R&TTE (1999/5/EC) Directive
ETSI EN 300 328 V1.6.1: 2004
TEST REPORT

FOR

Product Name:	**Bluetooth Module**
Brand Name:	**Mitsumi**
Model Name:	**WML-C40NB,WML-C40NH, WML-C40NU, WML-C40AB, WML-C40AH, WML-C40AU**
Model Difference:	**N: external antenna , A: internal antenna B:BCSP; H:UART; U: USB interface**
Report No.:	**EF/2006/10009**
Issue Date:	**Feb. 03, 2006**
Prepared for	**MITSUMI ELECTRIC CO., LTD. 2-11-2,Tsurumaki,Tama-shi,Tokyo Japan**
Prepared by	**SGS Taiwan Ltd. No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei County, Taiwan.**

Testing Laboratory
0513

VERIFICATION OF COMPLIANCE

Applicant:	MITSUMI ELECTRIC CO., LTD. 2-11-2,Tsurumaki,Tama-shi,Tokyo Japan
Equipment Under Test:	Bluetooth Module
Brand Name:	Mitsumi
Model No.:	WML-C40NB,WML-C40NH,WML-C40NU,WML-C40AB, WML-C40AH, WML-C40AU
Model Difference:	N: external antenna , A: internal antenna B:BCSP; H:UART; U: USB interface
File Number:	EF/2006/10009
Date of test:	Jan. 20, 2006 ~ Apr. 21, 2006
Date of EUT Received:	Jan. 19, 2006

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
ETSI EN 300 328 V1.6.1: 2004	Complied

The above equipment was tested by SGS Taiwan Ltd. for compliance with the requirements set forth in the European Standard ETSI EN 300 328 V1.6.1: 2004 under R&TTE Directive 1999/5/EC. The results of testing in this report apply to the product system that was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Test By:	Sky Wang	***Date***	Apr. 24, 2006
	Sky Wang		
Prepared By:	Gigi yeh	***Date***	Apr. 24, 2006
	Gigi Yeh		
Approved By:	Vincent Su	***Date***	Apr. 24, 2006
	Vincent Su		

Version

Version No.	Date
00	Apr. 24, 2006

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1. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

Type of equipment	Bluetooth Module
Brand Name	Mitsumi
Model Name	WML-C40NB, WML-C40NH, WML-C40NU, WML-C40AB, WML-C40AH, WML-C40AU
Model Difference	The variant model names depend on different external, WML-C40AB,WML-C40AH,WML-C40AU,includesantenn a whereas WML-C40NB, WML-C40NH, WML-C40NU, antenna is exterior joins
Power Supply	3.3Vdc
Transmit Power	13.82 dBm E.I.R.P.
Frequency Range	2.402GHz – 2.480GHz
Modulation Technique	Frequency Hopping Spread Spectrum (FHSS) (GFSK)
Number of Channels	79
Dwell Time	<= 0.4s
Operating Mode	Point-to-Point
Data Rate	Highest Mode
Antenna Type	Chip Antenna
Antenna Gain	2 dBi

2. DESCRIPTION OF TEST MODES

The EUT has been tested under Operating and standby condition. And used to control the EUT for staying in continuous transmitting and receiving mode is programmed. Channel 0, 39 and 78 with highest data rate are chosen for testing.

3. GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT According to the Specifications, it must comply with the requirements of the following standards:

ETSI EN 300 328 V1.6.1 : 2004 – Electromagnetic compatibility and Radio spectrum Matters (ERM) ; Wideband transmission systems; Data transmission equipment operating in the 2.4GHz ISM band and using wide band modulation techniques:

4. TEST FACILITY

SGS Taiwan Ltd.
No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei County, Taiwan.
A 11m*6m*6m fully anechoic chamber was used for the radiated spurious emissions test.

5. SUPPORT EQUIPMENT

Fig. 5-1 Configuration of Tested System

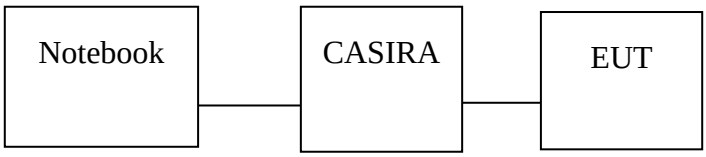


Table 5-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	FCC ID	Series No.	Data Cable	Power Cord
1.	Notebook	IBM	T40	99HCYF4	R33026	Un-shield	Un-shield
2.	CASIRA	CSR	BCES301199/1	7383070403	CASIRA	Un-shield	Un-shield
3.	Test software	CSR	Bluesuit 1.21	N/A	N/A	N/A	N/A

