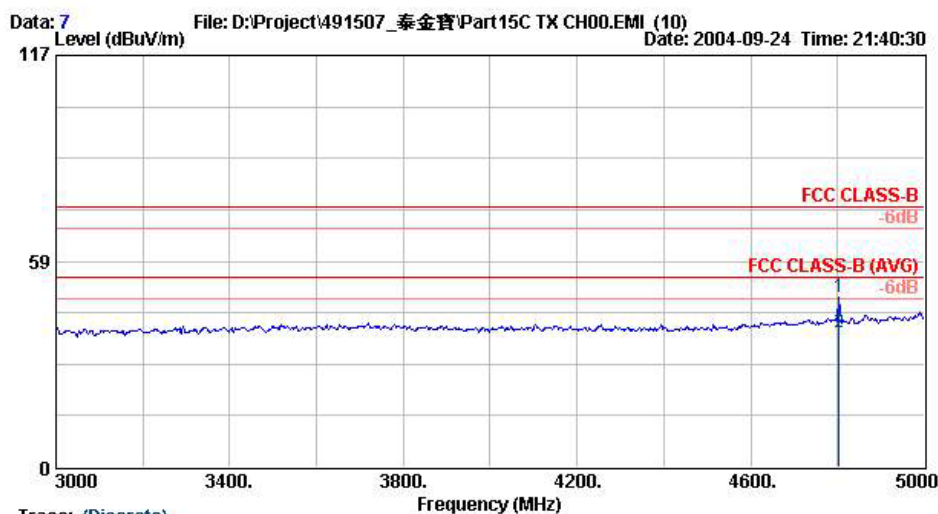


FCC TEST REPORT

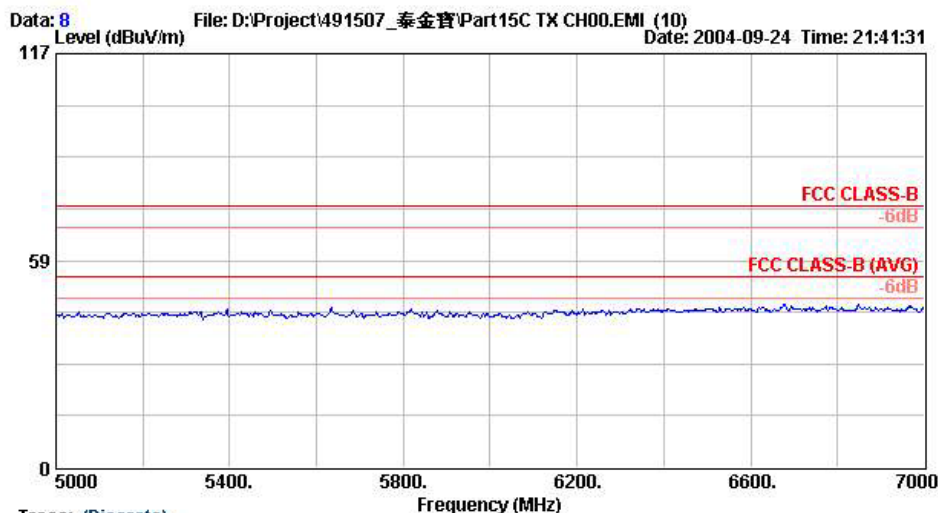
Report No. : FR491507



Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH00 ; 2402MHz

	Freq	Level	Over	Limit	ReadAntenna	Preampl	Cable	Remark	Ant	Table
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	4804.00	48.37	-25.63	74.00	56.71	32.25	45.33	4.75 Peak	101	0
2	4804.00	38.41	-35.59	74.00	46.75	32.25	45.33	4.75 Average	101	0



Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH00 ; 2402MHz

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

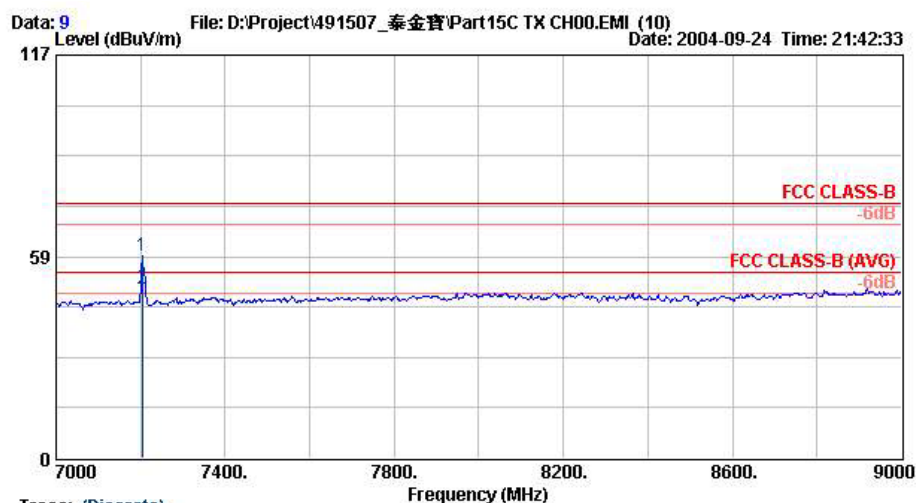
FCC ID. : OHH-HS815

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Issued Date : Oct. 05, 2004

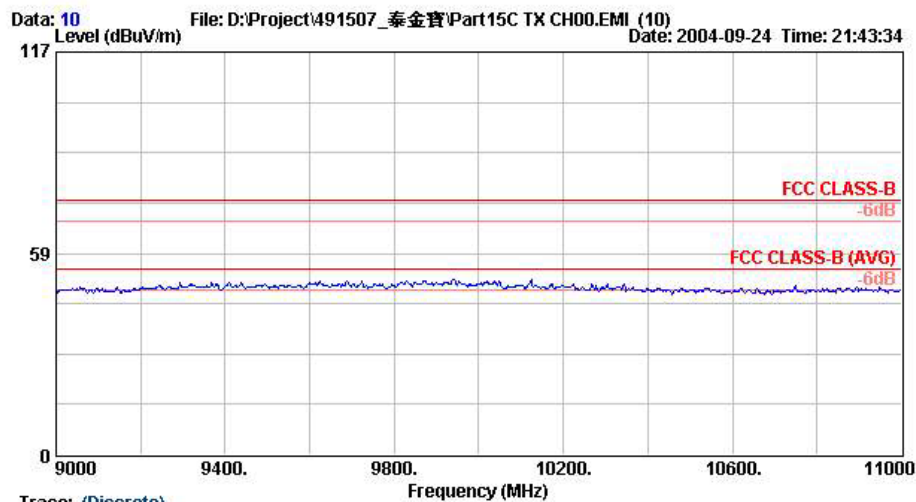
FCC TEST REPORT

Report No. : FR491507



Site : 03CH06-HY
 Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
 EUT : Bluetooth Earpiece
 Power : DC 3.6V
 Model : HS815
 Memo : TX CH00 ; 2402MHz

	Freq	Level	Over	Limit	ReadAntenna	Preamp	Cable	Remark	Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Factor		Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB		cm	deg
1 @	7204.00	58.85	-15.15	74.00	64.11	35.24	46.75	6.25 Peak	101	0
2 @	7204.00	49.29	-4.71	54.00	54.56	35.24	46.75	6.25 Average	101	0



Site : 03CH06-HY
 Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
 EUT : Bluetooth Earpiece
 Power : DC 3.6V
 Model : HS815
 Memo : TX CH00 ; 2402MHz

- Remark: Frequency from 11GHz to 25GHz, the emission emitted by the EUT is too low to be measured

■ Field strength of fundamental and harmonics

Frequency	Antenna	Cable	Reading	Preamp	Limits	Emission	Margin	Detect	
	Polarity	Factor	Loss		Factor				
(MHz)		(dB/m)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
								Mode	
2398.000	H	28.40	3.32	63.72	44.55	-	95.44	-	Peak
2398.000	H	28.40	3.32	42.55	44.55	-	74.27	-	A.V.
2404.000	V	28.41	3.32	54.89	44.55	-	86.62	-	Peak
2404.000	V	28.41	3.32	37.74	44.55	-	69.47	-	A.V.
4804.000	H	32.25	4.75	14.21	45.33	74.00	51.21	-22.79	Peak
4804.000	H	32.25	4.75	4.03	45.33	54.00	41.03	-12.97	A.V.
7204.000	H	35.24	6.25	10.90	46.75	74.00	52.39	-21.61	Peak
4204.000	H	35.24	6.25	-7.98	46.75	54.00	33.51	-20.49	A.V.
4804.000	V	32.25	4.75	11.37	45.33	74.00	48.37	-25.63	Peak
4804.000	V	32.25	4.75	1.41	45.33	54.00	38.41	-15.59	A.V.
7204.000	V	35.24	6.25	17.36	46.75	74.00	58.85	-15.15	Peak
7204.000	V	35.24	6.25	7.80	46.75	54.00	49.29	-4.71	A.V.
9608.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
12010.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
14412.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
16814.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
19216.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
21618.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
24020.000	V/H	-	-	-	-	-	-	-	Peak, A.V.

