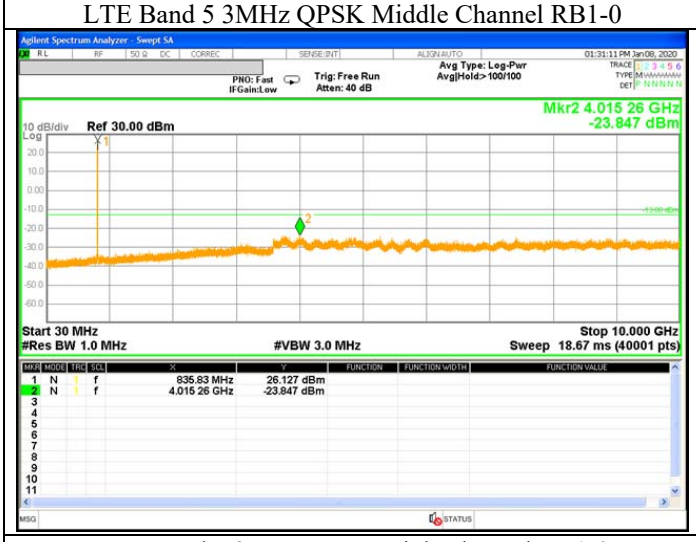
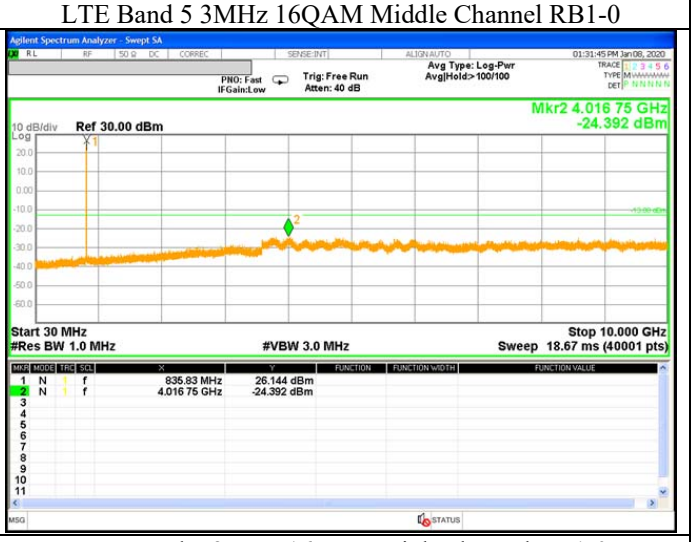
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 8, 2020
Temperature / Humidity	23 deg. C / 54 % RH
Engineer	Yutaka Yoshida
Mode	LTE

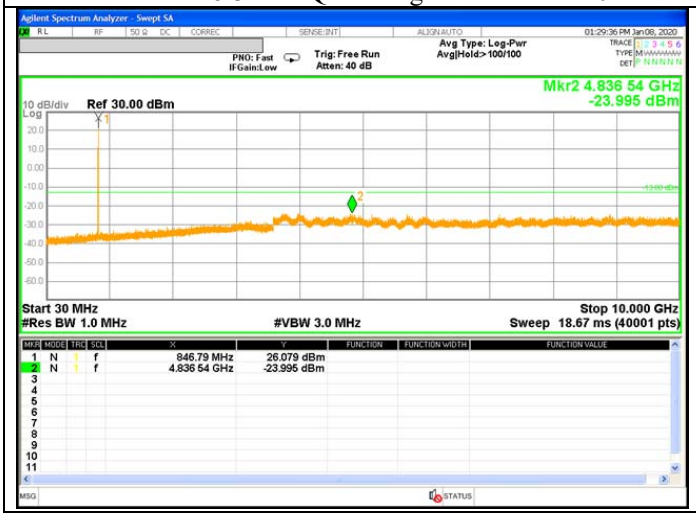
LTE Band 5 3MHz QPSK Middle Channel RB1-0



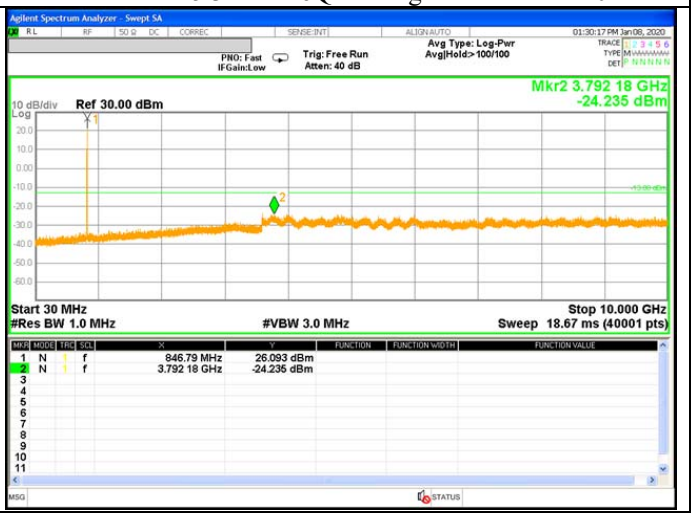
LTE Band 5 3MHz 16QAM Middle Channel RB1-0



LTE Band 5 3MHz QPSK High Channel RB1-0



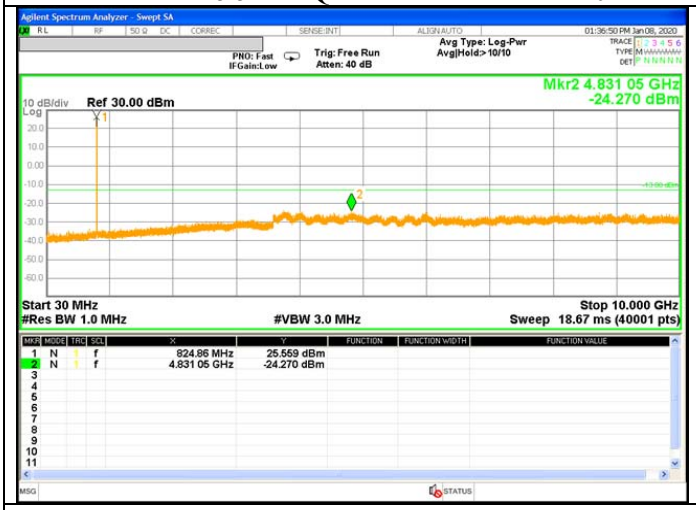
LTE Band 5 3MHz 16QAM High Channel RB1-0



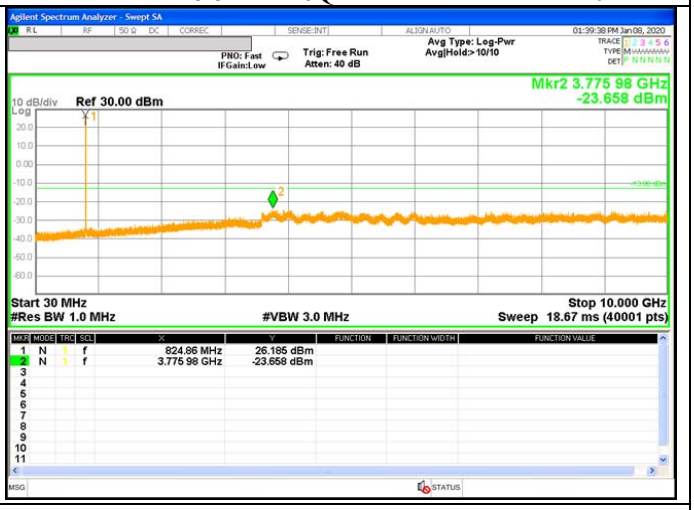
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 8, 2020
Temperature / Humidity	23 deg. C / 54 % RH
Engineer	Yutaka Yoshida
Mode	LTE

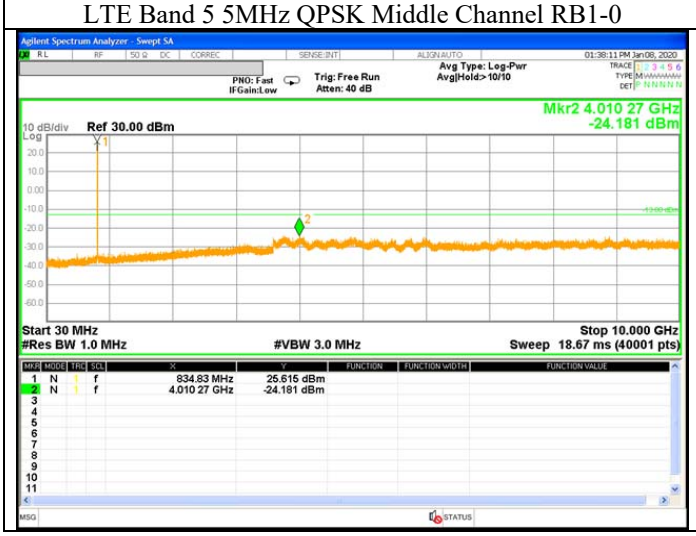
LTE Band 5 5MHz QPSK Low Channel RB1-0



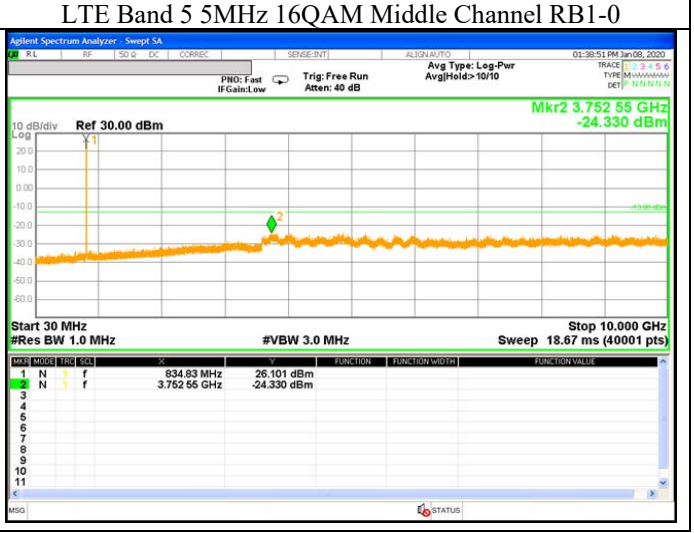
LTE Band 5 5MHz 16QAM Low Channel RB1-0



LTE Band 5 5MHz QPSK Middle Channel RB1-0



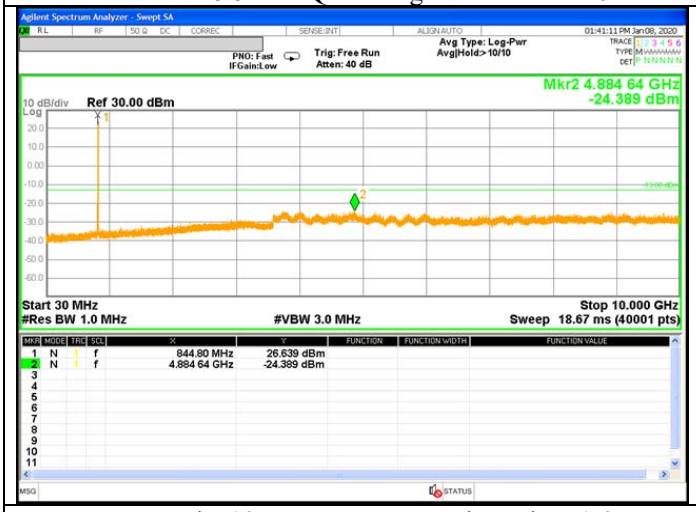
LTE Band 5 5MHz 16QAM Middle Channel RB1-0



Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 8, 2020
Temperature / Humidity	23 deg. C / 54 % RH
Engineer	Yutaka Yoshida
Mode	LTE

LTE Band 5 5MHz QPSK High Channel RB1-0



LTE Band 5 5MHz 16QAM High Channel RB1-0

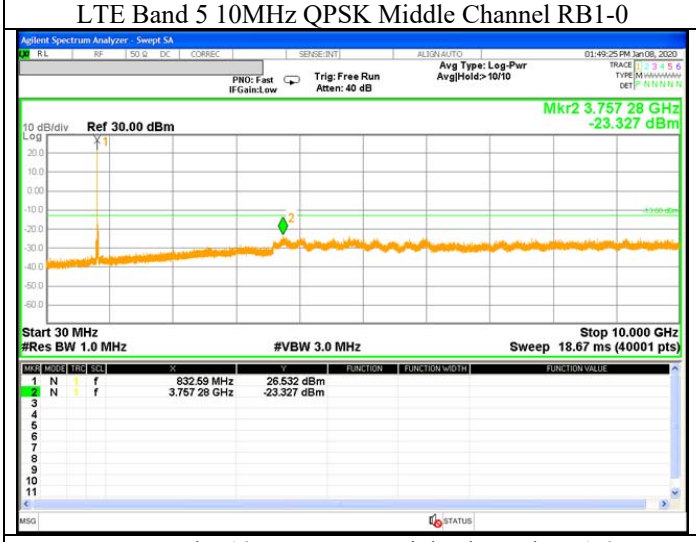
LTE Band 5 10MHz QPSK Low Channel RB1-0

LTE Band 5 10MHz 16QAM Low Channel RB1-0

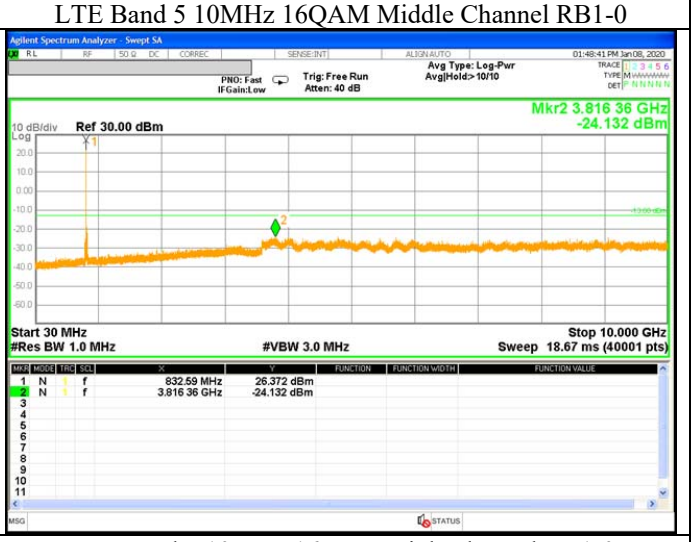
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 8, 2020
Temperature / Humidity	23 deg. C / 54 % RH
Engineer	Yutaka Yoshida
Mode	LTE

LTE Band 5 10MHz QPSK Middle Channel RB1-0



LTE Band 5 10MHz 16QAM Middle Channel RB1-0



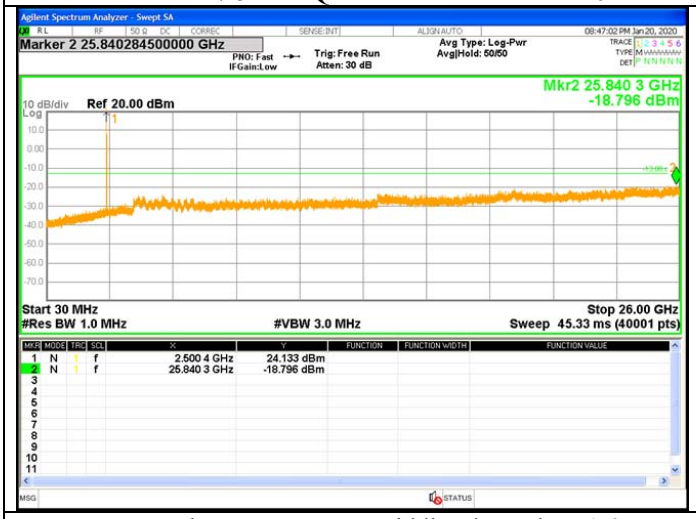
LTE Band 5 10MHz QPSK High Channel RB1-0