6. ETSI EN 300 328 SUBCLAUSE 4.3.1 EQUIVALENT ISOTROPIC RADIATED POWER

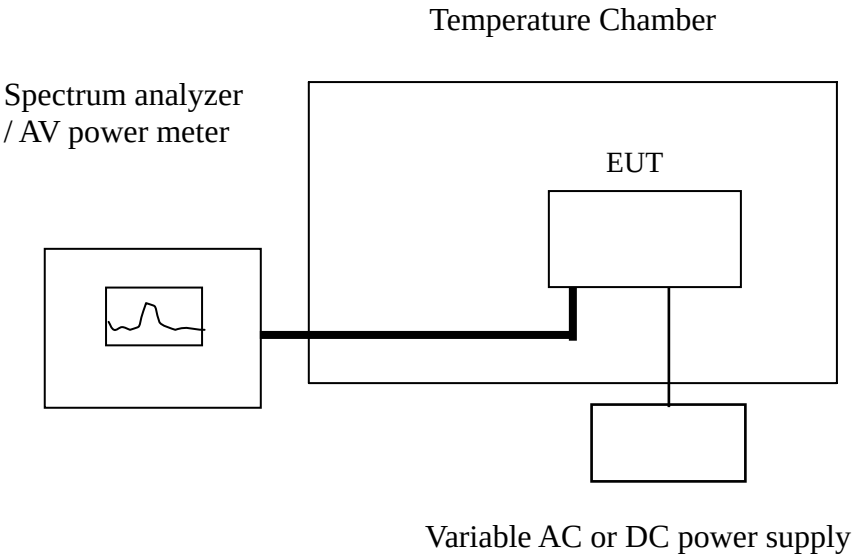
6.1. Limit:

ETSI EN 300 328 Subclause 4.3.1.2: The equivalent isotropic radiated power shall be equal to or less than -10 dBW (100 mW) e.i.r.p. This limit shall apply for any combination of power level and intended antenna assembly.

6.2. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2005	06/29/2006
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2005	11/10/2006
Power Sensor	Anritsu	MA2490A	31431	06/28/2005	06/29/2006
Power Meter	Anritsu	ML2487A	6K00002070	06/28/2005	06/29/2006
Temperature Chamber	TERCHY	MHG-120LF	911009	11/11/2005	11/12/2006
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2005	10/06/2006
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006
Splitter	Agilent	11667B	N/A	09/23/2005	09/22/2006
Signal Generator	R&S	SMR40	100210	11/09/2005	11/10/2006
Signal Generator	Agilent	8648D	3847M00432	04/15/2006	04/14/2007
Diode Detector	Agilent	8471E	MY4224	N/A	N/A
AC Power Supply	APW-105N	887592	All Power	12/15/2005	12/14/2006

6.3. Test Setup:



6.4. Test Procedure:

See subclause 5.3 of ETSI EN 300 328 for the test conditions

See Subclause 5.7.2.2 of ETSI EN 300 328 for conducted measurement method.

6.5. Equivalent Isotropic Radiated Power E.I.R.P. Test results:

Ambient temperature: 24 ℃ Relative humidity: 68 % Test Date: 01/25/2006

Duty Cycle measurement X: (Ton/Ton + Toff)
= 0.3358
Antenna assembly gain: 2.0 dBi
Cable Loss= 0.2 dB
P = A (Average Power) + G + 10 log (1/X)

TEST CONDITIONS		TRANSMITTER POWER (dBm)		
		Lowest Frequency (CH Low)	Middle Frequency (CH Mid)	Highest Frequency (CH High)
Temp (-20)°C	Vmin 2.81 V	Pk = 9.76 dBm Av = 2.82 dBm	Pk = 12.05 dBm Av = 5.11 dBm	Pk = 13.04 dBm Av = 6.10 dBm
	Vmax 3.80 V	Pk = 9.76 dBm Av = 2.82 dBm	Pk = 12.03 dBm Av = 5.09 dBm	Pk = 13.02 dBm Av = 6.08 dBm
Temp (25)°C	Vnom 3.30 V	Pk = 10.70 dBm Av = 3.76 dBm	Pk = 12.99 dBm Av = 6.05 dBm	Pk = 13.82 dBm Av = 6.88 dBm
Temp (55)°C	Vmin 2.81 V	Pk = 10.54 dBm Av = 3.60 dBm	Pk = 12.81 dBm Av = 5.87 dBm	Pk = 13.56 dBm Av = 6.62 dBm
	Vmax 3.80 V	Pk = 10.55 dBm Av = 3.61 dBm	Pk = 12.81 dBm Av = 5.87 dBm	Pk = 13.58 dBm Av = 6.64 dBm
Limit		**20dBm**		
Measurement uncertainty		+ 0.28dB / - 0.30dB		

7. ETSI EN 300 328 SUBCLAUSE 4.3.2 MAXIMUM SPECTRAL POWER DENSITY

7.1. Limit:

ETSI EN 300 328 Subclause 4.3.2.2: TFor wide band modulations other then FHSS (e.g. DSSS, OFDM, etc.), the maximum spectrum power density is limited to 10 mW per MHz e.i.r.p.

