TEST REPORT

of

FCC Per 47 CFR 2.1091(b)

FCC ID/IC Certification: TUISBG-1000 / 6241A-SBG1000

Equipment Under Test	:	Smart Business Gateway
Model Name	:	SBG-1000
Serial No.	:	N/A
Applicant	:	LG-Ericsson Co., Ltd.
Manufacturer	:	LN Srithai Comm. CO., Ltd.
Date of Test(s)	:	2010.10.15 ~ 2011.04.04
Date of Issue	:	2011.04.06

In the configuration tested, the EUT complied with the standards specified above.

Tested By: Grant Lee **Date** 2011.04.06

Approved By: Feel Jeong **Date** 2011.04.06

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1. General Information

1.1 Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)
Wireless Div. 2FL, 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea 435-040
www.kr.sgs.com/ee
Telephone : +82 +31 428 5700
FAX : +82 +31 427 2371

1.2 Details of applicant

Applicant : LG-Ericsson
Address : 533, Hogye-dong, Dongan-Gu, Anyang-shi, Kyongki-do, 431-749, Korea
Contact Person : Rex Lee
Phone No. : +82 +31 450 4804

1.3 Description of EUT

Kind of Product	Smart Business Gateway
Model Name	SBG-1000
Serial Number	N / A
Power Supply	AC 100 ~240 V
Frequency Range	WLAN: 2 412 ㎒ ~ 2 462 ㎒ (802.11b/g/n-HT20, MIMO) 2 422 ㎒ ~ 2 452 ㎒ (802.11n-HT40, MIMO) DECT : 1 921.536~ 1 928.448 ㎒
Modulation Technique	WLAN: DSSS, OFDM (WLAN), DECT : GFSK
Number of Channels	WLAN: 11 Ch (b/g/n-HT20), 7 Ch (HT40) DECT : 5 Ch
Antenna Type	Integral Type
Antenna Gain	WLAN: 6.48 ㏈i (Combined), 2.313 ㏈i (Ant 1), 4.390 ㏈i (Ant 2) DECT : 3 .0 dBi

1.4 Test Report Revision

Revision	Report number	Description
0	F690501/RF-RTL004586	Initial

2. RF Exposure Evaluation

2.1 Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(b), 1.1310

According to FCC 1.1310 : The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in §1.1307(b)

Table 2

Reference levels for electric, magnetic and electromagnetic fields (0 ㎐ to 300 ㎓, unperturbed rms values)

Frequency Range (㎒)	Electric Field Strength(V/m)	Magnetic Field Strength (A/m)	Power Density (㎽/㎠)	Average Time
(A) Limits for Occupational /Control Exposures				
300 – 1500	--	--	F/300	6
1 500 – 100 000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300 – 1 500	--	--	F/1 500	6
1 500 – 100 000	**--**	**--**	**1**	**30**

2.2. Test Result

Ambient temperature : (24 ± 2) ℃
Relative humidity : 47 % R.H.

DECT+ WLAN(802.11n_HT40_ANT 1+Ant 2)

Mode	Output Power to Antenna (dB m)	Antenna Gain (dB i)	Power Density at 20cm (㎽/㎠)	LIMITS (㎽/㎠)
DECT	20.56	3.00	0.045 16	1
WLAN(HT40_ANT1+ANT2)	21.15	6.48	0.115 27	1
Total			0.160 43	1

DECT

Channel	Channel Frequency (㎒)	Output Power to Antenna (dB m)	Antenna Gain (dB i)	Power Density at 20cm (㎽/㎠)	LIMITS (㎽/㎠)
Low	1 921.539	20.56	3.00	0.045 16	1
Middle	1 924.992	20.56	3.00	0.045 16	1
High	1 928.448	20.06	3.00	0.040 25	1

OFDM : 802.11n_HT40_ANT 1+Ant 2

Channel	Channel Frequency (㎒)	Output Power to Antenna (dB m) Combined (ANT1 +ANT2)	Antenna Gain (dB i)	Power Density at 20cm (㎽/㎠)	LIMITS (㎽/㎠)
Low	2 422	21.15	6.48	0.115 27	1
Middle	2 437	21.11	6.48	0.114 22	1
High	2 452	21.00	6.48	0.111 36	1

DSSS : 802.11b Ant 1

Channel	Channel Frequency (㎒)	Output Power to Antenna (dB m)	Antenna Gain (dB i)	Power Density at 20cm (㎽/㎠)	LIMITS (㎽/㎠)
Low	2 412	13.04	2.313	0.006 82	1
Middle	2 437	12.81	2.313	0.006 47	1
High	2 462	12.55	2.313	0.006 10	1

DSSS : 802.11b Ant 2

Channel	Channel Frequency (㎒)	Output Power to Antenna (dB m)	Antenna Gain (dB i)	Power Density at 20cm (㎽/㎠)	LIMITS (㎽/㎠)
Low	2 412	12.20	4.390	0.009 07	1
Middle	2 437	11.63	4.390	0.007 96	1
High	2 462	11.72	4.390	0.008 12	1

OFDM : 802.11g Ant 1

Channel	Channel Frequency (㎒)	Output Power to Antenna (dB m)	Antenna Gain (dB i)	Power Density at 20cm (㎽/㎠)	LIMITS (㎽/㎠)
Low	2 412	18.32	2.313	0.023 02	1
Middle	2 437	18.15	2.313	0.022 13	1
High	2 462	17.75	2.313	0.020 19	1

OFDM : 802.11g Ant 2

Channel	Channel Frequency (㎒)	Output Power to Antenna (dB m)	Antenna Gain (dB i)	Power Density at 20cm (㎽/㎠)	LIMITS (㎽/㎠)
Low	2 412	17.02	4.39	0.027 53	1
Middle	2 437	16.49	4.39	0.024 36	1
High	2 462	16.41	4.39	0.023 92	1

OFDM : 802.11n_HT20_ANT 1+Ant 2

Channel	Channel Frequency (㎒)	Output Power to Antenna (㏈m) Combined (ANT1 +ANT2)	Antenna Gain (㏈i)	Power Density at 20cm (㎽/㎠)	LIMITS (㎽/㎠)
Low	2 412	21.36	6.48	0.120 98	1
Middle	2 437	21.03	6.48	0.112 13	1
High	2 462	20.83	6.48	0.107 09	1

Note:
1. Distance of 18.7 ㎝ is from the base bottom to the screen at top angles.
2. The power density at a distance of 18.7 ㎝ calculated from the friis transmission formula is far below the limit of 10 W/m^2 for WLAN.
3. The power density at a distance of 18.7 ㎝ calculated from the friis transmission formula is far below the limit of f(㎒)/200 W/m^2 for GSM and UMTS
4. RF Exposure Equation is as below;

RF Exposure Equation

Power density is given by:

$S = EIRP / (4 * Pi * D^2)$

where

S = Power density in W/m^2

EIRP = Equivalent Isotropic Radiated Power in W

D = Separation distance in m

Distance is given by:

D = SQRT (EIRP / (4 * Pi * S))

where

D = Separation distance in m

EIRP = Equivalent Isotropic Radiated Power in W

S = Power density in W/m^2

Where applicable (for example, multi-slot cell phone applications) a duty cycle factor may be applied.

Source-based time-averaged EIRP = (DC / 100) * EIRP

where

DC = Duty Cycle in %, as applicable

EIRP = Equivalent Isotropic Radiated Power in W