APPENDIX 2: Data of EMI test

Output Power (Conducted)

(Reference data)

UL Japan, Inc.
Head Office EMC Lab. No.7 measurement room

Company	KYOCERA Corporation	Regulation	FCC part 24 Section 24.232(c),
Equipment	iBurst User Terminal USB type	Test Method	FCC Part 2 Section 2.1046
Model	UTU03-1890F-US-A	Test Distance	-
S/N	No.18	Date	November 7, 2008
Power	DC 5V (PC's input: AC 120V / 60Hz)	Temperature	24 deg.C.
Mode	Transmitting, Modulation 7(Worst) (L:1890.3125MHz, M:1899.6875MHz, H:1909.6875MHz)	Humidity	53 %
		Engineer	Kenichi Adachi

Modulation 7 (PK worst) (Gate on)

Ch	Frequency [MHz]	P/M (PK) Reading [dBm]	Atten. [dB]	Cable Loss [dB]	Conducted Power Result [dBm]	Antenna Gain [dBi]	E.I.R.P. Result [dBm]	Limit (E.I.R.P.) [dBm]	Margin [dB]
Low	1890.3125	4.45	19.94	0.00	24.39	2.90	27.29	33.00	5.71
Mid	1899.6875	4.72	19.94	0.00	24.66	2.90	**27.56**	33.00	**5.44**
High	1909.6875	4.62	19.95	0.00	24.57	2.90	27.47	33.00	5.53

Sample Calculation : E.I.R.P. Result = P/M (PK) Reading + Atten. + Cable Loss + Antenna Gain
Conducted Power Result = P/M (PK) Reading + Atten. + Cable Loss.

*The limit is rounded down to one decimal place.
*The test result is rounded off to one or two decimal places, so some differences might be observed.

(Reference data (Precheck))

(Gate On)

Mod.	Frequency [MHz]	P/M(PK) Reading [dBm]	Atten. [dB]	Cable Loss [dB]	Conducted Power Result [dBm]	Antenna Gain [dBi]	E.I.R.P. Result [dBm]	Limit (E.I.R.P.) [dBm]	Margin [dB]
0	1899.6875	3.22	19.94	0.00	23.16	2.90	26.06	33.00	6.94
1	1899.6875	3.25	19.94	0.00	23.19	2.90	26.09	33.00	6.91
2	1899.6875	4.00	19.94	0.00	23.94	2.90	26.84	33.00	6.16
3	1899.6875	4.18	19.94	0.00	24.12	2.90	27.02	33.00	5.98
4	1899.6875	3.91	19.94	0.00	23.85	2.90	26.75	33.00	6.25
5	1899.6875	4.29	19.94	0.00	24.23	2.90	27.13	33.00	5.87
6	1899.6875	4.13	19.94	0.00	24.07	2.90	26.97	33.00	6.03
7	1899.6875	4.72	19.94	0.00	**24.66**	2.90	**27.56**	33.00	**5.44**

Sample Calculation : E.I.R.P. Result = P/M (PK) Reading + Atten. + Cable Loss + Antenna Gain
Conducted Power Result = P/M (PK) Reading + Atten. + Cable Loss.

Output Power (Radiated)

UL Japan, Inc.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company	KYOCERA Corporation	Regulation	FCC part 24 Section 24.232(c)
Equipment	iBurst User Terminal USB type	Test Method	FCC part 2 Section 2.1053
Model	UTU03-1890F-US-A	Test Distance	3m
S/N	No.18	Date	October 17, 2008 / November 10, 2008
Power	DC 5V (PC's input: AC 120V / 60Hz)	Temperature	23 deg.C. / 20 deg.C.
Mode	Transmitting, Modulation 7(Worst), (L:1890.3125MHz, M:1899.6875MHz, H:1909.6875MHz)	Humidity	63 % / 40 %
EUT-Position	H: Y-axis / V: Z-axis	Engineer	Kenichi Adachi (Low ch.) / Kazufumi Nakai (Mid, High ch.)
Antenna- Position	H: extended / V: extended		
Tx Antenna	0.8m Height		

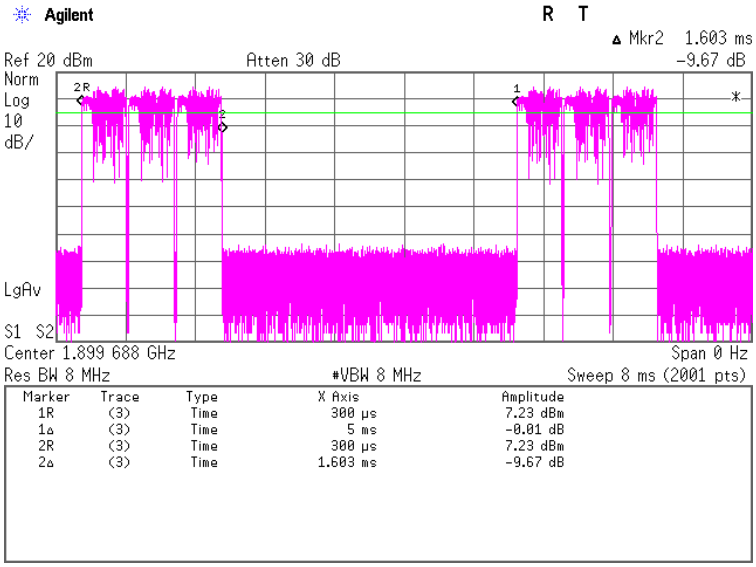
(PK)

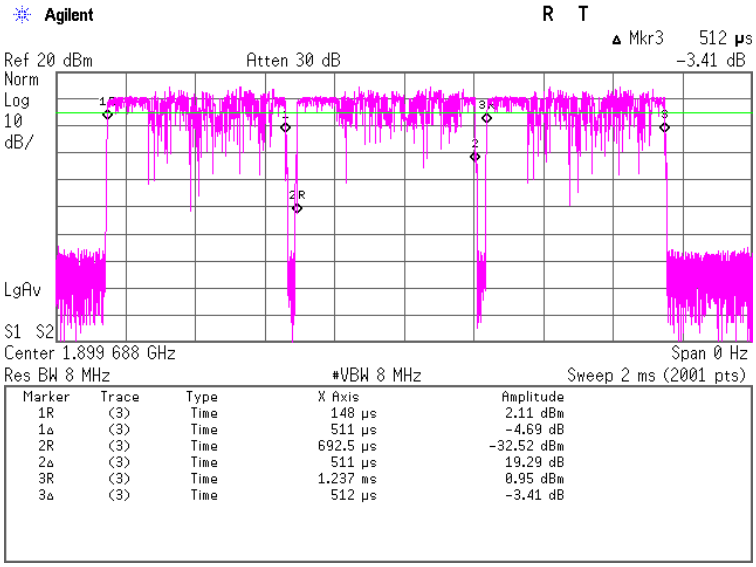
No.	Frequency [MHz]	P/M Reading (PK) [dBm]		SG Reading [dBm]		Tx Cable Loss [dB]	Tx Ant. Gain [dBi]	Rx Amp. Gain [dB]	Result EIRP [dBm]		LIMIT [dBm]	MARGIN [dB]		Remarks
		HOR	VER	HOR	VER				HOR	VER	(EIRP)	HOR	VER	
L	1890.3125	-9.76	-8.42	-10.9	-10.4	5.21	10.72	32.92	27.5	28.0	33.0	5.5	5.0	
M	1899.6875	-9.45	-9.29	-9.9	-11.4	5.22	10.77	32.91	28.6	27.1	33.0	4.4	5.9	
H	1909.6875	-9.98	-9.58	-10.0	-10.8	5.24	10.82	32.89	28.5	27.7	33.0	4.5	5.3	

CALCULATION RESULT = SG Reading + Rx Amp. Gain - Tx Loss + Tx Ant. Gain
Rx-ANTENNA : Biconical Antenna(30-300MHz), Logperiodic Antenna(300-1000MHz), Horn Antenna(1-26.5GHz)
Tx-ANTENNA : 120MHz tuned Dipole Antenna(30-120MHz), Dipole Antenna(120-1000MHz), Horn Antenna(1-26.5GHz)
With the result above, the equivalent isotropic radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.
*The limit is rounded down to one decimal place.
*The test result is rounded off to one or two decimal places, so some differences might be observed.

Timeslot evidence

(Reference data)





Emission Bandwidth and 99%Occupied Bandwidth

UL Japan, Inc.
Head Office EMC Lab. No.11 measurement room

Company	KYOCERA Corporation	
Equipment	iBurst User Terminal USB type	
Model	UTU03-1890F-US-A	
S/N	No.18	
Power	DC 5V (PC's input: AC 120V / 60Hz)	
Mode	Transmitting, Modulation 4(Worst), (L:1890.3125MHz, M:1899.6875MHz, H:1909.6875MHz)	
Regulation	FCC part 24 Section 24.238(b)	
Test Method	FCC Part 2 Section 2.1049	
Test Distance	-	
Date	October 16, 2008	November 9, 2008
Temperature	24 deg.C.	23deg.C.
Humidity	58 %	59%
Engineer	Kenichi Adachi (Low ch.)	Kenichi Adachi (Mid, High ch.)