LTE Band 5 10MHz 16QAM High Channel RB1-0

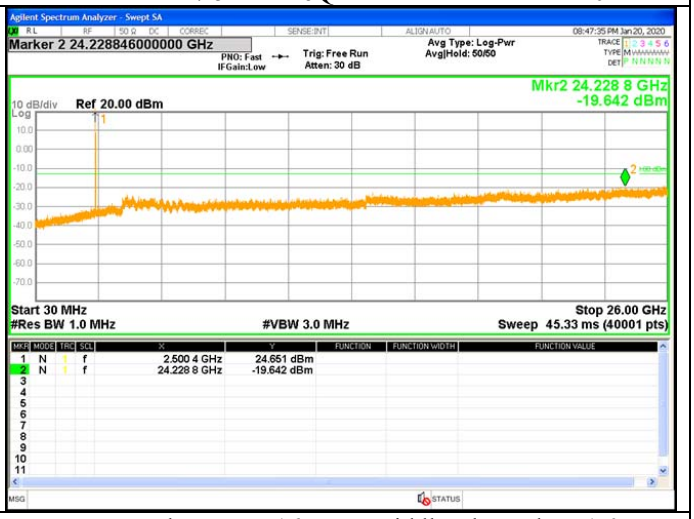
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 20, 2020
Temperature / Humidity	22 deg. C / 45 % RH
Engineer	Tomohisa Nakagawa
Mode	LTE

LTE Band 7 5MHz QPSK Low Channel RB1-0



LTE Band 7 5MHz 16QAM Low Channel RB1-0



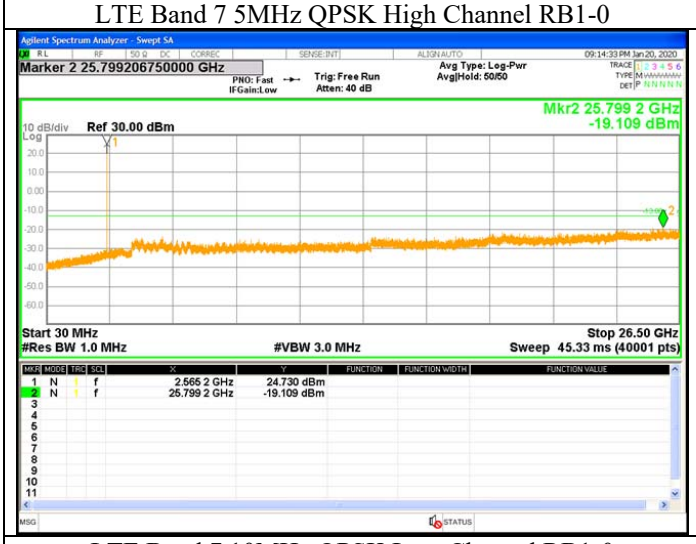
LTE Band 7 5MHz QPSK Middle Channel RB1-0

LTE Band 7 5MHz 16QAM Middle Channel RB1-0

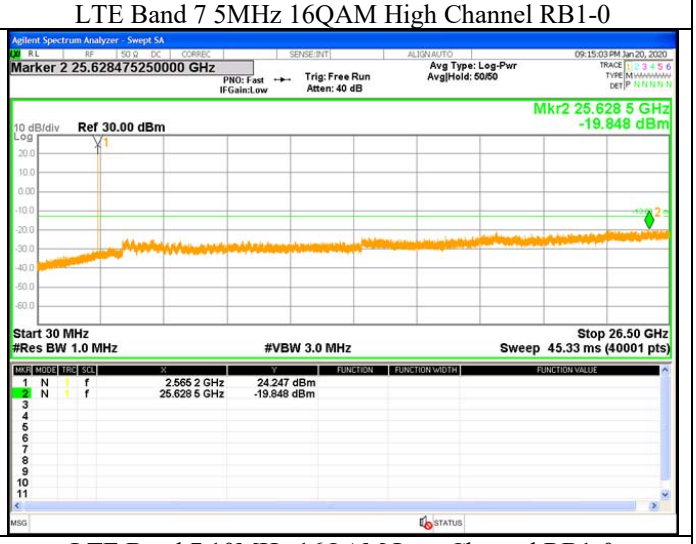
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 20, 2020
Temperature / Humidity	22 deg. C / 45 % RH
Engineer	Tomohisa Nakagawa
Mode	LTE

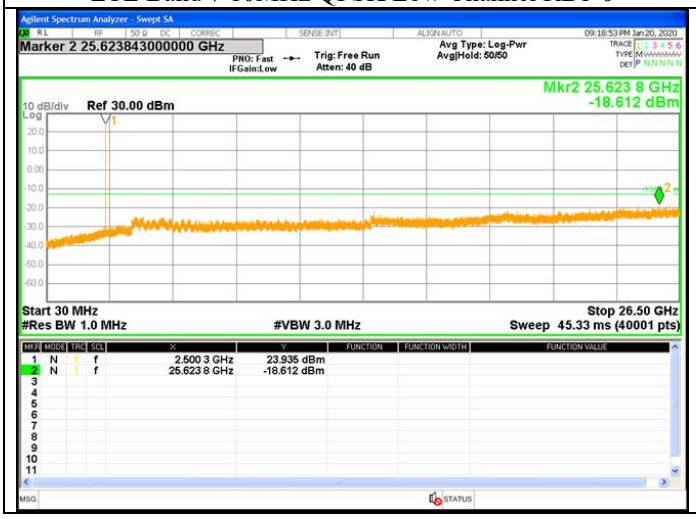
LTE Band 7 5MHz QPSK High Channel RB1-0



LTE Band 7 5MHz 16QAM High Channel RB1-0



LTE Band 7 10MHz QPSK Low Channel RB1-0

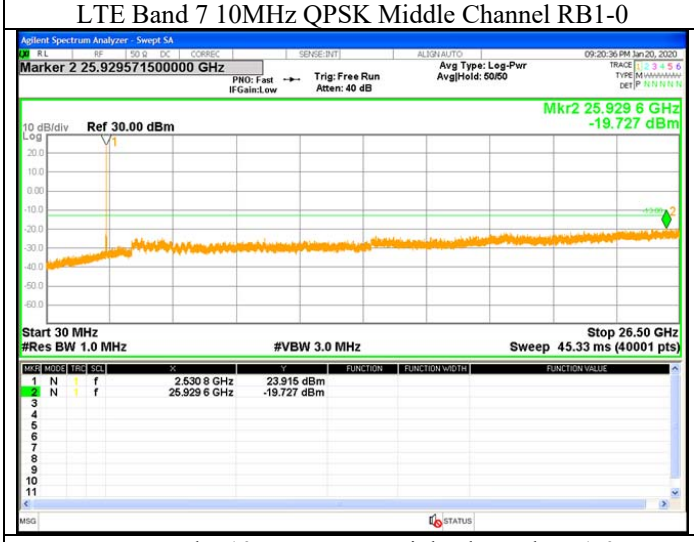


LTE Band 7 10MHz 16QAM Low Channel RB1-0

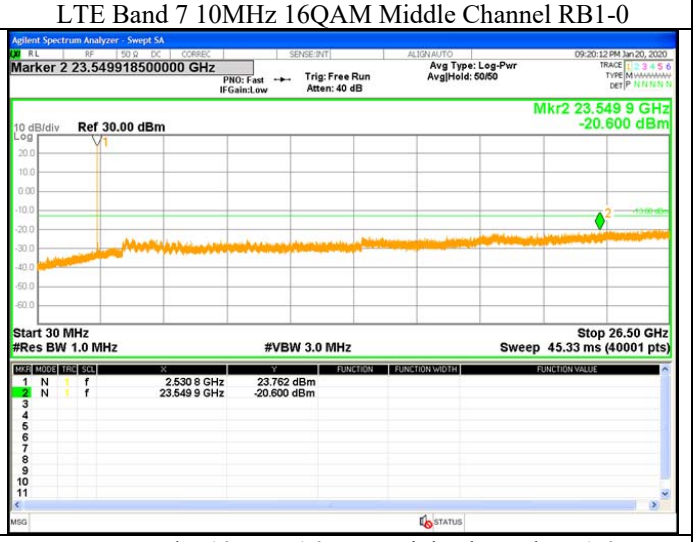
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 20, 2020
Temperature / Humidity	22 deg. C / 45 % RH
Engineer	Tomohisa Nakagawa
Mode	LTE

LTE Band 7 10MHz QPSK Middle Channel RB1-0



LTE Band 7 10MHz 16QAM Middle Channel RB1-0



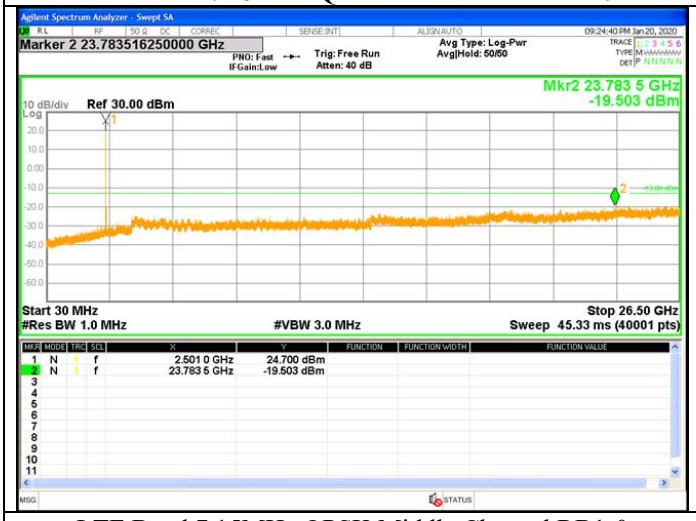
LTE Band 7 10MHz QPSK High Channel RB1-0

LTE Band 7 10MHz 16QAM High Channel RB1-0

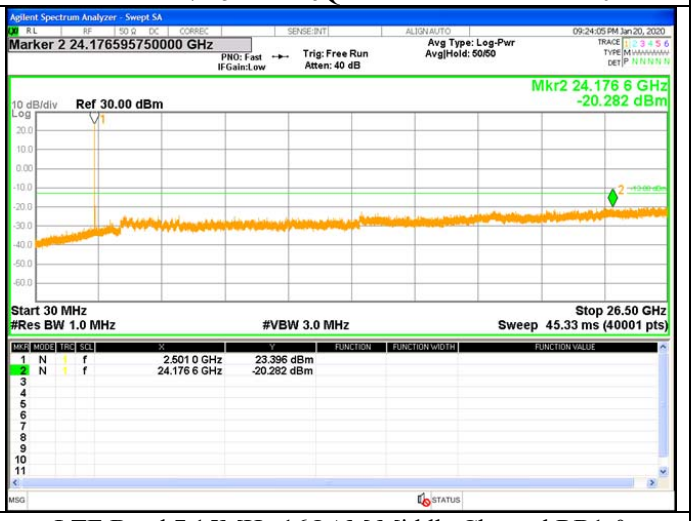
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 20, 2020
Temperature / Humidity	22 deg. C / 45 % RH
Engineer	Tomohisa Nakagawa
Mode	LTE

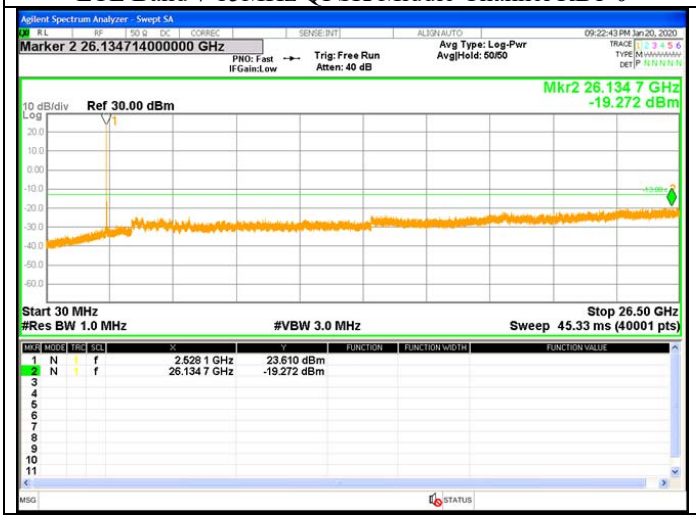
LTE Band 7 15MHz QPSK Low Channel RB1-0



LTE Band 7 15MHz 16QAM Low Channel RB1-0



LTE Band 7 15MHz QPSK Middle Channel RB1-0

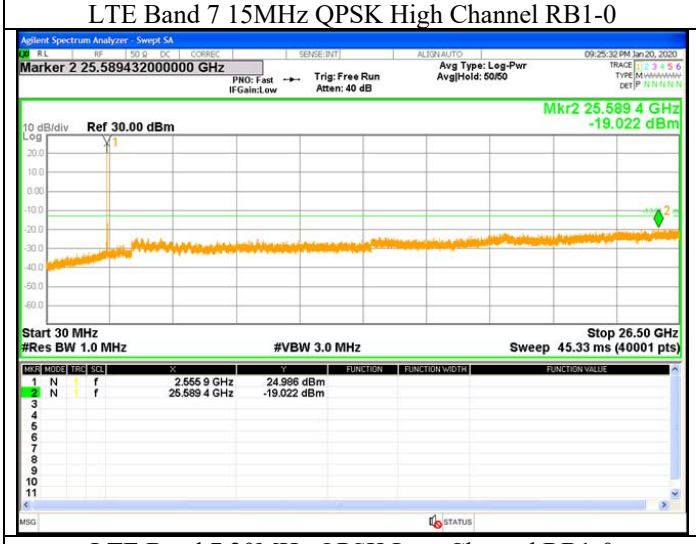


LTE Band 7 15MHz 16QAM Middle Channel RB1-0

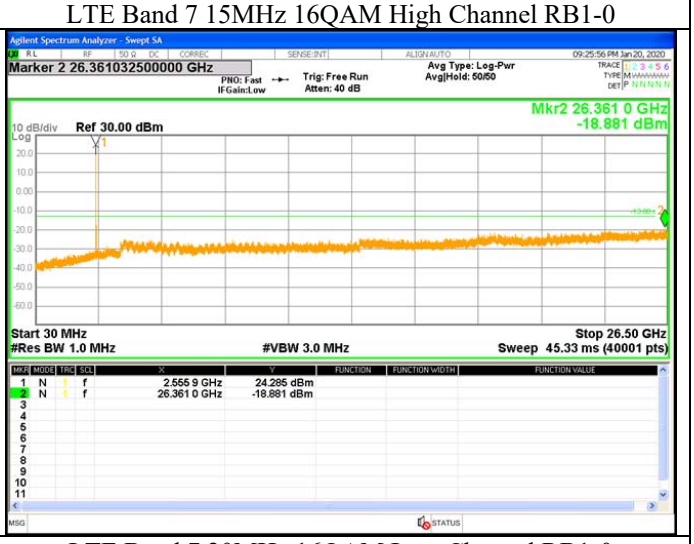
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 20, 2020
Temperature / Humidity	22 deg. C / 45 % RH
Engineer	Tomohisa Nakagawa
Mode	LTE

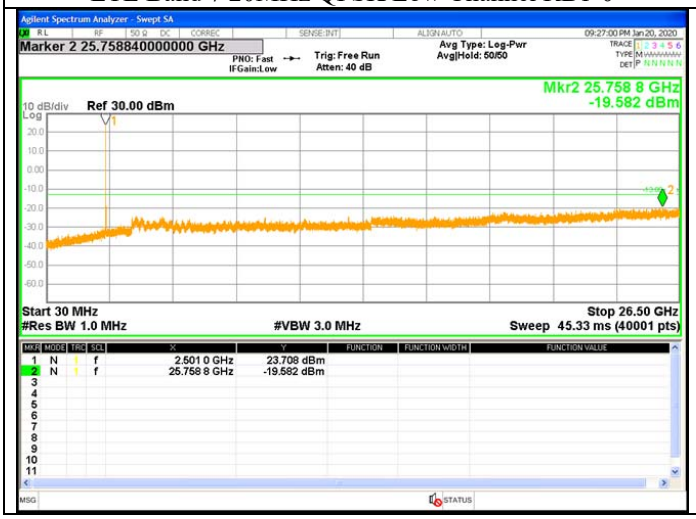
LTE Band 7 15MHz QPSK High Channel RB1-0



