



Test report No. : 32FE0253-HO-I-R1

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FCC ID : A3LGTP5110

Issued date : February 29, 2012

Revised date : March 15, 2012

SAR TEST REPORT

Test Report No. : 32FE0253-HO-I-R1

Applicant : SAMSUNG ELECTRONICS CO., LTD.
Type of Equipment : Tablet with 802.11bgn, BT3.0+EDR
Model No. : GT-P5110
FCC ID : A3LGTP5110
Test regulation : FCC47CFR 2.1093
FCC OET Bulletin 65, Supplement C (Edition 01-01)

Test Result : **Complied**
FCC Part 15C Body : 0.509W/kg

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
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This report is a revised version of 32FE0253-HO-I. 32FE0253-HO-I is replaced with this report.

Date of test: February 16, 2012

**Representative
test engineer:**

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<http://www.ul.com/japan/jpn/pages/services/emc/about/mark1/index.jsp#nvlap>

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13-EM-F0429

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SECTION 1: Customer information

Company Name	SAMSUNG ELECTRONICS CO., LTD.
Address	416, MAETAN 3-DONG, YEONGTONG-GU SUWON-CITY, GYEONGGI-DO 443-742, SOUTH KOREA

SECTION 2: Equipment under test (E.U.T.)**2.1 Identification of E.U.T.**

Type of EUT	Tablet with 802.11bgn, BT3.0+EDR
Model No.	GT-P5110
Serial No.	R32C200S11T, R32C200S12B
Rating	DC5.0V (USB Power Supply) Li-ion Battery (M/N; SP3676B1A(1S2P)) DC3.7V/7000mAh, 25.9Wh
Option Battery	N/A
Body-wornAccessory	Ear phone (typical)
Device category	Portable
Antenna to antenna separation distance	N/A
Simultaneous transmission	N/A

2.2 Product description

Radio Specification

Bluetooth

Equipment Type	Transceiver
Frequency of Operation	2402-2480MHz
Type of Modulation	FHSS
Bandwidth & Channel spacing	1MHz & 1MHz
Antenna Type	PIFA
Antenna Gain	-0.31 dBi (MAX)

WLAN (IEEE802.11b/g/n-20)

Equipment Type	Transceiver
Frequency of Operation	2412-2462MHz
Type of Modulation	DSSS, OFDM
Bandwidth & Channel spacing	20MHz & 5MHz
Antenna Type	PIFA
Antenna Gain	-0.31 dBi (MAX)

SECTION 3 : Test standard information

3.1 Test Specification

Title : **Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01):**

Supplement C (Edition 01-01) - Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions
OET Bulletin 65 (Edition 97-01) - Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields

: **IEEE Std 1528-2003:**

IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques Supplement C

In additions;

- ☒ **KDB450824 D01** SAR Prob Cal and Ver Meas v01r01
- ☒ **KDB450824 D01** Dipole SAR Validation Verification v01
- ☒ **KDB447498D01(v04)** Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
- ☐ **KDB447498D02(v02)** SAR Measurement Procedures for USB Dongle Transmitters
- ☐ **KDB648474D01** SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas
- ☐ **KDB941225D01(v02)** SAR Measurement Procedures for 3G Devices
- ☐ **KDB941225D02(v02v01)** 3GPP R6 HSPA and R7 HSPA+ SAR Guidance
- ☐ **KDB941225D03(v01)** Recommended SAR Test Reduction Procedures for GSM/GPRS/EDGE
- ☐ **KDB941225D04(v01)** Evaluating SAR for GSM/(E)GPRS Dual Transfer Mode
- ☐ **KDB941225D05(v01)** SAR for LTE Devices
- ☒ **KDB941225D06(v01)** SAR test procedures for devices incorporating SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities (Hot Spot SAR)
- ☐ **KDB941225D07(v01)** SAR Evaluation Procedures for UMPC Mini-Tablet Devices
- ☐ **KDB 616217 D01(v01r01)** SAR Evaluation Considerations for Laptop Computer with antennas Built-in on Display Screen
- ☐ **KDB 616217 D03(v01)** SAR Evaluation Considerations for Laptop/Notebook/Netbook and Tablet
- ☐ **KDB865664** SAR Measurement Requirements for 3 to 6 GHz
- ☒ **KDB248227(rev.1.2)** SAR Measurement Procedures for 802.11a/b/g Transmitters

Reference

- [1]ANSI, ANSI/IEEE C95.1-1992: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz, The Institute of Electrical and Electronics Engineers, Inc., New York, NY 10017, 1992.
- [2]SPEAG uncertainty document (AN 15-7/AN19-17) for DASY 5 System from SPEAG (Shimid & Partner Engineering AG).