Emission Bandwidth 1 (-26dB Bandwidth)
PK DETECT(S/A: span 1MHz, RBW 10kHz ,VBW 30kHz)

CH	FREQ [MHz]	Bandwidth [kHz]	Limit [kHz]
Low	1890.3125	633.935	-
Mid	1899.6875	635.187	-
High	1909.6875	634.971	-

Emission Bandwidth 2 (-6dB Bandwidth)
PK DETECT(S/A: span 1MHz, RBW 10kHz ,VBW 30kHz)

CH	FREQ [MHz]	Bandwidth [kHz]	Limit [kHz]
Low	1890.3125	468.517	-
Mid	1899.6875	469.400	-
High	1909.6875	469.422	-

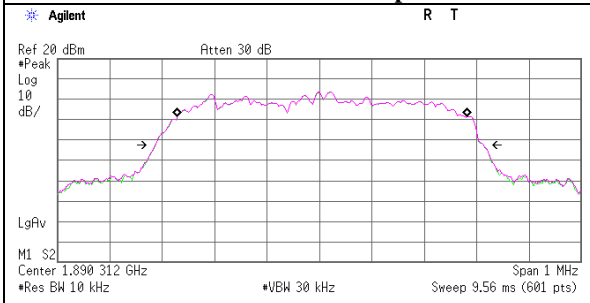
99% Occupied Bandwidth
PK DETECT(S/A: span 1MHz, RBW 10kHz ,VBW 30kHz)

CH	FREQ [MHz]	Bandwidth [kHz]	Limit [kHz]
Low	1890.3125	561.006	-
Mid	1899.6875	561.565	-
High	1909.6875	561.220	-

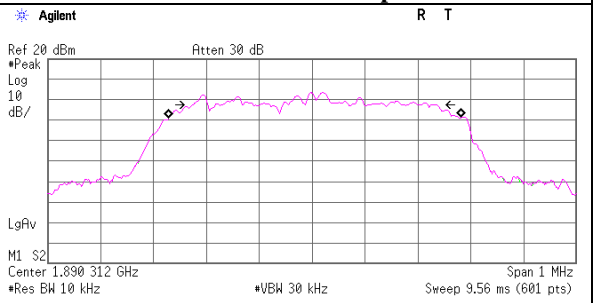
Emission Bandwidth and 99% Occupied Bandwidth

Tx:1890.3125MHz

-26dB Bandwidth and 99% Occupied Bandwidth

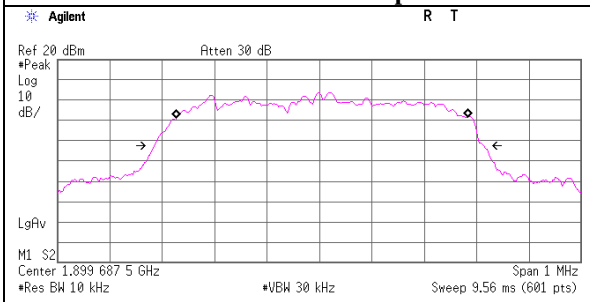


-6dB Bandwidth and 99% Occupied Bandwidth

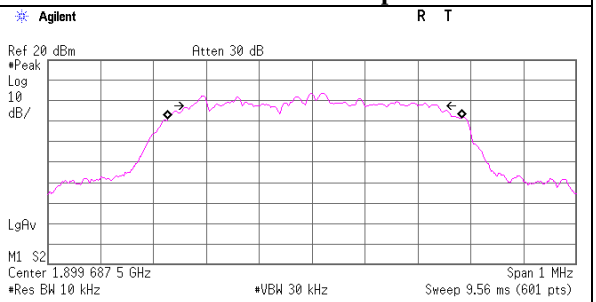


Tx:1899.6875MHz

-26dB Bandwidth and 99% Occupied Bandwidth

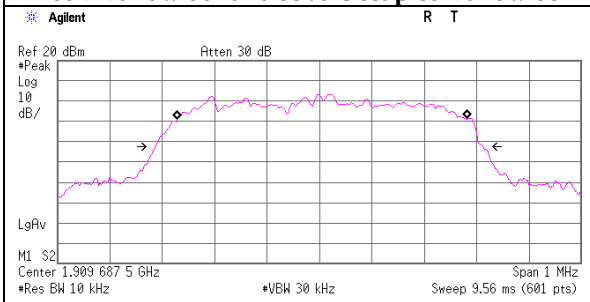


-6dB Bandwidth and 99% Occupied Bandwidth

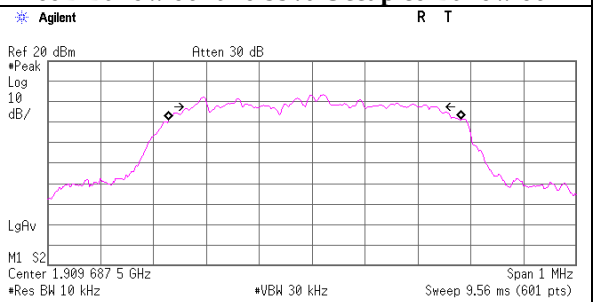


Tx:1909.6875MHz

-26dB Bandwidth and 99% Occupied Bandwidth



-6dB Bandwidth and 99% Occupied Bandwidth

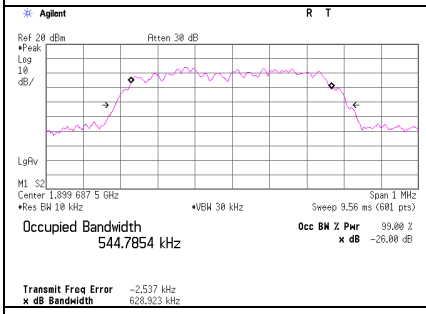


Emission Bandwidth and 99% Occupied Bandwidth

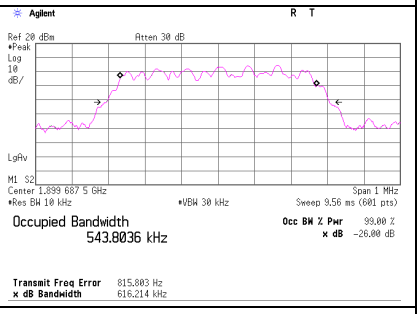
(Reference data)

Tx:1899.6875MHz

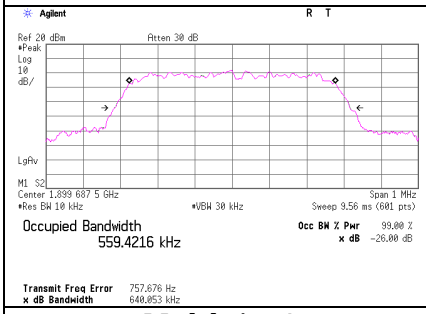
Modulation 0



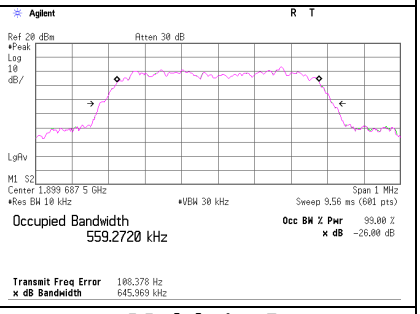
Modulation 1



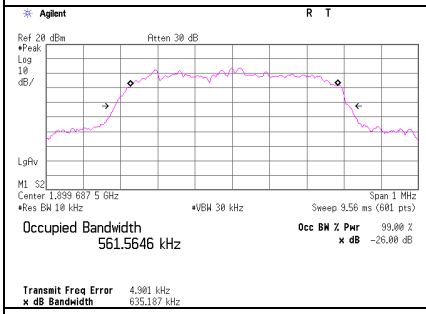
Modulation 2



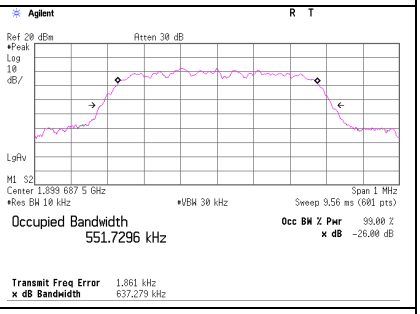
Modulation 3



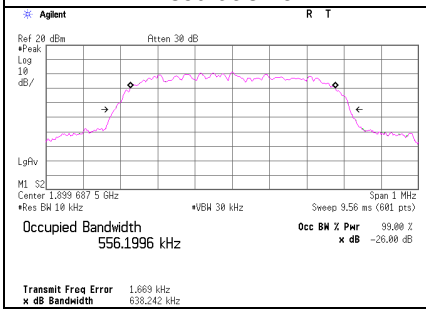
Modulation 4



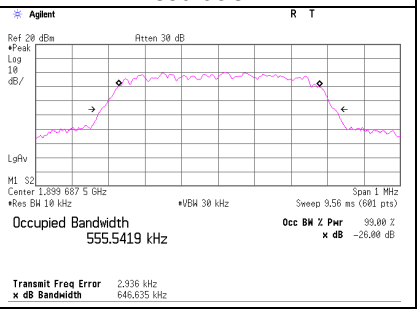
Modulation 5



Modulation 6



Modulation 7



Band Edge(Conducted)

(Reference data)

UL Japan, Inc.
Head Office EMC Lab. No.11 measurement room

Company	KYOCERA Corporation	Regulation	FCC part 24 Section 24.238(a),(b)	
Equipment	iBurst User Terminal USB type	Test Method	FCC Part 2 Section 2.1051	
Model	UTU03-1890F-US-A	Test Distance	-	
S/N	No.18	Date	October 16, 2008	November 9, 2008
Power	DC 5V (PC's input: AC 120V / 60Hz)	Temperature	24 deg.C.	23deg.C.
Mode	Transmitting, Modulation 0 to 7, Slave(Worst) (L: 1890.3125MHz, H: 1909.6875MHz)	Humidity	58 %	59%
		Engineer	Kenichi Adachi (Low ch.)	Kenichi Adachi (High ch.)

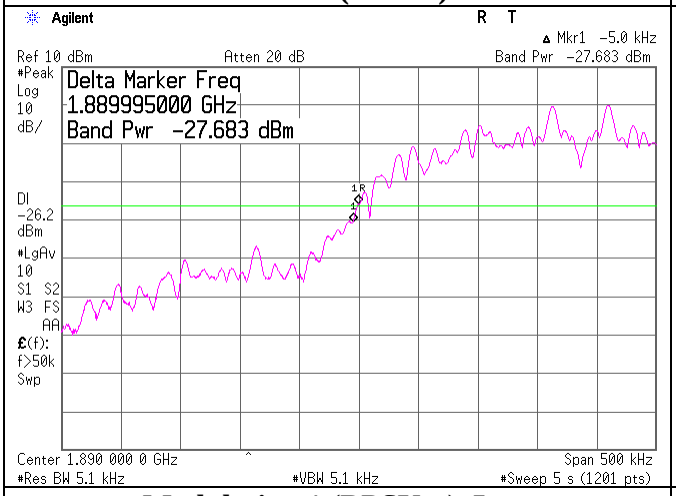
Modulation		Frequency [MHz]	S/A Reading [dBm]	Atten. Loss [dB]	Cable Loss [dB]	Conducted Result [dBm]	Antenna Gain [dBi]	E.I.R.P. Result [dBm]	Limit [dBm]	Margin [dB]
0	BPSK	1890.0000	-27.68	9.98	0.38	-17.32	2.90	-14.42	-13.00	1.42
		1910.0000	-29.07	9.98	0.39	-18.70	2.90	-15.80	-13.00	**2.80**
1	BPSK+	1890.0000	-34.85	9.98	0.38	-24.49	2.90	-21.59	-13.00	8.59
		1910.0000	-29.50	9.98	0.39	-19.13	2.90	-16.23	-13.00	3.23
2	QPSK	1890.0000	-27.03	9.98	0.38	-16.67	2.90	-13.77	-13.00	0.77
		1910.0000	-30.86	9.98	0.39	-20.49	2.90	-17.59	-13.00	4.59
3	QPSK+	1890.0000	-26.40	9.98	0.38	-16.04	2.90	-13.14	-13.00	**0.14**
		1910.0000	-31.21	9.98	0.39	-20.84	2.90	-17.94	-13.00	4.94
4	8PSK	1890.0000	-32.62	9.98	0.38	-22.26	2.90	-19.36	-13.00	6.36
		1910.0000	-29.40	9.98	0.39	-19.03	2.90	-16.13	-13.00	3.13
5	8PSK+	1890.0000	-29.36	9.98	0.38	-19.00	2.90	-16.10	-13.00	3.10
		1910.0000	-31.36	9.98	0.39	-20.99	2.90	-18.09	-13.00	5.09
6	12QAM	1890.0000	-28.82	9.98	0.38	-18.46	2.90	-15.56	-13.00	2.56
		1910.0000	-31.12	9.98	0.39	-20.75	2.90	-17.85	-13.00	4.85
7	16QAM	1890.0000	-31.50	9.98	0.38	-21.14	2.90	-18.24	-13.00	5.24
		1910.0000	-29.78	9.98	0.39	-19.41	2.90	-16.51	-13.00	3.51

Sample Calculation : Condcuted Result = Reading + Atten. + Cable Loss
Sample Calculation : E.I.R.P. Result = Reading + Atten. + Cable Loss + Antenna Gain
*The test result is rounded off to one or two decimal places, so some differences might be observed.