LTE Band 7 15MHz 16QAM High Channel RB1-0



LTE Band 7 20MHz QPSK Low Channel RB1-0

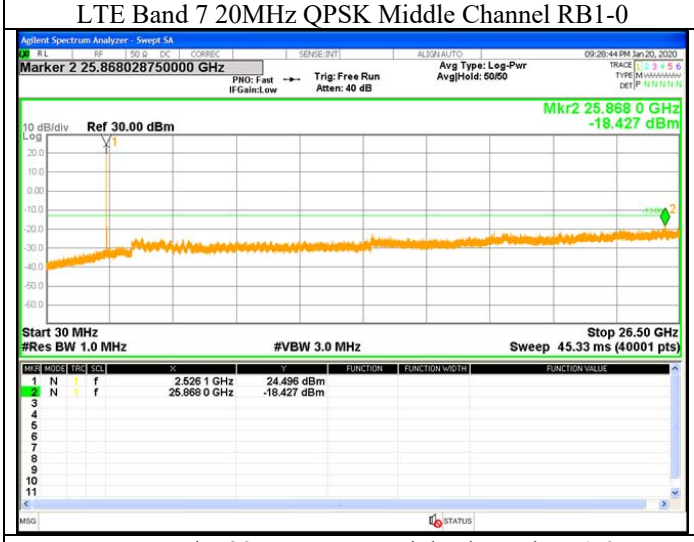


LTE Band 7 20MHz 16QAM Low Channel RB1-0

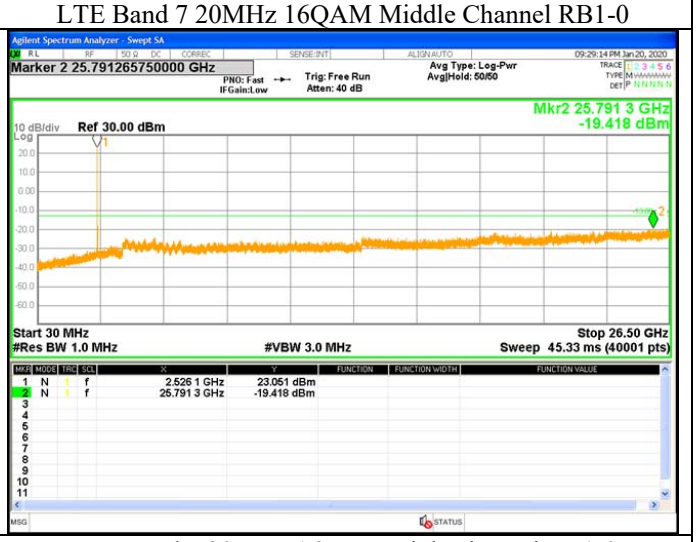
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 20, 2020
Temperature / Humidity	22 deg. C / 45 % RH
Engineer	Tomohisa Nakagawa
Mode	LTE

LTE Band 7 20MHz QPSK Middle Channel RB1-0



LTE Band 7 20MHz 16QAM Middle Channel RB1-0



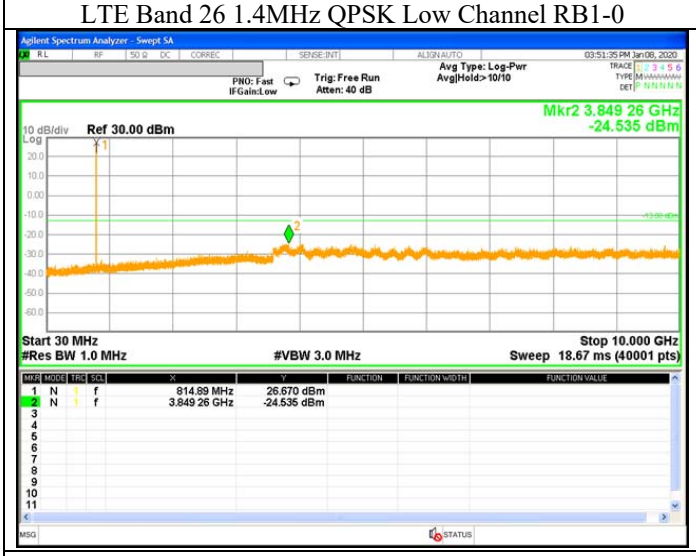
LTE Band 7 20MHz QPSK High Channel RB1-0

LTE Band 7 20MHz 16QAM High Channel RB1-0

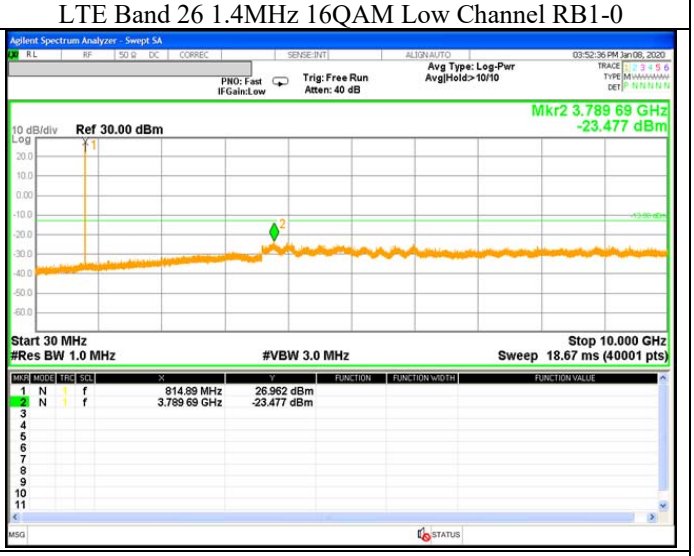
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 8, 2020
Temperature / Humidity	23 deg. C / 54 % RH
Engineer	Yutaka Yoshida
Mode	LTE

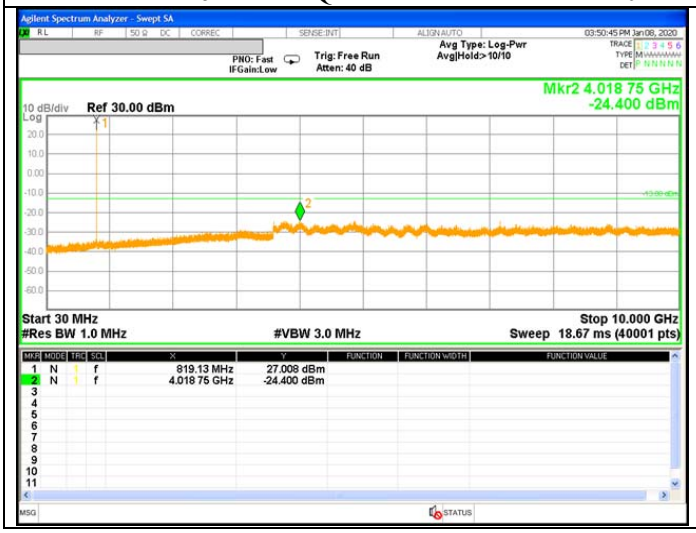
LTE Band 26 1.4MHz QPSK Low Channel RB1-0



LTE Band 26 1.4MHz 16QAM Low Channel RB1-0



LTE Band 26 1.4MHz QPSK Middle Channel RB1-0

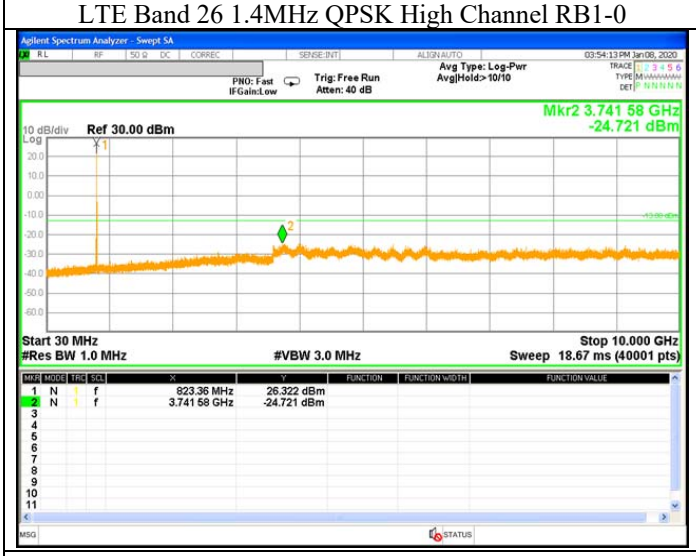


LTE Band 2 10MHz 16QAM Middle Channel RB1-0

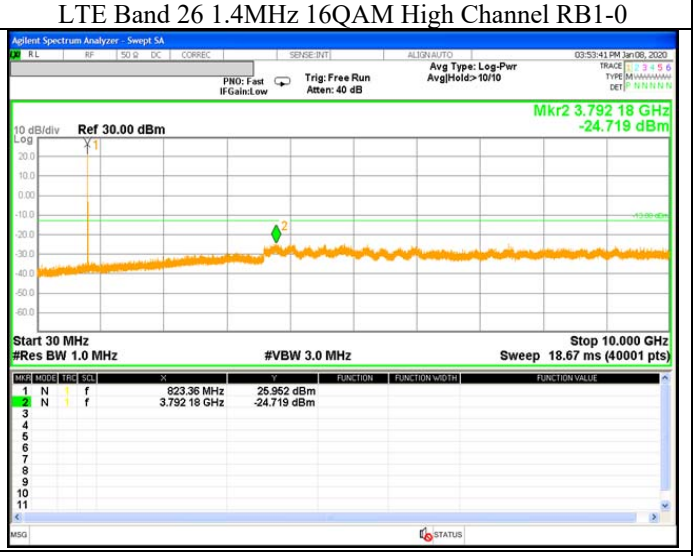
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 8, 2020
Temperature / Humidity	23 deg. C / 54 % RH
Engineer	Yutaka Yoshida
Mode	LTE

LTE Band 26 1.4MHz QPSK High Channel RB1-0



LTE Band 26 1.4MHz 16QAM High Channel RB1-0



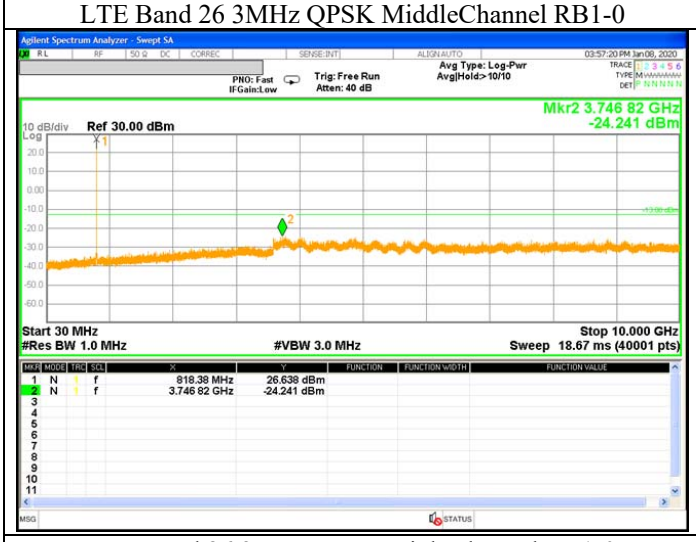
LTE Band 26 3MHz QPSK Low Channel RB1-0

LTE Band 26 3MHz 16QAM Low Channel RB1-0

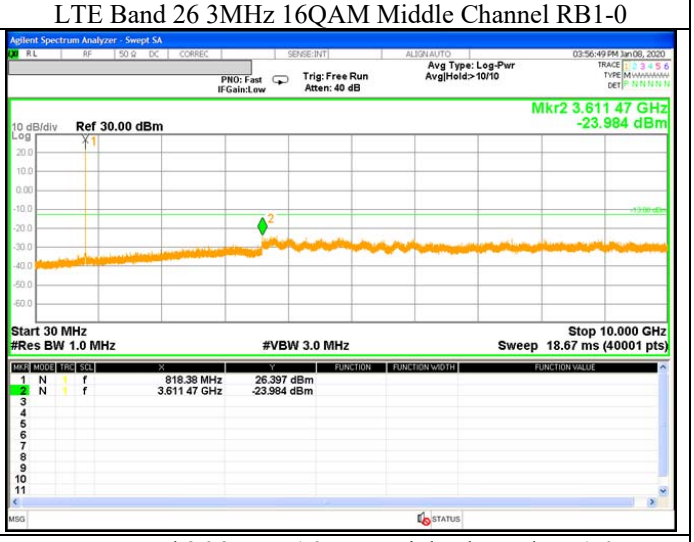
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 8, 2020
Temperature / Humidity	23 deg. C / 54 % RH
Engineer	Yutaka Yoshida
Mode	LTE

LTE Band 26 3MHz QPSK MiddleChannel RB1-0

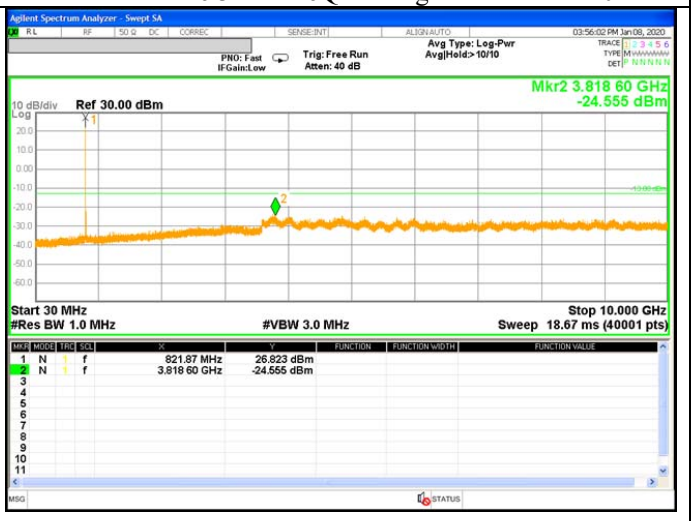


LTE Band 26 3MHz 16QAM Middle Channel RB1-0



LTE Band 26 3MHz QPSK High Channel RB1-0

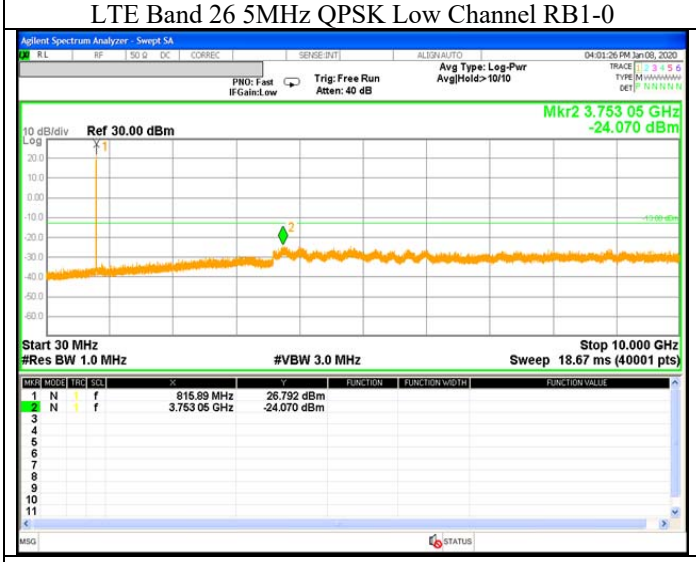
LTE Band 26 3MHz 16QAM High Channel RB1-0



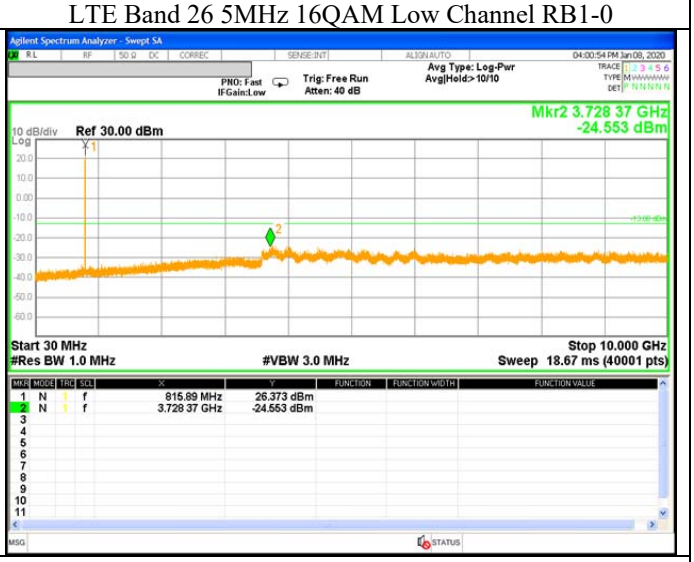
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 8, 2020
Temperature / Humidity	23 deg. C / 54 % RH
Engineer	Yutaka Yoshida
Mode	LTE

