SAR TEST REPORT

Test Report No.: 11143373S-A

Applicant : **FUJIFILM Corporation**

Type of Equipment : **Wireless LAN Module**

Model No. : **SX-PCEAN(FF-E)** (*. Installed into the specified Flat Panel Sensor.)

FCC ID : **W2Z-01000008**

Test Standard : **FCC 47CFR §2.1093**

Test Result : **Complied**

Highest Reported SAR(1g) Value	SAR type	Operation Band [MHz]	Platform			Remarks
			No.	Type	Model	
< 0.10 W/kg	Body	2412~2462	#1	Flat Panel Sensor	RIC 43G	(DTS) Antenna#1, 2417MHz, 11g(6Mbps), Output power: 17.63dBm
< 0.10 W/kg	Head					(DTS) Antenna#1, 2417MHz, 11g(6Mbps), Output power: 17.63dBm
0.28 W/kg	Body	5180~5320, 5500~5700, 5745~5825				(UNII) Antenna#1, 5825 MHz, 11a (6Mbps), Output power: 16.39dBm
0.30 W/kg	Head					(UNII) Antenna#1, 5825 MHz, 11a (6Mbps), Output power: 16.39dBm

*. **The highest reported SAR (1g) value across all exposure condition is "0.30 W/kg" = grant listing.**
*. Since highest reported SAR (1g): 0.30 W/kg on a platform of EUT which obtained in accordance with KDB447498 (v06) was kept under 0.8 W/kg, this EUT was approved to operate multi-platforms (which were tested in above.).
*. **Co-location was not considered, because the SLLSR (SAR to peak location separation ratio) was smaller than 0.04.**

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
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3. This sample tested is in compliance with the limits of the above regulation.
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6. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
7. This test report covers Radio technical requirements. It does not cover administrative issues such as Manual or non-Radio test related Requirements. (if applicable)

Date of test: February 3~24, 2016

Test engineer: Hiroshi Naka
Engineer, Consumer Technology Division

Approved by: Toyokazu Imamura
Leader, Consumer Technology Division

☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan.
☒ There is no testing item of "Non-accreditation".

JAB Testing RTL02610

REVISION HISTORY

Revision	Test report No.	Date	Page revised	Contents
Original	11143373S-A	April 25, 2016	-	-
-r01	11143373S-A	May 9, 2016	p1,2,3	(p3) Error correction.
-r02	11143373S-A	June 3, 2016	p1,2,33,61,62	(p33,61,62) Error correction.

*. By issue of new revision report, the report of an old revision becomes invalid.

CONTENTS PAGE

Contents of appendixes

SECTION 1: Customer information

Company Name	FUJIFILM Corporation
Address	9-7-3 Akasaka Minato-ku, Tokyo 107-0052, Japan
Telephone Number	81-3-6271-1654
Facsimile Number	81-3-6271-1189
Contact Person	Takao Ozaki

SECTION 2: Equipment under test (EUT)

2.1 Identification of EUT

	EUT	Platform
Type of Equipment	Wireless LAN Module	Flat Panel Sensor
Model Number	SX-PCEAN(FF-E)	RIC 43G
Serial Number	00809270C5E1	#001
Condition of EUT	Production model	Production prototype
	(*. Not for sale: These samples are equivalent to mass-produced items.)	
Receipt Date of Sample	February 1, 2016 (*. No modification by the Lab.) (*. The EUT that had been measured the SAR test reference power, was installed into the platform from the beginning. After power measurement, the RF wiring was changed to the original antenna line by the Lab.)	
Country of Mass-production	Japan	Taiwan
Category Identified	Portable device (*. Since EUT may contact and/or very close to a human body and head during Wi-Fi operation, the partial-body SAR (1g) shall be observed.)	
Rating	DC3.3V supplied form the platform *. During SAR test, the EUT was installed into the platform that was operated by the re-chargeable Li-ion battery. Therefore, each SAR test, the platform which had built-in EUT was operated with full-charged battery.	
SAR Accessory	Any body-worn accessory was not applied.	
Feature of EUT, SAR tested consideration	The EUT is a Wireless LAN Module which installs into the specified platform: Flat Panel Sensor. Since the Flat Panel Sensor is the medical device, this only used under the guidance of a doctor or a qualified person. The possibility of the maximum RF human exposure is only a body/head of the patient who comes in contact directly on the front surface side (patient side) of the Flat Panel Sensor. **Therefore, the SAR test was only considered to apply to the front surface (patient side) of the Flat Panel Sensor.**	

*. RIC 43G: Flat Panel Sensor has the series model: RIC 43C.
RIC 43C is the same mechanically and electrically as RIC 43G, except X ray detection component. This difference doesn't influence the characteristic of wireless LAN applications. Therefore, RIC 43G was tested representatively.

	RIC 43G	**RIC 43C**
Size of panel (mm)	460×460×15.0	460×460×15.0
X ray detection component (scintillator)	GOS (Gd_2O_2S:Tb, oxysulfide gadolinium)	CsI (cesium iodide)

2.2 Product Description (Wireless LAN module, antenna)

Equipment type	Transceiver
Model	SX-PCEAN(FF-E)

Frequency band	**2.4GHz band**		**5GHz band**				
			-	**U-NII-1 (W52)**	**U-NII-2A (W53)**	**U-NII-2C (W56)**	**U-NII-3 (W58)**
Frequency of operation (MHz) (*.ch.: channel)	11b,g, n(20HT)	2412-2462 (*.ch.1-11)	11a, n(20HT)	5180-5240 (*.ch.36-48)	5260-5320 (*.ch.52-64)	5500-5700 (*.ch.100-140)	5745-5825 (*.ch.149-165)
	n(40HT)	2422-2452 (*.ch.3-9)	n(40HT)	5190-5230 (*.ch.38-46)	5270-5310 (*.ch.54-62)	5510-5670 (*.ch.102-134)	5755, 5795 (*.ch.151,159)
Channel spacing (MHz)	5 (11b,g,n(20HT),n(40HT))		20 (11b,g,n(20HT)) / 40 (11n(40HT))				
Bandwidth (MHz)	20 (11b,g,n(20HT)) / 40 (11n(40HT))		20 (11b,g,n(20HT)) / 40 (11n(40HT))				
Type of modulation	DSSS: DBPSK, DQPSK, CCK (11b), OFDM: BPSK, QPSK, 16QAM, 64QAM (11g,a,n(20HT),n(40HT))						
Transmit power (typical, maximum channel and data rate) and tolerance (as manufacture variation) (dBm) (*.ch.: channel)	11b	13.5 ±2.5 (*.ch.1-11, 1-11Mbps)	11a:	12.5±2.5 (*.ch.36-48, 6-54Mbps)	12.5±2.5 (*.ch.52-64, 6-54Mbps)	15.0±2.5 (*.ch.100-140, 6-48Mbps)	15.0±2.5 (*.ch.149-165, 6-48Mbps)
	11g	17.0 ±2.5 (*.ch.2, 6-36Mbps)					
	n(20HT)	14.5 ±2.5 (*.ch.2, MCS0-4/8-12))	n(20HT)	11.0±2.5 (*.ch.36-48, MCS0-6/8-14)	11.0±2.5 (*.ch.52-64, MCS0-6/8-14)	13.5±2.5 (*.ch.100-140, MCS0-4/8-12)	13.5±2.5 (*.ch.149-165, MCS0-4/8-12)
	n(40HT)	13.5 ±2.5 (*.ch.4, MCS0-4/8-12)	n(40HT)	11.0±2.5 (*.ch.46, MCS0-7/8-15)	11.0±2.5 (*.ch.54, MCS0-7/8-15)	11.0±2.5 (*.ch.102-134, MCS0-5/8-13)	11.0±2.5 (*.ch.151,159, MCS0-5/8-13)
	*. The value in a table shows the maximum power conditions of typical on each antenna. *. 3dBm is added to MIMO power. *. Refer to clause 2.3 for more detail. Refer to clause 2.4 for the maximum output power which may possible. *. The measured Tx output power (conducted) refers to section 6 in this report.						
Power supply	DC 3.3V (*. DC3.3V is supplied from the main unit via constant voltage circuit.)						

