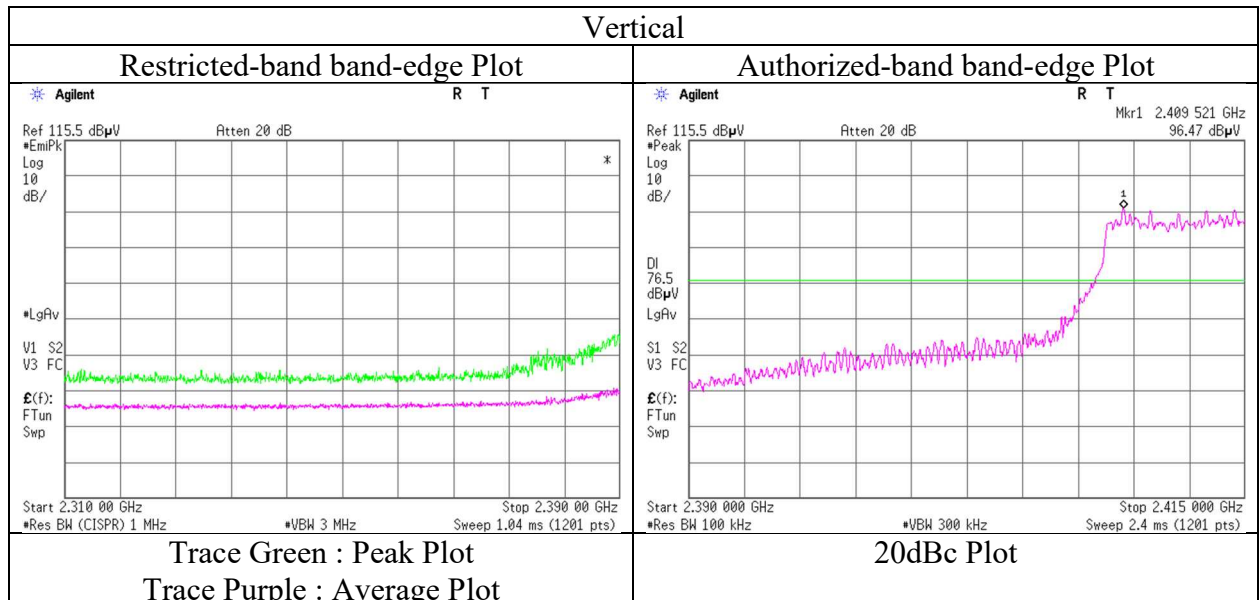
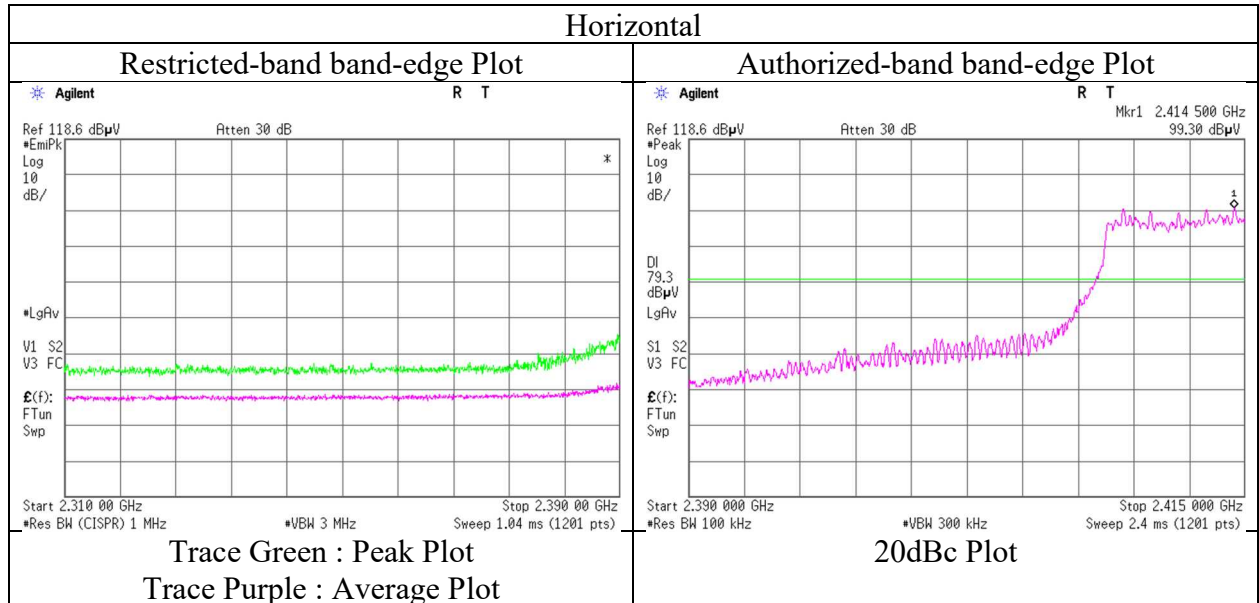


Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.6
Date	July 7, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Kazuhiro Ando
Mode	Tx 11g 2417 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13408125M-B-R1					
Test place	Kashima EMC Lab.					
Semi Anechoic Chamber	No.6	No.6	No.6	No.6	No.6	No.6
Date	July 8, 2020	July 7, 2020	July 6, 2020	July 6, 2020	July 6, 2020	July 6, 2020
Temperature / Humidity	23 deg. C / 59 % RH	22 deg. C / 56 % RH	24 deg. C / 55 % RH	23 deg. C / 52 % RH	23 deg. C / 52 % RH	23 deg. C / 52 % RH
Engineer	Kazuhiro Ando	Kazuhiro Ando	Kazuhiro Ando	Hiromitsu Tanabe	Hiromitsu Tanabe	Hiromitsu Tanabe
	(30 MHz -1000 MHz)	(1 GHz -2.8 GHz)	(2.8 GHz -10 GHz)	(10 GHz -18 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx 11g 2437 MHz					
EUT	Lo type					

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	253.168	QP	46.90	11.89	7.78	32.34	0.00	34.23	46.0	11.7	111	177	
Hori.	258.047	QP	43.90	12.04	7.81	32.34	0.00	31.41	46.0	14.5	134	187	
Hori.	270.334	QP	43.80	12.68	7.90	32.33	0.00	32.05	46.0	13.9	119	200	
Hori.	718.126	QP	35.90	21.00	10.05	32.13	0.00	34.82	46.0	11.1	143	0	
Hori.	875.000	QP	34.20	22.98	10.61	31.61	0.00	36.18	46.0	9.8	108	141	
Hori.	999.995	QP	34.40	24.09	11.02	30.53	0.00	38.98	53.9	14.9	100	188	
Hori.	2111.700	PK	52.40	28.92	13.12	43.87	2.21	52.78	73.9	21.1	212	241	
Hori.	4874.000	PK	50.47	32.57	5.39	45.20	2.21	45.44	73.9	28.4	150	0	Floor noise
Hori.	7311.000	PK	48.27	37.36	6.69	43.82	2.21	50.71	73.9	23.1	150	0	Floor noise
Hori.	9748.000	PK	46.59	37.96	7.45	41.80	2.21	52.41	73.9	21.4	150	0	Floor noise
Hori.	2111.700	AV	43.70	28.92	13.12	43.87	2.21	44.08	53.9	9.8	212	241	
Vert.	253.408	QP	41.00	11.89	7.78	32.34	0.00	28.33	46.0	17.6	100	228	
Vert.	875.000	QP	35.60	22.98	10.61	31.61	0.00	37.58	46.0	8.4	126	174	
Vert.	999.995	QP	35.30	24.09	11.02	30.53	0.00	39.88	53.9	14.0	103	176	
Vert.	2111.700	PK	51.40	28.92	13.12	43.87	2.21	51.78	73.9	22.1	137	247	
Vert.	4874.000	PK	50.62	32.57	5.39	45.20	2.21	45.59	73.9	28.3	150	0	Floor noise
Vert.	7311.000	PK	48.53	37.36	6.69	43.82	2.21	50.97	73.9	22.9	150	0	Floor noise
Vert.	9748.000	PK	46.51	37.96	7.45	41.80	2.21	52.33	73.9	21.5	150	0	Floor noise
Vert.	2111.700	AV	44.00	28.92	13.12	43.87	2.21	44.38	53.9	9.5	137	247	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4874.000	AV	43.03	32.57	5.39	45.20	1.06	2.21	39.06	53.9	14.8	Floor noise
Hori.	7311.000	AV	39.95	37.36	6.69	43.82	1.06	2.21	43.45	53.9	10.4	Floor noise
Hori.	9748.000	AV	38.57	37.96	7.45	41.80	1.06	2.21	45.45	53.9	8.4	Floor noise
Vert.	4874.000	AV	42.53	32.57	5.39	45.20	1.06	2.21	38.56	53.9	15.3	Floor noise
Vert.	7311.000	AV	39.77	37.36	6.69	43.82	1.06	2.21	43.27	53.9	10.6	Floor noise
Vert.	9748.000	AV	38.24	37.96	7.45	41.80	1.06	2.21	45.12	53.9	8.7	Floor noise

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Duty factor refer to "Duty factor Calculation chart" sheet.

UL Japan, Inc.

Kashima EMC Lab.

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Radiated Spurious Emission

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.6
Date July 7, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Kazuhiro Ando
(1 GHz -2.8 GHz)
Mode Tx 11g 2457 MHz
EUT Lo type

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	63.40	27.94	13.39	43.80	2.21	63.14	73.9	10.7	243	56	
Vert.	2483.500	PK	61.40	27.94	13.39	43.80	2.21	61.14	73.9	12.7	117	3	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	50.40	27.94	13.39	43.80	1.06	2.21	51.20	53.9	2.7	*1)
Vert.	2483.500	AV	48.70	27.94	13.39	43.80	1.06	2.21	49.50	53.9	4.4	*1)

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

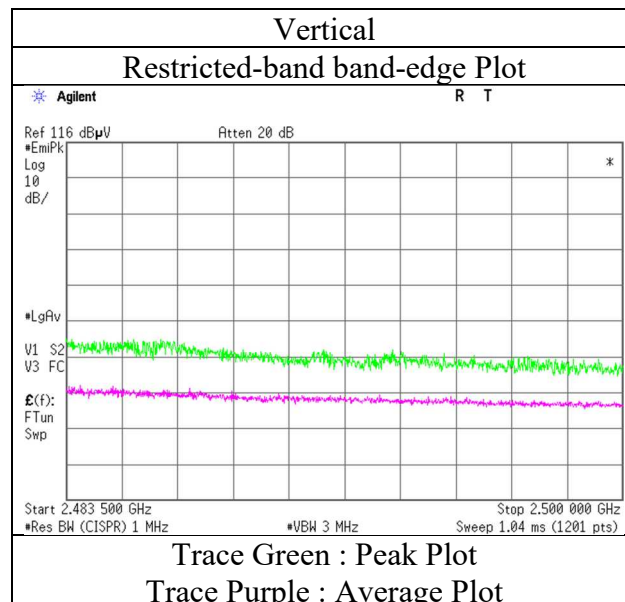
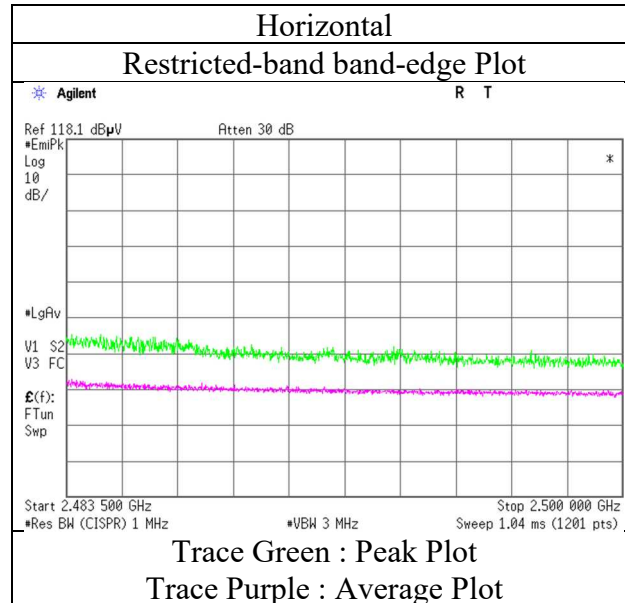
10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

*1) Not out of band emission (Leakage Power)

Radiated Spurious Emission **(Reference Plot for band-edge)**

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.6
Date July 7, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Kazuhiro Ando
Mode Tx 11g 2457 MHz
EUT Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13408125M-B-R1			
Test place	Kashima EMC Lab.			
Semi Anechoic Chamber	No.6	No.6	No.6	No.6
Date	July 7, 2020	July 6, 2020	July 6, 2020	July 6, 2020
Temperature / Humidity	22 deg. C / 56 % RH	24 deg. C / 55 % RH	23 deg. C / 52 % RH	23 deg. C / 52 % RH
Engineer	Kazuhiro Ando	Kazuhiro Ando	Hiromitsu Tanabe	Hiromitsu Tanabe
	(1 GHz -2.8 GHz)	(2.8 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx 11g 2462 MHz			
EUT	Lo type			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2111.380	PK	51.40	28.92	13.12	43.87	2.21	51.78	73.9	22.1	223	240	
Hori.	2483.500	PK	64.60	27.94	13.39	43.80	2.21	64.34	73.9	9.5	229	59	
Hori.	4924.000	PK	49.45	32.62	5.41	45.24	2.21	44.45	73.9	29.4	150	0	Floor noise
Hori.	7386.000	PK	47.75	37.46	6.69	43.63	2.21	50.48	73.9	23.4	150	0	Floor noise
Hori.	9848.000	PK	46.67	38.11	7.48	41.76	2.21	52.71	73.9	21.1	150	0	Floor noise
Hori.	2111.380	AV	43.60	28.92	13.12	43.87	2.21	43.98	53.9	9.9	223	240	
Vert.	2111.380	PK	51.30	28.92	13.12	43.87	2.21	51.68	73.9	22.2	129	250	
Vert.	2483.500	PK	62.40	27.94	13.39	43.80	2.21	62.14	73.9	11.7	137	7	
Vert.	4924.000	PK	50.36	32.62	5.41	45.24	2.21	45.36	73.9	28.5	150	0	Floor noise
Vert.	7386.000	PK	48.77	37.46	6.69	43.63	2.21	51.50	73.9	22.4	150	0	Floor noise
Vert.	9848.000	PK	46.72	38.11	7.48	41.76	2.21	52.76	73.9	21.1	150	0	Floor noise
Vert.	2111.380	AV	44.30	28.92	13.12	43.87	2.21	44.68	53.9	9.2	129	250	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	48.20	27.94	13.39	43.80	1.06	2.21	49.00	53.9	4.9	*1)
Hori.	4924.000	AV	42.86	32.62	5.41	45.24	1.06	2.21	38.92	53.9	14.9	Floor noise
Hori.	7386.000	AV	40.08	37.46	6.69	43.63	1.06	2.21	43.87	53.9	10.0	Floor noise
Hori.	9848.000	AV	38.54	38.11	7.48	41.76	1.06	2.21	45.64	53.9	8.2	Floor noise
Vert.	2483.500	AV	46.00	27.94	13.39	43.80	1.06	2.21	46.80	53.9	7.1	*1)
Vert.	4924.000	AV	42.18	32.62	5.41	45.24	1.06	2.21	38.24	53.9	15.6	Floor noise
Vert.	7386.000	AV	40.01	37.46	6.69	43.63	1.06	2.21	43.80	53.9	10.1	Floor noise
Vert.	9848.000	AV	38.26	38.11	7.48	41.76	1.06	2.21	45.36	53.9	8.5	Floor noise

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

*1) Not out of band emission (Leakage Power)

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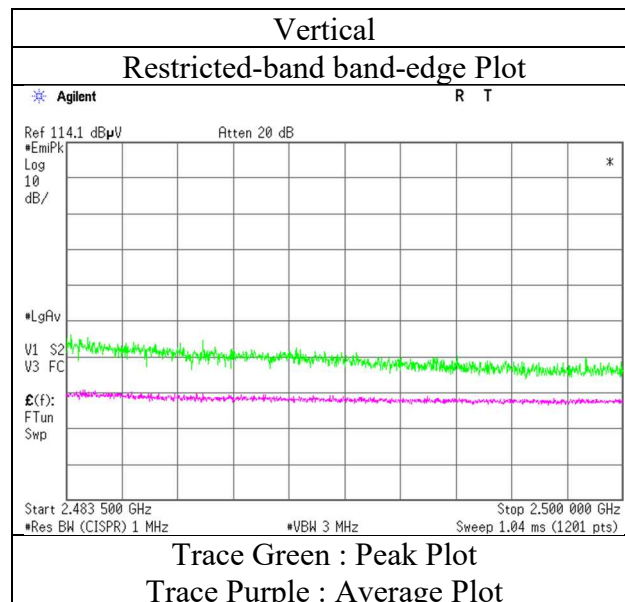
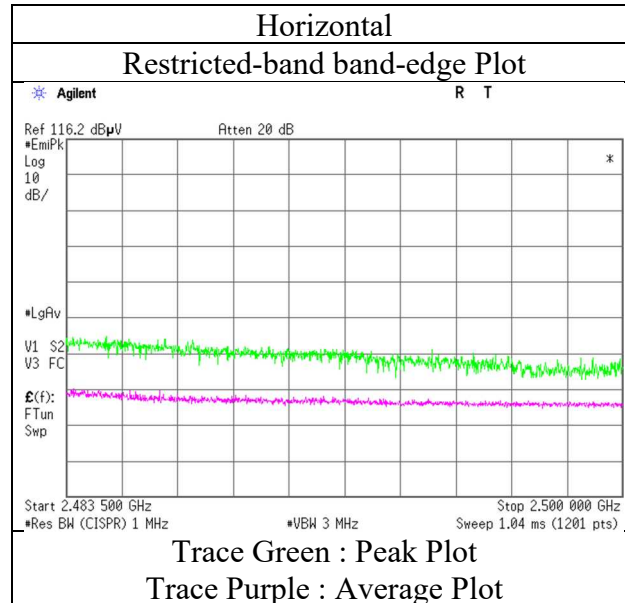
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Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.6
Date	July 7, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Kazuhiro Ando
Mode	Tx 11g 2462 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13408125M-B-R1			
Test place	Kashima EMC Lab.			
Semi Anechoic Chamber	No.6	No.6	No.6	No.6
Date	July 7, 2020	July 6, 2020	July 6, 2020	July 6, 2020
Temperature / Humidity	22 deg. C / 56 % RH	24 deg. C / 55 % RH	23 deg. C / 52 % RH	23 deg. C / 52 % RH
Engineer	Kazuhiro Ando	Kazuhiro Ando	Hiromitsu Tanabe	Hiromitsu Tanabe
	(1 GHz -2.8 GHz)	(2.8 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx 11n-20 2412 MHz			
EUT	Lo type			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2111.300	PK	51.40	28.92	13.12	43.87	2.21	51.78	73.9	22.1	216	242	
Hori.	2390.000	PK	60.50	27.61	13.32	43.84	2.21	59.80	73.9	14.1	278	58	
Hori.	4824.000	PK	52.37	32.50	5.36	45.18	2.21	47.26	73.9	26.6	150	0	Floor noise
Hori.	7236.000	PK	49.26	37.22	6.64	43.99	2.21	51.34	73.9	22.5	150	0	Floor noise
Hori.	9648.000	PK	47.23	37.97	7.41	41.88	2.21	52.94	73.9	20.9	150	0	Floor noise
Hori.	2111.300	AV	43.70	28.92	13.12	43.87	2.21	44.08	53.9	9.8	216	242	
Vert.	2111.300	PK	51.50	28.92	13.12	43.87	2.21	51.88	73.9	22.0	126	253	
Vert.	2390.000	PK	58.20	27.61	13.32	43.84	2.21	57.50	73.9	16.4	255	0	
Vert.	4824.000	PK	51.15	32.50	5.36	45.18	2.21	46.04	73.9	27.8	150	0	Floor noise
Vert.	7236.000	PK	49.48	37.22	6.64	43.99	2.21	51.56	73.9	22.3	150	0	Floor noise
Vert.	9648.000	PK	45.23	37.97	7.41	41.88	2.21	50.94	73.9	22.9	150	0	Floor noise
Vert.	2111.300	AV	44.40	28.92	13.12	43.87	2.21	44.78	53.9	9.1	126	253	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2390.000	AV	46.20	27.61	13.32	43.84	0.85	2.21	46.35	53.9	7.5	*1)
Hori.	4824.000	AV	43.14	32.50	5.36	45.18	0.85	2.21	38.88	53.9	15.0	Floor noise
Hori.	7236.000	AV	40.38	37.22	6.64	43.99	0.85	2.21	43.31	53.9	10.5	Floor noise
Hori.	9648.000	AV	38.41	37.97	7.41	41.88	0.85	2.21	44.97	53.9	8.9	Floor noise
Vert.	2390.000	AV	44.80	27.61	13.32	43.84	0.85	2.21	44.95	53.9	8.9	*1)
Vert.	4824.000	AV	43.64	32.50	5.36	45.18	0.85	2.21	39.38	53.9	14.5	Floor noise
Vert.	7236.000	AV	40.56	37.22	6.64	43.99	0.85	2.21	43.49	53.9	10.4	Floor noise
Vert.	9648.000	AV	38.16	37.97	7.41	41.88	0.85	2.21	44.72	53.9	9.1	Floor noise

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

*1) Not out of band emission (Leakage Power)

20 dBc Data Sheet (RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	96.20	27.67	13.34	43.83	2.21	95.59	-	-	Carrier
Hori.	2400.000	PK	58.00	27.63	13.33	43.83	2.21	57.34	75.59	18.2	
Vert.	2412.000	PK	92.80	27.67	13.34	43.83	2.21	92.19	-	-	Carrier
Vert.	2400.000	PK	55.00	27.63	13.33	43.83	2.21	54.34	72.19	17.8	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

UL Japan, Inc.