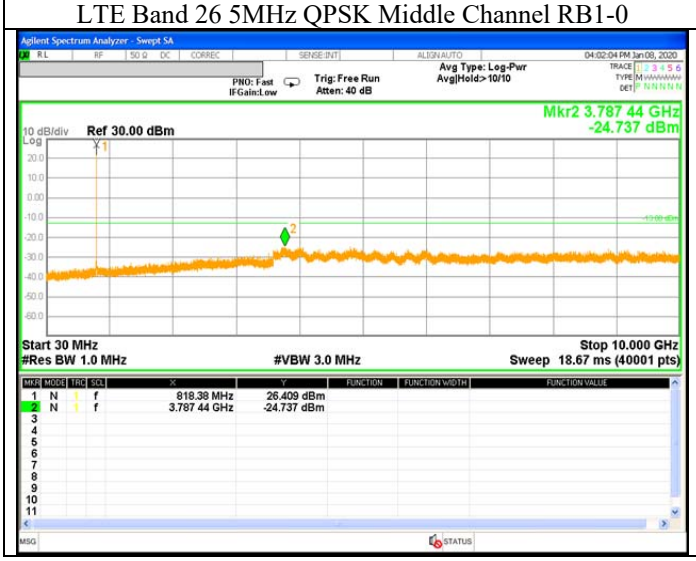
LTE Band 26 5MHz QPSK Low Channel RB1-0



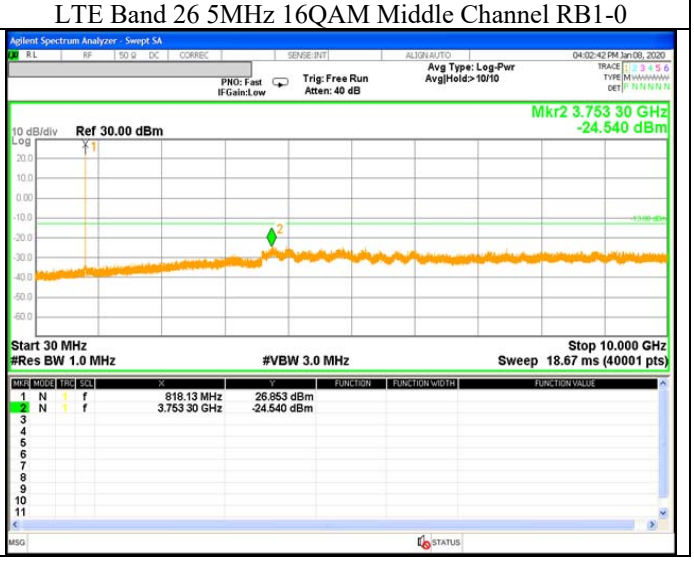
LTE Band 26 5MHz 16QAM Low Channel RB1-0



LTE Band 26 5MHz QPSK Middle Channel RB1-0



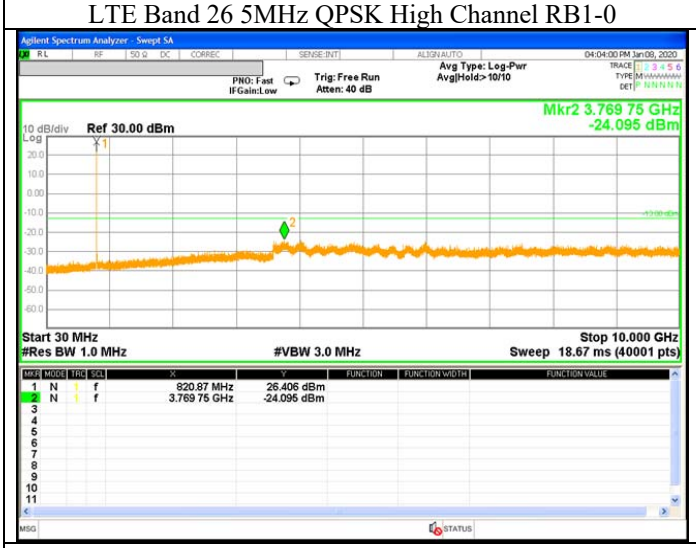
LTE Band 26 5MHz 16QAM Middle Channel RB1-0



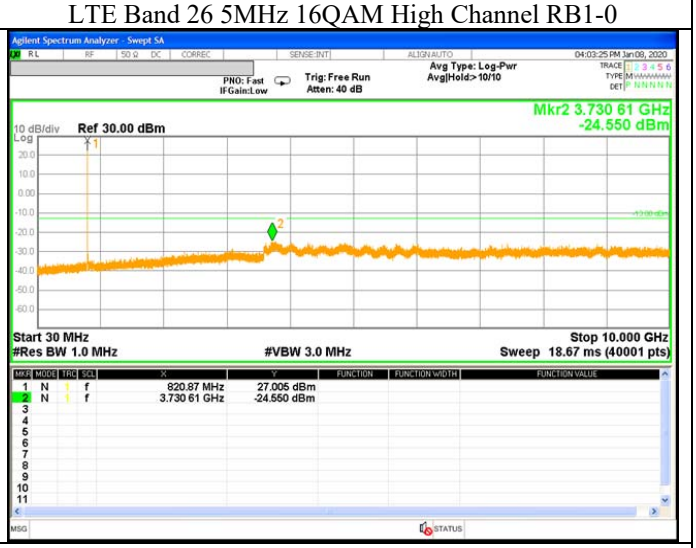
Spurious Emission (Conducted)

Report No.	13274888H
Test place	Ise EMC Lab.
Shielded Room	No.6
Date	January 8, 2020
Temperature / Humidity	23 deg. C / 54 % RH
Engineer	Yutaka Yoshida
Mode	LTE

LTE Band 26 5MHz QPSK High Channel RB1-0



LTE Band 26 5MHz 16QAM High Channel RB1-0



LTE Band 26 10MHz QPSK Middle Channel RB1-0

LTE Band 26 10MHz 16QAM Middle Channel RB1-0

Spurious Emission (Radiated)

Report No.	13274888H	
Test place	Ise EMC Lab.	
Semi Anechoic Chamber	No.4	No.2
Date	March 12, 2020	March 14, 2020
Temperature / Humidity	26 deg. C / 36 % RH	19 deg. C / 42 % RH
Engineer	Akihiko Maeda	Tomohisa Nakagawa
	(Below 1 GHz)	(1 – 10 GHz)
Mode	GSM 850	
	1Up GPRS, CS-1 MS power 5	

824.2 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1648.400	PK	77.6	25.1	5.0	35.7	71.9	3.0	-23.4	-25.5	-13.0	12.5	
Hori.	2472.600	PK	68.1	27.5	5.1	35.2	65.5	3.0	-29.8	-31.9	-13.0	18.9	
Hori.	3296.800	PK	62.0	28.2	5.4	34.7	60.9	3.0	-34.4	-36.5	-13.0	23.5	
Hori.	4121.000	PK	53.2	30.0	5.8	34.3	54.7	3.0	-40.6	-42.7	-13.0	29.7	
Vert.	1648.400	PK	81.6	25.1	5.0	35.7	75.9	3.0	-19.3	-21.5	-13.0	8.5	
Vert.	2472.600	PK	63.6	27.5	5.1	35.2	61.0	3.0	-34.3	-36.4	-13.0	23.4	
Vert.	3296.800	PK	61.4	28.2	5.4	34.7	60.2	3.0	-35.0	-37.2	-13.0	24.2	
Vert.	4121.000	PK	51.5	30.0	5.8	34.3	53.0	3.0	-42.3	-44.4	-13.0	31.4	

836.6 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1673.200	PK	74.1	25.0	5.0	35.7	68.4	3.0	-26.8	-29.0	-13.0	13.8	
Hori.	2509.800	PK	59.3	27.5	5.1	35.2	56.7	3.0	-38.5	-40.7	-13.0	25.5	
Hori.	3346.400	PK	59.3	28.1	5.4	34.7	58.2	3.0	-37.1	-39.2	-13.0	24.1	
Hori.	5019.600	PK	56.6	31.8	6.3	34.5	60.3	3.0	-35.0	-37.2	-13.0	22.0	
Vert.	1673.200	PK	73.6	25.0	5.0	35.7	67.9	3.0	-27.3	-29.5	-13.0	14.3	
Vert.	2509.800	PK	56.2	27.5	5.1	35.2	53.6	3.0	-41.7	-43.8	-13.0	28.7	
Vert.	3346.400	PK	57.3	28.1	5.4	34.7	56.1	3.0	-39.1	-41.3	-13.0	26.1	
Vert.	5019.600	PK	54.5	31.8	6.3	34.5	58.2	3.0	-37.1	-39.2	-13.0	24.1	

848.8 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1697.600	PK	66.6	25.0	5.0	35.7	61.0	3.0	-34.3	-36.4	-13.0	21.3	
Hori.	2546.400	PK	61.8	27.5	5.1	35.2	59.2	3.0	-36.0	-38.2	-13.0	23.0	
Hori.	3395.200	PK	65.7	28.3	5.5	34.7	64.7	3.0	-30.6	-32.7	-13.0	17.6	
Hori.	4244.000	PK	58.9	30.3	5.8	34.3	60.8	3.0	-34.5	-36.6	-13.0	21.5	
Vert.	1697.600	PK	67.6	25.0	5.0	35.7	61.9	3.0	-33.4	-35.5	-13.0	20.4	
Vert.	2546.400	PK	67.4	27.5	5.1	35.2	64.8	3.0	-30.4	-32.6	-13.0	17.4	
Vert.	3395.200	PK	60.4	28.3	5.5	34.7	59.4	3.0	-35.8	-38.0	-13.0	22.8	
Vert.	4244.000	PK	60.1	30.3	5.8	34.3	62.0	3.0	-33.3	-35.4	-13.0	20.3	

Result (E) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)

(Above 1GHz) EIRP = E + 20*log(D) -104.8

(Below 1GHz) ERP =EIRP -2.15

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

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB

Spurious Emission (Radiated)

Report No.	13274888H	
Test place	Ise EMC Lab.	
Semi Anechoic Chamber	No.4	No.2
Date	March 12, 2020	March 14, 2020
Temperature / Humidity	26 deg. C / 36 % RH	19 deg. C / 42 % RH
Engineer	Akihiko Maeda	Tomohisa Nakagawa
	(Below 1 GHz)	(1 – 10 GHz)
Mode	GSM 850	
	1Up EGPRS, MCS-5 MS power 5	

824.2 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1648.400	PK	75.9	25.1	5.0	35.7	70.2	3.0	-25.0	-27.2	-13.0	14.2	
Hori.	2472.600	PK	56.5	27.5	5.1	35.2	53.9	3.0	-41.3	-43.5	-13.0	30.5	
Hori.	3296.800	PK	51.5	28.2	5.4	34.7	50.3	3.0	-44.9	-47.1	-13.0	34.1	
Hori.	4121.000	PK	54.5	30.0	5.8	34.3	56.0	3.0	-39.2	-41.4	-13.0	28.4	
Vert.	1648.400	PK	72.9	25.1	5.0	35.7	67.2	3.0	-28.0	-30.2	-13.0	17.2	
Vert.	2472.600	PK	51.4	27.5	5.1	35.2	48.8	3.0	-46.5	-48.6	-13.0	35.6	
Vert.	3296.800	PK	56.5	28.2	5.4	34.7	55.4	3.0	-39.9	-42.0	-13.0	29.0	
Vert.	4121.000	PK	44.7	30.0	5.8	34.3	46.2	3.0	-49.1	-51.2	-13.0	38.2	

836.6 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1673.200	PK	70.7	25.0	5.0	35.7	65.0	3.0	-30.2	-32.4	-13.0	17.2	
Hori.	2509.800	PK	55.8	27.5	5.1	35.2	53.2	3.0	-42.1	-44.2	-13.0	29.1	
Hori.	3346.400	PK	60.2	28.1	5.4	34.7	59.1	3.0	-36.2	-38.3	-13.0	23.2	
Hori.	5019.600	PK	55.0	31.8	6.3	34.5	58.6	3.0	-36.6	-38.8	-13.0	23.6	
Vert.	1673.200	PK	69.7	25.0	5.0	35.7	64.1	3.0	-31.2	-33.3	-13.0	18.2	
Vert.	2509.800	PK	55.1	27.5	5.1	35.2	52.5	3.0	-42.7	-44.9	-13.0	29.7	
Vert.	3346.400	PK	54.8	28.1	5.4	34.7	53.7	3.0	-41.6	-43.7	-13.0	28.6	
Vert.	5019.600	PK	50.1	31.8	6.3	34.5	53.7	3.0	-41.6	-43.7	-13.0	28.6	

848.8 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1697.600	PK	68.8	25.0	5.0	35.7	63.1	3.0	-32.1	-34.3	-13.0	19.1	
Hori.	2546.400	PK	56.2	27.5	5.1	35.2	53.6	3.0	-41.6	-43.8	-13.0	28.6	
Hori.	3395.200	PK	60.8	28.3	5.5	34.7	59.8	3.0	-35.5	-37.6	-13.0	22.5	
Hori.	4244.000	PK	52.5	30.3	5.8	34.3	54.4	3.0	-40.9	-43.0	-13.0	27.9	
Hori.	5092.800	PK	53.6	32.0	6.3	34.4	57.5	3.0	-37.7	-39.9	-13.0	24.7	
Vert.	1697.600	PK	69.5	25.0	5.0	35.7	63.8	3.0	-31.4	-33.6	-13.0	18.4	
Vert.	2546.400	PK	49.9	27.5	5.1	35.2	47.3	3.0	-48.0	-50.1	-13.0	35.0	
Vert.	3395.200	PK	55.5	28.3	5.5	34.7	54.6	3.0	-40.7	-42.8	-13.0	27.7	
Vert.	4244.000	PK	47.7	30.3	5.8	34.3	49.5	3.0	-45.7	-47.9	-13.0	32.7	
Vert.	5092.800	PK	47.6	32.0	6.3	34.4	51.5	3.0	-43.8	-45.9	-13.0	30.8	

Result (E) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP = E + 20*log(D) -104.8
(Below 1GHz) ERP =EIRP -2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB

Spurious Emission (Radiated)

Report No.	13274888H		
Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.4	No.2	No.2
Date	March 12, 2020	March 14, 2020	March 15, 2020
Temperature / Humidity	26 deg. C / 36 % RH	19 deg. C / 42 % RH	19 deg. C / 38 % RH
Engineer	Akihiko Maeda	Tomohisa Nakagawa	Tomohisa Nakagawa
	(Below 1 GHz)	(1 – 10 GHz)	(Above 10 GHz)
Mode	PCS 1900		
	1Up GPRS, CS-1 MS power 0		

1850.2 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	3700.400	PK	51.2	29.3	7.1	34.4	53.1	3.0	-42.2	-44.3	-13.0	29.2	
Hori.	5550.600	PK	50.6	31.8	7.5	34.2	55.6	3.0	-39.7	-41.8	-13.0	26.7	
Hori.	7400.800	PK	58.0	36.2	8.5	34.4	68.4	3.0	-26.9	-29.1	-13.0	13.9	
Hori.	9251.000	PK	53.6	38.5	9.2	34.8	66.5	3.0	-28.8	-30.9	-13.0	15.8	
Vert.	3700.400	PK	48.6	29.3	7.1	34.4	50.5	3.0	-44.8	-46.9	-13.0	31.8	
Vert.	5550.600	PK	49.4	31.8	7.5	34.2	54.4	3.0	-40.9	-43.0	-13.0	27.9	
Vert.	7400.800	PK	54.6	36.2	8.5	34.4	65.0	3.0	-30.3	-32.4	-13.0	17.3	
Vert.	9251.000	PK	50.8	38.5	9.2	34.8	63.7	3.0	-31.6	-33.8	-13.0	18.6	

