

APPENDIX 2: Data of EMI test

Peak Output Power (Conducted)

UL Apex Co., Ltd.

Head Office EMC Lab. No.7 Shielded room

COMPANY	KYOCERA Corporation	REPORT NO	26KE0199-HO
EQUIPMENT	iBurst User Terminal	REGULATION	FCC Part24 Section 24.232(b)
MODEL	UTU1900D-US-A	TEST METHOD	FCC Part2 Section 2.1046
S/N	01	TEST DISTANCE	-
POWER	AC 120V / 60Hz (Host PC input voltage)	DATE	08/09/2006
MODE	Tx	TEMPERATURE	25 deg.C.
	Modulation 0 (Worst)	HUMIDITY	55 %
		ENGINEER	Kenichi Adachi

Ch	Frequency [MHz]	S/A Reading [dBm]	Atten. [dB]	Cable Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	Result [dBm]	Limit (E.I.R.P.) [dBm]	Margin [dB]
Low	1900.3125	5.51	10.09	1.85	4.95	0.00	22.40	33.00	10.60
Mid	1904.6875	5.72	10.09	1.86	4.95	0.00	22.62	33.00	10.38
High	1909.6875	5.69	10.09	1.86	4.95	0.00	22.59	33.00	10.41

Sample Calculation : Result = Reading + Atten. + Cable Loss

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

* Duty factor : (1 cycle time 5.0ms / on time 1.6ms = 3.125) : 4.95 dB

UL Apex Co., Ltd.

Head Office EMC Lab.

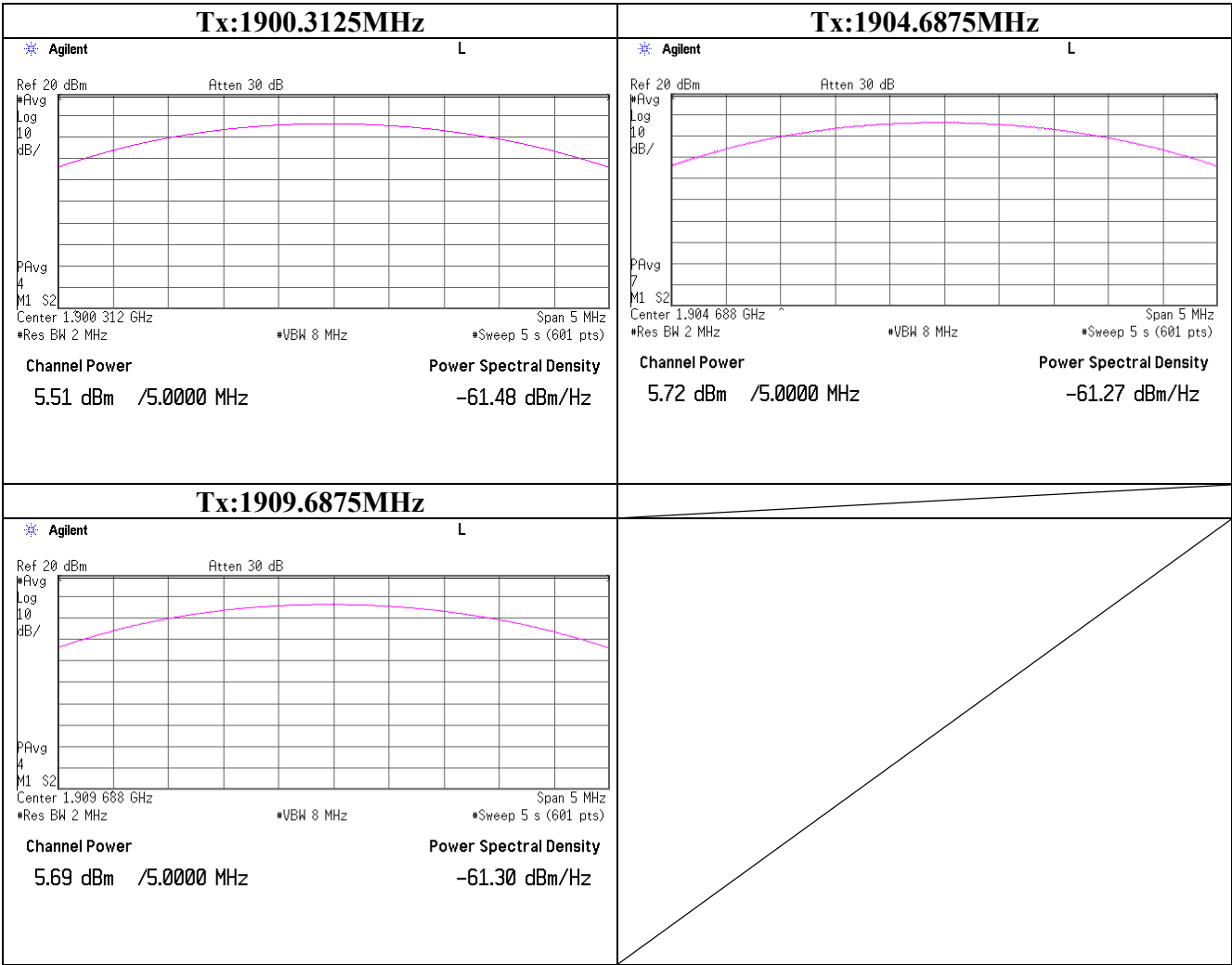
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MF060b(14.06.06)

Peak Output Power (Conducted)



Peak Output Power (Radiated)

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY	KYOCERA Corporation	REPORT NO	: 26KE0199-HO
EQUIPMENT	iBurst User Terminal	REGULATION	: FCC part24 (FCC 2.1053)
MODEL	UTU1900D-US-A	TEST DISTANCE	: 3m
S/ N	01	DATE	: 08/07/2006
POWER	AC 120V / 60Hz (Host PC input voltage)	TEMPERATURE	: 25 deg.C.
MODE	Tx Modulation 7 (Worst)	HUMIDITY	: 62 %
POSITION	H: X-axis / V: Y-axis	ENGINEER	: Kenichi Adachi
Tx Antenna Height	0.8m		

Ch	FREQ [MHz]	S/A READING		SG READING		CABLE LOSS [dB]	ANT GAIN [dBi]	ATTEN [dB]	RESULT (EIRP)		LIMITS (EIRP) [dBm]	MARGIN	
		HOR	VER	HOR	VER				HOR	VER		HOR	VER
Low	1900.31	94.6	95.2	16.9	16.6	1.1	7.74	0.0	23.6	23.3	33.0	9.4	9.7
Mid	1904.69	94.9	95.4	17.2	16.8	1.1	7.73	0.0	23.9	23.5	33.0	9.1	9.6
High	1909.69	94.8	95.4	17.1	16.8	1.1	7.72	0.0	23.8	23.4	33.0	9.2	9.6

S/A RBW 3MHz, VBW 3MHz

CALCULATION: READING(SG)-LOSS(CABLE)+ANT.GAIN-ATTEN

The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

RxANTENNA: Biconical Antenna(30-300MHz), Logperiodic Antenna(300-1000MHz), Horn Antenna(1-26.5GHz)

TxANTENNA: Dipole Antenna(30-1000MHz), Horn Antenna(1-26.5GHz)

UL Apex Co., Ltd.

Head Office EMC Lab.