Antenna	**antenna #1 (Bottom)**	**antenna #0 (Side-ant#0)**
Antenna quantity	2 pcs. (*. Separation distance between the antenna #0 and the antenna #1: approx.480 mm) 11b,g,a: One selected Tx antenna operation. 11n(20HT),n(40HT): One selected Tx antenna operation (MCS0~7) / Two Tx antenna operation (MCS8~13)	
Antenna model	113Y120035A (cable length: 300 mm)	113Y1200036A (cable length: 575 mm)
Antenna type / connector type	Monopole antenna / Connector; PCB side: U.FL, Antenna side: soldered	
Antenna gain (max.peak) (*.installed into the platform) (*.including cable loss)	-5.1 dBi (2.4GHz), -1.3 dBi (5GHz)	-6.9 dBi (2.4GHz) -1.8 dBi (5GHz)

*. The EUT do not use the special transmitting technique such as "beam-forming" and "time-space code diversity."

2.3 Tx output power (typical) specification (antenna port terminal conducted)

		Target Power [dBm] (average)																											
		11b				11g								11n(20HT)															
[MHz]	CH	1	2	5.5	11	6	9	12	18	24	36	48	54	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
2412	1	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
2417	2	13.5	13.5	13.5	13.5	17	17	17	17	17	17	16	15	14.5	14.5	14.5	14.5	14.5	14	13.5	13	17.5	17.5	17.5	17.5	17.5	17	16.5	16
2422	3	13.5	13.5	13.5	13.5	16.5	16.5	16.5	16.5	16.5	16.5	15.5	15	14	14	14	14	14	13.5	13	12.5	17	17	17	17	17	16.5	16	15.5
2427	4	13.5	13.5	13.5	13.5	16.5	16.5	16.5	16.5	16.5	16.5	15.5	15	13.5	13.5	13.5	13.5	13.5	13	12.5	12	16.5	16.5	16.5	16.5	16.5	16	15.5	15
2432	5	13.5	13.5	13.5	13.5	16	16	16	16	16	16	15.5	15	13	13	13	13	13	12.5	12.5	12	16	16	16	16	16	15.5	15.5	15
2437	6	13.5	13.5	13.5	13.5	16	16	16	16	16	16	15.5	15	12.5	12.5	12.5	12.5	12.5	12	12	11.5	15.5	15.5	15.5	15.5	15.5	15	15	14.5
2442	7	13.5	13.5	13.5	13.5	15.5	15.5	15.5	15.5	15.5	15.5	15	15	12	12	12	12	12	12	11.5	11.5	15	15	15	15	15	15	14.5	14.5
2447	8	13.5	13.5	13.5	13.5	15.5	15.5	15.5	15.5	15.5	15.5	15	15	11.5	11.5	11.5	11.5	11.5	11.5	11	11	14.5	14.5	14.5	14.5	14.5	14.5	14	14
2452	9	13.5	13.5	13.5	13.5	15	15	15	15	15	15	15	15	11	11	11	11	11	11	11	11	14	14	14	14	14	14	14	14
2457	10	13.5	13.5	13.5	13.5	15	15	15	15	15	15	15	15	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
2462	11	13.5	13.5	13.5	13.5	15	15	15	15	15	15	15	15	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5

		Target Power [dBm] (average)																											
		11a								11n(20HT)																			
[MHz]	CH	6	9	12	18	24	36	48	54	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
5180	36	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	11	11	11	11	11	11	11	10.5	14	14	14	14	14	14	14	13.5
5200	40	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	11	11	11	11	11	11	11	10.5	14	14	14	14	14	14	14	13.5
5220	44	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	11	11	11	11	11	11	11	10.5	14	14	14	14	14	14	14	13.5
5240	48	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	11	11	11	11	11	11	11	10.5	14	14	14	14	14	14	14	13.5
5260	52	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	11	11	11	11	11	11	11	10.5	14	14	14	14	14	14	14	13.5
5280	56	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	11	11	11	11	11	11	11	10.5	14	14	14	14	14	14	14	13.5
5300	60	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	11	11	11	11	11	11	11	10.5	14	14	14	14	14	14	14	13.5
5320	64	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	11	11	11	11	11	11	11	10.5	14	14	14	14	14	14	14	13.5
5500	100	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5520	104	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5540	108	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5560	112	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5580	116	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5600	120	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5620	124	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5640	128	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5660	132	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5680	136	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5700	140	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5745	149	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5765	153	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5785	157	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5805	161	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5
5825	165	15	15	15	15	15	15	15	14	13.5	13.5	13.5	13.5	13.5	12.5	10.5	8.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	11.5

