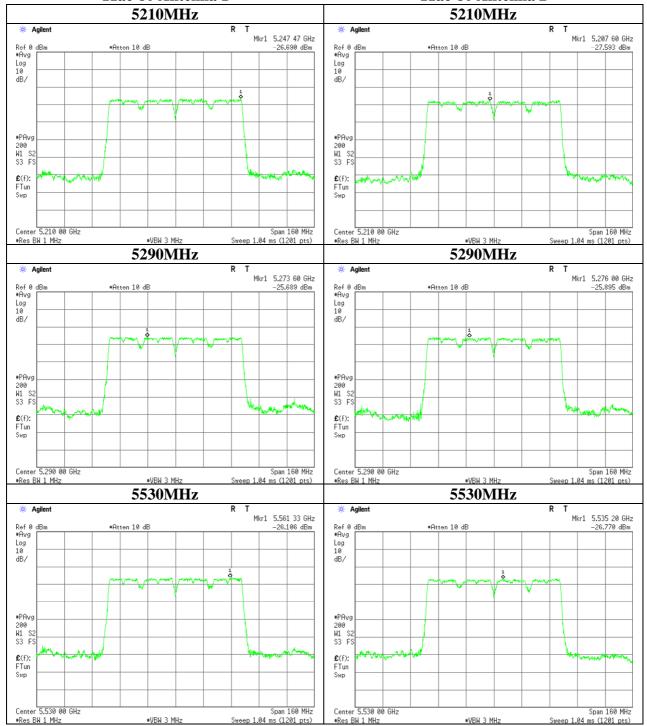
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Maximum Power Spectral Density

11ac-80 Antenna 1

11ac-80 Antenna 2



UL Japan, Inc. Ise EMC Lab.

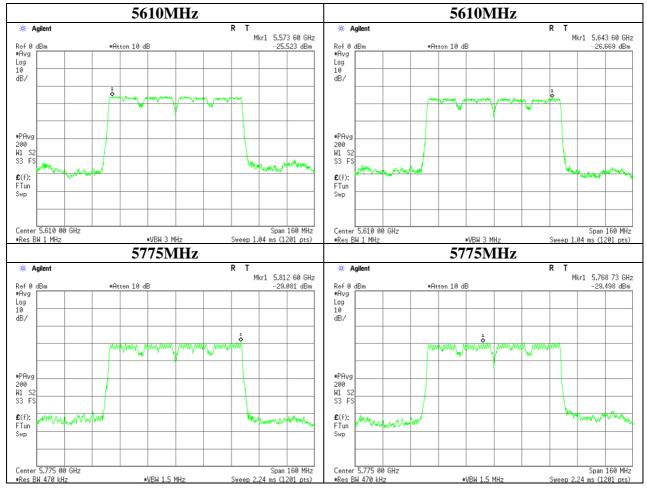
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Maximum Power Spectral Density

11ac-80 Antenna 1

11ac-80 Antenna 2



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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/12/2015 04/13/2015 Temperature/ Humidity $20 deg.~C \, / \, 39\%~RH$ 22deg. C / 41% RH 24deg. C / 42% RH Tomoki Matsui Engineer Takafumi Noguchi Ken Fujita (1-10GHz) (10-18GHz) (18-40GHz)

Mode 11a Tx 5180MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5150.000	PK	60.1	32.2	3.8	31.6	-	64.5	73.9	9.4	
Hori	10360.000	PK	42.4	39.8	-2.4	33.3	-	46.5	73.9	27.4	Floor Noise
Hori	15540.000	PK	45.3	39.8	-2.4	33.3	-	49.4	73.9	24.5	Floor Noise
Hori	20720.000	PK	45.0	38.0	-1.6	32.6	-	48.8	73.9	25.1	Floor Noise
Hori	5150.000	AV	47.3	32.2	3.8	31.6	0.9	52.6	53.9	1.3	Integration Method *1)
Hori	10360.000	AV	33.6	39.8	-2.4	33.3	-	37.7	53.9	16.2	Floor Noise
Hori	15540.000	AV	34.0	39.8	-2.4	33.3	-	38.1	53.9	15.8	Floor Noise
Hori	20720.000	AV	36.4	38.0	-1.6	32.6	-	40.2	53.9	13.7	Floor Noise
Vert	5150.000	PK	59.3	32.2	3.8	31.6	-	63.7	73.9	10.2	
Vert	10360.000	PK	42.0	39.8	-2.4	33.3	-	46.1	73.9	27.8	Floor Noise
Vert	15540.000	PK	42.3	39.8	-2.4	33.3	-	46.4	73.9	27.5	Floor Noise
Vert	20720.000	PK	45.3	38.0	-1.6	32.6	-	49.1	73.9	24.8	Floor Noise
Vert	5150.000	AV	47.4	32.2	3.8	31.6	0.9	52.7	53.9	1.2	Integration Method *1)
Vert	10360.000	AV	33.0	39.8	-2.4	33.3	-	37.1	53.9	16.8	Floor Noise
Vert	15540.000	AV	32.2	39.8	-2.4	33.3	-	36.3	53.9	17.6	Floor Noise
Vert	20720.000	AV	36.6	38.0	-1.6	32.6	-	40.4	53.9	13.5	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB Distance factor:

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^{*1)} Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

 Date
 04/11/2015
 04/12/2015
 04/13/2015

 Temperature/ Humidity
 20deg. C / 39% RH
 22deg. C / 41% RH
 24deg. C / 42% RH

 Engineer
 Takafumi Noguchi (1-10GHz)
 Ken Fujita
 Tomoki Matsui (18-40GHz)

Mode 11a Tx 5260MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	10520.000	PK	42.2	40.1	-2.3	33.3	-	46.7	73.9	27.2	Floor Noise
Hori	15780.000	PK	44.3	39.8	-0.7	32.2	-	51.1	73.9	22.8	Floor Noise
Hori	21040.000	PK	45.9	38.2	-1.6	32.7	-	49.8	73.9	24.1	Floor Noise
Hori	10520.000	AV	32.7	39.8	-2.3	33.3	-	36.9	53.9	17.0	Floor Noise
Hori	15780.000	AV	33.9	39.8	-0.7	33.3	-	39.6	53.9	14.3	Floor Noise
Hori	21040.000	AV	36.5	38.2	-1.6	32.7	-	40.4	53.9	13.5	Floor Noise
Vert	10520.000	PK	41.9	39.8	-2.3	33.3	-	46.1	73.9	27.8	Floor Noise
Vert	15780.000	PK	42.5	39.8	-0.7	33.3	-	48.2	73.9	25.7	Floor Noise
Vert	21040.000	PK	44.4	38.2	-1.6	32.7	-	48.3	73.9	25.6	Floor Noise
Vert	10520.000	AV	32.8	39.8	-2.3	33.3	-	37.0	53.9	16.9	Floor Noise
Vert	15780.000	AV	32.1	39.8	-0.7	33.3	-	37.8	53.9	16.1	Floor Noise
Vert	21040.000	AV	36.6	38.2	-1.6	32.7	-	40.5	53.9	13.4	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/12/2015 04/13/2015 20deg. C / 39% RH Takafumi Noguchi Temperature/ Humidity 22deg. C / 41% RH 24deg. C / 42% RH Tomoki Matsui Engineer Ken Fujita

(1-10GHz) (10-18GHz) (18-40GHz)

Mode 11a Tx 5320MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5350.000	PK	63.3	32.3	3.8	31.7	-	67.7	73.9	6.2	
Hori	10640.000	PK	43.3	40.3	-2.2	33.3	-	48.1	73.9	25.8	Floor Noise
Hori	15960.000	PK	45.1	38.1	-0.6	32.2	-	50.3	73.9	23.6	Floor Noise
Hori	21280.000	PK	44.7	38.4	-1.5	32.6	-	49.0	73.9	24.9	Floor Noise
Hori	5350.000	AV	42.1	32.3	3.8	31.7	0.9	47.4	53.9	6.5	Integration Method *1)
Hori	10640.000	AV	33.4	40.3	-2.2	33.3	-	38.2	53.9	15.7	Floor Noise
Hori	15960.000	AV	34.1	38.1	-0.6	32.2	-	39.3	53.9	14.6	Floor Noise
Hori	21280.000	AV	36.4	38.4	-1.5	32.6	-	40.7	53.9	13.2	Floor Noise
Vert	5350.000	PK	62.8	32.3	3.8	31.7	-	67.2	73.9	6.7	
Vert	10640.000	PK	42.1	40.3	-2.2	33.3	-	46.9	73.9	27.0	Floor Noise
Vert	15960.000	PK	43.3	38.1	-0.6	32.2	-	48.5	73.9	25.4	Floor Noise
Vert	21280.000	PK	45.7	38.4	-1.5	32.6	-	50.0	73.9	23.9	Floor Noise
Vert	5350.000	AV	41.5	32.3	3.8	31.7	0.9	46.8	53.9	7.1	Integration Method *1)
Vert	10640.000	AV	33.1	40.3	-2.2	33.3	-	37.9	53.9	16.0	Floor Noise
Vert	15960.000	AV	32.6	38.1	-0.6	32.2	-	37.8	53.9	16.1	Floor Noise
Vert	21280.000	AV	36.4	38.4	-1.5	32.6	-	40.7	53.9	13.2	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB Distance factor:

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^{*}Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

^{*1)} Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/12/2015 04/13/2015 20deg. C / 39% RH Takafumi Noguchi Temperature/ Humidity 22deg. C / 41% RH 24deg. C / 42% RH Tomoki Matsui Engineer Ken Fujita

(1-10GHz) (10-18GHz) (18-40GHz)

Mode 11a Tx 5500MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5470.000	PK	53.9	32.4	3.9	31.7	-	58.5	73.9	15.4	
Hori	11000.000	PK	42.0	40.9	-2.1	33.3	-	47.6	73.9	26.3	Floor Noise
Hori	16500.000	PK	43.5	39.1	-0.6	32.1	-	49.8	73.9	24.1	Floor Noise
Hori	22000.000	PK	46.3	38.9	-1.1	32.1	-	52.0	73.9	21.9	Floor Noise
Hori	5470.000	AV	40.9	32.4	3.9	31.7	0.9	46.4	53.9	7.5	Integration Method *1)
Hori	11000.000	AV	32.2	40.9	-2.1	33.3	-	37.8	53.9	16.1	Floor Noise
Hori	16500.000	AV	33.4	39.1	-0.6	32.1	-	39.7	53.9	14.2	Floor Noise
Hori	22000.000	AV	36.5	38.9	-1.1	32.1	-	42.2	53.9	11.7	Floor Noise
Vert	5470.000	PK	53.9	32.4	3.9	31.7	-	58.5	73.9	15.4	
Vert	11000.000	PK	40.9	40.9	-2.1	33.3	-	46.5	73.9	27.4	Floor Noise
Vert	16500.000	PK	42.8	39.1	-0.6	32.1	-	49.1	73.9	24.8	Floor Noise
Vert	22000.000	PK	44.7	38.9	-1.1	32.1	-	50.4	73.9	23.5	Floor Noise
Vert	5470.000	AV	40.6	32.4	3.9	31.7	0.9	46.1	53.9	7.8	Integration Method *1)
Vert	11000.000	AV	31.1	40.9	-2.1	33.3	-	36.7	53.9	17.2	Floor Noise
Vert	16500.000	AV	32.5	39.1	-0.6	32.1	-	38.8	53.9	15.1	Floor Noise
Vert	22000.000	AV	36.3	38.9	-1.1	32.1	-	42.0	53.9	11.9	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB Distance factor:

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^{*}Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

^{*1)} Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

 Date
 04/11/2015
 04/12/2015
 04/13/2015

 Temperature/ Humidity
 20deg. C / 39% RH
 22deg. C / 41% RH
 24deg. C / 42% RH

Engineer Takafumi Noguchi Ken Fujita Tomoki Matsui (1-10GHz) (10-18GHz) (18-40GHz)

Mode 11a Tx 5580MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	11160.000	PK	43.3	40.8	-2.0	33.2	-	48.8	73.9	25.1	Floor Noise
Hori	16740.000	PK	45.1	39.6	-0.6	32.1	-	52.0	73.9	21.9	Floor Noise
Hori	22320.000	PK	44.5	39.0	-1.1	32.1	-	50.3	73.9	23.6	Floor Noise
Hori	11160.000	AV	32.2	40.8	-2.0	33.2	-	37.7	53.9	16.2	Floor Noise
Hori	16740.000	AV	34.1	39.6	-0.6	32.1	-	41.0	53.9	12.9	Floor Noise
Hori	22320.000	AV	36.4	39.0	-1.1	32.1	-	42.2	53.9	11.7	Floor Noise
Vert	11160.000	PK	42.6	40.8	-2.0	33.2	-	48.1	73.9	25.8	Floor Noise
Vert	16740.000	PK	45.6	39.6	-0.6	32.1	-	52.5	73.9	21.4	Floor Noise
Vert	22320.000	PK	45.3	39.0	-1.1	32.1	-	51.1	73.9	22.8	Floor Noise
Vert	11160.000	AV	32.6	40.8	-2.0	33.2	-	38.1	53.9	15.8	Floor Noise
Vert	16740.000	AV	33.7	39.6	-0.6	32.1	-	40.6	53.9	13.3	Floor Noise
Vert	22320.000	AV	36.9	39.0	-1.1	32.1	-	42.7	53.9	11.2	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/12/2015 04/13/2015 Temperature/ Humidity 20deg. C / 39% RH 22deg. C / 41% RH 24deg. C / 42% RH Takafumi Noguchi Ken Fujita Tomoki Matsui Engineer

(10-18GHz) (18-40GHz) (1-10GHz) Mode 11a Tx 5700MHz

D 1 %	г	Б	D 1:	4 . F	,	C :	D . E .	n ti	* * *.		D 1
Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5725.000	PK	63.1	32.9	4.0	31.7	-	68.3	73.9	5.6	
Hori	11400.000	PK	43.0	40.7	-2.0	33.2	-	48.5	73.9	25.4	Floor Noise
Hori	17100.000	PK	45.2	40.7	-0.6	32.1	-	53.2	73.9	20.7	Floor Noise
Hori	22800.000	PK	45.5	39.2	-1.0	32.0	-	51.7	73.9	22.2	Floor Noise
Hori	5725.000	AV	44.6	32.9	4.0	31.7	0.9	50.7	53.9	3.2	Integration Method *1)
Hori	11400.000	AV	33.1	40.7	-2.0	33.2	-	38.6	53.9	15.3	Floor Noise
Hori	17100.000	AV	34.2	40.7	-0.6	32.1	-	42.2	53.9	11.7	Floor Noise
Hori	22800.000	AV	37.1	39.2	-1.0	32.0	-	43.3	53.9	10.6	Floor Noise
Vert	5725.000	PK	61.7	32.9	4.0	31.7	-	66.9	73.9	7.0	
Vert	11400.000	PK	42.7	40.7	-2.0	33.2	-	48.2	73.9	25.7	Floor Noise
Vert	17100.000	PK	42.0	40.7	-0.6	32.1	-	50.0	73.9	23.9	Floor Noise
Vert	22800.000	PK	46.0	39.2	-1.0	32.0	-	52.2	73.9	21.7	Floor Noise
Vert	5725.000	AV	43.2	32.9	4.0	31.7	0.9	49.3	53.9	4.6	Integration Method *1)
Vert	11400.000	AV	32.5	40.7	-2.0	33.2	-	38.0	53.9	15.9	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

32.1

32.0

40.2

43.4

53.9

53.9

13.7 Floor Noise

10.5

-0.6

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

40.7

39.2

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

32.2

37.2

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

*1) Not Out of Band emission (Leakage Power)

17100.000 AV

22800.000

Vert

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Radiated Spurious Emission

Test place Ise EMC Lab. No.2 Semi-anechoic Chamber

Report No. 10689818H

Date04/21/201504/12/201504/13/2015Temperature/ Humidity22deg. C / 47% RH22deg. C / 41% RH24deg. C / 42% RHEngineerTakafumi NoguchiKen FujitaTomoki Matsui

(1-10GHz) (10-18GHz) (18-40GHz)