Remark: The emission emitted by the EUT is too low to be measured except the emission listed above

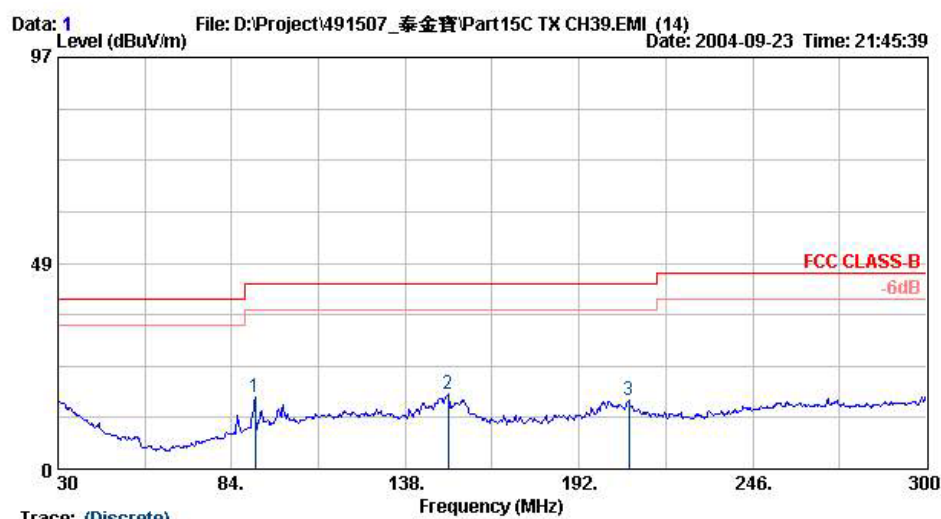
Test Engineer : 

Jim

- Test Mode: Mode 2
- Test Distance: 3 M
- Temperature: 26 °C
- Relative Humidity: 57 %
- Test Date: Sep. 23, 2004
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

■ The test that passed at the minimum margin was marked by the frame in the following test record

■ Spurious Emission

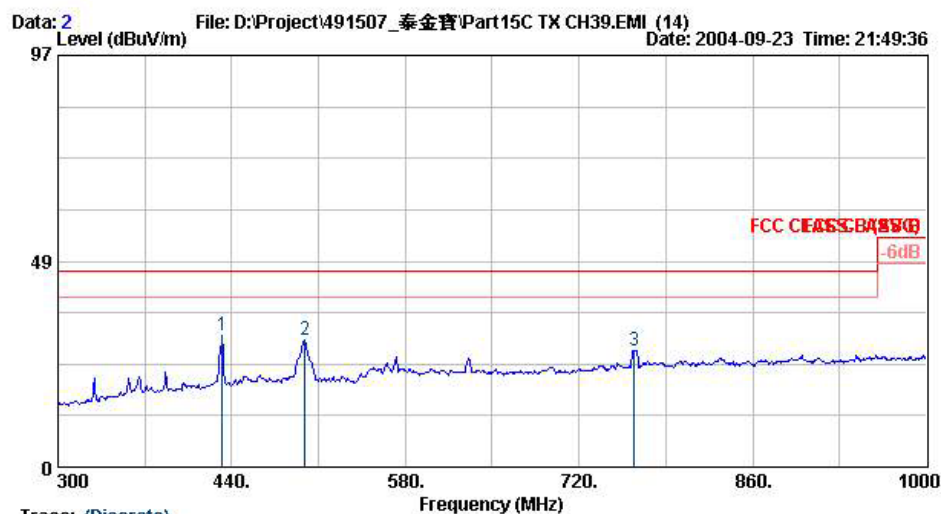


Site : 03CH06-HY
 Condition : FCC CLASS-B 3m BI LOG 2004 0629 HORIZONTAL
 EUT : Bluetooth Earpiece
 Power : DC 3.6V
 Model : HS815
 Memo : TX CH39 ; 2441MHz

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB		cm	deg
1 @	91.29	16.88	-26.62	43.50	39.23	9.01	32.23	0.86 Peak	400	0
2 @	151.23	17.61	-25.89	43.50	38.82	9.95	32.22	1.06 Peak	400	0
3 @	207.39	16.27	-27.23	43.50	38.27	8.70	31.97	1.26 Peak	400	0

FCC TEST REPORT

Report No. : FR491507

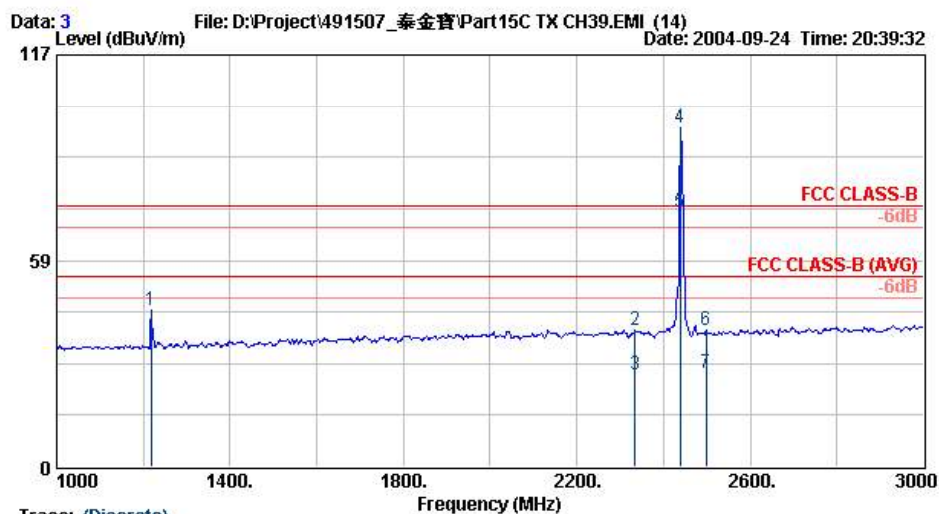


Site : 03CH06-HY
 Condition : FCC CLASS-B 3m BI LOG 2004 0629 HORIZONTAL
 EUT : Bluetooth Earpiece
 Power : DC 3.6V
 Model : HS815
 Memo : TX CH39 ; 2441MHz

	Freq	Level	Over	Limit	ReadAntenna	Preamp	Cable		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Remark	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB		cm	deg
1 @	432.30	31.07	-14.93	46.00	44.88	16.37	32.07	1.89 Peak	101	0
2 @	498.80	29.83	-16.17	46.00	41.86	17.30	31.41	2.09 Peak	101	0
3 @	764.80	27.51	-18.49	46.00	36.52	19.95	31.66	2.69 Peak	101	0

FCC TEST REPORT

Report No. : FR491507



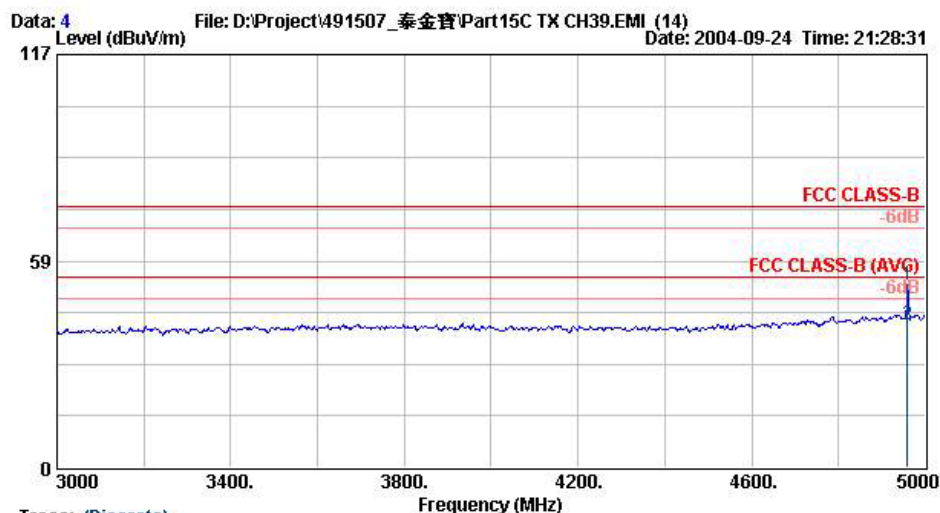
Site : 03CH06-HY
 Condition : FCC CLASS-B 3m HF-HORN AH-118 HORIZONTAL
 EUT : Bluetooth Earpiece
 Power : DC 3.6V
 Model : HS815
 Memo : TX CH39 ; 2441MHz