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MF060b(14.06.06)

Emission Bandwidth and 99%Occupied Bandwidth

UL Apex Co., Ltd.
Head Office EMC Lab. No.7 Shielded room

COMPANY	KYOCERA Corporation	REPORT NO	26KE0199-HO
EQUIPMENT	iBurst User Terminal	REGULATION	FCC Part24 Section 24.238(b)
MODEL	UTU1900D-US-A	TEST METHOD	FCC Part2 Section 2.1049
S/N	01	TEST DISTANCE	-
POWER	AC 120V / 60Hz (Host PC input voltage)	DATE	08/11/2006
MODE	Tx	TEMPERATURE	24 deg.C.
	Modulation 0 (Worst)	HUMIDITY	55 %
		ENGINEER	Kenichi Adachi

Emission Bandwidth (-26dB Bandwidth)

PK DETECT(S/A: span 1MHz, RBW 10kHz,VBW 30kHz, sweep time 3sec)

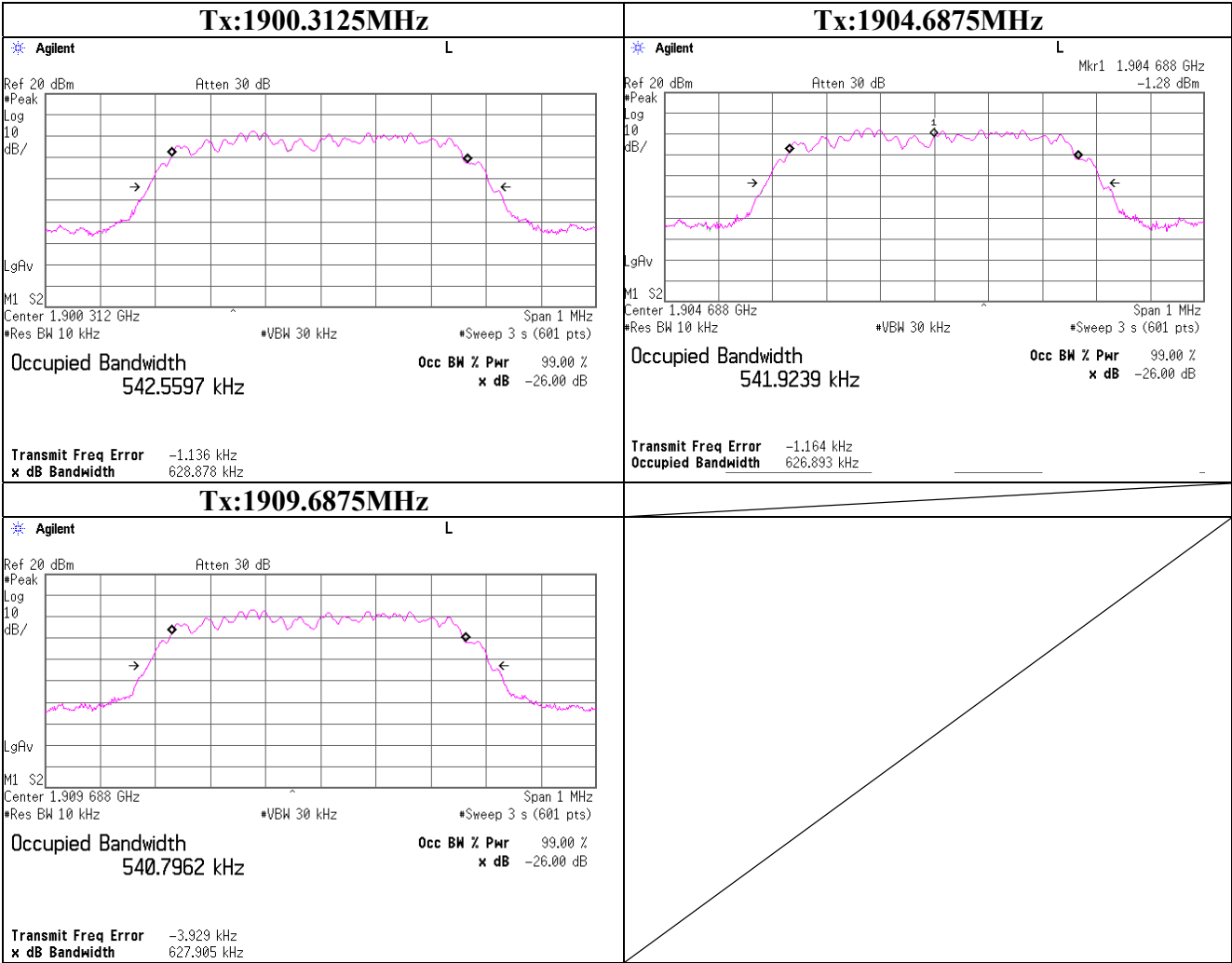
CH	FREQ	Bandwidth	Limit
	[MHz]	[kHz]	[kHz]
Low	1900.3125	628.9	-
Mid	1904.6875	626.9	-
High	1909.6875	627.9	-

99% Occupied Bandwidth

PK DETECT(S/A: span 1MHz, RBW 10kHz,VBW 30kHz, sweep time 3sec)

CH	FREQ	Bandwidth	Limit
	[MHz]	[kHz]	[kHz]
Low	1900.3125	542.6	-
Mid	1904.6875	541.9	-
High	1909.6875	540.8	-

Emission Bandwidth and 99% Occupied Bandwidth



Band Edge(Conducted)

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Head Office EMC Lab.

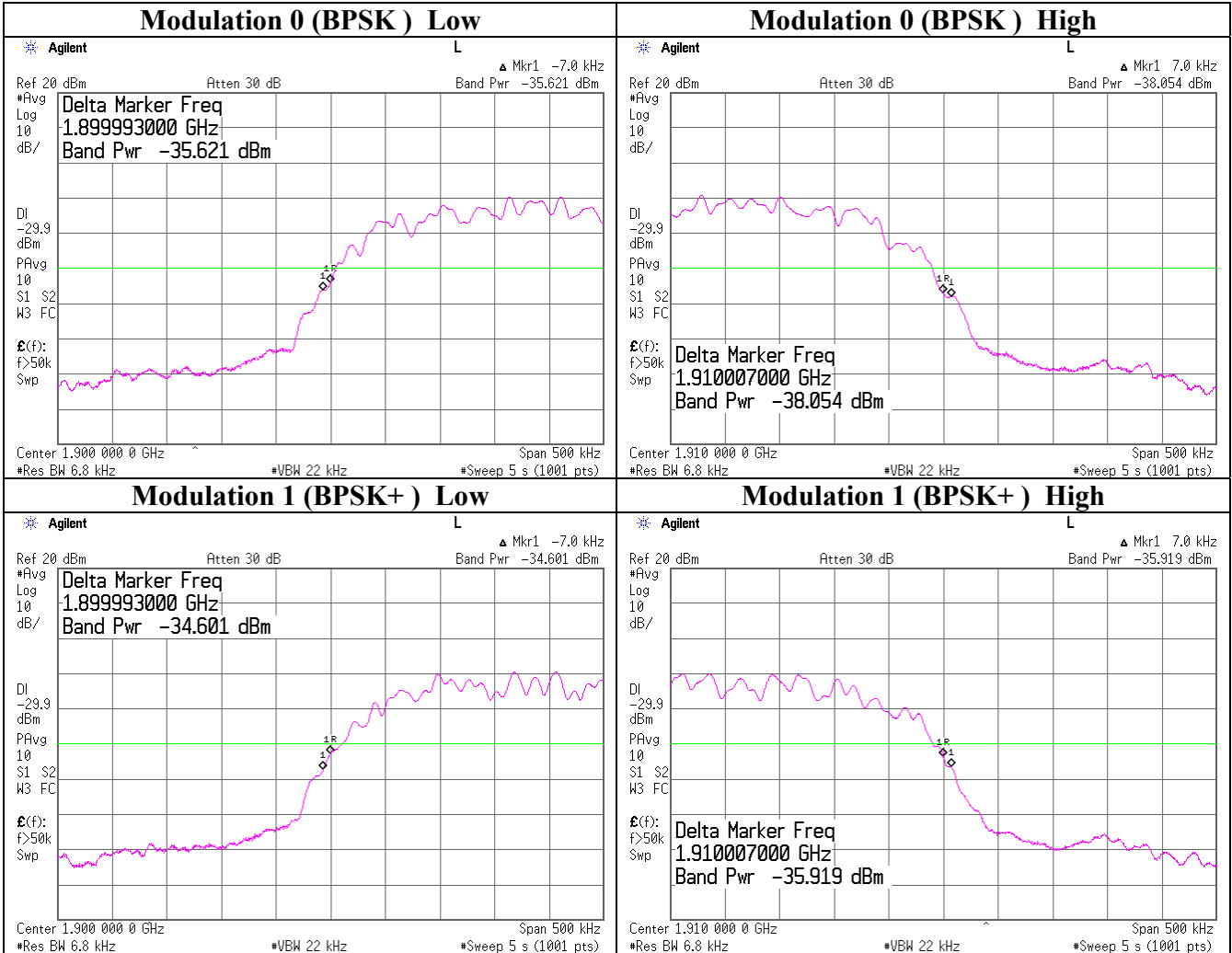
No.7 Shielded room

COMPANY	KYOCERA Corporation	REPORT NO	26KE0199-HO
EQUIPMENT	iBurst User Terminal	REGULATION	FCC Part24 Section 24.238(b)
MODEL	UTU1900D-US-A	TEST METHOD	FCC Part2 Section 2.1049
S/N	01	TEST DISTANCE	-
POWER	AC 120V / 60Hz (Host PC input voltage)	DATE	08/11/2006
MODE	Tx	TEMPERATURE	24 deg.C.
	(1900.3125MHz / 1909.6875MHz)	HUMIDITY	55 %
		ENGINEER	Kenichi Adachi