		Target Power [dBm] (average)															
		11n(40HT)															
[MHz]	CH	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
2422	3	6	6	6	6	6	6	6	6	9	9	9	9	9	9	9	9
2427	4	13.5	13.5	13.5	13.5	13.5	13	12.5	12	16.5	16.5	16.5	16.5	16.5	16	15.5	15
2432	5	12	12	12	12	12	11	11	11	15	15	15	15	15	14	14	14
2437	6	10.5	10.5	10.5	10.5	10.5	10.5	10	10	13.5	13.5	13.5	13.5	13.5	13.5	13	13
2442	7	9.5	9.5	9.5	9.5	9.5	9	9	9	12.5	12.5	12.5	12.5	12.5	12	12	12
2447	8	8	8	8	8	8	8	8	8	11	11	11	11	11	11	11	11
2452	9	7	7	7	7	7	7	7	7	10	10	10	10	10	10	10	10
5190	38	10	10	10	10	10	10	10	10	13	13	13	13	13	13	13	13
5230	46	11	11	11	11	11	11	11	11	14	14	14	14	14	14	14	14
5270	54	11	11	11	11	11	11	11	11	14	14	14	14	14	14	14	14
5310	62	10	10	10	10	10	10	10	10	13	13	13	13	13	13	13	13
5510	102	11	11	11	11	11	11	10	8	14	14	14	14	14	14	13	11
5550	110	11	11	11	11	11	11	10	8	14	14	14	14	14	14	13	11
5590	118	11	11	11	11	11	11	10	8	14	14	14	14	14	14	13	11
5630	126	11	11	11	11	11	11	10	8	14	14	14	14	14	14	13	11
5670	134	11	11	11	11	11	11	10	8	14	14	14	14	14	14	13	11
5755	151	11	11	11	11	11	11	10	8	14	14	14	14	14	14	13	11
5795	159	11	11	11	11	11	11	10	8	14	14	14	14	14	14	13	11

2.4. Maximum output power which may possible

		Maximum output power which may possible [dBm] (average)																											
		11b				11g								11n(20HT)															
[MHz]	CH	1	2	5.5	11	6	9	12	18	24	36	48	54	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
2412	1	16	16	16	16	16	16	16	16	16	16	16	16	13	13	13	13	13	13	13	13	16	16	16	16	16	16	16	16
2417	2	16	16	16	16	19.5	19.5	19.5	19.5	19.5	19.5	18.5	17.5	17	17	17	17	17	16.5	16	15.5	20	20	20	20	20	19.5	19	18.5
2422	3	16	16	16	16	19	19	19	19	19	19	18	17.5	16.5	16.5	16.5	16.5	16.5	16	16	15.5	15	19.5	19.5	19.5	19.5	19.5	19	18.5	18
2427	4	16	16	16	16	19	19	19	19	19	19	18	17.5	16	16	16	16	16	15.5	15	14.5	19	19	19	19	19	18.5	18	17.5
2432	5	16	16	16	16	18.5	18.5	18.5	18.5	18.5	18.5	18	17.5	15.5	15.5	15.5	15.5	15.5	15	15	14.5	18.5	18.5	18.5	18.5	18.5	18	18	17.5
2437	6	16	16	16	16	18.5	18.5	18.5	18.5	18.5	18.5	18	17.5	15	15	15	15	15	14.5	14.5	14	18	18	18	18	18	17.5	17.5	17
2442	7	16	16	16	16	18	18	18	18	18	18	17.5	17.5	14.5	14.5	14.5	14.5	14.5	14.5	14	14	17.5	17.5	17.5	17.5	17.5	17.5	17	17
2447	8	16	16	16	16	18	18	18	18	18	18	17.5	17.5	14	14	14	14	14	14	13.5	13.5	17	17	17	17	17	17	16.5	16.5
2452	9	16	16	16	16	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
2457	10	16	16	16	16	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	13	13	13	13	13	13	13	13	16	16	16	16	16	16	16	16
2462	11	16	16	16	16	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	13	13	13	13	13	13	13	13	16	16	16	16	16	16	16	16

		Maximum output power which may possible [dBm] (average)																											
		11a								11n(20HT)																			
[MHz]	CH	6	9	12	18	24	36	48	54	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
5180	36	15	15	15	15	15	15	15	15	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16
5200	40	15	15	15	15	15	15	15	15	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16
5220	44	15	15	15	15	15	15	15	15	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16
5240	48	15	15	15	15	15	15	15	15	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16
5260	52	15	15	15	15	15	15	15	15	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16
5280	56	15	15	15	15	15	15	15	15	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16
5300	60	15	15	15	15	15	15	15	15	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16
5320	64	15	15	15	15	15	15	15	15	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16
5500	100	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5520	104	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5540	108	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5560	112	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5580	116	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5600	120	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5620	124	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5640	128	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5660	132	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5680	136	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5700	140	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5745	149	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5765	153	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5785	157	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5805	161	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14
5825	165	17.5	17.5	17.5	17.5	17.5	17.5	17.5	16.5	16	16	16	16	16	15	13	11	19	19	19	19	19	18	16	14

		Maximum output power which may possible [dBm] (average)																
		11n(40HT)																
[MHz]	CH	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15	
2422	3	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	
2427	4	16	16	16	16	16	15.5	15	14.5	19	19	19	19	19	18.5	18	17.5	
2432	5	14.5	14.5	14.5	14.5	14.5	13.5	13.5	13.5	17.5	17.5	17.5	17.5	17.5	16.5	16.5	16.5	
2437	6	13	13	13	13	13	13	12.5	12.5	16	16	16	16	16	16	15.5	15.5	
2442	7	12	12	12	12	12	11.5	11.5	11.5	15	15	15	15	15	14.5	14.5	14.5	
2447	8	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	
2452	9	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	
5190	38	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	
5230	46	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	
5270	54	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	
5310	62	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	
5510	102	13.5	13.5	13.5	13.5	13.5	13.5	12.5	10.5	16.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	
5550	110	13.5	13.5	13.5	13.5	13.5	13.5	12.5	10.5	16.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	
5590	118	13.5	13.5	13.5	13.5	13.5	13.5	12.5	10.5	16.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	
5630	126	13.5	13.5	13.5	13.5	13.5	13.5	12.5	10.5	16.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	
5670	134	13.5	13.5	13.5	13.5	13.5	13.5	12.5	10.5	16.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	
5755	151	13.5	13.5	13.5	13.5	13.5	13.5	12.5	10.5	16.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	
5795	159	13.5	13.5	13.5	13.5	13.5	13.5	12.5	10.5	16.5	16.5	16.5	16.5	16.5	16.5	15.5	13.5	

SECTION 3: Test specification, procedures and results

3.1 Test specification

The US Federal Communications Commission has released the report and order "Guidelines for Evaluating the Environmental Effects of RF Radiation", ET Docket No. 93-62 in August 1996. The order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 1.6 mW/g for an uncontrolled environment and 8.0 mW/g for an occupational/controlled environment as recommended by the ANSI/IEEE standard C95.1-1992. The device should be evaluated at maximum output power (radiated from the antenna) under "worst-case" conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling in accordance with the following measurement procedures..

KDB 447498 D01 (v06): General RF exposure guidance
KDB 248227 D01 (v02r02): SAR Guidance for IEEE 802.11 (Wi-Fi) transmitters
KDB 865664 D01 (v01r04): SAR measurement 100MHz to 6GHz
IEEE Std. 1528-2013: IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.