Kashima EMC Lab.

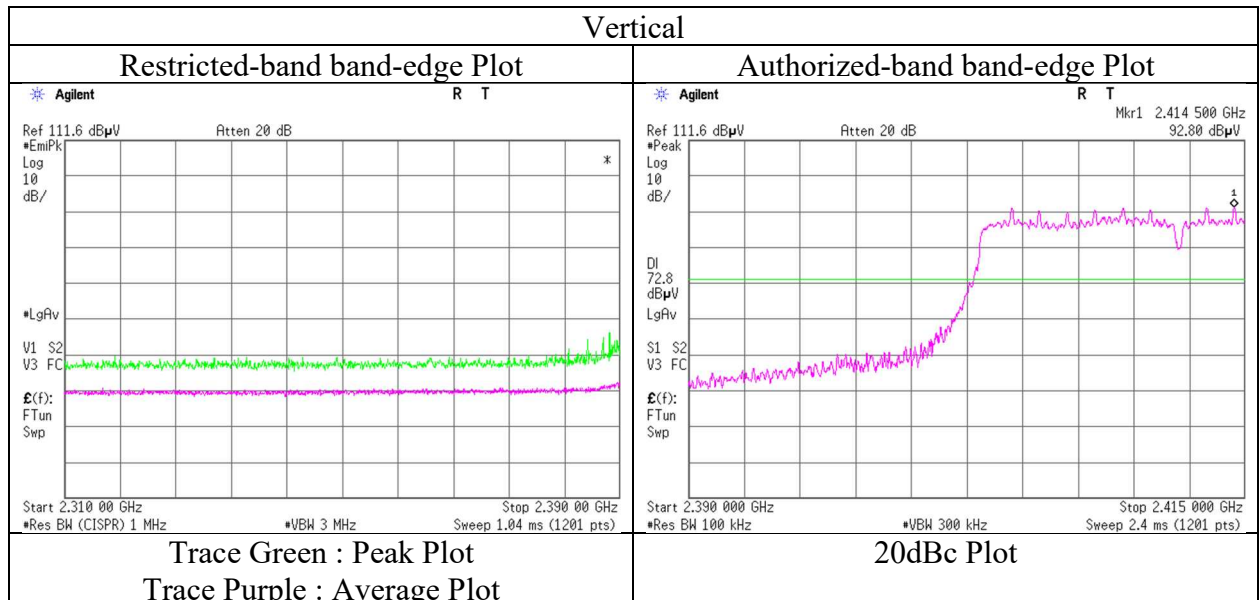
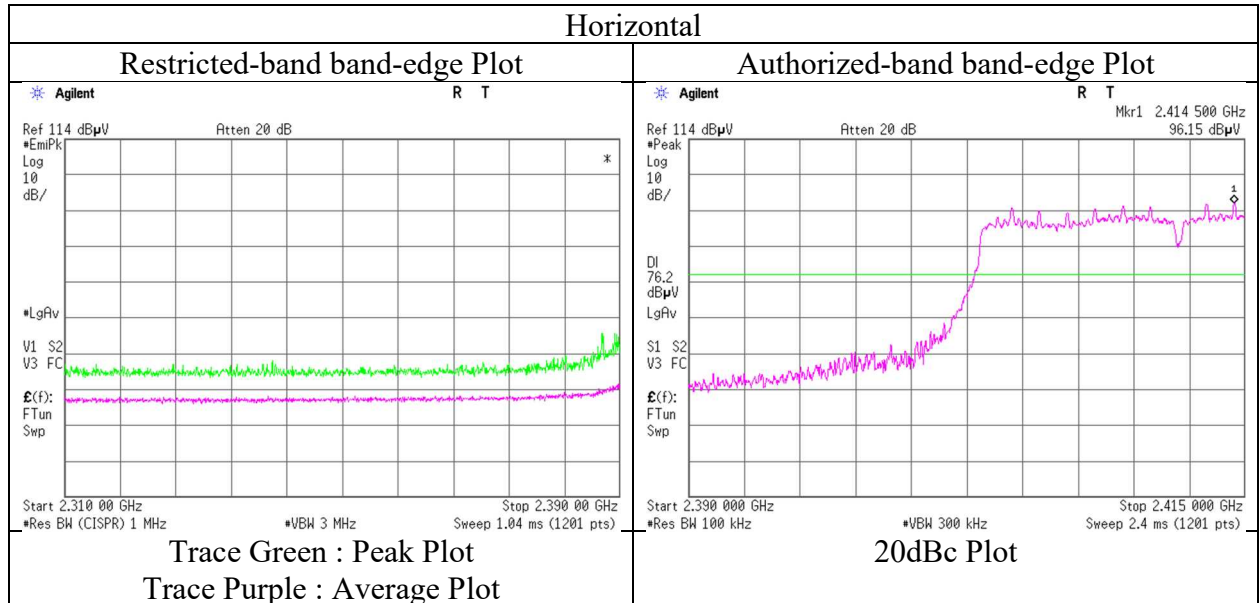
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.6
Date	July 7, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Kazuhiro Ando
Mode	Tx 11n-20 2412 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.6
Date July 7, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Kazuhiro Ando
Mode Tx 11n-20 2417 MHz
EUT Lo type

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	63.50	27.61	13.32	43.84	2.21	62.80	73.9	11.1	282	62	
Vert.	2390.000	PK	62.30	27.61	13.32	43.84	2.21	61.60	73.9	12.3	256	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2390.000	AV	48.30	27.61	13.32	43.84	0.85	2.21	48.45	53.9	5.4	*1)
Vert.	2390.000	AV	46.70	27.61	13.32	43.84	0.85	2.21	46.85	53.9	7.0	*1)

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

*1) Not out of band emission (Leakage Power)

20 dBc Data Sheet (RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2417.000	PK	98.00	27.68	13.34	43.83	2.21	97.40	-	-	Carrier
Hori.	2398.980	PK	57.80	27.63	13.33	43.83	2.21	57.14	77.40	20.2	
Hori.	2400.000	PK	57.30	27.63	13.33	43.83	2.21	56.64	77.40	20.7	
Vert.	2417.000	PK	95.50	27.68	13.34	43.83	2.21	94.90	-	-	Carrier
Vert.	2399.190	PK	55.00	27.63	13.33	43.83	2.21	54.34	74.90	20.5	
Vert.	2400.000	PK	55.10	27.63	13.33	43.83	2.21	54.44	74.90	20.4	

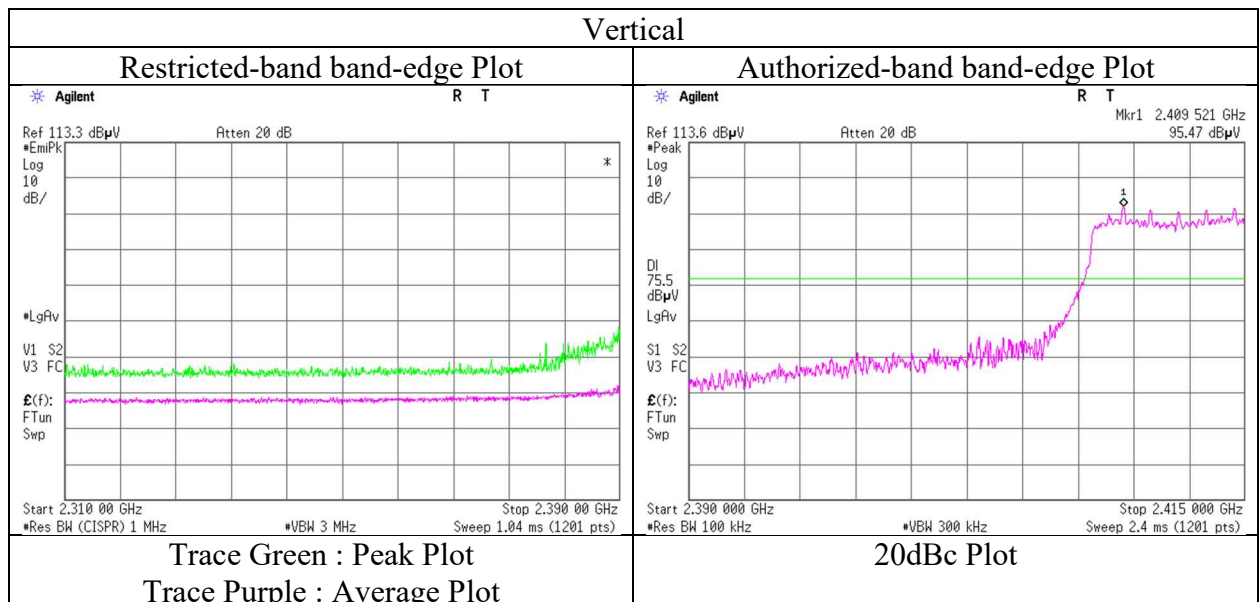
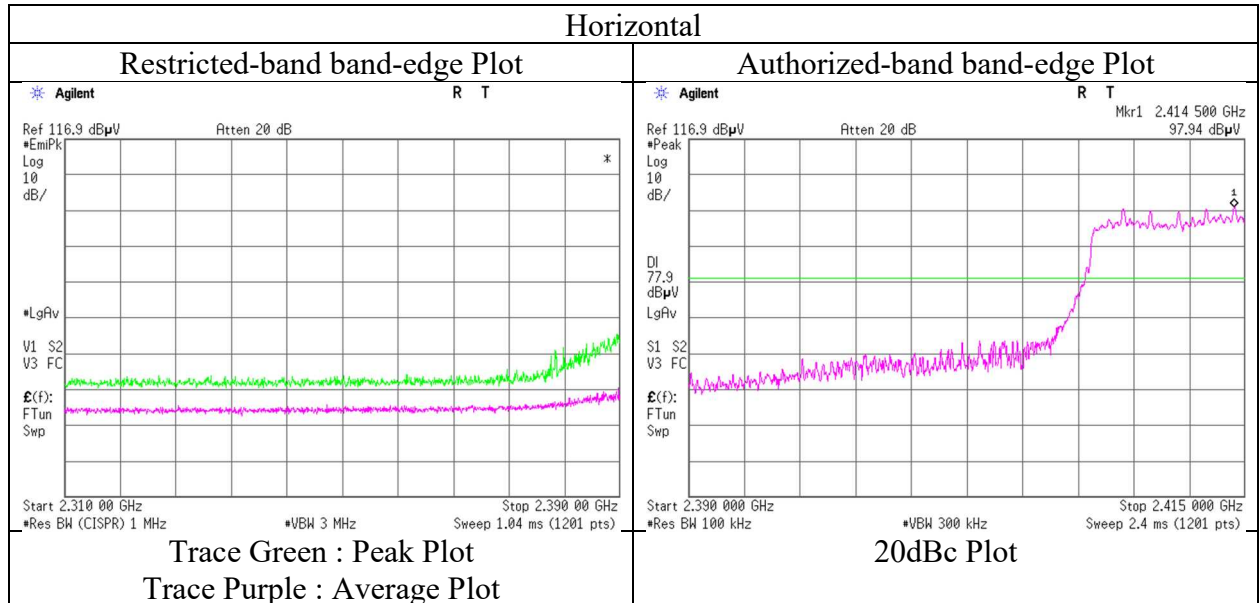
Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.6
Date	July 7, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Kazuhiro Ando
Mode	Tx 11n-20 2417 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13408125M-B-R1			
Test place	Kashima EMC Lab.			
Semi Anechoic Chamber	No.6	No.6	No.6	No.6
Date	July 7, 2020	July 6, 2020	July 6, 2020	July 6, 2020
Temperature / Humidity	22 deg. C / 56 % RH	24 deg. C / 55 % RH	23 deg. C / 52 % RH	23 deg. C / 52 % RH
Engineer	Kazuhiro Ando	Kazuhiro Ando	Hiromitsu Tanabe	Hiromitsu Tanabe
	(1 GHz -2.8 GHz)	(2.8 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx 11n-20 2437 MHz			
EUT	Lo type			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2110.550	PK	51.10	28.93	13.12	43.87	2.21	51.49	73.9	22.4	227	237	
Hori.	4874.000	PK	51.52	32.57	5.39	45.20	2.21	46.49	73.9	27.4	150	0	Floor noise
Hori.	7311.000	PK	48.10	37.36	6.69	43.82	2.21	50.54	73.9	23.3	150	0	Floor noise
Hori.	9748.000	PK	46.63	37.96	7.45	41.80	2.21	52.45	73.9	21.4	150	0	Floor noise
Hori.	2110.550	AV	43.30	28.93	13.12	43.87	2.21	43.69	53.9	10.2	227	237	
Vert.	2110.550	PK	51.90	28.93	13.12	43.87	2.21	52.29	73.9	21.6	134	250	
Vert.	4874.000	PK	49.95	32.57	5.39	45.20	2.21	44.92	73.9	28.9	150	0	Floor noise
Vert.	7311.000	PK	48.25	37.36	6.69	43.82	2.21	50.69	73.9	23.2	150	0	Floor noise
Vert.	9748.000	PK	45.77	37.96	7.45	41.80	2.21	51.59	73.9	22.3	150	0	Floor noise
Vert.	2110.550	AV	44.20	28.93	13.12	43.87	2.21	44.59	53.9	9.3	134	250	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4874.000	AV	42.69	32.57	5.39	45.20	0.85	2.21	38.51	53.9	15.3	Floor noise
Hori.	7311.000	AV	39.63	37.36	6.69	43.82	0.85	2.21	42.92	53.9	10.9	Floor noise
Hori.	9748.000	AV	38.08	37.96	7.45	41.80	0.85	2.21	44.75	53.9	9.1	Floor noise
Vert.	4874.000	AV	42.59	32.57	5.39	45.20	0.85	2.21	38.41	53.9	15.4	Floor noise
Vert.	7311.000	AV	39.55	37.36	6.69	43.82	0.85	2.21	42.84	53.9	11.0	Floor noise
Vert.	9748.000	AV	38.25	37.96	7.45	41.80	0.85	2.21	44.92	53.9	8.9	Floor noise

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

Radiated Spurious Emission

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.6
Date July 7, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Kazuhiro Ando
Mode Tx 11n-20 2457 MHz
EUT Lo type

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	61.70	27.94	13.39	43.80	2.21	61.44	73.9	12.4	246	57	
Vert.	2483.500	PK	61.00	27.94	13.39	43.80	2.21	60.74	73.9	13.1	157	2	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	46.90	27.94	13.39	43.80	0.85	2.21	47.49	53.9	6.4	*1)
Vert.	2483.500	AV	46.20	27.94	13.39	43.80	0.85	2.21	46.79	53.9	7.1	*1)

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

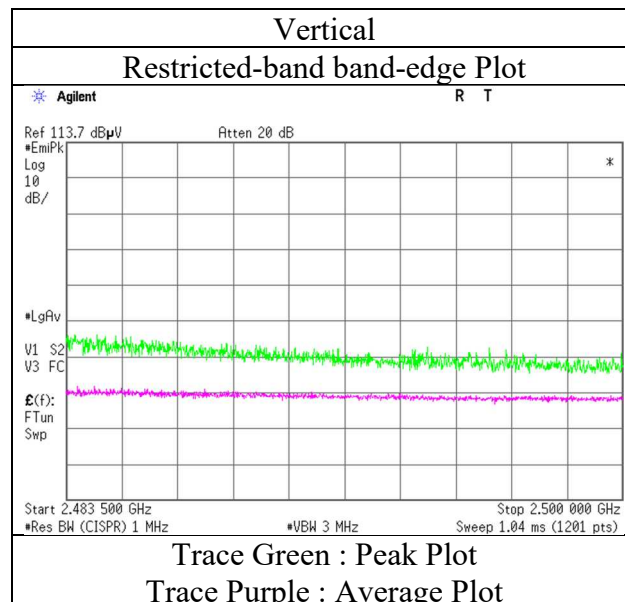
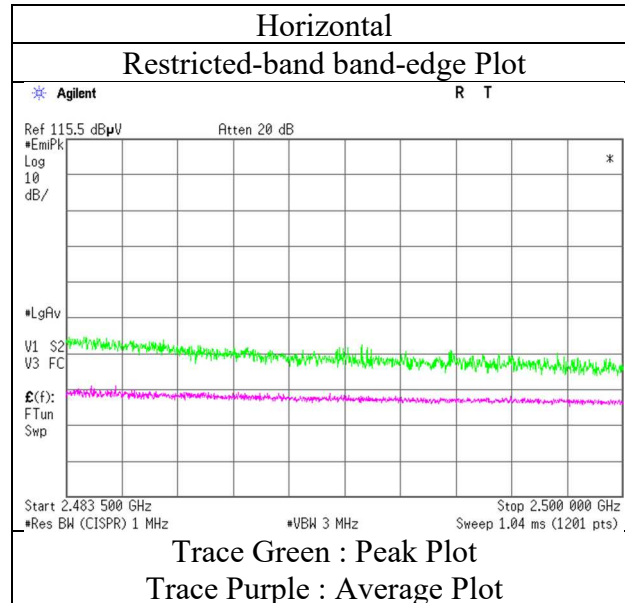
10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