	Freq	Level	Over	Limit	ReadAntenna	Preamp	Cable		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	1218.00	44.49	-29.51	74.00	60.95	24.67	43.46	2.33 Peak	199	360
2	2334.00	38.74	-35.26	74.00	51.67	28.33	44.53	3.27 Peak	199	360
3	2334.00	26.31	-27.69	54.00	39.24	28.33	44.53	3.27 Average	199	360
4 X	2438.00	96.27			109.03	28.45	44.55	3.34 Peak	199	360
5 X	2438.00	72.32			85.08	28.45	44.55	3.34 Average	199	360
6	2498.00	38.50	-35.50	74.00	51.18	28.50	44.57	3.39 Peak	199	360
7	2498.00	26.34	-27.66	54.00	39.02	28.50	44.57	3.39 Average	199	360

Remark: The "X" represent a fundamental frequency.

FCC TEST REPORT

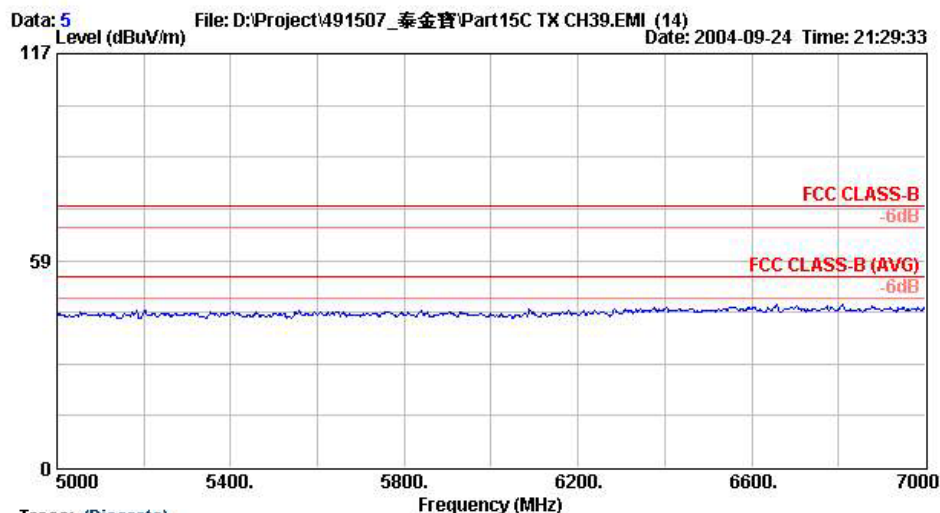
Report No. : FR491507



Trace: (Discrete)

Site : 03CH06-HY
 Condition : FCC CLASS-B 3m HF-HORN AH-118 HORIZONTAL
 EUT : Bluetooth Earpiece
 Power : DC 3.6V
 Model : HS815
 Memo : TX CH39 ; 2441MHz

	Freq	Level	Over	Limit	Read	Antenna	Preamp	Cable	Remark	Ant	Table
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		Pos	Pos
1 @	4958.00	51.91	-22.09	74.00	59.29	33.27	45.52	4.87	Peak	101	0
2 @	4958.00	40.41	-13.59	54.00	47.79	33.27	45.52	4.87	Average	101	0



Trace: (Discrete)

Site : 03CH06-HY
 Condition : FCC CLASS-B 3m HF-HORN AH-118 HORIZONTAL
 EUT : Bluetooth Earpiece
 Power : DC 3.6V
 Model : HS815
 Memo : TX CH39 ; 2441MHz

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

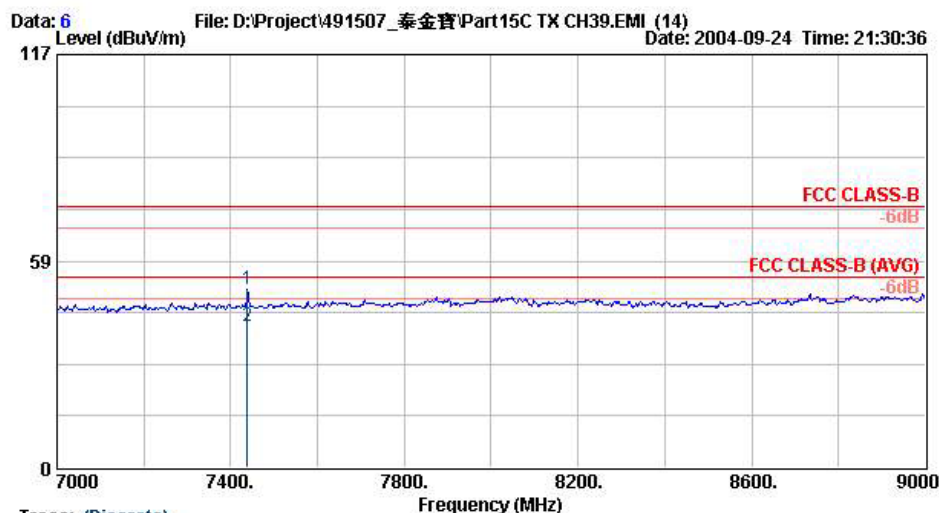
FCC ID. : OHH-HS815

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Issued Date : Oct. 05, 2004

FCC TEST REPORT

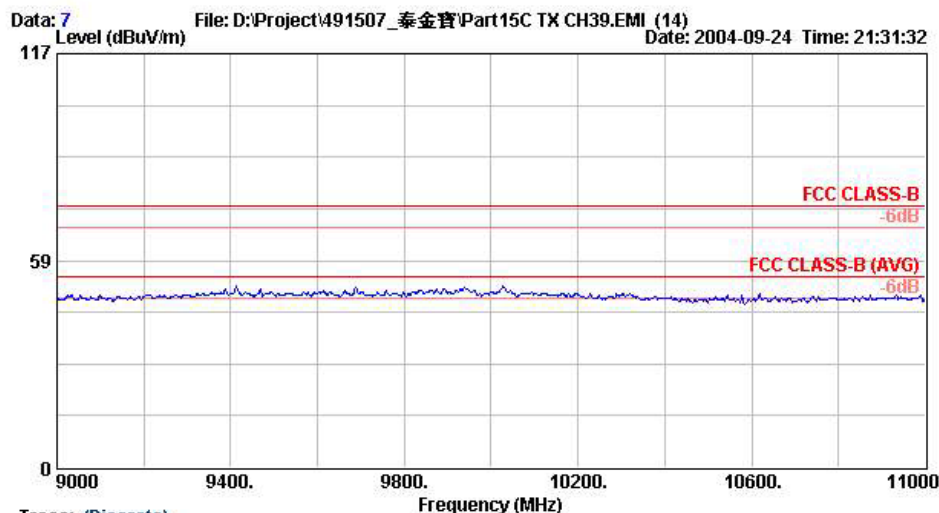
Report No. : FR491507



Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 HORIZONTAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH39 ; 2441MHz

	Freq	Level	Over	Limit	ReadAntenna	Preamp	Cable		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Factor	Loss	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	7438.00	50.49	-23.51	74.00	55.17	35.87	46.73	6.19	Peak	101
2 @	7438.00	39.99	-14.01	54.00	44.67	35.87	46.73	6.19	Average	101



Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 HORIZONTAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH39 ; 2441MHz