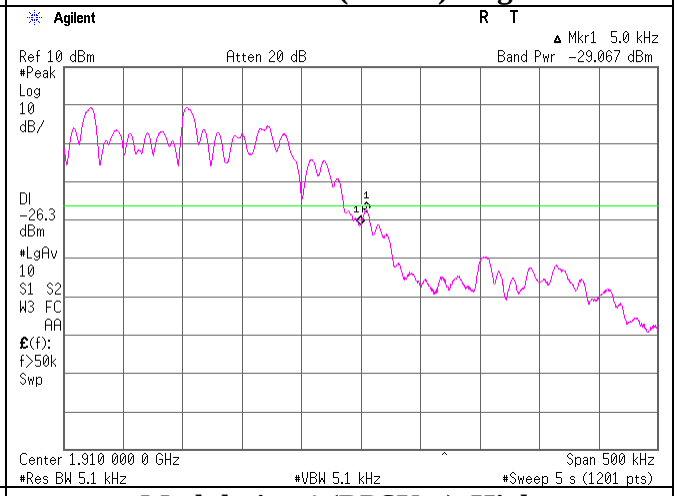
Band Edge(Conducted)

(Reference data)

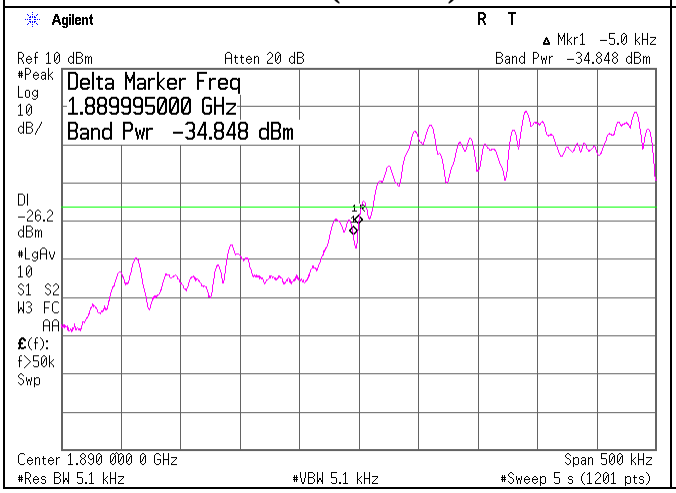
Modulation 0 (BPSK) Low



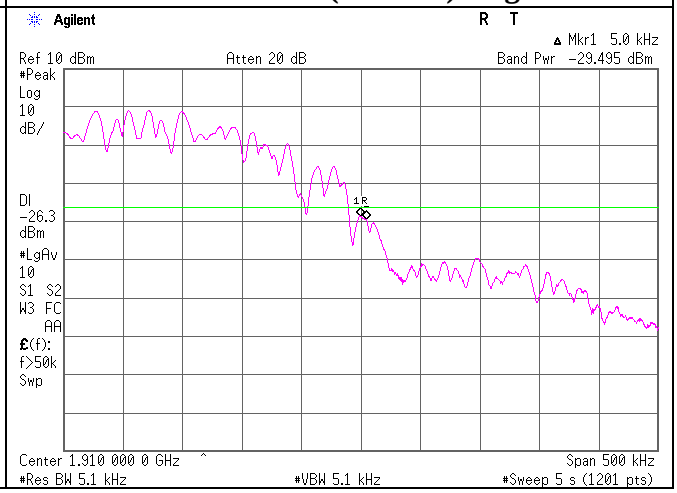
Modulation 0 (BPSK) High



Modulation 1 (BPSK+) Low



Modulation 1 (BPSK+) High



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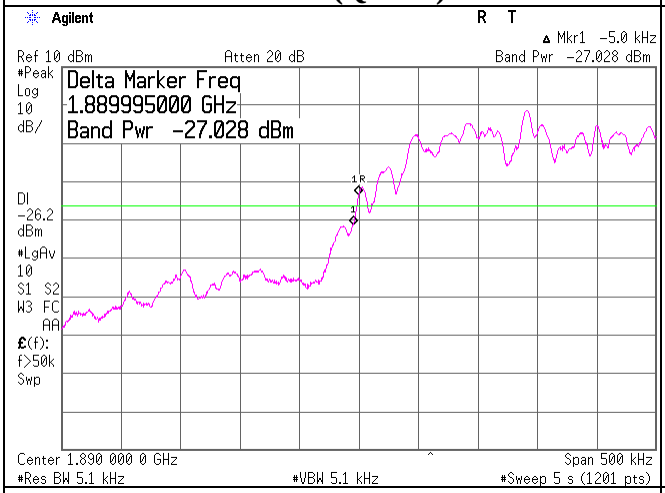
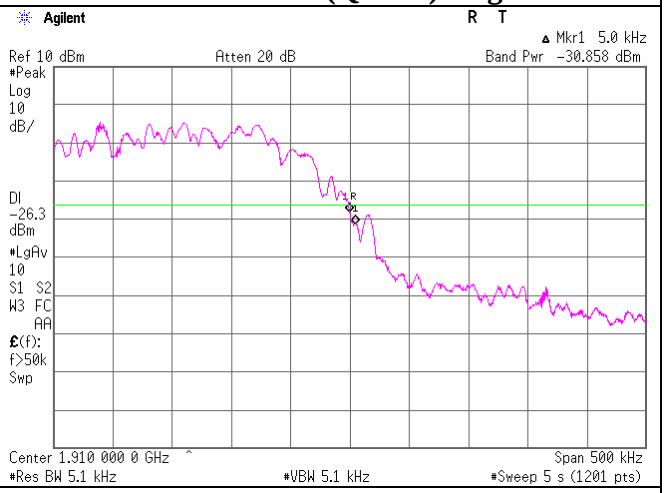
Band Edge(Conducted)

(Reference data)

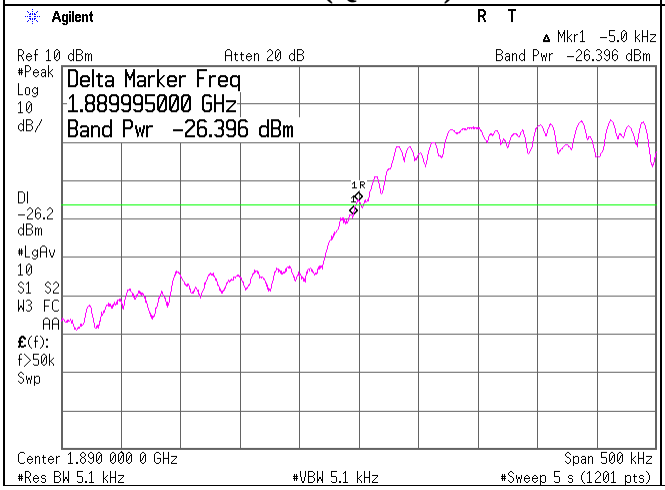
Modulation 2 (QPSK) Low



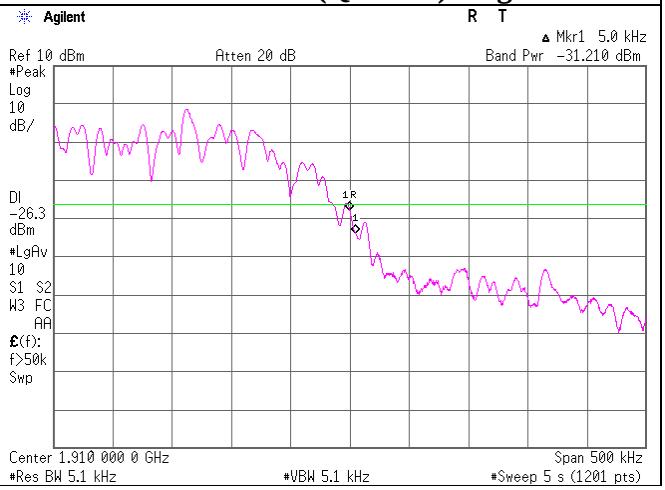
Modulation 2 (QPSK) High



Modulation 3 (QPSK+) Low



Modulation 3 (QPSK+) High



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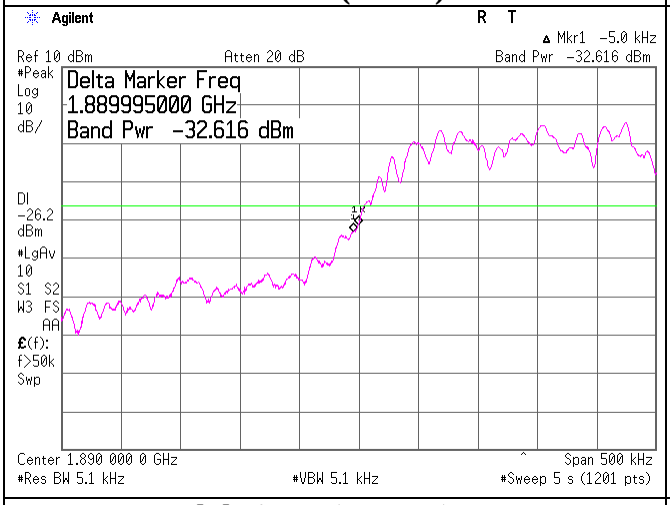
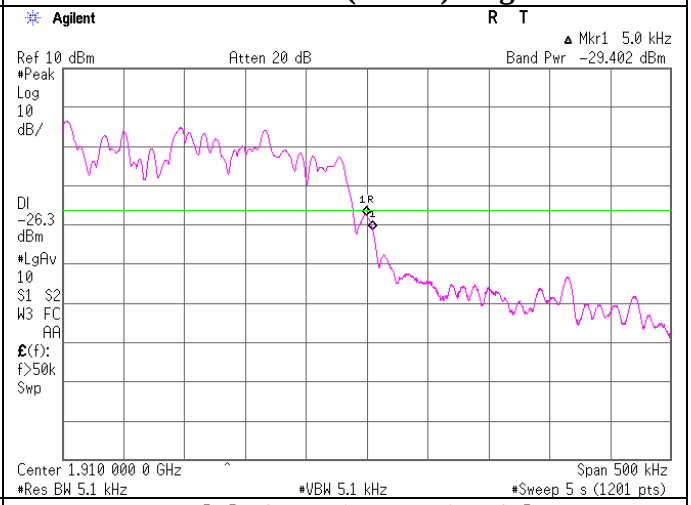
Band Edge(Conducted)