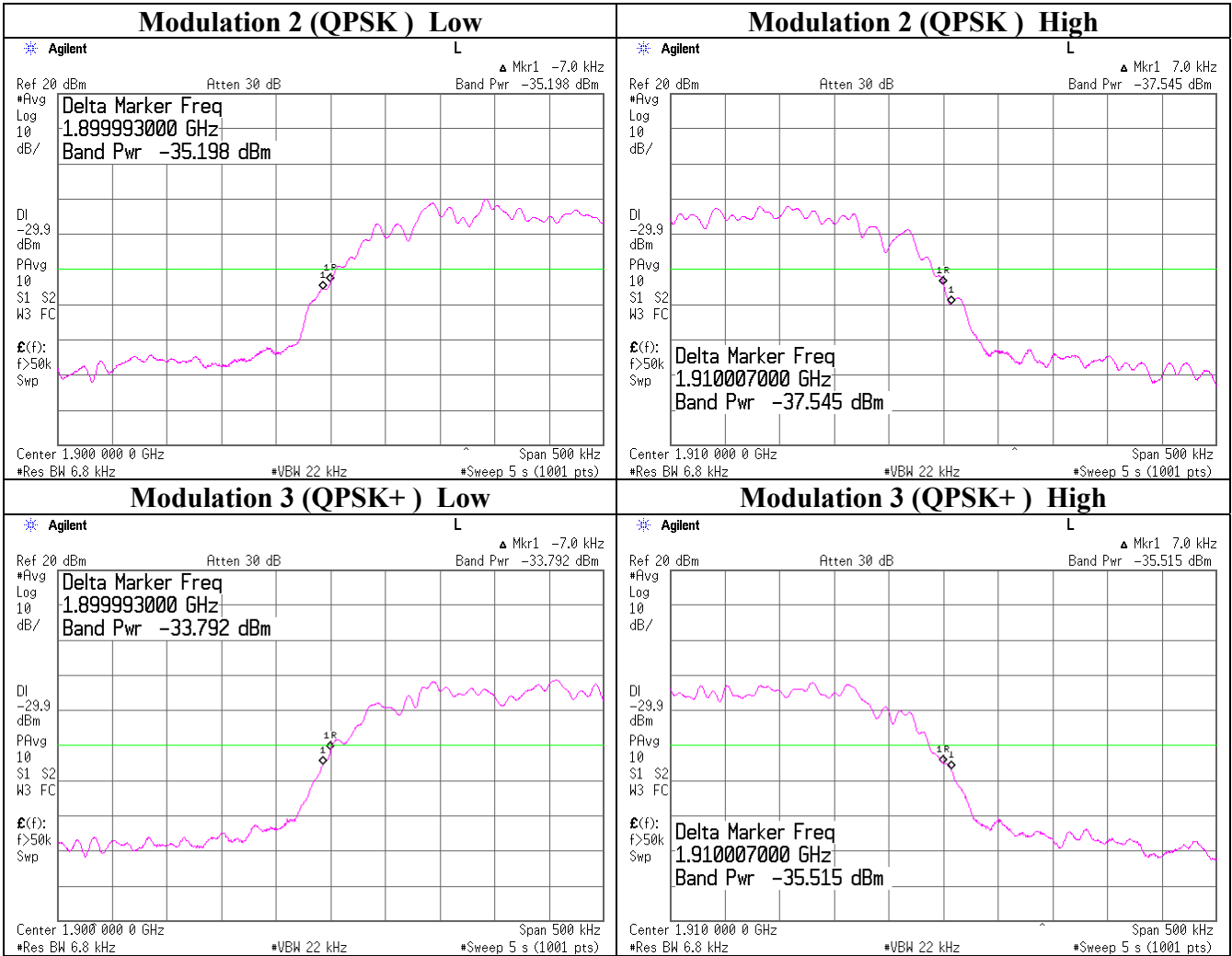
Modulation		Frequency [MHz]	S/A Reading [dBm]	Duty Rate [dB]	Atten. Loss [dB]	Cable Loss [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
0	BPSK	1900.0000	-35.62	4.95	10.09	1.85	-18.73	-13.00	5.73
		1910.0000	-38.05	4.95	10.09	1.86	-21.15	-13.00	8.15
1	BPSK+	1900.0000	-34.60	4.95	10.09	1.85	-17.71	-13.00	4.71
		1910.0000	-35.92	4.95	10.09	1.86	-19.02	-13.00	6.02
2	QPSK	1900.0000	-35.20	4.95	10.09	1.85	-18.31	-13.00	5.31
		1910.0000	-37.55	4.95	10.09	1.86	-20.65	-13.00	7.65
3	QPSK+	1900.0000	-33.79	4.95	10.09	1.85	-16.90	-13.00	3.90
		1910.0000	-35.52	4.95	10.09	1.86	-18.62	-13.00	5.62
4	8PSK	1900.0000	-36.29	4.95	10.09	1.85	-19.40	-13.00	6.40
		1910.0000	-35.73	4.95	10.09	1.86	-18.83	-13.00	5.83
5	8PSK+	1900.0000	-35.63	4.95	10.09	1.85	-18.74	-13.00	5.74
		1910.0000	-38.61	4.95	10.09	1.86	-21.71	-13.00	8.71
6	12QAM	1900.0000	-37.38	4.95	10.09	1.85	-20.49	-13.00	7.49
		1910.0000	-37.85	4.95	10.09	1.86	-20.95	-13.00	7.95
7	16QAM	1900.0000	-37.81	4.95	10.09	1.85	-20.92	-13.00	7.92
		1910.0000	-39.34	4.95	10.09	1.86	-22.44	-13.00	9.44

Sample Calculation : Result = Reading +Duty Rate + Atten. + Cable Loss
Duty Rate is on/off time of burst signal.