Mode 11a Tx 5745MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5715.000	PK	57.3	33.2	4.5	33.9	-	61.1	68.2	7.1	
Hori	5725.000	PK	72.0	33.2	4.5	33.9	-	75.8	78.2	2.4	
Hori	11490.000	PK	43.1	40.7	-2.0	33.2	-	48.6	73.9	25.3	Floor Noise
Hori	17235.000	PK	45.2	41.5	-0.5	32.2	-	54.0	73.9	19.9	Floor Noise
Hori	22980.000	PK	45.7	39.3	-1.0	32.0	-	52.0	73.9	21.9	Floor Noise
Hori	11490.000	AV	33.7	40.7	-2.0	33.2	-	39.2	53.9	14.7	Floor Noise
Hori	17235.000	AV	34.1	41.5	-0.5	32.2	-	42.9	53.9	11.0	Floor Noise
Hori	22980.000	AV	37.3	39.3	-1.0	32.0	-	43.6	53.9	10.3	Floor Noise
Vert	5715.000	PK	56.3	33.2	4.5	33.9	-	60.1	68.2	8.1	
Vert	5725.000	PK	71.8	33.2	4.5	33.9	-	75.6	78.2	2.6	
Vert	11490.000	PK	41.9	40.7	-2.0	33.2	-	47.4	73.9	26.5	Floor Noise
Vert	17235.000	PK	42.6	41.5	-0.5	32.2	-	51.4	73.9	22.5	Floor Noise
Vert	22980.000	PK	46.2	39.3	-1.0	32.0	-	52.5	73.9	21.4	Floor Noise
Vert	11490.000	AV	32.7	40.7	-2.0	33.2	-	38.2	53.9	15.7	Floor Noise
Vert	17235.000	AV	32.8	41.5	-0.5	32.2	-	41.6	53.9	12.3	Floor Noise
Vert	22980.000	AV	37.5	39.3	-1.0	32.0	-	43.8	53.9	10.1	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

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FCC ID : VPYLB1EN

Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/20/2015 04/13/2015

Temperature/ Humidity 20deg. C / 39% RH 23 deg. C / 52% RH 24deg. C / 42% RH Engineer Takafumi Noguchi (1-10GHz) 23 deg. C / 52% RH Takafumi Noguchi (Below1GHz) 24deg. C / 42% RH Takafumi Noguchi (10-40GHz)

(1-10GHz) (Below1GHz) Mode 11a Tx 5785MHz

Detector Reading Ant.Fac Gain Duty Factor Result Limit Margin Remark Frequency Loss [MHz] [dBuV] [dB/m][dB] [dB] [dB] [dBuV/m] [dBuV/m] [dB] Hori 40.203 QP 23.2 14.1 28.5 16.1 40.0 23.9 62.796 OP 23.1 7.0 7.6 28.4 9.3 40.0 30.7 Hori Hori 80.168 QP 22.9 6.8 7.9 28.4 9.2 40.0 30.8 Hori 123.301 QP 22.9 13.0 8.4 28.1 16.2 43.5 27.3 129.995 QP 8.5 Hori 23.0 13.6 28.1 17.0 43.5 26.5 Hori 252.107 QP 21.7 17.3 9.5 27.6 20.9 46.0 25.1 11570.000 PK -2.0 33.2 73.9 25.4 Floor Noise 43.1 40.6 48.5 Hori Hori 17355.000 PK 45.0 42.2 -0.5 32.3 54.4 73.9 19.5 Floor Noise 23140.000 PK -1.0 32.0 73.9 Floor Noise Hori 45.5 39.3 51.8 22.1 Hori 11570.000 ΑV 33.5 40.6 -2.0 33.2 38.9 53.9 15.0 Floor Noise 17355.000 AV Hori 33.6 42.2 -0.5 32.3 43.0 53.9 10.9 Floor Noise 53.9 23140.000 AV Hori 37.3 39.3 -1.0 32.0 43.6 10.3 Floor Noise Vert 43.069 QP 23.4 13.0 28.5 15.2 40.0 24.8 58.962 OP 23.3 28.4 10.2 40.0 29.8 Vert 7.7 7.6 Vert 79.801 QP 23.1 6.7 7.9 28.4 9.3 40.0 30.7 123.548 QP 22.8 13.0 8.4 28.1 16.1 43.5 27.4 Vert

 $Result = Reading + Ant\ Factor + Loss\ (Cable + Attenuator + Filter - Distance\ factor (above\ 10GHz)) - Gain (Amplifier)$

8.5

-2.0

-0.5

-1.0

-2.0

-0.5

28.1

27.6

33.2

32.3

32.0

33.2

32.3

32.0

17.0

20.6

47.5

51.8

51.7

38.0

41.8

43 9

43.5

46.0

73.9

73.9

73.9

53.9

53.9

53 9

26.5

25.4

26.4

22.1

22.2

15.9

12.1

10.0

Floor Noise

Floor Noise

Floor Noise

Floor Noise

Floor Noise

Floor Noise

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

13.6

17.1

40.6

42.2

39.3

40.6

42.2

393

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

23.0

21.6

42.1

42.4

45.4

32.6

32.4

37.6

Vert

Vert

Vert Vert

Vert Vert

Vert

129.932 QP

249.650 QP

11570.000 PK

17355.000 PK

23140.000 PK

11570.000 AV

ΑV

ΑV

17355.000

23140.000

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Radiated Spurious Emission (Plot data, Worst case)

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

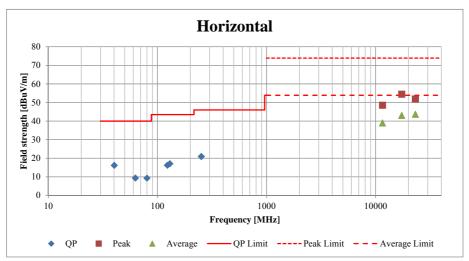
 Date
 04/11/2015
 04/20/2015
 04/13/2015

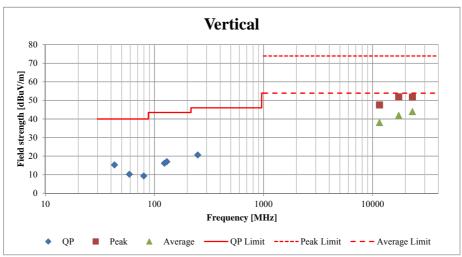
 Temperature/ Humidity
 20deg. C / 39% RH
 23 deg. C / 52% RH
 24deg. C / 42% RH

 Engineer
 Takafumi Noguchi
 Takafumi Noguchi
 Tomoki Matsui

 (1-10GHz)
 (Below1GHz)
 (10-40GHz)

Mode 11a Tx 5785MHz





^{*}These plots data contains sufficient number to show the trend of characteristic features for EUT. ANSI C63.10:2013 Clause 6.3.4 states "For radiated emission test data reporting, both plots and tabular data shall be included".

UL Japan, Inc. Ise EMC Lab.

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/21/2015 04/12/2015 04/13/2015 Temperature/ Humidity 24deg. C / 40% RH 22deg. C / 41% RH 24deg. C / 42% RH Tomoki Matsui Engineer Keisuke Kawamura Ken Fujita (1-10GHz) (10-18GHz) (18-40GHz)

Mode 11a Tx 5825MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5850.000	PK	66.9	33.4	4.5	34.0	-	70.8	78.2	7.4	
Hori	5860.000	PK	64.1	33.4	4.5	34.0	-	68.0	68.2	0.2	
Hori	11650.000	PK	44.1	40.5	-2.0	33.2	-	49.4	73.9	24.5	Floor Noise
Hori	17475.000	PK	45.3	42.8	-0.4	32.3	-	55.4	73.9	18.5	Floor Noise
Hori	23300.000	PK	45.8	39.3	-0.9	32.0	-	52.2	73.9	21.7	Floor Noise
Hori	11650.000	AV	34.1	40.5	-2.0	33.2	-	39.4	53.9	14.5	Floor Noise
Hori	17475.000	AV	33.4	42.8	-0.4	32.3	-	43.5	53.9	10.4	Floor Noise
Hori	23300.000	AV	37.6	39.3	-0.9	32.0	-	44.0	53.9	9.9	Floor Noise
Vert	5850.000	PK	68.1	33.4	4.5	34.0	-	72.0	78.2	6.2	
Vert	5860.000	PK	63.4	33.4	4.5	34.0	-	67.3	68.2	0.9	
Vert	11650.000	PK	43.2	40.5	-2.0	33.2	-	48.5	73.9	25.4	Floor Noise
Vert	17475.000	PK	43.0	42.8	-0.4	32.3	-	53.1	73.9	20.8	Floor Noise
Vert	23300.000	PK	46.0	39.3	-0.9	32.0	-	52.4	73.9	21.5	Floor Noise
Vert	11650.000	AV	33.1	40.5	-2.0	33.2	-	38.4	53.9	15.5	Floor Noise
Vert	17475.000	AV	33.7	42.8	-0.4	32.3	-	43.8	53.9	10.1	Floor Noise
Vert	23300.000	AV	37.6	39.3	-0.9	32.0	-	44.0	53.9	9.9	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB Distance factor:

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H Date 04/11/2015 Temperature/ Humidity 20deg C / 3

Temperature/ Humidity
Engineer

20deg. C / 39% RH
Takafumi Noguchi
(1-10GHz)

Mode 11n-20 Tx 5180MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5150.000	PK	53.2	32.2	3.8	31.6	-	57.6	73.9	16.3	Integration Method
Hori	5150.000	AV	41.8	32.2	3.8	31.6	1.2	47.4	53.9	6.5	Integration Method *1)
Vert	5150.000	PK	54.1	32.2	3.8	31.6	-	58.5	73.9	15.4	Integration Method
Vert	5150.000	AV	41.0	32.2	3.8	31.6	1.2	46.6	53.9	7.3	Integration Method *1)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

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^{*1)} Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H Date 04/11/2015 Temperature/ Humidity 20deg C / 3

Temperature/ Humidity
Engineer

20deg. C / 39% RH
Takafumi Noguchi
(1-10GHz)

Mode 11n-20 Tx 5320MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5350.000	PK	52.4	32.3	3.8	31.7	-	56.8	73.9	17.1	Integration Method
Hori	5350.000	AV	40.5	32.3	3.8	31.7	1.2	46.1	53.9	7.8	Integration Method *1)
Vert	5350.000	PK	50.8	32.3	3.8	31.7	-	55.2	73.9	18.7	Integration Method
Vert	5350.000	AV	38.6	32.3	3.8	31.7	1.2	44.2	53.9	9.7	Integration Method *1)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

*1) Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H Date 04/11/2015

Temperature/ Humidity
Engineer

20deg. C / 39% RH
Takafumi Noguchi
(1-10GHz)

Mode 11n-20 Tx 5500MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5470.000	PK	52.8	32.4	3.9	31.7	-	57.4	73.9	16.5	Integration Method
Hori	5470.000	AV	39.9	32.4	3.9	31.7	1.2	45.7	53.9	8.2	Integration Method *1)
Vert	5470.000	PK	52.7	32.4	3.9	31.7	-	57.3	73.9	16.6	Integration Method
Vert	5470.000	AV	39.2	32.4	3.9	31.7	1.2	45.0	53.9	8.9	Integration Method *1)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

*1) Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H Date 04/11/2015

Temperature/ Humidity
Engineer

20deg. C / 39% RH
Takafumi Noguchi
(1-10GHz)

Mode 11n-20 Tx 5700MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5725.000	PK	57.6	32.9	4.0	31.7	-	62.8	73.9	11.1	Integration Method
Hori	5725.000	AV	41.5	32.9	4.0	31.7	1.2	47.9	53.9	6.0	Integration Method *1)
Vert	5725.000	PK	55.9	32.9	4.0	31.7	-	61.1	73.9	12.8	Integration Method
Vert	5725.000	AV	41.6	32.9	4.0	31.7	1.2	48.0	53.9	5.9	Integration Method *1)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

*1) Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H
Date 04/21/2015
Temperature/ Humidity 24deg. C / 40% RH
Engineer Keisuke Kawamura

(1-10GHz)

Mode 11n-20 Tx 5745MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5715.000	PK	58.0	33.2	4.5	33.9	-	61.8	68.2	6.4	
Hori	5725.000	PK	67.5	33.2	4.5	33.9	-	71.3	78.2	6.9	
Vert	5715.000	PK	57.5	33.2	4.5	33.9	-	61.3	68.2	6.9	
Vert	5725.000	PK	66.7	33.2	4.5	33.9	-	70.5	78.2	7.7	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

UL Japan, Inc. Ise EMC Lab.

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H Date 04/14/2015 Temperature/ Humidity 22deg. C / 51% RH Tomoki Matsui Engineer

(1-10GHz)

Mode 11n-20 Tx 5825MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5850.000	PK	56.3	33.1	4.0	31.7	-	61.7	73.9	12.2	
Hori	5850.000	AV	43.8	33.1	4.0	31.7	1.2	50.4	53.9	3.5	Integration Method *1)
Vert	5850.000	PK	55.5	33.1	4.0	31.7	-	60.9	73.9	13.0	
Vert	5850.000	AV	41.0	33.1	4.0	31.7	1.2	47.6	53.9	6.3	Integration Method *1)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB Distance factor: 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

*1) Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/12/2015 04/13/2015 Temperature/ Humidity $20 deg.~C \, / \, 39\%~RH$ 22deg. C / 41% RH 24deg. C / 42% RH Tomoki Matsui Engineer Takafumi Noguchi Ken Fujita (1-10GHz) (10-18GHz) (18-40GHz)

Mode 11ac-20 Tx 5180MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5150.000	PK	48.9	32.2	3.8	31.6		53.3	73.9	20.6	
Hori	10360.000	PK	43.9	39.8	-2.4	33.3	-	48.0	73.9	25.9	Floor Noise
Hori	15540.000	PK	45.0	39.4	-0.9	32.3	-	51.1	73.9	22.8	Floor Noise
Hori	20720.000	PK	44.9	38.0	-1.6	32.6	-	48.7	73.9	25.2	Floor Noise
Hori	5150.000	AV	36.8	32.2	3.8	31.6	1.3	42.5	53.9	11.5	Integration Method *1)
Hori	10360.000	AV	33.0	39.8	-2.4	33.3	-	37.1	53.9	16.8	Floor Noise
Hori	15540.000	AV	33.5	39.4	-0.9	32.3	-	39.6	53.9	14.3	Floor Noise
Hori	20720.000	AV	36.1	38.0	-1.6	32.6	-	39.9	53.9	14.0	Floor Noise
Vert	5150.000	PK	47.9	32.2	3.8	31.6	-	52.3	73.9	21.6	
Vert	10360.000	PK	43.7	39.8	-2.4	33.3	-	47.8	73.9	26.1	Floor Noise
Vert	15540.000	PK	42.8	39.4	-0.9	32.3	-	48.9	73.9	25.0	Floor Noise
Vert	20720.000	PK	44.6	38.0	-1.6	32.6	-	48.4	73.9	25.5	Floor Noise
Vert	5150.000	AV	36.1	32.2	3.8	31.6	1.3	41.8	53.9	12.2	Integration Method *1)
Vert	10360.000	AV	36.1	39.8	-2.4	33.3	-	40.2	53.9	13.7	Floor Noise
Vert	15540.000	AV	34.3	39.4	-0.9	32.3	-	40.4	53.9	13.5	Floor Noise
Vert	20720.000	AV	36.5	38.0	-1.6	32.6	-	40.3	53.9	13.6	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB Distance factor:

*1) Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

 Date
 04/11/2015
 04/12/2015
 04/13/2015

 Temperature/ Humidity
 20deg. C / 39% RH
 22deg. C / 41% RH
 24deg. C / 42% RH

 Engineer
 Takafumi Noguchi (1-10GHz)
 Ken Fujita
 Tomoki Matsui (18-40GHz)

Mode 11ac-20 Tx 5260MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	10520.000	PK	45.0	40.1	-2.0	33.3	-	49.8	73.9	24.1	Floor Noise
Hori	15780.000	PK	45.1	38.6	-0.7	32.2	-	50.7	73.9	23.2	Floor Noise
Hori	21040.000	PK	45.1	38.2	-1.6	32.7	-	49.0	73.9	24.9	Floor Noise
Hori	10520.000	AV	33.2	40.1	-2.0	33.3	-	38.0	53.9	15.9	Floor Noise
Hori	15780.000	AV	33.7	38.6	-0.7	32.2	-	39.3	53.9	14.6	Floor Noise
Hori	21040.000	AV	36.4	38.2	-1.6	32.7	-	40.3	53.9	13.6	Floor Noise
Vert	10520.000	PK	43.3	40.1	-2.0	33.3	-	48.1	73.9	25.8	Floor Noise
Vert	15780.000	PK	43.2	38.6	-0.7	32.2	-	48.8	73.9	25.1	Floor Noise
Vert	21040.000	PK	44.7	38.2	-1.6	32.7	-	48.6	73.9	25.3	Floor Noise
Vert	10520.000	AV	34.4	40.1	-2.0	33.3	-	39.2	53.9	14.7	Floor Noise
Vert	15780.000	AV	33.8	38.6	-0.7	32.2	-	39.4	53.9	14.5	Floor Noise
Vert	21040.000	AV	36.7	38.2	-1.6	32.7	-	40.6	53.9	13.3	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