*1) Not out of band emission (Leakage Power)

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.6
Date	July 7, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Kazuhiro Ando
Mode	Tx 11n-20 2457 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13408125M-B-R1			
Test place	Kashima EMC Lab.			
Semi Anechoic Chamber	No.6	No.6	No.6	No.6
Date	July 7, 2020	July 6, 2020	July 6, 2020	July 6, 2020
Temperature / Humidity	22 deg. C / 56 % RH	24 deg. C / 55 % RH	23 deg. C / 52 % RH	23 deg. C / 52 % RH
Engineer	Kazuhiro Ando	Kazuhiro Ando	Hiromitsu Tanabe	Hiromitsu Tanabe
	(1 GHz -2.8 GHz)	(2.8 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx 11n-20 2462 MHz			
EUT	Lo type			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2110.850	PK	51.10	28.92	13.12	43.87	2.21	51.48	73.9	22.4	202	247	
Hori.	2483.500	PK	62.90	27.94	13.39	43.80	2.21	62.64	73.9	11.2	243	59	
Hori.	4924.000	PK	49.54	32.62	5.41	45.24	2.21	44.54	73.9	29.3	150	0	Floor noise
Hori.	7386.000	PK	48.24	37.46	6.69	43.63	2.21	50.97	73.9	22.9	150	0	Floor noise
Hori.	9848.000	PK	47.41	38.11	7.48	41.76	2.21	53.45	73.9	20.4	150	0	Floor noise
Hori.	2110.850	AV	43.80	28.92	13.12	43.87	2.21	44.18	53.9	9.7	202	247	
Vert.	2110.850	PK	52.30	28.92	13.12	43.87	2.21	52.68	73.9	21.2	135	248	
Vert.	2483.500	PK	59.80	27.94	13.39	43.80	2.21	59.54	73.9	14.3	159	3	
Vert.	4924.000	PK	49.77	32.62	5.41	45.24	2.21	44.77	73.9	29.1	150	0	Floor noise
Vert.	7386.000	PK	48.46	37.46	6.69	43.63	2.21	51.19	73.9	22.7	150	0	Floor noise
Vert.	9848.000	PK	46.77	38.11	7.48	41.76	2.21	52.81	73.9	21.0	150	0	Floor noise
Vert.	2110.850	AV	44.30	28.92	13.12	43.87	2.21	44.68	53.9	9.2	135	248	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	47.10	27.94	13.39	43.80	0.85	2.21	47.69	53.9	6.2	*1)
Hori.	4924.000	AV	42.06	32.62	5.41	45.24	0.85	2.21	37.91	53.9	15.9	Floor noise
Hori.	7386.000	AV	40.04	37.46	6.69	43.63	0.85	2.21	43.62	53.9	10.2	Floor noise
Hori.	9848.000	AV	38.08	38.11	7.48	41.76	0.85	2.21	44.97	53.9	8.9	Floor noise
Vert.	2483.500	AV	44.70	27.94	13.39	43.80	0.85	2.21	45.29	53.9	8.6	*1)
Vert.	4924.000	AV	42.20	32.62	5.41	45.24	0.85	2.21	38.05	53.9	15.8	Floor noise
Vert.	7386.000	AV	40.03	37.46	6.69	43.63	0.85	2.21	43.61	53.9	10.2	Floor noise
Vert.	9848.000	AV	38.20	38.11	7.48	41.76	0.85	2.21	45.09	53.9	8.8	Floor noise

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

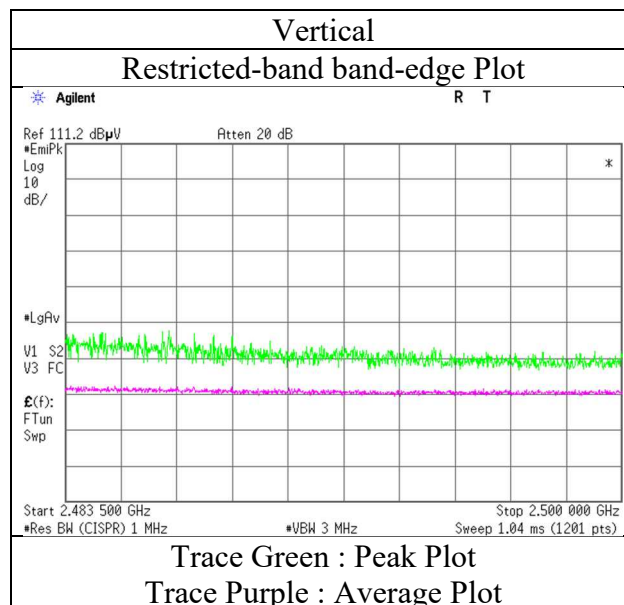
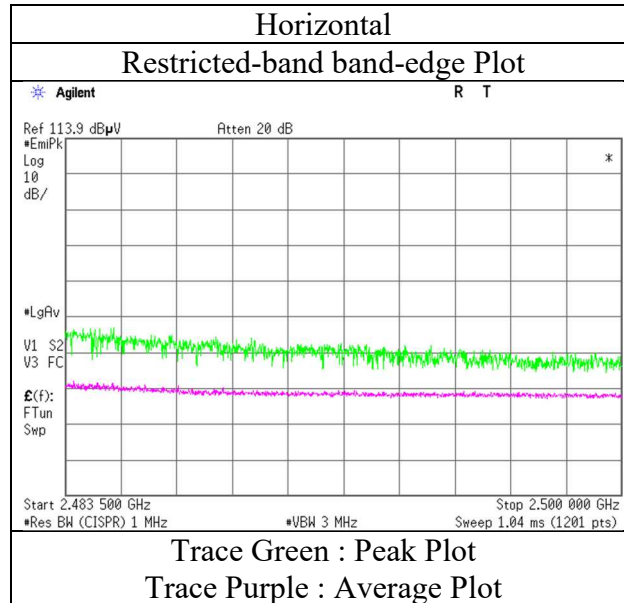
10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

*1) Not out of band emission (Leakage Power)

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.6
Date	July 7, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Kazuhiro Ando
Mode	Tx 11n-20 2462 MHz
EUT	Lo type

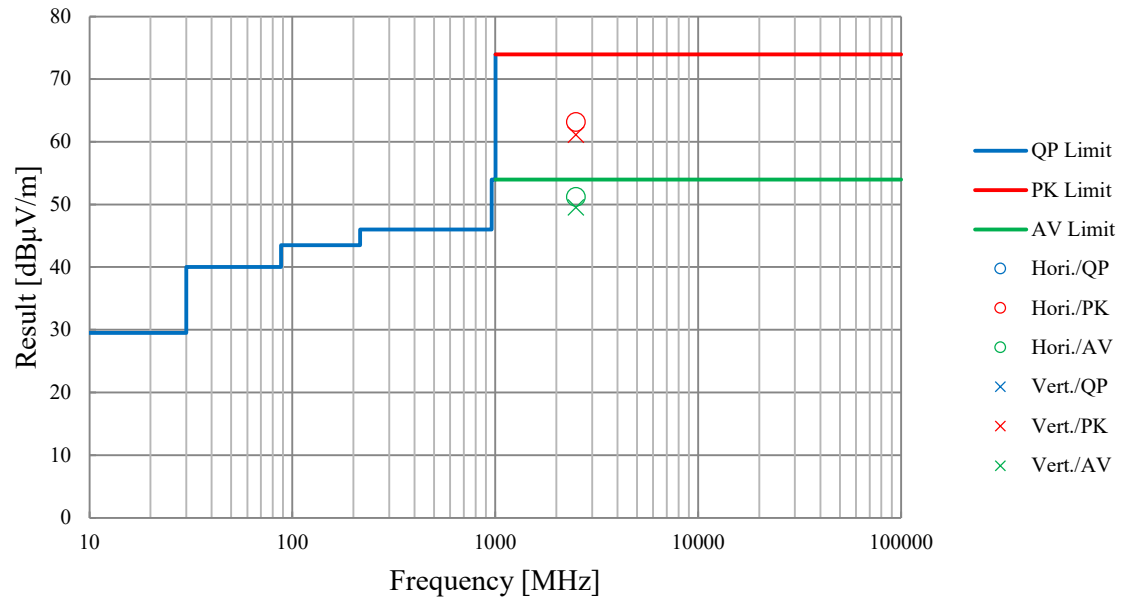


* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission (Plot data, Worst case)

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.6
Date July 7, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Kazuhiro Ando
(1 GHz -2.8 GHz)
Mode Tx 11g 2457 MHz
EUT Lo type



*These plots data contain sufficient number to show the trend of characteristic features for EUT.

Radiated Spurious Emission

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.11
Date August 19, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Hiromitsu Tanabe
(1 GHz - 2.8 GHz)
Mode Tx 11b 2412 MHz with 11ac-20 MIMO 5745 MHz
EUT Lo type

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	53.00	27.61	13.32	43.84	2.21	52.30	73.9	21.6	192	67	
Hori.	2390.000	AV	42.67	27.61	13.32	43.84	2.21	41.97	53.9	11.9	192	67	
Vert.	2390.000	PK	51.40	27.61	13.32	43.84	2.21	50.70	73.9	23.2	259	3	
Vert.	2390.000	AV	42.84	27.61	13.32	43.84	2.21	42.14	53.9	11.7	259	3	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

20 dBc Data Sheet (RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	99.38	27.67	13.34	43.83	2.21	98.77	-	-	Carrier
Hori.	2398.500	PK	52.10	27.63	13.33	43.83	2.21	51.44	78.77	27.3	
Hori.	2400.000	PK	42.50	27.63	13.33	43.83	2.21	41.84	78.77	36.9	
Vert.	2412.000	PK	98.54	27.67	13.34	43.83	2.21	97.93	-	-	Carrier
Vert.	2397.500	PK	52.37	27.62	13.33	43.83	2.21	51.70	77.93	26.2	
Vert.	2400.000	PK	44.70	27.63	13.33	43.83	2.21	44.04	77.93	33.8	

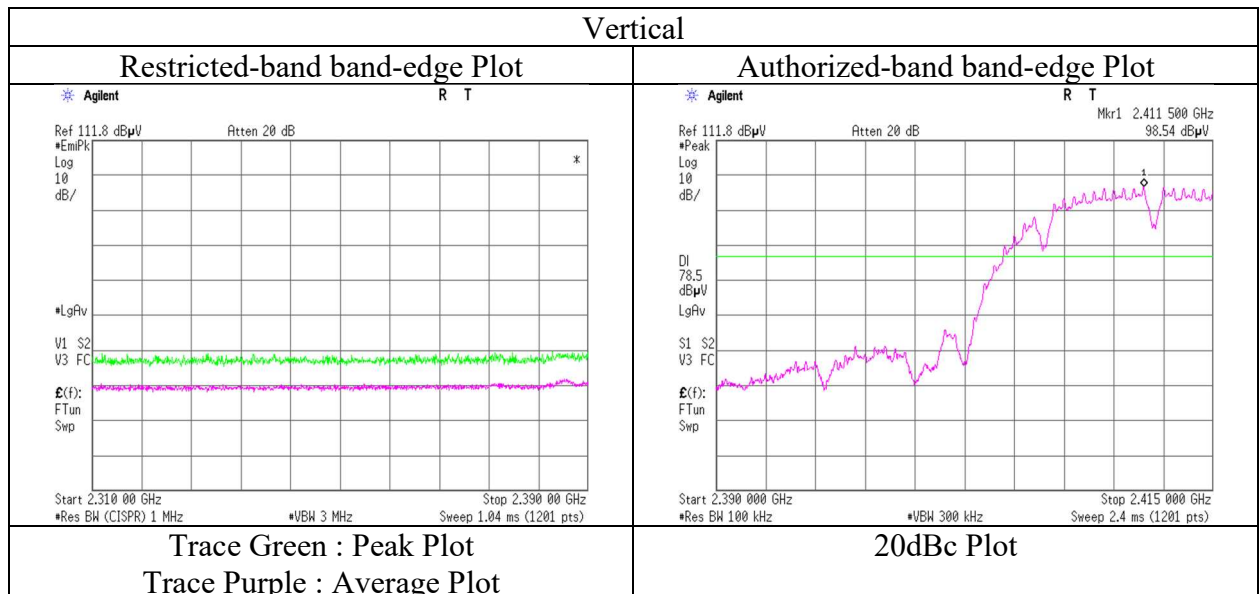
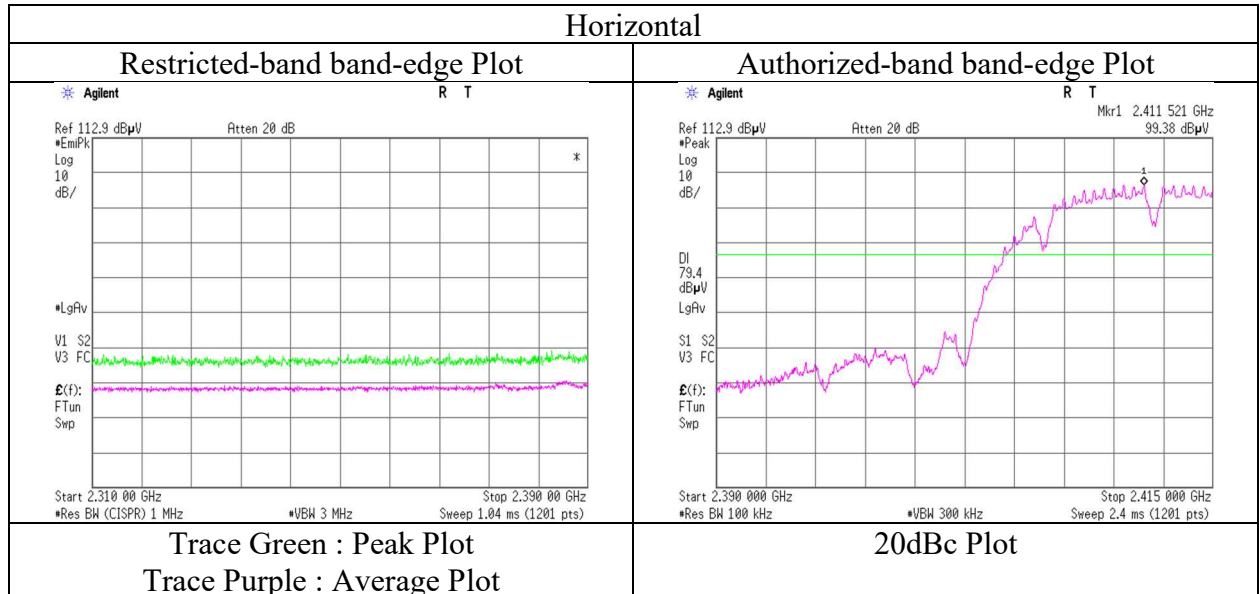
Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	August 19, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe
Mode	Tx 11b 2412 MHz with 11ac-20 MIMO 5745 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.11
Date August 19, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Hiromitsu Tanabe
(1 GHz - 2.8 GHz)
Mode Tx 11b 2462 MHz with 11ac-20 MIMO 5745 MHz
EUT Lo type

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	52.00	27.94	13.39	43.80	2.21	51.74	73.9	22.1	221	62	
Hori.	2483.500	AV	43.30	27.94	13.39	43.80	2.21	43.04	53.9	10.8	221	62	
Vert.	2483.500	PK	51.10	27.94	13.39	43.80	2.21	50.84	73.9	23.0	201	11	
Vert.	2483.500	AV	42.70	27.94	13.39	43.80	2.21	42.44	53.9	11.4	201	11	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

UL Japan, Inc.

Kashima EMC Lab.

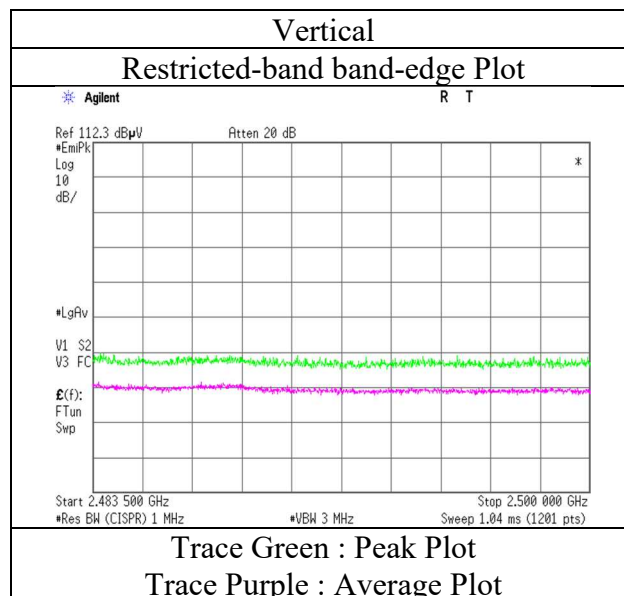
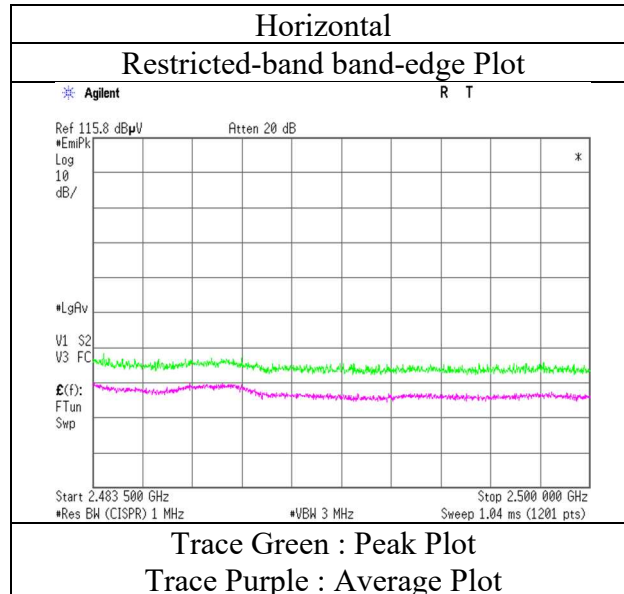
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

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Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	August 19, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe
Mode	Tx 11b 2462 MHz with 11ac-20 MIMO 5745 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.11
Date August 19, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Hiromitsu Tanabe
(1 GHz - 2.8 GHz)
Mode Tx 11g 2412 MHz with 11ac-20 MIMO 5745 MHz
EUT Lo type

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	64.10	27.61	13.32	43.84	2.21	63.40	73.9	10.5	253	53	
Vert.	2390.000	PK	61.40	27.61	13.32	43.84	2.21	60.70	73.9	13.2	252	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2390.000	AV	47.10	27.61	13.32	43.84	1.06	2.21	47.46	53.9	6.4	*1)
Vert.	2390.000	AV	45.70	27.61	13.32	43.84	1.06	2.21	46.06	53.9	7.8	*1)