7.2. Measurement Equipment Used:

Same as section 6.2 in this report.

7.3. Test Setup:

Same as section 6.3 in this report.

7.4.Test Procedure:

See subclause 5.3 of ETSI EN 300 328 for the test conditions

See Subclause 5.7.2.3 of ETSI EN 300 328 for conducted measurement method.

7.5. Maximum Spectral Power Density Test results:

N/A, The device is FHSS modulation.

8. ETSI EN 300 328 SUBCLAUSE 4.3.3 FREQUENCY RANGE

8.1. Limit:

For all equipment the frequency range shall lie within the band 2,4 GHz to 2,4835 GHz (f_L>2.4GHz and f_H <2.4835GHz).

8.2. Measurement Equipment Used:

Same as section 6.2 in this report.

8.3. Test Setup:

Same as section 6.3 in this report.

8.4.Test Procedure:

See subclause 5.3 of ETSI EN 300 328 for the test conditions

See Subclause 5.7.4.1 of ETSI EN 300 328 for conducted measurement method.

8.5. Frequency Range Test results:

Ambient temperature: 24 ℃ Relative humidity: 68 % Test Date: 01/25/2006

TEST CONDITIONS		FREQUENCY (MHz)	
		Lowest	Highest
Tmax(-20)oC	V_{min} 2.81 V	2401.3950	2480.6680
	V_{max} 3.80 V	2401.4040	2480.6730
Tnom(25)oC	V_{nom} 3.30 V	2401.3640	2480.6820
Tnom(55)oC	V_{min} 2.81 V	2401.3320	2480.6390
	V_{max} 3.80 V	2401.3290	2480.6450
Measured frequencies (lowest and highest)		fL= 2401.3290 MHz	fH= 2480.6820 MHz
Limit		2400.0000 MHz	2483.5000 MHz
Measurement Uncertainty		+/- 120kHz	

9. ETSI EN 300 328 SUBCLAUSE 4.3.4 TRANSMITTER SPURIOUS EMISSIONS

9.1. Limit:

The spurious emissions of the transmitter shall not exceed the values in tables 1 and 2 in the indicated bands.

Table 1: Transmitter limits for Narrowband Spurious emissions

Frequency Range	Limit when operating	Limit when in standby
30MHz to 1 GHz	-36 dBm	-57 dBm
above 1 GHz to 12.75 GHz	-30 dBm	-47 dBm
1.8 GHz to 1.9 GHz 5.15 GHz to 5.3 GHz	-47 dBm	-47 dBm

The above limit values apply to narrowband emissions, e.g. as caused by local oscillator leakage. The measurement bandwidth for such emissions may be as small as necessary to achieve a reliable measurement result.

Wideband emissions shall not exceed the values given in table 2.

Table 2: Transmitter limits for Wideband Spurious emissions

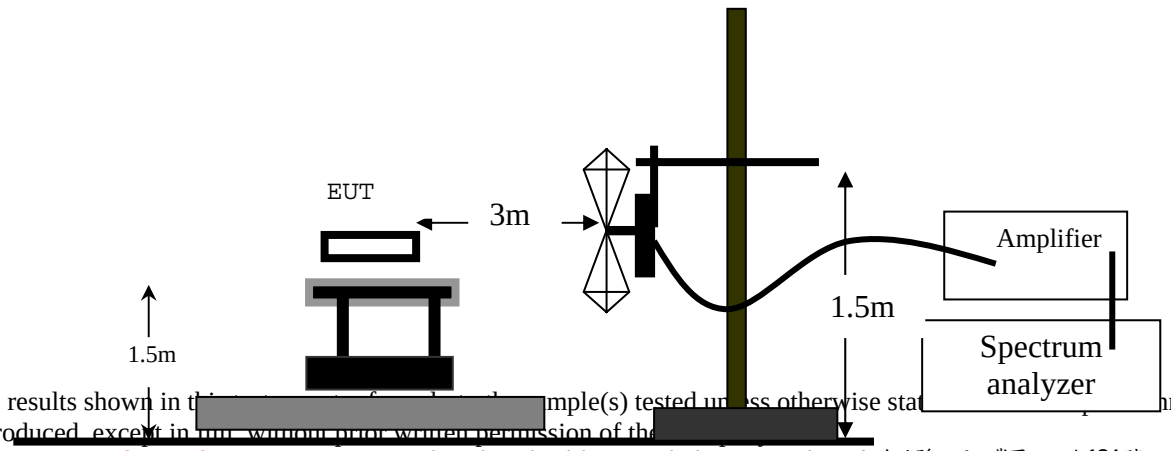
Frequency Range	Limit when operating	Limit when in standby
30MHz to 1 GHz	-86 dBm/Hz	-107 dBm/Hz
above 1 GHz to 12.75 GHz	-80 dBm/Hz	-97 dBm/Hz
1.8 GHz to 1.9 GHz 5.15 GHz to 5.3 GHz	-97 dBm/Hz	-97 dBm/Hz

