Conducted	PASS	-

#### 1.6 Test information

None

### 1.7 Test set up

Table-top

### 1.8 Test period

6-August-2019 - 11-September-2019



## 2 Equipment Under Test

#### 2.1 EUT information

Applicant KYOCERA Corporation

Yokohama Office 2-1-1 Kagahara, Tsuzuki-ku Yokohama-shi,

Kanagawa, Japan

Phone: +81-45-943-6253 Fax: +81-45-943-6314

Equipment Under Test (EUT) Mobile Phone

Model number DB62
Serial number N/A

Trade name Kyocera

Number of sample(s) 1

EUT condition Pre-Production

Power rating Battery: DC 3.8 V

Size (W)  $51.3 \times (D) 17.9 \times (H) 112.3 \text{ mm}$ 

Environment Indoor and Outdoor use

Terminal limitation -20°C to 60°C

Hardware Version DMT1

Software Version V0.030AN.0015.a Firmware Version Not applicable

RF Specification

Protocol IEEE802.11b, IEEE802.11g, IEEE802.11n (HT20),
Frequency range IEEE802.11b /11g/11n (HT20): 2412 MHz-2462 MHz

Number of RF Channels 11 Channels

Modulation type IEEE802.11b: DSSS (DBPSK, DQPSK, CCK)

IEEE802.11g /11n (HT20): OFDM (BPSK, QPSK, 16QAM,

64QAM)

Data rate IEEE802.11b: 1, 2, 5.5, 11Mbps

IEEE802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps

IEEE802.11n (HT20 LGI): 6.5, 13, 19.5, 26, 39, 52, 58.5, 65Mbps

IEEE802.11n (HT20 SGI): 7.2, 14.4, 21.7, 28.9, 43.3, 57.8, 65, 72.2Mbps

Channel separation 5 MHz

Output power 47.523 mW (IEEE802.11b)

81.846 mW (IEEE802.11g) 82.947 mW (IEEE802.11n: HT20)

Antenna type Internal antenna

Antenna gain 2.0 dBi



### 2.2 Modification to the EUT

The table below details modifications made to the EUT during the test project.

Modification State Description of Modification		Modification fitted by Date of Modificat	
Model: DB62, Serial Number: N/A			
0	As supplied by the applicant	Not Applicable	Not Applicable

### 2.3 Variation of family model(s)

### 2.3.1 List of family model(s)

DB62 has model with camera and without camera.

#### 2.3.2 Reason for selection of EUT

Not applicable

### 2.4 Operating channels and frequencies

Channel	Frequency [MHz]
1	2412
2	2417
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452
10	2457
11	2462



### 2.5 Description of test mode

The EUT had been tested under operating condition.

There are three channels have been tested as following:

Tested Channel [11b, 11g, 11n(HT20)]	Frequency [MHz]
Low	2412
Middle	2437
High	2462

The pre-test has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates.

Tested Channel	Modulation Type	Data Rate
Low, Middle, High	IEEE802.11b: DSSS	1Mbps
Low, Middle, High	IEEE802.11g: OFDM	6Mbps
Low, Middle, High	IEEE802.11n (HT20 LGI): OFDM	MCS0 (6.5Mbps)

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 X-axis, open and the worst case recorded.

Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports.

### 2.6 Operating flow

#### - Tx mode

- i) Test program setup to the Software
- ii) Select a Test mode

[IEEE802.11b, IEEE802.11g, IEEE802.11n (HT20)]

Operating frequency: Channel Low: 2412MHz, Channel Middle: 2437MHz, Channel High: 2462MHz

iii) Start test mode

#### - Rx mode

- i) Test program setup to the Software
- ii) Select a Test mode

[IEEE802.11b, IEEE802.11g, IEEE802.11n (HT20)]

Operating frequency: Channel Low: 2412MHz, Channel Middle: 2437MHz, Channel High: 2462MHz

iii) Start test mode



## 3 Configuration of Equipment

Numbers assigned to equipment on the diagram in "3.3 System configuration" correspond to the list in "3.1 Equipment used" and "3.2 Cable(s) used".

Cabling and setup(s) were taken into consideration and test data was taken under worse case condition.

#### 3.1 Equipment used

No.	Equipment	Company	Model No.	Serial No.	FCC ID/DoC	Comment
1	Mobile Phone	KYOCERA	DB62	N/A	JOYDB62	EUT
2	AC Adapter	KDDI	0301PQA	N/A	N/A	*

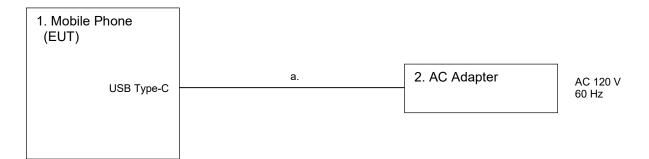
<sup>\*:</sup>AC power line Conducted Emission Test.

### 3.2 Cable(s) used

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

<sup>\*:</sup>AC power line Conducted Emission Test.

### 3.3 System configuration





### 4 Test Result

### 4.1 DTS Bandwidth / Occupied Bandwidth (99%)

#### 4.1.1 Measurement procedure

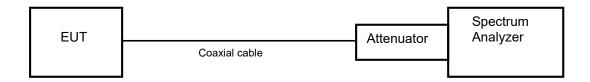
### [FCC 15.247(a)(2), KDB 558074 D01 v05r02, Section 8.2]

The bandwidth at 6dB down from the highest inband spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to;

- a) RBW = 100kHz.
- b) VBW  $\geq 3 \times RBW$ .
- c) Sweep time = auto-couple.
- d) Detector = peak.
- e) Trace mode = max hold.

### - Test configuration



### 4.1.2 Limit

The minimum permissible 6 dB bandwidth is 500 kHz.



#### 4.1.3 Measurement result

: 23-August-2019 Date

Temperature : 24.5 [°C]
Humidity : 56.0 [%]
Test place : Shielded room No.4

Test engineer Tadahiro Seino

	DTS Bandwidth [MHz]				
Channel	IEEE802.11b	IEEE802.11g	IEEE802.11n (HT20)		
Low	7.601	16.424	17.625		
Middle	7.597	16.410	17.602		
High	7.603	16.399	17.612		

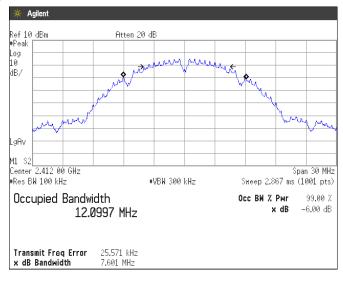
	Occupied Bandwidth (99%) [MHz]			
Channel	IEEE802.11b	IEEE802.11g	IEEE802.11n (HT20)	
Low	12.100	16.518	17.676	
Middle	12.174	16.558	17.703	
High	12.148	16.534	17.671	



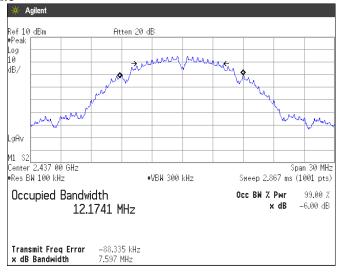
### 4.1.4 Trace data

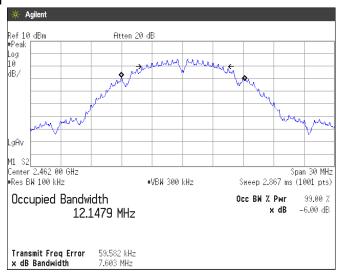
### [IEEE802.11b]

#### **Channel Low**



### **Channel Middle**

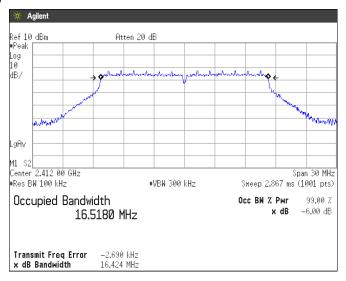




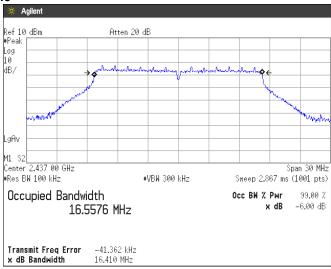


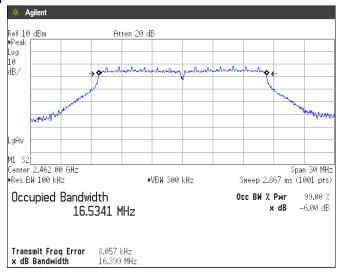
### [IEEE802.11g]