3.2 Exposure limit

Environments of exposure limit	Whole-Body (averaged over the entire body)	Partial-Body (averaged over any 1g of tissue)	Hands, Wrists, Feet and Ankles (averaged over any 10g of tissue)
(A) Limits for Occupational /Controlled Exposure (W/kg)	0.4	8.0	20.0
(B) Limits for General population /Uncontrolled Exposure (W/kg)	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.

The limit applied in this test report is;

General population / uncontrolled exposure, Partial-Body (averaged over any 1g of tissue) limit: 1.6 W/kg

3.3 Procedures and Results

	Wi-Fi (DTS) (2412-2462MHz)		Wi-Fi (U-NII-1) (5180~5240MHz)(W52)		Wi-Fi (U-NII-2A) (5260~5320MHz)(W53)		Wi-Fi (U-NII-2C) (5500~5700MHz)(W56)		Wi-Fi (U-NII-3) (5745~5825MHz)(W58)	
Test Procedure	SAR measurement; KDB 447498, KDB 248227, KDB 865664, IEEE Std.1528									
Category	FCC 47CFR §2.1093 (Portable device)									
Results (SAR(1g))	Complied		Complied		Complied		Complied		Complied	
Antenna#	ant#0	ant#1	ant#0	ant#1	ant#0	ant#1	ant#0	ant#1	ant#0	ant#1
Liquid type	Body liquid									
Reported SAR value	0.03 W/kg	0.04 W/kg	not applied (*. ≤1.2 W/kg for U-NII-2A)		0.08 W/kg	0.06 W/kg	0.14 W/kg	0.20 W/kg	0.22 W/kg	0.28 W/kg
Measured SAR value	0.021 W/kg	0.025 W/kg	-	-	0.056 W/kg	0.043 W/kg	0.107 W/kg	0.150 W/kg	0.153 W/kg	0.219 W/kg
Operation mode, frequency[MHz]	11g(6Mbps), 2417	11g(6Mbps), 2417	11a(6Mbps), 5240	11a(6Mbps), 5240	11a(6Mbps), 5260	11a(6Mbps), 5300	11a(6Mbps), 5600	11a(6Mbps), 5500	11a(6Mbps), 5785	11a(6Mbps), 5825
Duty cycle [%] (scaled factor)	99.8 (×1.00)	99.8 (×1.00)	99.7 (×1.00)	99.7 (×1.00)	99.7 (×1.00)	99.7 (×1.00)	99.7 (×1.00)	99.7 (×1.00)	99.7 (×1.00)	99.7 (×1.00)
Output power [dBm] (max. power, scaled factor)	18.52 (19.5,×1.25)	17.63 (19.5,×1.54)	14.00 (15.0,×1.26)	13.69 (15.0,×1.35)	13.67 (15.0,×1.36)	13.56 (15.0,×1.39)	16.38 (17.5,×1.29)	16.18 (17.5,×1.36)	15.93 (17.5,×1.44)	16.39 (17.5,×1.29)
Liquid type	Head liquid (by Flat phantom)									
Reported SAR value	0.03 W/kg	0.05 W/kg	not applied (*. ≤1.2 W/kg for U-NII-2A)		0.09 W/kg	0.07 W/kg	0.16 W/kg	0.20 W/kg	0.24 W/kg	0.30 W/kg
Measured SAR value	0.026 W/kg	0.031 W/kg	-	-	0.063 W/kg	0.048 W/kg	0.124 W/kg	0.150 W/kg	0.167 W/kg	0.234 W/kg
Operation mode, frequency[MHz]	11g(6Mbps), 2417	11g(6Mbps), 2417	11a(6Mbps), 5240	11a(6Mbps), 5240	11a(6Mbps), 5260	11a(6Mbps), 5300	11a(6Mbps), 5600	11a(6Mbps), 5500	11a(6Mbps), 5785	11a(6Mbps), 5825
Duty cycle [%] (scaled factor)	99.8 (×1.00)	99.8 (×1.00)	99.9 (×1.00)	99.7 (×1.00)	99.7 (×1.00)	99.7 (×1.00)	99.7 (×1.00)	99.7 (×1.00)	99.7 (×1.00)	99.7 (×1.00)
Output power [dBm] (max. power, scaled factor)	18.52 (19.5,×1.25)	17.63 (19.5,×1.54)	14.00 (15.0,×1.26)	13.69 (15.0,×1.35)	13.67 (15.0,×1.36)	13.56 (15.0,×1.39)	16.38 (17.5,×1.29)	16.18 (17.5,×1.36)	15.93 (17.5,×1.44)	16.39 (17.5,×1.29)

Note: UL Japan's SAR Work Procedures No.13-EM-W0429 and 13-EM-W0430. No addition, deviation nor exclusion has been made from standards

Test outline: Where this product is built into a new platform, it was verified whether multiplatform conditions can be suited in according with section 2) of 5.2.2 in KDB447498 D01 (v06).

Consideration of the test results: **The highest reported SAR (1g) of this flat panel sensor was kept; ≤ 0.8 W/kg.**
Since highest reported SAR (1g) on the EUT's platform obtained in accordance with KDB447498 (v06) was kept under 0.8 W/kg, this EUT was approved to operate multi-platform.

3.4 Test Location

No.7 shielded room (2.76m (Width) × 3.76m (Depth) × 2.4m (Height)) for SAR testing.

UL Japan, Inc., Shonan EMC Lab.
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken 259-1220 JAPAN
Telephone number: +81 463 50 6400 / Facsimile number: +81 463 50 6401

3.5 Confirmation before SAR testing

3.5.1 Average power for SAR tests

Before SAR test, the RF wiring for the sample had been switched to the antenna conducted power measurement line from the antenna line and the average power was measured. The result is shown in Section 6.

*. The EUT transmission power was verified that it was within 2dB lower than the maximum tune-up tolerance limit when it was set the rated power. (Clause 4.1, KDB447498 D01 (v06))

Step.1 Data rate check (*****. The EUT supported the following data rate in each operation mode.)