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

*1) Not out of band emission (Leakage Power)

20 dBc Data Sheet (RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	98.40	27.67	13.34	43.83	2.21	97.79	-	-	Carrier
Hori.	2400.000	PK	59.80	27.63	13.33	43.83	2.21	59.14	77.79	18.6	
Vert.	2412.000	PK	95.16	27.67	13.34	43.83	2.21	94.55	-	-	Carrier
Vert.	2400.000	PK	57.80	27.63	13.33	43.83	2.21	57.14	74.55	17.4	

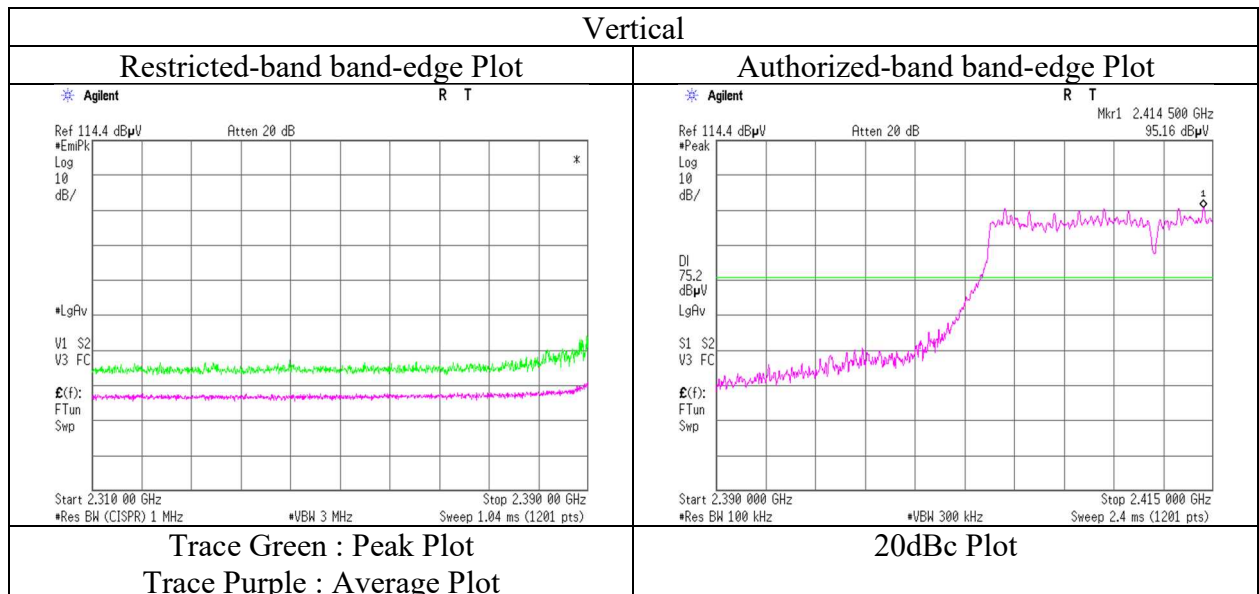
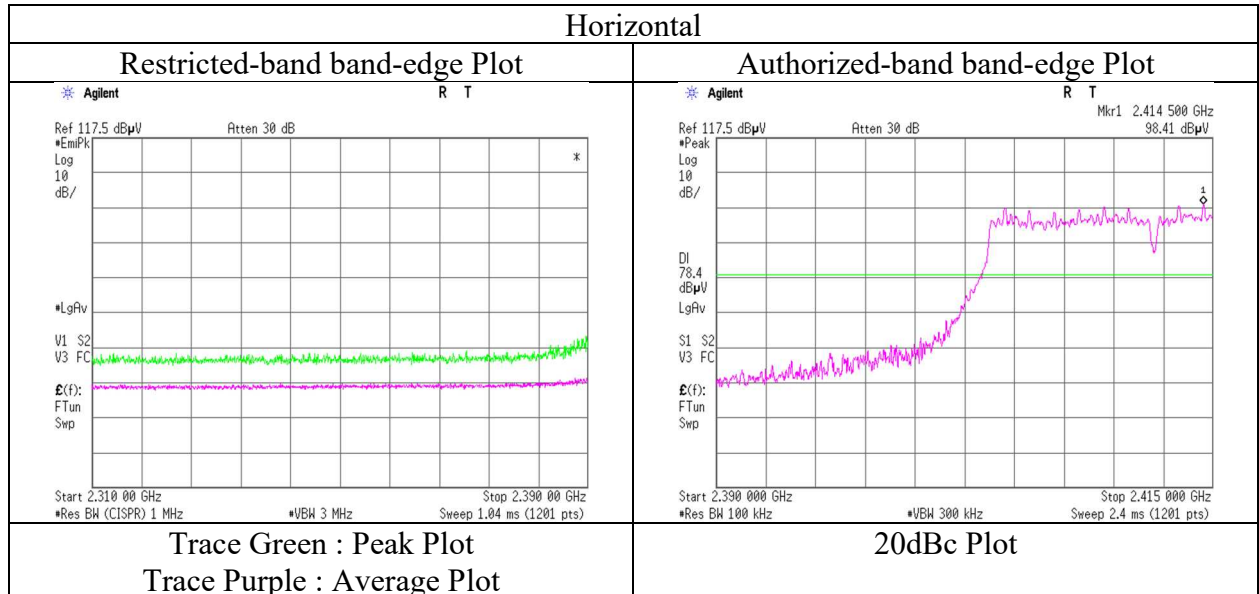
Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

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Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	August 19, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe
Mode	Tx 11g 2412 MHz with 11ac-20 MIMO 5745 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.11
Date August 19, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Hiromitsu Tanabe
(1 GHz -2.8 GHz)
Mode Tx 11g 2417 MHz with 11ac-20 MIMO 5745 MHz
EUT Lo type

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	64.20	27.61	13.32	43.84	2.21	63.50	73.9	10.4	280	64	
Vert.	2390.000	PK	63.00	27.61	13.32	43.84	2.21	62.30	73.9	11.6	253	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2390.000	AV	49.70	27.61	13.32	43.84	1.06	2.21	50.06	53.9	3.8	*1)
Vert.	2390.000	AV	48.40	27.61	13.32	43.84	1.06	2.21	48.76	53.9	5.1	*1)

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

*1) Not out of band emission (Leakage Power)

20 dBc Data Sheet (RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2417.000	PK	100.61	27.68	13.34	43.83	2.21	100.01	-	-	Carrier
Hori.	2399.167	PK	60.92	27.63	13.33	43.83	2.21	60.26	80.01	19.7	
Hori.	2400.000	PK	57.80	27.63	13.33	43.83	2.21	57.14	80.01	22.8	
Vert.	2417.000	PK	96.97	27.68	13.34	43.83	2.21	96.37	-	-	Carrier
Vert.	2399.183	PK	58.17	27.63	13.33	43.83	2.21	57.51	76.37	18.8	
Vert.	2400.000	PK	59.30	27.63	13.33	43.83	2.21	58.64	76.37	17.7	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

UL Japan, Inc.

Kashima EMC Lab.

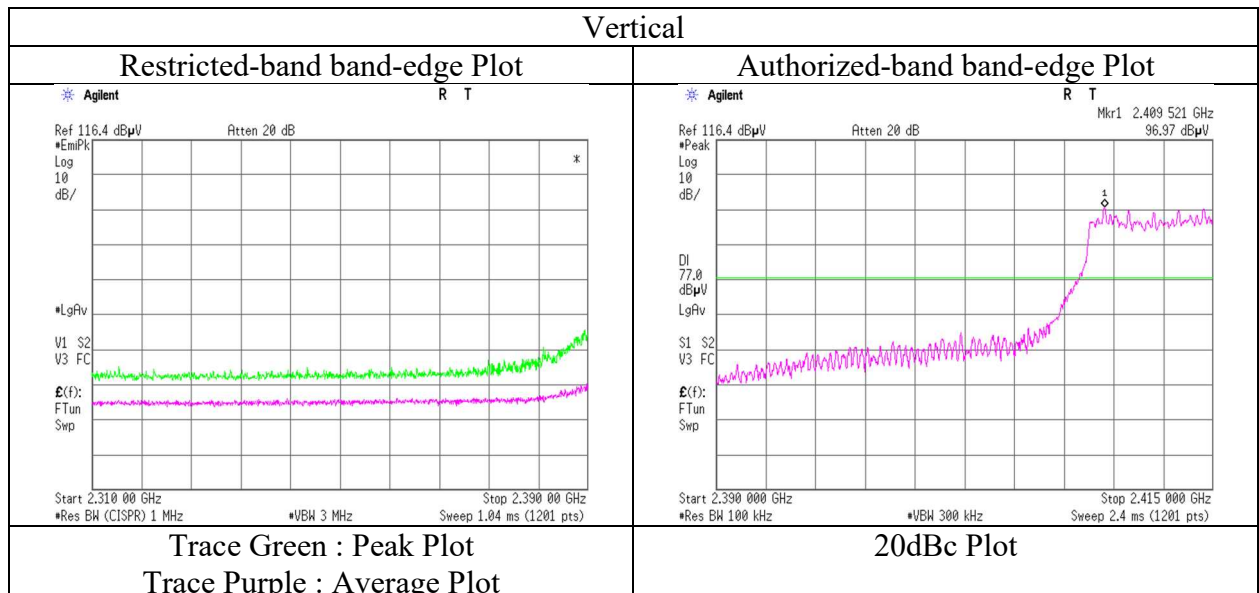
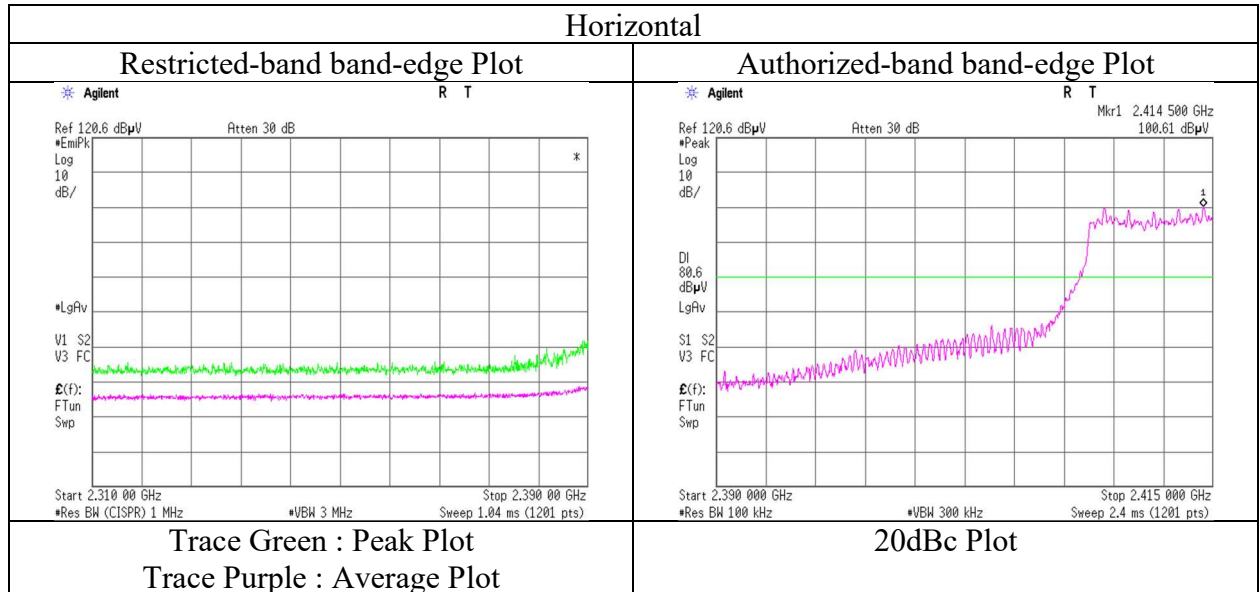
1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	August 19, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe
Mode	Tx 11g 2417 MHz with 11ac-20 MIMO 5745 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

UL Japan, Inc.

Kashima EMC Lab.

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Radiated Spurious Emission

Report No.	13408125M-B-R1				
Test place	Kashima EMC Lab.				
Semi Anechoic Chamber	No.6	No.11	No.11	No.11	No.11
Date	August 17, 2020	August 20, 2020	August 20, 2020	August 28, 2020	August 28, 2020
Temperature / Humidity	24 deg. C / 56 % RH	23 deg. C / 59 % RH	23 deg. C / 59 % RH	23 deg. C / 63 % RH	23 deg. C / 63 % RH
Engineer	Kazuhiro Ando	Hiromitsu Tanabe	Hiromitsu Tanabe	Hiromitsu Tanabe	Hiromitsu Tanabe
	(30 MHz -1000 MHz)	(1 GHz -2.8 GHz)	(2.8 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx 11g 2437 MHz with 11ac-20 MIMO 5745 MHz				
EUT	Lo type				

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	245.757	QP	48.01	11.72	7.73	32.34	0.00	35.12	46.0	10.8	139	274	
Hori.	248.375	QP	44.98	11.77	7.75	32.34	0.00	32.16	46.0	13.8	154	282	
Hori.	253.397	QP	47.36	11.89	7.78	32.34	0.00	34.69	46.0	11.3	132	280	
Hori.	718.126	QP	33.11	21.00	10.05	32.13	0.00	32.03	46.0	13.9	150	0	
Hori.	874.997	QP	33.75	22.98	10.61	31.61	0.00	35.73	46.0	10.2	124	157	
Hori.	999.996	QP	35.00	24.09	11.02	30.53	0.00	39.58	53.9	14.3	100	141	
Hori.	2111.870	PK	51.87	28.92	13.12	43.87	2.21	52.25	73.9	21.6	157	249	
Hori.	4874.000	PK	52.63	32.57	5.39	45.20	2.21	47.60	73.9	26.3	138	304	
Hori.	7311.000	PK	47.43	37.36	6.69	43.82	2.21	49.87	73.9	24.0	150	0	Floor noise
Hori.	9748.000	PK	46.93	37.96	7.45	41.80	2.21	52.75	73.9	21.1	150	0	Floor noise
Hori.	2111.870	AV	44.72	28.92	13.12	43.87	2.21	45.10	53.9	8.8	157	249	
Vert.	245.759	QP	40.00	11.72	7.73	32.34	0.00	27.11	46.0	18.8	100	36	
Vert.	874.997	QP	31.09	22.98	10.61	31.61	0.00	33.07	46.0	12.9	100	293	
Vert.	999.996	QP	33.42	24.09	11.02	30.53	0.00	38.00	53.9	15.9	117	164	
Vert.	2111.870	PK	50.61	28.92	13.12	43.87	2.21	50.99	73.9	22.9	153	250	
Vert.	4874.000	PK	51.69	32.57	5.39	45.20	2.21	46.66	73.9	27.2	140	37	
Vert.	7311.000	PK	49.14	37.36	6.69	43.82	2.21	51.58	73.9	22.3	150	0	Floor noise
Vert.	9748.000	PK	47.60	37.96	7.45	41.80	2.21	53.42	73.9	20.4	150	0	Floor noise
Vert.	2111.870	AV	44.32	28.92	13.12	43.87	2.21	44.70	53.9	9.2	153	250	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4874.000	AV	44.02	32.57	5.39	45.20	1.06	2.21	40.05	53.9	13.8	
Hori.	7311.000	AV	39.95	37.36	6.69	43.82	1.06	2.21	43.45	53.9	10.4	Floor noise
Hori.	9748.000	AV	37.95	37.96	7.45	41.80	1.06	2.21	44.83	53.9	9.0	Floor noise
Vert.	4874.000	AV	44.38	32.57	5.39	45.20	1.06	2.21	40.41	53.9	13.4	
Vert.	7311.000	AV	39.97	37.36	6.69	43.82	1.06	2.21	43.47	53.9	10.4	Floor noise
Vert.	9748.000	AV	38.34	37.96	7.45	41.80	1.06	2.21	45.22	53.9	8.6	Floor noise

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Duty factor refer to "Duty factor Calculation chart" sheet.

UL Japan, Inc.

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Radiated Spurious Emission

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	August 19, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe
	(1 GHz - 2.8 GHz)
Mode	Tx 11g 2457 MHz with 11ac-20 MIMO 5745 MHz
EUT	Lo type

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	63.50	27.94	13.39	43.80	2.21	63.24	73.9	10.6	247	67	
Vert.	2483.500	PK	61.30	27.94	13.39	43.80	2.21	61.04	73.9	12.8	178	11	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	50.50	27.94	13.39	43.80	1.06	2.21	51.30	53.9	2.6	*1)
Vert.	2483.500	AV	48.70	27.94	13.39	43.80	1.06	2.21	49.50	53.9	4.4	*1)

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

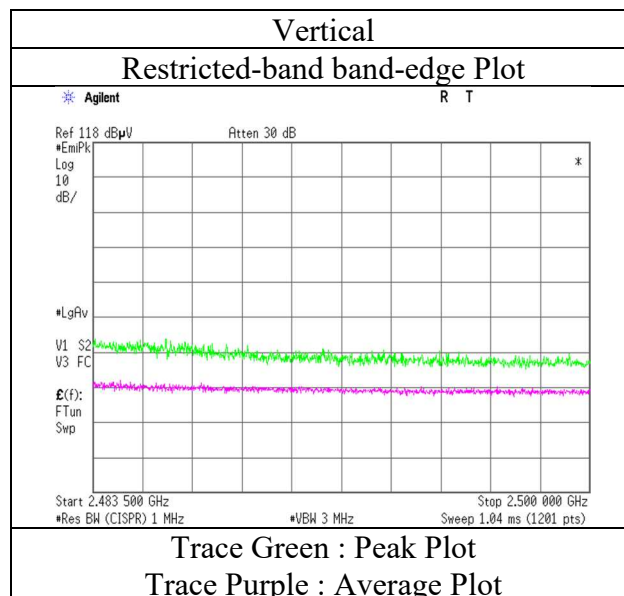
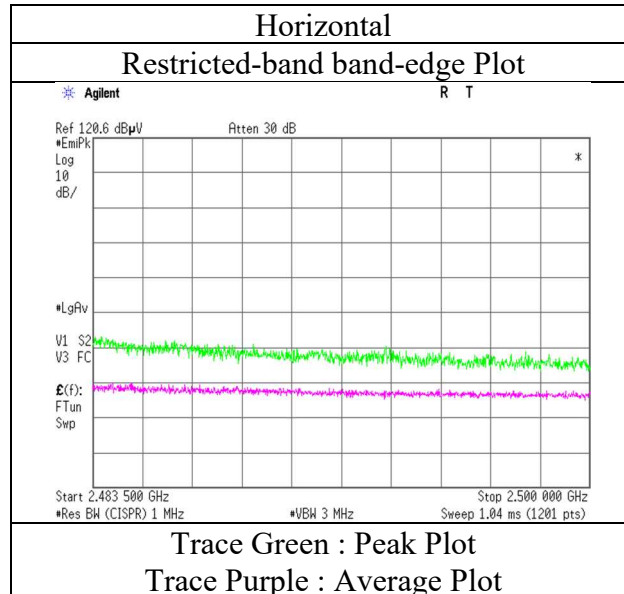
10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