 Date
 04/11/2015
 04/12/2015
 04/13/2015

 Temperature/ Humidity
 20deg. C / 39% RH
 22deg. C / 41% RH
 24deg. C / 42% RH

 Engineer
 Takafumi Noguchi (1-10GHz)
 Ken Fujita
 Tomoki Matsui (18-40GHz)

Mode 11ac-20 Tx 5320MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5350.000	PK	49.3	32.3	3.8	31.7	-	53.7	73.9	20.2	
Hori	10640.000	PK	44.1	40.9	-2.1	33.3	-	49.7	73.9	24.2	Floor Noise
Hori	15960.000	PK	45.3	39.1	-0.6	32.1	-	51.6	73.9	22.3	Floor Noise
Hori	21280.000	PK	44.4	38.4	-1.5	32.6	-	48.7	73.9	25.2	Floor Noise
Hori	5350.000	AV	36.9	32.3	3.8	31.7	1.3	42.6	53.9	11.4	Integration Method *1)
Hori	10640.000	AV	34.1	40.9	-2.1	33.3	-	39.7	53.9	14.2	Floor Noise
Hori	15960.000	AV	33.4	39.1	-0.6	32.1	-	39.7	53.9	14.2	Floor Noise
Hori	21280.000	AV	36.3	38.4	-1.5	32.6	-	40.6	53.9	13.3	Floor Noise
Vert	5350.000	PK	47.8	32.3	3.8	31.7	-	52.2	73.9	21.7	
Vert	10640.000	PK	43.2	40.9	-2.1	33.3	-	48.8	73.9	25.1	Floor Noise
Vert	15960.000	PK	43.0	39.1	-0.6	32.1	-	49.3	73.9	24.6	Floor Noise
Vert	21280.000	PK	45.1	38.4	-1.5	32.6	-	49.4	73.9	24.5	Floor Noise
Vert	5350.000	AV	35.8	32.3	3.8	31.7	1.3	41.5	53.9	12.5	Integration Method *1)
Vert	10640.000	AV	33.1	40.9	-2.1	33.3	-	38.7	53.9	15.2	Floor Noise
Vert	15960.000	AV	33.7	39.1	-0.6	32.1	-	40.0	53.9	13.9	Floor Noise
Vert	21280.000	AV	36.4	38.4	-1.5	32.6	-	40.7	53.9	13.2	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

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^{*}Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

^{*1)} Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date04/11/201504/12/201504/13/2015Temperature/ Humidity20deg. C / 39% RH22deg. C / 41% RH24deg. C / 42% RHEngineerTakafumi NoguchiKen FujitaTomoki Matsui

(1-10GHz) (10-18GHz) (18-40GHz)

Mode 11ac-20 Tx 5500MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5470.000	PK	47.2	32.4	3.9	31.7	-	51.8	73.9	22.1	
Hori	11000.000	PK	44.1	40.9	-2.1	33.3	-	49.7	73.9	24.2	Floor Noise
Hori	16500.000	PK	45.3	39.1	-0.6	32.1	-	51.6	73.9	22.3	Floor Noise
Hori	22000.000	PK	44.6	38.9	-1.1	32.1	-	50.3	73.9	23.6	Floor Noise
Hori	5470.000	AV	36.4	32.4	3.9	31.7	1.3	42.3	53.9	11.7	Integration Method *1)
Hori	11000.000	AV	34.1	40.9	-2.1	33.3	-	39.7	53.9	14.2	Floor Noise
Hori	16500.000	AV	33.4	39.1	-0.6	32.1	-	39.7	53.9	14.2	Floor Noise
Hori	22000.000	AV	36.6	38.9	-1.1	32.1	-	42.3	53.9	11.6	Floor Noise
Vert	5470.000	PK	47.7	32.4	3.9	31.7	-	52.3	73.9	21.6	
Vert	11000.000	PK	43.2	40.9	-2.1	33.3	-	48.8	73.9	25.1	Floor Noise
Vert	16500.000	PK	43.0	39.1	-0.6	32.1	-	49.3	73.9	24.6	Floor Noise
Vert	22000.000	PK	45.0	38.9	-1.1	32.1	-	50.7	73.9	23.2	Floor Noise
Vert	5470.000	AV	35.3	32.4	3.9	31.7	1.3	41.2	53.9	12.8	Integration Method *1)
Vert	11000.000	AV	33.1	40.9	-2.1	33.3	-	38.7	53.9	15.2	Floor Noise
Vert	16500.000	AV	33.7	39.1	-0.6	32.1	-	40.0	53.9	13.9	Floor Noise
Vert	22000.000	AV	36.8	38.9	-1.1	32.1	-	42.5	53.9	11.4	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

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^{*}Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

^{*1)} Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

 Date
 04/11/2015
 04/12/2015
 04/13/2015

 Temperature/ Humidity
 20deg. C / 39% RH
 22deg. C / 41% RH
 24deg. C / 42% RH

 Engineer
 Takafumi Noguchi (1-10GHz)
 Ken Fujita
 Tomoki Matsui (18-40GHz)

Mode 11ac-20 Tx 5580MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	11160.000	PK	45.1	40.8	-2.0	33.2	-	50.6	73.9	23.3	Floor Noise
Hori	16740.000	PK	44.3	39.6	-0.6	32.1	-	51.2	73.9	22.7	Floor Noise
Hori	22320.000	PK	45.2	39.0	-1.1	32.1	-	51.0	73.9	22.9	Floor Noise
Hori	11160.000	AV	33.9	40.8	-2.0	33.2	-	39.4	53.9	14.5	Floor Noise
Hori	16740.000	AV	33.6	39.6	-0.6	32.1	-	40.5	53.9	13.4	Floor Noise
Hori	22320.000	AV	36.9	39.0	-1.1	32.1	-	42.7	53.9	11.2	Floor Noise
Vert	11160.000	PK	45.0	40.8	-2.0	33.2	-	50.5	73.9	23.4	Floor Noise
Vert	16740.000	PK	44.7	39.6	-0.6	32.1	-	51.6	73.9	22.3	Floor Noise
Vert	22320.000	PK	45.8	39.0	-1.1	32.1	-	51.6	73.9	22.3	Floor Noise
Vert	11160.000	AV	33.2	40.8	-2.0	33.2	-	38.7	53.9	15.2	Floor Noise
Vert	16740.000	AV	33.6	39.6	-0.6	32.1	-	40.5	53.9	13.4	Floor Noise
Vert	22320.000	AV	36.9	39.0	-1.1	32.1	_	42.7	53.9	11.2	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

 Date
 04/11/2015
 04/12/2015
 04/13/2015

 Temperature/ Humidity
 20deg. C / 39% RH
 22deg. C / 41% RH
 24deg. C / 42% RH

 Engineer
 Takafumi Noguchi (1-10GHz)
 Ken Fujita
 Tomoki Matsui (18-40GHz)

Mode 11ac-20 Tx 5700MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5725.000	PK	50.5	32.9	4.0	31.7	-	55.7	73.9	18.2	
Hori	11400.000	PK	45.2	40.7	-2.0	33.2	-	50.7	73.9	23.2	Floor Noise
Hori	17100.000	PK	45.5	40.7	-0.6	32.1	-	53.5	73.9	20.4	Floor Noise
Hori	22800.000	PK	46.3	39.2	-1.0	32.0	-	52.5	73.9	21.4	Floor Noise
Hori	5725.000	AV	37.7	32.9	4.0	31.7	1.3	44.2	53.9	9.8	Integration Method *1)
Hori	11400.000	AV	32.8	40.7	-2.0	33.2	-	38.3	53.9	15.6	Floor Noise
Hori	17100.000	AV	33.6	40.7	-0.6	32.1	-	41.6	53.9	12.3	Floor Noise
Hori	22800.000	AV	37.8	39.2	-1.0	32.0	-	44.0	53.9	9.9	Floor Noise
Vert	5725.000	PK	48.8	32.9	4.0	31.7	-	54.0	73.9	19.9	
Vert	11400.000	PK	44.1	40.7	-2.0	33.2	-	49.6	73.9	24.3	Floor Noise
Vert	17100.000	PK	43.2	40.7	-0.6	32.1	-	51.2	73.9	22.7	Floor Noise
Vert	22800.000	PK	45.6	39.2	-1.0	32.0	-	51.8	73.9	22.1	Floor Noise
Vert	5725.000	AV	36.5	32.9	4.0	31.7	1.3	43.0	53.9	11.0	Integration Method *1)
Vert	11400.000	AV	35.1	40.7	-2.0	33.2	-	40.6	53.9	13.3	Floor Noise
Vert	17100.000	AV	34.2	40.7	-0.6	32.1	-	42.2	53.9	11.7	Floor Noise
Vert	22800.000	AV	37.5	39.2	-1.0	32.0	-	43.7	53.9	10.2	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

Distance factor: $10 \text{GHz-} 26.5 \text{GHz} \quad 20 \text{log} (3.0 \text{m}/1.0 \text{m}) = 9.5 \text{dB}$

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

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^{*}Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

^{*1)} Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

 Date
 04/11/2015
 04/12/2015
 04/13/2015

 Temperature/ Humidity
 20deg. C / 39% RH
 22deg. C / 41% RH
 24deg. C / 42% RH

 Engineer
 Takafumi Noguchi (1-10GHz)
 Ken Fujita
 Tomoki Matsui (18-40GHz)

Mode 11ac-20 Tx 5745MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5725.000	PK	54.5	32.9	4.0	31.7	-	59.7	73.9	14.2	
Hori	11490.000	PK	42.9	40.7	-2.0	33.2	-	48.4	73.9	25.5	Floor Noise
Hori	17235.000	PK	44.8	41.5	-0.5	32.2	-	53.6	73.9	20.3	Floor Noise
Hori	22980.000	PK	46.1	39.3	-1.0	32.0	•	52.4	73.9	21.5	Floor Noise
Hori	5725.000	AV	43.5	32.9	4.0	31.7	1.3	50.0	53.9	4.0	Integration Method *1)
Hori	11490.000	AV	32.7	40.7	-2.0	33.2	-	38.2	53.9	15.7	Floor Noise
Hori	17235.000	AV	33.6	41.5	-0.5	32.2	-	42.4	53.9	11.5	Floor Noise
Hori	22980.000	AV	37.5	39.3	-1.0	32.0	-	43.8	53.9	10.1	Floor Noise
Vert	5725.000	PK	53.3	32.9	4.0	31.7		58.5	73.9	15.4	
Vert	11490.000	PK	43.9	40.7	-2.0	33.2	-	49.4	73.9	24.5	Floor Noise
Vert	17235.000	PK	44.5	41.5	-0.5	32.2	-	53.3	73.9	20.6	Floor Noise
Vert	22980.000	PK	46.4	39.3	-1.0	32.0	-	52.7	73.9	21.2	Floor Noise
Vert	5725.000	AV	41.6	32.9	4.0	31.7	1.3	48.1	53.9	5.9	Integration Method *1)
Vert	11490.000	AV	34.7	40.7	-2.0	33.2	-	40.2	53.9	13.7	Floor Noise
Vert	17235.000	AV	33.7	41.5	-0.5	32.2	-	42.5	53.9	11.4	Floor Noise
Vert	22980.000	AV	37.6	39.3	-1.0	32.0	-	43.9	53.9	10.0	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

*1) Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

 Date
 04/11/2015
 04/12/2015
 04/13/2015

 Temperature/ Humidity
 20deg.C. / 39% RH
 22deg.C. / 41% RH
 24deg.C. / 42% RH

 Engineer
 Takafumi Noguchi (1-10GHz)
 Ken Fujita
 Tomoki Matsui (18-40GHz)

Mode 11ac-20 Tx 5785MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	11570.000	PK	44.0	40.6	-2.0	33.2	-	49.4	73.9	24.5	Floor Noise
Hori	17355.000	PK	45.1	42.2	-0.5	32.3	-	54.5	73.9	19.4	Floor Noise
Hori	23140.000	PK	45.6	39.3	-1.0	32.0	-	51.9	73.9	22.0	Floor Noise
Hori	11570.000	AV	33.9	40.6	-2.0	33.2	-	39.3	53.9	14.6	Floor Noise
Hori	17355.000	AV	33.6	42.2	-0.5	32.3	-	43.0	53.9	10.9	Floor Noise
Hori	23140.000	AV	37.7	39.3	-1.0	32.0	-	44.0	53.9	9.9	Floor Noise
Vert	11570.000	PK	43.6	40.6	-2.0	33.2	-	49.0	73.9	24.9	Floor Noise
Vert	17355.000	PK	43.2	42.2	-0.5	32.3	-	52.6	73.9	21.3	Floor Noise
Vert	23140.000	PK	44.9	39.3	-1.0	32.0	-	51.2	73.9	22.7	Floor Noise
Vert	11570.000	AV	33.4	40.6	-2.0	33.2	-	38.8	53.9	15.1	Floor Noise
Vert	17355.000	AV	33.6	42.2	-0.5	32.3	-	43.0	53.9	10.9	Floor Noise
Vert	23140.000	AV	37.3	39.3	-1.0	32.0	-	43.6	53.9	10.3	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

UL Japan, Inc. Ise EMC Lab.

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

 Date
 04/11/2015
 04/12/2015
 04/13/2015

 Temperature/ Humidity
 20deg. C / 39% RH
 22deg. C / 41% RH
 24deg. C / 42% RH

 Engineer
 Takafumi Noguchi (1-10GHz)
 Ken Fujita
 Tomoki Matsui (18-40GHz)

Mode 11ac-20 Tx 5825MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5850.000	PK	52.7	33.1	4.0	31.7	-	58.1	73.9	15.8	
Hori	11650.000	PK	43.1	40.5	-2.0	33.2	-	48.4	73.9	25.5	Floor Noise
Hori	17475.000	PK	43.2	42.8	-0.4	32.3	-	53.3	73.9	20.6	Floor Noise
Hori	23300.000	PK	46.4	39.3	-0.9	32.0	-	52.8	73.9	21.1	Floor Noise
Hori	5850.000	AV	38.5	33.1	4.0	31.7	1.3	45.2	53.9	8.8	Integration Method *1)
Hori	11650.000	AV	34.2	40.5	-2.0	33.2	-	39.5	53.9	14.4	Floor Noise
Hori	17475.000	AV	33.3	42.8	-0.4	32.3	-	43.4	53.9	10.5	Floor Noise
Hori	23300.000	AV	37.7	39.3	-0.9	32.0	-	44.1	53.9	9.8	Floor Noise
Vert	5850.000	PK	51.4	33.1	4.0	31.7	-	56.8	73.9	17.1	
Vert	11650.000	PK	43.3	40.5	-2.0	33.2	-	48.6	73.9	25.3	Floor Noise
Vert	17475.000	PK	45.5	42.8	-0.4	32.3	-	55.6	73.9	18.3	Floor Noise
Vert	23300.000	PK	45.7	39.3	-0.9	32.0	-	52.1	73.9	21.8	Floor Noise
Vert	5850.000	AV	38.3	33.1	4.0	31.7	1.3	45.0	53.9	9.0	Integration Method *1)
Vert	11650.000	AV	33.2	40.5	-2.0	33.2	-	38.5	53.9	15.4	Floor Noise
Vert	17475.000	AV	33.4	42.8	-0.4	32.3	-	43.5	53.9	10.4	Floor Noise
Vert	23300.000	AV	37.5	39.3	-0.9	32.0	-	43.9	53.9	10.0	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10 GHz- 26.5 GHz $20 \log(3.0 \text{m}/1.0 \text{m}) = 9.5 \text{dB}$

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

*1) Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/13/2015

20deg. C / 39% RH Takafumi Noguchi Temperature/ Humidity 24deg. C / 42% RH Tomoki Matsui Engineer (10-40GHz)