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

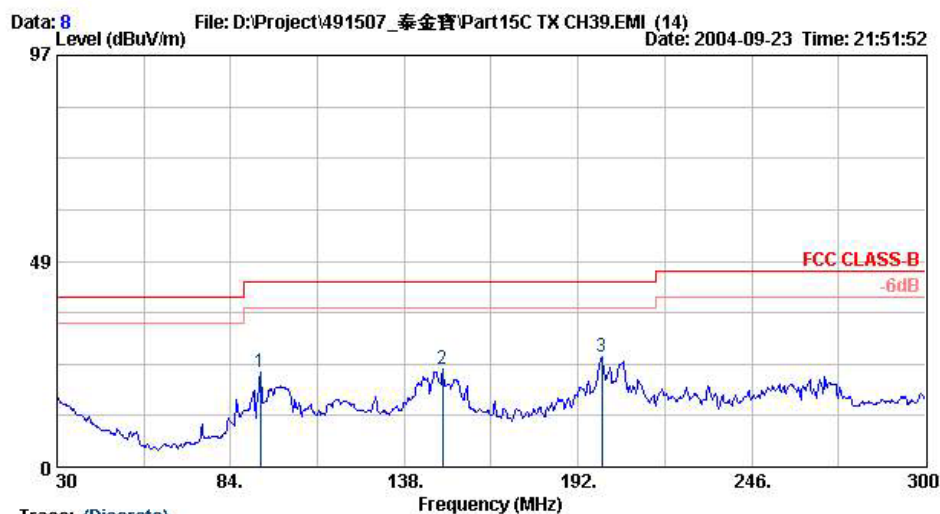
FCC ID. : OHH-HS815

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Issued Date : Oct. 05, 2004

FCC TEST REPORT

Report No. : FR491507



Site : 03CH06-HY
 Condition : FCC CLASS-B 3m BI LOG 2004 0629 VERTICAL
 EUT : Bluetooth Earpiece
 Power : DC 3.6V
 Model : HS815
 Memo : TX CH39 ; 2441MHz

	Freq	Level	Over	Limit	ReadAntenna	Preampl	Cable			Ant	Table
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	Remark	Pos	Pos
1 @	93.18	22.40	-21.10	43.50	44.45	9.33	32.25	0.86	Peak	201	0
2 @	149.88	22.95	-20.55	43.50	44.12	10.00	32.22	1.06	Peak	201	0
3 @	199.29	25.96	-17.54	43.50	48.12	8.66	32.06	1.24	Peak	201	0

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

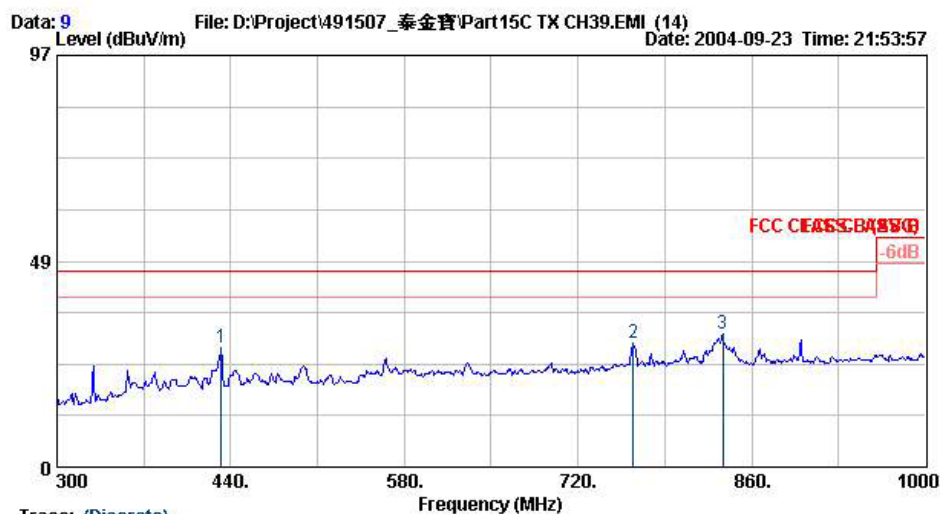
FCC ID. : OHH-HS815

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Issued Date : Oct. 05, 2004

FCC TEST REPORT

Report No. : FR491507



Site : 03CH06-HY
 Condition : FCC CLASS-B 3m BI LOG 2004 0629 VERTICAL
 EUT : Bluetooth Earpiece
 Power : DC 3.6V
 Model : HS815
 Memo : TX CH39 ; 2441MHz

	Freq	Level	Over	Limit	ReadAntenna	Preamp	Cable			Ant	Table
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	Remark	Pos	Pos
1 @	432.30	28.26	-17.74	46.00	42.06	16.37	32.07	1.89	Peak	101	0
2 @	764.80	29.26	-16.74	46.00	38.27	19.95	31.66	2.69	Peak	101	0
3 @	836.90	31.42	-14.58	46.00	39.85	20.35	31.78	3.00	Peak	101	0

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

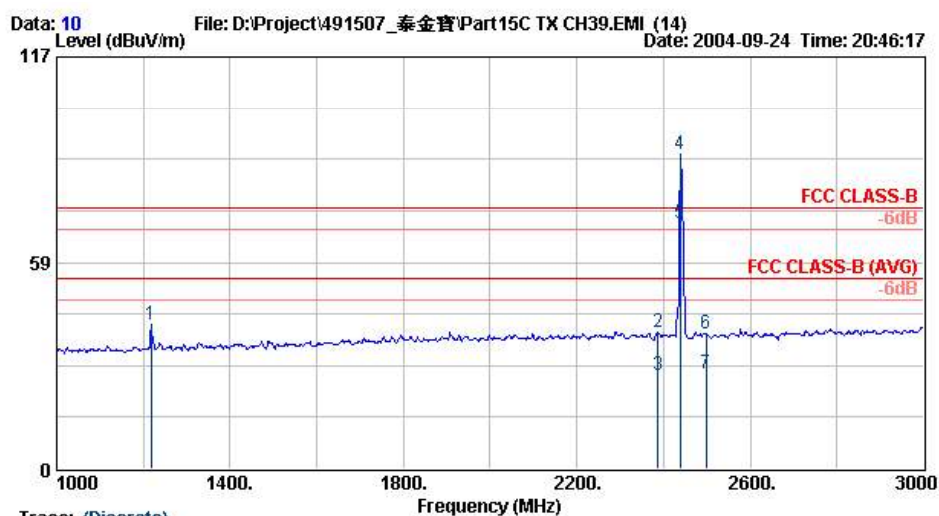
FCC ID. : OHH-HS815

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Issued Date : Oct. 05, 2004

FCC TEST REPORT

Report No. : FR491507



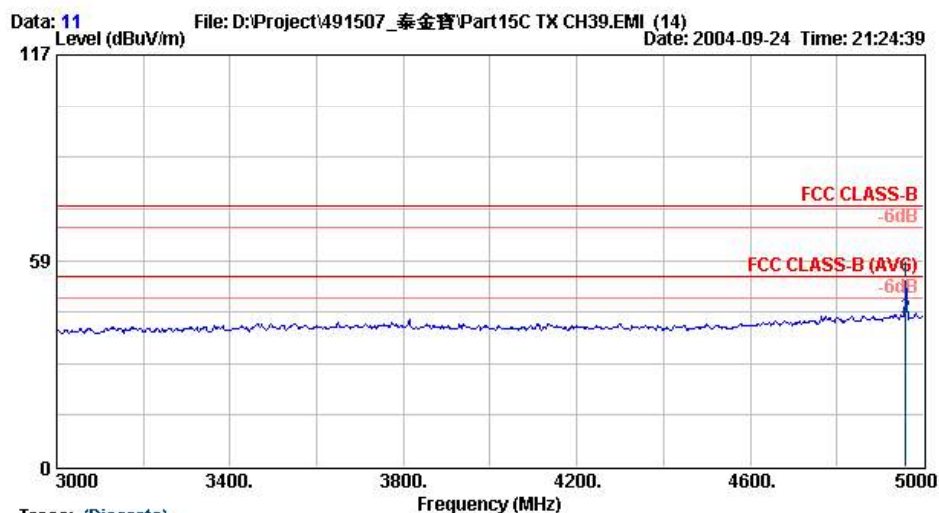
Site : 03CH06-HY
 Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
 EUT : Bluetooth Earpiece
 Power : DC 3.6V
 Model : HS815
 Memo : TX CH39 ; 2441MHz

	Freq	Level	Over	Limit	ReadAntenna	Preamp	Cable		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Remark	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB		cm	deg
1	1218.00	40.72	-33.28	74.00	57.17	24.67	43.46	2.33 Peak	199	360
2	2388.00	38.73	-35.27	74.00	51.57	28.40	44.54	3.31 Peak	199	360
3	2388.00	26.55	-27.45	54.00	39.39	28.40	44.54	3.31 Average	199	360
4 X	2438.00	89.08			101.85	28.45	44.55	3.34 Peak	199	360
5 X	2438.00	69.54			82.30	28.45	44.55	3.34 Average	199	360
6	2498.00	38.41	-35.59	74.00	51.08	28.50	44.57	3.39 Peak	199	360
7	2498.00	26.79	-27.21	54.00	39.47	28.50	44.57	3.39 Average	199	360

Remark: The "X" represent a fundamental frequency.