11b		11g		11a		11n(20HT)						11n(40HT)					
Mod (DSSS)	Data rate	Mod (OFDM)	Data rate	Mod (OFDM)	Data rate	MCS Index	Spatial Stream	Mod (OFDM)	MCS Index	Spatial Stream	Mod (OFDM)	MCS Index	Spatial Stream	Mod (OFDM)	MCS Index	Spatial Stream	Mod (OFDM)
DBPSK	1 Mbps	BPSK	6 Mbps	BPSK	6 Mbps	MCS0	1	BPSK	MCS8	2	BPSK	MCS0	1	BPSK	MCS8	2	BPSK
DQPSK	2 Mbps	BPSK	9 Mbps	BPSK	9 Mbps	MCS1	1	QPSK	MCS9	2	QPSK	MCS1	1	QPSK	MCS9	2	QPSK
CCK	5.5 Mbps	QPSK	12 Mbps	QPSK	12 Mbps	MCS2	1	QPSK	MCS10	2	QPSK	MCS2	1	QPSK	MCS10	2	QPSK
CCK	11 Mbps	QPSK	18 Mbps	QPSK	18 Mbps	MCS3	1	16QAM	MCS11	2	16QAM	MCS3	1	16QAM	MCS11	2	16QAM
*:Mod; Modulation		16QAM	24 Mbps	16QAM	24 Mbps	MCS4	1	16QAM	MCS12	2	16QAM	MCS4	1	16QAM	MCS12	2	16QAM
		16QAM	36 Mbps	16QAM	36 Mbps	MCS5	1	64QAM	MCS13	2	64QAM	MCS5	1	64QAM	MCS13	2	64QAM
		64QAM	48 Mbps	64QAM	48 Mbps	MCS6	1	64QAM	MCS14	2	64QAM	MCS6	1	64QAM	MCS14	2	64QAM
		64QAM	54 Mbps	64QAM	54 Mbps	MCS7	1	64QAM	MCS15	2	64QAM	MCS7	1	64QAM	MCS15	2	64QAM

Step.2 Consideration of SAR test channel

For the SAR test reference, on each operation band, the average output power was measured on the lower/middle/upper and specified channels with the worst data rate condition in step 1 in the above.

3.6 Confirmation after SAR testing

It was checked that the power drift [W] is within ±5% in the evaluation procedure of SAR testing. The verification of power drift during the SAR test is that DASY5 system calculates the power drift by measuring the e-filed at the same location at beginning and the end of the scan measurement for each test position.
The result is shown in APPENDIX 2.

*. DASY5 system calculation Power drift value[dB] =20log(Ea)/(Eb) (where, Before SAR testing: Eb[V/m] / After SAR testing: Ea[V/m])

Limit of power drift[W] = ±5%
Power drift limit (X) [dB] = 10log(P_drift)=10log(1.05/1)=10log(1.05)-10log(1)=0.21dB
from E-filed relations with power.
S=E×H=E^2/η=P/(4×π×r^2) (η: Space impedance) → P=(E^2×4×π×r^2)/η
Therefore, The correlation of power and the E-filed
Power drift limit (X) dB=10log(P_drift)=10log(E_drift)^2=20log(E_drift)
From the above mentioned, **the calculated power drift of DASY5 system must be the less than ±0.21dB.**

3.7 Test setup of EUT and SAR measurement procedure

After considering the outline of Flat Panel Sensor, the SAR test was carried out on the following setup conditions.

Setup	Explanation of EUT setup position (*. Refer to Appendix 1 for test setup photographs.)	antenna #0		antenna #1	
		Separation [mm]	SAR Tested /Reduced	Separation [mm]	SAR Tested /Reduced
Front	The front surface (patient side) of EUT was touched to the Flat phantom.	**9.5**	**Tested (*1)**	**9**	**Tested (*1)**
Back	The back surface (operator side) of EUT was touched to the Flat phantom.	**4.2**	Reduced (*1)	**4.2**	Reduced (*1)
Bottom (antenna#1)	The bottom edge surface (antenna #1 side) of EUT was touched to the Flat phantom.	**10**	**Tested** (*1)	**345**	Reduced (>200 mm)
Top	The top edge surface (opposite to antenna#1) of EUT was touched to the Flat phantom.	**82**	Reduced (*1)	**445**	Reduced (>200 mm)
Side-ant#0 (antenna#0)	The side edge surface (antenna #0 side) of EUT was touched to the Flat phantom.	**365**	Reduced (>200 mm)	**10**	**Tested** (*1)
Side	The side edge surface (opposite to antenna#0) of EUT was touched to the Flat phantom.	**445**	Reduced (>200 mm)	**62**	Reduced (*1)

*. **Separation:** Antenna separation distance. It is the distance from the antenna to the outer surface of Flat Panel Sensor form which a human may touch.
*. Size of Flat Panel Sensor (RIC 43G): 460 × 460 × 15 (thickness) [mm]

(cont'd)

(cont'd)

KDB 447498 D01 (v06) was taken into consideration to reduce SAR test.

Consideration of SAR test reduction by the antenna separation distance (100MHz~6GHz, ≤50mm)											
Band, Mode	Setup Position	Minimum distance [mm]	Minimum distance [mm] (rounded)	Max.power or upper frequency [GHz]	Max. tune-up power [dBm]	Max. tune-up power [mW]	Max. tune-up power [mW] (rounded)	Calculation of exclusion: ≤ 3.0 (*2)	Standalone SAR Test Required? (If >3, -> Required)		Remarks
WLAN 2.4GHz 11g	Back (ant#0, ant#1)	4.2	**4 (≤5)**	2.417	19.5	89.1	**89**	**27.7**	***>3.0***	***Required***	->SAR test was reduced. (*1)
	Front (ant#1)	9	**9**	2.417	19.5	89.1	**89**	**15.4**	***>3.0***	***Required***	-
	Front (ant#0)	9.5	**10**	2.417	19.5	89.1	**89**	**13.8**	***>3.0***	***Required***	-
	Bottom(ant#1), Side-ant#0	10	**10**	2.417	19.5	89.1	**89**	**13.8**	***>3.0***	***Required***	-
WLAN W52&53 11a	Back (ant#0, ant#1)	4.2	**4 (≤5)**	5.32	15.0	31.6	**32**	**14.8**	***>3.0***	***Required***	->SAR test was reduced. (*1)
	Front (ant#1)	9	**9**	5.32	15.0	31.6	**32**	**8.2**	***>3.0***	***Required***	-
	Front (ant#0)	9.5	**10**	5.32	15.0	31.6	**32**	**7.4**	***>3.0***	***Required***	-
	Bottom(ant#1), Side-ant#0	10	**10**	5.32	15.0	31.6	**32**	**7.4**	***>3.0***	***Required***	-
WLAN W56 11a	Back (ant#0, ant#1)	4.2	**4 (≤5)**	5.7	17.5	56.2	**56**	**26.7**	***>3.0***	***Required***	->SAR test was reduced. (*1)
	Front (ant#1)	9	**9**	5.7	17.5	56.2	**56**	**14.9**	***>3.0***	***Required***	-
	Front (ant#0)	9.5	**10**	5.7	17.5	56.2	**56**	**13.4**	***>3.0***	***Required***	-
	Bottom(ant#1), Side-ant#0	10	**10**	5.7	17.5	56.2	**56**	**13.4**	***>3.0***	***Required***	-
WLAN W58 11a	Back (ant#0, ant#1)	4.2	**4 (≤5)**	5.825	17.5	56.2	**56**	**27.0**	***>3.0***	***Required***	->SAR test was reduced. (*1)
	Front (ant#1)	9	**9**	5.825	17.5	56.2	**56**	**15.0**	***>3.0***	***Required***	-
	Front (ant#0)	9.5	**10**	5.825	17.5	56.2	**56**	**13.5**	***>3.0***	***Required***	-
	Bottom(ant#1), Side-ant#0	10	**10**	5.825	17.5	56.2	**56**	**13.5**	***>3.0***	***Required***	-