(1-10GHz) Mode 11n-40 Tx 5190MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5150.000	PK	62.6	32.2	3.8	31.6	-	67.0	73.9	6.9	
Hori	10380.000	PK	42.4	39.8	-2.4	33.3	-	46.5	73.9	27.4	Floor Noise
Hori	15570.000	PK	44.3	39.3	-0.8	32.3	-	50.5	73.9	23.4	Floor Noise
Hori	20760.000	PK	44.8	38.1	-1.6	32.6	•	48.7	73.9	25.2	Floor Noise
Hori	5150.000	AV	43.8	32.2	3.8	31.6	1.8	50.0	53.9	3.9	Integration Method *1)
Hori	10380.000	AV	32.4	39.8	-2.4	33.3	-	36.5	53.9	17.4	Floor Noise
Hori	15570.000	AV	34.3	39.3	-0.8	32.3	-	40.5	53.9	13.4	Floor Noise
Hori	20760.000	AV	36.4	38.1	-1.6	32.6	-	40.3	53.9	13.6	Floor Noise
Vert	5150.000	PK	61.9	32.2	3.8	31.6		66.3	73.9	7.6	
Vert	10380.000	PK	42.7	39.8	-2.4	33.3	-	46.8	73.9	27.1	Floor Noise
Vert	15570.000	PK	43.7	39.3	-0.8	32.3	-	49.9	73.9	24.0	Floor Noise
Vert	20760.000	PK	44.9	38.1	-1.6	32.6	-	48.8	73.9	25.1	Floor Noise
Vert	5150.000	AV	43.4	32.2	3.8	31.6	1.8	49.6	53.9	4.3	Integration Method *1)
Vert	10380.000	AV	32.9	39.8	-2.4	33.3	-	37.0	53.9	16.9	Floor Noise
Vert	15570.000	AV	33.0	39.3	-0.8	32.3	-	39.2	53.9	14.7	Floor Noise
Vert	20760.000	AV	36.5	38.1	-1.6	32.6	-	40.4	53.9	13.5	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB Distance factor:

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

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^{*}Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

^{*1)} Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/13/2015

Temperature/ Humidity 20deg. C / 39% RH 24deg. C / 42% RH Engineer Takafumi Noguchi (1-10GHz) Tomoki Matsui (10-40GHz)

Mode 11n-40 Tx 5270MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	10540.000	PK	41.3	40.1	-2.4	33.3	-	45.7	73.9	28.2	Floor Noise
Hori	15810.000	PK	43.7	38.5	-0.7	32.2	-	49.3	73.9	24.6	Floor Noise
Hori	21080.000	PK	45.4	38.3	-1.6	32.7	-	49.4	73.9	24.5	Floor Noise
Hori	10540.000	AV	32.5	40.1	-2.4	33.3	-	36.9	53.9	17.0	Floor Noise
Hori	15810.000	AV	32.8	38.5	-0.7	32.2	-	38.4	53.9	15.5	Floor Noise
Hori	21080.000	AV	37.4	38.3	-1.6	32.7	-	41.4	53.9	12.5	Floor Noise
Vert	10540.000	PK	41.5	40.1	-2.4	33.3	-	45.9	73.9	28.0	Floor Noise
Vert	15810.000	PK	43.7	38.5	-0.7	32.2	-	49.3	73.9	24.6	Floor Noise
Vert	21080.000	PK	45.5	38.3	-1.6	32.7	-	49.5	73.9	24.4	Floor Noise
Vert	10540.000	AV	32.2	40.1	-2.4	33.3	-	36.6	53.9	17.3	Floor Noise
Vert	15810.000	AV	33.0	38.5	-0.7	32.2	-	38.6	53.9	15.3	Floor Noise
Vert	21080.000	AV	36.9	38.3	-1.6	32.7	-	40.9	53.9	13.0	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

UL Japan, Inc. Ise EMC Lab.

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FCC ID : VPYLB1EN

Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/13/2015

Temperature/ Humidity 20deg. C / 39% RH 24deg. C / 42% RH Engineer Takafumi Noguchi Tomoki Matsui

(1-10GHz) (10-40GHz)

Mode 11n-40 Tx 5310MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5350.000	PK	57.7	32.3	3.8	31.7	-	62.1	73.9	11.8	
Hori	10620.000	PK	42.0	40.3	-2.3	33.3	-	46.7	73.9	27.2	Floor Noise
Hori	15930.000	PK	43.4	38.2	-0.6	32.2	-	48.8	73.9	25.1	Floor Noise
Hori	21240.000	PK	44.6	38.4	-1.5	32.6	-	48.9	73.9	25.0	Floor Noise
Hori	5350.000	AV	42.6	32.3	3.8	31.7	1.8	48.8	53.9	5.1	Integration Method *1)
Hori	10620.000	AV	33.2	40.3	-2.3	33.3	-	37.9	53.9	16.0	Floor Noise
Hori	15930.000	AV	34.5	38.2	-0.6	32.2	-	39.9	53.9	14.0	Floor Noise
Hori	21240.000	AV	36.6	38.4	-1.5	32.6	-	40.9	53.9	13.0	Floor Noise
Vert	5350.000	PK	57.4	32.3	3.8	31.7	-	61.8	73.9	12.1	
Vert	10620.000	PK	42.1	40.3	-2.3	33.3	-	46.8	73.9	27.1	Floor Noise
Vert	15930.000	PK	43.8	38.2	-0.6	32.2	-	49.2	73.9	24.7	Floor Noise
Vert	21240.000	PK	44.4	38.4	-1.5	32.6	-	48.7	73.9	25.2	Floor Noise
Vert	5350.000	AV	42.2	32.3	3.8	31.7	1.8	48.4	53.9	5.5	Integration Method *1)
Vert	10620.000	AV	33.1	40.3	-2.3	33.3	-	37.8	53.9	16.1	Floor Noise
Vert	15930.000	AV	34.8	38.2	-0.6	32.2	-	40.2	53.9	13.7	Floor Noise
Vert	21240.000	AV	36.6	38.4	-1.5	32.6	-	40.9	53.9	13.0	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

*1) Not Out of Band emission (Leakage Power)

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

^{*}Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

 Date
 04/11/2015
 04/13/2015
 06/02/2015

 Temperature/ Humidity
 20deg. C / 39% RH
 24deg. C / 42% RH
 24deg. C / 40% RH

Engineer Takafumi Noguchi Tomoki Matsui Ken Fujita (1-10GHz) (10-40GHz) (Band Edge)

Mode 11n-40 Tx 5510MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5460.000	PK	57.3	32.2	4.0	31.2	-	62.3	73.9	11.6	
Hori	5470.000	PK	62.8	32.2	4.0	31.2	-	67.8	68.2	0.4	
Hori	11020.000	PK	42.3	40.9	-2.2	33.2	-	47.8	73.9	26.1	Floor Noise
Hori	16530.000	PK	44.0	39.1	-0.6	32.1	-	50.4	73.9	23.5	Floor Noise
Hori	22040.000	PK	45.7	38.9	-1.1	32.1	-	51.4	73.9	22.5	Floor Noise
Hori	5460.000	AV	45.0	32.2	4.0	31.2	1.8	51.8	53.9	2.1	*1)
Hori	11020.000	AV	33.0	40.9	-2.2	33.2	-	38.5	53.9	15.4	Floor Noise
Hori	16530.000	AV	35.1	39.1	-0.6	32.1	-	41.5	53.9	12.4	Floor Noise
Hori	22040.000	AV	36.3	38.9	-1.1	32.1	-	42.0	53.9	11.9	Floor Noise
Vert	5460.000	PK	56.8	32.2	4.0	31.2	-	61.8	73.9	12.1	
Vert	5470.000	PK	62.5	32.2	4.0	31.2	-	67.5	68.2	0.7	
Vert	11020.000	PK	42.1	40.9	-2.2	33.2	-	47.6	73.9	26.3	Floor Noise
Vert	16530.000	PK	44.1	39.1	-0.6	32.1	-	50.5	73.9	23.4	Floor Noise
Vert	22040.000	PK	45.0	38.9	-1.1	32.1	-	50.7	73.9	23.2	Floor Noise
Vert	5460.000	AV	44.6	32.2	4.0	31.2	1.8	51.4	53.9	2.5	*1)
Vert	11020.000	AV	33.6	40.9	-2.2	33.2	-	39.1	53.9	14.8	Floor Noise
Vert	16530.000	AV	34.9	39.1	-0.6	32.1	-	41.3	53.9	12.6	Floor Noise
Vert	22040.000	AV	36.5	38.9	-1.1	32.1	-	42.2	53.9	11.7	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB). Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

*1) Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/13/2015

Temperature/ Humidity 20deg. C / 39% RH 24deg. C / 42% RH Engineer Takafumi Noguchi Tomoki Matsui

(1-10GHz) (10-40GHz)

Mode 11n-40 Tx 5550MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	11100.000	PK	43.6	40.9	-2.1	33.2	-	49.2	73.9	24.7	
Hori	16650.000	PK	43.6	39.4	-0.6	32.1	-	50.3	73.9	23.6	Floor Noise
Hori	22200.000	PK	45.2	39.0	-1.1	32.1	-	51.0	73.9	22.9	Floor Noise
Hori	11100.000	AV	35.3	40.9	-2.1	33.2	1.8	42.7	53.9	11.2	*1)
Hori	16650.000	AV	35.0	39.4	-0.6	32.1	-	41.7	53.9	12.2	Floor Noise
Hori	22200.000	AV	37.0	39.0	-1.1	32.1	-	42.8	53.9	11.1	Floor Noise
Vert	11100.000	PK	45.1	40.9	-2.1	33.2	-	50.7	73.9	23.2	
Vert	16650.000	PK	43.0	39.4	-0.6	32.1	-	49.7	73.9	24.2	Floor Noise
Vert	22200.000	PK	44.7	39.0	-1.1	32.1	-	50.5	73.9	23.4	Floor Noise
Vert	11100.000	AV	36.2	40.9	-2.1	33.2	1.8	43.6	53.9	10.3	*1)
Vert	16650.000	AV	34.8	39.4	-0.6	32.1	-	41.5	53.9	12.4	Floor Noise
Vert	22200.000	AV	37.2	39.0	-1.1	32.1	-	43.0	53.9	10.9	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

^{*}Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

^{*1)} Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/13/2015

Temperature/ Humidity 20deg. C / 39% RH 24deg. C / 42% RH Engineer Takafumi Noguchi Tomoki Matsui

(1-10GHz) (10-40GHz)

Mode 11n-40 Tx 5670MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5725.000	PK	55.8	32.9	4.0	31.7	-	61.0	73.9	12.9	
Hori	11340.000	PK	42.7	40.8	-2.2	33.2	-	48.1	73.9	25.8	
Hori	17010.000	PK	43.2	40.2	-0.6	32.1	-	50.7	73.9	23.2	Floor Noise
Hori	22680.000	PK	47.2	39.2	-1.0	32.0	-	53.4	73.9	20.5	Floor Noise
Hori	5725.000	AV	44.2	32.9	4.0	31.7	1.8	51.2	53.9	2.7	Integration Method *1)
Hori	11340.000	AV	34.7	40.8	-2.2	33.2	1.8	41.9	53.9	12.0	
Hori	17010.000	AV	35.0	40.2	-0.6	32.1	-	42.5	53.9	11.4	Floor Noise
Hori	22680.000	AV	37.2	39.2	-1.0	32.0	-	43.4	53.9	10.5	Floor Noise
Vert	5725.000	PK	55.9	32.9	4.0	31.7	-	61.1	73.9	12.8	
Vert	11340.000	PK	43.7	40.8	-2.2	33.2	-	49.1	73.9	24.8	
Vert	17010.000	PK	44.1	40.2	-0.6	32.1	-	51.6	73.9	22.3	Floor Noise
Vert	22680.000	PK	45.6	39.2	-1.0	32.0	•	51.8	73.9	22.1	Floor Noise
Vert	5725.000	AV	44.2	32.9	4.0	31.7	1.8	51.2	53.9	2.7	Integration Method *1)
Vert	11340.000	AV	35.1	40.8	-2.2	33.2	1.8	42.3	53.9	11.6	
Vert	17010.000	AV	34.9	40.2	-0.6	32.1	-	42.4	53.9	11.5	Floor Noise
Vert	22680.000	AV	37.2	39.2	-1.0	32.0	-	43.4	53.9	10.5	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

stance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

^{*}Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

^{*1)} Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/13/2015 06/02/2015 20deg. C / 39% RH Takafumi Noguchi Temperature/ Humidity 24deg. C / 42% RH 24deg. C / 40% RH Ken Fujita Engineer

Tomoki Matsui (1-10GHz) (10-40GHz) (Band Edge)

Mode 11n-40 Tx 5755MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5715.000	PK	62.5	32.6	4.1	31.2	-	68.0	68.2	0.2	
Hori	5725.000	PK	64.2	32.6	4.2	31.2	-	69.8	78.2	8.4	
Hori	11510.000	PK	42.0	40.7	-2.0	33.2	-	47.5	68.2	20.7	Floor Noise
Hori	17265.000	PK	44.1	41.7	-0.5	32.2	-	53.1	78.2	25.1	Floor Noise
Hori	23020.000	PK	46.2	39.3	-1.0	32.0	-	52.5	78.2	25.7	Floor Noise
Hori	11510.000	AV	33.1	40.7	-2.0	33.2	-	38.6	53.9	15.3	Floor Noise
Hori	17265.000	AV	35.4	41.7	-0.5	32.2	-	44.4	53.9	9.5	Floor Noise
Hori	23020.000	AV	37.5	39.3	-1.0	32.0	-	43.8	53.9	10.1	Floor Noise
Vert	5715.000	PK	62.3	32.6	4.1	31.2	-	67.8	68.2	0.4	
Vert	5725.000	PK	63.9	32.6	4.2	31.2	-	69.5	78.2	8.7	
Vert	11510.000	PK	42.8	40.7	-2.0	33.2	-	48.3	73.9	25.6	Floor Noise
Vert	17265.000	PK	42.9	41.7	-0.5	32.2	-	51.9	73.9	22.0	Floor Noise
Vert	23020.000	PK	45.9	39.3	-1.0	32.0	-	52.2	73.9	21.7	Floor Noise
Vert	11510.000	AV	34.2	40.7	-2.0	33.2	-	39.7	53.9	14.2	Floor Noise
Vert	17265.000	AV	35.2	41.7	-0.5	32.2	-	44.2	53.9	9.7	Floor Noise
Vert	23020.000	AV	38.0	39.3	-1.0	32.0	-	44.3	53.9	9.6	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor:

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/13/2015

20deg. C / 39% RH Takafumi Noguchi Temperature/ Humidity 24deg. C / 42% RH Tomoki Matsui Engineer (1-10GHz) (10-40GHz)

Mode 11n-40 Tx 5795MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5850.000	PK	55.6	33.1	4.0	31.7	-	61.0	73.9	12.9	
Hori	11590.000	PK	42.0	40.6	-1.9	33.2	-	47.5	73.9	26.4	Floor Noise
Hori	17385.000	PK	44.1	42.3	-0.4	32.3	-	53.7	73.9	20.2	Floor Noise
Hori	23180.000	PK	45.9	39.3	-0.9	32.0	-	52.3	73.9	21.6	Floor Noise
Hori	5850.000	AV	42.1	33.1	4.0	31.7	1.8	49.3	53.9	4.6	Integration Method *1)
Hori	11590.000	AV	33.1	40.6	-1.9	33.2	-	38.6	53.9	15.3	Floor Noise
Hori	17385.000	AV	35.4	42.3	-0.4	32.3	-	45.0	53.9	8.9	Floor Noise
Hori	23180.000	AV	37.8	39.3	-0.9	32.0	-	44.2	53.9	9.7	Floor Noise
Vert	5850.000	PK	56.2	33.1	4.0	31.7	-	61.6	73.9	12.3	
Vert	11590.000	PK	41.8	40.6	-1.9	33.2	-	47.3	73.9	26.6	Floor Noise
Vert	17385.000	PK	43.2	42.3	-0.4	32.3	-	52.8	73.9	21.1	Floor Noise
Vert	23180.000	PK	45.9	39.3	-0.9	32.0	-	52.3	73.9	21.6	Floor Noise
Vert	5850.000	AV	42.8	33.1	4.0	31.7	1.8	50.0	53.9	3.9	Integration Method *1)
Vert	11590.000	AV	33.4	40.6	-1.9	33.2	-	38.9	53.9	15.0	Floor Noise
Vert	17385.000	AV	34.9	42.3	-0.4	32.3	-	44.5	53.9	9.4	Floor Noise
Vert	23180.000	AV	37.7	39.3	-0.9	32.0	-	44.1	53.9	9.8	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB Distance factor:

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^{*1)} Not Out of Band emission (Leakage Power)

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FCC ID : VPYLB1EN

Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/19/2015

Temperature/ Humidity 20deg. C / 39% RH 22deg. C / 37% RH Engineer Takafumi Noguchi Takafumi Noguchi

(1-10GHz) (10-40GHz)

Mode 11ac-40 Tx 5190MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]		[dBuV/m]	[dB]	
Hori	5150.000	PK	55.6	32.2	3.8	31.6	-	60.0	73.9	13.9	
Hori	10380.000	PK	40.7	39.8	-2.4	33.3	-	44.8	73.9	29.1	Floor Noise
Hori	15570.000	PK	41.8	39.3	-0.8	32.3	-	48.0	73.9	25.9	Floor Noise
Hori	20760.000	PK	45.5	38.1	-1.6	32.6	-	49.4	73.9	24.5	Floor Noise
Hori	25950.000	PK	47.4	39.2	-0.5	31.7	-	54.4	73.9	19.5	Floor Noise
Hori	5150.000	AV	40.4	32.2	3.8	31.6	1.4	46.2	53.9	7.8	Integration Method *1)
Hori	10380.000	AV	33.2	39.8	-2.4	33.3	-	37.3	53.9	16.6	Floor Noise
Hori	15570.000	AV	34.4	39.3	-0.8	32.3	-	40.6	53.9	13.3	Floor Noise
Hori	20760.000	AV	36.4	38.1	-1.6	32.6	-	40.3	53.9	13.6	Floor Noise
Hori	25950.000	AV	39.0	39.2	-0.5	31.7	-	46.0	53.9	7.9	Floor Noise
Vert	5150.000	PK	56.4	32.2	3.8	31.6	-	60.8	73.9	13.1	
Vert	10380.000	PK	41.1	39.8	-2.4	33.3	-	45.2	73.9	28.7	Floor Noise
Vert	15570.000	PK	41.9	39.3	-0.8	32.3	-	48.1	73.9	25.8	Floor Noise
Vert	20760.000	PK	44.8	38.1	-1.6	32.6	-	48.7	73.9	25.2	Floor Noise
Vert	25950.000	PK	47.5	39.2	-0.5	31.7	-	54.5	73.9	19.4	Floor Noise
Vert	5150.000	AV	43.1	32.2	3.8	31.6	1.4	48.9	53.9	5.0	Integration Method *1)
Vert	10380.000	AV	33.2	39.8	-2.4	33.3	-	37.3	53.9	16.6	Floor Noise
Vert	15570.000	AV	34.3	39.3	-0.8	32.3	-	40.5	53.9	13.4	Floor Noise
Vert	20760.000	AV	36.1	38.1	-1.6	32.6	-	40.0	53.9	13.9	Floor Noise
Vert	25950.000	AV	39.0	39.2	-0.5	31.7	-	46.0	53.9	7.9	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

*1) Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/19/2015

20deg. C / 39% RH Takafumi Noguchi Temperature/ Humidity 22deg. C / 37% RH Engineer Takafumi Noguchi

(1-10GHz) (10-40GHz)

Mode 11ac-40 Tx 5270MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	10540.000	PK	40.1	40.1	-2.4	33.3	-	44.5	73.9	29.4	Floor Noise
Hori	15810.000	PK	42.3	38.5	-0.7	32.2	-	47.9	73.9	26.0	Floor Noise
Hori	21080.000	PK	45.1	38.3	-1.6	32.7	-	49.1	73.9	24.8	Floor Noise
Hori	26350.000	PK	46.7	39.4	-0.5	31.2	-	54.4	73.9	19.5	Floor Noise
Hori	10540.000	AV	32.2	40.1	-2.4	33.3	-	36.6	53.9	17.3	Floor Noise
Hori	15810.000	AV	34.1	38.5	-0.7	32.2	-	39.7	53.9	14.2	Floor Noise
Hori	21080.000	AV	35.9	38.3	-1.6	32.7	-	39.9	53.9	14.0	Floor Noise
Hori	26350.000	AV	38.4	39.4	-0.5	31.2	-	46.1	53.9	7.8	Floor Noise
Vert	10540.000	PK	40.7	40.1	-2.4	33.3	-	45.1	73.9	28.8	Floor Noise
Vert	15810.000	PK	41.5	38.5	-0.7	32.2	-	47.1	73.9	26.8	Floor Noise
Vert	21080.000	PK	45.1	38.3	-1.6	32.7	-	49.1	73.9	24.8	Floor Noise
Vert	26350.000	PK	46.7	39.4	-0.5	31.2	-	54.4	73.9	19.5	Floor Noise
Vert	10540.000	AV	32.4	40.1	-2.4	33.3	-	36.8	53.9	17.1	Floor Noise
Vert	15810.000	AV	34.7	38.5	-0.7	32.2	-	40.3	53.9	13.6	Floor Noise
Vert	21080.000	AV	36.2	38.3	-1.6	32.7	-	40.2	53.9	13.7	Floor Noise
Vert	26350.000	AV	38.3	39.4	-0.5	31.2	-	46.0	53.9	7.9	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor:

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/19/2015

20deg. C / 39% RH Takafumi Noguchi Temperature/ Humidity 22deg. C / 37% RH Engineer Takafumi Noguchi

(1-10GHz) (10-40GHz)

Mode 11ac-40 Tx 5310MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5350.000	PK	56.1	32.3	3.8	31.7	-	60.5	73.9	13.4	
Hori	10620.000	PK	39.9	40.3	-2.3	33.3	-	44.6	73.9	29.3	Floor Noise
Hori	15930.000	PK	42.8	38.2	-0.6	32.2	-	48.2	73.9	25.7	Floor Noise
Hori	21240.000	PK	45.5	38.4	-1.5	32.6	-	49.8	73.9	24.1	Floor Noise
Hori	5350.000	AV	40.2	32.3	3.8	31.7	1.4	46.0	53.9	8.0	Integration Method *1)
Hori	10620.000	AV	32.6	40.3	-2.3	33.3	-	37.3	53.9	16.6	Floor Noise
Hori	15930.000	AV	34.9	38.2	-0.6	32.2	-	40.3	53.9	13.6	Floor Noise
Hori	21240.000	AV	36.2	38.4	-1.5	32.6	-	40.5	53.9	13.4	Floor Noise
Vert	5350.000	PK	53.5	32.3	3.8	31.7	-	57.9	73.9	16.0	
Vert	10620.000	PK	41.8	40.3	-2.3	33.3	-	46.5	73.9	27.4	Floor Noise
Vert	15930.000	PK	43.4	38.2	-0.6	32.2	-	48.8	73.9	25.1	Floor Noise
Vert	21240.000	PK	44.7	38.4	-1.5	32.6	-	49.0	73.9	24.9	Floor Noise
Vert	5350.000	AV	38.1	32.3	3.8	31.7	1.4	43.9	53.9	10.1	Integration Method *1)
Vert	10620.000	AV	34.0	40.3	-2.3	33.3	-	38.7	53.9	15.2	Floor Noise
Vert	15930.000	AV	35.1	38.2	-0.6	32.2	-	40.5	53.9	13.4	Floor Noise
Vert	21240.000	AV	36.4	38.4	-1.5	32.6	-	40.7	53.9	13.2	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB Distance factor:

*1) Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/19/2015

20deg. C / 39% RH Takafumi Noguchi Temperature/ Humidity 22deg. C / 37% RH Engineer Takafumi Noguchi

(1-10GHz) (10-40GHz)

Mode 11ac-40 Tx 5510MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5470.000	PK	53.4	32.4	3.9	31.7	-	58.0	73.9	15.9	
Hori	11020.000	PK	41.3	40.9	-2.2	33.2	-	46.8	73.9	27.1	Floor Noise
Hori	16530.000	PK	43.3	39.1	-0.6	32.1	-	49.7	73.9	24.2	Floor Noise
Hori	22040.000	PK	44.4	38.9	-1.1	32.1	-	50.1	73.9	23.8	Floor Noise
Hori	5470.000	AV	40.2	32.4	3.9	31.7	1.4	46.2	53.9	7.8	Integration Method *1)
Hori	11020.000	AV	33.0	40.9	-2.2	33.2	-	38.5	53.9	15.4	Floor Noise
Hori	16530.000	AV	35.4	39.1	-0.6	32.1	-	41.8	53.9	12.1	Floor Noise
Hori	22040.000	AV	35.9	38.9	-1.1	32.1	-	41.6	53.9	12.3	Floor Noise
Vert	5470.000	PK	54.8	32.4	3.9	31.7	-	59.4	73.9	14.5	
Vert	11020.000	PK	41.9	40.9	-2.2	33.2	-	47.4	73.9	26.5	Floor Noise
Vert	16530.000	PK	42.8	39.1	-0.6	32.1	-	49.2	73.9	24.7	Floor Noise
Vert	22040.000	PK	44.5	38.9	-1.1	32.1	-	50.2	73.9	23.7	Floor Noise
Vert	5470.000	AV	39.4	32.4	3.9	31.7	1.4	45.4	53.9	8.6	Integration Method *1)
Vert	11020.000	AV	34.2	40.9	-2.2	33.2	-	39.7	53.9	14.2	Floor Noise
Vert	16530.000	AV	35.4	39.1	-0.6	32.1	-	41.8	53.9	12.1	Floor Noise
Vert	22040.000	AV	35.7	38.9	-1.1	32.1	-	41.4	53.9	12.5	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB). Distance factor:

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

*1) Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/19/2015

Temperature/ Humidity 20deg. C / 39% RH 22deg. C / 37% RH Engineer Takafumi Noguchi Takafumi Noguchi

(1-10GHz) (10-40GHz)

Mode 11ac-40 Tx 5550MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	11100.000	PK	40.6	40.9	-2.1	33.2	-	46.2	73.9	27.7	Floor Noise
Hori	16650.000	PK	42.9	39.4	-0.6	32.1	-	49.6	73.9	24.3	Floor Noise
Hori	22200.000	PK	44.9	39.0	-1.1	32.1	-	50.7	73.9	23.2	Floor Noise
Hori	11100.000	AV	33.4	40.9	-2.1	33.2	-	39.0	53.9	14.9	Floor Noise
Hori	16650.000	AV	34.9	39.4	-0.6	32.1	-	41.6	53.9	12.3	Floor Noise
Hori	22200.000	AV	36.8	39.0	-1.1	32.1	-	42.6	53.9	11.3	Floor Noise
Vert	11100.000	PK	41.8	40.9	-2.1	33.2	-	47.4	73.9	26.5	Floor Noise
Vert	16650.000	PK	44.0	39.4	-0.6	32.1	-	50.7	73.9	23.2	Floor Noise
Vert	22200.000	PK	44.5	39.0	-1.1	32.1	-	50.3	73.9	23.6	Floor Noise
Vert	11100.000	AV	34.5	40.9	-2.1	33.2	-	40.1	53.9	13.8	Floor Noise
Vert	16650.000	AV	35.1	39.4	-0.6	32.1	-	41.8	53.9	12.1	Floor Noise
Vert	22200.000	AV	36.4	39.0	-1.1	32.1	-	42.2	53.9	11.7	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

UL Japan, Inc. Ise EMC Lab.

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/19/2015

20deg. C / 39% RH Takafumi Noguchi Temperature/ Humidity 22deg. C / 37% RH Engineer Takafumi Noguchi

(1-10GHz) (10-40GHz)

Mode 11ac-40 Tx 5670MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5725.000	PK	48.3	32.9	4.0	31.7	-	53.5	73.9	20.4	
Hori	11340.000	PK	41.7	40.8	-2.2	33.2	-	47.1	73.9	26.8	Floor Noise
Hori	17010.000	PK	42.8	40.2	-0.6	32.1	-	50.3	73.9	23.6	Floor Noise
Hori	22680.000	PK	46.0	39.2	-1.0	32.0	-	52.2	73.9	21.7	Floor Noise
Hori	5725.000	AV	35.9	32.9	4.0	31.7	1.4	42.5	53.9	11.5	Integration Method *1)
Hori	11340.000	AV	33.4	40.8	-2.2	33.2	-	38.8	53.9	15.1	Floor Noise
Hori	17010.000	AV	35.1	40.2	-0.6	32.1	-	42.6	53.9	11.3	Floor Noise
Hori	22680.000	AV	36.7	39.2	-1.0	32.0	-	42.9	53.9	11.0	Floor Noise
Vert	5725.000	PK	47.5	32.9	4.0	31.7	-	52.7	73.9	21.2	
Vert	11340.000	PK	41.3	40.8	-2.2	33.2	-	46.7	73.9	27.2	Floor Noise
Vert	17010.000	PK	42.5	40.2	-0.6	32.1	-	50.0	73.9	23.9	Floor Noise
Vert	22680.000	PK	45.6	39.2	-1.0	32.0	-	51.8	73.9	22.1	Floor Noise
Vert	5725.000	AV	35.4	32.9	4.0	31.7	1.4	42.0	53.9	12.0	Integration Method *1)
Vert	11340.000	AV	34.3	40.8	-2.2	33.2	-	39.7	53.9	14.2	Floor Noise
Vert	17010.000	AV	34.9	40.2	-0.6	32.1	-	42.4	53.9	11.5	Floor Noise
Vert	22680.000	AV	37.0	39.2	-1.0	32.0	-	43.2	53.9	10.7	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB Distance factor:

*1) Not Out of Band emission (Leakage Power)

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/21/2015 04/19/2015

Temperature/ Humidity 24deg. C / 40% RH 22deg. C / 37% RH Engineer Keisuke Kawamura Takafumi Noguchi

(1-10GHz) (10-40GHz)

Mode 11ac-40 Tx 5755MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5715.000	PK	62.9	33.2	4.5	33.9	-	66.7	68.2	1.5	
Hori	5725.000	PK	66.6	33.2	4.5	33.9	-	70.4	78.2	7.8	
Hori	11510.000	PK	41.4	40.7	-2.0	33.2	-	46.9	73.9	27.0	Floor Noise
Hori	17265.000	PK	42.4	41.7	-0.5	32.2	-	51.4	73.9	22.5	Floor Noise
Hori	23020.000	PK	45.4	39.3	-1.0	32.0	-	51.7	73.9	22.2	Floor Noise
Hori	11510.000	AV	33.0	40.7	-2.0	33.2	-	38.5	53.9	15.4	Floor Noise
Hori	17265.000	AV	35.1	41.7	-0.5	32.2	-	44.1	53.9	9.8	Floor Noise
Hori	23020.000	AV	37.1	39.3	-1.0	32.0	-	43.4	53.9	10.5	Floor Noise
Vert	5715.000	PK	63.6	33.2	4.5	33.9	-	67.4	68.2	0.8	
Vert	5725.000	PK	66.2	33.2	4.5	33.9	-	70.0	78.2	8.2	
Vert	11510.000	PK	42.8	40.7	-2.0	33.2	-	48.3	73.9	25.6	Floor Noise
Vert	17265.000	PK	43.8	41.7	-0.5	32.2	-	52.8	73.9	21.1	Floor Noise
Vert	23020.000	PK	45.7	39.3	-1.0	32.0	-	52.0	73.9	21.9	Floor Noise
Vert	11510.000	AV	35.2	40.7	-2.0	33.2	-	40.7	53.9	13.2	Floor Noise
Vert	17265.000	AV	35.2	41.7	-0.5	32.2	-	44.2	53.9	9.7	Floor Noise
Vert	23020.000	AV	37.3	39.3	-1.0	32.0	-	43.6	53.9	10.3	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor:

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

: 10689818H-C-R1 Test report No. Page : 118 of 147 : June 17, 2015 **Issued date** Revised date : June 22, 2015 FCC ID : VPYLB1EN

Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 04/11/2015 04/19/2015

20deg. C / 39% RH Takafumi Noguchi Temperature/ Humidity 22deg. C / 37% RH Engineer Takafumi Noguchi

(1-10GHz) (10-40GHz)