9.2. Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2005	06/29/2006
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2005	11/10/2006
Bilog Antenna	SCHWAZBECK	VULB9163	152	06/03/2005	06/02/2006
Horn antenna	Schwarzbeck	BBHA 9120D	309/320	08/16/2005	08/15/2006
Pre-Amplifier	HP	8447D	2944A09469	07/19/2005	07/18/2006
Pre-Amplifier	HP	8494B	3008A00578	02/26/2006	02/25/2007
Signal Generator	R&S	SMR40	100210	02/09/2006	02/10/2007
Signal Generator	Agilent	8648D	3847M00432	04/15/2005	04/14/2006
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R
Controller	HD	HD100	N/A	N.C.R	N.C.R
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	10/09/2005	10/08/2006
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-0.5M	0.5m	10/09/2005	10/08/2006
Site NSA	SGS	1166 chamber	N/A	11/17/2005	11/16/2006
Temperature Chamber	TERCHY	MHG-120LF	911009	10/14/2005	10/13/2006
Dipole Antenna	Schwarzbeck	VHAP	908/909	06/10/2005	06/11/2006
Dipole Antenna	Schwarzbeck	UHAP	891/892	06/10/2005	06/11/2006
Horn antenna	Schwarzbeck	BBHA 9120D	N/A	08/16/2005	08/15/2006

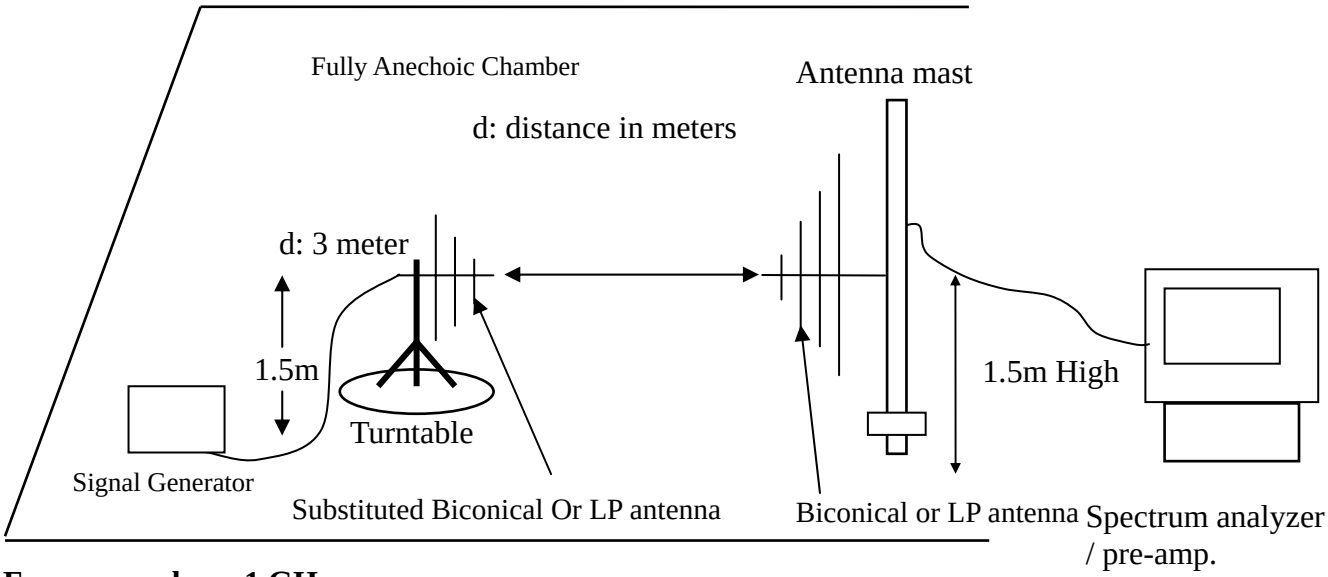
9.3. Test Setup:

9.3.1. Step 1. Field Strength Measurement

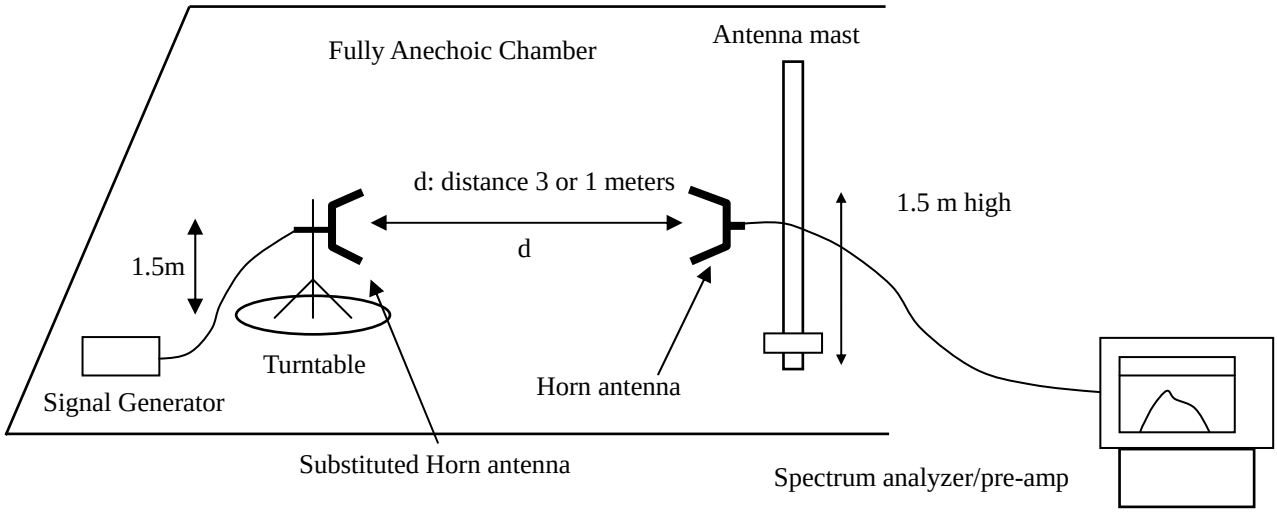


9.3.2. Step 2. Substitution Measurement

Frequency Below 1GHz



Frequency above 1 GHz



9.4. Test Procedure:

See subclause 5.3 of ETSI EN 300 328 for the test conditions

See Subclause 5.7.5 of ETSI EN 300 328 for transmitter spurious emissions for radiated test method.

9.5. Transmitter Spurious Emissions Test Results: (Radiated)

Ambient temperature: 24 ℃ Relative humidity: 68 % Test Date: 01/25/2006

Test Mode: TX CH Low

Freq.	SPA. Reading	Ant.Pol.	S.G Output	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
99.84	48.09	V	-55.62	-7.76	1.22	-64.60	-36.00	-28.60
286.08	45.99	V	-53.90	-7.91	1.99	-63.80	-36.00	-27.80
499.48	41.64	V	-52.97	-7.72	2.73	-63.42	-36.00	-27.42
1598.00	42.41	V	-64.65	9.14	4.97	-60.48	-30.00	-30.48
4796.00	45.42	V	-51.78	12.65	9.03	-48.16	-30.00	-18.16
7206.00	38.63	V	-47.97	11.57	11.21	-47.60	-30.00	-17.60
9608.00	---	V	---	---	---	---	-30.00	---
12010.00	---	V	---	---	---	---	-30.00	---
56.19	48.80	H	-60.84	-0.51	0.93	-62.28	-36.00	-26.28
599.39	43.74	H	-47.91	-7.79	2.94	-58.64	-36.00	-22.64
866.14	37.84	H	-48.76	-7.90	3.77	-60.44	-36.00	-24.44
1045.50	45.44	H	-63.12	6.23	3.91	-60.80	-30.00	-30.80
1598.00	44.21	H	-62.83	9.14	4.97	-58.66	-30.00	-28.66
4796.00	42.39	H	-54.70	12.65	9.03	-51.07	-30.00	-21.07
7206.00	---	H	---	---	---	---	-30.00	---
9608.00	---	H	---	---	---	---	-30.00	---
12010.00	---	H	---	---	---	---	-30.00	---

Measurement uncertainty	+ 1.5dB / -2.5dB < 200MHz
	+ 1.0dB / -1.5dB 1-40GHz

Remark:

1 The emission behaviour belongs to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

9.6. Transmitter Spurious Emissions Test Results: (Radiated)

Ambient temperature: 24 ℃ Relative humidity: 68 % Test Date: 01/25/2006

Test Mode: TX CH Mid

Freq.	SPA. Reading	Ant.Pol.	S.G Output	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
99.84	47.52	V	-56.19	-7.76	1.22	-65.17	-36.00	-29.17
198.78	46.65	V	-55.34	-7.84	1.56	-64.74	-36.00	-28.74
499.48	41.88	V	-52.73	-7.72	2.73	-63.18	-36.00	-27.18
1598.00	42.25	V	-64.81	9.14	4.97	-60.64	-30.00	-30.64
4884.00	43.20	V	-53.63	12.65	9.12	-50.10	-30.00	-20.10
7326.00	---	V	---	---	---	---	-30.00	---
9768.00	---	V	---	---	---	---	-30.00	---
12210.00	---	V	---	---	---	---	-30.00	---
99.84	49.65	H	-53.56	-7.76	1.22	-62.53	-36.00	-26.53
499.48	44.70	H	-49.21	-7.72	2.73	-59.65	-36.00	-23.65
599.39	43.56	H	-48.09	-7.79	2.94	-58.82	-36.00	-22.82
1045.50	44.54	H	-64.02	6.23	3.91	-61.70	-30.00	-31.70
1630.50	46.63	H	-60.39	9.23	5.02	-56.18	-30.00	-26.18
4884.00	38.89	H	-57.85	12.65	9.12	-54.32	-30.00	-24.32
7326.00	---	H	---	---	---	---	-30.00	---
9768.00	---	H	---	---	---	---	-30.00	---
12210.00	---	H	---	---	---	---	-30.00	---