Consideration of SAR test reduction by the antenna separation distance (100MHz~6GHz, >50mm)										
Band, Mode	Position	Minimum distance [mm]	Minimum distance [mm] (rounded)	Max.power or upper frequency [GHz]	Maximum tune-up power [dBm]	Maximum tune-up power [mW]	Maximum tune-up power [mW] (rounded)	Calculation of test exclusion thresholds [mW] (*3)	Standalone SAR test	Remarks
WLAN 2.4GHz, 11g	Side (ant#1)	62	62	2.417	19.5	89.1	**89**	216	Reduced	-
	Top (ant#0)	82	82	2.417	19.5	89.1	**89**	416	Reduced	-
WLAN W52&53, 11a	Side (ant#1)	62	62	5.32	15.0	31.6	**32**	185	Reduced	-
	Top (ant#0)	82	82	5.32	15.0	31.6	**32**	385	Reduced	-
WLAN W56, 11a	Side (ant#1)	62	62	5.7	17.5	56.2	**56**	183	Reduced	-
	Top (ant#0)	82	82	5.7	17.5	56.2	**56**	383	Reduced	-
WLAN W58, 11a	Side (ant#1)	62	62	5.825	17.5	56.2	**56**	182	Reduced	-
	Top (ant#0)	82	82	5.825	17.5	56.2	**56**	382	Reduced	-

***1. Since this EUT is the medical device, the EUT is only used under the guidance of a doctor or a qualified person. The possibility of the maximum RF human exposure is only a body/head of the patient who comes in contact directly on the front surface (patient side) of the EUT. Therefore, the SAR test was only considered to the front surface of the EUT. However, SAR value couldn't be measured at the front surface, so SAR was evaluated on the side edge.**

*2. Parenthesis 1), Clause 4.3.1, KDB 447498 D01 (v06) gives the following formula to calculate the SAR(1g) test exclusion thresholds for 100MHz-6GHz at test separation distance ≤50mm.
[(max.power of channel, including tune-up tolerance, mW) / (min.test separation distance, mm)] × [√f (GHz)] ≤ 3.0 (for SAR(1g)) ····· formula (1)
If power is calculated from the upper formula (1);
[SAR(1g) test exclusion thresholds, mW] = 3 × [test separation distance, mm] / [√f (GHz)] ····· formula (2)
[SAR(1g) test exclusion thresholds, mW] = 3 × 50 / SQRT(2.462) = 96mW, where test separation distance=50mm

*3. Parenthesis 2), Clause 4.3.1, KDB 447498 D01 (v06) gives the following formula to calculate the SAR(1g) test exclusion thresholds for 1.5-6GHz at test separation distance >50mm.
[test exclusion thresholds, mW] = [(Power allowed at numeric threshold for 50mm in formula (1))] + [(test separation distance, mm) - (50mm)] × 10 formula (3)

*** Simultaneous transmission evaluation**

Parenthesis 2) and 3), Clause 4.3.2, KDB 447498 D01 (v06) gives the following formula to calculate the simultaneous transmission SAR test exclusion limit.
(SPLSR: SAR to peak location separation ratio must be ≤ 0.04 for antenna pair.)

Mode	Data rate	Band	Position	Minimum distance		Max.power or Upper frequency	Max. power (with tune-up tolerance)	Estimate SAR(1g) [W/kg]				Ant#0<->#1 distance	SPLSR	Simultaneous SAR test apply?
								Ant#0	Ant#1	Ant#0+#1	Limit			
n20	MCS8	2.4GHz	Front (Patient side)	Ant#0	Ant#1	2.417GHz	17.0dBm (50mW)	1.09	1.15	2.24	1.6	480 mm	**0.007**	**Reduced** SPLSR: ≤0.04
n20	MCS8	W52/53		9.5 mm	9 mm	5.32GHz	13.5dBm (22mW)	0.71	0.75	1.46	1.6	480 mm	**0.004**	
n20	MCS8	W56				5.7GHz	16.0dBm (40mW)	1.34	1.41	2.75	1.6	480 mm	**0.010**	
n20	MCS8	W58				5.825GHz	16.0dBm (40mW)	1.35	1.43	2.78	1.6	480 mm	**0.010**	

*. Calculating formula: Estimate standalone SAR(1g) = [(max.power, mW) / (min.test separation distance, mm)] × [√f (GHz)] / [7.5]
SPLSR (SAR to Peak Location Separation Ratio) = {(SAR_Ant#0, W/kg) + (SAR_Ant#1, W/kg)} ^1.5 / (Ant#0<->#1 distance, mm)

By the determined test setup shown above, the SAR test was applied in the following procedures.

Step 1	Change the operation mode on each antenna independently with highest output power channel.
Step 2	Repeat Step1 for other frequency band.

*. During SAR test, the radiated power is always monitored by Spectrum Analyzer.

SECTION 4: Operation of EUT during testing

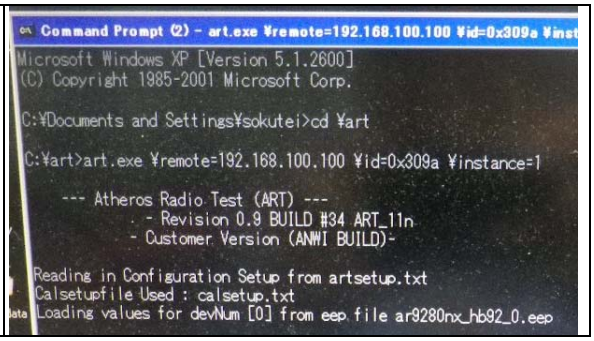
4.1 Operating modes for SAR testing

This EUT has IEEE 802.11b, g, a, n(HT20) and n(HT40) continuous transmitting modes.
The frequency and the modulation used in the SAR testing are shown as a following.