3.2 Procedure

Transmitter	WLAN	Bluetooth
Test Procedure	FCC OET BULLETIN 65, SUPPLEMENT C SAR	Exemption
Category	FCC47CFR 2.1093	FCC47CFR 2.1093
Note: UL Japan, Inc. 's SAR Work Procedures 13-EM-W0429 and 13-EM-W0430		

Bluetooth mode is excluded from SAR test since power was $60/f_{\text{GHz}}[\text{mW}]$.

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3.3 Exposure limit

(A) Limits for Occupational/Controlled Exposure (W/kg)

Spatial Average (averaged over the whole body)	Spatial Peak (averaged over any 1g of tissue)	Spatial Peak (hands/wrists/feet/ankles averaged over 10g)
0.4	8.0	20.0

(B) Limits for General population/Uncontrolled Exposure (W/kg)

Spatial Average (averaged over the whole body)	Spatial Peak (averaged over any 1g of tissue)	Spatial Peak (hands/wrists/feet/ankles averaged over 10g)
0.08	1.6	4.0

Occupational/Controlled Environments: are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

General Population/Uncontrolled Environments: are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

**NOTE:GENERAL POPULATION/UNCONTROLLED EXPOSURE
SPATIAL PEAK(averaged over any 1g of tissue) LIMIT
1.6 W/kg**

3.4 Test Location

*Shielded room for SAR testings

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SECTION 4 : Test result

4.1 Stand-alone SAR result

No.	Capable Tx configurations		Head SAR	Body SAR	Note
1	WLAN	WLAN 2.4G	No*1	Yes*3	Supported Hotspot
2	Bluetooth	Bluetooth BDR/EDR	Exemption*2		-

Note

*1 The VOIP mode support but has no acoustic output in the phone.

*2 Bluetooth mode is excluded from SAR test since power was $60/f_{\text{[GHz]}}[\text{mW}]$.

*3 Body SAR for hotspot mode is not required because the diagonal dimension of EUT exceeds 20cm and has not been considered for FCC equipment certification.

Mode	1g Head SAR [W/kg]	1g BodySAR [W/kg]
WLAN 11b/g/n(2.4G)	No	0.509
Bluetooth	No	

SECTION 5 : Description of the operating mode

5.1 SAR testing operating modes

The operating mode for SAR testing was decided by the output power

5.2 Output power operating modes

Mode	Duty cycle	Frequency Band	Test Frequency	Modulation
IEEE802.11b	100%	2412-2462MHz	2412MHz (1ch) 2437MHz(6ch) 2462MHz(11ch)	DSSS (DBPSK,DQPSK,CCK)
IEEE802.11g	100%	2412-2462MHz	2412MHz (1ch) 2437MHz(6ch) 2462MHz(11ch)	OFDM (BPSK,QPSK,16QAM,64QAM)
IEEE802.11n20 (2.4G)	100%	2412-2462MHz	2412MHz (1ch) 2437MHz(6ch) 2462MHz(11ch)	
Bluetooth	83%(DH5)	2402-2480MHz	2402MHz(1ch) 2441MHz(39ch) 2480MHz(79ch)	FHSS (GFSK, $\pi/4$ DQPSK,8DPSK)

WLAN

*Power of the EUT was set by the software as follows;

H/W version: Rev 1.0

S/W version: P5100.001

*This setting of software is the worst case.

Any conditions under the normal use do not exceed the condition of setting.

In addition, end users cannot change the settings of the output power of the product.

5.3 SAR testing operating modes

Decision of SAR test channel

The operating mode for SAR testing was decided by the output power

The average output power for 802.11a was measured on all channels in each frequency band.

Mode	GHz	Channel	Turbo Channel	"Default Test Channel"	
				FCC 15.247	
				802.11b	802.11g
802.11 b/g	2.412	1		√	Δ
	2.437	6	6	√	Δ
	2.462	11		√	Δ

√ = "default test channels"

Δ = Possible 802.11g channels with maximum average output $\frac{1}{4}$ dB $\geq$ the "default test channels"

1) WLAN (11b/g/n(2.4G))

SAR Test mode : 11b 1Mbps

Channel : 6ch

Crest factor : 1

Note:

1.The 11b mode was maximum average power. The 11g/n SAR is not required for other mode because the maximum average output power for other mode is less than 1/4dB higher than that measured 11b mode.