Measurement uncertainty	+ 1.5dB / -2.5dB < 200MHz
	+ 1.0dB / -1.5dB 1-40GHz

Remark：

1 The emission behaviour belongs to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

9.7. Transmitter Spurious Emissions Test Results: (Radiated)

Ambient temperature: 24 ℃ Relative humidity: 68 % Test Date: 01/25/2006

Test Mode: TX CH High

Freq.	SPA. Reading	Ant.Pol.	S.G Output	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
99.84	49.37	V	-54.34	-7.76	1.22	-63.32	-36.00	-27.32
203.63	46.98	V	-55.02	-7.84	1.59	-64.45	-36.00	-28.45
300.63	45.62	V	-53.94	-7.92	1.99	-63.85	-36.00	-27.85
1598.00	42.72	V	-64.34	9.14	4.97	-60.17	-30.00	-30.17
4960.00	45.26	V	-51.25	12.65	9.20	-47.80	-30.00	-17.80
7440.00	---	V	---	---	---	---	-30.00	---
9920.00	---	V	---	---	---	---	-30.00	---
12400.00	---	V	---	---	---	---	-30.00	---
99.84	50.30	H	-52.91	-7.76	1.22	-61.88	-36.00	-25.88
499.48	46.21	H	-47.70	-7.72	2.73	-58.14	-36.00	-22.14
599.39	45.54	H	-46.11	-7.79	2.94	-56.84	-36.00	-20.84
1045.50	44.59	H	-63.97	6.23	3.91	-61.65	-30.00	-31.65
1643.50	46.76	H	-60.25	9.27	5.05	-56.03	-30.00	-26.03
4960.50	40.26	H	-56.18	12.65	9.20	-52.73	-30.00	-22.73
7440.00	---	H	---	---	---	---	-30.00	---
9920.00	---	H	---	---	---	---	-30.00	---
12400.00	---	H	---	---	---	---	-30.00	---

Measurement uncertainty	+ 1.5dB / -2.5dB < 200MHz
	+ 1.0dB / -1.5dB 1-40GHz

Remark：

1 The emission behaviour belongs to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

9.8. Transmitter Spurious Emissions Test Results: (Radiated)

Ambient temperature: 24 ℃ Relative humidity: 68 % Test Date: 01/25/2006

Test Mode: Standby

Freq.	SPA. Reading	Ant.Pol.	S.G Output	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
99.84	49.84	V	-53.87	-7.76	1.22	-62.85	-57.00	-5.85
203.63	48.36	V	-53.64	-7.84	1.59	-63.07	-57.00	-6.07
284.14	45.85	V	-54.09	-7.91	1.99	-63.98	-57.00	-6.98
300.63	45.36	V	-54.20	-7.92	1.99	-64.11	-57.00	-7.11
499.48	40.53	V	-54.08	-7.72	2.73	-64.53	-57.00	-7.53
599.39	38.89	V	-51.63	-7.79	2.94	-62.36	-57.00	-5.36
99.84	50.74	H	-52.47	-7.76	1.22	-61.44	-57.00	-4.44
286.08	47.46	H	-52.51	-7.91	1.99	-62.41	-57.00	-5.41
300.63	47.69	H	-51.89	-7.92	1.99	-61.80	-57.00	-4.80
499.48	45.93	H	-47.98	-7.72	2.73	-58.42	-57.00	-1.42
533.43	43.44	H	-49.36	-7.75	2.74	-59.84	-57.00	-2.84
599.39	44.41	H	-47.24	-7.79	2.94	-57.97	-57.00	-0.97

Measurement uncertainty	+ 1.5dB / -2.5dB < 200MHz
	+ 1.0dB / -1.5dB 1-40GHz

Remark：

1 The emission behaviour belongs to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

10. ETSI EN 300 328 SUBCLAUSE 4.3.5 RECEIVER SPURIOUS EMISSIONS

10.1. Limit:

The spurious emissions of the receiver shall not exceed the values in tables 3 and 4 in the indicated bands.

Table 3: Narrowband spurious emission limits for receivers

Frequency Range	Limit
30MHz to 1 GHz	-57 dBm
above 1 GHz to 12.75 GHz	-47 dBm

The above limit values apply to narrowband emissions, e.g. as caused by local oscillator leakage. The measurement bandwidth for such emissions may be as small as necessary to get a reliable measurement result.

Wideband emissions shall not exceed the values given in table 4.