Mode 11ac-40 Tx 5795MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5850.000	PK	52.0	33.1	4.0	31.7	-	57.4	73.9	16.5	
Hori	11590.000	PK	40.8	40.6	-1.9	33.2	-	46.3	73.9	27.6	Floor Noise
Hori	17385.000	PK	43.0	42.3	-0.4	32.3	-	52.6	73.9	21.3	Floor Noise
Hori	23180.000	PK	45.2	39.3	-0.9	32.0	-	51.6	73.9	22.3	Floor Noise
Hori	5850.000	AV	37.0	33.1	4.0	31.7	1.4	43.8	53.9	10.2	Integration Method *1)
Hori	11590.000	AV	33.2	40.6	-1.9	33.2	-	38.7	53.9	15.2	Floor Noise
Hori	17385.000	AV	35.2	42.3	-0.4	32.3	-	44.8	53.9	9.1	Floor Noise
Hori	23180.000	AV	36.9	39.3	-0.9	32.0	-	43.3	53.9	10.6	Floor Noise
Vert	5850.000	PK	50.4	33.1	4.0	31.7	-	55.8	73.9	18.1	
Vert	11590.000	PK	41.4	40.6	-1.9	33.2	-	46.9	73.9	27.0	Floor Noise
Vert	17385.000	PK	43.3	42.3	-0.4	32.3	-	52.9	73.9	21.0	Floor Noise
Vert	23180.000	PK	45.9	39.3	-0.9	32.0	-	52.3	73.9	21.6	Floor Noise
Vert	5850.000	AV	36.1	33.1	4.0	31.7	1.4	42.9	53.9	11.1	Integration Method *1)
Vert	11590.000	AV	33.5	40.6	-1.9	33.2	-	39.0	53.9	14.9	Floor Noise
Vert	17385.000	AV	35.1	42.3	-0.4	32.3	-	44.7	53.9	9.2	Floor Noise
Vert	23180.000	AV	36.8	39.3	-0.9	32.0	-	43.2	53.9	10.7	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty factor

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB Distance factor:

*1) Not Out of Band emission (Leakage Power)

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Test report No. : 10689818H-C-R1
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Issued date : June 17, 2015
Revised date : June 22, 2015
FCC ID : VPYLB1EN

Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 05/18/2015 04/19/2015

Temperature/ Humidity 23deg. C / 64% RH 22deg. C / 37% RH Engineer Tomoki Matsui Takafumi Noguchi

(1-10GHz) (10-40GHz)

Mode 11ac-80 Tx 5210MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5126.083	PK	57.9	32.2	3.7	31.6	-	62.2	73.9	11.7	
Hori	5150.000	PK	52.9	32.2	3.8	31.6	-	57.3	73.9	16.6	
Hori	10420.000	PK	41.4	39.9	-2.4	33.3	-	45.6	73.9	28.3	Floor Noise
Hori	15630.000	PK	43.4	39.1	-0.8	32.3	-	49.4	73.9	24.5	Floor Noise
Hori	20840.000	PK	44.1	38.1	-1.6	32.6	-	48.0	73.9	25.9	Floor Noise
Hori	26050.000	PK	47.0	39.3	-0.5	31.6	-	54.2	73.9	19.7	Floor Noise
Hori	5126.083	AV	45.9	32.2	3.7	31.6	1.3	51.5	53.9	2.4	*1)
Hori	5150.000	AV	42.5	32.2	3.8	31.6	1.3	48.2	53.9	5.7	*1)
Hori	10420.000	AV	33.2	39.9	-2.4	33.3	-	37.4	53.9	16.5	Floor Noise
Hori	15630.000	AV	34.7	39.1	-0.8	32.3	-	40.7	53.9	13.2	Floor Noise
Hori	20840.000	AV	35.7	38.1	-1.6	32.6	-	39.6	53.9	14.3	Floor Noise
Hori	26050.000	AV	38.3	39.3	-0.5	31.6	-	45.5	53.9	8.4	Floor Noise
Vert	5134.057	PK	58.6	32.2	3.7	31.6	-	62.9	73.9	11.0	
Vert	5150.000	PK	53.0	32.2	3.8	31.6	-	57.4	73.9	16.5	
Vert	10420.000	PK	42.0	39.9	-2.4	33.3	-	46.2	73.9	27.7	Floor Noise
Vert	15630.000	PK	43.0	39.1	-0.8	32.3	-	49.0	73.9	24.9	Floor Noise
Vert	20840.000	PK	44.1	38.1	-1.6	32.6	-	48.0	73.9	25.9	Floor Noise
Vert	26050.000	PK	47.0	39.3	-0.5	31.6	-	54.2	73.9	19.7	Floor Noise
Vert	5134.057	AV	46.0	32.2	3.7	31.6	1.3	51.6	53.9	2.3	*1)
Vert	5150.000	AV	41.9	32.2	3.8	31.6	1.3	47.6	53.9	6.3	*1)
Vert	10420.000	AV	33.4	39.9	-2.4	33.3	-	37.6	53.9	16.3	Floor Noise
Vert	15630.000	AV	34.4	39.1	-0.8	32.3	-	40.4	53.9	13.5	Floor Noise
Vert	20840.000	AV	36.0	38.1	-1.6	32.6	-	39.9	53.9	14.0	Floor Noise
Vert	26050.000	AV	38.2	39.3	-0.5	31.6	-	45.4	53.9	8.5	Floor Noise

 $Result = Reading + Ant\ Factor + Loss\ (Cable + Attenuator + Filter - Distance\ factor (above\ 10GHz)) - Gain (Amplifier) + Duty\ Factor - Duty\ Factor -$

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

 $\begin{array}{lll} \mbox{Distance factor:} & 10\mbox{GHz-26.5GHz} & 20\mbox{log}(3.0\mbox{m/1.0m}) = 9.5\mbox{dB} \\ 26.5\mbox{GHz-40GHz} & 20\mbox{log}(3.0\mbox{m/0.5m}) = 15.6\mbox{dB} \\ \end{array}$

*1) Not Out of Band emission (Leakage Power)

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

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Revised date : June 22, 2015
FCC ID : VPYLB1EN

Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 05/18/2015 04/19/2015

Temperature/ Humidity 23deg. C / 64% RH 22deg. C / 37% RH Engineer Tomoki Matsui Takafumi Noguchi

(1-10GHz) (10-40GHz)

Mode 11ac-80 Tx 5290MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5350.000	PK	54.8	32.3	3.8	31.7	-	59.2	73.9	14.7	
Hori	5351.943	PK	58.3	32.3	3.8	31.7	-	62.7	73.9	11.2	
Hori	10580.000	PK	40.8	40.2	-2.4	33.3	-	45.3	73.9	28.6	Floor Noise
Hori	15870.000	PK	40.9	38.3	-0.7	32.2	-	46.3	73.9	27.6	Floor Noise
Hori	21160.000	PK	44.9	38.3	-1.5	32.7	-	49.0	73.9	24.9	Floor Noise
Hori	26450.000	PK	46.7	39.4	-0.5	31.0	-	54.6	73.9	19.3	Floor Noise
Hori	5350.000	AV	42.5	32.3	3.8	31.7	1.3	48.2	53.9	5.7	*1)
Hori	5351.943	AV	46.8	32.3	3.8	31.7	1.3	52.5	53.9	1.4	*1)
Hori	10580.000	AV	32.8	40.2	-2.4	33.3	-	37.3	53.9	16.6	Floor Noise
Hori	15870.000	AV	33.0	38.3	-0.7	32.2	-	38.4	53.9	15.5	Floor Noise
Hori	21160.000	AV	36.7	38.3	-1.5	32.7	-	40.8	53.9	13.1	Floor Noise
Hori	26450.000	AV	38.4	39.4	-0.5	31.0	-	46.3	53.9	7.6	Floor Noise
Vert	5350.000	PK	54.4	32.3	3.8	31.7	-	58.8	73.9	15.1	
Vert	5382.479	PK	56.2	32.3	3.8	31.7	-	60.6	73.9	13.3	
Vert	10580.000	PK	41.6	40.2	-2.4	33.3	-	46.1	73.9	27.8	Floor Noise
Vert	15870.000	PK	42.8	38.3	-0.7	32.2	-	48.2	73.9	25.7	Floor Noise
Vert	21160.000	PK	44.8	38.3	-1.5	32.7	-	48.9	73.9	25.0	Floor Noise
Vert	26450.000	PK	47.7	39.4	-0.5	31.0	-	55.6	73.9	18.3	Floor Noise
Vert	5350.000	AV	42.5	32.3	3.8	31.7	1.3	48.2	53.9	5.7	*1)
Vert	5382.479	AV	45.1	32.3	3.8	31.7	1.3	50.8	53.9	3.1	*1)
Vert	10580.000	AV	32.7	40.2	-2.4	33.3	-	37.2	53.9	16.7	Floor Noise
Vert	15870.000	AV	35.0	38.3	-0.7	32.2	-	40.4	53.9	13.5	Floor Noise
Vert	21160.000	AV	35.9	38.3	-1.5	32.7	-	40.0	53.9	13.9	Floor Noise
Vert	26450.000	AV	38.3	39.4	-0.5	31.0	-	46.2	53.9	7.7	Floor Noise

 $Result = Reading + Ant\ Factor + Loss\ (Cable + Attenuator + Filter - Distance\ factor (above\ 10GHz)) - Gain (Amplifier) + Duty\ Factor - Duty\ Factor -$

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

*1) Not Out of Band emission (Leakage Power)

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

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Issued date : June 17, 2015
Revised date : June 22, 2015
FCC ID : VPYLB1EN

Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 05/18/2015 04/19/2015

Temperature/ Humidity 23deg. C / 64% RH 22deg. C / 37% RH Engineer Tomoki Matsui Takafumi Noguchi

(1-10GHz) (10-40GHz)

Mode 11ac-80 Tx 5530MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5445.667	PK	60.7	32.4	3.9	31.7	-	65.3	73.9	8.6	
Hori	5460.000	PK	52.6	32.4	3.9	31.7	-	57.2	73.9	16.7	
Hori	5470.000	PK	53.0	32.4	3.9	31.7	-	57.6	73.9	16.3	
Hori	11060.000	PK	41.1	40.9	-2.2	33.2	-	46.6	73.9	27.3	Floor Noise
Hori	16590.000	PK	44.1	39.3	-0.6	32.1	-	50.7	73.9	23.2	Floor Noise
Hori	22120.000	PK	44.3	38.9	-1.1	32.1	-	50.0	73.9	23.9	Floor Noise
Hori	5445.667	AV	46.4	32.4	3.9	31.7	1.3	52.3	53.9	1.6	*1)
Hori	5460.000	AV	42.7	32.4	3.9	31.7	1.3	48.6	53.9	5.3	*1)
Hori	5470.000	AV	40.8	32.4	3.9	31.7	1.3	46.7	53.9	7.2	*1)
Hori	11060.000	AV	33.1	40.9	-2.2	33.2	-	38.6	53.9	15.3	Floor Noise
Hori	16590.000	AV	35.3	39.3	-0.6	32.1	-	41.9	53.9	12.0	Floor Noise
Hori	22120.000	AV	36.0	38.9	-1.1	32.1	-	41.7	53.9	12.2	Floor Noise
Vert	5457.375	PK	59.3	32.4	3.9	31.7	-	63.9	73.9	10.0	
Vert	5460.000	PK	54.5	32.4	3.9	31.7	-	59.1	73.9	14.8	
Vert	5470.000	PK	51.1	32.4	3.9	31.7	-	55.7	73.9	18.2	
Vert	11060.000	PK	41.0	40.9	-2.2	33.2	-	46.5	73.9	27.4	Floor Noise
Vert	16590.000	PK	44.2	39.3	-0.6	32.1	-	50.8	73.9	23.1	Floor Noise
Vert	22120.000	PK	45.6	38.9	-1.1	32.1	-	51.3	73.9	22.6	Floor Noise
Vert	5457.375	AV	47.0	32.4	3.9	31.7	1.3	52.9	53.9	1.0	*1)
Vert	5460.000	AV	41.0	32.4	3.9	31.7	1.3	46.9	53.9	7.0	*1)
Vert	5470.000	AV	39.2	32.4	3.9	31.7	1.3	45.1	53.9	8.8	*1)
Vert	11060.000	AV	33.2	40.9	-2.2	33.2	-	38.7	53.9	15.2	Floor Noise
Vert	16590.000	AV	35.1	39.3	-0.6	32.1	-	41.7	53.9	12.2	Floor Noise
Vert	22120.000	AV	36.2	38.9	-1.1	32.1	-	41.9	53.9	12.0	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty Factor

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

^{*}Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

^{*1)} Not Out of Band emission (Leakage Power)

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FCC ID : VPYLB1EN

Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 05/18/2015 04/19/2015

Temperature/ Humidity 23deg. C / 64% RH 22deg. C / 37% RH Engineer Tomoki Matsui Takafumi Noguchi

(1-10GHz) (10-40GHz)

Mode 11ac-80 Tx 5610MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5725.000	PK	42.9	32.9	4.0	31.7	-	48.1	73.9	25.8	
Hori	11220.000	PK	41.3	40.8	-2.1	33.2	-	46.8	73.9	27.1	Floor Noise
Hori	16830.000	PK	44.1	39.8	-0.6	32.1	-	51.2	73.9	22.7	Floor Noise
Hori	22440.000	PK	45.0	39.1	-1.0	32.1	-	51.0	73.9	22.9	Floor Noise
Hori	5725.000	AV	33.5	32.9	4.0	31.7	1.3	40.0	53.9	13.9	*1)
Hori	11220.000	AV	33.1	40.8	-2.1	33.2	-	38.6	53.9	15.3	Floor Noise
Hori	16830.000	AV	35.3	39.8	-0.6	32.1	-	42.4	53.9	11.5	Floor Noise
Hori	22440.000	AV	36.3	39.1	-1.0	32.1	-	42.3	53.9	11.6	Floor Noise
Vert	5725.000	PK	41.5	32.9	4.0	31.7	-	46.7	73.9	27.2	
Vert	11220.000	PK	42.2	40.8	-2.1	33.2	-	47.7	73.9	26.2	Floor Noise
Vert	16830.000	PK	43.2	39.8	-0.6	32.1	-	50.3	73.9	23.6	Floor Noise
Vert	22440.000	PK	44.2	39.1	-1.0	32.1	-	50.2	73.9	23.7	Floor Noise
Vert	5725.000	AV	33.2	32.9	4.0	31.7	1.3	39.7	53.9	14.2	*1)
Vert	11220.000	AV	34.0	40.8	-2.1	33.2	-	39.5	53.9	14.4	Floor Noise
Vert	16830.000	AV	35.1	39.8	-0.6	32.1	-	42.2	53.9	11.7	Floor Noise
Vert	22440.000	AV	36.6	39.1	-1.0	32.1	-	42.6	53.9	11.3	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier) + Duty Factor

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

^{*}Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

^{26.5}GHz-40GHz 20log(3.0m/0.5m)=15.6dB

^{*1)} Not Out of Band emission (Leakage Power)

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Radiated Spurious Emission

Test place Ise EMC Lab. No.4 Semi-anechoic Chamber

Report No. 10689818H

Date 05/18/2015 04/19/2015

Temperature/ Humidity 23deg. C / 64% RH 22deg. C / 37% RH Engineer Tomoki Matsui Takafumi Noguchi

(1-10GHz) (10-40GHz)

Mode 11ac-80 Tx 5775MHz

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	5687.681	PK	56.6	32.8	3.9	31.7	-	61.6	68.2	6.6	
Hori	5715.000	PK	50.6	32.8	4.0	31.7	-	55.7	68.2	12.5	
Hori	5725.000	PK	51.9	32.9	4.0	31.7	-	57.1	78.2	21.1	
Hori	5850.000	PK	55.6	33.1	4.0	31.7	-	61.0	78.2	17.2	
Hori	5860.000	PK	50.9	33.1	4.0	31.7	-	56.3	68.2	11.9	
Hori	5867.369	PK	55.9	33.2	4.0	31.7	-	61.4	68.2	6.8	
Hori	11550.000	PK	42.0	40.6	-2.0	33.2	-	47.4	73.9	26.5	Floor Noise
Hori	17325.000	PK	44.3	42.0	-0.5	32.3	-	53.5	73.9	20.4	Floor Noise
Hori	22750.000	PK	44.9	39.2	-1.0	32.0	-	51.1	73.9	22.8	Floor Noise
Hori	11550.000	AV	33.2	40.6	-2.0	33.2	-	38.6	53.9	15.3	Floor Noise
Hori	17325.000	AV	35.1	42.0	-0.5	32.3	-	44.3	53.9	9.6	Floor Noise
Hori	22750.000	AV	36.5	39.2	-1.0	32.0	-	42.7	53.9	11.2	Floor Noise
Vert	5691.040	PK	62.0	32.8	3.9	31.7	-	67.0	68.2	1.2	
Vert	5715.000	PK	52.8	32.8	4.0	31.7	-	57.9	68.2	10.3	
Vert	5725.000	PK	53.5	32.9	4.0	31.7	-	58.7	78.2	19.5	
Vert	5850.000	PK	53.5	33.1	4.0	31.7	-	58.9	78.2	19.3	
Vert	5860.000	PK	50.8	33.1	4.0	31.7	-	56.2	68.2	12.0	
Vert	5870.885	PK	55.9	33.2	4.0	31.7	-	61.4	68.2	6.8	
Vert	11550.000	PK	42.4	40.6	-2.0	33.2	-	47.8	73.9	26.1	Floor Noise
Vert	17325.000	PK	44.1	42.0	-0.5	32.3	-	53.3	73.9	20.6	Floor Noise
Vert	22750.000	PK	44.9	39.2	-1.0	32.0		51.1	73.9	22.8	Floor Noise
Vert	11550.000	AV	33.3	40.6	-2.0	33.2	-	38.7	53.9	15.2	Floor Noise
Vert	17325.000	AV	35.2	42.0	-0.5	32.3	-	44.4	53.9	9.5	Floor Noise
Vert	22750.000	AV	36.6	39.2	-1.0	32.0	-	42.8	53.9	11.1	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB 26.5GHz-40GHz 20log(3.0m/0.5m)=15.6dB