1880.0 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	3760.000	PK	55.1	29.4	7.1	34.4	57.1	3.0	-38.1	-40.3	-13.0	25.1	
Hori.	5640.000	PK	52.1	31.6	7.5	34.2	57.1	3.0	-38.2	-40.3	-13.0	25.2	
Hori.	7520.000	PK	57.3	36.2	8.6	34.5	67.6	3.0	-27.6	-29.8	-13.0	14.6	
Hori.	9400.000	PK	57.3	38.7	9.2	34.8	70.4	3.0	-24.8	-27.0	-13.0	11.8	
Vert.	3760.000	PK	48.8	29.4	7.1	34.4	50.9	3.0	-44.4	-46.5	-13.0	31.4	
Vert.	5640.000	PK	50.5	31.6	7.5	34.2	55.5	3.0	-39.8	-41.9	-13.0	26.8	
Vert.	7520.000	PK	56.8	36.2	8.6	34.5	67.1	3.0	-28.1	-30.3	-13.0	15.1	
Vert.	9400.000	PK	57.1	38.7	9.2	34.8	70.2	3.0	-25.1	-27.2	-13.0	12.1	

1909.8 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	3819.600	PK	54.5	29.6	7.0	34.4	56.8	3.0	-38.5	-40.6	-13.0	25.5	
Hori.	5729.400	PK	51.3	31.9	7.5	34.2	56.5	3.0	-38.7	-40.9	-13.0	25.7	
Hori.	7639.200	PK	54.7	35.9	8.6	34.5	64.7	3.0	-30.6	-32.7	-13.0	17.6	
Hori.	9549.000	PK	52.2	38.5	9.3	34.8	65.2	3.0	-30.0	-32.2	-13.0	17.0	
Vert.	3819.600	PK	48.8	29.6	7.0	34.4	51.0	3.0	-44.3	-46.4	-13.0	31.3	
Vert.	5729.400	PK	55.1	31.9	7.5	34.2	60.3	3.0	-34.9	-37.1	-13.0	21.9	
Vert.	7639.200	PK	53.5	35.9	8.6	34.5	63.5	3.0	-31.8	-34.0	-13.0	18.8	
Vert.	9549.000	PK	58.1	38.5	9.3	34.8	71.1	3.0	-24.1	-26.3	-13.0	11.1	

Result (E) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP = E + 20*log(D) -104.8
(Below 1GHz) ERP =EIRP -2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB
10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Spurious Emission (Radiated)

Report No.	13274888H		
Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.4	No.2	No.2
Date	March 12, 2020	March 14, 2020	March 15, 2020
Temperature / Humidity	26 deg. C / 36 % RH	19 deg. C / 42 % RH	19 deg. C / 38 % RH
Engineer	Akihiko Maeda	Tomohisa Nakagawa	Tomohisa Nakagawa
	(Below 1 GHz)	(1 – 10 GHz)	(Above 10 GHz)
Mode	PCS 1900		
	1Up EGPRS, MCS-5 MS power 0		

1850.2 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	3700.400	PK	52.8	29.3	7.1	34.4	54.7	3.0	-40.6	-42.7	-13.0	27.6	
Hori.	5550.600	PK	53.8	31.8	7.5	34.2	58.9	3.0	-36.4	-38.5	-13.0	23.4	
Hori.	7400.800	PK	50.7	36.2	8.5	34.4	61.1	3.0	-34.2	-36.3	-13.0	21.2	
Hori.	9251.000	PK	47.4	38.5	9.2	34.8	60.3	3.0	-35.0	-37.1	-13.0	22.0	
Vert.	3700.400	PK	46.2	29.3	7.1	34.4	48.1	3.0	-47.1	-49.3	-13.0	34.1	
Vert.	5550.600	PK	44.5	31.8	7.5	34.2	49.5	3.0	-45.8	-47.9	-13.0	32.8	
Vert.	7400.800	PK	46.8	36.2	8.5	34.4	57.1	3.0	-38.1	-40.3	-13.0	25.1	
Vert.	9251.000	PK	47.9	38.5	9.2	34.8	60.7	3.0	-34.5	-36.7	-13.0	21.5	

1880.0 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	3760.000	PK	52.4	29.4	7.1	34.4	54.5	3.0	-40.7	-42.9	-13.0	27.7	
Hori.	5640.000	PK	45.5	31.6	7.5	34.2	50.4	3.0	-44.8	-47.0	-13.0	31.8	
Hori.	7520.000	PK	45.9	36.2	8.6	34.5	56.1	3.0	-39.1	-41.3	-13.0	26.1	
Hori.	9400.000	PK	44.6	38.7	9.2	34.8	57.7	3.0	-37.5	-39.7	-13.0	24.5	
Vert.	3760.000	PK	45.5	29.4	7.1	34.4	47.6	3.0	-47.7	-49.8	-13.0	34.7	
Vert.	5640.000	PK	44.8	31.6	7.5	34.2	49.8	3.0	-45.5	-47.7	-13.0	32.5	
Vert.	7520.000	PK	45.1	36.2	8.6	34.5	55.4	3.0	-39.9	-42.0	-13.0	26.9	
Vert.	9400.000	PK	46.0	38.7	9.2	34.8	59.1	3.0	-36.2	-38.3	-13.0	23.2	

1909.8 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	3819.600	PK	49.2	29.6	7.0	34.4	51.4	3.0	-43.8	-46.0	-13.0	30.8	
Hori.	5729.400	PK	45.7	31.9	7.5	34.2	51.0	3.0	-44.3	-46.4	-13.0	31.3	
Hori.	7639.200	PK	46.4	35.9	8.6	34.5	56.4	3.0	-38.9	-41.1	-13.0	25.9	
Hori.	9549.000	PK	47.1	38.5	9.3	34.8	60.1	3.0	-35.2	-37.3	-13.0	22.2	
Vert.	3819.600	PK	46.1	29.6	7.0	34.4	48.3	3.0	-46.9	-49.1	-13.0	33.9	
Vert.	5729.400	PK	45.6	31.9	7.5	34.2	50.8	3.0	-44.4	-46.6	-13.0	31.4	
Vert.	7639.200	PK	47.2	35.9	8.6	34.5	57.1	3.0	-38.2	-40.3	-13.0	25.2	
Vert.	9549.000	PK	46.3	38.5	9.3	34.8	59.3	3.0	-36.0	-38.2	-13.0	23.0	

Result (E) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP = E + 20*log(D) -104.8
(Below 1GHz) ERP =EIRP -2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB
10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Spurious Emission (Radiated)

Report No.	13274888H		
Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	December 12, 2019 (Night)	December 16, 2019 (Night)	December 17, 2019 (Night)
Temperature / Humidity	21 deg. C / 31 % RH	22 deg. C / 31 % RH	24 deg. C / 40 % RH
Engineer	Yuta Moriya (Below 1 GHz)	Yuichiro Yamazaki (1 – 10 GHz)	Yuichiro Yamazaki (Above 10 GHz)
Mode	Tx 1852.4 MHz (W-CDMA Band 2) RMC, TPC All 1		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result E [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	3704.800	PK	48.0	29.3	6.6	33.6	50.3	3.0	-45.0	-47.1	-13.0	32.0	
Hori.	5557.200	PK	58.8	31.7	6.7	33.2	64.0	3.0	-31.2	-33.4	-13.0	18.2	
Hori.	7409.600	PK	56.8	36.3	7.2	33.5	66.8	3.0	-28.5	-30.6	-13.0	15.5	
Hori.	11114.400	PK	44.3	39.8	-3.2	33.2	47.7	3.0	-47.5	-49.7	-13.0	34.5	
Vert.	3704.800	PK	47.0	29.3	6.6	33.6	49.2	3.0	-46.0	-48.2	-13.0	33.0	
Vert.	5557.200	PK	59.9	31.7	6.7	33.2	65.1	3.0	-30.2	-32.3	-13.0	17.2	
Vert.	7409.600	PK	55.6	36.3	7.2	33.5	65.6	3.0	-29.6	-31.8	-13.0	16.6	
Vert.	11114.400	PK	44.7	39.8	-3.2	33.2	48.1	3.0	-47.1	-49.3	-13.0	34.1	

Result (E) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP = E + 20*log(D) -104.8
(Below 1GHz) ERP =EIRP -2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB
10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Spurious Emission (Radiated)

Report No.	13274888H		
Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	December 12, 2019 (Night)	December 16, 2019 (Night)	December 17, 2019 (Night)
Temperature / Humidity	21 deg. C / 31 % RH	22 deg. C / 31 % RH	24 deg. C / 40 % RH
Engineer	Yuta Moriya (Below 1 GHz)	Yuichiro Yamazaki (1 – 10 GHz)	Yuichiro Yamazaki (Above 10 GHz)
Mode	Tx 1880.0 MHz (W-CDMA Band 2) RMC, TPC All 1		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result E [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	3760.000	PK	48.3	29.4	6.5	33.6	50.7	3.0	-44.6	-46.7	-13.0	31.6	
Hori.	5640.000	PK	56.2	31.6	6.8	33.3	61.4	3.0	-33.9	-36.1	-13.0	20.9	
Hori.	7520.000	PK	47.9	36.2	7.3	33.5	57.8	3.0	-37.4	-39.6	-13.0	24.4	
Hori.	11280.000	PK	45.0	39.9	-3.1	33.1	48.6	3.0	-46.6	-48.8	-13.0	33.6	
Vert.	3760.000	PK	47.9	29.4	6.5	33.6	50.3	3.0	-44.9	-47.1	-13.0	31.9	
Vert.	5640.000	PK	60.5	31.6	6.8	33.3	65.6	3.0	-29.7	-31.8	-13.0	16.7	
Vert.	7520.000	PK	49.0	36.2	7.3	33.5	58.9	3.0	-36.3	-38.5	-13.0	23.3	
Vert.	11280.000	PK	46.1	39.9	-3.1	33.1	49.7	3.0	-45.5	-47.7	-13.0	32.5	

Result (E) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP = E + 20*log(D) -104.8
(Below 1GHz) ERP =EIRP -2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB
10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Spurious Emission (Radiated)

Report No.	13274888H		
Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	December 12, 2019 (Night)	December 16, 2019 (Night)	December 17, 2019 (Night)
Temperature / Humidity	21 deg. C / 31 % RH	22 deg. C / 31 % RH	24 deg. C / 40 % RH
Engineer	Yuta Moriya (Below 1 GHz)	Yuichiro Yamazaki (1 – 10 GHz)	Yuichiro Yamazaki (Above 10 GHz)
Mode	Tx 1907.6 MHz (W-CDMA Band 2) RMC, TPC All 1		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result E [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	3815.200	PK	49.0	29.6	6.5	33.5	51.5	3.0	-43.7	-45.9	-13.0	30.7	
Hori.	5722.800	PK	59.3	31.9	6.8	33.3	64.6	3.0	-30.6	-32.8	-13.0	17.6	
Hori.	7630.400	PK	49.1	35.9	7.3	33.5	58.7	3.0	-36.6	-38.7	-13.0	23.6	
Hori.	11445.600	PK	44.6	40.1	-3.0	33.1	48.5	3.0	-46.7	-48.9	-13.0	33.7	
Vert.	3815.200	PK	49.5	29.6	6.5	33.5	52.0	3.0	-43.3	-45.4	-13.0	30.3	
Vert.	5722.800	PK	65.2	31.9	6.8	33.3	70.5	3.0	-24.7	-26.9	-13.0	11.7	
Vert.	7630.400	PK	49.7	35.9	7.3	33.5	59.4	3.0	-35.9	-38.1	-13.0	22.9	
Vert.	11445.600	PK	44.4	40.1	-3.0	33.1	48.4	3.0	-46.8	-49.0	-13.0	33.8	

Result (E) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP = E + 20*log(D) -104.8
(Below 1GHz) ERP =EIRP -2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB
10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Spurious Emission (Radiated)

Report No.	13274888H	
Test place	Ise EMC Lab.	
Semi Anechoic Chamber	No.2	No.2
Date	December 10, 2019	December 16, 2019 (Nght)
Temperature / Humidity	22 deg. C / 31 % RH	22 deg. C / 31 % RH
Engineer	Yuta Moriya (Below 1 GHz)	Yuichiro Yamazaki (Above 1 GHz)
Mode	Tx 826.4 MHz (W-CDMA Band 5) RMC, TPC All 1	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result E [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1652.800	PK	68.0	25.1	5.2	34.7	63.6	3.0	-31.7	-33.8	-13.0	18.7	
Hori.	2479.200	PK	51.2	27.5	5.4	34.2	49.9	3.0	-45.4	-47.5	-13.0	32.4	
Hori.	3305.600	PK	48.1	28.2	5.7	33.9	48.1	3.0	-47.2	-49.3	-13.0	34.2	
Hori.	4132.000	PK	46.6	30.0	6.2	33.4	49.4	3.0	-45.9	-48.0	-13.0	32.9	
Vert.	1652.800	PK	66.8	25.1	5.2	34.7	62.4	3.0	-32.9	-35.0	-13.0	19.9	
Vert.	2479.200	PK	46.4	27.5	5.4	34.2	45.1	3.0	-50.2	-52.3	-13.0	37.2	
Vert.	3305.600	PK	47.0	28.2	5.7	33.9	47.0	3.0	-48.3	-50.4	-13.0	35.3	
Vert.	4132.000	PK	43.4	30.0	6.2	33.4	46.2	3.0	-49.1	-51.2	-13.0	36.1	

Result (E) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP = E + 20*log(D) -104.8
(Below 1GHz) ERP =EIRP -2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB

Spurious Emission (Radiated)

Report No.	13274888H	
Test place	Ise EMC Lab.	
Semi Anechoic Chamber	No.2	No.2
Date	December 10, 2019	December 16, 2019 (Night)
Temperature / Humidity	22 deg. C / 31 % RH	22 deg. C / 31 % RH
Engineer	Yuta Moriya (Below 1 GHz)	Yuichiro Yamazaki (Above 1 GHz)
Mode	Tx 836.6 MHz (W-CDMA Band 5) RMC, TPC All 1	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result E [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1673.200	PK	66.2	25.0	5.2	34.7	61.7	3.0	-33.6	-35.7	-13.0	20.6	
Hori.	2509.800	PK	49.5	27.5	5.4	34.2	48.2	3.0	-47.1	-49.2	-13.0	34.1	
Hori.	3346.400	PK	49.3	28.1	5.8	33.9	49.3	3.0	-46.0	-48.1	-13.0	33.0	
Hori.	4183.000	PK	47.1	30.2	6.2	33.4	50.1	3.0	-45.2	-47.3	-13.0	32.2	
Vert.	1673.200	PK	64.5	25.0	5.2	34.7	60.0	3.0	-35.3	-37.4	-13.0	22.3	
Vert.	2509.800	PK	47.0	27.5	5.4	34.2	45.7	3.0	-49.6	-51.7	-13.0	36.6	
Vert.	3346.400	PK	48.3	28.1	5.8	33.9	48.3	3.0	-47.0	-49.1	-13.0	34.0	
Vert.	4183.000	PK	42.7	30.2	6.2	33.4	45.7	3.0	-49.6	-51.7	-13.0	36.6	

Result (E) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP = E + 20*log(D) -104.8
(Below 1GHz) ERP =EIRP -2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB

Spurious Emission (Radiated)