*1) Not out of band emission (Leakage Power)

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	August 19, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe
Mode	Tx 11g 2457 MHz with 11ac-20 MIMO 5745 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.11
Date August 19, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Hiromitsu Tanabe
(1 GHz - 2.8 GHz)
Mode Tx 11g 2462 MHz with 11ac-20 MIMO 5745 MHz
EUT Lo type

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	65.10	27.94	13.39	43.80	2.21	64.84	73.9	9.0	224	62	
Vert.	2483.500	PK	62.50	27.94	13.39	43.80	2.21	62.24	73.9	11.6	149	12	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	48.60	27.94	13.39	43.80	1.06	2.21	49.40	53.9	4.5	*1)
Vert.	2483.500	AV	46.13	27.94	13.39	43.80	1.06	2.21	46.93	53.9	6.9	*1)

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

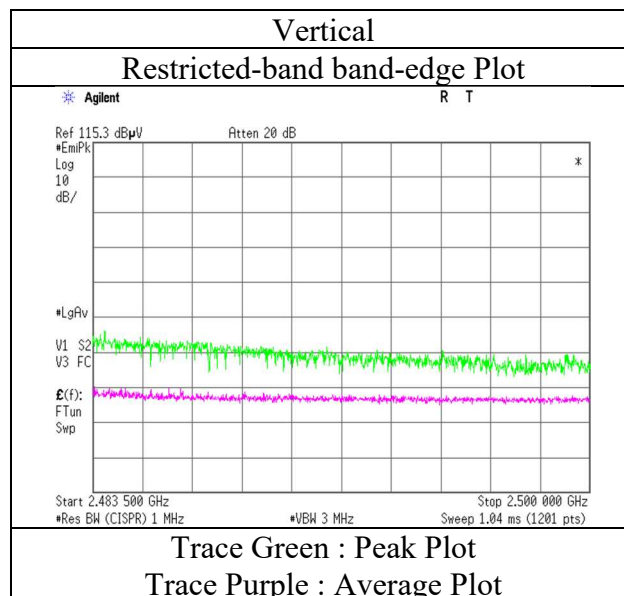
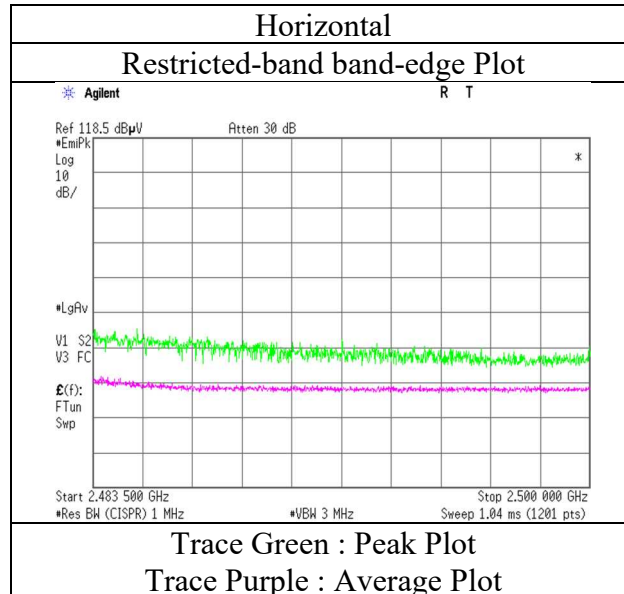
10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

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Radiated Spurious Emission (Reference Plot for band-edge)

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Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	August 19, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe
Mode	Tx 11g 2462 MHz with 11ac-20 MIMO 5745 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

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Radiated Spurious Emission

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.11
Date August 19, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Hiromitsu Tanabe
(1 GHz - 2.8 GHz)
Mode Tx 11n-20 2412 MHz with 11ac-20 MIMO 5745 MHz
EUT Lo type

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	61.28	27.61	13.32	43.84	2.21	60.58	73.9	13.3	256	56	
Vert.	2390.000	PK	59.10	27.61	13.32	43.84	2.21	58.40	73.9	15.5	248	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2390.000	AV	46.80	27.61	13.32	43.84	0.85	2.21	46.95	53.9	6.9	*1)
Vert.	2390.000	AV	45.04	27.61	13.32	43.84	0.85	2.21	45.19	53.9	8.7	*1)

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

*1) Not out of band emission (Leakage Power)

20 dBc Data Sheet (RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	97.39	27.67	13.34	43.83	2.21	96.78	-	-	Carrier
Hori.	2400.000	PK	58.70	27.63	13.33	43.83	2.21	58.04	76.78	18.7	
Vert.	2412.000	PK	93.58	27.67	13.34	43.83	2.21	92.97	-	-	Carrier
Vert.	2400.000	PK	55.68	27.63	13.33	43.83	2.21	55.02	72.97	17.9	

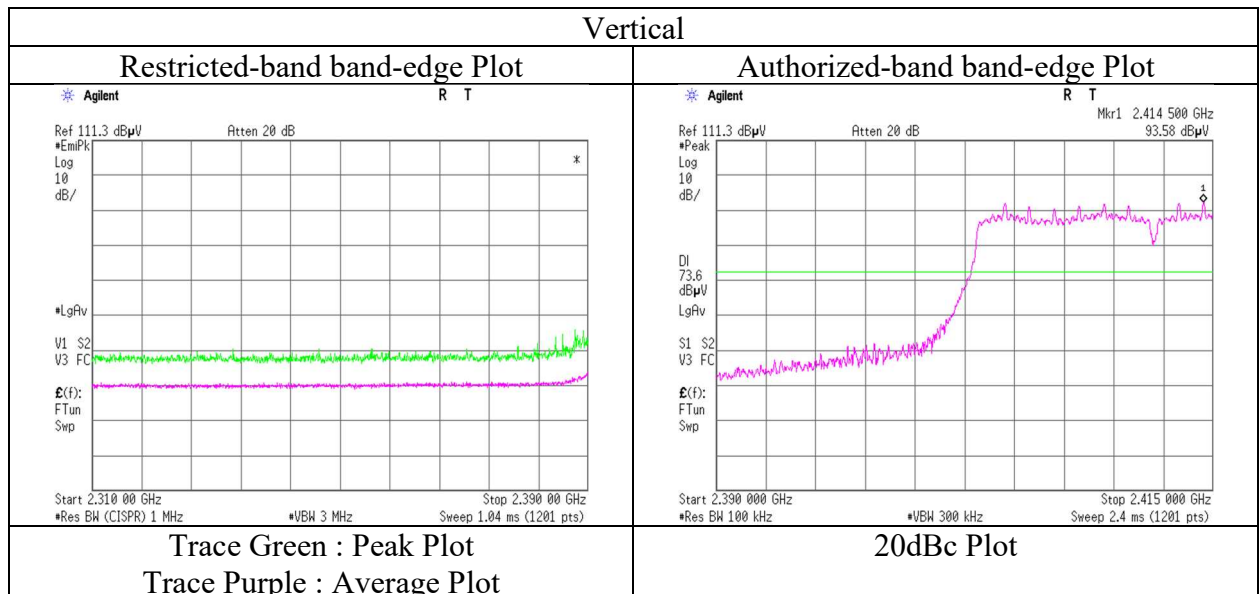
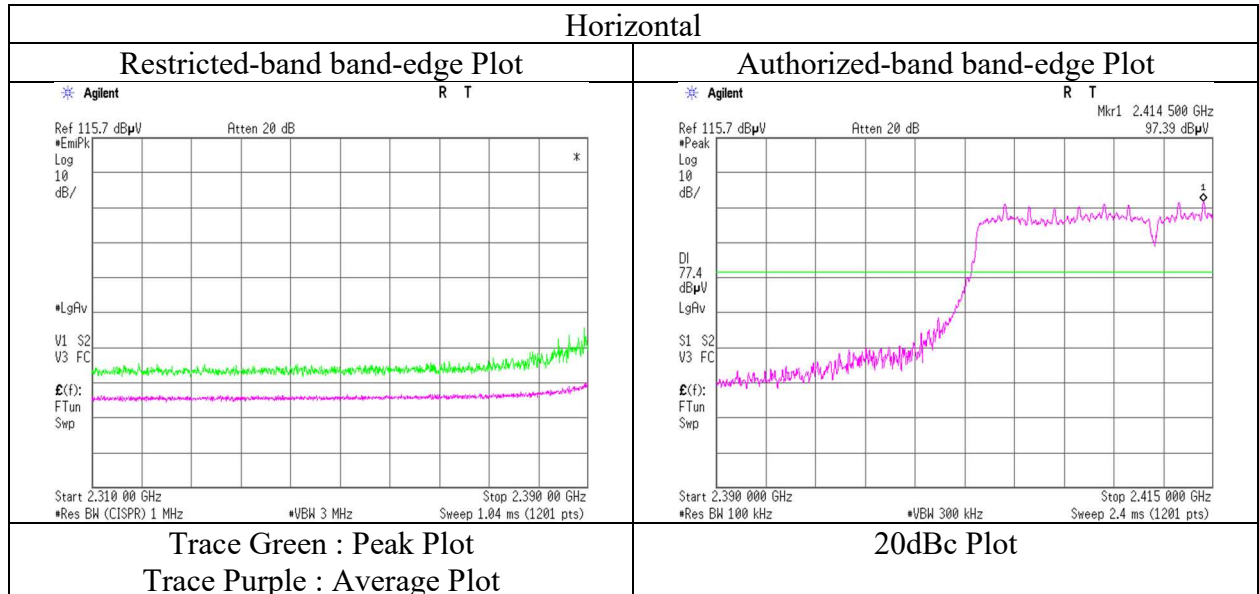
Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	August 19, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe
Mode	Tx 11n-20 2412 MHz with 11ac-20 MIMO 5745 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.11
Date August 19, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Hiromitsu Tanabe
(1 GHz - 2.8 GHz)
Mode Tx 11n-20 2417 MHz with 11ac-20 MIMO 5745 MHz
EUT Lo type

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	64.21	27.61	13.32	43.84	2.21	63.51	73.9	10.3	242	57	
Vert.	2390.000	PK	62.40	27.61	13.32	43.84	2.21	61.70	73.9	12.2	249	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2390.000	AV	49.52	27.61	13.32	43.84	0.85	2.21	49.67	53.9	4.2	*1)
Vert.	2390.000	AV	47.40	27.61	13.32	43.84	0.85	2.21	47.55	53.9	6.3	*1)

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

*1) Not out of band emission (Leakage Power)

20 dBc Data Sheet (RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2417.000	PK	98.48	27.68	13.34	43.83	2.21	97.88	-	-	Carrier
Hori.	2398.980	PK	58.25	27.63	13.33	43.83	2.21	57.59	77.88	20.2	
Hori.	2400.000	PK	58.21	27.63	13.33	43.83	2.21	57.55	77.88	20.3	
Vert.	2417.000	PK	96.17	27.68	13.34	43.83	2.21	95.57	-	-	Carrier
Vert.	2399.092	PK	55.10	27.63	13.33	43.83	2.21	54.44	75.57	21.1	
Vert.	2400.000	PK	55.34	27.63	13.33	43.83	2.21	54.68	75.57	20.8	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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Kashima EMC Lab.

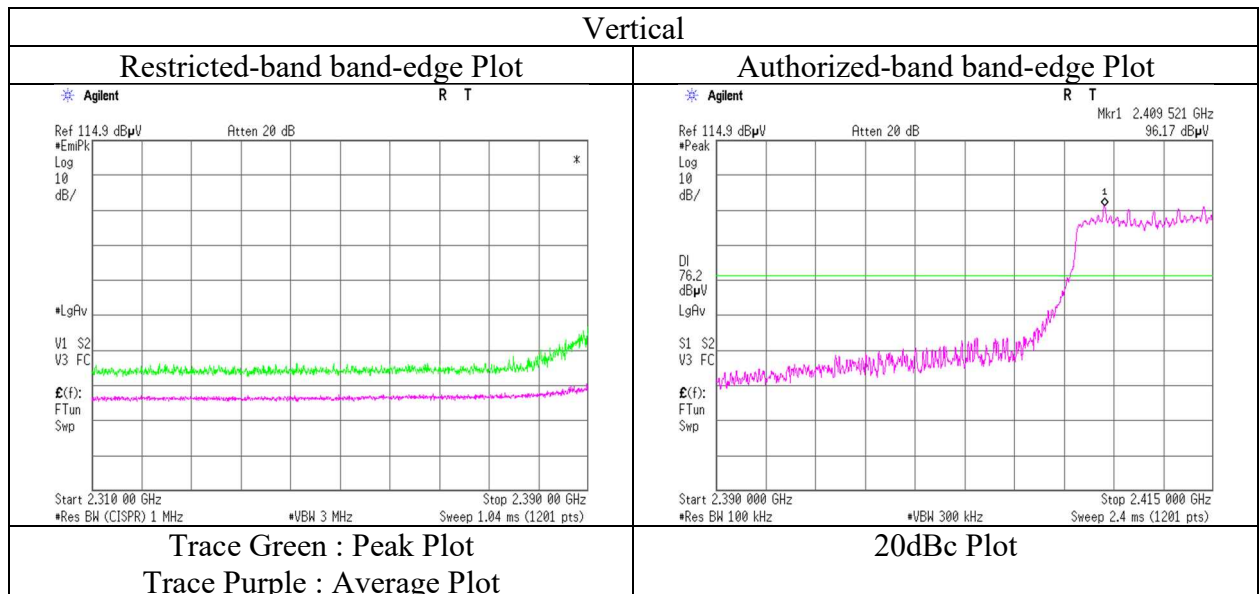
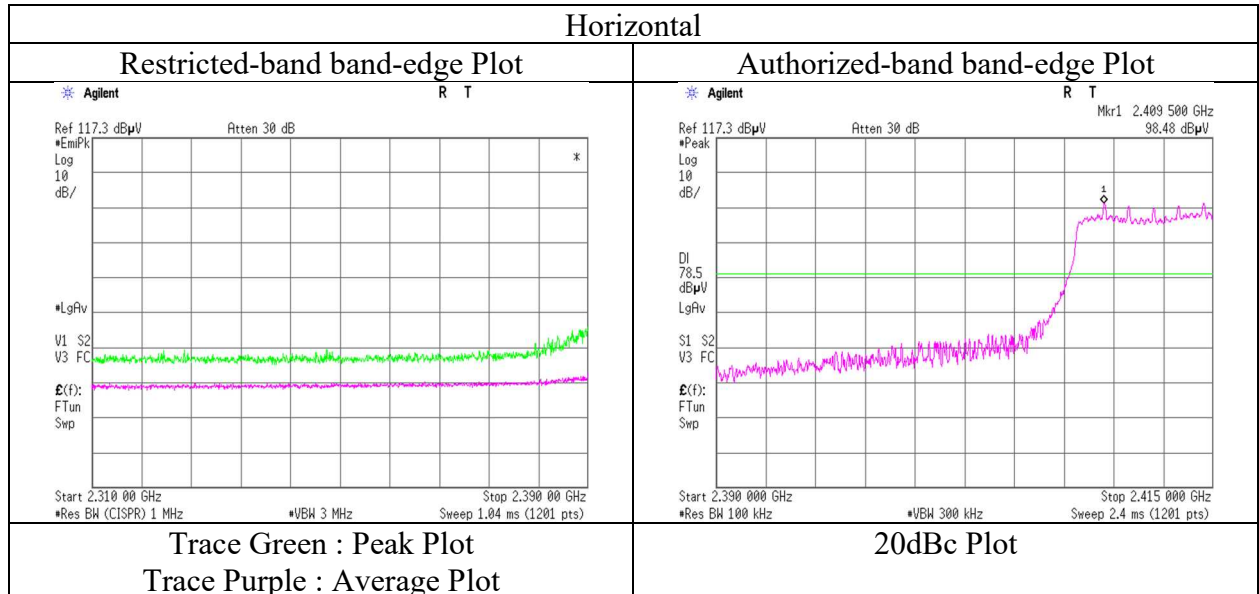
1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

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Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	August 19, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe
Mode	Tx 11n-20 2417 MHz with 11ac-20 MIMO 5745 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.11
Date August 19, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Hiromitsu Tanabe
(1 GHz - 2.8 GHz)
Mode Tx 11n-20 2457 MHz with 11ac-20 MIMO 5745 MHz
EUT Lo type

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	61.75	27.94	13.39	43.80	2.21	61.49	73.9	12.4	273	66	
Vert.	2483.500	PK	61.10	27.94	13.39	43.80	2.21	60.84	73.9	13.0	153	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	47.20	27.94	13.39	43.80	0.85	2.21	47.79	53.9	6.1	*1)
Vert.	2483.500	AV	46.21	27.94	13.39	43.80	0.85	2.21	46.80	53.9	7.1	*1)

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

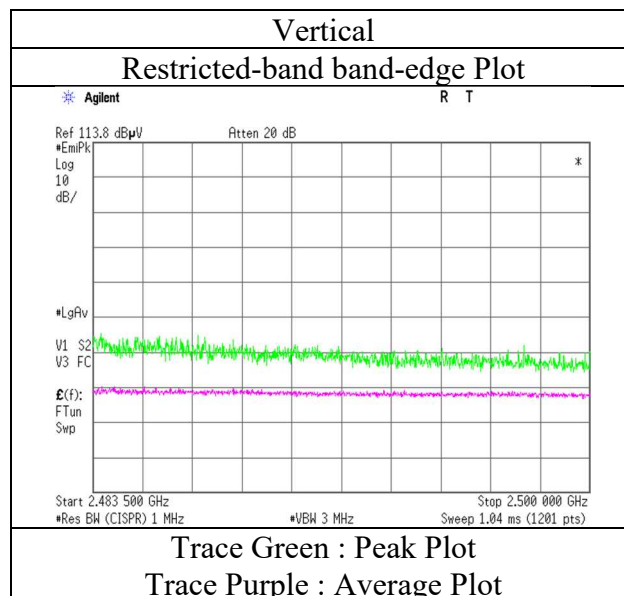
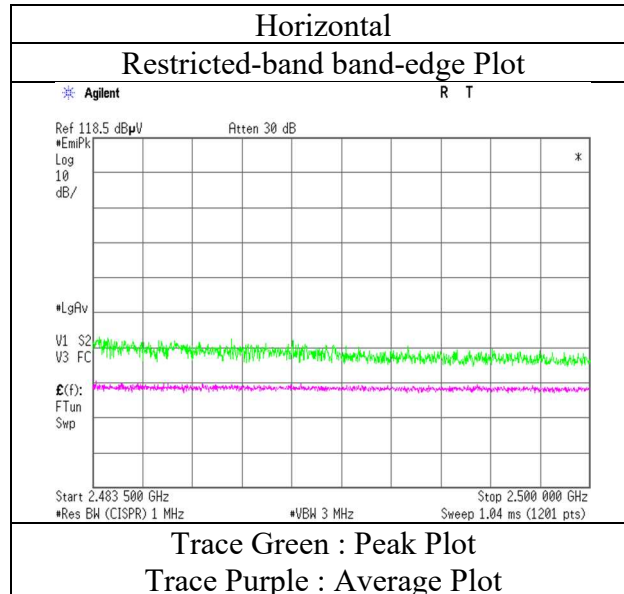
10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