#### **Channel Low**



#### **Channel Middle**

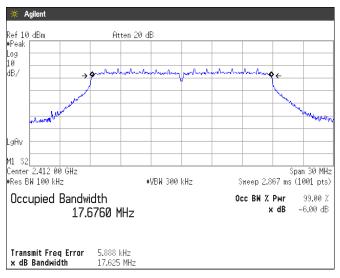




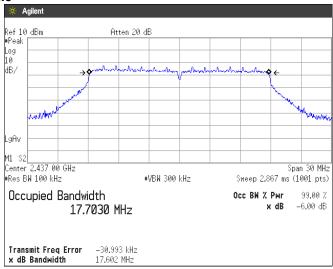


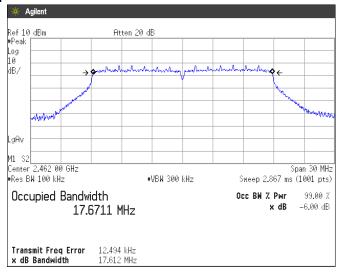
### [IEEE802.11n (HT20)]

#### **Channel Low**



#### **Channel Middle**







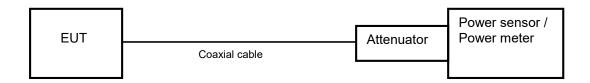
### 4.2 Maximum Conducted Output Power

### 4.2.1 Measurement procedure

### [FCC 15.247(b)(3), KDB 558074 D01 v05r02, Section 8.3.1.3]

The peak power is measured with a power sensor connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

- Test configuration



#### 4.2.2 Limit

1 W (1000 mW) or less



4.2.3 Measurement result

23-August-2019 Date

Temperature 24.5 [°C] Humidity : 56.0 [%]

Test engineer : Shielded room No.4 Test place Tadahiro Seino

## [IEEE802.11b]

### **Battery Full**

Channel	Center Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Output Power (mW)	Limit (mW)	Result
Low	2412	6.10	10.58	16.68	46.537	<b>≦1000</b>	PASS
Middle	2437	5.33	10.58	15.91	39.012	≦1000	PASS
High	2462	6.19	10.58	16.77	47.523	≦1000	PASS

### [IEEE802.11g]

### **Battery Full**

Channel	Center Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Output Power (mW)	Limit (mW)	Result
Low	2412	8.42	10.58	19.00	79.341	≦1000	PASS
Middle	2437	7.58	10.58	18.16	65.509	≦1000	PASS
High	2462	8.55	10.58	19.13	81.846	≦1000	PASS

### [IEEE802.11n (HT20)]

### **Battery Full**

Channel	Center Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Output Power (mW)	Limit (mW)	Result
Low	2412	8.61	10.58	19.19	82.947	≦1000	PASS
Middle	2437	7.77	10.58	18.35	68.344	≦1000	PASS
High	2462	8.26	10.58	18.84	76.507	≦1000	PASS

Calculation;

Reading (dBm) + Factor (dB) = Level (dBm)

10logP = Level (dBm) P = 10<sup>(Maximum Peak Output Power / 10)</sup> (mW)



### 4.3 Band Edge Compliance of RF Conducted Emissions

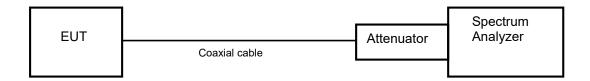
### 4.3.1 Measurement procedure

#### [FCC 15.247(d), KDB 558074 D01 v05r02, Section 8.5]

The Band Edge is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to;

- a) Span = Arbitrary setting. (Setting suitable for measurement.)
- b) RBW = 100kHz.
- c) VBW  $\geq 3 \times RBW$
- d) Sweep time = auto-couple.
- e) Detector = peak.
- f) Trace mode = max hold.
- Test configuration



#### 4.3.2 Limit

In any 100 kHz bandwidth outside the frequency band the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.



4.3.3 Measurement result

 Date
 : 23-August-2019

 Temperature
 : 24.5 [°C]

 Humidity
 : 56.0 [%]

 Test place
 : Shielded room No.4

Test engineer Tadahiro Seino

[IFFF802 11b]

[ILLLOUZ.	ַנְטוּוּטְן	ı		1	ı		
Channel	Frequency (MHz)	RF Power Level (dBm)	Band-edge Frequency (MHz)	Cy Level Level (dBm) (dBm)		Result	
Low	2412.00	-5.08	2398.48	-55.29	50.21	At least 20dB below from peak of RF	PASS
High	2462.00	-4.58	2483.82	-67.50	62.92	At least 20dB below from peak of RF	PASS

[IEEE802.11g]

Channel	Frequency (MHz)	RF Power Level (dBm)	Band-edge Frequency (MHz)	Band-edge Level (dBm)	Difference Level (dBm)	Limit (dBm)	Result
Low	2412.00	-12.31	2399.84	-49.21	36.90	At least 20dB below from peak of RF	PASS
High	2462.00	-11.76	2483.58	-60.11	48.35	At least 20dB below from peak of RF	PASS

[IEEE802.11n (HT20)]

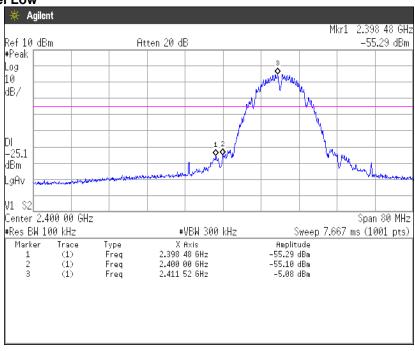
Channel	Frequency (MHz)	RF Power Level (dBm)	Band-edge Frequency (MHz)	Band-edge Level (dBm)	Difference Level (dBm)	Limit (dBm)	Result
Low	2412.00	-12.27	2399.92	-47.55	35.28	At least 20dB below from peak of RF	PASS
High	2462.00	-11.77	2483.58	-57.95	46.18	At least 20dB below from peak of RF	PASS

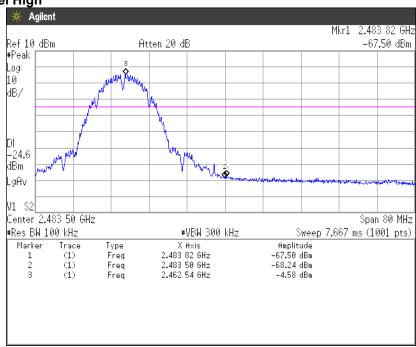


### 4.3.4 Trace data

### [IEEE802.11b]

### **Channel Low**

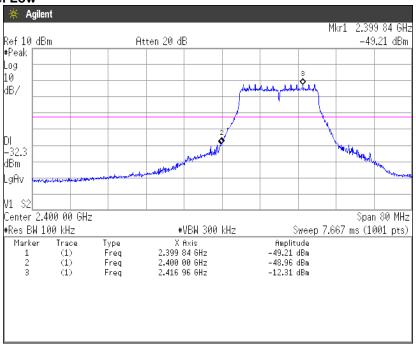


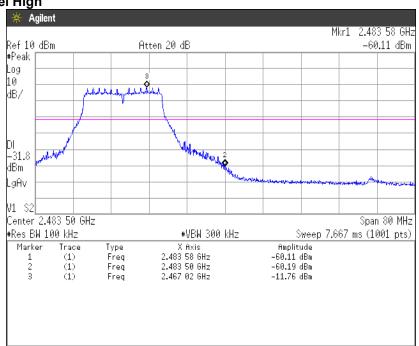




### [IEEE802.11g]

#### **Channel Low**

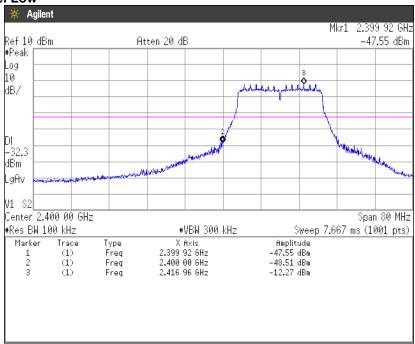


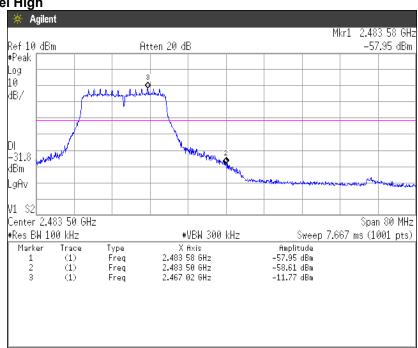




### [IEEE802.11n (HT20)]

#### **Channel Low**







### 4.4 Spurious emissions - Conducted -

#### 4.4.1 Measurement procedure

#### [FCC 15.247(d), KDB 558074 D01 v05r02, Section 8.5]

The spurious emissions (Conducted) are measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to;