Report No.	13274888H	
Test place	Ise EMC Lab.	
Semi Anechoic Chamber	No.2	No.2
Date	December 10, 2019	December 16, 2019 (Night)
Temperature / Humidity	22 deg. C / 31 % RH	22 deg. C / 31 % RH
Engineer	Yuta Moriya (Below 1 GHz)	Yuichiro Yamazaki (Above 1 GHz)
Mode	Tx 846.6 MHz (W-CDMA Band 5) RMC, TPC All 1	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result E [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1693.200	PK	62.2	25.0	5.2	34.7	57.7	3.0	-37.6	-39.7	-13.0	24.6	
Hori.	2539.800	PK	50.9	27.5	5.4	34.2	49.6	3.0	-45.7	-47.8	-13.0	32.7	
Hori.	3386.400	PK	48.0	28.2	5.8	33.8	48.2	3.0	-47.1	-49.2	-13.0	34.1	
Hori.	4233.000	PK	47.9	30.3	6.2	33.4	51.0	3.0	-44.3	-46.4	-13.0	31.3	
Vert.	1693.200	PK	62.8	25.0	5.2	34.7	58.3	3.0	-37.0	-39.1	-13.0	24.0	
Vert.	2539.800	PK	49.2	27.5	5.4	34.2	47.9	3.0	-47.4	-49.5	-13.0	34.4	
Vert.	3386.400	PK	46.7	28.2	5.8	33.8	46.9	3.0	-48.4	-50.5	-13.0	35.4	
Vert.	4233.000	PK	43.3	30.3	6.2	33.4	46.4	3.0	-48.9	-51.0	-13.0	35.9	

Result (E) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP = E + 20*log(D) -104.8
(Below 1GHz) ERP =EIRP -2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB

Spurious Emission (Radiated)

Report No.	13274888H		
Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	December 13, 2019	December 16, 2019 (Day)	December 17, 2019 (Night)
Temperature / Humidity	21 deg. C / 31 % RH	24 deg. C / 33 % RH	24 deg. C / 40 % RH
Engineer	Yuichiro Yamazaki (Below 1 GHz)	Junya Okuno (1-10 GHz)	Yuichiro Yamazaki (Above 10 GHz)
Mode	Tx 1855.0 MHz (LTE Band 2) BW:10MHz, RMC, TPC All 1, QPSK, RB Start1 - Num 24		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	3710.000	PK	52.2	29.3	6.6	33.6	54.5	3.0	-40.8	-42.9	-13.0	27.8	
Hori.	5565.000	PK	60.8	31.7	6.7	33.2	66.0	3.0	-29.3	-31.4	-13.0	16.3	
Hori.	7420.000	PK	63.0	36.3	7.2	33.5	73.0	3.0	-22.3	-24.4	-13.0	9.3	
Hori.	9275.000	PK	43.9	38.6	7.7	33.8	56.4	3.0	-38.9	-41.0	-13.0	25.9	
Hori.	11130.000	PK	47.6	39.8	-3.2	33.2	51.0	3.0	-44.3	-46.4	-13.0	31.3	
Hori.	12985.000	PK	44.8	40.0	-2.5	32.4	49.9	3.0	-45.4	-47.5	-13.0	32.4	
Vert.	3710.000	PK	48.5	29.3	6.6	33.6	50.8	3.0	-44.5	-46.6	-13.0	31.5	
Vert.	5565.000	PK	62.6	31.7	6.7	33.2	67.8	3.0	-27.5	-29.6	-13.0	14.5	
Vert.	7420.000	PK	62.4	36.3	7.2	33.5	72.4	3.0	-22.9	-25.0	-13.0	9.9	
Vert.	9275.000	PK	53.8	38.6	7.7	33.8	66.3	3.0	-29.0	-31.1	-13.0	16.0	
Vert.	11130.000	PK	49.3	39.8	-3.2	33.2	52.7	3.0	-42.6	-44.7	-13.0	29.6	
Vert.	12985.000	PK	44.5	40.0	-2.5	32.4	49.6	3.0	-45.7	-47.8	-13.0	32.7	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP=E+20*log(D)-104.8
(Below 1GHz) ERP=EIRP-2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB
10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Spurious Emission (Radiated)

Report No.	13274888H		
Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	December 13, 2019	December 16, 2019 (Day)	December 17, 2019 (Night)
Temperature / Humidity	21 deg. C / 31 % RH	24 deg. C / 33 % RH	24 deg. C / 40 % RH
Engineer	Yuichiro Yamazaki (Below 1 GHz)	Junya Okuno (1-10 GHz)	Yuichiro Yamazaki (Above 10 GHz)
Mode	Tx 1880.0 MHz (LTE Band 2) BW:10MHz, RMC, TPC All 1, QPSK, RB Start1 - Num 24		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	3760.000	PK	52.1	29.4	6.5	33.6	54.4	3.0	-40.9	-43.0	-13.0	27.9	
Hori.	5640.000	PK	70.1	31.6	6.8	33.3	75.2	3.0	-20.1	-22.2	-13.0	7.1	
Hori.	7520.000	PK	65.9	36.2	7.3	33.5	75.9	3.0	-19.4	-21.5	-13.0	6.4	
Hori.	9400.000	PK	45.6	38.7	7.7	33.8	58.2	3.0	-37.1	-39.2	-13.0	24.1	
Hori.	11280.000	PK	56.8	39.9	-3.1	33.1	60.5	3.0	-34.8	-36.9	-13.0	21.8	
Hori.	13160.000	PK	44.5	39.8	-2.5	32.3	49.5	3.0	-45.8	-47.9	-13.0	32.8	
Vert.	3760.000	PK	50.9	29.4	6.5	33.6	53.2	3.0	-42.1	-44.2	-13.0	29.1	
Vert.	5640.000	PK	71.5	31.6	6.8	33.3	76.6	3.0	-18.7	-20.8	-13.0	5.7	
Vert.	7520.000	PK	65.5	36.2	7.3	33.5	75.5	3.0	-19.8	-21.9	-13.0	6.8	
Vert.	9400.000	PK	54.2	38.7	7.7	33.8	66.8	3.0	-28.5	-30.6	-13.0	15.5	
Vert.	11280.000	PK	52.2	39.9	-3.1	33.1	55.9	3.0	-39.4	-41.5	-13.0	26.4	
Vert.	13160.000	PK	50.1	39.8	-2.5	32.3	55.1	3.0	-40.2	-42.3	-13.0	27.2	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP=E+20*log(D)-104.8
(Below 1GHz) ERP=EIRP-2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB
10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Spurious Emission (Radiated)

Report No.	13274888H		
Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	December 13, 2019	December 16, 2019 (Day)	December 17, 2019 (Night)
Temperature / Humidity	21 deg. C / 31 % RH	24 deg. C / 33 % RH	24 deg. C / 40 % RH
Engineer	Yuichiro Yamazaki (Below 1 GHz)	Junya Okuno (1-10 GHz)	Yuichiro Yamazaki (Above 10 GHz)
Mode	Tx 1905.0 MHz (LTE Band 2)		
	RMC, TPC All 1, QPSK, RB Start1 - Num 2		
	BW:10MHz, RMC, TPC All 1, QPSK, RB Start1 - Num 24		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	3810.000	PK	52.5	29.6	6.5	33.5	55.1	3.0	-40.2	-42.3	-13.0	27.2	
Hori.	5715.000	PK	65.7	31.8	6.8	33.3	71.0	3.0	-24.3	-26.4	-13.0	11.3	
Hori.	7620.000	PK	58.7	35.9	7.3	33.5	68.4	3.0	-26.9	-29.0	-13.0	13.9	
Hori.	9525.000	PK	53.8	38.5	7.8	33.8	66.3	3.0	-29.0	-31.1	-13.0	16.0	
Hori.	11430.000	PK	54.5	40.1	-3.1	33.1	58.4	3.0	-36.9	-39.0	-13.0	23.9	
Hori.	13335.000	PK	44.8	40.7	-2.5	32.2	50.8	3.0	-44.5	-46.6	-13.0	31.5	
Vert.	3810.000	PK	49.0	29.6	6.5	33.5	51.6	3.0	-43.7	-45.8	-13.0	30.7	
Vert.	5715.000	PK	65.3	31.8	6.8	33.3	70.6	3.0	-24.7	-26.8	-13.0	11.7	
Vert.	7620.000	PK	58.2	35.9	7.3	33.5	67.9	3.0	-27.4	-29.5	-13.0	14.4	
Vert.	9525.000	PK	48.6	38.5	7.8	33.8	61.1	3.0	-34.2	-36.3	-13.0	21.2	
Vert.	11430.000	PK	54.2	40.1	-3.1	33.1	58.1	3.0	-37.2	-39.3	-13.0	24.2	
Vert.	13335.000	PK	46.1	40.7	-2.5	32.2	52.1	3.0	-43.2	-45.3	-13.0	30.2	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP=E+20*log(D)-104.8
(Below 1GHz) ERP=EIRP-2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB
10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Spurious Emission (Radiated)

Report No.	13274888H	
Test place	Ise EMC Lab.	
Semi Anechoic Chamber	No.2	No.2
Date	December 12, 2019 (Day)	December 16, 2019 (Day)
Temperature / Humidity	21 deg. C / 31 % RH	24 deg. C / 33 % RH
Engineer	Junya Okuno (Below 1 GHz)	Junya Okuno (Above 1 GHz)
Mode	Tx 826.5 MHz (LTE Band 5) BW:10MHz, RMC, TPC All 1, QPSK, RB Start1 - Num 25	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result E [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1653.000	PK	48.5	25.1	5.2	34.7	44.1	3.0	-51.2	-53.3	-13.0	38.2	
Hori.	2479.500	PK	59.4	27.5	5.4	34.2	58.1	3.0	-37.2	-39.3	-13.0	24.2	
Hori.	3306.000	PK	48.7	28.2	5.7	33.9	48.7	3.0	-46.6	-48.7	-13.0	33.6	
Hori.	5785.500	PK	45.0	32.1	6.9	33.3	50.7	3.0	-44.6	-46.7	-13.0	31.6	
Vert.	1653.000	PK	48.4	25.1	5.2	34.7	44.0	3.0	-51.3	-53.4	-13.0	38.3	
Vert.	2479.500	PK	52.5	27.5	5.4	34.2	51.2	3.0	-44.1	-46.2	-13.0	31.1	
Vert.	3306.000	PK	48.4	28.2	5.7	33.9	48.4	3.0	-46.9	-49.0	-13.0	33.9	
Vert.	5785.500	PK	44.2	32.1	6.9	33.3	49.9	3.0	-45.4	-47.5	-13.0	32.4	

Result (E) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP = E + 20*log(D) -104.8
(Below 1GHz) ERP =EIRP -2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB

Spurious Emission (Radiated)

Report No.	13274888H	
Test place	Ise EMC Lab.	
Semi Anechoic Chamber	No.2	No.2
Date	December 12, 2019 (Day)	December 16, 2019 (Night)
Temperature / Humidity	21 deg. C / 31 % RH	22 deg. C / 31 % RH
Engineer	Junya Okuno (Below 1 GHz)	Yuichiro Yamazaki (Above 1 GHz)
Mode	Tx 836.5 MHz (LTE Band 5) BW:10MHz, RMC, TPC All 1, QPSK, RB Start1 - Num 25	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1673.000	PK	66.8	25.0	5.2	34.7	62.3	3.0	-33.0	-35.1	-13.0	20.0	
Hori.	2509.500	PK	55.9	27.5	5.4	34.2	54.6	3.0	-40.7	-42.8	-13.0	27.7	
Hori.	3346.000	PK	56.9	28.1	5.8	33.9	56.9	3.0	-38.4	-40.5	-13.0	25.4	
Hori.	4182.500	PK	52.3	30.2	6.2	33.4	55.3	3.0	-40.0	-42.1	-13.0	27.0	
Hori.	5019.000	PK	47.0	31.8	6.5	33.5	51.8	3.0	-43.5	-45.6	-13.0	30.5	
Hori.	5855.500	PK	45.6	32.4	6.9	33.3	51.6	3.0	-43.7	-45.8	-13.0	30.7	
Vert.	1673.000	PK	67.3	25.0	5.2	34.7	62.8	3.0	-32.5	-34.6	-13.0	19.5	
Vert.	2509.500	PK	51.0	27.5	5.4	34.2	49.7	3.0	-45.6	-47.7	-13.0	32.6	
Vert.	3346.000	PK	55.5	28.1	5.8	33.9	55.5	3.0	-39.8	-41.9	-13.0	26.8	
Vert.	4182.500	PK	48.8	30.2	6.2	33.4	51.8	3.0	-43.5	-45.6	-13.0	30.5	
Vert.	5019.000	PK	43.1	31.8	6.5	33.5	47.9	3.0	-47.4	-49.5	-13.0	34.4	
Vert.	5855.500	PK	46.1	32.4	6.9	33.3	52.1	3.0	-43.2	-45.3	-13.0	30.2	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP=E+20*log(D)-104.8
(Below 1GHz) ERP=EIRP-2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB

Spurious Emission (Radiated)

Report No.	13274888H	
Test place	Ise EMC Lab.	
Semi Anechoic Chamber	No.2	No.2
Date	December 12, 2019 (Day)	December 16, 2019 (Night)
Temperature / Humidity	21 deg. C / 31 % RH	22 deg. C / 31 % RH
Engineer	Junya Okuno (Below 1 GHz)	Yuichiro Yamazaki (Above 1 GHz)
Mode	Tx 846.5 MHz (LTE Band 5) BW:10MHz, RMC, TPC All 1, QPSK, RB Start1 - Num 25	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1693.000	PK	64.3	25.0	5.2	34.7	59.8	3.0	-35.5	-37.6	-13.0	22.5	
Hori.	2539.500	PK	54.0	27.5	5.4	34.2	52.7	3.0	-42.6	-44.7	-13.0	29.6	
Hori.	3386.000	PK	56.8	28.2	5.8	33.8	57.0	3.0	-38.3	-40.4	-13.0	25.3	
Hori.	4232.500	PK	50.1	30.3	6.2	33.4	53.2	3.0	-42.1	-44.2	-13.0	29.1	
Hori.	5079.000	PK	49.3	32.0	6.5	33.5	54.3	3.0	-41.0	-43.1	-13.0	28.0	
Hori.	5925.500	PK	46.7	32.4	6.9	33.3	52.7	3.0	-42.6	-44.7	-13.0	29.6	
Vert.	1693.000	PK	65.4	25.0	5.2	34.7	60.9	3.0	-34.4	-36.5	-13.0	21.4	
Vert.	2539.500	PK	53.3	27.5	5.4	34.2	52.0	3.0	-43.3	-45.4	-13.0	30.3	
Vert.	3386.000	PK	54.6	28.2	5.8	33.8	54.8	3.0	-40.5	-42.6	-13.0	27.5	
Vert.	4232.500	PK	47.8	30.3	6.2	33.4	50.9	3.0	-44.4	-46.5	-13.0	31.4	
Vert.	5079.000	PK	43.8	32.0	6.5	33.5	48.8	3.0	-46.5	-48.6	-13.0	33.5	
Vert.	5925.500	PK	48.2	32.4	6.9	33.3	54.2	3.0	-41.1	-43.2	-13.0	28.1	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP=E+20*log(D)-104.8
(Below 1GHz) ERP=EIRP-2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB

Spurious Emission (Radiated)

Report No.	13274888H
Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	March 5, 2020 (Night)
Temperature / Humidity	24 deg. C / 33 % RH
Engineer	Yuta Moriya
Mode	Tx 2507.5 MHz (LTE Band 7) BW:20MHz, RMC, TPC All 1, QPSK, RB Start1 - Num 49

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	5015.000	PK	60.5	31.8	6.1	34.5	64.0	3.0	-31.3	-33.4	-25.0	6.3	
Hori.	7522.500	PK	60.6	36.2	6.9	34.5	69.2	3.0	-26.0	-28.2	-25.0	1.0	
Hori.	10030.000	PK	63.5	39.5	-3.6	33.8	65.6	3.0	-29.7	-31.8	-25.0	4.7	
Hori.	12537.500	PK	46.1	38.9	-2.6	32.7	49.7	3.0	-45.5	-47.7	-25.0	20.5	
Hori.	15045.000	PK	46.0	38.2	-2.2	32.4	49.5	3.0	-45.7	-47.9	-25.0	20.7	
Vert.	5015.000	PK	62.1	31.8	6.1	34.5	65.6	3.0	-29.7	-31.8	-25.0	4.7	
Vert.	7522.500	PK	58.8	36.2	6.9	34.5	67.4	3.0	-27.8	-30.0	-25.0	2.8	
Vert.	10030.000	PK	64.1	39.5	-3.6	33.8	66.2	3.0	-29.0	-31.2	-25.0	4.0	
Vert.	12537.500	PK	50.2	38.9	-2.6	32.7	53.8	3.0	-41.5	-43.6	-25.0	16.5	
Vert.	15045.000	PK	45.6	38.2	-2.2	32.4	49.2	3.0	-46.1	-48.2	-25.0	21.1	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP=E+20*log(D)-104.8
(Below 1GHz) ERP=EIRP-2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB
10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Spurious Emission (Radiated)