Operation mode		g	b	n20(1Tx)	n20(2Tx)	n40(1Tx)	n40(2Tx)	a	n20(1Tx)	n20(2Tx)	n40(1Tx)	n40(2Tx)
band		DTS						W52 (U-NII-1) (*1)				
Tx band [MHz]		2412~2462				2422~2452		5180~5240			5190~5230	
Bandwidth [MHz]		20	20	20	20	40	40	20	20	20	40	40
Max.power [dBm]		**19.5**	16	17	20	16	19	**15**	13.5	16.5	13.5	16.5
Modulation		OFDM	DSSS	OFDM	OFDM	OFDM	OFDM	OFDM	OFDM	OFDM	OFDM	OFDM
Data rate [Mbps]		6	1	MCS0	MCS8	MCS0	MCS8	6	MCS0	MCS8	MCS0	MCS8
SAR Tested?		Tested	Tested	Reduced	Reduced	Tested	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced
Frequency tested [MHz]	ant#0	2417, 2437, 2462	2412(*2)	-(*2)	-(*3)	2427(*2)	-(*3)	-	-	-	-	-
	ant#1	2417, 2437, 2462	2412(*2)	-(*2)	-(*3)	2427(*2)	-(*3)	-	-	-	-	-

Operation mode		a	n20(1Tx)	n20(2Tx)	n40(1Tx)	n40(2Tx)	a	n20(1Tx)	n20(2Tx)	n40(1Tx)	n40(2Tx)	a	n20(1Tx)	n20(2Tx)	n40(1Tx)	n40(2Tx)
band		W53 (U-NII-2A)					W56 (U-NII-2C)					W56 (U-NII-2C)				
Tx band [MHz]		5260~5320			5270~5310		5500~5700			5510~5670		5745~5825			5755~5795	
Bandwidth [MHz]		20	20	20	40	40	20	20	20	40	40	20	20	20	40	40
Max.power [dBm]		**15**	13.5	16.5	13.5	16.5	**17.5**	16	19	13.5	16.5	**17.5**	16	19	13.5	16.5
Modulation		OFDM	OFDM	OFDM	OFDM	OFDM	OFDM	OFDM	OFDM	OFDM	OFDM	OFDM	OFDM	OFDM	OFDM	OFDM
Data rate [Mbps]		6	MCS0	MCS8	MCS0	MCS8	6	MCS0	MCS8	MCS0	MCS8	6	MCS0	MCS8	MCS0	MCS8
SAR Tested?		Tested	Reduced	Reduced	Tested	Reduced	Tested	Reduced	Reduced	Tested	Reduced	Tested	Reduced	Reduced	Tested	Reduced
Frequency tested [MHz]	ant#0	5260, 5300, 5320	-(*2)	-(*3)	-(*2)	-(*3)	5500, 5580, 5600, 5700	-(*2)	-(*3)	-(*2)	-(*3)	5745, 5785, 5825	-(*2)	-(*3)	-(*2)	-(*3)
	ant#1	5260, 5300, 5320	-(*2)	-(*3)	5270 (*2)	-(*3)	5500, 5580, 5600, 5700	-(*2)	-(*3)	5550 (*2)	-(*3)	5745, 5785, 5825	-(*2)	-(*3)	5795 (*2)	-(*3)

Controlled software	**Tx Controlled software: ART v09 (Build 34)** Mode: Continuous transmit mode. •Tx antenna chain: Ant#0=100, Ant#0=010, Ant#0+Ant#1(MIMO)=110. •Frequency: Selected the target frequency. •Data Rate: Selected the target data rate. •HT40: Selected when 11n(40HT) was tested. •Setting target power: Defaults were used, but when measurement power didn't enter 2dB from maximum power, it was adjusted (tuned-up). *. As for parameters other than the above, the initial value was used.



Note: SAR test reduction consideration

[Table A-1. Output power measured and SAR test channel selection]

802.11 Modes		b	g	n		a	n(1Tx)	
Ch. Bandwidth [MHz]		20	20	20	40	20	20	40
Lowest data rate [Mbps]		1	6	6.5	6.5	6	6.5	13
§15.247 (2.4GHz)	Ch.	1/6/11	1/2/6/11	-	-			
	mW (ant#0)	32/29/31	29/71/51/41	lower power				
	mW (ant#1)	33/31/30	29/58/53/39	lower power				
U-NII-1 (W52)	Ch.					36/44/48	-	-
	mW (ant#0)					23/25/25	lower power	
	mW (ant#1)					22/23/23	lower power	
U-NII-2A (W53)	Ch.					52/60/64	-	-
	mW (ant#0)					23/25/24	lower power	
	mW (ant#1)					22/23/23	lower power	
U-NII-2C (W56)	Ch.					100/118/120/140	-	-
	mW (ant#0)					40/44/43/39	lower power	
	mW (ant#1)					42/41/41/38	lower power	
U-NII-3 (W58)	Ch.					149/157/165	-	-
	mW (ant#0)					39/39/40	lower power	
	mW (ant#1)					39/40/44	lower power	

[Table A-2. Reported SAR(1g) and test reduction plan](Head)

b	g	n		a	n(1Tx)	
20	20	20	40	20	20	40
1	6	6.5	6.5	6	6.5	13
1	1/2/6/11	-	-			
0.02	0.03	lower power				
0.02	0.05	lower power				
				36/44/48	-	-
				*. U-NII-2A exclusion applied (*1)	lower power	
					lower power	
				52/60/64	-	-
				0.09	lower power	
				0.05	lower power	
				100/118/120/140	-	-
				0.13	lower power	
				0.20	lower power	
				149/157/165	-	-
				0.21	lower power	
				0.30	lower power	

*1. (KDB248227 D01 (v02r02)) Since highest reported SAR(1g) of U-NII-2A was ≤1.2 W/kg, SAR measurement of U-NII-1 band was omitted.
*2. (KDB248227 D01 (v02r02)) SAR test of other power mode was reduced, because the reported SAR(1g) of 11g, and 11a mode (highest power mode in each operation band) was ≤ 0.4 W/kg. However, in a representative frequency, 11b was evaluated for DSSS mode and 11n(40HT) mode was evaluated for BW=40MHz.
*3. (KDB447498 D01(v06)) Since SPLSR (SAR to peak location separation ratio) was enough smaller than 0.04, SAR test of MIMO mode was reduced.
*. The SAR testing was applied to lower, middle and upper channels for the worst SAR condition in each operation band.