2.The other channels are measured if the SAR result at max. AVG power channel will be above 0.8W/kg

[IEEE802.11b] Rate Check

Rate [Mbps]	Freq. [MHz]	P/M Reading [dBm]		Cable Loss [dB]	Atten. [dB]	Result			
		PK	AVG			[dBm]		[mW]	
1.0	2437	8.68	5.69	2.37	9.99	21.04	18.05	127.06	63.83
2.0	2437	8.67	5.67	2.37	9.99	21.03	18.03	126.77	63.53
5.5	2437	8.60	5.62	2.37	9.99	20.96	17.98	124.74	62.81
11.0	2437	8.77	5.39	2.37	9.99	21.13	17.75	129.72	59.57

:Worst data rate

IEEE802.11b 1Mbps(AV Worst)

Ch	Frequency [MHz]	P/M Reading [dBm]		Cable Loss [dB]	Atten. [dB]	Result			
		PK	AVG			[dBm]		[mW]	
1	2412	8.54	5.67	2.37	9.99	20.90	18.03	123.03	63.53
6	2437	8.68	5.69	2.37	9.99	21.04	18.05	127.06	63.83
11	2462	8.47	5.60	2.37	9.99	20.83	17.96	121.06	62.52

:SAR test channel

Sample Calculation:

Result = Reading + Cable Loss + Attenuator

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[IEEE802.11g] Rate Check

Rate [Mbps]	Frequency [MHz]	P/M Reading [dBm]		Cable Loss [dB]	Atten. [dB]	Result			
		PK	AVG			[dBm]		[mW]	
6.0	2437	13.32	2.65	2.37	9.99	25.68	15.01	369.83	31.70
9.0	2437	13.30	2.47	2.37	9.99	25.66	14.83	368.13	30.41
12.0	2437	12.25	2.42	2.37	9.99	24.61	14.78	289.07	30.06
18.0	2437	13.00	2.06	2.37	9.99	25.36	14.42	343.56	27.67
24.0	2437	12.96	1.82	2.37	9.99	25.32	14.18	340.41	26.18
36.0	2437	13.11	1.39	2.37	9.99	25.47	13.75	352.37	23.71
48.0	2437	13.31	1.07	2.37	9.99	25.67	13.43	368.98	22.03
54.0	2437	13.06	0.93	2.37	9.99	25.42	13.29	348.34	21.33

:Worst data rate

IEEE802.11g 6Mbps

Ch	Frequency [MHz]	P/M Reading [dBm]		Cable Loss [dB]	Atten. [dB]	Result			
		PK	AVG			[dBm]		[mW]	
1	2412	13.25	2.68	2.37	9.99	25.61	15.04	363.92	31.92
6	2437	13.26	2.65	2.37	9.99	25.62	15.01	364.75	31.70
11	2462	13.45	2.54	2.37	9.99	25.81	14.90	381.07	30.90

[IEEE802.11n-20] Rate Check

Rate	Frequency [MHz]	P/M Reading [dBm]		Cable Loss [dB]	Atten. [dB]	Result			
		PK	AVG			[dBm]		[mW]	
MCS0	2437	11.20	0.27	2.37	9.99	23.56	12.63	226.99	18.32
MCS1	2437	11.18	-0.05	2.37	9.99	23.54	12.31	225.94	17.02
MCS2	2437	11.01	-0.26	2.37	9.99	23.37	12.10	217.27	16.22
MCS3	2437	10.95	-0.46	2.37	9.99	23.31	11.90	214.29	15.49
MCS4	2437	11.08	-0.85	2.37	9.99	23.44	11.51	220.80	14.16
MCS5	2437	10.81	-1.21	2.37	9.99	23.17	11.15	207.49	13.03
MCS6	2437	11.01	-1.28	2.37	9.99	23.37	11.08	217.27	12.82
MCS7	2437	11.08	-1.55	2.37	9.99	23.44	10.81	220.80	12.05

:Worst data rate

IEEE802.11n-20 MCS0

Ch	Frequency [MHz]	P/M Reading [dBm]		Cable Loss [dB]	Atten. [dB]	Result			
		PK	AVG			[dBm]		[mW]	
1	2412	11.17	0.35	2.37	9.99	23.53	12.71	225.42	18.66
6	2437	11.20	0.27	2.37	9.99	23.56	12.63	226.99	18.32
11	2462	11.18	0.22	2.37	9.99	23.54	12.58	225.94	18.11

Sample Calculation:

Result = Reading + Cable Loss + Attenuator

2) Bluetooth**Bluetooth**

Mode	Frequency [MHz]	P/M Reading [dBm]		Cable Loss [dB]	Atten. [dB]	Result			
		PK	AVG			[dBm]		[mW]	
DH5	2402	-1.75	-3.17	6.82	10.07	15.14	13.72	32.66	23.55
	2441	-1.90	-3.28	6.85	10.07	15.02	13.64	31.77	23.12
	2480	-2.45	-3.86	6.87	10.07	14.49	13.08	28.12	20.32
2DH5	2402	-1.66	-5.14	6.82	10.07	15.23	11.75	33.34	14.96
	2441	-1.81	-5.11	6.85	10.07	15.11	11.81	32.43	15.17
	2480	-2.36	-5.76	6.87	10.07	14.58	11.18	28.71	13.12
3DH5	2402	-1.36	-5.14	6.82	10.07	15.53	11.75	35.73	14.96
	2441	-1.53	-5.11	6.85	10.07	15.39	11.81	34.59	15.17
	2480	-2.06	-5.75	6.87	10.07	14.88	11.19	30.76	13.15

Sample Calculation: Result = Reading + Cable Loss + Attenuator

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5.4 Confirmation before SAR testing

Correlation of Output Power between EMC and SAR tests

It was checked that the antenna port power was correlated within 0~+5% (FCC requirements)

SAR power is equal to DATA of EMC test based on the following reason.

- EMC and SAR tests are performed with the same test sample such as serial number under the same condition.
- EMC and SAR tests are performed at the same laboratory.

<Peak power result for maximum data rate in FCC 15.247 test>

IEEE802.11b 11Mbps(PK Worst)

Ch	Frequency [MHz]	P/M Reading [dBm]		Cable Loss [dB]	Atten. [dB]	Result			
		PK	AVG			[dBm]		[mW]	
1	2412	8.87	5.46	2.37	9.99	21.23	17.82	132.74	60.53
6	2437	8.77	5.39	2.37	9.99	21.13	17.75	129.72	59.57
11	2462	8.68	5.38	2.37	9.99	21.04	17.74	127.06	59.43

Sample Calculation:

Result = Reading + Cable Loss + Attenuator

5.5 Confirmation after SAR testing

It was checked that the power drift [W] is within +/-5%. The verification of power drift during the SAR test is that DASY5 system calculates the power drift by measuring the E-field at the same location at beginning and the end of the scan measurement for each test position.

DASY5 system calculation Power drift value[dB] = $20\log(E_a)/(E_b)$

Before SAR testing : E_b [V/m]

After SAR testing : E_a [V/m]

Limit of power drift[W] = +/-5%

$X[\text{dB}] = 10\log[P] = 10\log(1.05/1) = 10\log(1.05) - 10\log(1) = 0.212\text{dB}$

from E-field relations with power.

$p = E^2/\eta = E^2/$

Therefore, The correlation of power and the E-field

$X_{\text{dB}} = 10\log(P) = 10\log(E)^2 = 20\log(E)$

Therefore,

The calculated power drift of DASY5 System must be the less than +/-0.212dB.

SECTION6 : Description of the Body

6.1 Description of the Body setup

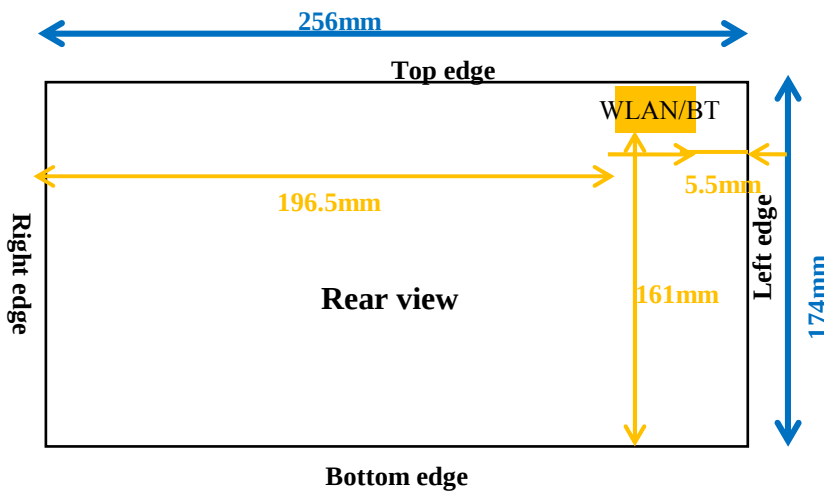
i)Procedure for SAR testing

-The tested procedure was performed according to the KDB 447498 D01 (Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies)

ii)Test mode

WLAN	Data transmission mode (11b)
-------------	-------------------------------------

iii) Test position



<Antenna position>

The antennas use for WLAN are both separate in a single fixed position. The antennas are integral part of the device.