Report No.	13274888H
Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	March 5, 2020 (Night)
Temperature / Humidity	24 deg. C / 33 % RH
Engineer	Yuta Moriya
Mode	Tx 2535 MHz (LTE Band 7) BW:20MHz, RMC, TPC All 1, QPSK, RB Start1 - Num 49

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result E [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	5070.000	PK	58.9	32.0	6.1	34.4	62.6	3.0	-32.7	-34.8	-25.0	7.7	
Hori.	7605.000	PK	59.6	35.9	7.0	34.5	68.0	3.0	-27.3	-29.4	-25.0	2.3	
Hori.	10140.000	PK	61.5	39.7	-3.6	33.8	63.9	3.0	-31.4	-33.5	-25.0	6.4	
Hori.	12675.000	PK	45.9	39.5	-2.6	32.6	50.1	3.0	-45.1	-47.3	-25.0	20.1	
Hori.	15210.000	PK	45.1	37.9	-2.1	32.5	48.4	3.0	-46.8	-49.0	-25.0	21.8	
Vert.	5070.000	PK	59.3	32.0	6.1	34.4	63.0	3.0	-32.2	-34.4	-25.0	7.2	
Vert.	7605.000	PK	58.4	35.9	7.0	34.5	66.8	3.0	-28.5	-30.6	-25.0	3.5	
Vert.	10140.000	PK	67.1	39.7	-3.6	33.8	69.5	3.0	-25.8	-27.9	-25.0	0.8	
Vert.	12675.000	PK	48.9	39.5	-2.6	32.6	53.1	3.0	-42.1	-44.3	-25.0	17.1	
Vert.	15210.000	PK	45.1	37.9	-2.1	32.5	48.4	3.0	-46.8	-49.0	-25.0	21.8	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP=E+20*log(D)-104.8
(Below 1GHz) ERP=EIRP-2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB
10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Spurious Emission (Radiated)

Report No.	13274888H
Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	March 5, 2020 (Night)
Temperature / Humidity	24 deg. C / 33 % RH
Engineer	Yuta Moriya
Mode	Tx 2562.5 MHz (LTE Band 7) BW:20MHz, RMC, TPC All 1, QPSK, RB Start1 - Num 49

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	5125.000	PK	56.3	32.0	6.2	34.4	60.0	3.0	-35.2	-37.4	-25.0	10.2	
Hori.	7687.500	PK	49.2	35.9	7.0	34.5	57.6	3.0	-37.7	-39.9	-25.0	12.7	
Hori.	10250.000	PK	57.0	40.1	-3.5	33.7	59.9	3.0	-35.3	-37.5	-25.0	10.3	
Hori.	12812.500	PK	45.7	39.9	-2.6	32.5	50.4	3.0	-44.8	-47.0	-25.0	19.8	
Hori.	15375.000	PK	45.3	37.3	-2.0	32.6	47.9	3.0	-47.4	-49.5	-25.0	22.4	
Vert.	5125.000	PK	57.3	32.0	6.2	34.4	61.1	3.0	-34.2	-36.4	-25.0	9.2	
Vert.	7687.500	PK	49.9	35.9	7.0	34.5	58.2	3.0	-37.0	-39.2	-25.0	12.0	
Vert.	10250.000	PK	59.8	40.1	-3.5	33.7	62.7	3.0	-32.6	-34.7	-25.0	7.6	
Vert.	12812.500	PK	46.5	39.9	-2.6	32.5	51.3	3.0	-44.0	-46.2	-25.0	19.0	
Vert.	15375.000	PK	45.0	37.3	-2.0	32.6	47.7	3.0	-47.6	-49.8	-25.0	22.6	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP=E+20*log(D)-104.8
(Below 1GHz) ERP=EIRP-2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB
10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Spurious Emission (Radiated)

Report No.	13274888H	
Test place	Ise EMC Lab.	
Semi Anechoic Chamber	No.2	No.2
Date	December 13, 2019	December 17, 2019 (Day)
Temperature / Humidity	21 deg. C / 31 % RH	24 deg. C / 35 % RH
Engineer	Yuichiro Yamazaki (Below 1 GHz)	Junya Okuno (Above 1 GHz)
Mode	Tx 816.5 MHz (LTE Band 26) BW:5MHz, RMC, TPC All 1, QPSK, RB Start1 - Num 12	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1633.000	PK	62.2	25.1	5.2	34.8	57.7	3.0	-37.6	-39.7	-13.0	24.6	
Hori.	2449.500	PK	54.0	27.5	5.4	34.2	52.7	3.0	-42.6	-44.7	-13.0	29.6	
Hori.	3266.000	PK	51.8	28.3	5.7	33.9	51.9	3.0	-43.4	-45.5	-13.0	30.4	
Hori.	4082.500	PK	52.0	29.9	6.2	33.4	54.7	3.0	-40.6	-42.7	-13.0	27.6	
Hori.	4899.000	PK	45.7	31.5	6.4	33.5	50.1	3.0	-45.2	-47.3	-13.0	32.2	
Hori.	5715.500	PK	46.5	31.8	6.8	33.3	51.8	3.0	-43.5	-45.6	-13.0	30.5	
Vert.	1633.000	PK	49.6	25.1	5.2	34.8	45.1	3.0	-50.2	-52.3	-13.0	37.2	
Vert.	2449.500	PK	50.3	27.5	5.4	34.2	49.0	3.0	-46.3	-48.4	-13.0	33.3	
Vert.	3266.000	PK	47.9	28.3	5.7	33.9	48.0	3.0	-47.3	-49.4	-13.0	34.3	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP=E+20*log(D)-104.8
(Below 1GHz) ERP=EIRP-2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB

Spurious Emission (Radiated)

Report No.	13274888H	
Test place	Ise EMC Lab.	
Semi Anechoic Chamber	No.2	No.2
Date	December 13, 2019	December 17, 2019 (Day)
Temperature / Humidity	21 deg. C / 31 % RH	24 deg. C / 35 % RH
Engineer	Yuichiro Yamazaki (Below 1 GHz)	Junya Okuno (Above 1 GHz)
Mode	Tx 819.0 MHz (LTE Band 26) BW:10MHz, RMC, TPC All 1, QPSK, RB Start1 - Num 25	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1638.000	PK	63.6	25.1	5.2	34.8	59.1	3.0	-36.2	-38.3	-13.0	23.2	
Hori.	2457.000	PK	57.4	27.5	5.4	34.2	56.1	3.0	-39.2	-41.3	-13.0	26.2	
Hori.	3276.000	PK	51.5	28.3	5.7	33.9	51.6	3.0	-43.7	-45.8	-13.0	30.7	
Hori.	4095.000	PK	52.7	29.9	6.2	33.4	55.4	3.0	-39.9	-42.0	-13.0	26.9	
Hori.	4914.000	PK	50.2	31.5	6.5	33.5	54.7	3.0	-40.6	-42.7	-13.0	27.6	
Hori.	5733.000	PK	47.4	31.9	6.9	33.3	52.9	3.0	-42.4	-44.5	-13.0	29.4	
Vert.	1638.000	PK	58.9	25.1	5.2	34.8	54.4	3.0	-40.9	-43.0	-13.0	27.9	
Vert.	2457.000	PK	54.6	27.5	5.4	34.2	53.3	3.0	-42.0	-44.1	-13.0	29.0	
Vert.	3276.000	PK	52.1	28.3	5.7	33.9	52.2	3.0	-43.1	-45.2	-13.0	30.1	
Vert.	4095.000	PK	50.8	29.9	6.2	33.4	53.5	3.0	-41.8	-43.9	-13.0	28.8	
Vert.	4914.000	PK	47.5	31.5	6.5	33.5	52.0	3.0	-43.3	-45.4	-13.0	30.3	
Vert.	5733.000	PK	46.6	31.9	6.9	33.3	52.1	3.0	-43.2	-45.3	-13.0	30.2	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP=E+20*log(D)-104.8
(Below 1GHz) ERP=EIRP-2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB

Spurious Emission (Radiated)

Report No.	13274888H	
Test place	Ise EMC Lab.	
Semi Anechoic Chamber	No.2	No.2
Date	December 13, 2019	December 17, 2019 (Day)
Temperature / Humidity	21 deg. C / 31 % RH	24 deg. C / 35 % RH
Engineer	Yuichiro Yamazaki (Below 1 GHz)	Junya Okuno (Above 1 GHz)
Mode	Tx 821.5 MHz (LTE Band 26) BW:5MHz, RMC, TPC All 1, QPSK, RB Start1 - Num 12	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Distance D [m]	EIRP [dBm]	ERP [dBm]	Limit [dBm]	Margin [dB]	Remark
Hori.	1643.000	PK	60.2	25.1	5.2	34.7	55.8	3.0	-39.5	-41.6	-13.0	26.5	
Hori.	2464.500	PK	49.6	27.5	5.4	34.2	48.3	3.0	-47.0	-49.1	-13.0	34.0	
Hori.	3286.000	PK	50.9	28.2	5.7	33.9	50.9	3.0	-44.4	-46.5	-13.0	31.4	
Hori.	4107.500	PK	52.2	30.0	6.2	33.4	55.0	3.0	-40.3	-42.4	-13.0	27.3	
Hori.	4929.000	PK	51.8	31.6	6.5	33.5	56.4	3.0	-38.9	-41.0	-13.0	25.9	
Hori.	5750.500	PK	47.7	32.0	6.9	33.3	53.3	3.0	-42.0	-44.1	-13.0	29.0	
Vert.	1643.000	PK	60.4	25.1	5.2	34.7	56.0	3.0	-39.3	-41.4	-13.0	26.3	
Vert.	2464.500	PK	58.5	27.5	5.4	34.2	57.2	3.0	-38.1	-40.2	-13.0	25.1	
Vert.	3286.000	PK	50.0	28.2	5.7	33.9	50.0	3.0	-45.3	-47.4	-13.0	32.3	
Vert.	4107.500	PK	49.1	30.0	6.2	33.4	51.9	3.0	-43.4	-45.5	-13.0	30.4	
Vert.	4929.000	PK	47.9	31.6	6.5	33.5	52.5	3.0	-42.8	-44.9	-13.0	29.8	
Vert.	5750.500	PK	45.7	32.0	6.9	33.3	51.3	3.0	-44.0	-46.1	-13.0	31.0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
(Above 1GHz) EIRP=E+20*log(D)-104.8
(Below 1GHz) ERP=EIRP-2.15
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz 20log (3.75 m / 3.0 m) = 1.94 dB
10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Frequency Stability(Temperature/Voltage Variation)

Report No.	13274888H
Test place	Ise EMC Lab.
Measurement Room	No.5
Date	March 17, 2020
Temperature / Humidity	22 deg. C / 38 % RH
Engineer	Tomohisa Nakagawa
Mode	GSM

Tested Frequency: 836.6 [MHz]

Temp	Volt	Reading Freqency Error		Result	Limit
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
50	3.80	-18.64	-0.00001864	- 0.0223	2.5
40	3.80	-19.07	-0.00001907	- 0.0228	2.5
30	3.80	-17.63	-0.00001763	- 0.0211	2.5
20	3.80	-22.29	-0.00002229	- 0.0266	2.5
10	3.80	-16.69	-0.00001669	- 0.0199	2.5
0	3.80	-14.57	-0.00001457	- 0.0174	2.5
-10	3.80	-13.73	-0.00001373	- 0.0164	2.5
-20	3.80	-11.44	-0.00001144	- 0.0137	2.5
-30	3.80	N/A*	-	-	2.5

Temp	Volt	Reading Freqency Error		Result	Lmiti
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
20	4.37	-23.90	-0.00002390	- 0.0286	2.5
20	3.80	-20.80	-0.00002080	- 0.0249	2.5
20	3.23	-21.54	-0.00002154	- 0.0257	2.5

Result = Frequency error[MHz] - Tested frequency[MHz] * 10^6
*The temperature of the EUT was outside of its operating range, so the EUT did not work normally.

Frequency Stability(Temperature/Voltage Variation)

Report No.	13274888H
Test place	Ise EMC Lab.
Measurement Room	No.5
Date	March 17, 2020
Temperature / Humidity	22 deg. C / 38 % RH
Engineer	Tomohisa Nakagawa
Mode	GSM

Tested Frequency: 1880 [MHz]

Temp	Volt	Reading Freqency Error		Result	Limit
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
50	3.80	-35.13	-0.00003513	- 0.0187	2.5
40	3.80	-24.73	-0.00002473	- 0.0132	2.5
30	3.80	-27.26	-0.00002726	- 0.0145	2.5
20	3.80	-16.47	-0.00001647	- 0.0088	2.5
10	3.80	-15.64	-0.00001564	- 0.0083	2.5
0	3.80	-16.18	-0.00001618	- 0.0086	2.5
-10	3.80	-21.02	-0.00002102	- 0.0112	2.5
-20	3.80	-20.01	-0.00002001	- 0.0106	2.5
-30	3.80	N/A*	-	-	2.5

Temp	Volt	Reading Freqency Error		Result	Lmiti
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
20	4.37	-17.06	-0.00001706	- 0.0091	2.5
20	3.80	-16.63	-0.00001663	- 0.0088	2.5
20	3.23	-15.88	-0.00001588	- 0.0084	2.5

Result = Frequency error[MHz] - Tested frequency[MHz] * 10^6

*The temperature of the EUT was outside of its operating range, so the EUT did not work normally.

Frequency Stability(Temperature/Voltage Variation)

Report No.	13274888H
Test place	Ise EMC Lab.
Measurement Room	No.6
Date	January 21, 2020
Temperature / Humidity	24 deg. C / 33 % RH
Engineer	Takafumi Noguchi
Mode	Tx W-CDMA Band 2 (RMC 12.2 kbps), All Up Bits

Tested Frequency: 1880 [MHz]

Temp	Volt	Reading Freqency Error		Result	Limit
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
50	3.80	-19.24	-0.00001924	- 0.0102	2.5
40	3.80	-23.87	-0.00002387	- 0.0127	2.5
30	3.80	-19.27	-0.00001927	- 0.0103	2.5
20	3.80	-21.32	-0.00002132	- 0.0113	2.5
10	3.80	-17.55	-0.00001755	- 0.0093	2.5
0	3.80	-18.94	-0.00001894	- 0.0101	2.5
-10	3.80	-17.46	-0.00001746	- 0.0093	2.5
-20	3.80	-18.88	-0.00001888	- 0.0100	2.5
-30	3.80	N/A*	-	-	2.5

Temp	Volt	Reading Freqency Error		Result	Lmiti
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
20	4.37	-20.54	-0.00002054	- 0.0109	2.5
20	3.80	-21.32	-0.00002132	- 0.0113	2.5
20	3.23	-17.05	-0.00001705	- 0.0091	2.5

Result = Frequency error[MHz] - Tested frequency[MHz] * 10^6
*The temperature of the EUT was outside of its operating range, so the EUT did not work normally.