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^{*}Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

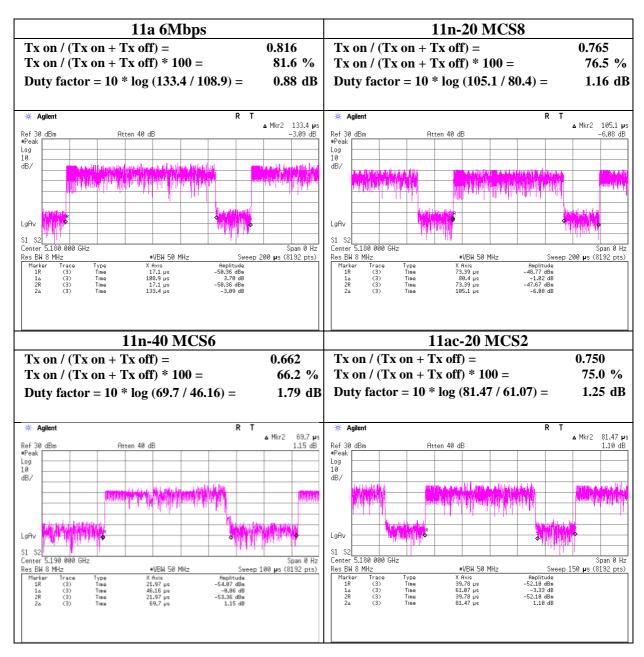
Test report No. : 10689818H-C-R1
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Duty Cycle

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H Date 04/10/2015 Temperature/ Humidity 23deg. C / 33% RH Engineer Tomoki Matsui

Mode 11a / 11n-20 / 11n-40 / 11ac-20 Tx



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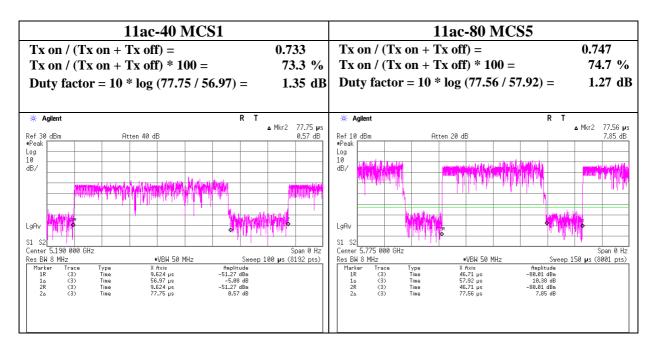
Duty Cycle

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H

Date 04/10/2015 05/18/2015
Temperature/ Humidity 23deg. C / 33% RH 25deg. C / 49% RH
Engineer Tomoki Matsui Tomoki Matsui

Mode 11ac-40 / 11ac-80 Tx



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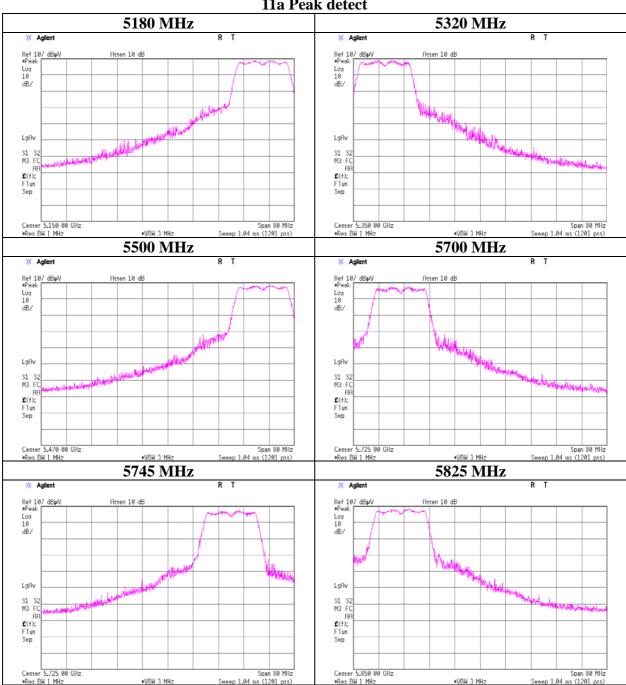
Band Edge confirmation

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H Date 06/03/2015 Temperature/ Humidity 24deg. C / 55% RH Engineer Takafumi Noguchi

Mode 11a Tx

11a Peak detect



^{*} Final result of band edge was measured as Radiated Spurious Emission. Refer to Radiated Spurious Emission's pages.

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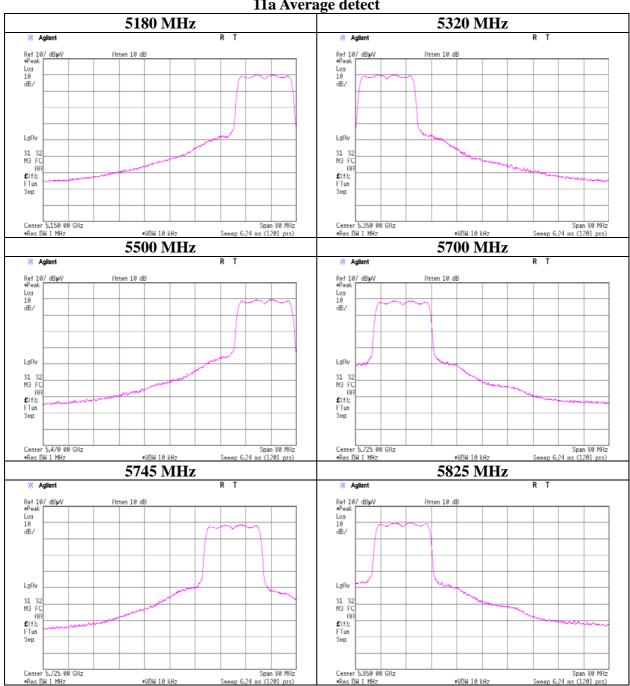
Band Edge confirmation

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H Date 06/03/2015 Temperature/ Humidity 24deg. C / 55% RH Engineer Takafumi Noguchi

Mode 11a Tx

11a Average detect



^{*} Final result of band edge was measured as Radiated Spurious Emission. Refer to Radiated Spurious Emission's pages.

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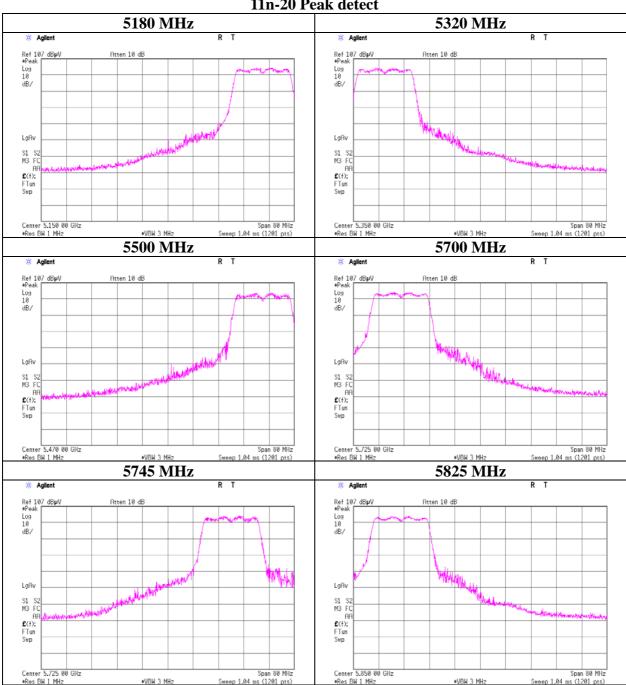
: 10689818H-C-R1 Test report No. Page : 128 of 147 Issued date : June 17, 2015 Revised date : June 22, 2015 FCC ID : VPYLB1EN

Band Edge confirmation

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H Date 06/03/2015 Temperature/ Humidity 24deg. C / 55% RH Engineer Takafumi Noguchi Mode 11n-20 Tx

11n-20 Peak detect



^{*} Final result of band edge was measured as Radiated Spurious Emission. Refer to Radiated Spurious Emission's pages.

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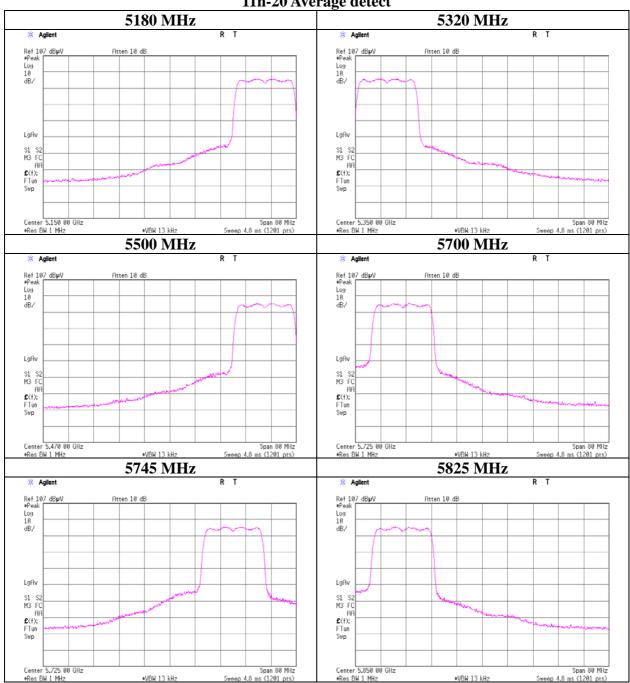
: 10689818H-C-R1 Test report No. Page : 129 of 147 Issued date : June 17, 2015 Revised date : June 22, 2015 FCC ID : VPYLB1EN

Band Edge confirmation

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H Date 06/03/2015 Temperature/ Humidity 24deg. C / 55% RH Engineer Takafumi Noguchi Mode 11n-20 Tx

11n-20 Average detect



^{*} Final result of band edge was measured as Radiated Spurious Emission. Refer to Radiated Spurious Emission's pages.

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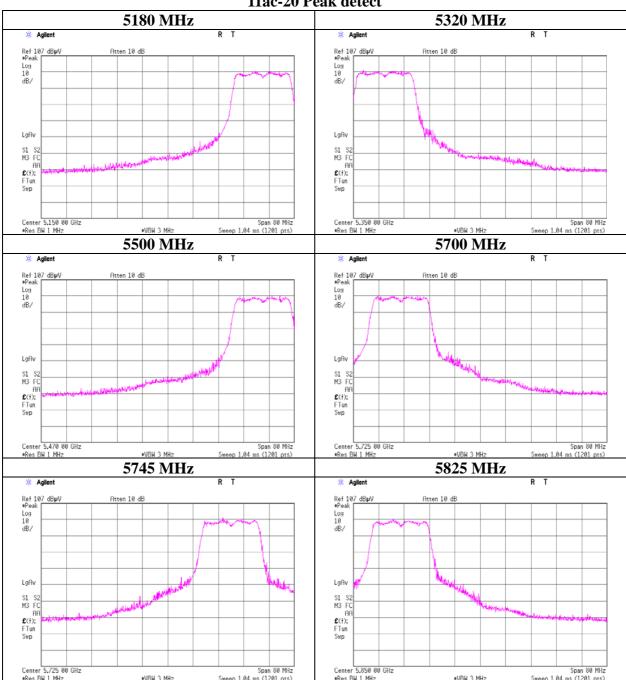
: 10689818H-C-R1 Test report No. Page : 130 of 147 **Issued date** : June 17, 2015 Revised date : June 22, 2015 FCC ID : VPYLB1EN

Band Edge confirmation

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H Date 06/03/2015 Temperature/ Humidity 24deg. C / 55% RH Engineer Takafumi Noguchi Mode 11ac-20 Tx

11ac-20 Peak detect



^{*} Final result of band edge was measured as Radiated Spurious Emission. Refer to Radiated Spurious Emission's pages.

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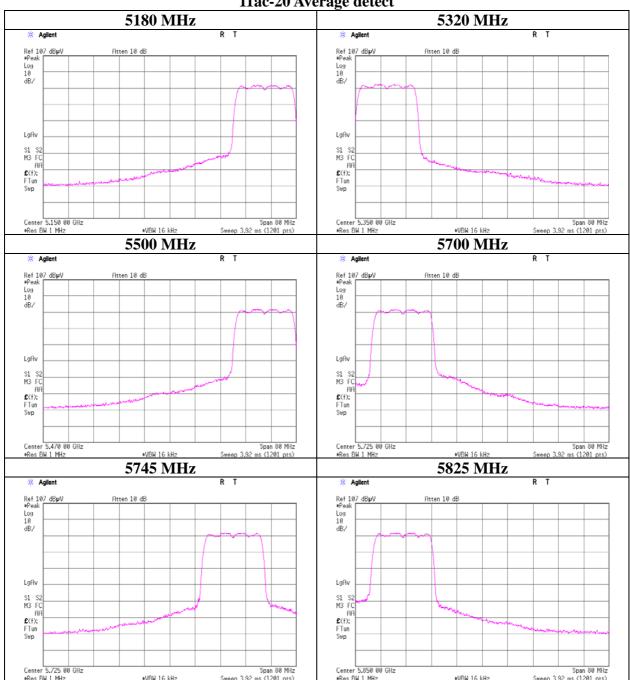
: 10689818H-C-R1 Test report No. Page : 131 of 147 Issued date : June 17, 2015 Revised date : June 22, 2015 FCC ID : VPYLB1EN

Band Edge confirmation

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H Date 06/03/2015 Temperature/ Humidity 24deg. C / 55% RH Engineer Takafumi Noguchi 11ac-20 Tx Mode

11ac-20 Average detect



^{*} Final result of band edge was measured as Radiated Spurious Emission. Refer to Radiated Spurious Emission's pages.

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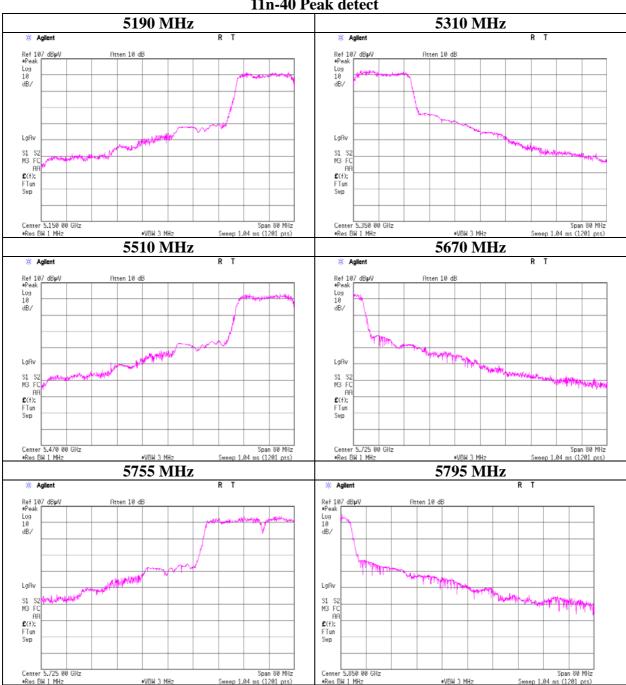
: 10689818H-C-R1 Test report No. Page : 132 of 147 Issued date : June 17, 2015 Revised date : June 22, 2015 FCC ID : VPYLB1EN

Band Edge confirmation

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H Date 06/03/2015 Temperature/ Humidity 24deg. C / 55% RH Engineer Takafumi Noguchi Mode 11n-40 Tx

11n-40 Peak detect



^{*} Final result of band edge was measured as Radiated Spurious Emission. Refer to Radiated Spurious Emission's pages.