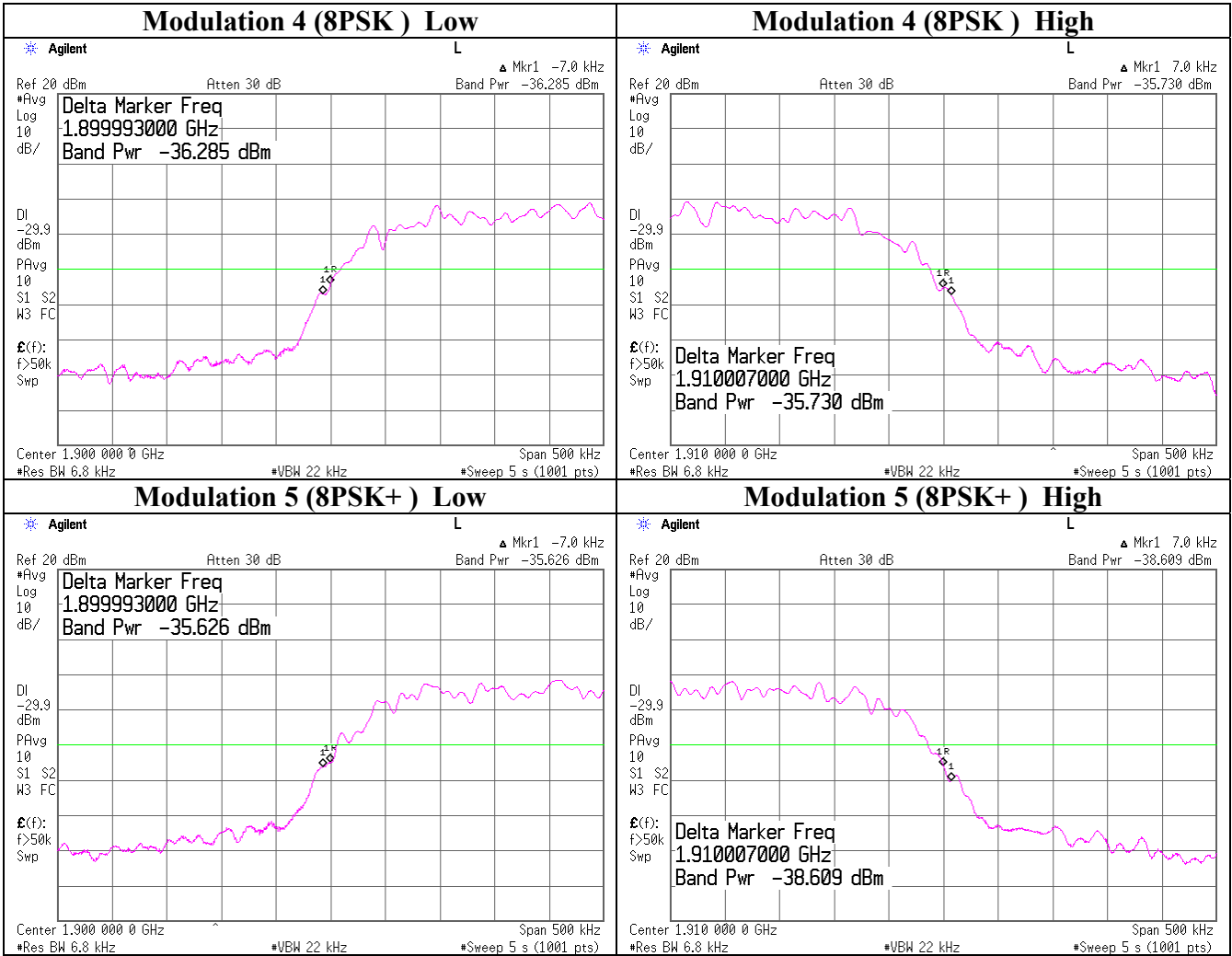
Band Edge(Conducted)



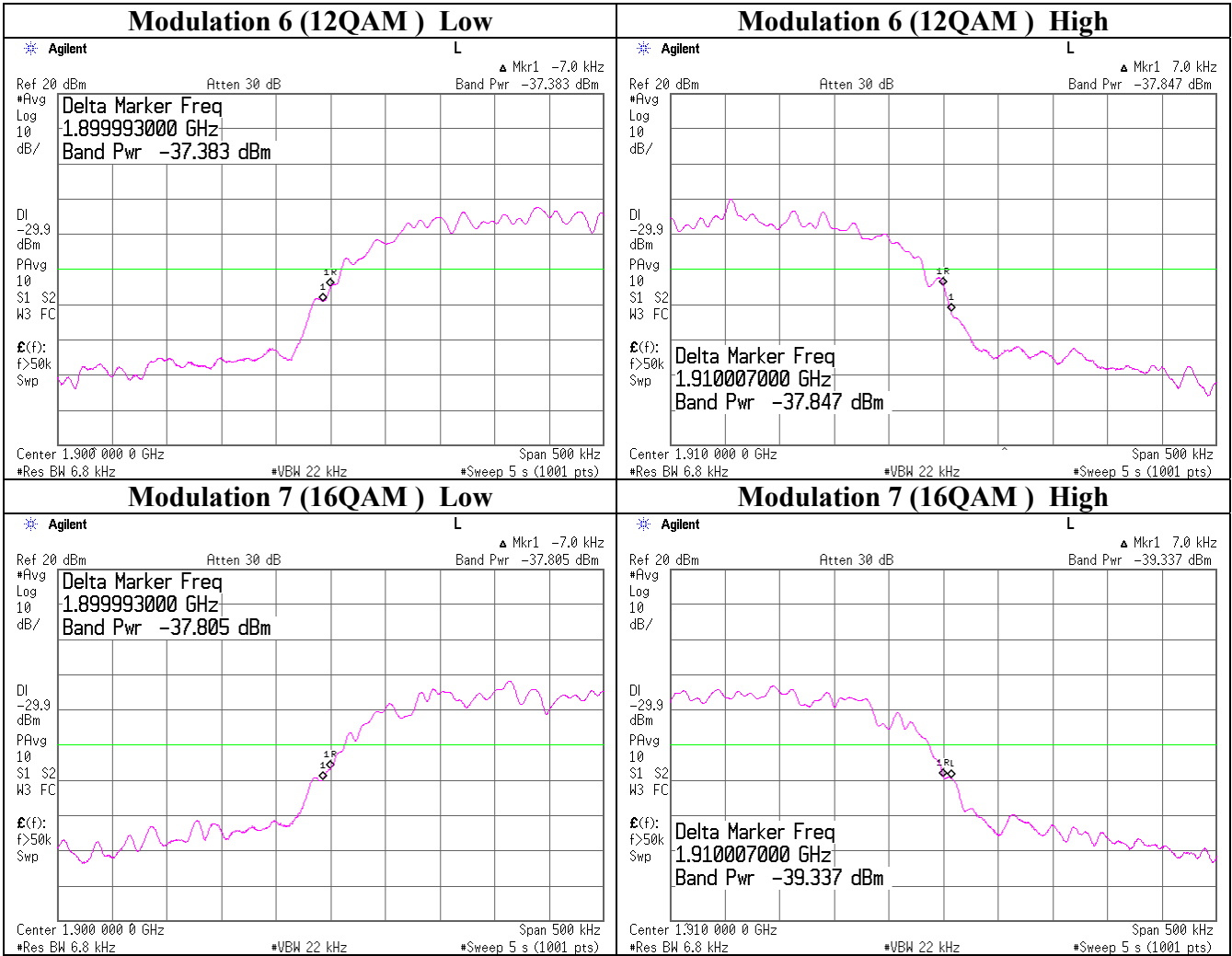
Band Edge(Conducted)



Band Edge(Conducted)



Band Edge(Conducted)



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Band Edge (Radiated)

UL Apex Co., Ltd.
Head Office EMC Lab. Semi Anechoic Chamber : No3

COMPANY KYOCERA Corporation
EQUIPMENT iBurst User Terminal
MODEL UTU1900D-US-A
S/N 01
POWER AC 120V / 60Hz (Host PC input voltage)
MODE Tx
Modulation 7 (Worst)
POSITION H: X-axis / V: Y-axis
Tx Antenna Height 0.8m

REPORT NO 26KE0199-HO
REGULATION FCC part 24 Section 24.238 (b) / FCC part 2 Section 2.1049
TEST DISTANCE 3m
DATE 08/18/2006
TEMPERATURE 25deg.C.
HUMIDITY 62 %
CALIBRATION OK
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	[dB]	[dBi]	[dB]	[dBm]		[dBm] (EIRP)	[dB]				
									HOR	VER		HOR	VER			
1	1900.00	77.8	79.0	-29.9	-29.5	2.4	10.2	0.0	-22.1	-21.7	-13.0	9.1	8.7	Operating	No3	
2	1910.00	77.3	78.1	-30.4	-30.4	2.4	10.2	0.0	-22.6	-22.6	-13.0	9.6	9.6	Operating	No3	

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

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

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

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

The noise was measured at each position of all three axes X, Y and Z to compare the level, and the maximum noise.

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

- for the calibration data on the substitution measurement.

Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

Detector : S/A RBW 10kHz, VBW 30kHz, Sweep 5sec. , AV (10 times)

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MF060b(14.06.06)

Spurious Emission (Conducted)

UL Apex Co., Ltd.
Head Office EMC Lab. No.7 Shielded Room

COMPANY	KYOCERA Corporation	REPORT NO	26KE0199-HO
EQUIPMENT	iBurst User Terminal	REGULATION	Fcc Part 24 Section 24.238(a)
MODEL	UTU1900D-US-A	TEST METHOD	Fcc Part 2 Section 2.1051
S/N	01	TEST DISTANCE	-
POWER	AC 120V / 60Hz (Host PC input voltage)	DATE	08/11/2006
MODE	Tx	TEMPERATURE	24 deg.C.
	Modulation 0 (Worst)	HUMIDITY	55 %
		ENGINEER	Kenichi Adachi

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

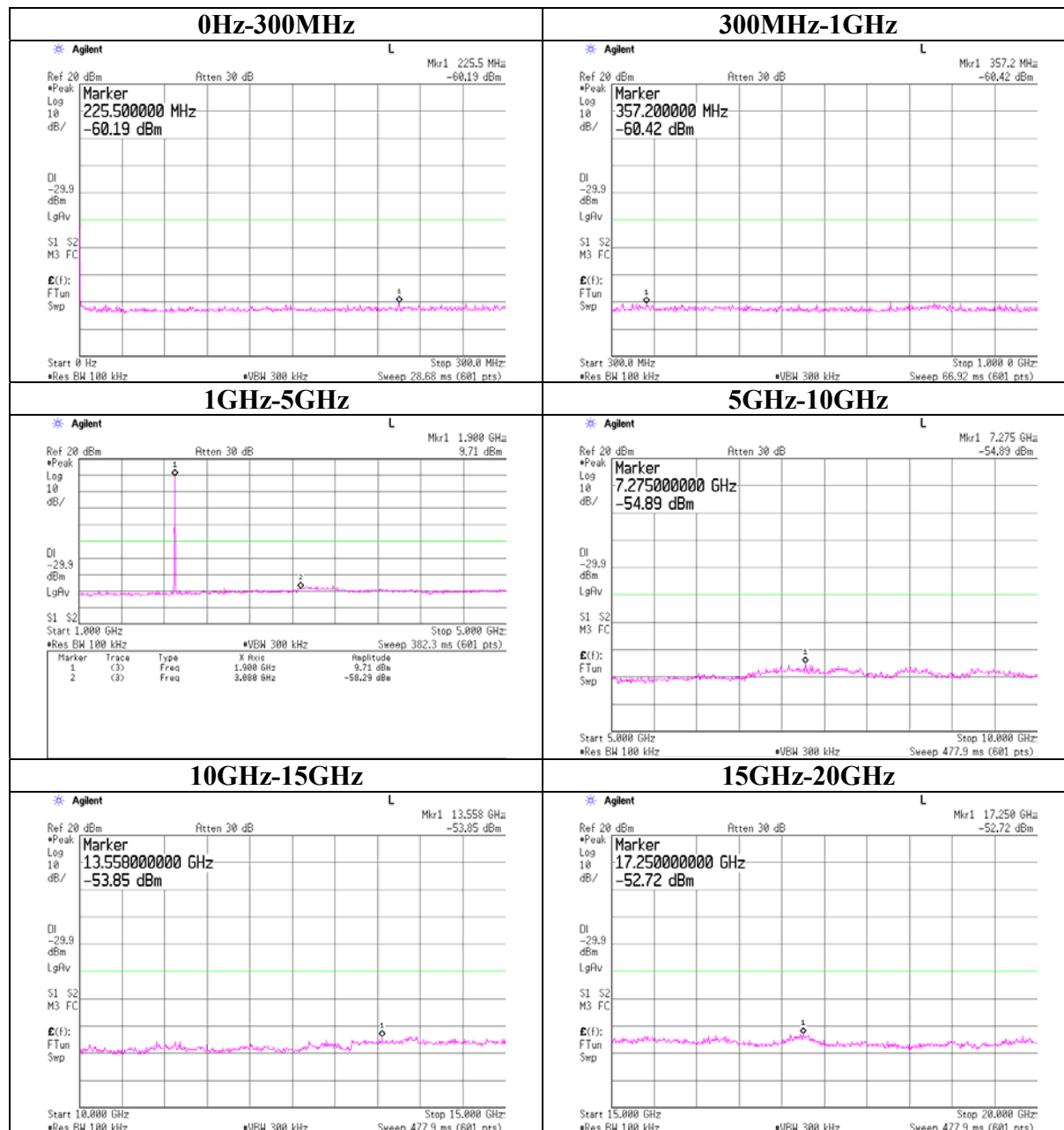
Limit Line

Limit	Atten.	Cable Loss	Limit Line
[dBm]	[dB]	[dB]	[dBm]
-13.00	10.09	1.85	-24.94

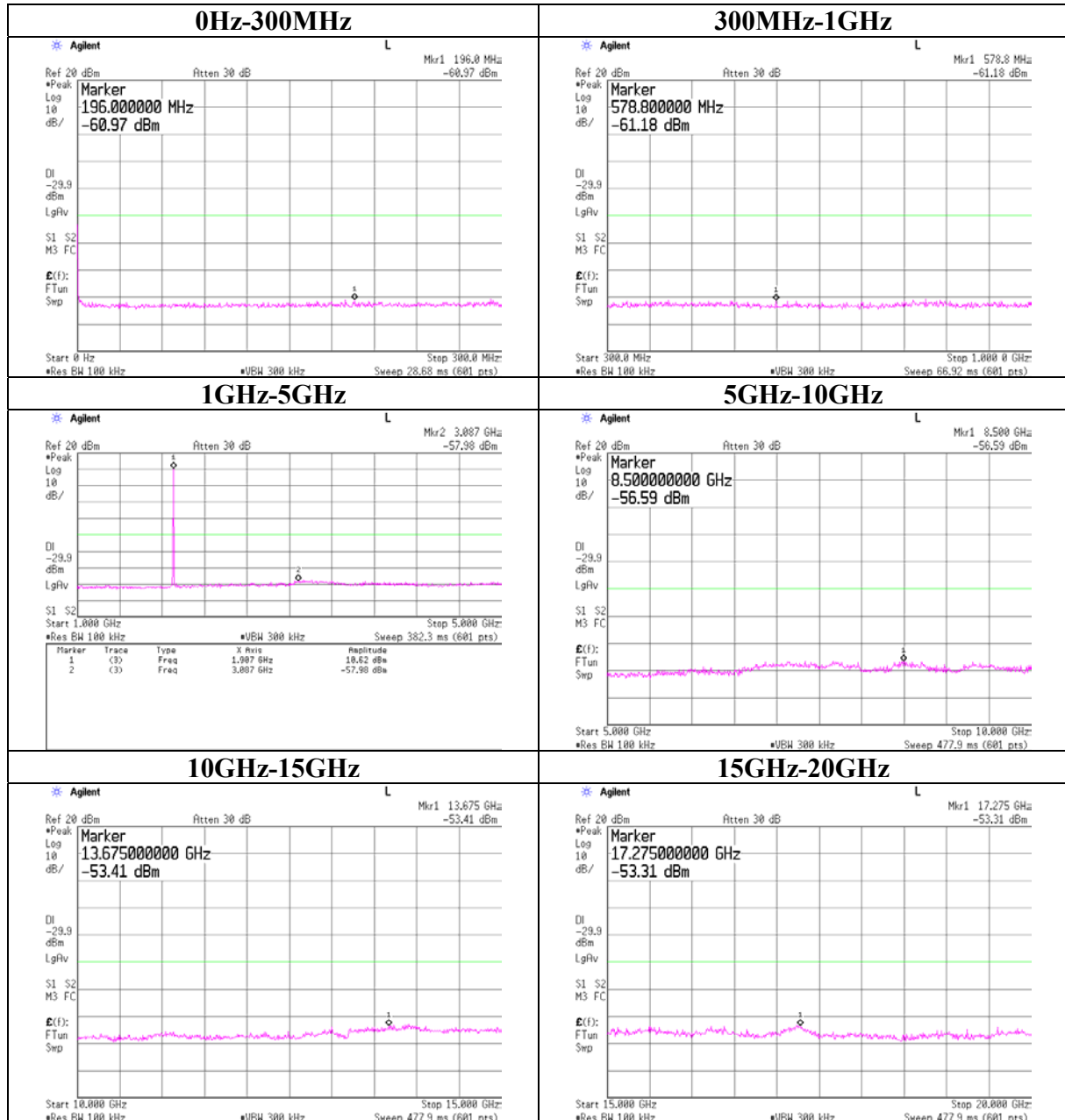
Sample Calculation : Limit Line = Limit - Atten. - Cable Loss