FCC TEST REPORT

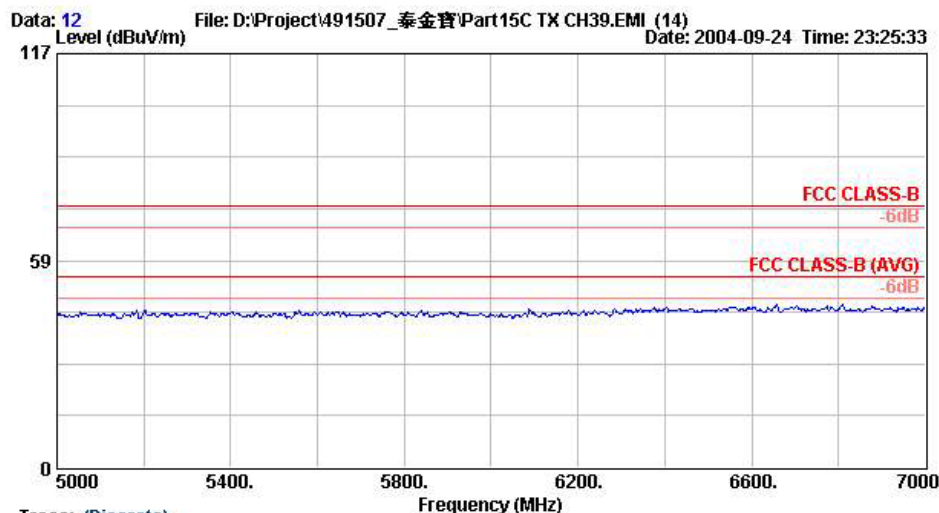
Report No. : FR491507



Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH39 ; 2441MHz

	Freq	Level	Over	Limit	ReadAntenna	Preamp	Cable		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Factor	Loss	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	4958.00	52.80	-21.20	74.00	60.18	33.27	45.52	4.87	Peak	101 360
2 @	4958.00	42.20	-11.80	54.00	49.58	33.27	45.52	4.87	Average	101 360



Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH39 ; 2441MHz

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

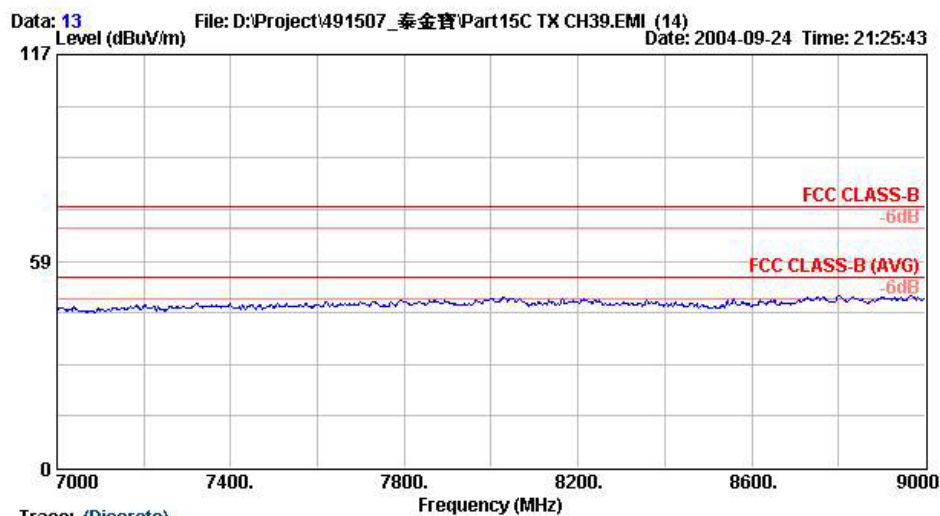
FCC ID. : OHH-HS815

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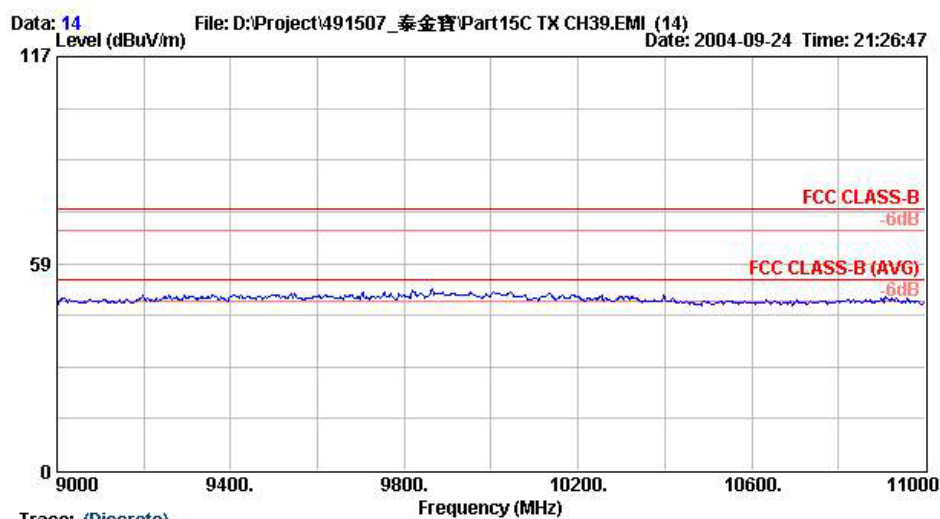
Issued Date : Oct. 05, 2004

FCC TEST REPORT

Report No. : FR491507



Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH39 ; 2441MHz



Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH39 ; 2441MHz

- Remark: Frequency from 11GHz to 25GHz, the emission emitted by the EUT is too low to be measured

■ Field strength of fundamental and harmonics

Frequency	Antenna	Cable	Reading	Preamp	Limits	Emission	Margin	Detect	
	Polarity	Factor	Loss		Factor				
(MHz)		(dB/m)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
								Mode	
2438.000	H	28.45	3.34	64.48	44.55	-	96.27	-	Peak
2438.000	H	28.45	3.34	40.53	44.55	-	72.32	-	A.V.
2438.000	V	28.45	3.34	57.29	44.55	-	89.08	-	Peak
2438.000	V	28.45	3.34	37.75	44.55	-	69.54	-	A.V.
4958.000	H	33.27	4.87	13.77	45.52	74.00	51.91	-22.09	Peak
4958.000	H	33.27	4.87	2.27	45.52	54.00	40.41	-13.59	A.V.
7438.000	H	35.87	6.19	8.43	46.73	74.00	50.49	-23.51	Peak
7438.000	H	35.87	6.19	-2.07	46.73	54.00	39.99	-14.01	A.V.
4958.000	V	33.27	4.87	14.66	45.52	74.00	52.80	-21.20	Peak
4958.000	V	33.27	4.87	4.06	45.52	54.00	42.20	-11.80	A.V.
7323.000	V	-	-	-	-	-	-	-	Peak, A.V.
9764.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
12205.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
14646.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
17087.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
19528.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
21969.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
24410.000	V/H	-	-	-	-	-	-	-	Peak, A.V.