- a) Span = wide enough to fully capture the emission being measured.
- b) RBW = 100 kHz.
- c) VBW ≥ RBW.
- d) Sweep time = auto-couple.
- e) Detector = peak.
- f) Trace mode = max hold.
- Test configuration



#### 4.4.2 Limit

In any 100 kHz bandwidth outside the frequency band the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.



4.4.3 **Measurement result** 

Date : 23-August Temperature : 24.5 [°C] 23-August-2019

Humidity : 56.0 [%]

Test engineer Test place : Shielded room No.4 Tadahiro Seino

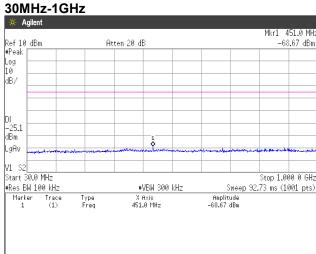
[IEEE802.11b、IEEE802.11g、IEEE802.11n (HT20)]

Channel	Frequency [MHz]	Limit [dB]	Results Chart	Result
Low	2412	At least 20dB below from peak of RF	See the trace Data	PASS
Middle	2437	At least 20dB below from peak of RF	See the trace Data	PASS
High	2462	At least 20dB below from peak of RF	See the trace Data	PASS

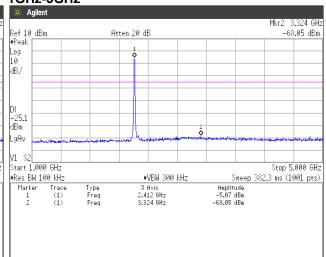


#### 4.4.4 Trace data

### [IEEE802.11b] Channel Low

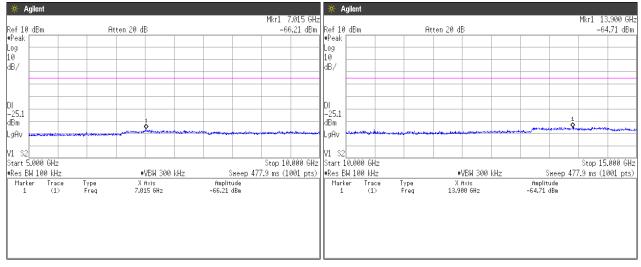


#### 1GHz-5GHz



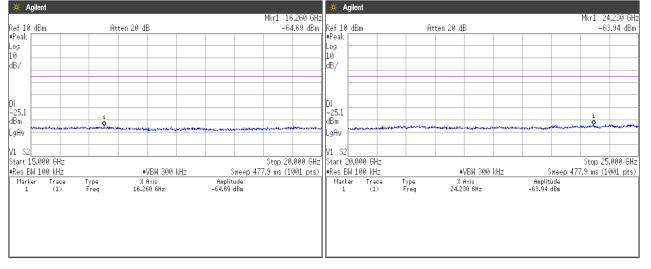
#### 5GHz-10GHz

#### 10GHz-15GHz



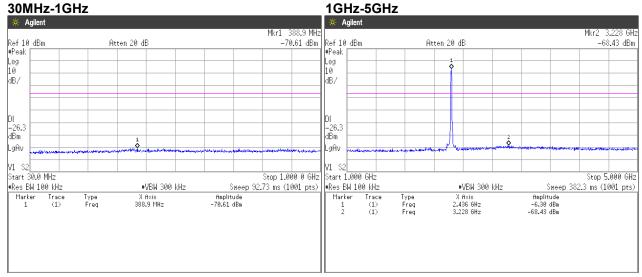
### 15GHz-20GHz

### 20GHz-25GHz

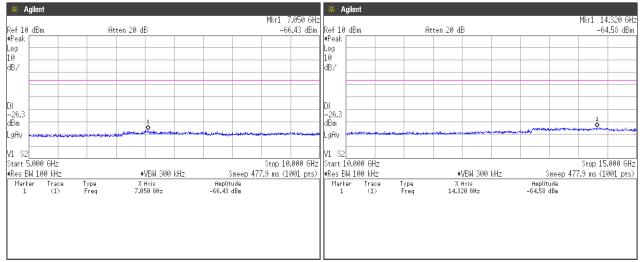


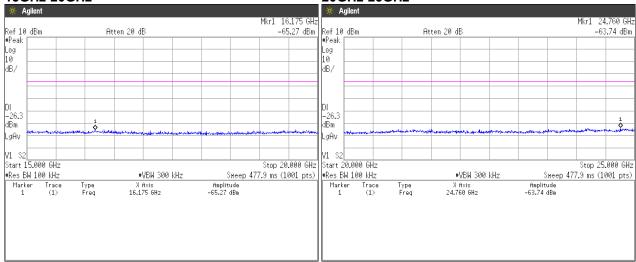