(Reference data)

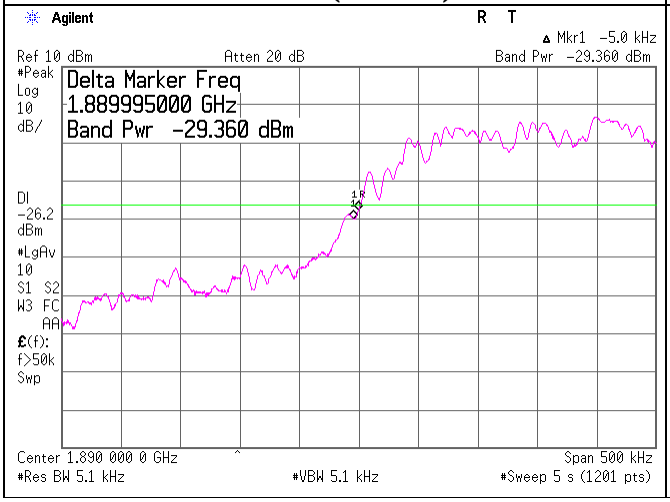
Modulation 4 (8PSK) Low



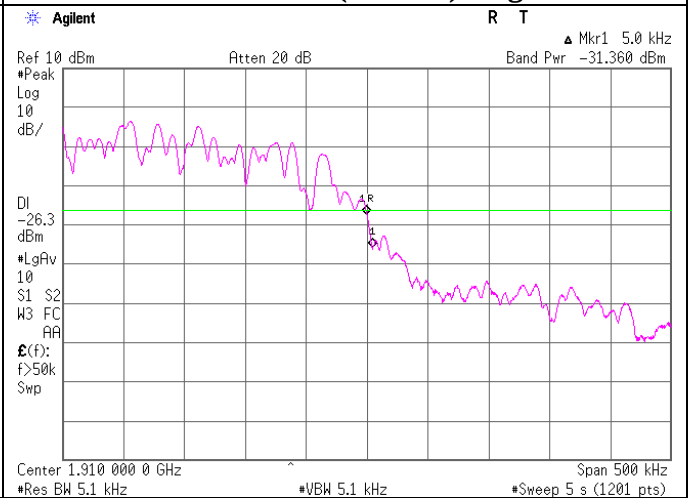
Modulation 4 (8PSK) High



Modulation 5 (8PSK+) Low



Modulation 5 (8PSK+) High



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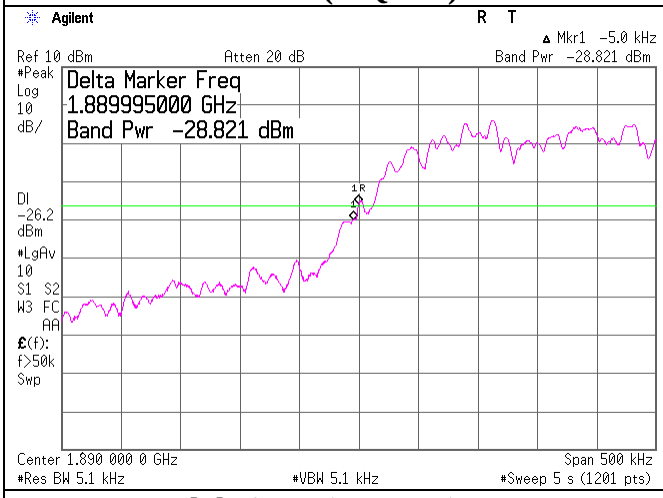
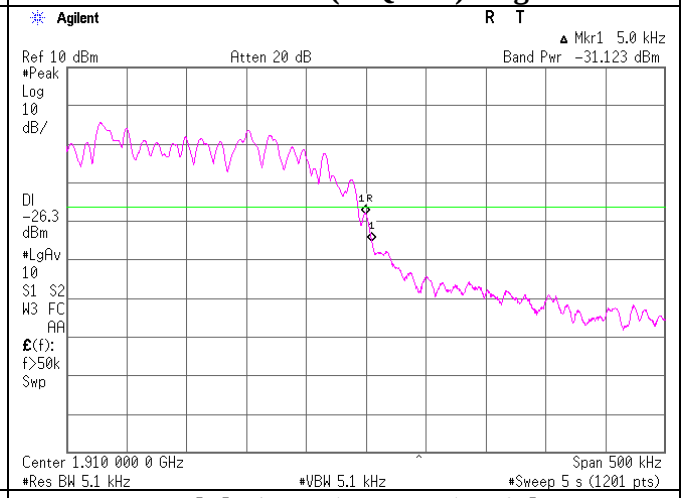
Band Edge(Conducted)

(Reference data)

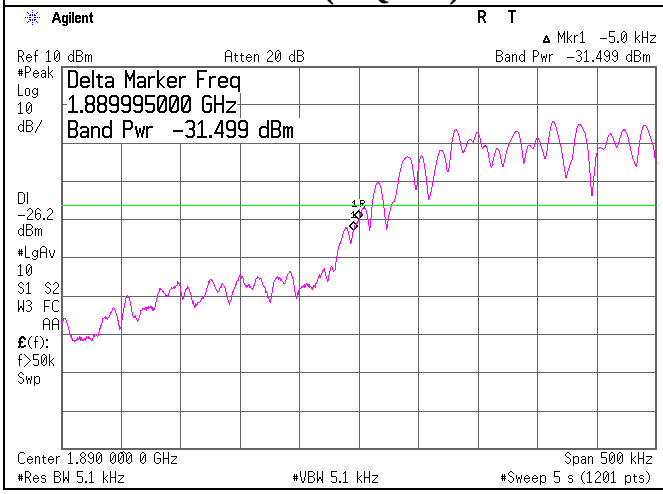
Modulation 6 (12QAM) Low



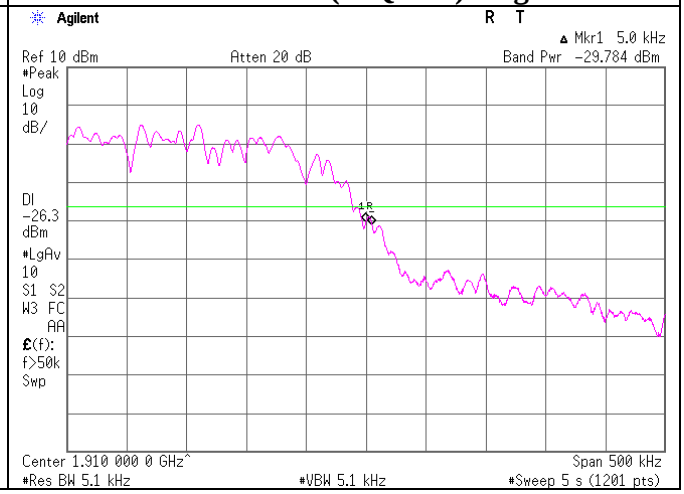
Modulation 6 (12QAM) High



Modulation 7 (16QAM) Low



Modulation 7 (16QAM) High



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Band Edge (Radiated)

UL Japan, Inc.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company	KYOCERA Corporation	Regulation	FCC part 24. Section24.238(a),(b)	
Equipment	iBurst User Terminal USB type	Test Method	FCC part 2 Section 2.1053	
Model	UTU03-1890F-US-A	Test Distance	3m	
S/N	No.18	Date	October 17, 2008	November 9, 2008
Power	DC 5V (PC's input: AC 120V / 60Hz)	Temperature	23 deg.C.	22deg.C.
Mode	Transmitting, L: 1890.3125MHz, Modulation 3 (Worst) /	Humidity	63 %	41%
	Transmitting, H: 1909.6875MHz, Modulation 0 (Worst)	Engineer	Kenichi Adachi (Low ch.)	Kenichi Adachi (High ch.)
EUT-Position	H: Y-axis / V: Z-axis			
Antenna- Position	H: extended / V: extended			
Tx Antenna	0.8m Height			

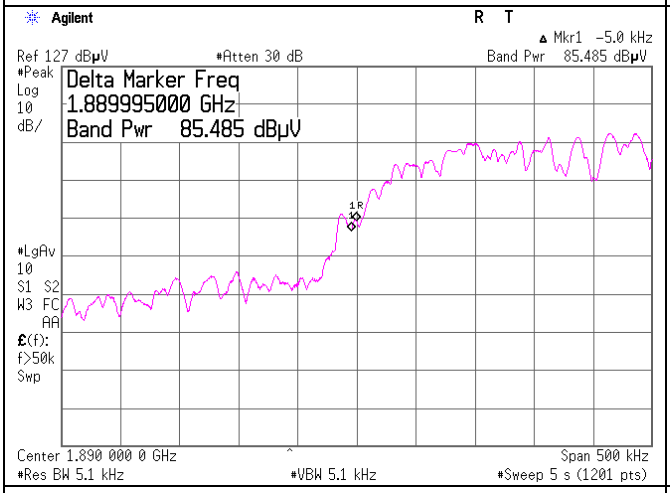
No.	Frequency [MHz]	S/A Reading (Peak) [dBm]		SG Reading [dBm]		Tx Cable Loss [dB]	Tx Ant. Gain [dBi]	Result EIRP [dBm]		LIMIT [dBm] (EIRP)	MARGIN [dB]		Remarks
		HOR	VER	HOR	VER			HOR	VER		HOR	VER	
1	1890.00	85.49	87.70	-21.1	-19.2	5.21	10.72	-15.6	-13.7	-13.0	2.6	**0.7**	
2	1910.00	85.26	85.90	-21.8	-20.4	5.24	10.82	-16.2	-14.8	-13.0	3.2	1.8	