Remark: The emission emitted by the EUT is too low to be measured except the emission listed above

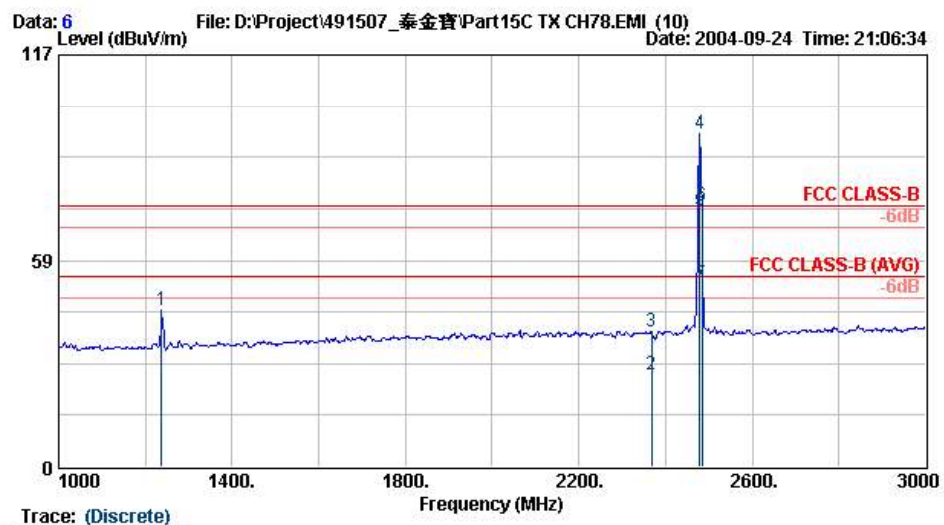
Test Engineer : 

Jim

- Test Mode: Mode 3
- Test Distance: 3 M
- Temperature: 26 °C
- Relative Humidity: 57 %
- Test Date: Sep. 24, 2004
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

■ The test that passed at the minimum margin was marked by the frame in the following test record

■ Spurious Emission



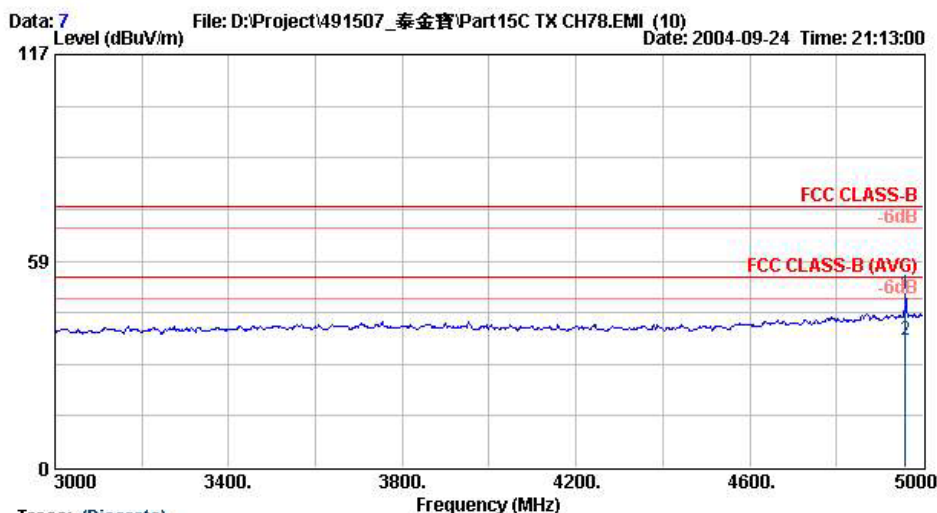
Site : 03CH06-HY
 Condition : FCC CLASS-B 3m HF-HORN AH-118 HORIZONTAL
 EUT : Bluetooth Earpiece
 Power : DC 3.6V
 Model : HS815
 Memo : TX CH78 ; 2480MHz

	Freq	Level	Over	Limit	ReadAntenna	Preamp	Cable		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Factor	Loss	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	1238.00	44.43	-29.57	74.00	60.83	24.72	43.46	2.33	203	360
2	2368.00	26.10	-27.90	54.00	38.97	28.36	44.54	3.31	203	360
3	2368.00	38.47	-35.53	74.00	51.34	28.36	44.54	3.31	203	360
4 X	2478.00	94.31			107.02	28.48	44.56	3.38	203	360
5 X	2478.00	72.80			85.51	28.48	44.56	3.38	203	360
6	2484.00	73.76	-0.24	74.00	86.46	28.48	44.56	3.38	203	360
7	2484.00	51.83	-2.17	54.00	64.54	28.48	44.56	3.38	203	360

Remark: The "X" represent a fundamental frequency.

FCC TEST REPORT

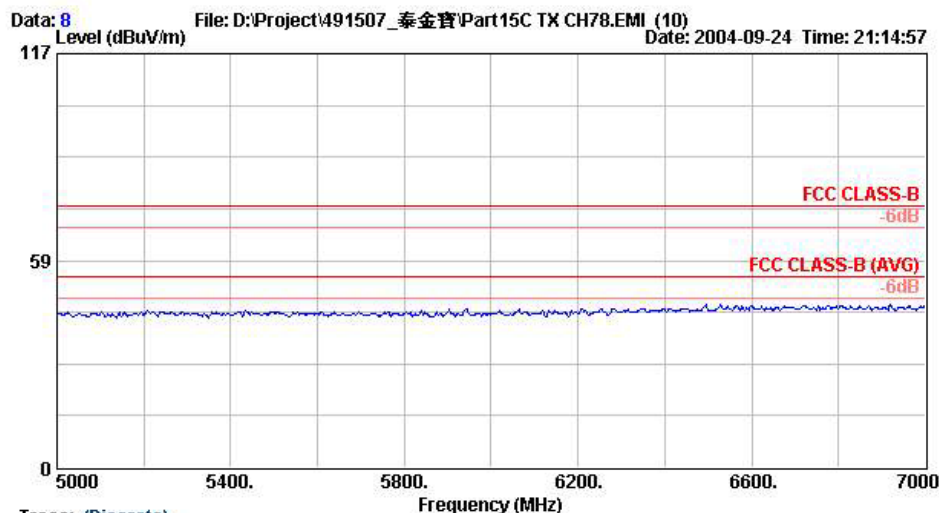
Report No. : FR491507



Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 HORIZONTAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH78 ; 2480MHz

	Freq	Level	Over	Limit	Read	Antenna	Preamp	Cable	Remark	Ant	Table
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		Pos	Pos
1 @	4958.00	49.21	-24.79	74.00	56.58	33.27	45.52	4.87	Peak	199	360
2 @	4958.00	35.89	-18.11	54.00	43.27	33.27	45.52	4.87	Average	199	360



Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 HORIZONTAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH78 ; 2480MHz

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

FCC ID. : OHH-HS815

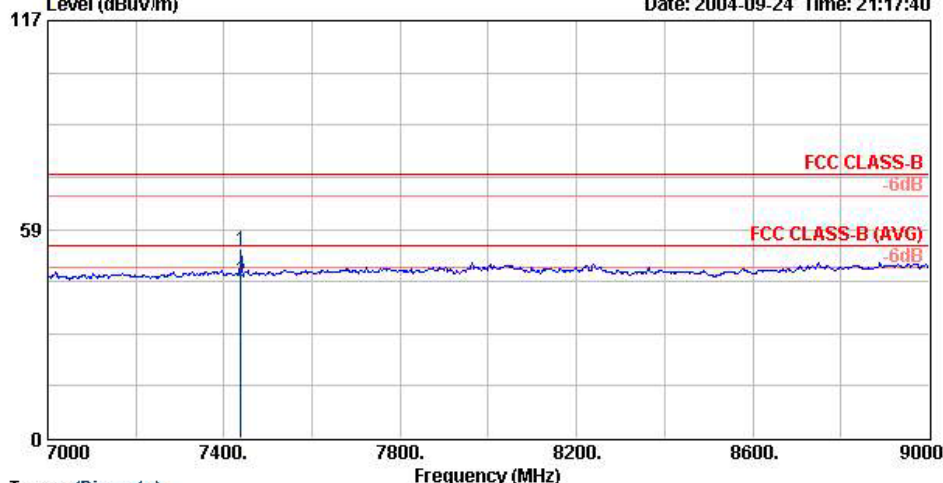
Page No. : 53 of 61

Issued Date : Oct. 05, 2004

FCC TEST REPORT

Report No. : FR491507

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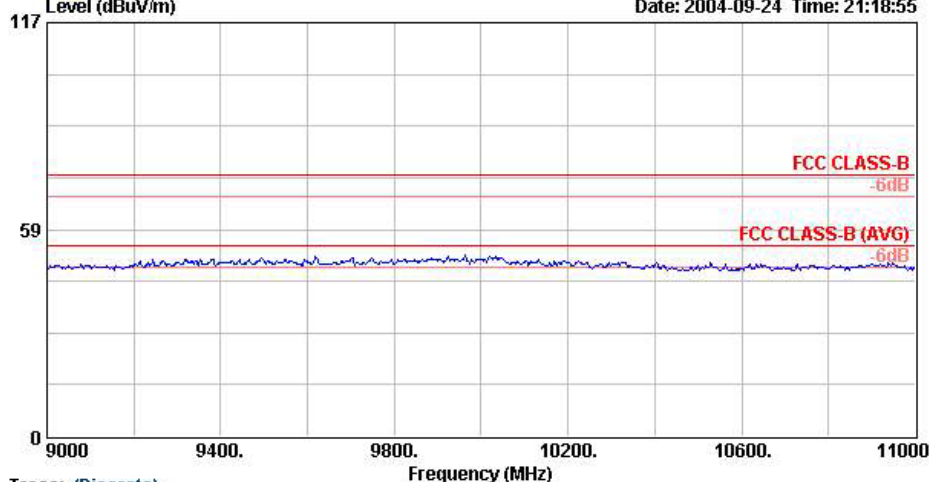


Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 HORIZONTAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH78 ; 2480MHz

	Freq	Level	Over	Limit	ReadAntenna	Preamp	Cable	Remark	Ant	Table
	MHz	dBUV/m	dB	dBUV/m	Level	Factor	Loss		Pos	Pos
					dBuV	dB/m	dB		cm	deg
1 @	7438.00	52.68	-21.32	74.00	57.36	35.87	46.73	6.19 Peak	101	0
2 @	7438.00	44.07	-29.93	74.00	48.75	35.87	46.73	6.19 Average	101	0

Data: 10 File: D:\Project\491507_泰金寶\Part15C TX CH78.EMI (10) Date: 2004-09-24 Time: 21:18:55



Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 HORIZONTAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH78 ; 2480MHz

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

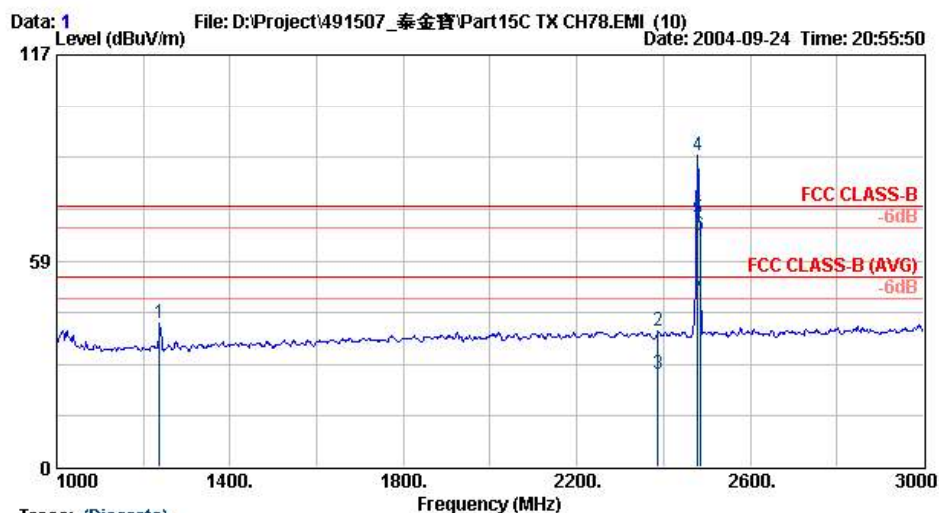
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Issued Date : Oct. 05, 2004

FCC TEST REPORT

Report No. : FR491507



Trace: (Discrete)

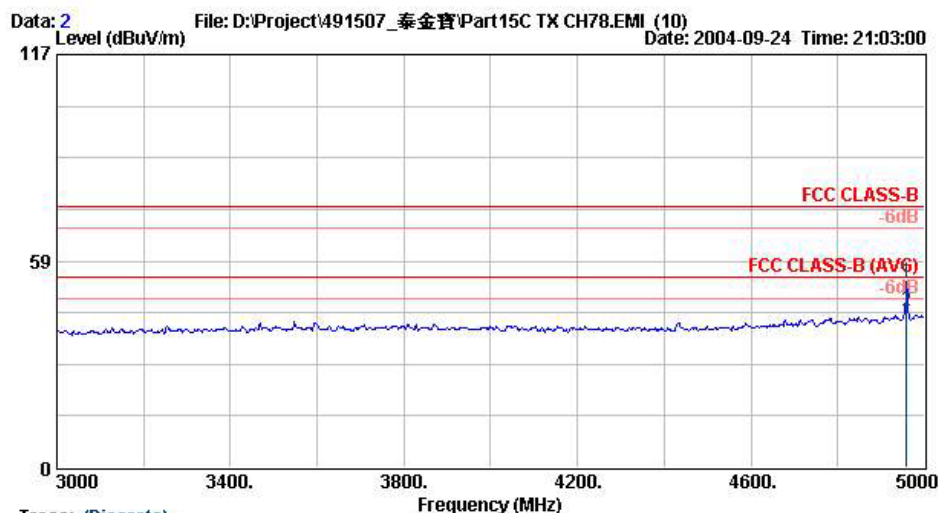
Site : 03CH06-HY
 Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
 EUT : Bluetooth Earpiece
 Power : DC 3.6V
 Model : HS815
 Memo : TX CH78 ; 2480MHz

	Freq	Level	Over	Limit	ReadAntenna	Preamp	Cable		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Remark	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB		cm	deg
1	1238.00	41.08	-32.92	74.00	57.48	24.72	43.46	2.33 Peak	199	360
2	2388.00	38.66	-35.34	74.00	51.50	28.40	44.54	3.31 Peak	199	360
3	2388.00	26.46	-27.54	54.00	39.30	28.40	44.54	3.31 Average	199	360
4 X	2478.00	88.37			101.08	28.48	44.56	3.38 Peak	199	360
5 X	2478.00	70.29			83.00	28.48	44.56	3.38 Average	199	360
6	2484.00	65.66	-8.34	74.00	78.37	28.48	44.56	3.38 Peak	199	360
7	2484.00	48.84	-5.16	54.00	61.55	28.48	44.56	3.38 Average	199	360

Remark: The "X" represent a fundamental frequency.

FCC TEST REPORT

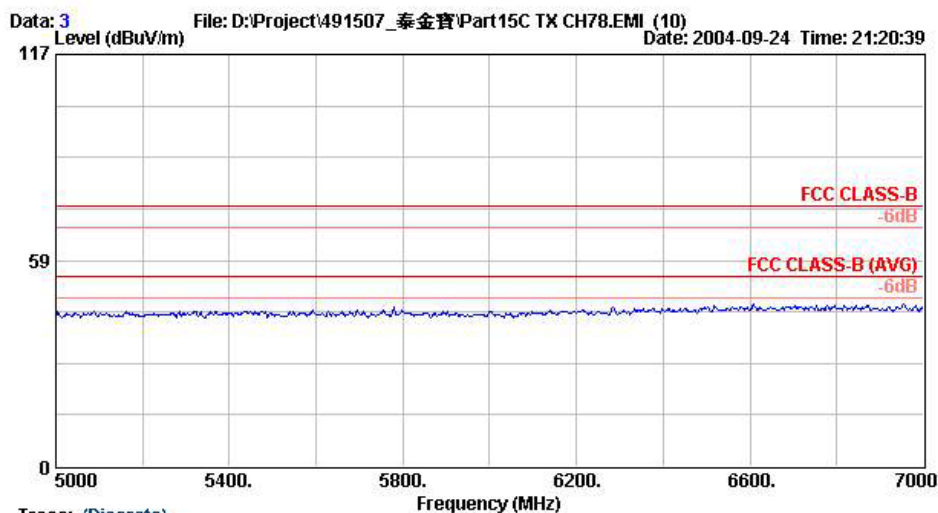
Report No. : FR491507



Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH78 ; 2480MHz

	Freq	Level	Over	Limit	ReadAntenna	Preamp	Cable		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Factor	Loss	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	4958.00	52.80	-21.20	74.00	60.17	33.27	45.52	4.87	Peak	102 360
2 @	4958.00	44.24	-9.76	54.00	51.62	33.27	45.52	4.87	Average	102 360



Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH78 ; 2480MHz

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

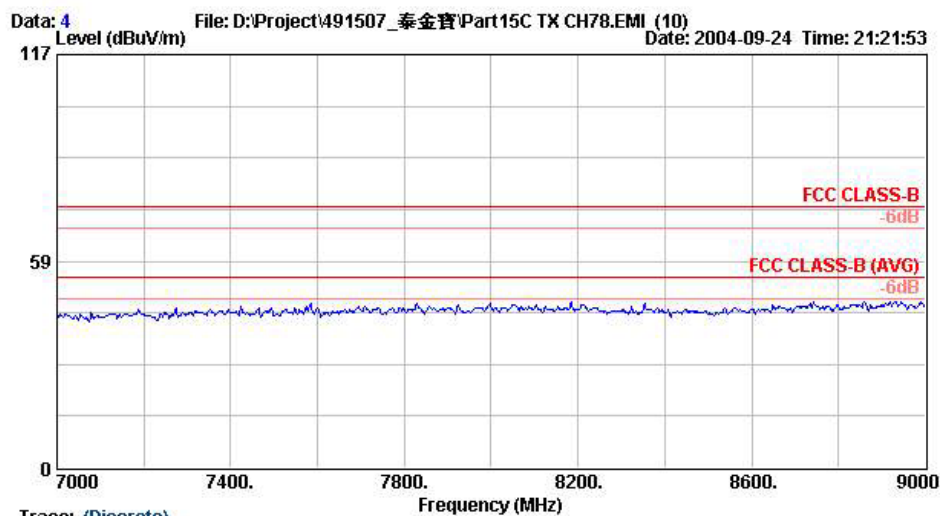
FCC ID. : OHH-HS815

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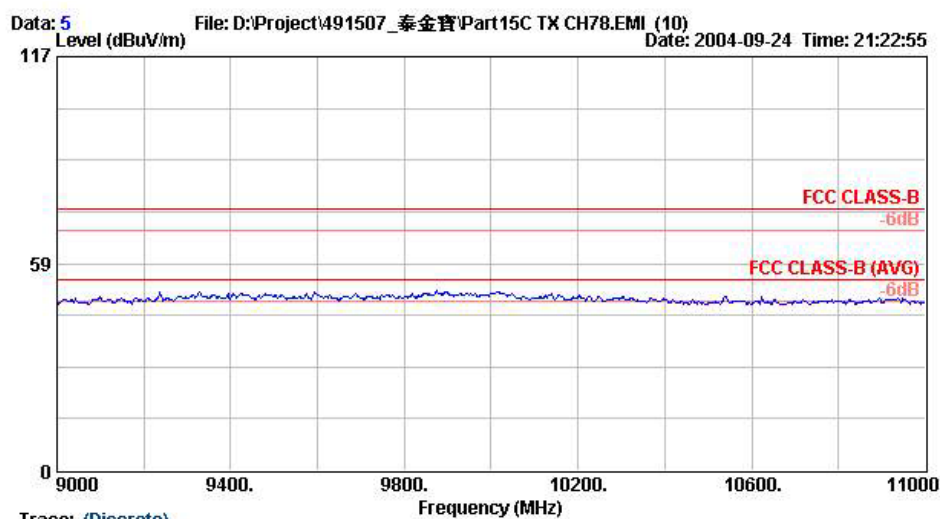
Issued Date : Oct. 05, 2004

FCC TEST REPORT

Report No. : FR491507



Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH78 ; 2480MHz



Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-HORN AH-118 VERTICAL
EUT : Bluetooth Earpiece
Power : DC 3.6V
Model : HS815
Memo : TX CH78 ; 2480MHz

- Remark: Frequency from 11GHz to 25GHz, the emission emitted by the EUT is too low to be measured

■ Field strength of fundamental and harmonics

Frequency	Antenna	Cable	Reading	Preamp	Limits	Emission	Margin	Detect	
	Polarity	Factor	Loss		Factor				
(MHz)		(dB/m)	(dB)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	Mode
2478.000	H	28.48	3.38	62.45	44.56	-	94.31	-	Peak
2478.000	H	28.48	3.38	40.94	44.56	-	72.80	-	A.V.
2478.000	V	28.48	3.38	56.51	44.56	-	88.37	-	Peak
2478.000	V	28.48	3.38	38.43	44.56	-	70.29	-	A.V.
4958.000	H	33.27	4.87	14.66	45.52	74.00	52.80	-21.20	Peak
4958.000	H	33.27	4.87	6.10	45.52	54.00	44.24	-9.76	A.V.
4958.000	V	33.27	4.87	11.07	45.52	74.00	49.21	-24.79	Peak
4958.000	V	33.27	4.87	-2.25	45.52	54.00	35.89	-18.11	A.V.
7440.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
9920.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
12400.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
14880.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
17360.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
19840.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
22320.000	V/H	-	-	-	-	-	-	-	Peak, A.V.
24800.000	V/H	-	-	-	-	-	-	-	Peak, A.V.

Remark: The emission emitted by the EUT is too low to be measured except the emission listed above

Test Engineer : 

Jim

6. Antenna Requirements

The EUT use a chip antenna without connector. It is considered to meet antenna requirement of FCC.

Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that assembled by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if directional gain of transmitting antennas greater than 6dBi are used, the power shall be reduced by the same amount in unit dB comparing to the directional gain of the antenna minus 6dBi.

Antenna Connected Construction

The antenna used in this product is chip antenna without connector.

7. List of Measuring Equipments Used

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
Spectrum analyzer	R&S	FSP40	100057	9kHz-40GHz	Feb. 26, 2004	Feb. 26, 2005	Radiation (03CH06-HY)
Controller	CT	SC100	N/A	N/A	N/A	N/A	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Dec. 18, 2003	Dec. 18, 2004	Radiation (03CH06-HY)
Horn Antenna	Com-Power	AH118	071025	1G-18G	Feb. 11, 2004	Feb. 11, 2005	Radiation (03CH06-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	9170-249	14G - 40G	Jun. 22, 2004	Jun. 22, 2005	Radiation (03CH06-HY)
PreAmplifier	Com-Power	PA-103	161055	1MHz - 1000MHz	Apr. 26, 2004	Apr. 26, 2005	Radiation (03CH06-HY)
HF Amplifier	MITEQ	AFS44	973248	0.1G - 26.5G	May. 20, 2004	May. 20, 2005	Radiation (03CH06-HY)
Amplifier	MITEQ	AMF-6F	997165	26G - 40G	Jun. 24, 2004	Jun. 24, 2005	Radiation (03CH06-HY)
Turn Table	HD	DS 420	420/650/00	0 ~ 360 degree	N/A	N/A	Radiation (03CH06-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	N/A	Radiation (03CH06-HY)
Wireless Communications Test Set	Agilent	8960	E5515C	Qual-band	N/A	N/A	Radiation (03CH06-HY)

8. Uncertainty of Test Site

Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

Contribution	Uncertainty of x_i		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.41	Normal(k=2)	0.21
Antenna factor calibration	0.83	Normal(k=2)	0.42
Cable loss calibration	0.25	Normal(k=2)	0.13
Pre Amplifier Gain calibration	0.27	Normal(k=2)	0.14
RCV/SPA specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site imperfection	1.43	Rectangular	0.83
Mismatch Receiver VSWR $\Gamma_1 = 0.20$ Antenna VSWR $\Gamma_2 = 0.23$ Uncertainty = $20\log(1 - \Gamma_1 \Gamma_2)$	+0.39/-0.41	U-shaped	0.28
combined standard uncertainty $U_c(y)$	1.27		
Measuring uncertainty for a level of confidence of 95% $U = 2U_c(y)$	2.54		

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Contribution	Uncertainty of x_i		$u(x_i)$	C_i	$C_i * u(x_i)$
	dB	Probability Distribution			
Receiver reading	± 0.10	Normal(k=1)	0.10	1	0.10
Antenna factor calibration	± 1.70	Normal(k=2)	0.85	1	0.85
Cable loss calibration	± 0.50	Normal(k=2)	0.25	1	0.25
Receiver Correction	± 2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	± 1.50	Rectangular	0.87	1	0.87
Site imperfection	± 2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20\log(1 - \Gamma_1 \Gamma_2 \Gamma_3)$	+0.34/-0.35	U-shaped	0.244	1	0.244
Combined standard uncertainty $U_c(y)$	2.36				
Measuring uncertainty for a level of confidence of 95% $U = 2U_c(y)$	4.72				