Channel Middle



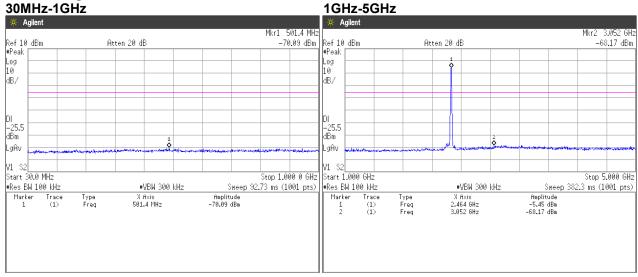
5GHz-10GHz 10GHz-15GHz



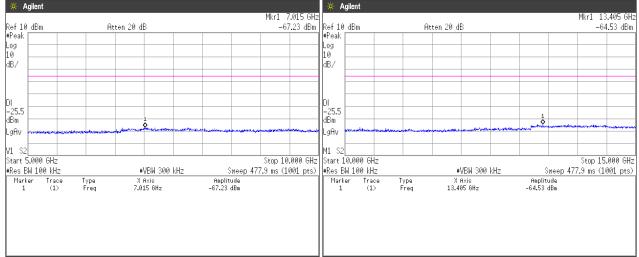


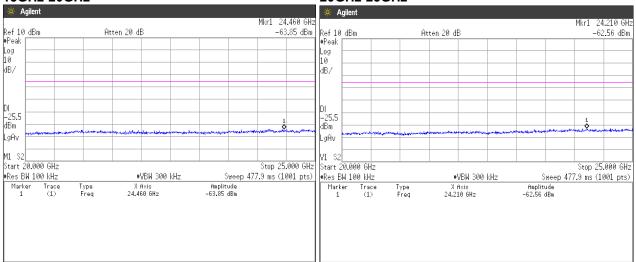


Channel High 30MHz-1GHz



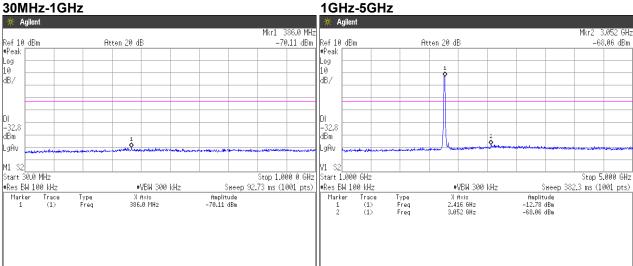
5GHz-10GHz 10GHz-15GHz



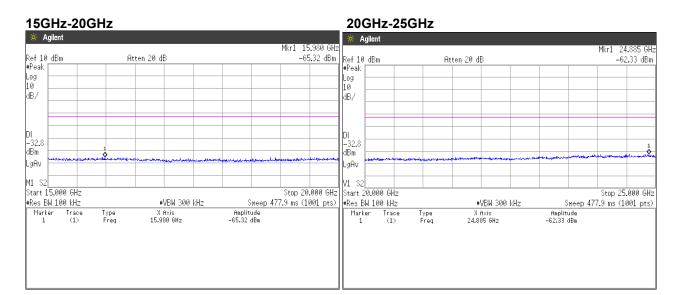




[IEEE802.11g] Channel Low

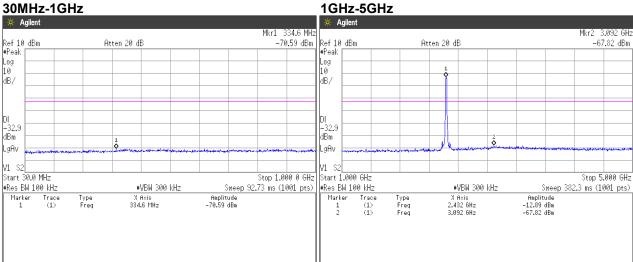


5GHz-10GHz 10GHz-15GHz Mkr1 7.440 GHz Mkr1 14,340 GHz Ref 10 dBm #Peak -66.70 dBm Ref 10 dBm #Peak -64.16 dBm Atten 20 dB Atten 20 dB Log 10 Log 10 dB/ dB/ DI -32.8 dBm DI -32.8 dBm 1 ♦ **\( \)** LgAv LaAv M1 S2 Start 5.000 GHz Stop 10.000 GHz Start 10.000 GHz Stop 15.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 477.9 ms (1001 pts) #Res BW 100 kHz #VBW 300 kHz Sweep 477.9 ms (1001 pts) Marker Trace 1 (1) X Axis 7.440 GHz Marker X Axis 14.340 GHz

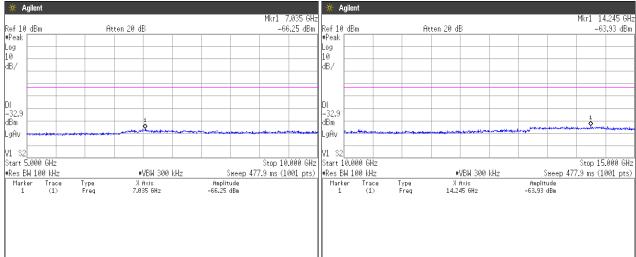


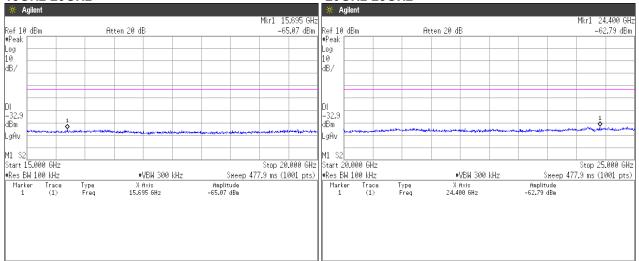


## Channel Middle



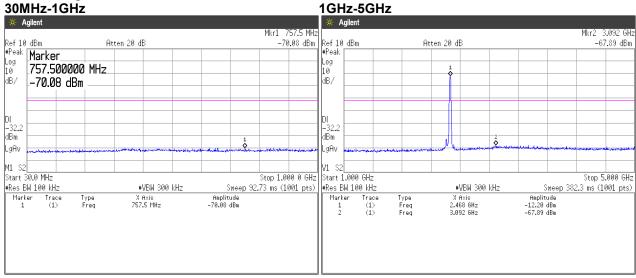
#### 5GHz-10GHz 10GHz-15GHz



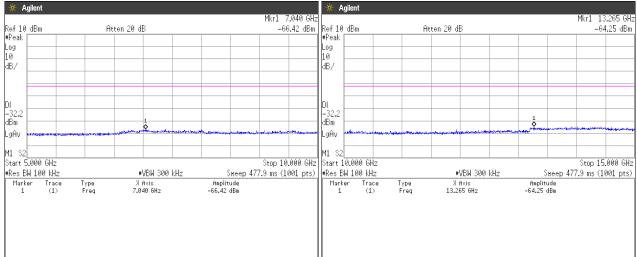


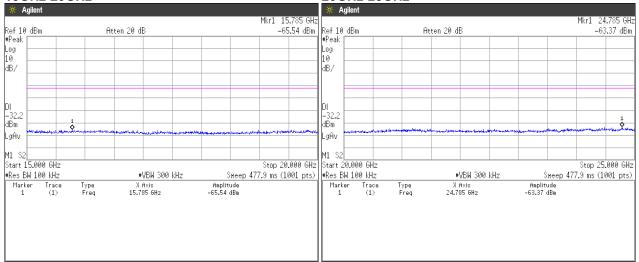


Channel High 30MHz-1GHz



5GHz-10GHz 10GHz-15GHz



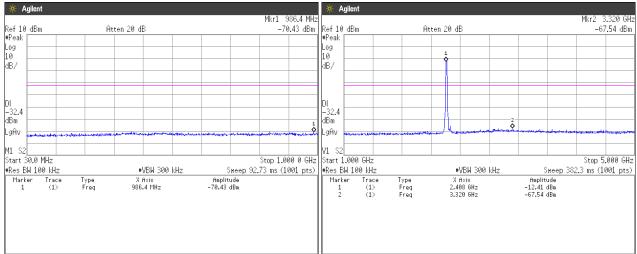




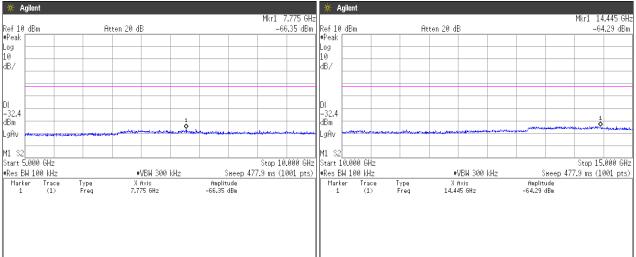
## [IEEE802.11n (HT20)]