Table 4: Wideband spurious emission limits for receivers

Frequency Range	Limit
30MHz to 1 GHz	-107 dBm/Hz
above 1 GHz to 12.75 GHz	-97 dBm/Hz

10.2. Measurement Equipment Used:

Same as section 9.2 in this report.

10.3. Test Setup:

Same as section 9.3 in this report.

10.4. Test Procedure:

See subclause 5.3 of ETSI EN 300 328 for the test conditions

See Subclause 5.7.6 of ETSI EN 300 328 for transmitter spurious emissions for radiated test method.

10.5. Receiver Spurious Emissions Test Results: (Radiated)

Ambient temperature: 24 ℃ Relative humidity: 68 % Test Date: 01/25/2006

Test Mode: RX CH Low

Freq.	SPA. Reading	Ant.Pol.	S.G Output	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
99.84	49.34	V	-54.37	-7.76	1.22	-63.35	-57.00	-6.35
201.69	46.87	V	-55.18	-7.84	1.58	-64.60	-57.00	-7.60
288.99	44.49	V	-55.34	-7.91	1.99	-65.24	-57.00	-8.24
322.94	42.55	V	-56.28	-7.79	2.21	-66.28	-57.00	-9.28
499.48	40.72	V	-53.89	-7.72	2.73	-64.34	-57.00	-7.34
1598.00	42.30	V	-64.76	9.14	4.97	-60.59	-47.00	-13.59
7206.00	---	V	---	---	---	---	-47.00	---
9608.00	---	V	---	---	---	---	-47.00	---
12010.00	---	V	---	---	---	---	-47.00	---
99.84	49.22	H	-53.99	-7.76	1.22	-62.96	-57.00	-5.96
284.14	46.83	H	-53.19	-7.91	1.99	-63.08	-57.00	-6.08
499.48	45.21	H	-48.70	-7.72	2.73	-59.14	-57.00	-2.14
533.43	43.21	H	-49.59	-7.75	2.74	-60.07	-57.00	-3.07
1045.50	44.32	H	-64.24	6.23	3.91	-61.92	-47.00	-14.92
1598.00	44.14	H	-62.90	9.14	4.97	-58.73	-47.00	-11.73
4804.00	---	H	---	---	---	---	-47.00	---
7206.00	---	H	---	---	---	---	-47.00	---
9608.00	---	H	---	---	---	---	-47.00	---
12010.00	---	H	---	---	---	---	-47.00	---

Measurement uncertainty	+ 1.5dB / -2.5dB < 200MHz
	+ 1.0dB / -1.5dB 1-40GHz

Remark：

1 The emission behaviour belongs to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

10.6. Receiver Spurious Emissions Test Results: (Radiated)

Ambient temperature: 24 ℃ Relative humidity: 68 % Test Date: 01/25/2006

Test Mode: RX CH Mid

Freq.	SPA. Reading	Ant.Pol.	S.G Output	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
99.84	48.71	V	-55.00	-7.76	1.22	-63.98	-57.00	-6.98
203.63	48.02	V	-53.98	-7.84	1.59	-63.41	-57.00	-6.41
286.08	46.58	V	-53.31	-7.91	1.99	-63.21	-57.00	-6.21
300.63	43.56	V	-56.00	-7.92	1.99	-65.91	-57.00	-8.91
499.48	40.62	V	-53.99	-7.72	2.73	-64.44	-57.00	-7.44
1598.00	42.42	V	-64.64	9.14	4.97	-60.47	-47.00	-13.47
7206.00	---	V	---	---	---	---	-47.00	---
9608.00	---	V	---	---	---	---	-47.00	---
12010.00	---	V	---	---	---	---	-47.00	---
99.84	49.40	H	-53.81	-7.76	1.22	-62.78	-57.00	-5.78
286.08	46.59	H	-53.38	-7.91	1.99	-63.28	-57.00	-6.28
300.63	46.47	H	-53.11	-7.92	1.99	-63.02	-57.00	-6.02
1045.50	44.39	H	-64.17	6.23	3.91	-61.85	-47.00	-14.85
1630.50	44.80	H	-62.22	9.23	5.02	-58.01	-47.00	-11.01
2605.50	43.96	H	-59.67	10.37	6.48	-55.78	-47.00	-8.78
4804.00	---	H	---	---	---	---	-47.00	---
7206.00	---	H	---	---	---	---	-47.00	---
9608.00	---	H	---	---	---	---	-47.00	---
12010.00	---	H	---	---	---	---	-47.00	---