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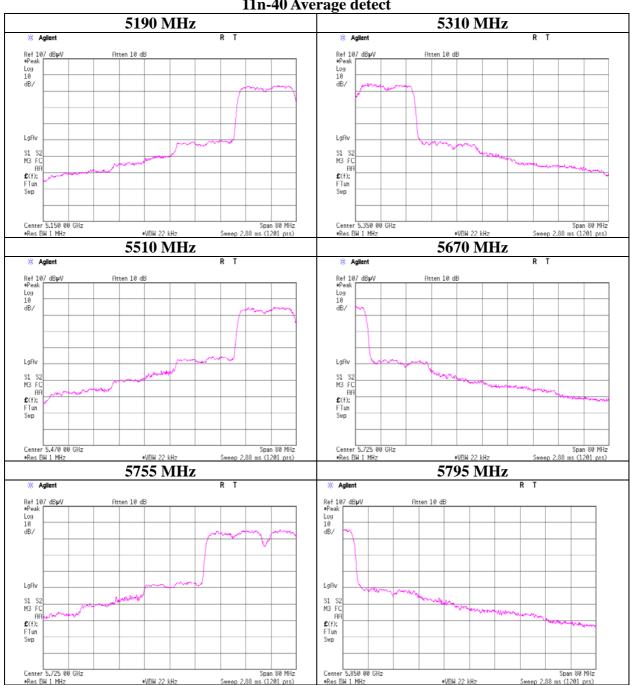
: 10689818H-C-R1 Test report No. Page : 133 of 147 **Issued date** : June 17, 2015 Revised date : June 22, 2015 FCC ID : VPYLB1EN

Band Edge confirmation

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H Date 06/03/2015 Temperature/ Humidity 24deg. C / 55% RH Engineer Takafumi Noguchi 11n-40 Tx Mode

11n-40 Average detect



^{*} Final result of band edge was measured as Radiated Spurious Emission. Refer to Radiated Spurious Emission's pages.

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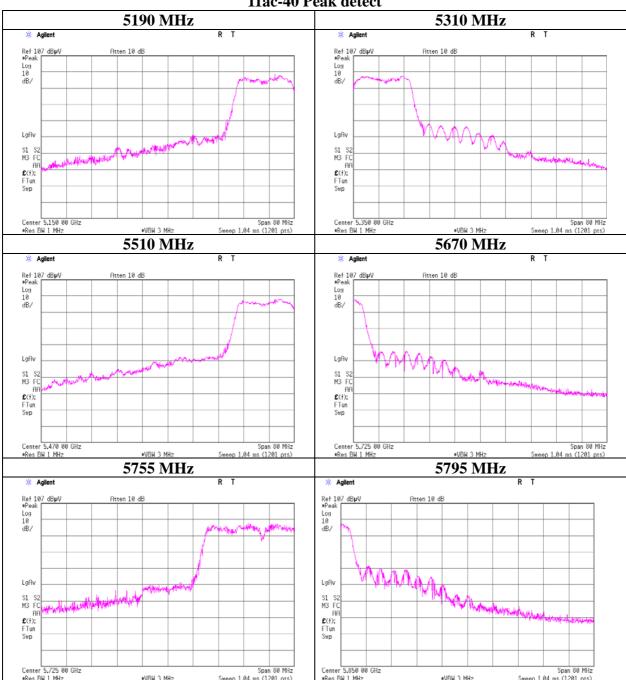
: 10689818H-C-R1 Test report No. Page : 134 of 147 Issued date : June 17, 2015 Revised date : June 22, 2015 FCC ID : VPYLB1EN

Band Edge confirmation

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H Date 06/03/2015 Temperature/ Humidity 24deg. C / 55% RH Engineer Takafumi Noguchi Mode 11ac-40 Tx

11ac-40 Peak detect



^{*} Final result of band edge was measured as Radiated Spurious Emission. Refer to Radiated Spurious Emission's pages.

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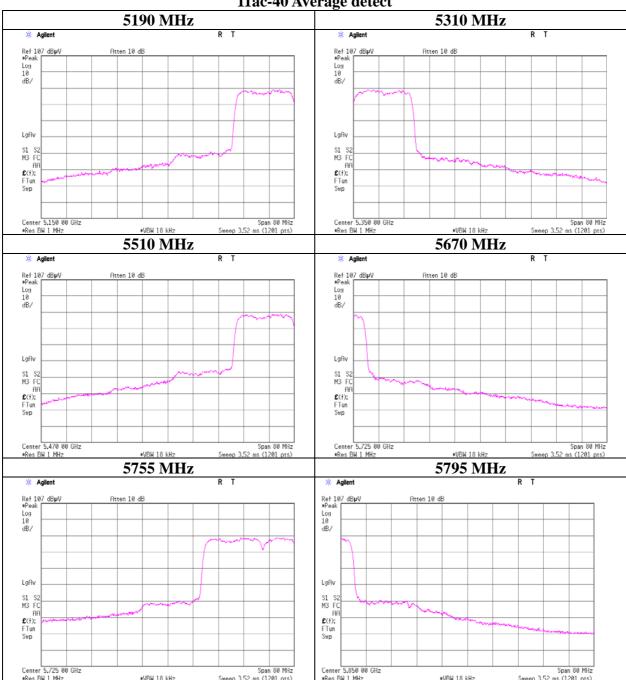
: 10689818H-C-R1 Test report No. Page : 135 of 147 **Issued date** : June 17, 2015 Revised date : June 22, 2015 FCC ID : VPYLB1EN

Band Edge confirmation

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H Date 06/03/2015 Temperature/ Humidity 24deg. C / 55% RH Engineer Takafumi Noguchi 11ac-40 Tx Mode

11ac-40 Average detect



^{*} Final result of band edge was measured as Radiated Spurious Emission. Refer to Radiated Spurious Emission's pages.

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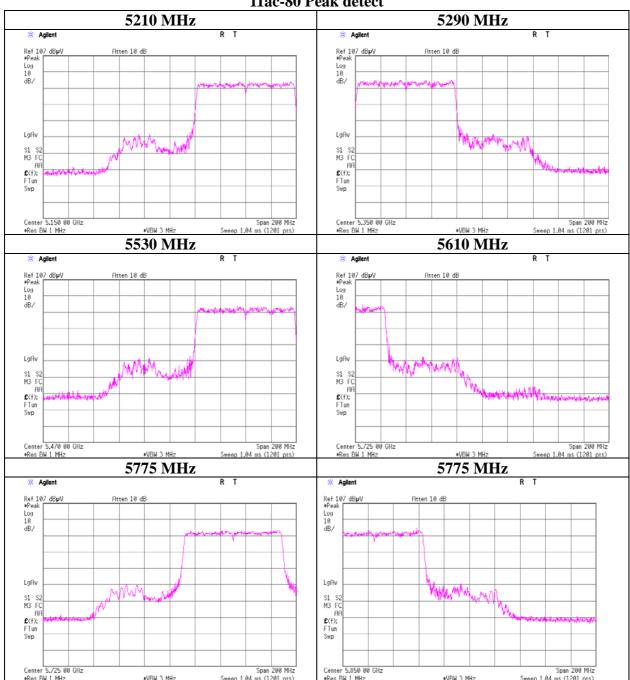
: 10689818H-C-R1 Test report No. Page : 136 of 147 **Issued date** : June 17, 2015 Revised date : June 22, 2015 FCC ID : VPYLB1EN

Band Edge confirmation

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H Date 06/03/2015 Temperature/ Humidity 24deg. C / 55% RH Engineer Takafumi Noguchi Mode 11ac-80 Tx

11ac-80 Peak detect



^{*} Final result of band edge was measured as Radiated Spurious Emission. Refer to Radiated Spurious Emission's pages.

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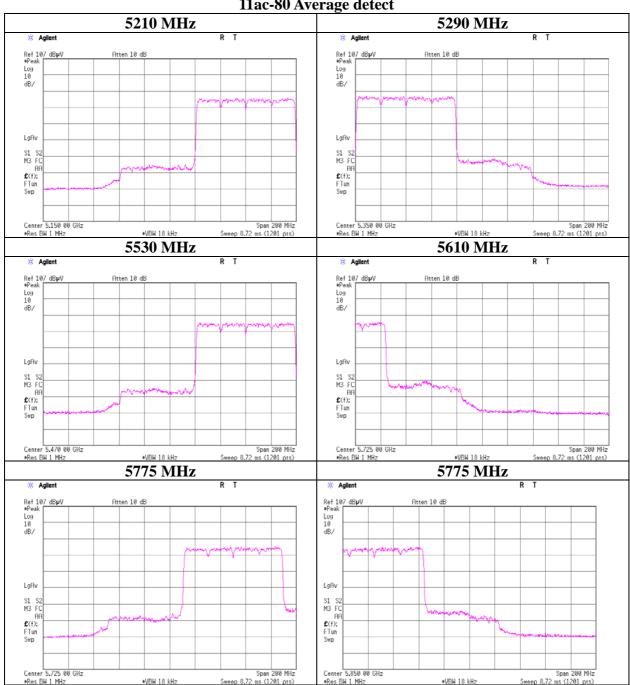
: 10689818H-C-R1 Test report No. Page : 137 of 147 Issued date : June 17, 2015 Revised date : June 22, 2015 FCC ID : VPYLB1EN

Band Edge confirmation

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H Date 06/03/2015 Temperature/ Humidity 24deg. C / 55% RH Engineer Takafumi Noguchi 11ac-80 Tx Mode

11ac-80 Average detect



^{*} Final result of band edge was measured as Radiated Spurious Emission. Refer to Radiated Spurious Emission's pages.

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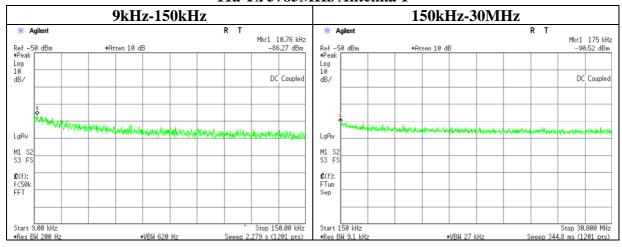
Conducted Spurious Emission

Test place Ise EMC Lab. No.11 Measurement Room

Report No. 10689818H
Date 04/23/2015
Temperature/ Humidity 23deg. C / 44% RH
Engineer Shinichi Miyazono

Mode 11a Tx

11a Tx 5785MHz Antenna 1



Frequency	Reading	Cable	Attenator	Antenna	N	EIRP	Distance	Ground	Е	Limit	Margin	Remark
		Loss		Gain	(Number			bounce	(field strength)			
[kHz]	[dBm]	[dB]	[dB]	[dBi]	of Output	[dBm]	[m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
10.76	-86.27	0.01	9.83	5.00	1	-71.4	300	6.0	-10.2	46.9	57.1	
175.00	-90.52	0.01	9.82	5.00	1	-75.7	300	6.0	-14.4	22.7	37.1	

E=EIRP-20log(D)+Ground bounce +104.8[dBuV/m]

 $EIRP = Reading + Cable\ Loss + Attenator + Antenna\ Gain + 10*log(N)$

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APPENDIX 2: Test instruments

MI test equipment Control No. Instrument		Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)	
MHF-16	High Pass Filter 7-20GHz	TOKIMEC	TF37NCCA	7001	RE	2014/09/29 * 12	
MOTS-MATM	Antenna Terminal Measurement Software	UL Japan	-	-	AT	-	
MSA-15	Spectrum Analyzer	Agilent	E4440A	MY46187105	AT	2014/11/11 * 12	
MPM-16	Power Meter	Agilent	8990B	MY51000271	AT	2015/04/01 * 12	
MPSE-22	Power sensor	Agilent	N1923A	MY54070003	AT	2015/04/01 * 12	
MCC-144	Microwave Cable	Junkosha	MWX221	1207S407	AT	2014/08/08 * 12	
MCC-35	Microwave Cable	Hirose Electric	U.FL-2LP-066-A- (200)	-	AT	2014/09/12 * 12	
MCC-37	Microwave Cable	Hirose Electric	U.FL-2LP-066-A- (200)	-	AT	2014/09/25 * 12	
MAT-24	Attenuator(10dB)(above1G Hz)	Agilent	8493C	71389	AT	2014/06/12 * 12	
MOS-19	Thermo-Hygrometer	Custom	CTH-201	0001	AT	2014/12/22 * 12	
MTA-25	Terminator	Weinschel	M1459A	P9766	AT	Pre Check	
MTW-09	Torque wrench	HUBER+SUHNER	74 Z-0-0-21	72676	AT	2015/03/05 * 36	
MAEC-04	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE/CE	2015/02/26 * 12	
MOS-15	Thermo-Hygrometer	Custom	CTH-180	1501	RE/CE	2015/01/13 * 12	
MJM-23	Measure	ASKUL	-	_	RE/CE	-	
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE		
MSA-10	Spectrum Analyzer	Agilent	E4448A	MY46180655	RE	2015/02/26 * 12	
MHA-21	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	9120D-557	RE	2014/08/12 * 12	
MCC-141	Microwave Cable	Junkosha	MWX221	1305S002R(1m) / 1405S146(5m)	RE	2014/06/11 * 12	
MPA-12	MicroWave System Amplifier	Agilent	83017A	MY39500780	RE	2015/03/12 * 12	
MHA-17	Horn Antenna 15-40GHz	Schwarzbeck	BBHA9170	BBHA9170307	RE	2014/06/11 * 12	
MCC-54	Microwave Cable	Suhner	SUCOFLEX101	2873(1m) / 2876(5m)	RE	2015/03/09 * 12	
MPA-03	Microwave System Power Amplifier	Agilent	83050A	3950M00205	RE	2014/06/30 * 12	
MSA-16	Spectrum Analyzer	Agilent	E4440A	MY46186390	RE/AT	2015/02/16 * 12	
MHF-23	High Pass Filter 7-20GHz	TOKIMEC	TF37NCCC	603	RE	2015/01/27 * 12	
MCC-178	Microwave Cable	Junkosha	MMX221- 00500DMSDMS	1502S305	RE	2015/03/27 * 12	
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	100084	RE/CE	2014/11/10 * 12	
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	1302	RE	2014/11/22 * 12	
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	N/A	RE	2014/11/22 * 12	
MCC-50	Coaxial Cable	UL Japan	-	-	RE	2014/06/02 * 12	
MAT-68	Attenuator	Anritsu	MP721B	6200961025	RE	2014/11/11 * 12	
MPA-09	Pre Amplifier	Agilent	8447D	2944A10845	RE	2014/09/26 * 12	
MLS-24	LISN(AMN)	Schwarzbeck	NSLK8127	8127-730	CE	2014/07/10 * 12	
MAT-67	Attenuator	JFW Industries, Inc.	50FP-013H2 N	-	CE	2015/01/29 * 12	
MCC-113	Coaxial cable	Fujikura/Suhner/TSJ	5D-2W(10m)/ SFM141(5m)/421- 010(1m)/sucoform14 1-PE(1m)/RFM- E121(Switcher)	-/04178	CE	2014/07/15 * 12	
MAEC-02 Semi Anechoic Chamber(NSA)		TDK	Semi Anechoic Chamber 3m	DA-06902	RE	2014/06/25 * 12	
MOS-22	Thermo-Hygrometer	Custom	CTH-201	0003	RE	2015/01/13 * 12	
MJM-14	Measure	KOMELON	KMC-36	-	RE	-	
MTW-02	Torque wrench	HUBER+SUHNER	74 Z-0-0-21	98190	RE	2015/01/16 * 36	
MSA-14	Spectrum Analyzer	Agilent	E4440A	MY48250080	RE	2014/10/17 * 12	
MHA-06	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	254	RE	2015/02/05 * 12	
MCC-166	Microwave Cable	Junkosha	MWX221	1303S120(1m) / 1311S167(5m)	RE	2014/09/24 * 12	
MPA-10	Pre Amplifier	Agilent	8449B	3008A02142	RE	2015/01/28 * 12	

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

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

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

Test Item: CE: Conducted Emission test

RE: Radiated Emission test

AT: Antenna Terminal Conducted test

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