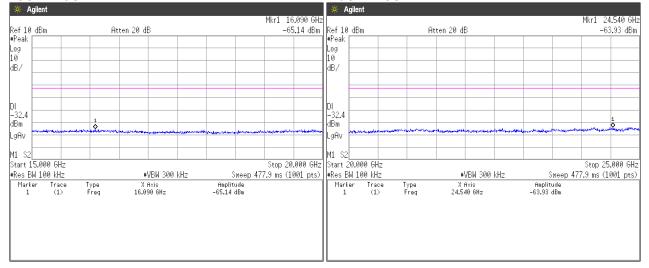
Channel Low 30MHz-1GHz





5GHz-10GHz 10GHz-15GHz

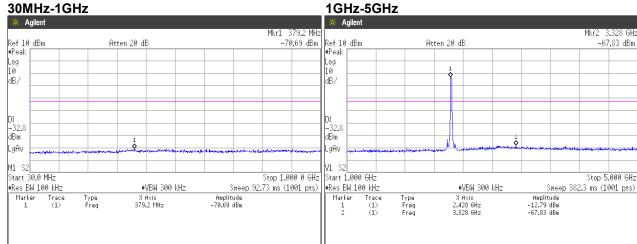




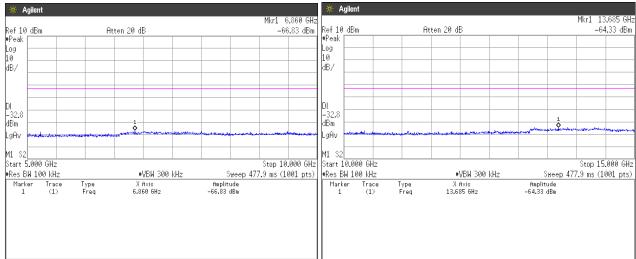


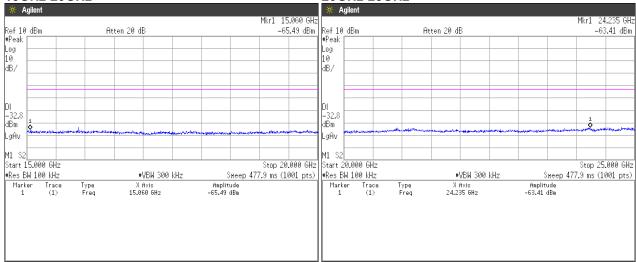
Mkr2 3.328 GHz -67.83 dBm

## **Channel Middle**



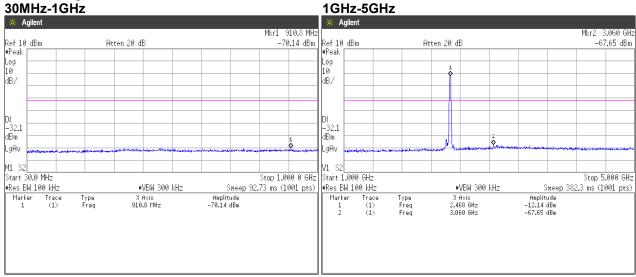
5GHz-10GHz 10GHz-15GHz



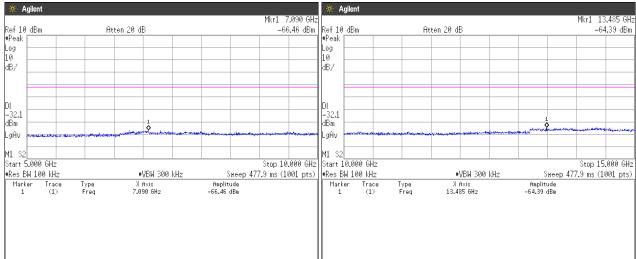


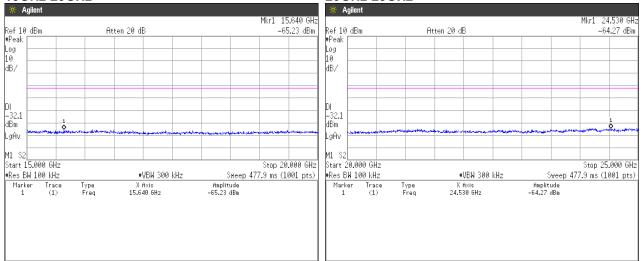


Channel High 30MHz-1GHz



5GHz-10GHz 10GHz-15GHz







### 4.5 Spurious Emissions - Radiated -

### 4.5.1 Measurement procedure

#### [FCC 15.247(d), 15.205, 15.209, KDB 558074 D01 v05r02, Section 8.6]

Test was applied by following conditions.

Test method : ANSI C63.10 Frequency range : 9 kHz to 25 GHz

Test place : 3m Semi-anechoic chamber

EUT was placed on : Styrofoam table / (W) 1.0 × (D) 1.0 × (H) 0.8 m (below 1 GHz)

Styrofoam table / (W)  $0.6 \times (D) 0.6 \times (H)1.5 \text{ m}$  (above 1 GHz)

Antenna distance : 3 m

Test receiver setting Below 1 GHz

- Detector : Average (9 kHz-90 kHz, 110 kHz-490 kHz), Quasi-peak

- Bandwidth : 200 Hz, 120 kHz Spectrum analyzer setting Above 1 GHz

- Peak : RBW=1 MHz, VBW=3 MHz, Span=0 Hz, Sweep=auto - Average : RBW=1 MHz, VBW=10Hz, Span=0 Hz, Sweep=auto

Display mode=Linear

Average Measurement Setting [VBW]

Mode	Duty Cycle (%)	T <sub>on</sub> (us)	T <sub>off</sub> (us)	Determined VBW Setting
IEEE802.11b	99.22	1024	8	10Hz (Duty Cycle ≧ 98%)
IEEE802.11g	99.42	1364	8	10Hz (Duty Cycle ≧ 98%)
IEEE802.11n(HT20)	99.22	1272	10	10Hz (Duty Cycle ≧ 98%)

Although these tests were performed other than open area test site, adequate comparison measurements

were confirmed against 30 m open are test site.

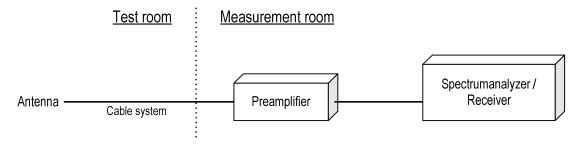
Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 937606.

Radiated emission measurements are performed at 3m distance with the broadband antenna (Loop antenna, Biconical antenna, Log periodic antenna and Double ridged guide antenna). The antenna is positioned both the horizontal and vertical planes of polarization and height is varied 1m to 4m and stopped at height producing the maximum emission. As for the Loop antenna, it is positioned with its plane vertical, and the center of the Loop antenna is 1m above the ground plane.

The EUT is Placed on a turntable, which is 0.8m/1.5m above ground plane. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. The test results represent the worst case emission for each emission with manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation. Sufficient time for the EUT, support equipment, and test equipment are allowed in order for them to warm up to their normal operating condition.



#### - Test configuration



#### 4.5.2 Calculation method

[9 kHz to 150 kHz]

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

Margin = Limit – Emission level

[150 kHz to 25 GHz]

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

Margin = Limit – Emission level

Example:

Limit @ 4824.0 MHz : 74.0 dBuV/m (Peak Limit) S.A Reading = 49.5 dBuV Cable system loss = 8.4 dB

Result = 49.5 + 8.4 = 45.1 dBuV/m Margin = 74.0 - 45.1 = 16.1 dB

#### 4.5.3 Limit

Frequency	Field s	trength	Distance
[MHz]	[uV/m]	[dBuV/m]	[m]
0.009-0.490	2400 / F [kHz]	20logE [uV/m]	300
0.490-1.705	24000 / F [kHz]	20logE [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

- 1. The lower limit shall apply at the transition frequencies.
- 2. Emission level [dBuV/m] = 20log Emission [uV/m]
- 3. As shown in 15.35(b), for frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition modulation.



### 4.5.4 Test data

Date : 6-August-2019

Temperature : 21.1 [°C] Humidity : 63.7 [%]

Humidity : 63.7 [%] Test engineer : Test place : 3m Semi-anechoic chamber Tadahiro Seino

Date : 7-August-2019

Temperature : 21.4 [°C]

Humidity : 50.3 [%] Test engineer

Test place : 3m Semi-anechoic chamber <u>Tadahiro Seino</u>

Date : 10-September-2019

Temperature : 22.8 [°C]

Humidity : 58.1 [%]

Test place : 3m Semi-anechoic chamber Tadahiro Seino

Test engineer

Date : 11-September-2019

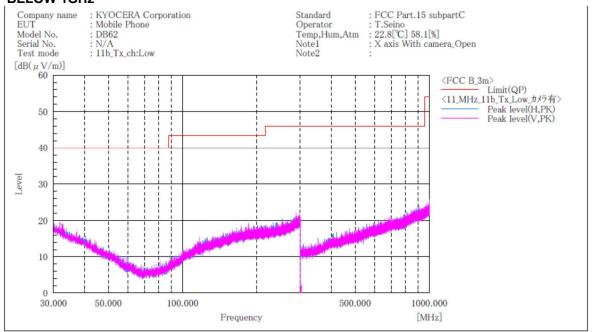
Temperature : 22.8 [°C]

Humidity : 58.1 [%] Test engineer



#### 4.5.4.1 Transmission mode - With camera

#### [11b] Channel Low BELOW 1GHz

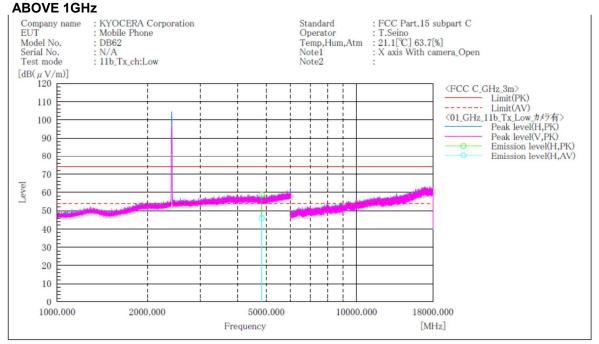


Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor ( Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