*1) Not out of band emission (Leakage Power)

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	August 19, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe
Mode	Tx 11n-20 2457 MHz with 11ac-20 MIMO 5745 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	August 19, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe
	(1 GHz -2.8 GHz)
Mode	Tx 11n-20 2462 MHz with 11ac-20 MIMO 5745 MHz
EUT	Lo type

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	63.70	27.94	13.39	43.80	2.21	63.44	73.9	10.4	247	64	
Vert.	2483.500	PK	60.00	27.94	13.39	43.80	2.21	59.74	73.9	14.1	178	6	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	48.20	27.94	13.39	43.80	0.85	2.21	48.79	53.9	5.1	*1)
Vert.	2483.500	AV	45.20	27.94	13.39	43.80	0.85	2.21	45.79	53.9	8.1	*1)

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Duty factor + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

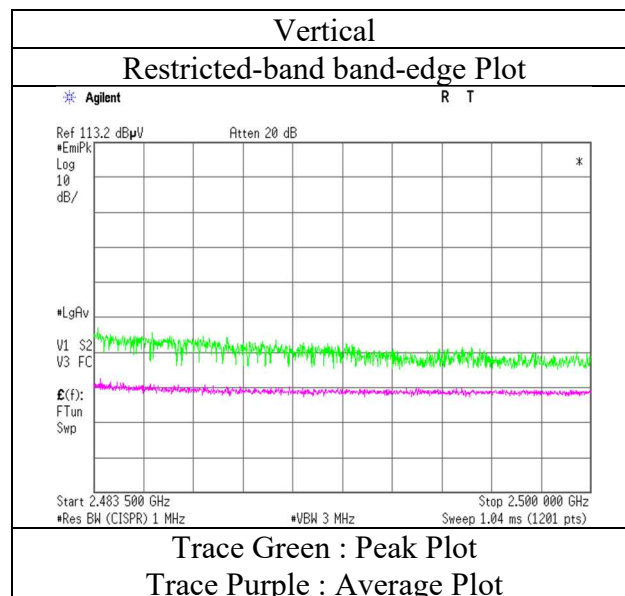
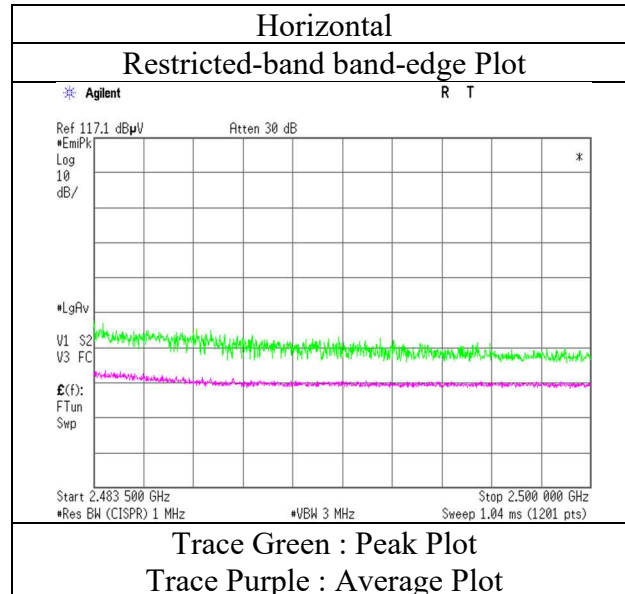
10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty factor refer to "Duty factor Calculation chart" sheet.

*1) Not out of band emission (Leakage Power)

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	August 19, 2020
Temperature / Humidity	22 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe
Mode	Tx 11n-20 2462 MHz with 11ac-20 MIMO 5745 MHz
EUT	Lo type

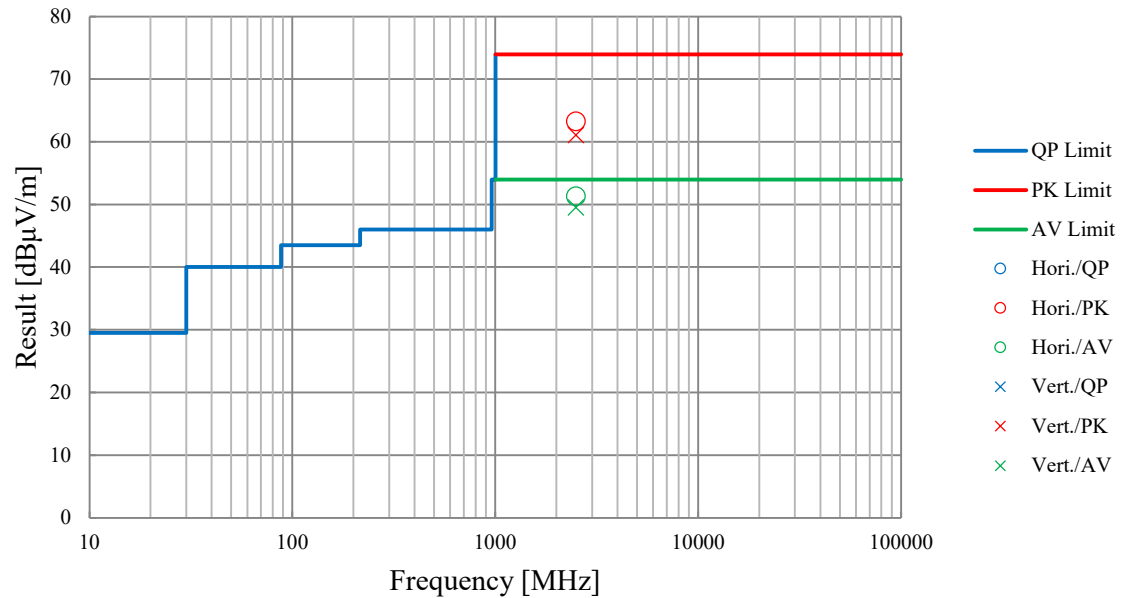


* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission (Plot data, Worst case)

Report No. 13408125M-B-R1
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.11
Date August 19, 2020
Temperature / Humidity 22 deg. C / 56 % RH
Engineer Hiromitsu Tanabe
(1 GHz - 2.8 GHz)
Mode Tx 11g 2457 MHz with 11ac-20 MIMO 5745 MHz
EUT Lo type



*These plots data contain sufficient number to show the trend of characteristic features for EUT.

Radiated Spurious Emission

Report No.	13408125M-B-R1					
Test place	Kashima EMC Lab.					
Semi Anechoic Chamber	No.6	No.6	No.6	No.6	No.6	No.6
Date	July 7, 2020	July 2, 2020	July 3, 2020	July 2, 2020	July 3, 2020	July 3, 2020
Temperature / Humidity	24 deg. C / 53 % RH	22 deg. C / 60 % RH	22 deg. C / 52 % RH	23 deg. C / 51 % RH	22 deg. C / 52 % RH	22 deg. C / 52 % RH
Engineer	Hiromitsu Tanabe	Kazuhiro Ando	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando	Kazuhiro Ando
	(30 MHz -1000 MHz)	(1 GHz -2.8 GHz)	(2.8 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)	
Mode	Tx BT LE 1M-PHY 2402 MHz					
EUT	Lo type					

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	252.904	QP	48.59	11.88	7.78	32.34	0.00	35.91	46.0	10.0	114	190	
Hori.	258.049	QP	47.23	12.04	7.81	32.34	0.00	34.74	46.0	11.2	123	189	
Hori.	270.334	QP	44.80	12.68	7.90	32.33	0.00	33.05	46.0	12.9	114	193	
Hori.	718.126	QP	36.55	21.00	10.05	32.13	0.00	35.47	46.0	10.5	146	0	
Hori.	875.000	QP	34.89	22.98	10.61	31.61	0.00	36.87	46.0	9.1	108	145	
Hori.	999.995	QP	35.00	24.09	11.02	30.53	0.00	39.58	53.9	14.3	100	190	
Hori.	2111.000	PK	52.40	28.92	13.12	43.87	2.21	52.78	73.9	21.1	213	247	
Hori.	2390.000	PK	50.80	27.61	13.32	43.84	2.21	50.10	73.9	23.8	239	300	
Hori.	4804.000	PK	52.93	32.53	5.35	45.17	2.21	47.85	73.9	26.0	100	331	
Hori.	7206.000	PK	54.50	37.17	6.63	44.07	2.21	56.44	73.9	17.4	225	238	
Hori.	9608.000	PK	45.67	37.97	7.39	41.90	2.21	51.34	73.9	22.5	150	0	Floor noise
Hori.	2111.000	AV	45.60	28.92	13.12	43.87	2.21	45.98	53.9	7.9	213	247	
Vert.	253.020	QP	42.36	11.88	7.78	32.34	0.00	29.68	46.0	16.3	100	225	
Vert.	875.000	QP	35.74	22.98	10.61	31.61	0.00	37.72	46.0	8.2	122	172	
Vert.	999.995	QP	34.98	24.09	11.02	30.53	0.00	39.56	53.9	14.3	102	180	
Vert.	2111.000	PK	51.50	28.92	13.12	43.87	2.21	51.88	73.9	22.0	153	39	
Vert.	2390.000	PK	50.10	27.61	13.32	43.84	2.21	49.40	73.9	24.5	151	4	
Vert.	4804.000	PK	52.23	32.53	5.35	45.17	2.21	47.15	73.9	26.7	170	129	
Vert.	7206.000	PK	55.60	37.17	6.63	44.07	2.21	57.54	73.9	16.3	116	316	
Vert.	9608.000	PK	46.23	37.97	7.39	41.90	2.21	51.90	73.9	22.0	150	0	Floor noise
Vert.	2111.000	AV	44.00	28.92	13.12	43.87	2.21	44.38	53.9	9.5	153	39	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Peak measurement value with Duty cycle correction factor (DCCF)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	DCCF [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2390.000	PK	50.80	27.61	13.32	43.84	-22.15	2.21	27.95	53.9	26.0	*1)
Hori.	4804.000	PK	52.93	32.53	5.35	45.17	-22.15	2.21	25.70	53.9	28.2	
Hori.	7206.000	PK	54.50	37.17	6.63	44.07	-22.15	2.21	34.29	53.9	19.6	
Hori.	9608.000	PK	45.67	37.97	7.39	41.90	-22.15	2.21	29.19	53.9	24.7	Floor noise
Vert.	2390.000	PK	50.10	27.61	13.32	43.84	-22.15	2.21	27.25	53.9	26.7	*1)
Vert.	4804.000	PK	52.23	32.53	5.35	45.17	-22.15	2.21	25.00	53.9	28.9	
Vert.	7206.000	PK	55.60	37.17	6.63	44.07	-22.15	2.21	35.39	53.9	18.5	
Vert.	9608.000	PK	46.23	37.97	7.39	41.90	-22.15	2.21	29.75	53.9	24.2	Floor noise

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + DCCF + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Duty cycle correction factor (DCCF) refer to "Duty cycle correction factor" sheet.

*1) Not out of band emission (Leakage Power)

20 dBc Data Sheet (RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	97.30	27.64	13.33	43.83	2.21	96.65	-	-	Carrier
Hori.	2400.000	PK	46.70	27.63	13.33	43.83	2.21	46.04	76.65	30.6	
Vert.	2402.000	PK	97.10	27.64	13.33	43.83	2.21	96.45	-	-	Carrier
Vert.	2400.000	PK	44.20	27.63	13.33	43.83	2.21	43.54	76.45	32.9	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

UL Japan, Inc.

Kashima EMC Lab.

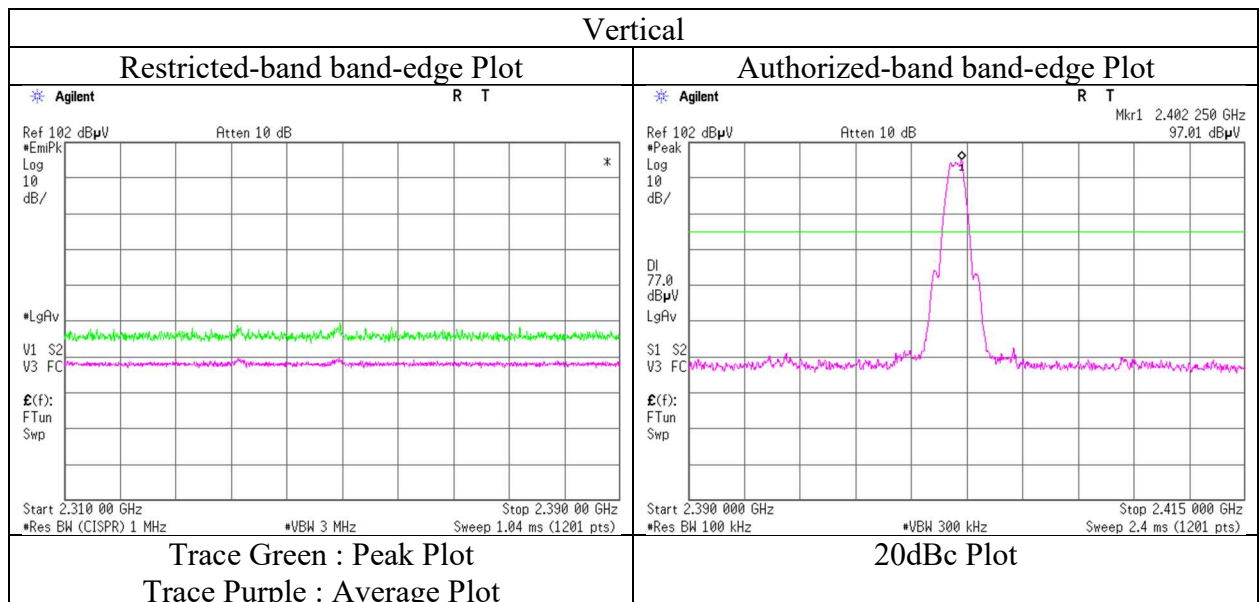
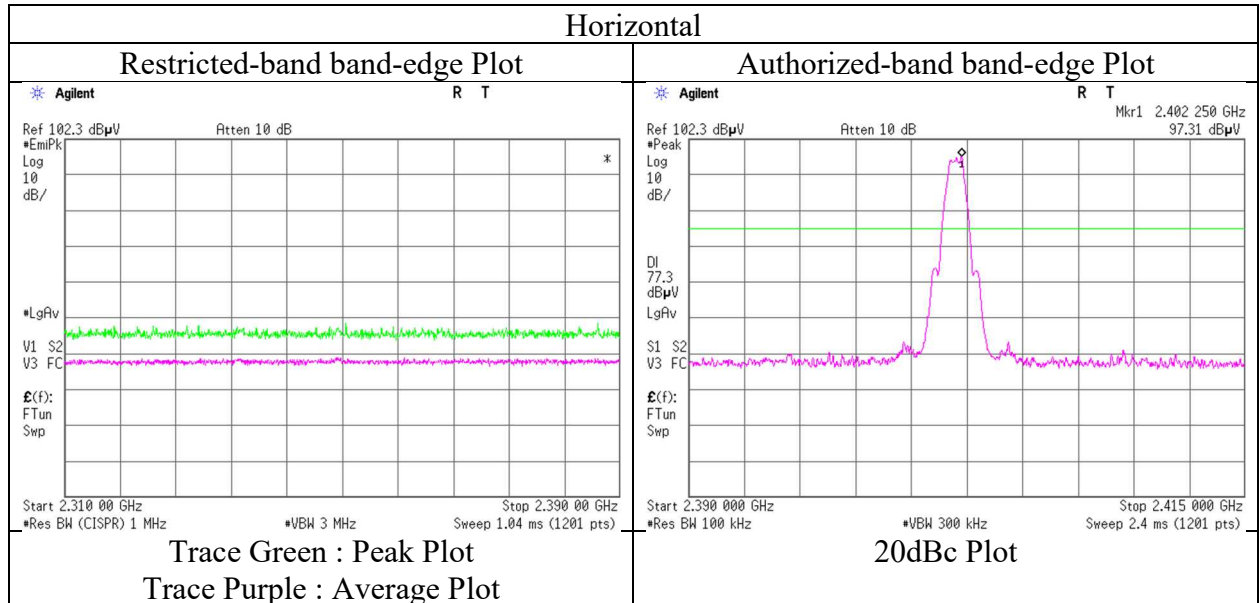
1614, Mushihiata, Katori-shi, Chiba-ken, 289-0341 Japan

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Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.6
Date	July 2, 2020
Temperature / Humidity	22 deg. C / 60 % RH
Engineer	Kazuhiro Ando
Mode	Tx BT LE 1M-PHY 2402 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

UL Japan, Inc.

Kashima EMC Lab.

1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission

Report No.	13408125M-B-R1					
Test place	Kashima EMC Lab.					
Semi Anechoic Chamber	No.6	No.6	No.6	No.6	No.6	No.6
Date	July 7, 2020	July 2, 2020	July 3, 2020	July 2, 2020	July 3, 2020	July 3, 2020
Temperature / Humidity	24 deg. C / 53 % RH	22 deg. C / 60 % RH	22 deg. C / 52 % RH	23 deg. C / 51 % RH	22 deg. C / 52 % RH	22 deg. C / 52 % RH
Engineer	Hiromitsu Tanabe	Kazuhiro Ando	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando	Kazuhiro Ando
	(30 MHz -1000 MHz)	(1 GHz -2.8 GHz)	(2.8 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)	
Mode	Tx BT LE 1M-PHY 2440 MHz					
EUT	Lo type					

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	252.904	QP	48.00	11.88	7.78	32.34	0.00	35.32	46.0	10.6	109	182	
Hori.	258.049	QP	47.32	12.04	7.81	32.34	0.00	34.83	46.0	11.1	112	187	
Hori.	270.334	QP	44.50	12.68	7.90	32.33	0.00	32.75	46.0	13.2	119	191	
Hori.	718.126	QP	36.36	21.00	10.05	32.13	0.00	35.28	46.0	10.7	144	0	
Hori.	875.000	QP	33.89	22.98	10.61	31.61	0.00	35.87	46.0	10.1	109	143	
Hori.	999.995	QP	35.11	24.09	11.02	30.53	0.00	39.69	53.9	14.2	100	187	
Hori.	2110.076	PK	52.00	28.93	13.12	43.87	2.21	52.39	73.9	21.5	195	242	
Hori.	4880.000	PK	50.49	32.59	5.39	45.21	2.21	45.47	73.9	28.4	150	0	Floor noise
Hori.	7320.000	PK	48.81	37.38	6.68	43.80	2.21	51.28	73.9	22.6	183	91	
Hori.	9760.000	PK	46.63	37.98	7.45	41.79	2.21	52.48	73.9	21.4	150	0	Floor noise
Hori.	2110.076	AV	45.90	28.93	13.12	43.87	2.21	46.29	53.9	7.6	195	242	
Vert.	253.020	QP	41.89	11.88	7.78	32.34	0.00	29.21	46.0	16.7	100	226	
Vert.	875.000	QP	35.17	22.98	10.61	31.61	0.00	37.15	46.0	8.8	120	176	
Vert.	999.995	QP	34.99	24.09	11.02	30.53	0.00	39.57	53.9	14.3	104	179	
Vert.	2110.076	PK	52.70	28.93	13.12	43.87	2.21	53.09	73.9	20.8	168	254	
Vert.	4880.000	PK	52.23	32.59	5.39	45.21	2.21	47.21	73.9	26.6	150	0	Floor noise
Vert.	7320.000	PK	52.05	37.38	6.68	43.80	2.21	54.52	73.9	19.3	119	0	
Vert.	9760.000	PK	46.60	37.98	7.45	41.79	2.21	52.45	73.9	21.4	150	0	Floor noise
Vert.	2110.076	AV	46.00	28.93	13.12	43.87	2.21	46.39	53.9	7.5	168	254	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Peak measurement value with Duty cycle correction factor (DCCF)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	DCCF [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4880.000	PK	50.49	32.59	5.39	45.21	-22.15	2.21	23.32	53.9	30.6	Floor noise
Hori.	7320.000	PK	48.81	37.38	6.68	43.80	-22.15	2.21	29.13	53.9	24.8	
Hori.	9760.000	PK	46.63	37.98	7.45	41.79	-22.15	2.21	30.33	53.9	23.6	Floor noise
Vert.	4880.000	PK	52.23	32.59	5.39	45.21	-22.15	2.21	25.06	53.9	28.8	Floor noise
Vert.	7320.000	PK	52.05	37.38	6.68	43.80	-22.15	2.21	32.37	53.9	21.5	
Vert.	9760.000	PK	46.60	37.98	7.45	41.79	-22.15	2.21	30.30	53.9	23.6	Floor noise

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + DCCF + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Duty cycle correction factor (DCCF) refer to "Duty cycle correction factor" sheet.