<Test position>

Test position is required to the edge within 5cm from antenna, according to the KDB 447498 D01

Device dimensions (HxWxD): 174x256x5

No.	Position	Test distance	WLAN	
			Tested	Antenna
1	Front	0mm	☐	Fixed
2	Rear	0mm	☒	Fixed
3	Left edge	0mm	☒	Fixed
4	Right edge	0mm	☐	Fixed
5	Top edge	0mm	☒	Fixed
6	Bottom edge	0mm	☐	Fixed

SECTION 7 : Test surrounding

7.1 Measurement uncertainty

The uncertainty budget has been determined for the DASY5 measurement system according to the SPEAG documents[2] and is given in the following Table.

<WLAN 300M-3GHz>

Error Description	Uncertai value $\pm$	Probability distribution	divisor	(ci) lg	Standard (lg)	vi or veff
Measurement System						
Probe calibration	± 6.00	Normal	1	1	± 6.00	∞
Axial isotropy of the probe	± 4.7	Rectangular	$\sqrt{3}$	0.7	± 1.9	∞
Spherical isotropy of the probe	± 9.6	Rectangular	$\sqrt{3}$	0.7	± 3.9	∞
Boundary effects	± 1.0	Rectangular	$\sqrt{3}$	1	± 0.6	∞
Probe linearity	± 4.7	Rectangular	$\sqrt{3}$	1	± 2.7	∞
Detection limit	± 1.0	Rectangular	$\sqrt{3}$	1	± 0.6	∞
Readout electronics	± 0.3	Normal	1	1	± 0.3	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	± 0.5	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	± 1.5	∞
RF ambient Noise	± 3.0	Rectangular	$\sqrt{3}$	1	± 1.7	∞
RF ambient Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	± 1.7	∞
Probe Positioner	± 0.4	Rectangular	$\sqrt{3}$	1	± 0.2	∞
Probe positioning	± 2.9	Rectangular	$\sqrt{3}$	1	± 1.7	∞
Max.SAR Eval.	± 1.0	Rectangular	$\sqrt{3}$	1	± 0.6	∞
Test Sample Related						
Device positioning	± 2.9	Normal	1	1	± 2.9	2
Device holder uncertainty	± 3.6	Normal	1	1	± 3.6	2
Power drift	± 5.0	Rectangular	$\sqrt{3}$	1	± 2.9	∞
Phantom and Setup						
Phantom uncertainty	± 4.0	Rectangular	$\sqrt{3}$	1	± 2.3	∞
Liquid conductivity (target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	± 1.8	∞
Liquid conductivity (meas.)	± 2.1	Rectangular	1	0.64	± 1.3	∞
Liquid permittivity (target)	± 5.0	Rectangular	$\sqrt{3}$	0.6	± 1.7	∞
Liquid permittivity (meas.)	± 3.6	Rectangular	1	0.6	± 2.2	∞
Combined Standard Uncertainty						
					± 11.068	
Expanded Uncertainty (k=2)						
					± 22.1	

SECTION 8 : Measurement results

8.1 WLAN Body

(1)Method of measurement

Step1. The searching for the worst position

The test was performed in mode of the maximum average output power

Note:

- 1)The BODY SAR is not required for 11g/n mode because the maximum average output power for 11g/n mode is less than 1/4dB higher than that measured 11b mode.
- 2)The other channel was not required since maximum average output power channel SAR value is less than 0.8W/kg.

(2)Simulated Tissue Liquid Parameter confirmation

The dielectric parameters were checked prior to assessment using the HP85070D dielectric probe kit.

The dielectric parameters measurement is reported in each correspondent section.

DIELECTRIC PARAMETERS MEASUREMENT RESULTS										
Date	Ambient Temp. [deg.c]	Relative Humidity [%]	Liquid type	Liquid Temp. [deg.c]	Measured Frequency [MHz]	Parameters	Target Value*1	Measured	Deviation [%]	Limit [%]
16-Feb	23	32	MSL 2450	22.5	2437	ϵ_r	52.7	50.8	-3.6	+/-5
						σ [mho/m]	1.95	1.99	2.1	+/-5

ϵ_r : Relative Permittivity / σ : Conductivity

*1 The Target value is a parameter defined in FCC OET65.