Frequency Stability(Temperature/Voltage Variation)

Report No.	13274888H
Test place	Ise EMC Lab.
Measurement Room	No.6
Date	January 21, 2020
Temperature / Humidity	24 deg. C / 33 % RH
Engineer	Takafumi Noguchi
Mode	Tx W-CDMA Band 5 (RMC 12.2 kbps), All Up Bits

Tested Frequency: 836.6 [MHz]

Temp	Volt	Reading Freqency Error		Result	Limit
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
50	3.80	-18.68	-0.00001868	- 0.0223	2.5
40	3.80	-18.11	-0.00001811	- 0.0216	2.5
30	3.80	-18.02	-0.00001802	- 0.0215	2.5
20	3.80	-21.32	-0.00002132	- 0.0255	2.5
10	3.80	-17.09	-0.00001709	- 0.0204	2.5
0	3.80	-14.84	-0.00001484	- 0.0177	2.5
-10	3.80	-13.17	-0.00001317	- 0.0157	2.5
-20	3.80	-12.15	-0.00001215	- 0.0145	2.5
-30	3.80	N/A*	-	-	2.5

Temp	Volt	Reading Freqency Error		Result	Lmiti
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
20	4.37	-23.71	-0.00002371	- 0.0283	2.5
20	3.80	-21.32	-0.00002132	- 0.0255	2.5
20	3.23	-21.15	-0.00002115	- 0.0253	2.5

Result = Frequency error[MHz] - Tested frequency[MHz] * 10^6

*The temperature of the EUT was outside of its operating range, so the EUT did not work normally.

Frequency Stability(Temperature/Voltage Variation)

Report No.	13274888H
Test place	Ise EMC Lab.
Measurement Room	No.6
Date	January 21, 2020
Temperature / Humidity	24 deg. C / 33 % RH
Engineer	Takafumi Noguchi
Mode	Tx LTE Band 2 (QPSK), BW 20MHz

Tested Frequency: 1880 [MHz]

Temp	Volt	Reading Freqency Error		Result	Limit
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
50	3.80	-35.68	-0.00003568	- 0.0190	2.5
40	3.80	-23.96	-0.00002396	- 0.0127	2.5
30	3.80	-28.15	-0.00002815	- 0.0150	2.5
20	3.80	-17.17	-0.00001717	- 0.0091	2.5
10	3.80	-15.56	-0.00001556	- 0.0083	2.5
0	3.80	-16.22	-0.00001622	- 0.0086	2.5
-10	3.80	-20.48	-0.00002048	- 0.0109	2.5
-20	3.80	-20.66	-0.00002066	- 0.0110	2.5
-30	3.80	N/A*	-	-	2.5

Temp	Volt	Reading Freqency Error		Result	Lmiti
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
20	4.37	-17.85	-0.00001785	- 0.0095	2.5
20	3.80	-17.17	-0.00001717	- 0.0091	2.5
20	3.23	-16.66	-0.00001666	- 0.0089	2.5

Result = Frequency error[MHz] - Tested frequency[MHz] * 10^6

*The temperature of the EUT was outside of its operating range, so the EUT did not work normally.

Frequency Stability(Temperature/Voltage Variation)

Report No.	13274888H
Test place	Ise EMC Lab.
Measurement Room	No.6
Date	January 21, 2020
Temperature / Humidity	24 deg. C / 33 % RH
Engineer	Takafumi Noguchi
Mode	Tx LTE Band 5 (QPSK), BW 10MHz

Tested Frequency: 836.5 [MHz]

Temp	Volt	Reading Freqency Error		Result	Limit
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
50	3.80	-15.42	-0.00001542	- 0.0184	2.5
40	3.80	-15.48	-0.00001548	- 0.0185	2.5
30	3.80	-14.09	-0.00001409	- 0.0168	2.5
20	3.80	-15.05	-0.00001505	- 0.0180	2.5
10	3.80	-12.23	-0.00001223	- 0.0146	2.5
0	3.80	-8.15	-0.00000815	- 0.0097	2.5
-10	3.80	-12.16	-0.00001216	- 0.0145	2.5
-20	3.80	-13.88	-0.00001388	- 0.0166	2.5
-30	3.80	N/A*	-	-	2.5

Temp	Volt	Reading Freqency Error		Result	Lmiti
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
20	4.37	-15.68	-0.00001568	- 0.0187	2.5
20	3.80	-15.05	-0.00001505	- 0.0180	2.5
20	3.23	-16.08	-0.00001608	- 0.0192	2.5

Result = Frequency error[MHz] - Tested frequency[MHz] * 10^6

*The temperature of the EUT was outside of its operating range, so the EUT did not work normally.

Frequency Stability(Temperature/Voltage Variation)

Report No.	13274888H
Test place	Ise EMC Lab.
Measurement Room	No.6
Date	January 21, 2020
Temperature / Humidity	24 deg. C / 33 % RH
Engineer	Takafumi Noguchi
Mode	Tx LTE Band 7 (QPSK), BW 20MHz

Tested Frequency: 2535 [MHz]

Temp	Volt	Reading Freqency Error		Result	Limit
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
50	3.80	-32.22	-0.00003222	- 0.0127	2.5
40	3.80	-27.39	-0.00002739	- 0.0108	2.5
30	3.80	-33.56	-0.00003356	- 0.0132	2.5
20	3.80	-23.98	-0.00002398	- 0.0095	2.5
10	3.80	-17.97	-0.00001797	- 0.0071	2.5
0	3.80	-14.54	-0.00001454	- 0.0057	2.5
-10	3.80	-19.37	-0.00001937	- 0.0076	2.5
-20	3.80	-25.61	-0.00002561	- 0.0101	2.5
-30	3.80	N/A*	-	-	2.5

Temp	Volt	Reading Freqency Error		Result	Lmiti
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
20	4.37	-24.36	-0.00002436	- 0.0096	2.5
20	3.80	-23.98	-0.00002398	- 0.0095	2.5
20	3.23	-25.21	-0.00002521	- 0.0099	2.5

Result = Frequency error[MHz] - Tested frequency[MHz] * 10^6

*The temperature of the EUT was outside of its operating range, so the EUT did not work normally.

Frequency Stability(Temperature/Voltage Variation)

Report No.	13274888H
Test place	Ise EMC Lab.
Measurement Room	No.6
Date	January 21, 2020
Temperature / Humidity	24 deg. C / 33 % RH
Engineer	Takafumi Noguchi
Mode	Tx LTE Band 26 (QPSK), BW 10MHz

Tested Frequency: 819 [MHz]

Temp	Volt	Reading Freqency Error		Result	Limit
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
50	3.80	-15.34	-0.00001534	- 0.0187	2.5
40	3.80	-14.29	-0.00001429	- 0.0174	2.5
30	3.80	-15.86	-0.00001586	- 0.0194	2.5
20	3.80	-15.34	-0.00001534	- 0.0187	2.5
10	3.80	-11.37	-0.00001137	- 0.0139	2.5
0	3.80	-10.17	-0.00001017	- 0.0124	2.5
-10	3.80	-15.03	-0.00001503	- 0.0184	2.5
-20	3.80	-16.72	-0.00001672	- 0.0204	2.5
-30	3.80	N/A*	-	-	2.5

Temp	Volt	Reading Freqency Error		Result	Lmiti
[deg. C]	[V]	[Hz]	[MHz]	[ppm]	[+/-ppm]
20	4.37	-13.44	-0.00001344	- 0.0164	2.5
20	3.80	-15.34	-0.00001534	- 0.0187	2.5
20	3.23	-15.63	-0.00001563	- 0.0191	2.5

Result = Frequency error[MHz] - Tested frequency[MHz] * 10^6

*The temperature of the EUT was outside of its operating range, so the EUT did not work normally.

APPENDIX 2: Test instruments

Test equipment used on December 10, 2019 to January 23, 2020 and April 15, 2020

Test Name	Local Id	Description	Manufacturer	Model	Serial	Last Cal Date	Interval
AT	MCC-67	Microwave Cable 1G-40GHz	Suhner	SUCOFLEX102	28635/2	2019/04/03	12
AT	MMM-05	Digital Tester	HIOKI	3244	30416616	2019/05/21	12
AT	MOS-45	Thermo-Hygrometer	Mother tool	MT-893	-	-	-
AT	MSA-14	Spectrum Analyzer	AGILENT	E4440A	MY48250080	2019/10/06	12
AT	MSA-17	Spectrum Analyzer	KEYSIGHT	N9030A	US51350215	2019/09/20	12
AT	SURC-01	Radio Communication Analyzer	ANRITSU	MT8820C	6201274351	2019/08/09	12
AT	MURC-05	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	127576	2019/12/09	12
AT	MPM-08	Power Meter	ANRITSU	ML2495A	6K00003338	2019/10/03	12
AT	MPSE-11	Power sensor	ANRITSU	MA2411B	11737	2019/10/03	12
AT	MAT-88	Attenuator	Weinschel Associates	WA56-10	56100304	2019/05/17	12
AT	MAT-86	Attenuator	Weinschel Associates	WA56-20	56200213	2019/05/17	12
AT	MHDC-30	Directional Coupler	Agilent Technologies	87300B	MY39500119	2020/02/13	12
AT	MCC-243	Microwave Cable	Huber+Suhner	SF102D/11PC24/11 PC24/1000mm	537059/126EA	2020/01/17	12
AT / RE	MAT-105	Attenuator	HUBER+SUNER	6806_N-50-1	-	2019/10/08	12
AT / RE	MAT-20	Attenuator(10dB) (above1GHz)	HIROSE ELECTRIC CO.,LTD.	AT-110	-	2019/12/09	12
AT / RE	MCC-38	Coaxial Cable	UL Japan	-	-	2019/11/12	12
AT / RE	MSA-19	Signal Analyzer	Keysight Technologies Inc	N9030B	MY57143159	2019/06/14	12
AT / RE	MURC-10	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	165750	2019/07/30	12
RE	COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	-	-
RE	COTS-MEMI-02	EMI measurement program	TSJ	TEPTO-DV	-	-	-
RE	MAEC-02	AC2_Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-06902	2018/06/29	24
RE	MAEC-02-SVSWR	AC2_Semi Anechoic Chamber(SVSWR)	TDK	Semi Anechoic Chamber 3m	DA-06902	2019/04/01	24
RE	MAT-07	Attenuator(6dB)	Weinschel Corp	2	BK7970	2019/11/07	12
RE	MAT-67	Attenuator	JFW Industries, Inc.	50FP-013H2 N	-	2019/12/02	12
RE	MBA-08	Biconical Antenna	Schwarzbeck	VHA9103B+BBA9106	8031	2019/08/23	12
RE	MCC-12	Coaxial Cable	Fujikura/Agilent	-	-	2019/09/03	12
RE	MCC-176	Microwave Cable	Junkosha	MMX221-00500DMSDMS	1502S303	2019/03/05 *1)	12
RE	MCC-216	Microwave Cable	Junkosha	MWX221	1604S253 (1 m) / 1608S087 (5 m)	2019/08/06	12
AT	MCH-04	Temperature and Humidity Chamber	TABAI ESPEC	PL-2KP	14015723	2019/08/02	12

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

The expiration date of the calibration is the end of the expired month.
As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

The expiration*1) This test equipment was used for the tests before the expiration date of the calibration.

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

Test item: RE: Radiated Emission test
AT: Antenna Terminal Conducted test

Test equipment used on December 10, 2019 to January 23, 2020

Test Name	Local Id	Description	Manufacturer	Model	Serial	Last Cal Date	Interval
RE	MHA-02	Horn Antenna 18-26.5GHz	EMCO	3160-09	1265	2019/10/08	12
RE	MHA-06	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	254	2019/09/03	12
RE	MHF-06	High Pass Filter 3.5-24GHz	TOKIMEC	TF323DCA	601	2019/05/17	12
RE	MHF-27	High Pass Filter(1.1-10GHz)	TOKYO KEIKI	TF219CD1	1001	2020/01/09	12
RE	MJM-27	Measure	KOMELON	KMC-36	-	-	-
RE	MLA-21	Logperiodic Antenna(200-1000MHz)	Schwarzbeck	VUSLP9111B	9111B-190	2019/08/23	12
RE	MMM-01	Digital Tester	Fluke Corporation	FLUKE 26-3	78030611	2019/08/20	12
RE	MOS-13	Thermo-Hygrometer	CUSTOM	CTH-180	1301	2020/01/07	12
RE	MOS-14	Thermo-Hygrometer	CUSTOM	CTH-201	1401	2020/01/07	12
RE	MOS-22	Thermo-Hygrometer	CUSTOM	CTH-201	0003	-	-
RE	MPA-09	Pre Amplifier	AGILENT	8447D	2944A10845	2019/09/06	12
RE	MPA-10	Pre Amplifier	AGILENT	8449B	3008A02142	2020/01/07	12
RE	MRF-02	Band Rejection Filter(1850-1910MHz)	TOKYO KEIKI	1850-1910MHz	-	2019/10/02	12
RE	MRF-04	Band Rejection Filter(824-849MHz)	TOKYO KEIKI	824-849MHz	-	2019/07/01	12
RE	MRF-11	Band Rejection Filter(2500-2570MHz)	TOKYO KEIKI	TF81ZRD1	1001	2020/01/07	12
RE	MSA-10	Spectrum Analyzer	AGILENT	E4448A	MY46180655	2019/08/07	12
RE	MSA-15	Spectrum Analyzer	AGILENT	E4440A	MY46187105	2019/10/09	12

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

The expiration date of the calibration is the end of the expired month.
As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

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

Test item: RE: Radiated Emission test

Test equipment used on March 5 to April 2, 2020

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
RE	MAEC-04	142011	AC4_Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	2018/06/28	24
RE	MOS-15	141562	Thermo-Hygrometer	CUSTOM	CTH-201	0010	2020/01/07	12
RE	MMM-10	141545	DIGITAL HiTESTER	Hioki	3805	51201148	2020/01/06	12
RE	MJM-26	142227	Measure	KOMELON	KMC-36	-	-	-
RE	COTS-MEMI-02	178648	EMI measurement program	TSJ	TEPTO-DV	-	-	-
RE	MAT-34	141331	Attenuator(6dB)	TME	UFA-01	-	2020/02/05	12
RE	MBA-05	141425	Biconical Antenna	Schwarzbeck Mess - Elektronik	VHA9103+BBA9106	1302	2019/08/24	12
RE	MCC-50	141397	Coaxial Cable	UL Japan	-	-	2020/03/24	12
RE	MLA-23	141267	Logperiodic Antenna(200-1000MHz)	Schwarzbeck Mess - Elektronik	VUSLP9111B	9111B-192	2019/08/24	12
RE	MPA-14	141583	Pre Amplifier	SONOMA INSTRUMENT	310	260833	2020/02/18	12
RE	MRF-04	141858	Band Rejection Filter(824-849MHz)	TOKYO KEIKI	824-849MHz	-	2019/07/01	12
RE	MCC-64	141327	Coaxial Cable	UL Japan	-	-	2020/02/04	12
RE	MCC-127	141220	Coaxial Cable	UL Japan	-	-	2019/07/05	12
RE	MSA-14	141901	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY48250080	2019/10/06	12
RE	MAEC-02	142004	AC2_Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-06902	2018/06/29	24
RE	MOS-41	192300	Thermo-Hygrometer	CUSTOM	CTH-201	0013	2019/12/19	12
RE	MMM-01	141542	Digital Tester	Fluke Corporation	FLUKE 26-3	78030611	2019/08/20	12
RE	MJM-27	142228	Measure	KOMELON	KMC-36	-	-	-
RE	MHA-06	141512	Horn Antenna 1-18GHz	Schwarzbeck Mess - Elektronik	BBHA9120D	254	2019/09/03	12
RE	MCC-216	141392	Microwave Cable	Junkosha	MWX221	1604S253(1 m) / 537073/126E(5 m)	2020/02/18	12
RE	MPA-10	141579	Pre Amplifier	Keysight Technologies Inc	8449B	3008A02142	2020/01/07	12
RE	MAEC-02-SVSWR	142006	AC2_Semi Anechoic Chamber(SVSWR)	TDK	Semi Anechoic Chamber 3m	DA-06902	2019/04/01	24
RE	MPA-11	141580	MicroWave System Amplifier	Keysight Technologies Inc	83017A	MY39500779	2020/03/24	12
RE	MCC-231	177964	Microwave Cable	Junkosha INC.	MMX221	1901S329(1m)/1902S579(5m)	2020/03/02	12
RE	MHA-16	141513	Horn Antenna 15-40GHz	Schwarzbeck Mess - Elektronik	BBHA9170	BBHA9170306	2019/10/08	12
RE	MSA-04	141885	Spectrum Analyzer	Keysight Technologies Inc	E4448A	US44300523	2019/11/21	12

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

The expiration date of the calibration is the end of the expired month.
As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

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

Test item: RE: Radiated Emission test