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain

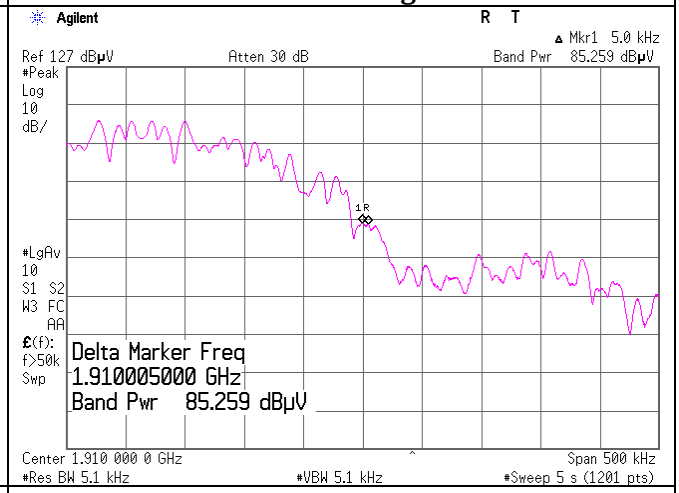
*The test result is rounded off to one or two decimal places, so some differences might be observed.
Detector : S/A, Peak, RBW 5.1kHz, VBW5.1kHz, Sweep 5sec, Video Average mode 10times, Gate On mode.

Band Edge(Radiated)

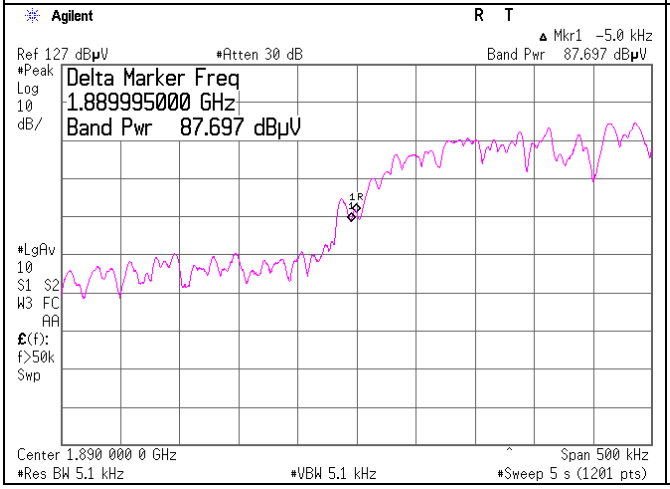
Modulation 3 Low Hor.



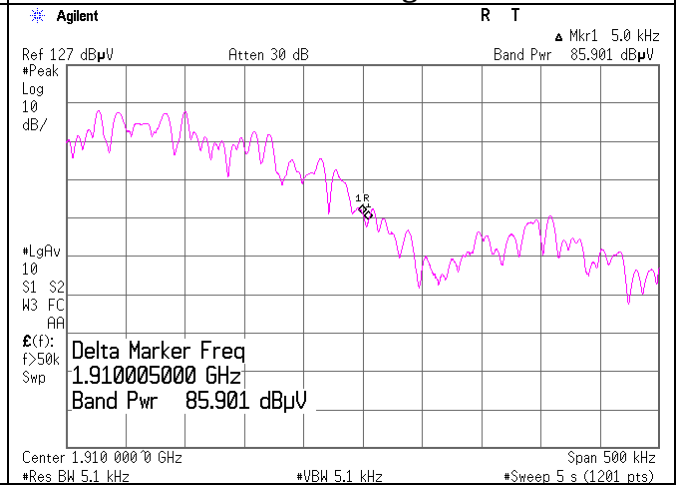
Modulation 0 High Hor.



Modulation 3 Low Ver.



Modulation 0 High Ver.



Spurious Emission (Conducted)

(Reference data)

UL Japan, Inc.
Head Office EMC Lab. No.11 measurement room

Company	KYOCERA Corporation	Regulation	FCC part 24 Section 24.238(a)
Equipment	iBurst User Terminal USB type	Test Method	FCC Part 2 Section 2.1051
Model	UTU03-1890F-US-A	Test Distance	-
S/N	No.18	Date	November 9, 2008
Power	DC 5V (PC's input: AC 120V / 60Hz)	Temperature	23deg.C.
Mode	Transmitting, Modulation 7(Worst) (L:1890.3125MHz, M:1899.6875MHz, H:1909.6875MHz)	Humidity	59%
		Engineer	Kenichi Adachi

PK DETECT(S/A : RBW 100kHz ,VBW 300kHz, sweep time AUTO)

Limit Line

Limit [dBm]	Atten. [dB]	Cable Loss [dB]	Antenna Gain [dBi]	Limit Line [dBm]
-13.00	9.98	0.39	2.90	-26.27

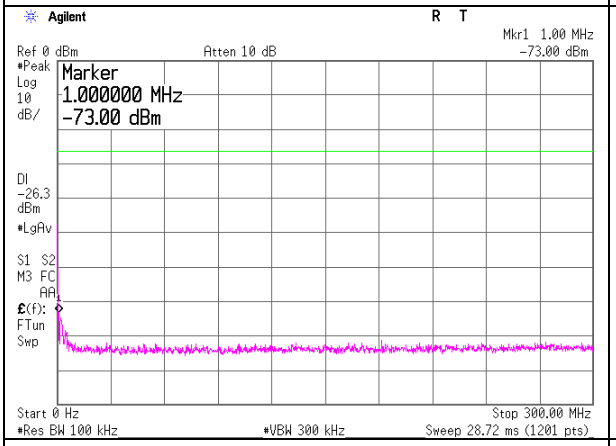
Sample Calculation : Limit Line = Limit - Atten. - Cable Loss - Antenna Gain

Spurious Emission (Conducted)

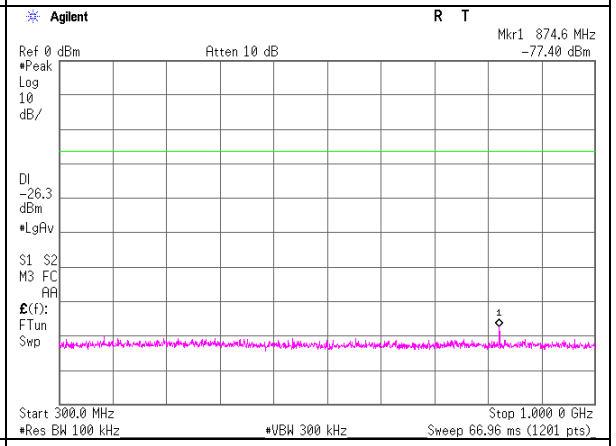
(Reference data)

Tx, Low ch., Mod7

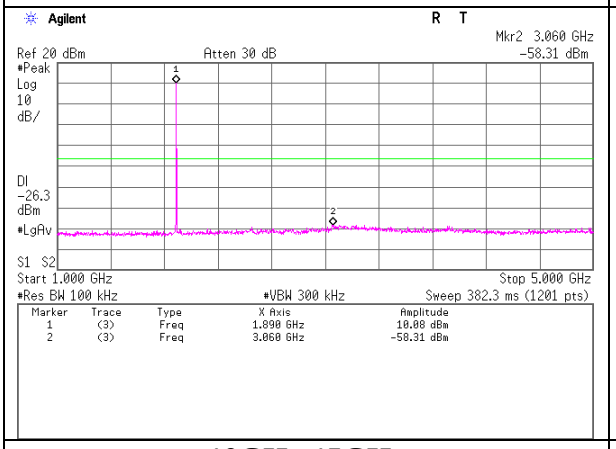
0Hz-300MHz



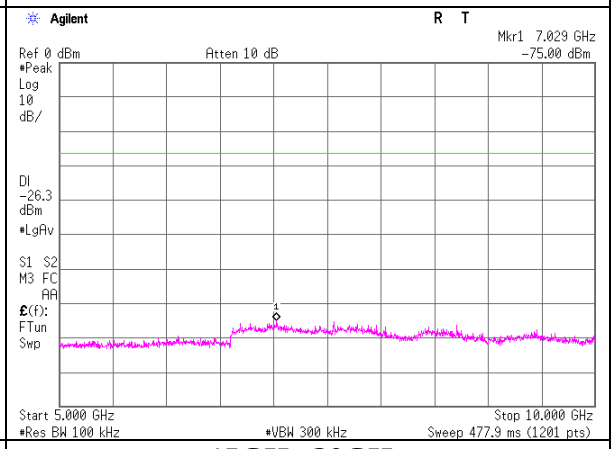
300MHz-1GHz



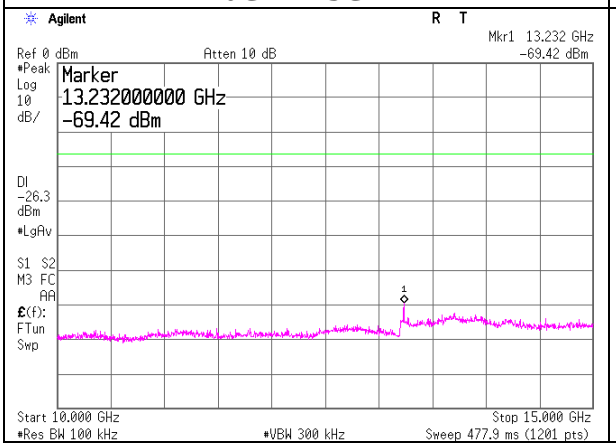
1GHz-5GHz



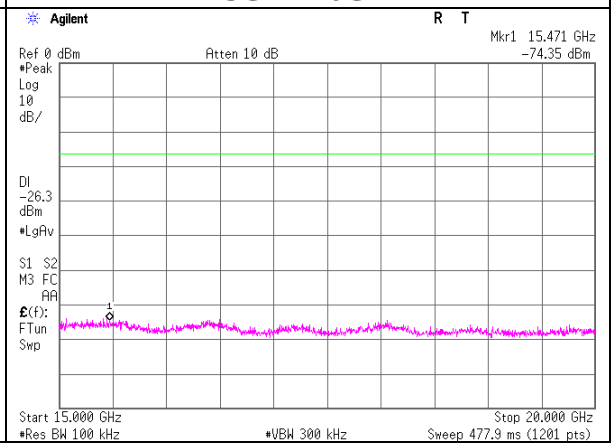
5GHz-10GHz



10GHz-15GHz



15GHz-20GHz

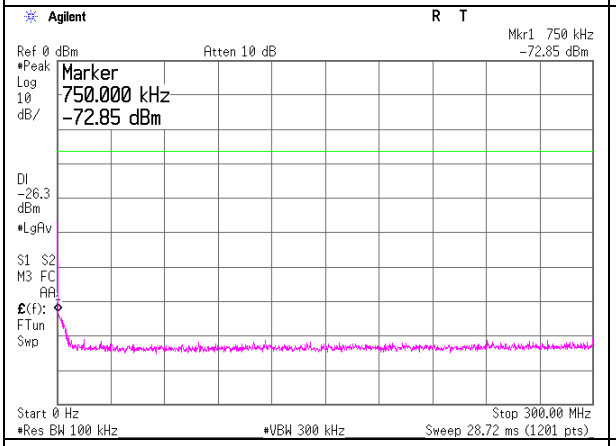


Spurious Emission (Conducted)