### [11b] Channel Low





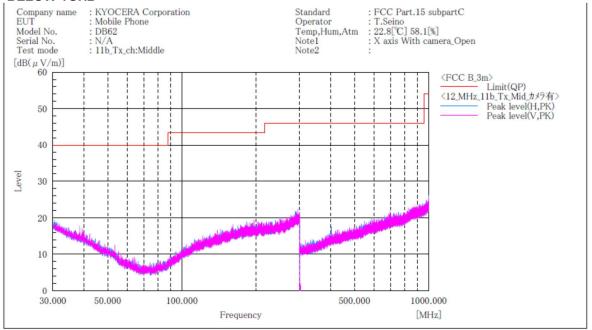
No.	Frequency	(P)	Reading PK	Reading AV	c. f	Result PK	Result	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle
	[MHz]		$[dB(\mu V)]$	$[dB(\mu V)]$	[dB(1/m)]	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	[dB]	[dB]	[cm]	[°]
1	4824, 000	H	48. 7	35. 9	10. 1	58. 8	46. 0	74. 0	54. 0	15. 2	8. 0	163.0	168. 0

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



### [11b] Channel Middle

### **BELOW 1GHz**

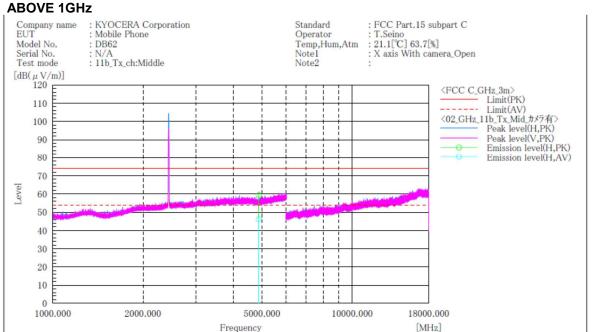


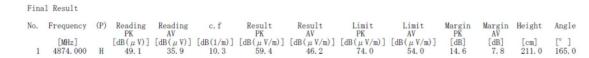
Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



# [11b] Channel Middle

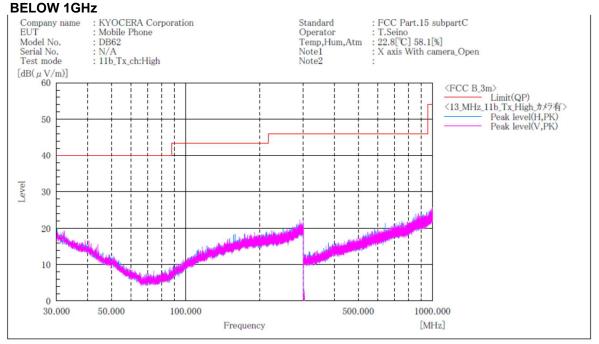




- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



# [11b] Channel High

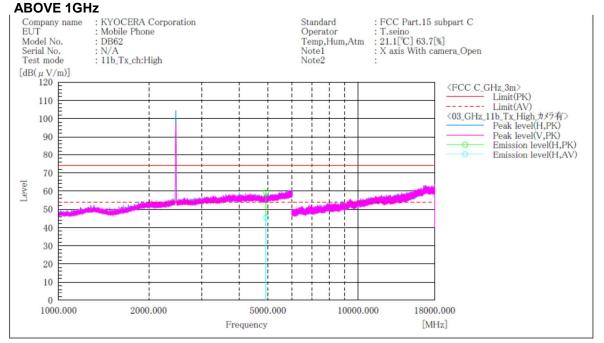


Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



# [11b] Channel High



Final Result

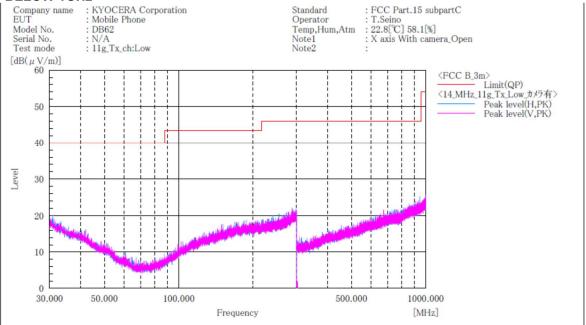
No.	Frequency	(P)	Reading PK	Reading	c. f	Result	Result	Limit	Limit AV	Margin	Margin	Height	Angle
	[MHz]		$[dB(\mu V)]$		[dB(1/m)]	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	[dB]	[dB]	[cm]	[°]
1	4924 000	П	18 8	25 1	10 4	50 2	45 5	74 0	54 0	14 8	8 5	197 0	160 0

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



# [11g] Channel Low

# **BELOW 1GHz**

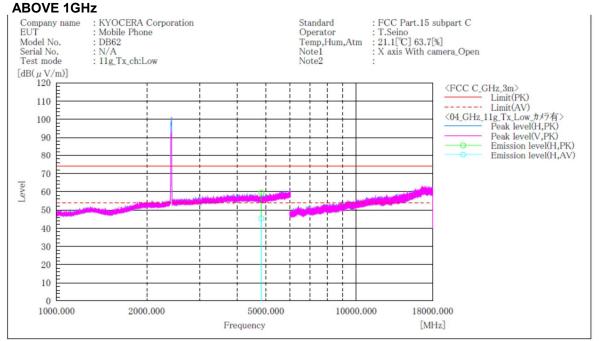


Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



# [11g] Channel Low





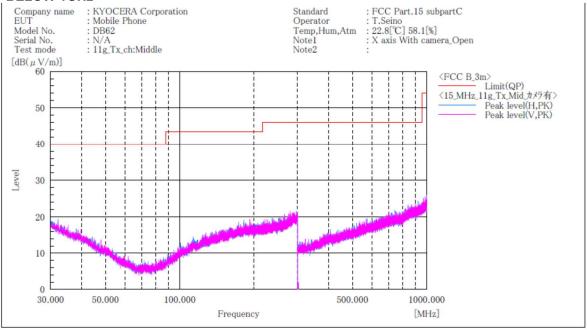
No.	Frequency	(P)	Reading	Reading	c. f	Result	Result	Limit	Limit	Margin	Margin	Height	Angle
	[MHz]		[dB(µV)]	$[dB(\mu V)]$	[dB(1/m)]	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	[dB]	[dB]	[cm]	[°]
1	4824.000	H	49.3	35. 3	10.1	59. 4	45. 4	74.0	54.0	14.6	8.6	201.0	178.0

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



# [11g] Channel Middle

## **BELOW 1GHz**



## Final Result

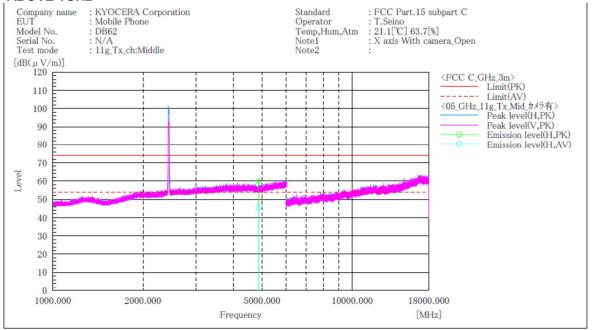
No. Frequency (P) c.f Height Angle 
$$[MHz] \hspace{0.5cm} [dB(1/m)] \hspace{0.5cm} [cm] \hspace{0.5cm} [^{\circ}\hspace{0.5cm}]$$

- 1. Emission Level (Margin) = Limit [Reading + Factor ( Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



# [11g] Channel Middle

# **ABOVE 1GHz**



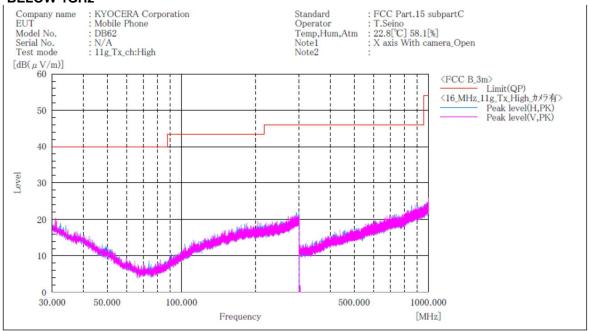
Final Result

No. Frequency (P) Reading PK AV PK AV PK AV Result Result Limit Limit Margin PK AV PK AV PK AV PK AV PK AV RIMED [dB(
$$\mu$$
V)] [dB( $\mu$ 