Radiated Spurious Emission

Report No.	13408125M-B-R1				
Test place	Kashima EMC Lab.				
Semi Anechoic Chamber	No.6	No.6	No.6	No.6	No.6
Date	July 7, 2020	July 2, 2020	July 3, 2020	July 2, 2020	July 3, 2020
Temperature / Humidity	24 deg. C / 53 % RH	22 deg. C / 60 % RH	22 deg. C / 52 % RH	23 deg. C / 51 % RH	22 deg. C / 52 % RH
Engineer	Hiromitsu Tanabe	Kazuhiro Ando	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando
	(30 MHz -1000 MHz)	(1 GHz -2.8 GHz)	(2.8 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx BT LE 1M-PHY 2480 MHz				
EUT	Lo type				

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	252.904	QP	48.19	11.88	7.78	32.34	0.00	35.51	46.0	10.4	113	182	
Hori.	258.049	QP	47.79	12.04	7.81	32.34	0.00	35.30	46.0	10.7	115	190	
Hori.	270.334	QP	43.90	12.68	7.90	32.33	0.00	32.15	46.0	13.8	119	191	
Hori.	718.126	QP	36.32	21.00	10.05	32.13	0.00	35.24	46.0	10.7	143	0	
Hori.	875.000	QP	33.64	22.98	10.61	31.61	0.00	35.62	46.0	10.3	111	148	
Hori.	999.995	QP	35.04	24.09	11.02	30.53	0.00	39.62	53.9	14.2	100	188	
Hori.	2109.800	PK	52.60	28.93	13.12	43.87	2.21	52.99	73.9	20.9	198	244	
Hori.	2483.500	PK	51.00	27.94	13.39	43.80	2.21	50.74	73.9	23.1	188	298	
Hori.	4960.000	PK	52.05	32.55	5.43	45.26	2.21	46.98	73.9	26.9	201	355	
Hori.	7440.000	PK	51.50	37.41	6.69	43.50	2.21	54.31	73.9	19.5	178	8	
Hori.	9920.000	PK	46.01	38.22	7.50	41.76	2.21	52.18	73.9	21.7	150	0	Floor noise
Hori.	2109.800	AV	45.20	28.93	13.12	43.87	2.21	45.59	53.9	8.3	198	244	
Vert.	253.020	QP	42.03	11.88	7.78	32.34	0.00	29.35	46.0	16.6	100	232	
Vert.	875.000	QP	35.18	22.98	10.61	31.61	0.00	37.16	46.0	8.8	120	175	
Vert.	999.995	QP	35.08	24.09	11.02	30.53	0.00	39.66	53.9	14.2	102	179	
Vert.	2109.800	PK	52.30	28.93	13.12	43.87	2.21	52.69	73.9	21.2	157	259	
Vert.	2483.500	PK	50.50	27.94	13.39	43.80	2.21	50.24	73.9	23.6	133	353	
Vert.	4960.000	PK	51.50	32.55	5.43	45.26	2.21	46.43	73.9	27.4	215	252	
Vert.	7440.000	PK	51.83	37.41	6.69	43.50	2.21	54.64	73.9	19.2	215	193	
Vert.	9920.000	PK	45.89	38.22	7.50	41.76	2.21	52.06	73.9	21.8	150	0	Floor noise
Vert.	2109.800	AV	45.40	28.93	13.12	43.87	2.21	45.79	53.9	8.1	157	259	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Peak measurement value with Duty cycle correction factor (DCCF)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	DCCF [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	PK	51.00	27.94	13.39	43.80	-22.15	2.21	28.59	53.9	25.3	*1)
Hori.	4960.000	PK	52.05	32.55	5.43	45.26	-22.15	2.21	24.83	53.9	29.1	
Hori.	7440.000	PK	51.50	37.41	6.69	43.50	-22.15	2.21	32.16	53.9	21.7	
Hori.	9920.000	PK	46.01	38.22	7.50	41.76	-22.15	2.21	30.03	53.9	23.9	Floor noise
Vert.	2483.500	PK	50.50	27.94	13.39	43.80	-22.15	2.21	28.09	53.9	25.8	*1)
Vert.	4960.000	PK	51.50	32.55	5.43	45.26	-22.15	2.21	24.28	53.9	29.6	
Vert.	7440.000	PK	51.83	37.41	6.69	43.50	-22.15	2.21	32.49	53.9	21.4	
Vert.	9920.000	PK	45.89	38.22	7.50	41.76	-22.15	2.21	29.91	53.9	24.0	Floor noise

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + DCCF + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(3.87\text{ m} / 3.0\text{ m}) = 2.21\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Duty cycle correction factor (DCCF) refer to "Duty cycle correction factor" sheet.

*1) Not out of band emission (Leakage Power)

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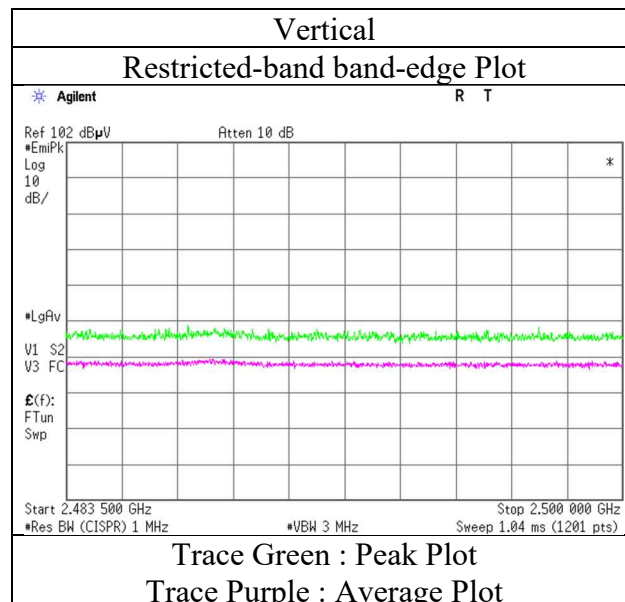
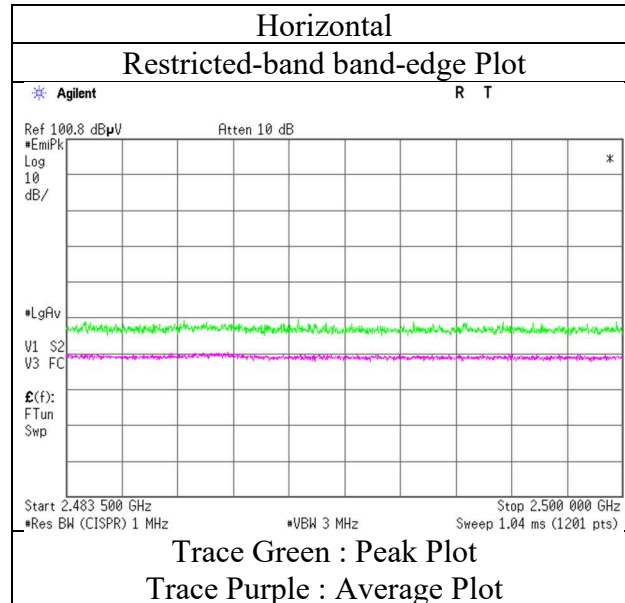
1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

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Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.6
Date	July 2, 2020
Temperature / Humidity	22 deg. C / 60 % RH
Engineer	Kazuhiro Ando
Mode	Tx BT LE 1M-PHY 2480 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13408125M-B-R1				
Test place	Kashima EMC Lab.				
Semi Anechoic Chamber	No.6	No.6	No.6	No.6	No.6
Date	July 8, 2020	July 3, 2020	July 3, 2020	July 3, 2020	July 3, 2020
Temperature / Humidity	23 deg. C / 59 % RH	22 deg. C / 52 % RH	22 deg. C / 52 % RH	22 deg. C / 52 % RH	22 deg. C / 52 % RH
Engineer	Kazuhiro Ando	Kazuhiro Ando	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando
	(30 MHz -1000 MHz)	(1 GHz -2.8 GHz)	(2.8 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx BT LE 2M-PHY 2402 MHz				
EUT	Lo type				

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	253.168	QP	47.30	11.89	7.78	32.34	0.00	34.63	46.0	11.3	107	189	
Hori.	258.047	QP	43.80	12.04	7.81	32.34	0.00	31.31	46.0	14.6	116	176	
Hori.	270.334	QP	44.70	12.68	7.90	32.33	0.00	32.95	46.0	13.0	130	202	
Hori.	718.126	QP	36.00	21.00	10.05	32.13	0.00	34.92	46.0	11.0	148	0	
Hori.	875.000	QP	34.00	22.98	10.61	31.61	0.00	35.98	46.0	10.0	110	144	
Hori.	999.995	QP	34.60	24.09	11.02	30.53	0.00	39.18	53.9	14.7	100	188	
Hori.	2111.150	PK	52.60	28.92	13.12	43.87	2.21	52.98	73.9	20.9	168	210	
Hori.	2336.450	PK	53.70	27.51	13.28	43.86	2.21	52.84	73.9	21.0	196	305	
Hori.	2390.000	PK	50.40	27.61	13.32	43.84	2.21	49.70	73.9	24.2	209	304	
Hori.	4804.000	PK	51.92	32.53	5.35	45.17	2.21	46.84	73.9	27.0	150	0	Floor noise
Hori.	7206.000	PK	51.72	37.17	6.63	44.07	2.21	53.66	73.9	20.2	173	287	
Hori.	9608.000	PK	45.87	37.97	7.39	41.90	2.21	51.54	73.9	22.3	150	0	Floor noise
Hori.	2111.150	AV	43.70	28.92	13.12	43.87	2.21	44.08	53.9	9.8	168	210	
Vert.	253.140	QP	41.70	11.89	7.78	32.34	0.00	29.03	46.0	16.9	100	220	
Vert.	875.000	QP	35.70	22.98	10.61	31.61	0.00	37.68	46.0	8.3	126	172	
Vert.	999.995	QP	35.20	24.09	11.02	30.53	0.00	39.78	53.9	14.1	103	177	
Vert.	2111.150	PK	50.90	28.92	13.12	43.87	2.21	51.28	73.9	22.6	150	252	
Vert.	2336.450	PK	53.10	27.51	13.28	43.86	2.21	52.24	73.9	21.6	132	6	
Vert.	2390.000	PK	50.10	27.61	13.32	43.84	2.21	49.40	73.9	24.5	136	0	
Vert.	4804.000	PK	52.96	32.53	5.35	45.17	2.21	47.88	73.9	26.0	150	0	Floor noise
Vert.	7206.000	PK	52.21	37.17	6.63	44.07	2.21	54.15	73.9	19.7	235	199	
Vert.	9608.000	PK	46.18	37.97	7.39	41.90	2.21	51.85	73.9	22.0	150	0	Floor noise
Vert.	2111.150	AV	42.90	28.92	13.12	43.87	2.21	43.28	53.9	10.6	150	252	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Peak measurement value with Duty cycle correction factor (DCCF)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	DCCF [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2336.450	PK	53.70	27.51	13.28	43.86	-28.17	2.21	24.67	53.9	29.2	*2)
Hori.	2390.000	PK	50.40	27.61	13.32	43.84	-28.17	2.21	21.53	53.9	32.4	*1)
Hori.	4804.000	PK	51.92	32.53	5.35	45.17	-28.17	2.21	18.67	53.9	35.2	Floor noise
Hori.	7206.000	PK	51.72	37.17	6.63	44.07	-28.17	2.21	25.49	53.9	28.4	
Hori.	9608.000	PK	45.87	37.97	7.39	41.90	-28.17	2.21	23.37	53.9	30.5	Floor noise
Vert.	2336.450	PK	53.10	27.51	13.28	43.86	-28.17	2.21	24.07	53.9	29.8	*2)
Vert.	2390.000	PK	50.10	27.61	13.32	43.84	-28.17	2.21	21.23	53.9	32.7	*1)
Vert.	4804.000	PK	52.96	32.53	5.35	45.17	-28.17	2.21	19.71	53.9	34.2	Floor noise
Vert.	7206.000	PK	52.21	37.17	6.63	44.07	-28.17	2.21	25.98	53.9	27.9	
Vert.	9608.000	PK	46.18	37.97	7.39	41.90	-28.17	2.21	23.68	53.9	30.2	Floor noise

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + DCCF + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Duty cycle correction factor (DCCF) refer to "Duty cycle correction factor" sheet.

*1) Not out of band emission (Leakage Power)

*2) Spurious emission of the same duty cycle as carrier.

20 dBc Data Sheet (RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	97.30	27.64	13.33	43.83	2.21	96.65	-	-	Carrier
Hori.	2400.000	PK	65.00	27.63	13.33	43.83	2.21	64.34	76.65	12.3	
Vert.	2402.000	PK	96.60	27.64	13.33	43.83	2.21	95.95	-	-	Carrier
Vert.	2400.000	PK	63.40	27.63	13.33	43.83	2.21	62.74	75.95	13.2	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

UL Japan, Inc.

Kashima EMC Lab.

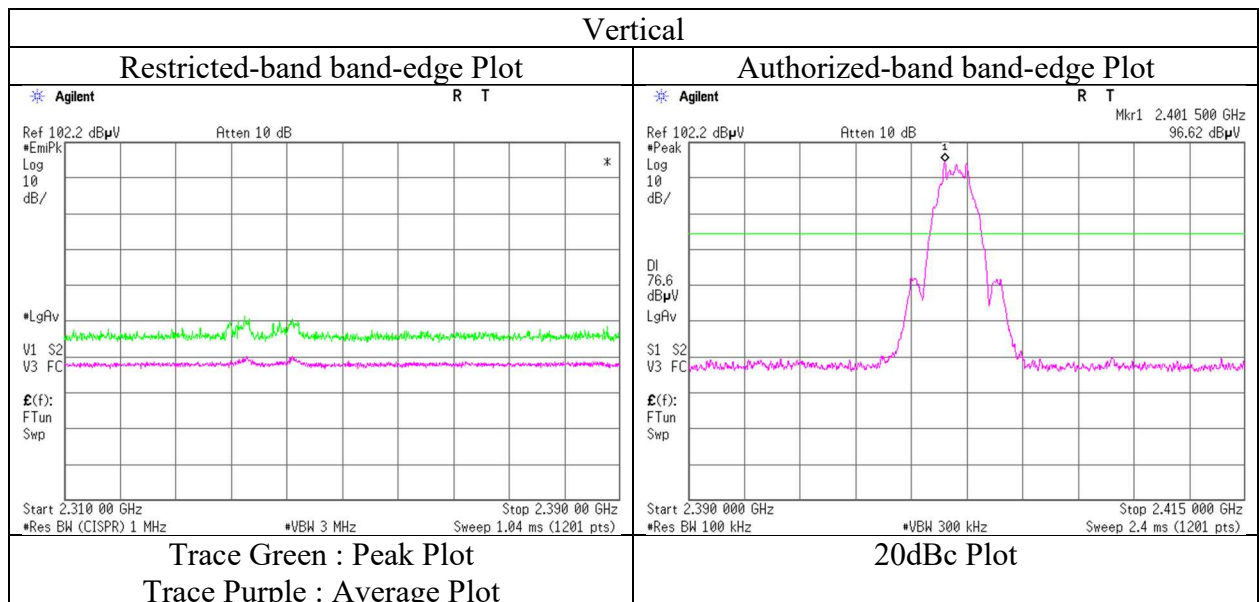
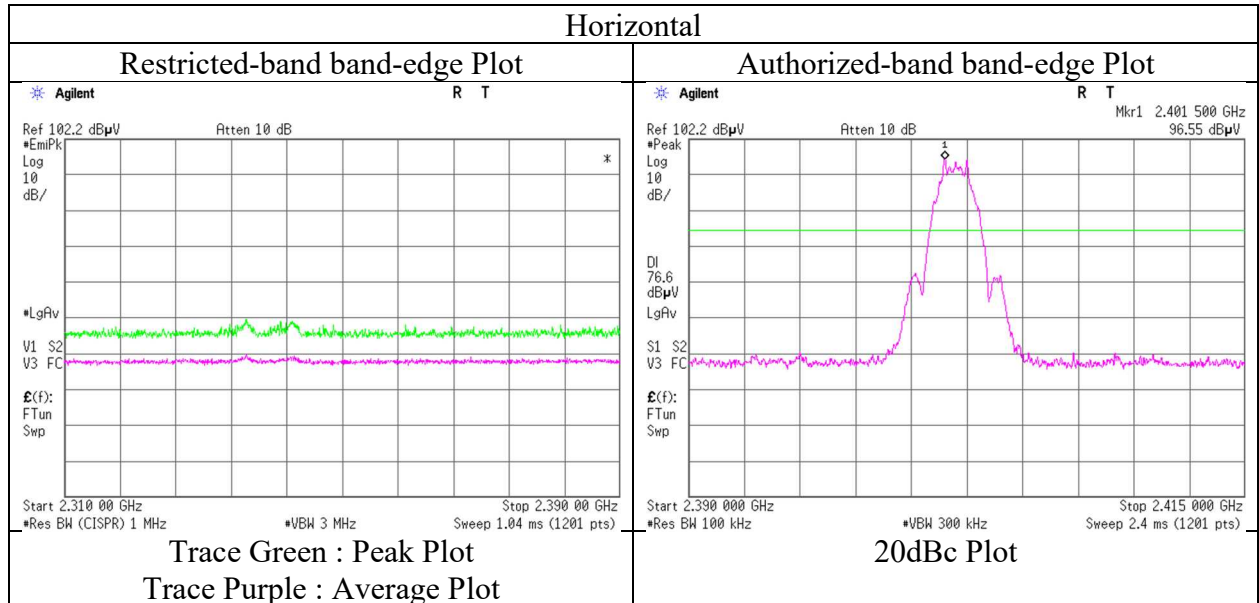
1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.6
Date	July 3, 2020
Temperature / Humidity	22 deg. C / 52 % RH
Engineer	Kazuhiro Ando
Mode	Tx BT LE 2M-PHY 2402 MHz
EUT	Lo type



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

UL Japan, Inc.