3)Result of Body SAR

BODY SAR MEASUREMENT RESULTS							
Frequency		Modulation	Phantom Section	EUT Set-up Conditions			SAR(1g) [W/kg]
Channel	[MHz]			Antenna	Position	Separation [mm]	Maximum value of multi-peak
Step.1 Position searching							
6	2437	11b 1Mbps	Flat	Fixed	Front	0	Not required
6	2437	11b 1Mbps	Flat	Fixed	Rear	0	0.509
6	2437	11b 1Mbps	Flat	Fixed	Right edge	0	Not required
6	2437	11b 1Mbps	Flat	Fixed	Left edge	0	0.043
6	2437	11b 1Mbps	Flat	Fixed	Top edge	0	0.243
6	2437	11b 1Mbps	Flat	Fixed	Bottom edge	0	Not required

SECTION 9 Test instruments**[1/2]**

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MOS-19	Thermo-Hygrometer	Custom	CTH-201	0001	Power Measurement	2011/12/09 * 12
MPSE-17	Power sensor	Anritsu	MA2411B	0738285	Power Measurement	2011/08/09 * 12
MPM-12	Power Meter	Anritsu	ML2495A	0825002	Power Measurement	2011/08/09 * 12
MCC-137	Microwave cable	HUBER+SUHNER	SUCOFLEX 102	37954/2	Power Measurement	2011/10/28 * 12
MAT-23	Attenuator(10dB) 1-18GHz	Orient Microwave	BX10-0476-00	-	Power Measurement	2011/03/14 * 12
MAT-25	Attenuator(10dB)(above 1GHz)	Agilent	8493C	71642	Power Measurement	2011/06/23 * 12
MPM-08	Power Meter	Anritsu	ML2495A	6K00003338	Power Measurement	2011/09/13 * 12
MPM-11	Dual Power Meter	Agilent	E4419B	MY45102060	Power Measurement	2011/07/14 * 12
MAT-22	Attenuator(10dB) 1-18GHz	Orient Microwave	BX10-0476-00	-	Power Measurement	2011/03/14 * 12
MCC-96	Microwave Cable 1G-40GHz	Schner	SUCOFLEX102	30817/2	Power Measurement	2011/05/27 * 12
MPM-01	Power Meter	Agilent	E4417A	GB41290639	SAR	2011/02/01 * 12
MPSE-03	Power sensor	Agilent	E9327A	US40440576	SAR	2011/02/02 * 12
MSG-10	Signal Generator	Agilent	N5181A	MY47421098	SAR	2011/09/22 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	MY39500780	SAR	2011/03/10 * 12
MRFA-08	Pre Amplifier	TSJ	TCBP0206	-	SAR	2011/03/27 * 12
MHDC-12	Dual Directional Coupler	Hewlett Packard	772D	2839A0016	SAR	Pre Check
MNA-01	Network Analyzer	Agilent/HP	E8358A	US41080381	SAR	2011/08/22 * 12
MDPK-01	Dielectric probe kit	Agilent	85070D	702	SAR	2010/10/25 * 36
MNCK-01	Type N Calibration Kit	Agilent	85032F	MY41495257	SAR	2011/08/12 * 12
MPB-07	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3825	SAR	2011/12/16 * 12
MDAE-01	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	509	SAR	2011/07/20 * 12
COTS-MSAR-03	Dasy5	Schmid&Partner Engineering AG	DASY52.6.1.408	-	SAR	-
COTS-MSAR-02	S-Parameter Network Analyzer	Agilent	—	—	SAR	-
MDA-07	Dipole Antenna	Schmid&Partner Engineering AG	D2450V2	713	SAR	2010/09/13 * 36

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Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MPF-02	2mmOval Flat Phantom ERI 4.0	Schmid&Partner Engineering AG	QD VA 001B (ERI4.0)	1045	SAR	2011/04/01 * 12
MOS-26	Thermo-Hygrometer	CUSTOM	CTH-201	A08Q29	SAR	2011/05/26 * 12
MOS-10	Digital thermometer	HANNA	Checktemp-2	MOS-10	SAR	2011/08/22 * 12
MBM-13	Barometer	Sunoh	SBR121	837	SAR	2011/03/14 * 36
MSL2450					Daily check	Target value $\pm$ 5%
SAR room					Daily check	Ambient Noise<0.012W/kg

The expiration date of the calibration is the end of the expired month.

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

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