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



# [11g] Channel High BELOW 1GHz

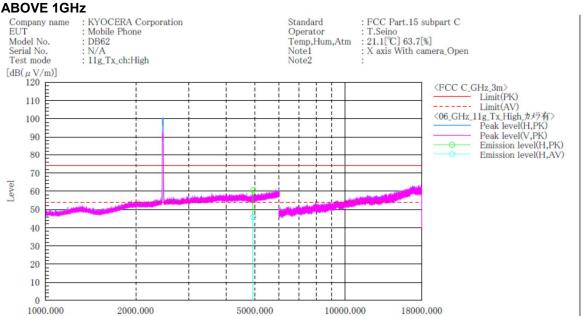


## Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor ( Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



# [11g] Channel High





No	Frequency	(P)	Reading PK	Reading	c. f	Result	Result	Limit	Limit	Margin	Margin	Height	Angle
	[MHz]		$[dB(\mu V)]$					$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	[dB]	[dB]	[cm]	[°]
	1 4024 000	u	EO 1	25 5	10 4	60 5	45 Q	74 0	E4 0	12 5	0 1	100 0	101 0

[MHz]

# Note:

1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]

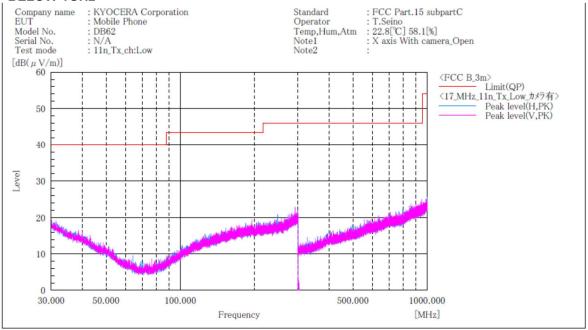
Frequency

2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



[11n(HT20)] Channel Low

# **BELOW 1GHz**



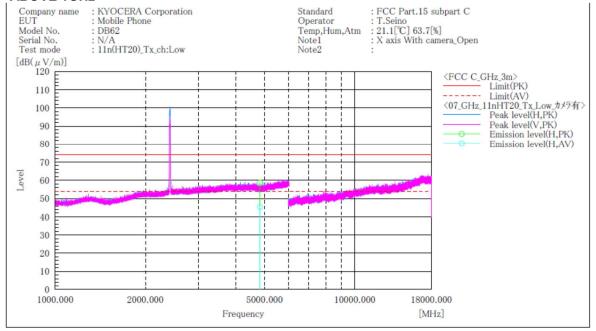
Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



# [11n(HT20)] Channel Low

# **ABOVE 1GHz**



Final Result

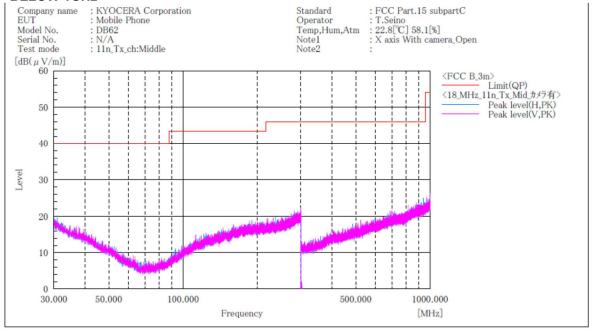
No.	Frequency	(P)	PK	Reading AV	c. f	Result PK	Result	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle
	[MHz]		$[dB(\mu V)]$	$[dB(\mu V)]$	[dB(1/m)]	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	[dB]	[dB]	[cm]	[°]
1	4824,000	H	48, 6	35, 3	10.1	58, 7	45. 4	74.0	54.0	15. 3	8.6	179.0	180.0

- 1. Emission Level (Margin) = Limit [Reading + Factor ( Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



# [11n(HT20)] Channel Middle

# **BELOW 1GHz**

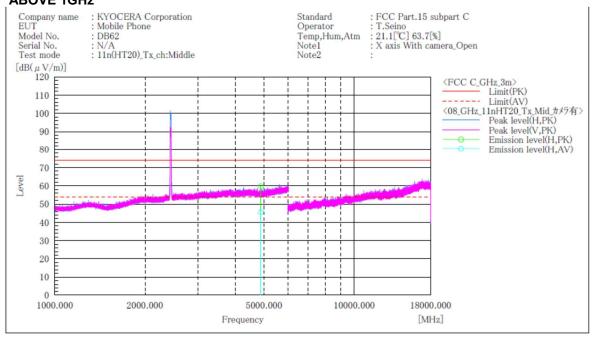


## Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



# [11n(HT20)] Channel Middle ABOVE 1GHz

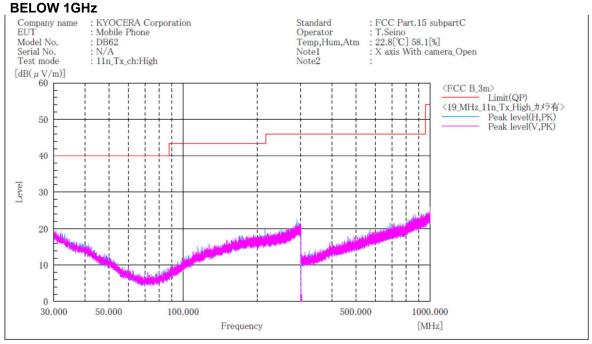


Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



[11n(HT20)] Channel High



Final Result

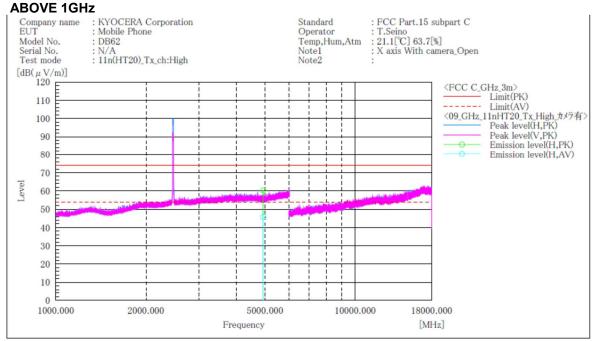
No. Frequency (P) c.f Height Angle 
$$[\mathrm{MHz}] \qquad \qquad [\mathrm{dB}(1/\mathrm{m})] \quad [\mathrm{cm}] \qquad [^{\circ} \ ]$$

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



Japan

# [11n(HT20)] Channel High



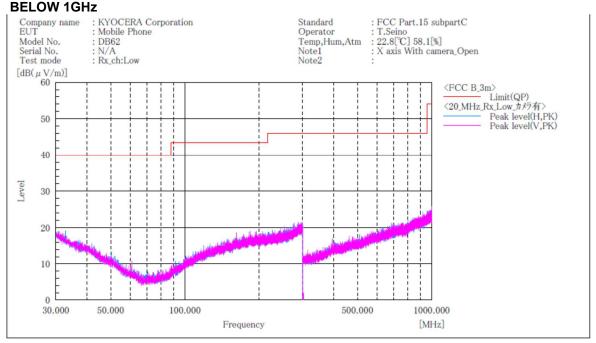
Final Result 
No. Frequency (P) Reading Reading C.f Result Result Limit Limit Margin Margin Height Angle RMHz] 
[MHz] [dB( $\mu$ V)] [dB( $\mu$ V)] [dB( $\mu$ V)] [dB( $\mu$ V/m)] [dB( $\mu$ 

- 1. Emission Level (Margin) = Limit [Reading + Factor ( Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



## 4.5.4.2 Receive mode - With camera

# Channel Low

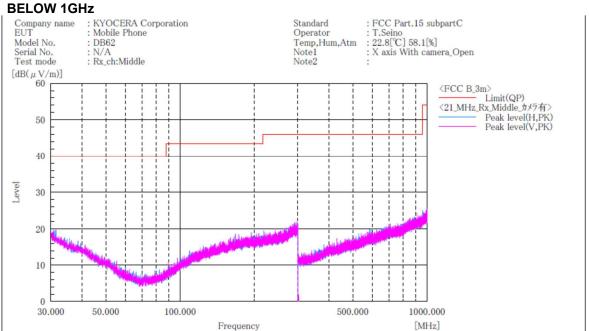


## Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 25GHz at the 3 meters distance.