Kashima EMC Lab.

1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission

Report No.	13408125M-B-R1				
Test place	Kashima EMC Lab.				
Semi Anechoic Chamber	No.6	No.6	No.6	No.6	No.6
Date	July 8, 2020	July 3, 2020	July 3, 2020	July 3, 2020	July 3, 2020
Temperature / Humidity	23 deg. C / 59 % RH	22 deg. C / 52 % RH	22 deg. C / 52 % RH	22 deg. C / 52 % RH	22 deg. C / 52 % RH
Engineer	Kazuhiro Ando	Kazuhiro Ando	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando
	(30 MHz -1000 MHz)	(1 GHz -2.8 GHz)	(2.8 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx BT LE 2M-PHY 2440 MHz				
EUT	Lo type				

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	253.554	QP	46.80	11.90	7.78	32.34	0.00	34.14	46.0	11.8	106	190	
Hori.	258.047	QP	43.50	12.04	7.81	32.34	0.00	31.01	46.0	14.9	115	184	
Hori.	270.334	QP	44.20	12.68	7.90	32.33	0.00	32.45	46.0	13.5	125	193	
Hori.	718.126	QP	35.70	21.00	10.05	32.13	0.00	34.62	46.0	11.3	146	0	
Hori.	875.000	QP	34.00	22.98	10.61	31.61	0.00	35.98	46.0	10.0	108	146	
Hori.	999.995	QP	34.50	24.09	11.02	30.53	0.00	39.08	53.9	14.8	100	187	
Hori.	2111.820	PK	52.70	28.92	13.12	43.87	2.21	53.08	73.9	20.8	167	213	
Hori.	2370.780	PK	53.50	27.56	13.30	43.85	2.21	52.72	73.9	21.1	165	295	
Hori.	2508.170	PK	54.20	28.05	13.40	43.79	2.21	54.07	73.9	19.8	147	268	
Hori.	4880.000	PK	49.82	32.59	5.39	45.21	2.21	44.80	73.9	29.1	150	0	Floor noise
Hori.	7320.000	PK	49.93	37.38	6.68	43.80	2.21	52.40	73.9	21.5	204	207	
Hori.	9760.000	PK	46.81	37.98	7.45	41.79	2.21	52.66	73.9	21.2	150	0	Floor noise
Vert.	253.641	QP	41.30	11.90	7.78	32.34	0.00	28.64	46.0	17.3	100	225	
Vert.	875.000	QP	35.40	22.98	10.61	31.61	0.00	37.38	46.0	8.6	122	174	
Vert.	999.995	QP	35.00	24.09	11.02	30.53	0.00	39.58	53.9	14.3	104	184	
Vert.	2111.820	PK	51.00	28.92	13.12	43.87	2.21	51.38	73.9	22.5	152	247	
Vert.	2370.780	PK	55.20	27.56	13.30	43.85	2.21	54.42	73.9	19.4	138	0	
Vert.	2508.170	PK	54.20	28.05	13.40	43.79	2.21	54.07	73.9	19.8	180	0	
Vert.	4880.000	PK	49.62	32.59	5.39	45.21	2.21	44.60	73.9	29.3	150	0	Floor noise
Vert.	7320.000	PK	50.09	37.38	6.68	43.80	2.21	52.56	73.9	21.3	171	57	
Vert.	9760.000	PK	45.56	37.98	7.45	41.79	2.21	51.41	73.9	22.4	150	0	Floor noise
Vert.	2111.820	AV	42.80	28.92	13.12	43.87	2.21	43.18	53.9	10.7	152	247	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Peak measurement value with Duty cycle correction factor (DCCF)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	DCCF [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2370.780	PK	53.50	27.56	13.30	43.85	-28.17	2.21	24.55	53.9	29.4	*2)
Hori.	2508.170	PK	54.20	28.05	13.40	43.79	-28.17	2.21	25.90	53.9	28.0	*2)
Hori.	4880.000	PK	49.82	32.59	5.39	45.21	-28.17	2.21	16.63	53.9	37.3	Floor noise
Hori.	7320.000	PK	49.93	37.38	6.68	43.80	-28.17	2.21	24.23	53.9	29.7	
Hori.	9760.000	PK	46.81	37.98	7.45	41.79	-28.17	2.21	24.49	53.9	29.4	Floor noise
Vert.	2370.780	PK	55.20	27.56	13.30	43.85	-28.17	2.21	26.25	53.9	27.7	*2)
Vert.	2508.170	PK	54.20	28.05	13.40	43.79	-28.17	2.21	25.90	53.9	28.0	*2)
Vert.	4880.000	PK	49.62	32.59	5.39	45.21	-28.17	2.21	16.43	53.9	37.5	Floor noise
Vert.	7320.000	PK	50.09	37.38	6.68	43.80	-28.17	2.21	24.39	53.9	29.5	
Vert.	9760.000	PK	45.56	37.98	7.45	41.79	-28.17	2.21	23.24	53.9	30.7	Floor noise

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + DCCF + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Duty cycle correction factor (DCCF) refer to "Duty cycle correction factor" sheet.

*2) Spurious emission of the same duty cycle as carrier.

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Radiated Spurious Emission

Report No.	13408125M-B-R1				
Test place	Kashima EMC Lab.				
Semi Anechoic Chamber	No.6	No.6	No.6	No.6	No.6
Date	July 8, 2020	July 3, 2020	July 3, 2020	July 3, 2020	July 3, 2020
Temperature / Humidity	23 deg. C / 59 % RH	22 deg. C / 52 % RH	22 deg. C / 52 % RH	22 deg. C / 52 % RH	22 deg. C / 52 % RH
Engineer	Kazuhiro Ando	Kazuhiro Ando	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando
	(30 MHz -1000 MHz)	(1 GHz -2.8 GHz)	(2.8 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx BT LE 2M-PHY 2480 MHz				
EUT	Lo type				

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	253.554	QP	46.40	11.90	7.78	32.34	0.00	33.74	46.0	12.2	109	180	
Hori.	258.047	QP	43.50	12.04	7.81	32.34	0.00	31.01	46.0	14.9	118	189	
Hori.	270.334	QP	44.00	12.68	7.90	32.33	0.00	32.25	46.0	13.7	116	202	
Hori.	718.126	QP	35.30	21.00	10.05	32.13	0.00	34.22	46.0	11.7	148	0	
Hori.	875.000	QP	34.20	22.98	10.61	31.61	0.00	36.18	46.0	9.8	106	145	
Hori.	999.995	QP	34.50	24.09	11.02	30.53	0.00	39.08	53.9	14.8	100	190	
Hori.	2111.270	PK	52.00	28.92	13.12	43.87	2.21	52.38	73.9	21.5	201	246	
Hori.	2483.500	PK	50.90	27.94	13.39	43.80	2.21	50.64	73.9	23.2	156	290	
Hori.	2549.780	PK	54.20	28.26	13.44	43.76	2.21	54.35	73.9	19.5	148	292	
Hori.	4960.000	PK	50.21	32.55	5.43	45.26	2.21	45.14	73.9	28.7	150	0	Floor noise
Hori.	7440.000	PK	49.14	37.41	6.69	43.50	2.21	51.95	73.9	21.9	155	8	
Hori.	9920.000	PK	46.89	38.22	7.50	41.76	2.21	53.06	73.9	20.8	150	0	Floor noise
Hori.	2111.270	AV	43.40	28.92	13.12	43.87	2.21	43.78	53.9	10.1	201	246	
Vert.	253.679	QP	40.80	11.90	7.79	32.34	0.00	28.15	46.0	17.8	100	216	
Vert.	875.000	QP	35.00	22.98	10.61	31.61	0.00	36.98	46.0	9.0	114	181	
Vert.	999.995	QP	35.20	24.09	11.02	30.53	0.00	39.78	53.9	14.1	103	177	
Vert.	2111.270	PK	51.70	28.92	13.12	43.87	2.21	52.08	73.9	21.8	157	73	
Vert.	2483.500	PK	50.80	27.94	13.39	43.80	2.21	50.54	73.9	23.3	151	356	
Vert.	2549.780	PK	54.10	28.26	13.44	43.76	2.21	54.25	73.9	19.6	138	353	
Vert.	4960.000	PK	50.96	32.55	5.43	45.26	2.21	45.89	73.9	28.0	150	0	Floor noise
Vert.	7440.000	PK	50.60	37.41	6.69	43.50	2.21	53.41	73.9	20.4	183	52	
Vert.	9920.000	PK	44.74	38.22	7.50	41.76	2.21	50.91	73.9	22.9	150	0	Floor noise
Vert.	2111.270	AV	42.70	28.92	13.12	43.87	2.21	43.08	53.9	10.8	157	73	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Peak measurement value with Duty cycle correction factor (DCCF)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	DCCF [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	PK	50.90	27.94	13.39	43.80	-28.17	2.21	22.47	53.9	31.4	*1)
Hori.	2549.780	PK	54.20	28.26	13.44	43.76	-28.17	2.21	26.18	53.9	27.7	*2)
Hori.	4960.000	PK	50.21	32.55	5.43	45.26	-28.17	2.21	16.97	53.9	36.9	Floor noise
Hori.	7440.000	PK	49.14	37.41	6.69	43.50	-28.17	2.21	23.78	53.9	30.1	
Hori.	9920.000	PK	46.89	38.22	7.50	41.76	-28.17	2.21	24.89	53.9	29.0	Floor noise
Vert.	2483.500	PK	50.80	27.94	13.39	43.80	-28.17	2.21	22.37	53.9	31.5	*1)
Vert.	2549.780	PK	54.10	28.26	13.44	43.76	-28.17	2.21	26.08	53.9	27.8	*2)
Vert.	4960.000	PK	50.96	32.55	5.43	45.26	-28.17	2.21	17.72	53.9	36.2	Floor noise
Vert.	7440.000	PK	50.60	37.41	6.69	43.50	-28.17	2.21	25.24	53.9	28.7	
Vert.	9920.000	PK	44.74	38.22	7.50	41.76	-28.17	2.21	22.74	53.9	31.2	Floor noise

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + DCCF + Distance factor

Distance factor : 1 GHz - 10 GHz : 20log (3.87 m / 3.0 m) = 2.21 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Duty cycle correction factor (DCCF) refer to "Duty cycle correction factor" sheet.

*1) Not out of band emission (Leakage Power)

*2) Spurious emission of the same duty cycle as carrier.

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Kashima EMC Lab.

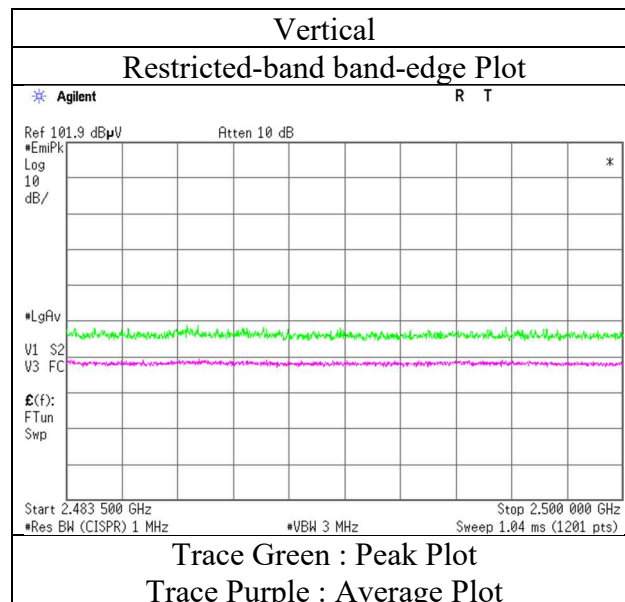
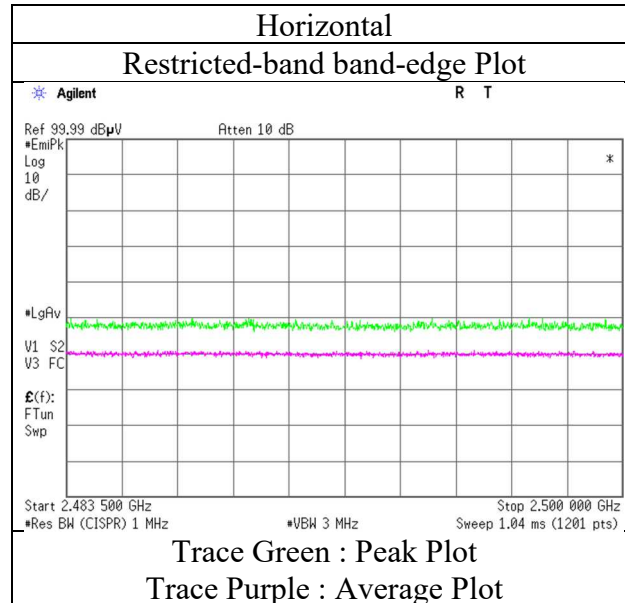
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Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	13408125M-B-R1
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.6
Date	July 3, 2020
Temperature / Humidity	22 deg. C / 52 % RH
Engineer	Kazuhiro Ando
Mode	Tx BT LE 2M-PHY 2480 MHz
EUT	Lo type

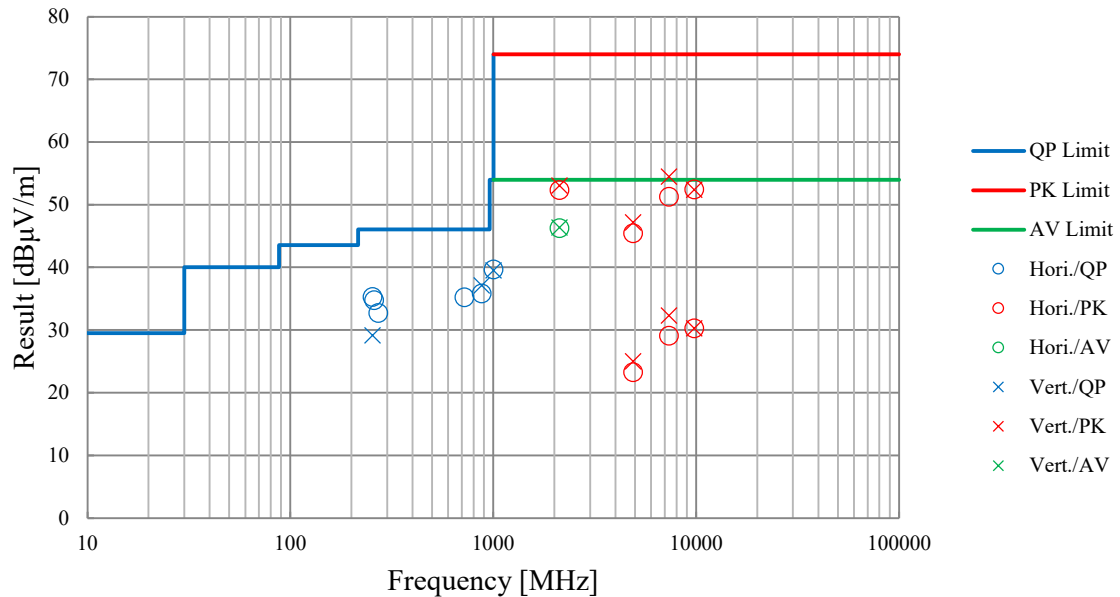


* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission
(Plot data, Worst case)

Report No.	13408125M-B-R1				
Test place	Kashima EMC Lab.				
Semi Anechoic Chamber	No.6	No.6	No.6	No.6	No.6
Date	July 7, 2020	July 2, 2020	July 3, 2020	July 2, 2020	July 3, 2020
Temperature / Humidity	24 deg. C / 53 % RH	22 deg. C / 60 % RH	22 deg. C / 52 % RH	23 deg. C / 51 % RH	22 deg. C / 52 % RH
Engineer	Hiromitsu Tanabe	Kazuhiro Ando	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando
	(30 MHz -1000 MHz)	(1 GHz -2.8 GHz)	(2.8 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx BT LE 1M-PHY 2440 MHz				
EUT	Lo type				



*These plots data contain sufficient number to show the trend of characteristic features for EUT.

APPENDIX 2: Test instruments

Test equipment

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
RE	CCC-S6-R	143107	6 Site RE System	UL Japan Inc.	none(No.6 RE)	none	2019/12/20	12
RE	CBL-09	143122	LOGBICON	Schwarzbeck Mess - Elektronik	VULB 9168	508	2020/04/07	12
RE	CAT5-04	178807	5dB Fixed Atten.	PASTERNAK	PE7047-5	none	2020/04/01	12
RE	CAF-07	142929	Pre-Amplifier	SONOMA INSTRUMENT	310N	240505	2019/11/21	12
RE	CTR-02	144194	Test Receiver	Rohde & Schwarz	ESCI	100601	2019/09/04	12
RE(GHz)	TSA-01	143642	Spectrum Analyzer	Keysight Technologies Inc	N9030A	MY53310670 Version A.13.12	2020/05/19	12
RE(GHz)	CAF-22	142940	Pre-Amplifier	Micro Wave Factory	MPR-1G26.5-35	161399	2020/06/08	12
RE(GHz)	CCC-G14	192241	Microwave Cable	Huber+Suhner	SF104/PC35m/PC35m/1000mm	805411/4	2020/01/15	12
RE(GHz)	CCC-G17	192244	Microwave Cable	Huber+Suhner	SF104/11N/11PC35/8000MM	808996/4	2020/01/15	12
RE(GHz)	CHA-25	143456	Double Ridged Wave Guide	ETS-Lindgren	3115	00204573	2020/02/08	12
RE(GHz)	CAT10-17	143023	10dB Fixed Atten.	Weinschel - API Technologies Corp	54A-10	56251	2020/05/15	12
RE(GHz)	CHF-04	143442	HPF	MICRO-TRONICS	HPM50111-02	009	2020/05/15	12
RE(GHz)	CHA-07	143438	Double Ridged Horn	ETS-Lindgren	3160-09	00166043	2020/06/06	12
RE(GHz)	CAF-19	142937	Pre-Amplifier	TOYO	HAP18-26W	00000035	2020/06/09	12
RE(GHz)	CCC-W09	143113	Micro Wave Cable	Suhner	SUCOFLEX104	MY588/4	2020/07/05	12
EMI	CSCL-08	143667	Ruler	TAJIMA	L25-55	none	-	-
EMI	COS-06	143538	Temperature & Humidity Indicator	Hioki	3641/9680-50	070727010/070799296	2020/07/21	12
EMI	CBM-06	143129	Barometer	Sunoh	SBR-151	000017	2018/11/26	36
EMI	CTS-07	144209	Digital Multimeter	Fluke Corporation	FLK-83-V	17610192	2019/10/27	12
EMI	COTS-CEMI-03	178804	EMI Software	TSJ (Techno Science Japan)	TEPTO-DV3(RE,CE,ME,PE)	-	-	-

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

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

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

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

Test item: RE: Radiated Emission test

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