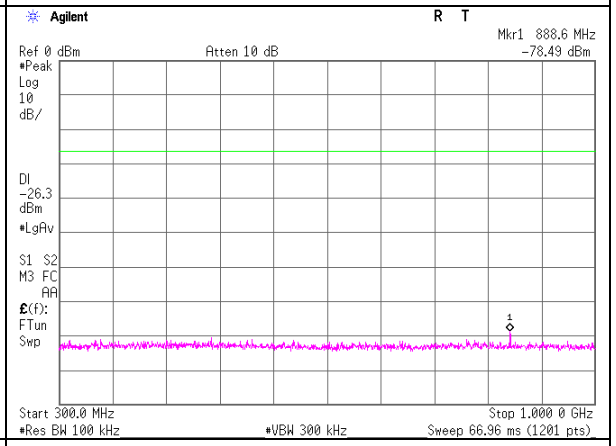
(Reference data)

Tx, Mid ch., Mod7

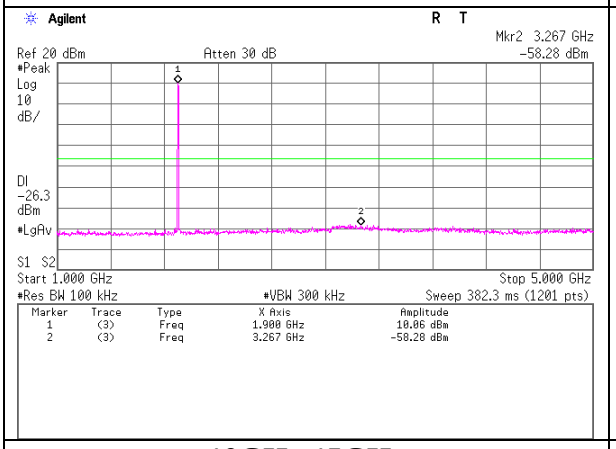
0Hz-300MHz



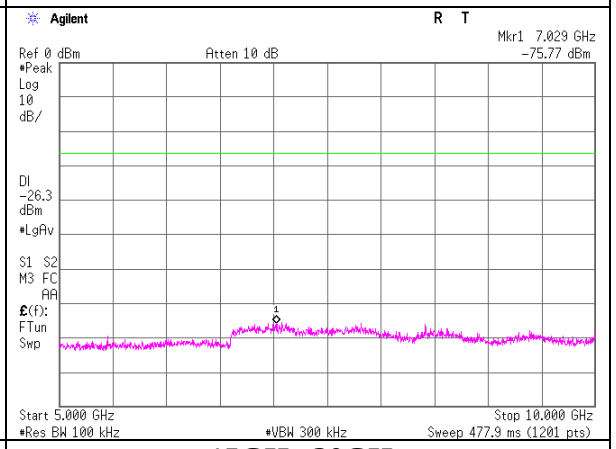
300MHz-1GHz



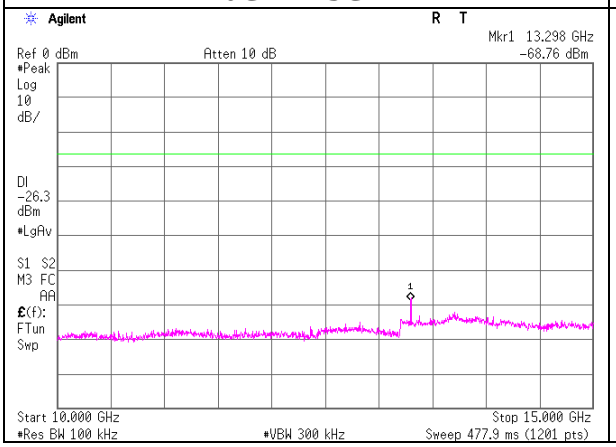
1GHz-5GHz



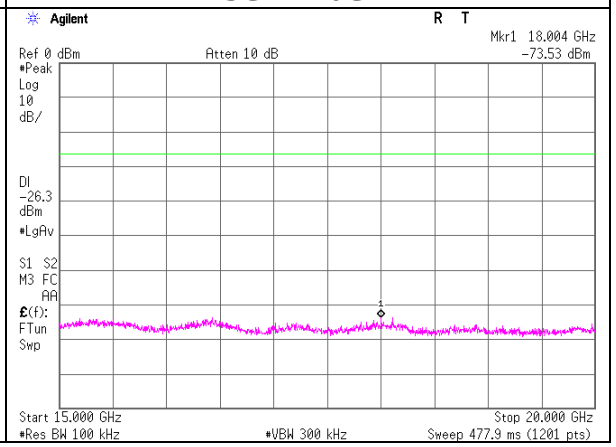
5GHz-10GHz



10GHz-15GHz



15GHz-20GHz

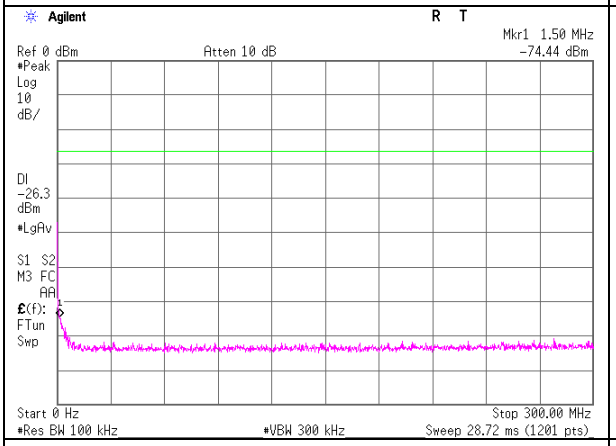


Spurious Emission (Conducted)

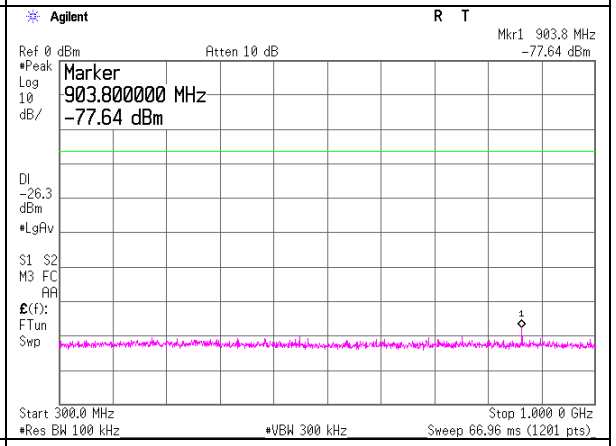
(Reference data)

Tx, High ch., Mod7

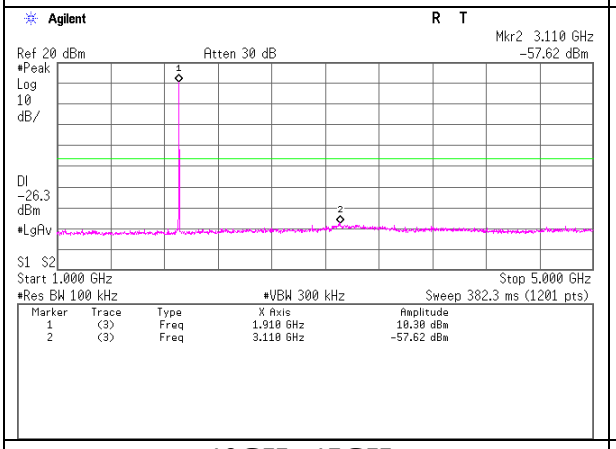
0Hz-300MHz



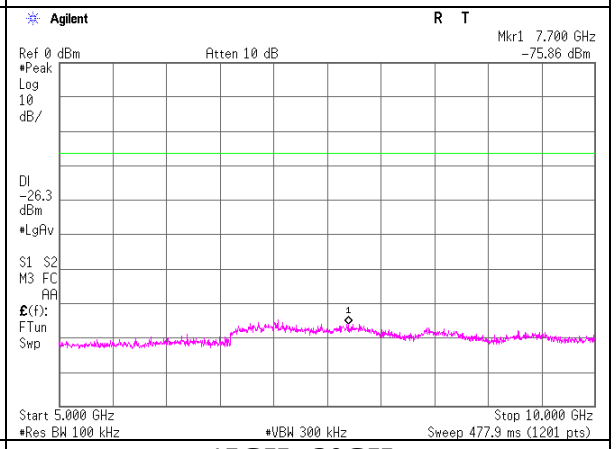
300MHz-1GHz



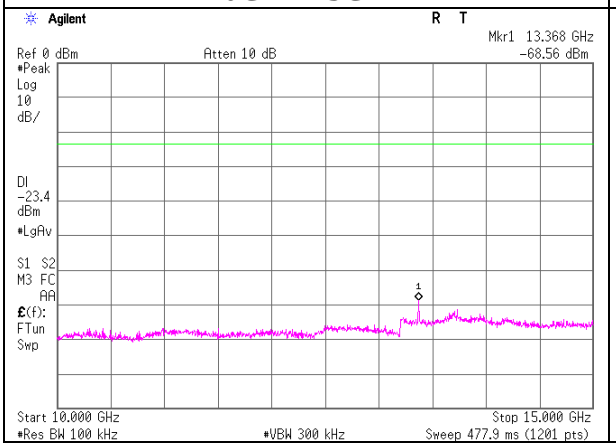
1GHz-5GHz



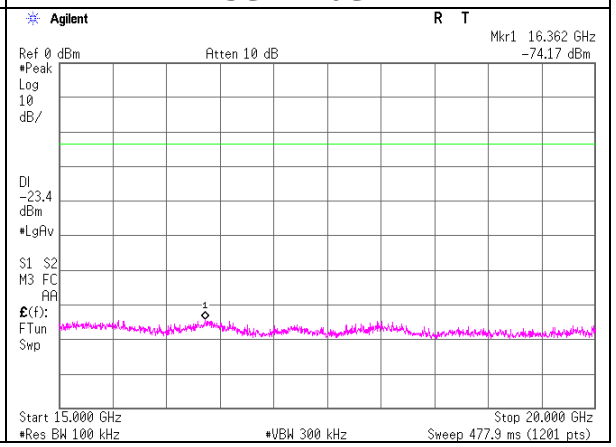
5GHz-10GHz



10GHz-15GHz



15GHz-20GHz



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Spurious Radiated Emission

Tx, Low ch., Mod7

UL Japan, Inc.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company	KYOCERA Corporation
Equipment	iBurst User Terminal USB type
Model	UTU03-1890F-US-A
S/N	No.18
Power	DC 5V (PC's input: AC 120V / 60Hz)
Mode	Transmitting, 1890.3125MHz, Modulation 7 (Worst),
EUT-Position	H: Y-axis / V: Z-axis
Antenna- Position	H: extended / V: extended
Tx Antenna	0.8m Height