Result OK

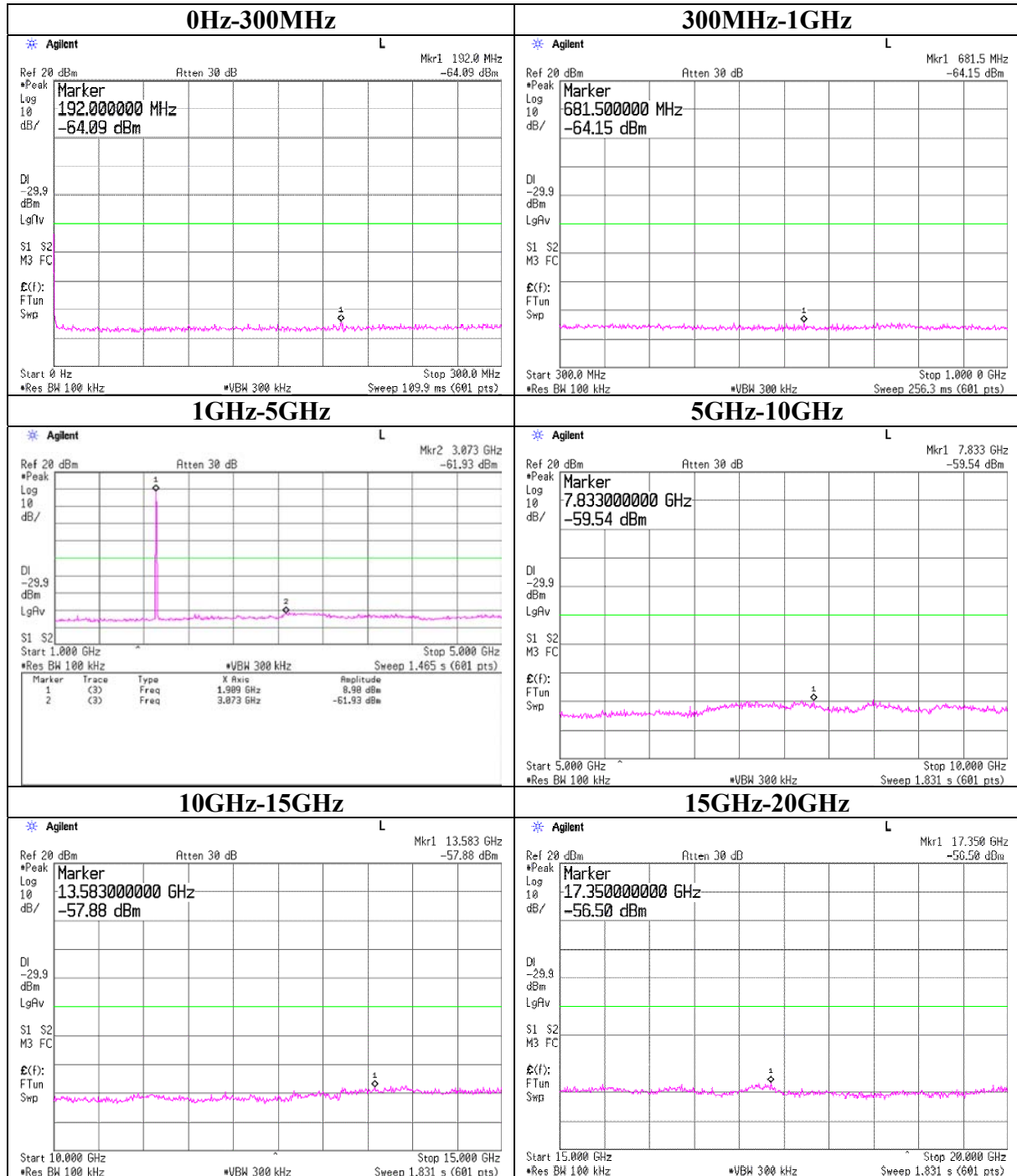
Spurious Emission (Conducted)
Tx:1900.3125MHz



Spurious Emission (Conducted)
Tx:1904.6875MHz



Spurious Emission (Conducted)
Tx:1909.6875MHz



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Spurious Radiation

UL Apex Co., Ltd.
Head Office EMC Lab. Semi Anechoic Chamber : No3

COMPANY	KYOCERA Corporation	REPORT NO	26KE0199-HO
EQUIPMENT	iBurst User Terminal	REGULATION	FCC part 24 Scetion 24.238(a), (FCC part2 Section 2.1053)
MODEL	UTU1900D-US-A	TEST DISTANCE	3m
S/N	01	DATE	08/17/2006
POWER	AC 120V / 60Hz (Host PC input voltage)	TEMPERATURE	26 deg.C.
MODE	Tx 1900.3125 MHz	HUMIDITY	60%
	Modulation 7 (Worst)	CALIBRATION	OK
POSITION	H: X-axis / V: Y-axis	ENGINEER	Kenichi Adachi
Tx Antenna Height	0.8m		

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									
1	98.30	31.2	40.4	-54.3	-45.1	0.6	-2.4	9.7	-67.0	-57.8	-13.0	54.0	44.8	Operating	No3	
2	122.88	34.4	41.0	-54.3	-47.0	0.7	2.2	10.1	-62.9	-55.6	-13.0	49.9	42.6	Operating	No3	
3	298.76	49.0	49.6	-42.6	-36.5	1.0	2.2	9.9	-51.3	-45.2	-13.0	38.3	32.2	Operating	No3	
4	575.95	42.7	42.5	-49.1	-47.4	1.4	2.2	10.1	-58.4	-56.7	-13.0	45.4	43.7	Operating	No3	
5	720.01	44.9	48.1	-45.3	-38.5	1.5	2.2	10.0	-54.6	-47.8	-13.0	41.6	34.8	Operating	No3	
6	792.01	46.2	45.9	-45.1	-40.7	1.6	2.2	9.9	-54.4	-50.0	-13.0	41.4	37.0	Operating	No3	

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

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

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

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

The noise was measured at each position of all three axes X, Y and Z to compare the level, and the maximum noise.

With the result above, the effective radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.

Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

Detector : S/A PK(RBW/VBW:1MHz)

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MF060b(14.06.06)

Spurious Radiation

UL Apex Co., Ltd.
Head Office EMC Lab. Semi Anechoic Chamber : No2

COMPANY KYOCERA Corporation
EQUIPMENT iBurst User Terminal
MODEL UTU1900D-US-A
S/N 01
POWER AC 120V / 60Hz (Host PC input voltage)
MODE Tx 1900.3125 MHz
Modulation 7 (Worst)
POSITION H: X-axis / V: Y-axis
Tx Antenna Height 0.8m

REPORT NO 26KE0199-HO
REGULATION FCC part 24 Section 24.238(a), (FCC part2 Section 2.1053)
TEST DISTANCE 3m (below 18GHz) / 1m (above 18GHz)
DATE 08/05/2006
TEMPERATURE 24 deg.C.
HUMIDITY 61%
CALIBRATION OK
ENGINEER Kenichi Adachi
Makoto Kosaka

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	1697.81	51.2	53.3	-52.4	-50.7	2.3	8.8	0.0	-45.9	-44.2	-13.0	32.9	31.2	Operating	No2	
2	3800.63	54.7	54.3	-53.0	-53.8	3.3	12.2	0.0	-44.1	-44.9	-13.0	31.1	31.9	Operating	No2	
3	5700.92	70.6	63.4	-37.5	-45.2	4.7	13.3	0.0	-28.9	-36.6	-13.0	15.9	23.6	Operating	No2	
4	7601.23	63.6	61.5	-40.3	-42.1	5.6	11.1	0.0	-34.8	-36.6	-13.0	21.8	23.6	Operating	No2	
5	9501.56	59.2	59.7	-40.6	-43.1	6.5	11.0	0.0	-36.1	-38.6	-13.0	23.1	25.6	Operating	No2	
6	11401.88	59.5	59.5	-43.1	-43.2	6.9	11.1	0.0	-38.9	-39.0	-13.0	25.9	26.0	Operating	No2	noise floor
7	13302.19	65.7	65.6	-36.1	-36.8	8.1	14.1	0.0	-30.1	-30.8	-13.0	17.1	17.8	Operating	No2	noise floor
8	15202.50	65.3	65.4	-39.8	-38.1	8.8	13.1	0.0	-35.5	-33.8	-13.0	22.5	20.8	Operating	No2	noise floor
9	17102.81	71.2	71.4	-33.8	-32.2	9.4	12.9	0.0	-30.3	-28.7	-13.0	17.3	15.7	Operating	No2	noise floor
10	19003.13	71.7	71.6	-36.7	-36.7	9.7	13.4	0.0	-33.0	-33.0	-13.0	20.0	20.0	Operating	No2	noise floor

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

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

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

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The noise was measured at each position of all three axes X, Y and Z to compare the level, and the maximum noise.