# Channel Middle

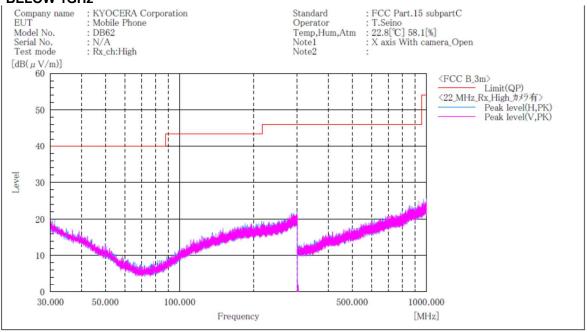


### Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor ( Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 25GHz at the 3 meters distance.



# Channel High BELOW 1GHz



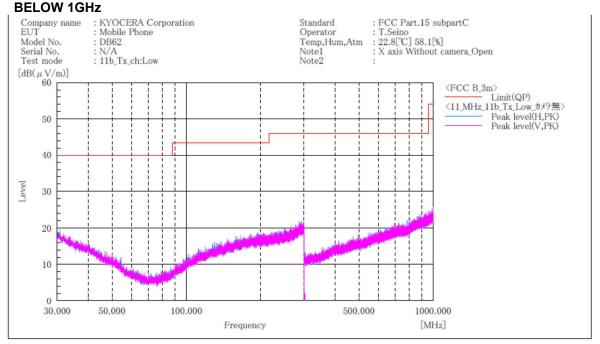
## Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor ( Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 25GHz at the 3 meters distance.



## 4.5.4.3 Transmission mode - Without camera

# [11b] Channel Low



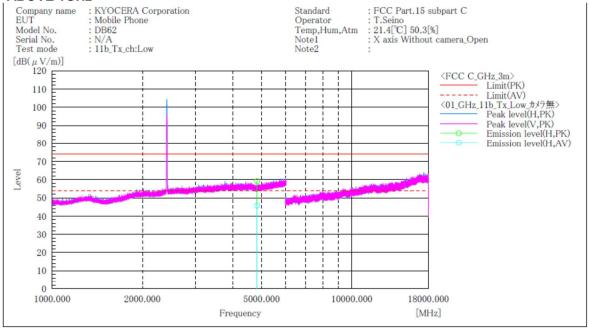
# Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



# [11b] Channel Low

# ABOVE 1GHz



Final Result

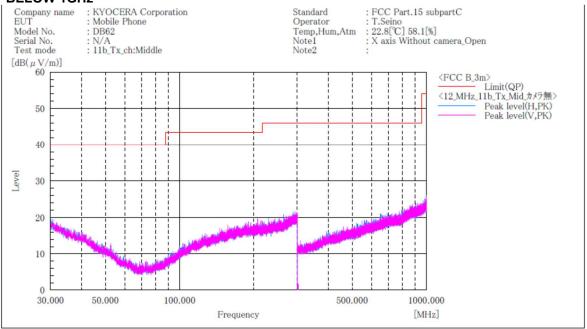
No.	Frequency	(P)	Reading PK	Reading AV	c.f	Result PK	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle
	[MHz]						$[dB(\mu V/m)]$		$[dB(\mu V/m)]$	[dB]		[cm]	
	1001 000			25 7	10 1	EQ. 1		74 0			0 0	200 0	165 0

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



# [11b] Channel Middle

## **BELOW 1GHz**



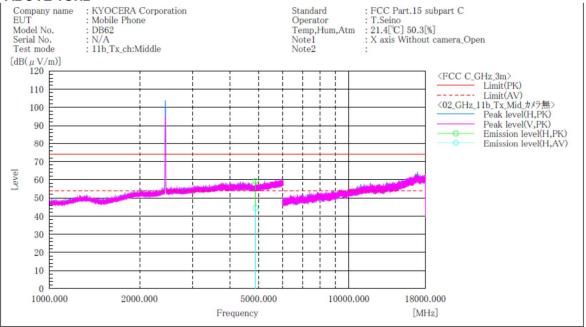
Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



# [11b] Channel Middle

## **ABOVE 1GHz**



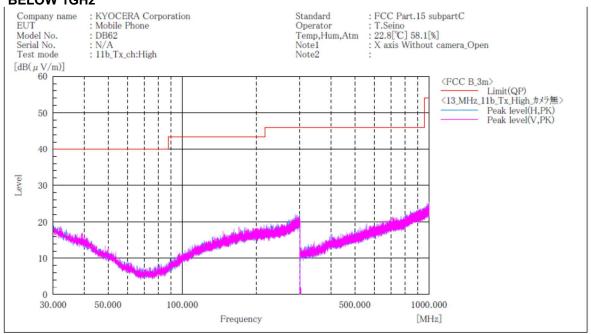
Final Result

No.	Frequency	(P)	Reading PK	Reading	c. f	Result	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle
	[MHz]		[dB(μV)]	$[dB(\mu V)]$		$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	[dB]	[dB]	[cm]	[°]

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



# [11b] Channel High BELOW 1GHz

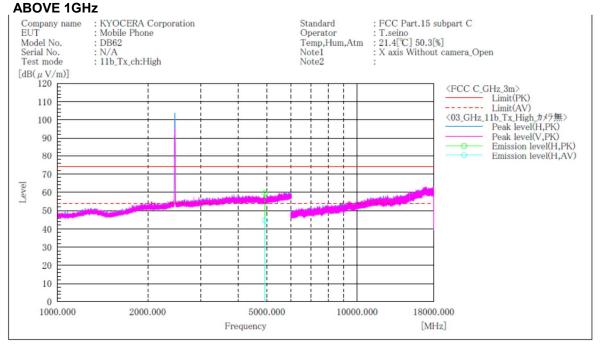


### Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor ( Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



# [11b] Channel High



Final Result

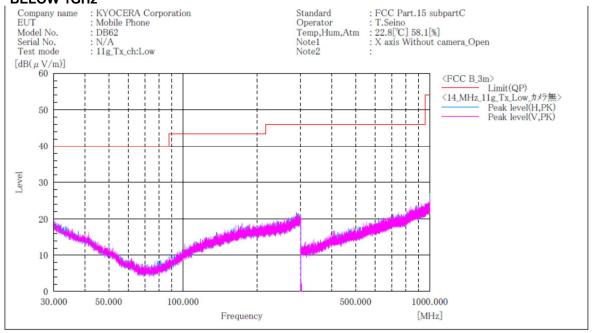
No.	Frequency	(P)	Reading PK	Reading AV	c. f	Result PK	Result	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle
	[MHz]		$[dB(\mu V)]$	$[dB(\mu V)]$	[dB(1/m)]	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$	[dB]	[dB]	[cm]	[°]
1	4924, 000	H	49. 2	34. 3	10.4	59. 6	44. 7	74.0	54. 0	14.4	9.3	198, 0	171.0

- 1. Emission Level (Margin) = Limit [Reading + Factor ( Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



# [11g] Channel Low

# **BELOW 1GHz**

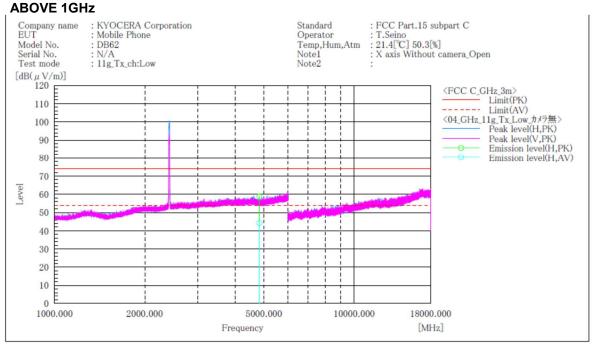


## Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor ( Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



# [11g] Channel Low



Final Result

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.