Regulation	FCC part 24. Section 24.238(a)
Test Method	FCC part 2 Section 2.1053
Test Distance	3m (below 10GHz), 1m (above 10GHz)
Date	October 17, 2008
Temperature	23 deg.C.
Humidity	63 %
Engineer	Kenichi Adachi

No.	Frequency [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		SG Reading [dBm]		Tx Cable Loss [dB]	Tx Ant. Gain [dBi]	Tx Ant. ATT. Loss [dB]	RESULT (EIRP) [dBm]		LIMIT [dBm] (EIRP)	MARGIN [dB]		Mode	A/C	Remarks
		HOR	VER	HOR	VER				HOR	VER		HOR	VER			
1	66.45	30.2	41.1	-42.8	-31.6	0.5	-12.2	10.4	-65.9	-54.7	-13.0	52.9	41.7	Operating	No2	
2	108.07	38.7	46.0	-49.8	-43.1	0.5	0.1	9.8	-60.0	-53.3	-13.0	47.0	40.3	Operating	No2	
3	227.91	41.1	39.6	-50.2	-46.2	0.9	2.2	10.0	-58.9	-54.9	-13.0	45.9	41.9	Operating	No2	
4	239.95	44.0	38.5	-46.9	-46.4	0.9	2.2	9.9	-55.5	-55.0	-13.0	42.5	42.0	Operating	No2	
5	432.03	42.1	41.9	-49.6	-47.5	1.1	2.2	9.8	-58.4	-56.3	-13.0	45.4	43.3	Operating	No2	
6	933.17	54.6	51.6	-35.0	-35.4	1.9	2.2	9.6	-44.4	-44.8	-13.0	31.4	31.8	Operating	No2	
7	3780.63	61.4	59.2	-41.3	-43.0	5.4	12.7	0.0	-34.0	-35.7	-13.0	21.0	22.7	Operating	No2	
8	5670.94	60.4	57.8	-40.9	-44.2	6.8	13.3	0.0	-34.3	-37.6	-13.0	21.3	24.6	Operating	No2	
9	7561.25	64.2	62.5	-35.8	-38.6	8.0	11.5	0.0	-32.2	-35.0	-13.0	19.2	22.0	Operating	No2	
10	9451.56	60.2	60.4	-38.2	-40.7	8.9	11.5	0.0	-35.6	-38.1	-13.0	22.6	25.1	Operating	No2	
11	11341.88	62.8	59.6	-44.8	-47.6	9.6	11.6	0.0	-42.8	-45.6	-13.0	29.8	32.6	Operating	No2	
12	13232.19	79.1	74.2	-24.5	-31.7	10.3	13.0	0.0	-21.8	-29.0	-13.0	**8.8**	16.0	Operating	No2	
13	18903.13	67.7	66.1	-33.8	-35.4	13.0	14.7	0.0	-32.1	-33.7	-13.0	19.1	20.7	Operating	No2	

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain - Tx Ant. ATT. Loss
Rx-ANTENNA : Biconical Antenna(30M-300MHz), Logperiodic Antenna(300M-1000MHz), Horn Antenna(1G-12.75GHz)
Tx-ANTENNA : 120MHz tuned Dipole Antenna(30M-120MHz), Dipole Antenna(120M-1000MHz), Horn Antenna(1G-12.75GHz)
All other emissions were at least 20dB below the specification limit.
With the result above, the equivalent isotropic radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.
*The test result is rounded off to one or two decimal places, so some differences might be observed.
Detector : Below 1GHz: S/A PK(RBW:1MHz/VBW:1MHz), Above 1GHz: S/A PK(RBW:1MHz/VBW:1MHz)

Spurious Radiated Emission

Tx, Mid ch., Mod7

UL Japan, Inc.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company	KYOCERA Corporation
Equipment	iBurst User Terminal USB type
Model	UTU03-1890F-US-A
S/N	No.18
Power	DC 5V (PC's input: AC 120V / 60Hz)
Mode	Transmitting, 1899.6875MHz, Modulation 7 (Worst),
EUT-Position	H: Y-axis / V: Z-axis
Antenna- Position	H: extended / V: extended
Tx Antenna	0.8m Height

Regulation	FCC part 24. Section 24.238(a)
Test Method	FCC part 2 Section 2.1053
Test Distance	3m (below 10GHz), 1m (above 10GHz)
Date	November 10, 2008
Temperature	20 deg.C.
Humidity	40 %
Engineer	Kazufumi Nakai

No.	Frequency [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m]		SG Reading [dBm]		Tx Cable Loss [dB]	Tx Ant. Gain [dBi]	Tx Ant. ATT. Loss [dB]	RESULT (EIRP) [dBm]		LIMIT [dBm] (EIRP)	MARGIN [dB]		Mode	A/C	Remarks
		HOR	VER	HOR	VER				HOR	VER		HOR	VER			
1	80.82	28.1	40.6	-50.7	-37.8	0.5	-7.4	9.4	-67.9	-55.1	-13.0	54.9	42.1	Operating	No2	
2	107.71	34.6	45.6	-53.8	-43.4	0.5	0.1	9.8	-64.1	-53.7	-13.0	51.1	40.7	Operating	No2	
3	240.07	37.0	41.8	-53.9	-43.1	0.9	2.2	9.9	-62.5	-51.7	-13.0	49.5	38.7	Operating	No2	
4	260.13	47.1	46.5	-43.5	-37.8	0.9	2.2	9.9	-52.2	-46.5	-13.0	39.2	33.5	Operating	No2	
5	432.10	50.3	48.0	-41.4	-41.4	1.1	2.2	9.8	-50.2	-50.2	-13.0	37.2	37.2	Operating	No2	
6	961.53	45.7	45.8	-43.7	-41.3	1.9	2.2	9.7	-53.2	-50.8	-13.0	40.2	37.8	Operating	No2	
7	3799.38	58.5	57.5	-44.2	-44.7	5.4	12.7	0.0	-36.9	-37.4	-13.0	23.9	24.4	Operating	No2	
8	5699.06	56.7	56.1	-44.6	-45.8	6.8	13.3	0.0	-38.0	-39.3	-13.0	25.0	26.3	Operating	No2	
9	7598.75	62.3	56.4	-37.6	-44.7	8.0	11.5	0.0	-34.1	-41.1	-13.0	21.1	28.1	Operating	No2	
10	9498.44	59.8	55.6	-38.6	-45.5	8.9	11.5	0.0	-36.0	-42.9	-13.0	23.0	29.9	Operating	No2	
11	11398.13	65.6	59.8	-41.8	-47.3	9.6	11.7	0.0	-39.7	-45.3	-13.0	26.7	32.3	Operating	No2	
12	13297.81	76.0	76.7	-27.9	-29.3	10.3	12.8	0.0	-25.3	-26.8	-13.0	**12.3**	13.8	Operating	No2	
13	15197.50	62.9	62.5	-41.0	-37.5	11.2	14.4	0.0	-37.8	-34.3	-13.0	24.8	21.3	Operating	No2	
14	17097.19	66.1	64.0	-33.4	-29.4	12.4	13.9	0.0	-31.9	-27.9	-13.0	18.9	14.9	Operating	No2	
15	18996.88	59.4	60.8	-42.1	-40.7	13.1	14.7	0.0	-40.5	-39.1	-13.0	27.5	26.1	Operating	No2	

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain - Tx Ant. ATT. Loss
Rx-ANTENNA : Biconical Antenna(30M-300MHz), Logperiodic Antenna(300M-1000MHz), Horn Antenna(1G-12.75GHz)
Tx-ANTENNA : 120MHz tuned Dipole Antenna(30M-120MHz), Dipole Antenna(120M-1000MHz), Horn Antenna(1G-12.75GHz)
All other emissions were at least 20dB below the specification limit.
With the result above, the equivalent isotropic radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.
*The test result is rounded off to one or two decimal places, so some differences might be observed.
Detector : Below 1GHz: S/A PK(RBW:1MHz/VBW:1MHz), Above 1GHz: S/A PK(RBW:1MHz/VBW:1MHz)

Spurious Radiated Emission

Tx, High ch., Mod7

UL Japan, Inc.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company	KYOCERA Corporation
Equipment	iBurst User Terminal USB type
Model	UTU03-1890F-US-A
S/N	No.18
Power	DC 5V (PC's input: AC 120V / 60Hz)
Mode	Transmitting, 1909.6875MHz, Modulation 7 (Worst),
EUT-Position	H: Y-axis / V: Z-axis
Antenna- Position	H: extended / V: extended
Tx Antenna	0.8m Height

Regulation	FCC part 24. Section 24.238(a)
Test Method	FCC part 2 Section 2.1053
Test Distance	3m (below 10GHz), 1m (above 10GHz)
Date	November 10, 2008
Temperature	20 deg.C.
Humidity	40 %
Engineer	Kazufumi Nakai