Measurement uncertainty	+ 1.5dB / -2.5dB < 200MHz
	+ 1.0dB / -1.5dB 1-40GHz

Remark：

1 The emission behaviour belongs to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

10.7. Receiver Spurious Emissions Test Results: (Radiated)

Ambient temperature: 24 ℃ Relative humidity: 68 % Test Date: 01/25/2006

Test Mode: RX CH High

Freq.	SPA. Reading	Ant.Pol.	S.G Output	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
99.84	49.36	V	-54.35	-7.76	1.22	-63.33	-57.00	-6.33
203.63	47.89	V	-54.11	-7.84	1.59	-63.54	-57.00	-6.54
286.08	45.89	V	-54.00	-7.91	1.99	-63.90	-57.00	-6.90
322.94	41.61	V	-57.22	-7.79	2.21	-67.22	-57.00	-10.22
499.48	40.67	V	-53.94	-7.72	2.73	-64.39	-57.00	-7.39
1598.00	42.48	V	-64.58	9.14	4.97	-60.41	-47.00	-13.41
7206.00	---	V	---	11.57	11.21	---	-47.00	---
9608.00	---	V	---	11.97	13.25	---	-47.00	---
12010.00	---	V	---	13.19	15.27	---	-47.00	---
99.84	47.35	H	-55.86	-7.76	1.22	-64.83	-57.00	-7.83
284.14	46.66	H	-53.36	-7.91	1.99	-63.25	-57.00	-6.25
499.48	45.83	H	-48.08	-7.72	2.73	-58.52	-57.00	-1.52
1045.50	45.19	H	-63.37	6.23	3.91	-61.05	-47.00	-14.05
1643.50	45.56	H	-61.45	9.27	5.05	-57.23	-47.00	-10.23
2605.50	40.61	H	-63.02	10.37	6.48	-59.13	-47.00	-12.13
4804.00	---	H	---	12.65	9.04	---	-47.00	---
7206.00	---	H	---	11.57	11.21	---	-47.00	---
9608.00	---	H	---	11.97	13.25	---	-47.00	---
12010.00	---	H	---	13.19	15.27	---	-47.00	---

Measurement uncertainty	+ 1.5dB / -2.5dB < 200MHz
	+ 1.0dB / -1.5dB 1-40GHz

Remark：

1 The emission behaviour belongs to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

APPENDIX 1

PHOTOGRAPHS OF SET UP

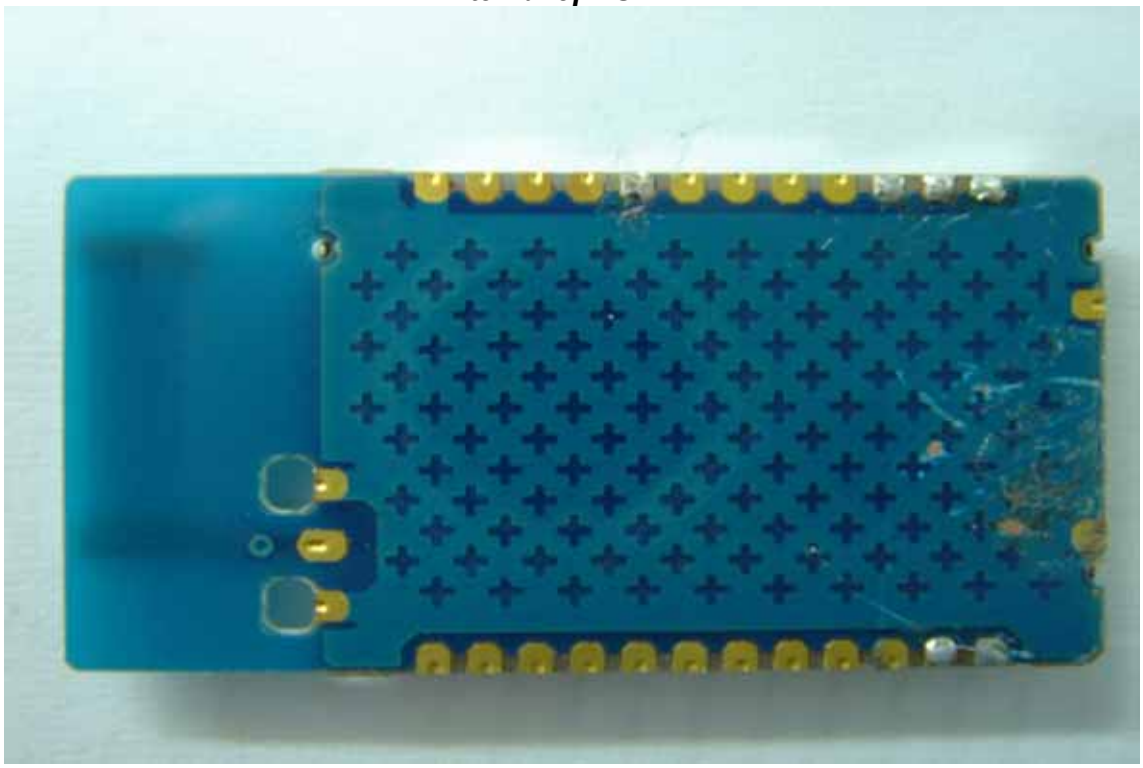
Front of Set up

APPENDIX 2

PHOTOGRAPHS OF EUT

Internal of EUT – 1

Internal of EUT – 2



Internal of EUT-3