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Detector : S/A PK(RBW/VBW:1MHz)

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Spurious Radiation

UL Apex Co., Ltd.
Head Office EMC Lab. Semi Anechoic Chamber : No3

COMPANY KYOCERA Corporation
EQUIPMENT iBurst User Terminal
MODEL UTU1900D-US-A
S/N 01
POWER AC 120V / 60Hz (Host PC input voltage)
MODE Tx 1904.6875 MHz
Modulation 7 (Worst)
POSITION H: X-axis / V: Y-axis
Tx Antenna Height 0.8m

REPORT NO 26KE0199-HO
REGULATION FCC part 24 Scetion 24.238(a), (FCC part2 Section 2.1053)
TEST DISTANCE 3m
DATE 08/17/2006
TEMPERATURE 26 deg.C.
HUMIDITY 60%
CALIBRATION OK
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	98.41	31.0	40.2	-54.6	-45.4	0.6	-2.3	9.7	-67.2	-58.0	-13.0	54.2	45.0	Operating	No3	
2	122.81	33.1	40.9	-55.6	-47.1	0.7	2.2	10.1	-64.2	-55.7	-13.0	51.2	42.7	Operating	No3	
3	297.75	50.2	49.2	-41.4	-36.8	1.0	2.2	9.9	-50.1	-45.5	-13.0	37.1	32.5	Operating	No3	
4	575.96	43.3	43.1	-48.5	-46.8	1.4	2.2	10.1	-57.8	-56.1	-13.0	44.8	43.1	Operating	No3	
5	720.00	44.4	45.4	-45.8	-41.2	1.5	2.2	10.0	-55.1	-50.5	-13.0	42.1	37.5	Operating	No3	
6	792.00	48.0	45.6	-43.3	-41.0	1.6	2.2	9.9	-52.6	-50.3	-13.0	39.6	37.3	Operating	No3	

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

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

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

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Detector : S/A PK(RBW/VBW:1MHz)

UL Apex Co., Ltd.
Head Office EMC Lab.
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MF060b(14.06.06)

Test report No. : 26KE0199-HO-A
Page : 30 of 34
Issued date : August 30, 2006
FCC ID : JOYIUU19AB

Spurious Radiation

UL Apex Co., Ltd.
Head Office EMC Lab. Semi Anechoic Cham No2

COMPANY KYOCERA Corporation
EQUIPMENT iBurst User Terminal
MODEL UTU1900D-US-A
S/N 01
POWER AC 120V / 60Hz (Host PC input voltage)
MODE Tx 1904.6875 MHz
Modulation 7 (Worst)
POSITION H: X-axis / V: Y-axis
Tx Antenna Height 0.8m

REPORT NO 26KE0199-HO
REGULATION FCC part 24 Scetion 24.238(a), (FCC part2 Section 2.1053)
TEST DISTANCE 3m (below 18GHz), 1m (above 18GHz)
DATE 08/05/2006
TEMPERATURE 24 deg.C.
HUMIDITY 61%
CALIBRATION OK
ENGINEER Makoto Kosaka

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	1702.18	51.6	55.9	-52.1	-48.2	2.3	8.9	0.0	-45.5	-41.6	-13.0	32.5	28.6	Operating	No2	
2	3809.38	55.6	53.7	-52.1	-54.4	3.3	12.2	0.0	-43.2	-45.5	-13.0	30.2	32.5	Operating	No2	
3	5714.06	72.0	68.6	-36.1	-40.0	4.7	13.3	0.0	-27.5	-31.4	-13.0	14.5	18.4	Operating	No2	
4	7618.75	64.9	66.2	-38.9	-37.3	5.6	11.0	0.0	-33.5	-31.9	-13.0	20.5	18.9	Operating	No2	
5	9523.44	64.2	61.9	-35.6	-40.9	6.5	11.0	0.0	-31.1	-36.4	-13.0	18.1	23.4	Operating	No2	
6	11428.13	None Search	None Search	-	-	6.9	11.2	0.0	-	-	-13.0	-	-	Operating	No2	noise floor
7	13332.81	None Search	None Search	-	-	8.1	14.0	0.0	-	-	-13.0	-	-	Operating	No2	noise floor
8	15237.50	None Search	None Search	-	-	8.8	13.2	0.0	-	-	-13.0	-	-	Operating	No2	noise floor
9	17142.19	None Search	None Search	-	-	9.4	12.7	0.0	-	-	-13.0	-	-	Operating	No2	noise floor
10	19046.88	71.8	71.9	-36.7	-36.4	9.7	13.5	0.0	-32.9	-32.6	-13.0	19.9	19.6	Operating	No2	noise floor

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

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

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

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

The noise was measured at each position of all three axes X, Y and Z to compare the level, and the maximum noise.

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

- for the calibration data on the substitution measurement.

Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

Detector : S/A PK(RBW/VBW:1MHz)

UL Apex Co., Ltd.

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MF060b(14.06.06)

Spurious Radiation

COMPANY	KYOCERA Corporation	UL Apex Co., Ltd.
EQUIPMENT	iBurst User Terminal	Head Office EMC Lab. Semi Anechoic Chamber No3
MODEL	UTU1900D-US-A	REPORT NO 26KE0199-HO
S/N	01	REGULATION FCC part 24 Section 24.238(a), (FCC part2 Section 2.1053)
POWER	AC 120V / 60Hz (Host PC input voltage)	TEST DISTANCE 3m
MODE	Tx 1909.6875 MHz	DATE 08/17/2006
	Modulation 7 (Worst)	TEMPERATURE 26 deg.C.
POSITION	H: X-axis / V: Y-axis	HUMIDITY 60%
Tx Antenna Height	0.8m	CALIBRATION OK
		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	98.36	30.6	39.4	-55.0	-46.2	0.6	-2.3	9.7	-67.6	-58.8	-13.0	54.6	45.8	Operating	No3	
2	122.93	33.5	41.1	-55.2	-46.9	0.7	2.2	10.1	-63.8	-55.5	-13.0	50.8	42.5	Operating	No3	
3	296.66	47.4	49.8	-44.2	-36.1	1.0	2.2	9.9	-52.9	-44.8	-13.0	39.9	31.8	Operating	No3	
4	575.99	44.1	42.5	-47.7	-47.4	1.4	2.2	10.1	-57.0	-56.7	-13.0	44.0	43.7	Operating	No3	
5	720.00	44.5	46.6	-45.7	-40.0	1.5	2.2	10.0	-55.0	-49.3	-13.0	42.0	36.3	Operating	No3	
6	792.00	47.0	46.4	-44.3	-40.2	1.6	2.2	9.9	-53.6	-49.5	-13.0	40.6	36.5	Operating	No3	

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

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

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

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

The noise was measured at each position of all three axes X, Y and Z to compare the level, and the maximum noise.

With the result above, the effective radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.

Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

Detector : S/A PK(RBW/VBW:1MHz)

Spurious Radiation

COMPANY

EQUIPMENT

MODEL

S/N

POWER

MODE

POSITION

Tx Antenna Height

KYOCERA Corporation

iBurst User Terminal

UTU1900D-US-A

01

AC 120V / 60Hz (Host PC input voltage)

Tx 1909.6875 MHz

Modulation 7 (Worst)

H: X-axis / V: Y-axis

0.8m

UL Apex Co., Ltd.

Head Office EMC Lab. Semi Anechoic Chamber : No2

REPORT NO

REGULATION

TEST DISTANCE

DATE

TEMPERATURE

HUMIDITY

CALIBRATION

ENGINEER

26KE0199-HO

FCC part 24 Scetion 24.238(a), (FCC part2 Section 2.1053)

3m (below 18GHz) , 1m (above 18GHz)

08/05/2006

24 deg.C.

61%

OK

Kenichi Adachi

Makoto Kosaka

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	HOR	VER					
1	1707.18	51.1	53.0	-52.6	-51.1	2.3	8.9	0.0	-46.0	-44.5	-13.0	33.0	31.5	Operating	No2	
2	3819.23	54.9	54.7	-52.7	-53.4	3.3	12.2	0.0	-43.8	-44.5	-13.0	30.8	31.5	Operating	No2	
3	5728.88	71.3	63.4	-36.9	-45.3	4.7	13.4	0.0	-28.2	-36.6	-13.0	15.2	23.6	Operating	No2	
4	7638.50	63.4	61.8	-40.4	-41.7	5.6	11.0	0.0	-35.0	-36.3	-13.0	22.0	23.3	Operating	No2	
5	9548.88	59.3	59.9	-40.5	-42.9	6.5	11.0	0.0	-36.0	-38.4	-13.0	23.0	25.4	Operating	No2	
6	11458.13	59.8	59.7	-42.9	-43.0	6.9	11.3	0.0	-38.5	-38.6	-13.0	25.5	25.6	Operating	No2	noise floor
7	13367.81	65.5	65.6	-36.3	-36.6	8.1	13.8	0.0	-30.6	-30.9	-13.0	17.6	17.9	Operating	No2	noise floor
8	15277.50	64.8	64.7	-40.6	-39.2	8.8	13.3	0.0	-36.1	-34.7	-13.0	23.1	21.7	Operating	No2	noise floor
9	17187.19	71.4	71.3	-33.0	-31.1	9.4	12.5	0.0	-29.9	-28.0	-13.0	16.9	15.0	Operating	No2	noise floor
10	19096.88	71.7	71.8	-36.8	-36.5	9.7	13.6	0.0	-32.9	-32.6	-13.0	19.9	19.6	Operating	No2	noise floor

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

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

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

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

The noise was measured at each position of all three axes X, Y and Z to compare the level, and the maximum noise.

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

- for the calibration data on the substitution measurement.

Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

Detector : S/A PK(RBW/VBW:1MHz)

Frequency Stability(Temperature/Voltage Variation)

UL Apex Co., Ltd.
Head Office EMC Lab. Shielded Room : No.7

COMPANY KYOCERA Corporation
EQUIPMENT iBurst User Terminal
MODEL UTU1900D-US-A
S/N 01
POWER AC 120 V / 60Hz (Host PC input voltage)
MODE Tx 1904.6875 MHz

REPORT NO 26KE0199-HO
REGULATION FCC Part24 Section 24.235
TEST METHOD FCC Part2 Section 2.1055(a)(1) and(b)
FCC Part2 Section 2.1055(d)(1) and(2)
TEST DISTANCE -
DATE 08/08/2006
TEMPERATURE 26 deg.C.
HUMIDITY 47 %
ENGINEER Kenichi Adachi

Temp. [deg.C]	Volt. [V]	Carrier Frequency [MHz]	Frequency Deviation [Hz]	Frequency Deviation [ppm]	Limit (+/- 1 ppm) [kHz]
-30.0	120.0	1904.687500	+/-100 *	0.05	+/- 1.905
-20.0	120.0	1904.687500	+/- 100 *	0.05	+/- 1.905
-10.0	120.0	1904.687500	+/- 100 *	0.05	+/- 1.905
0.0	120.0	1904.687500	+/- 100 *	0.05	+/- 1.905
10.0	120.0	1904.687500	+/- 100 *	0.05	+/- 1.905
20.0	120.0	1904.687500	+/- 100 *	0.05	+/- 1.905
30.0	120.0	1904.687500	+/- 100 *	0.05	+/- 1.905
40.0	120.0	1904.687500	+/- 100 *	0.05	+/- 1.905
50.0	120.0	1904.687500	+/- 100 *	0.05	+/- 1.905

Temp. [deg.C]	Volt. [V]	Frequency Reading [MHz]	Frequency Deviation [Hz]	Frequency Deviation [ppm]	Limit (+/- 1 ppm) [kHz]
20.0	102.00	1904.687500	+/- 100 *	0.05	+/- 1.905
20.0	120.00	1904.687500	+/- 100 *	0.05	+/- 1.905
20.0	138.00	1904.687500	+/- 100 *	0.05	+/- 1.905

* The frequency deviation was less than 100Hz

APPENDIX 3: Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	RE	2006/04/10 * 12
MSA-04	Spectrum Analyzer	Agilent	E4448A	RE	2006/06/02 * 12
MCC-25	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	RE	2005/08/30 * 12
MPA-10	Pre Amplifier	Agilent	8449B	RE	2005/09/07 * 12
MAT-22	Attenuator(10dB) DC-18GHz	Orient Microwave	BX10-0476-00	RE / AT	2006/03/18 * 12
MAT-25	Attenuator(10dB)(above1GHz)	Agilent	8493C	RE	2006/06/02 * 12
MHF-05	High Pass Filter 3.5-24GHz	Tokimec	TF323DCA	RE	2006/01/24 * 12
MCC-47	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	RE	2005/08/30 * 12
MHA-06	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2006/01/09 * 12
MHA-02	Horn Antenna	EMCO	3160-09	RE	2006/01/09 * 12
MOS-02	Digital Humidity Indicator	N.T	NT-1800	RE	2004/11/25 * 24
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	RE	-
MSTW-19	Substitution measurement form	UL Apex	-	RE	-
MSA-07	Spectrum Analyzer	Advantest	R3272	RE	2005/11/22 * 12
MHF-07	High Pass Filter 3.5-24GHz	Tokimec	TF323DCA	RE	2006/05/20 * 12
MCH-01	Temperature and Humidity Chamber	Tabai Spec	PL-2KP	AT	2005/12/19 * 12
MBTR08	Rubidium Frequency Standard 10MHz	Datum	8040	AT	2006/01/20 * 12
MCC-05	Microwave Cable 1G-40GHz 2m	Storm	421-011 (90-1394-079)	AT	2006/01/04 * 12
MCC-26	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	AT	2005/08/30 * 12
MOS-04	Digital Humidity Indicator	N.T	NT-1800	AT	2004/11/25 * 24
MSA-03	Spectrum Analyzer	Agilent	E4448A	AT	2005/09/16 * 12
MCC-22	Microwave Cable 1G-40GHz	Storm	421-011 (90-011-080)	AT	2006/05/12 * 12
MAEC-03	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	RE	2006/03/03 * 12
MSA-04	Spectrum Analyzer	Agilent	E4448A	RE	2006/06/02 * 12
MCC-51	Coaxial cable	UL Apex	-	RE	2006/03/11 * 12
MPA-13	Pre Amplifier	SONOA INSTRUMENT	310	RE	2006/03/25 * 12
MAT-30	Attenuator(6dB)	TME	UFA-01	RE	2006/03/11 * 12
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	RE	2006/01/29 * 12
MLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2006/01/29 * 12
MOS-12	Thermo-Hygrometer	Custom	CTH-180	RE	2006/01/19 * 24
MCC-56	Microwave Cable	Suhner	SUCOFLEX104	RE	2006/04/15 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	RE	2006/03/27 * 12
MHA-05	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	RE	2006/01/09 * 12
MHA-01	Horn Antenna 18-26.5G	EMCO	3160-09	RE	2006/01/09 * 12

All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Test Item: RE: Radiated emission,
AT: Antenna terminal measurements

UL Apex Co., Ltd.

Head Office EMC Lab.

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