No.	Frequency	Electric Field Strength (After Factor Calculation) [dBuV/m]		SG Reading [dBm]		Tx Cable Loss	Tx Ant. Gain	Tx Ant. ATT. Loss	RESULT (EIRP) [dBm]		LIMIT	MARGIN [dB]		Mode	A/C	Remarks
	[MHz]	HOR	VER	HOR	VER	[dB]	[dBi]	[dB]	HOR	VER	(EIRP)	HOR	VER			
1	75.62	30.7	34.5	-45.7	-41.5	0.5	-9.2	9.7	-65.2	-61.0	-13.0	52.2	48.0	Operating	No2	
2	98.63	35.3	37.5	-51.2	-48.4	0.6	-2.3	9.7	-63.8	-61.0	-13.0	50.8	48.0	Operating	No2	
3	197.85	32.5	41.7	-59.7	-46.2	0.8	2.2	10.1	-68.5	-55.0	-13.0	55.5	42.0	Operating	No2	
4	259.50	47.3	47.3	-43.3	-37.0	0.9	2.2	9.9	-52.0	-45.6	-13.0	39.0	32.6	Operating	No2	
5	432.03	50.8	48.6	-40.9	-40.8	1.1	2.2	9.8	-49.7	-49.6	-13.0	36.7	36.6	Operating	No2	
6	932.23	56.4	51.3	-33.2	-35.7	1.9	2.2	9.6	-42.6	-45.1	-13.0	29.6	32.1	Operating	No2	
7	3819.38	57.7	56.7	-45.1	-45.5	5.4	12.7	0.0	-37.7	-38.2	-13.0	24.7	25.2	Operating	No2	
8	5729.06	54.9	54.8	-46.4	-47.0	6.8	13.4	0.0	-39.8	-40.5	-13.0	26.8	27.5	Operating	No2	
9	7638.75	60.3	56.1	-39.6	-45.0	8.0	11.5	0.0	-36.1	-41.4	-13.0	23.1	28.4	Operating	No2	
10	9548.44	57.1	56.0	-41.2	-45.1	8.9	11.4	0.0	-38.7	-42.6	-13.0	25.7	29.6	Operating	No2	
11	11458.13	66.0	60.1	-41.2	-47.0	9.6	11.8	0.0	-39.0	-44.8	-13.0	26.0	31.8	Operating	No2	
12	13367.81	78.7	70.0	-25.4	-36.0	10.4	12.7	0.0	-23.1	-33.7	-13.0	**10.1**	20.7	Operating	No2	
13	15277.50	62.1	62.2	-41.1	-37.1	11.2	14.7	0.0	-37.6	-33.6	-13.0	24.6	20.6	Operating	No2	
14	17187.19	66.2	65.6	-34.6	-28.7	12.4	13.2	0.0	-33.8	-27.8	-13.0	20.8	14.8	Operating	No2	
15	18996.88	63.5	63.8	-38.0	-37.7	13.1	14.7	0.0	-36.4	-36.1	-13.0	23.4	23.1	Operating	No2	

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain - Tx Ant. ATT. Loss

Rx-ANTENNA : Biconical Antenna(30M-300MHz), Logperiodic Antenna(300M-1000MHz), Horn Antenna(1G-12.75GHz)

Tx-ANTENNA : 120MHz tuned Dipole Antenna(30M-120MHz), Dipole Antenna(120M-1000MHz), Horn Antenna(1G-12.75GHz)

All other emissions were at least 20dB below the specification limit.

With the result above, the equivalent isotropic radiated power was calculated on the basis of the reference value

- for the calibration data on the substitution measurement.

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Detector : Below 1GHz: S/A PK(RBW:1MHz/VBW:1MHz), Above 1GHz: S/A PK(RBW:1MHz/VBW:1MHz)

Frequency Stability(Temperature/Voltage Variation)

UL Japan, Inc.
Head Office EMC Lab. No.6 shielded room

Company	KYOCERA Corporation	Regulation	FCC part 24 Section 24.235
Equipment	iBurst User Terminal USB type	Test Method	FCC Part 2 Section 2.1055(a)(1) and (b)
Model	UTU03-1890F-US-A		FCC Part 2 Section 2.1055(d)(1)
S/N	No.18	Test Distance	-
Power	DC 5V (PC's input: AC 120V / 60Hz)	Date	October 6, 2008
Mode	Transmitting, 1904.6875MHz, Modulation 7	Temperature	25 deg.C.
		Humidity	53 %
		Engineer	Kenichi Adachi

Temp. [deg.C]	Volt. [V]	Frequency Deviation [Hz]	Frequency Result [MHz]	Frequency Deviation [ppm]	Limit [ppm]
-30	120.0	28.41	1904.687528	0.0149	+/- 2.500
-20	120.0	26.70	1904.687527	0.0140	+/- 2.500
-10	120.0	31.35	1904.687531	0.0165	+/- 2.500
0	120.0	25.22	1904.687525	0.0132	+/- 2.500
10	120.0	27.59	1904.687528	0.0145	+/- 2.500
20	120.0	25.75	1904.687526	0.0135	+/- 2.500
30	120.0	23.97	1904.687524	0.0126	+/- 2.500
40	120.0	22.27	1904.687522	0.0117	+/- 2.500
50	120.0	30.03	1904.687530	0.0158	+/- 2.500

Temp. [deg.C]	Volt. [V]	Frequency Deviation [Hz]	Frequency Result [MHz]	Frequency Deviation [ppm]	Limit [ppm]
20	102.0	23.36	1904.687523	0.0123	+/- 2.500
20	120.0	25.75	1904.687526	0.0135	+/- 2.500
20	138.0	24.96	1904.687525	0.0131	+/- 2.500

* "Frequency Deviation [Hz]" was average of 5 times measurement value.

APPENDIX 3: Test instruments

EMI test equipment (1/2)

Control No	Instrument	Manufacturer	Model No	Serial No.	Test Item	Calibration Date * Interval(month)
MRENT-72	Vector Signal Analyzer	Agilent/HP	HP89441A/AX4 ,AYA,UFG	3416A02277 / 3509A1094	FT	Pre Check
MCH-04	Temperature and Humidity Chamber	Espec	PL-2KP	14015723	FT	2008/08/27 * 12
MMM-11	Digital HiTESTER	Hioki	3805	060100600	FT	2008/04/09 * 12
MPSU-11	Power Supply	NF	ES1000S	9071787	FT	Pre Check
MOS-14	Thermo-Hygrometer	Custom	CTH-180	-	FT	2008/01/10 * 12
MCC-114	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	290212/4	FT	2008/08/01 * 12
MCC-91	Microwave Cable 1G-40GHz	Schner	SUCOFLEX102	30812/2	FT	2008/05/16 * 12
MCC-66	Microwave Cable 1G-40GHz	Schner	SUCOFLEX102	28636/2	FT	2008/04/04 * 12
MAT-24	Attenuator(10dB)(above 1GHz)	Agilent	8493C	71389	FT	2008/06/25 * 12
MAT-25	Attenuator(10dB)(above 1GHz)	Agilent	8493C	71642	FT	2008/06/25 * 12
MPM-08	Power Meter	Anritsu	ML2495A	6K00003338	AT / RE	2008/09/24 * 12
MPSE-11	Power sensor	Anritsu	MA2411B	011737	AT / RE	2008/09/24 * 12
MSA-04	Spectrum Analyzer	Agilent	E4448A	US44300523	AT	2008/08/18 * 12
MAT-24	Attenuator(10dB)(above 1GHz)	Agilent	8493C	71389	AT	2008/06/25 * 12
MAT-23	Attenuator(10dB) DC-18GHz	Orient Microwave	BX10-0476-00	-	AT	2008/03/05 * 12
MCC-91	Microwave Cable 1G-40GHz	Schner	SUCOFLEX102	30812/2	AT	2008/05/16 * 12
MOS-19	Thermo-Hygrometer	Custom	CTH-201	0001	AT	2007/12/05 * 12
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	DA-06902	RE	2008/04/17 * 12
MOS-22	Thermo-Hygrometer	Custom	CTH-201	0003	RE	2007/12/27 * 12
MJM-05	Measure	PROMART	SEN1955	-	RE	-
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MRENT-62	Spectrum Analyzer	Agilent	E4448A	MY46180653	RE	2007/11/27 * 12
MCC-47	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	284646(5m)/ 287573(1m)	RE	2008/05/12 * 12
MPA-10	Pre Amplifier	Agilent	8449B	3008A02142	RE	2008/09/17 * 12
MCC-77	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	278942/4	RE	2007/12/26 * 12
MHF-18	High Pass Filter 3.5-18.0GHz	TOKIMEC	TF323DCA	7002	RE	2007/12/10 * 12
MHA-06	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	254	RE	2008/01/19 * 12
MHA-02	Horn Antenna 18-26.5GHz	EMCO	3160-09	1265	RE	2008/01/19 * 12

EMI test equipment (2/2)

Control No	Instrument	Manufacturer	Model No	Serial No.	Test Item	Calibration Date * Interval(month)
MTR-03	Test Receiver	Rohde & Schwarz	ESCI	100300	RE	2008/04/02 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	-	RE	2008/02/15 * 12
MPA-09	Pre Amplifier	Agilent	8447D	2944A10845	RE	2008/09/04 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	BK7970	RE	2007/11/13 * 12
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	1915	RE	2008/01/12 * 12
MLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	174	RE	2008/01/12 * 12
MSG-01	Signal Generator	Rohde & Schwarz	SMR40	100023	RE	2008/01/08 * 12
MCC-48	Microwave Cable 1G-26.5GHz 7m	Suhner	SUCOFLEX102	23771/2	RE	2008/08/22 * 12
MHA-20	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	258	RE	2008/04/23 * 12
MPM-13	Power Meter	Anritsu	ML2495A	0824014	AT / RE	2008/08/13 * 12
MPSE-18	Power sensor	Anritsu	MA2411B	0738174	AT / RE	2008/08/13 * 12
MAT-21	Attenuator(20dB)(above 1GHz)	HIROSE ELECTRIC CO.,LTD.	AT-120	901247	AT	2008/01/09 * 12
MOS-04	Digital Humidity Indicator	N.T	NT-1800	MOS04	AT	2007/11/12 * 12
MSA-10	Spectrum Analyzer	Agilent	E4448A	MY46180655	AT	2008/02/27 * 12
MSG-02	Signal Generator	Rohde & Schwarz	SML03	100332	RE	2008/10/24 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	VHA91032008	RE	2008/10/18 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	201	RE	2008/10/18 * 12

The expiration date of the calibration is the end of the expired month.
All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.
Test Item：

RE: Output Power(Radiated), Band Edge(Radiated), Spurious emission (Radiated)
AT: Output Power(Conducted), Band Edge(Condcuted), Spurious emission (Conducted), Bandwidth
FT: Frequency Stability