SECTION 5: Uncertainty Assessment (SAR measurement)

Uncertainty of SAR measurement (2.4-6GHz) (*.ε&σ: ≤ ± 5%, DAK3.5, Tx: ≈100% duty cycle) (v08)	1g SAR	10g SAR
Combined measurement uncertainty of the measurement system (k=1)	± 13.7%	± 13.6%
Expanded uncertainty (k=2)	± 27.4%	± 27.2%

	Error Description (2.4-6GHz) (v08)	Uncertainty Value	Probability distribution	Divisor	ci (1g)	ci (10g)	ui (1g)	ui (10g)	Vi, veff
A	**Measurement System** (DASY5)						(std. uncertainty)	(std. uncertainty)	
1	Probe Calibration Error	±6.55 %	Normal	1	1	1	±6.55 %	±6.55 %	∞
2	Axial isotropy Error	±4.7 %	Rectangular	√3	√0.5	√0.5	±1.9 %	±1.9 %	∞
3	Hemispherical isotropy Error	±9.6 %	Rectangular	√3	√0.5	√0.5	±3.9 %	±3.9 %	∞
4	Linearity Error	±4.7 %	Rectangular	√3	1	1	±2.7 %	±2.7 %	∞
5	Probe modulation response	±2.4 %	Rectangular	√3	1	1	±1.4 %	±1.4 %	∞
6	Sensitivity Error (detection limit)	±1.0 %	Rectangular	√3	1	1	±0.6 %	±0.6 %	∞
7	Boundary effects Error	±4.3%	Rectangular	√3	1	1	±2.5 %	±2.5 %	∞
8	Readout Electronics Error(DAE)	±0.3 %	Rectangular	√3	1	1	±0.3 %	±0.3 %	∞
9	Response Time Error	±0.8 %	Normal	1	1	1	±0.8 %	±0.8 %	∞
10	Integration Time Error (≈100% duty cycle)	±0 %	Rectangular	√3	1	1	0 %	0 %	∞
11	RF ambient conditions-noise	±3.0 %	Rectangular	√3	1	1	±1.7 %	±1.7 %	∞
12	RF ambient conditions-reflections	±3.0 %	Rectangular	√3	1	1	±1.7 %	±1.7 %	∞
13	Probe positioner mechanical tolerance	±3.3 %	Rectangular	√3	1	1	±1.9 %	±1.9 %	∞
14	Probe Positioning with respect to phantom shell	±6.7 %	Rectangular	√3	1	1	±3.9 %	±3.9 %	∞
15	Max. SAR evaluation (Post-processing)	±4.0 %	Rectangular	√3	1	1	±2.3 %	±2.3 %	∞
B	**Test Sample Related**								
16	Device Holder or Positioner Tolerance	±3.6 %	Normal	1	1	1	±3.6 %	±3.6 %	5
17	Test Sample Positioning Error	±5.0 %	Normal	1	1	1	±5.0 %	±5.0 %	145
18	Power scaling	±0%	Rectangular	√3	1	1	±0 %	±0 %	∞
19	Drift of output power (measured, <0.2dB)	±2.3%	Rectangular	√3	1	1	±2.9 %	±2.9 %	∞
C	**Phantom and Setup**								
20	Phantom uncertainty (shape, thickness tolerances)	±7.5 %	Rectangular	√3	1	1	±4.3 %	±4.3 %	∞
21	Algorithm for correcting SAR (e',σ: ≤5%)	±1.2 %	Normal	1	1	0.84	±1.2 %	±0.97 %	∞
22	Measurement Liquid Conductivity Error (DAK3.5)	±3.0 %	Normal	1	0.78	0.71	±2.3 %	±2.1 %	7
23	Measurement Liquid Permittivity Error (DAK3.5)	±3.1 %	Normal	1	0.23	0.26	±0.7 %	±0.8 %	7
24	Liquid Conductivity-temp.uncertainty (≤2deg.C.)	±5.3 %	Rectangular	√3	0.78	0.71	±2.4 %	±2.2 %	∞
25	Liquid Permittivity-temp.uncertainty (≤2deg.C.)	±0.9 %	Rectangular	√3	0.23	0.26	±0.1 %	±0.1 %	∞
	Combined Standard Uncertainty						**±13.7** %	**±13.6** %	733
	Expanded Uncertainty (k=2)						**±27.4 %**	**±27.2 %**	

*. Table of uncertainties are listed for ISO/IEC 17025.
*. This measurement uncertainty budget is suggested by IEEE Std.1528(2013) and determined by Schmid & Partner Engineering AG (DASY5 Uncertainty Budget). Per KDB 865664 D01 (v01r04) SAR Measurement 100 MHz to 6 GHz Section 2.8.1., when the highest measured SAR(1g) within a frequency band is < 1.5W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std.1528 (2013) is not required in SAR reports submitted for equipment approval.

SECTION 6: Confirmation before testing

6.1 Assessment for the antenna terminal port conducted power of EUT (Worst data rate, worst channel determination)

6.1.1 2.4GHz band

Mode	Freq.	Data rate	Power spec.		Duty cycle			Antenna #0 (chain #0) power					Antenna #1 (chain #1) power					MIMO Ant.#0+Ant.#1 power				
			Typical	Max.	duty cycle	factor	scaled factor	Set pwr.	Ave.	Δ Max.	Tune-up factor	SAR Tested?	Set pwr.	Ave.	Δ Max.	Tune-up factor	SAR Tested?	MIMO target	MIMO max.	SUM Ave.	Δ Max.	Power Tune -up?
	[MHz]	[Mbps]	[dBm]	[dBm]	[%]	[dB]	[-]	[dBm]	[dBm]	[dB]	[-]		[dBm]	[dBm]	[dB]	[-]		[dBm]	[dBm]	[dBm]	[dB]	
11b	2412	1	13.5	16.0	99.8	0.01	×1.00	13.5	14.13	-1.87	×1.54	-	13.5	13.92	-2.08	×1.61	-					-
	2412	2	13.5	16.0	99.8	0.01	×1.00	13.5	14.13	-1.87	-	-	13.5	13.92	-2.08	-	-					-
	2412	5.5	13.5	16.0	99.6	0.02	×1.00	13.5	14.13	-1.87	-	-	13.5	13.92	-2.08	-	-					-
	2412	11	13.5	16.0	99.4	0.03	×1.01	13.5	14.13	-1.87	-	-	13.5	13.92	-2.08	-	-					-
	2412	1	13.5	16.0	99.8	0.01	×1.00	15.0	**14.99**	-1.01	×1.26	**Tested**	15.0	**15.20**	-0.80	×1.20	**Tested**					tune-up
	2437	1	13.5	16.0	99.8	0.01	×1.00	15.0	14.57	-1.43	×1.39	-	15.0	14.91	-1.09	×1.29	-					tune-up
	2462	1	13.5	16.0	99.8	0.01	×1.00	15.0	14.97	-1.03	×1.27	-	15.0	14.70	-1.30	×1.35	-					tune-up
11g	2417	6	17.0	19.5	99.8	0.01	×1.00	17.0	17.44	-2.06	×1.61	-	17.0	**17.63**	-1.87	×1.54	**Tested**					-
	2417	9	17.0	19.5	99.6	0.02	×1.00	17.0	17.37	-2.13	-	-	17.0	17.51	-1.99	-	-					-
	2417	12	17.0	19.5	99.4	0.03	×1.01	17.0	17.31	-2.19	-	-	17.0	17.47	-2.03	-	-					-
	2417	18	17.0	19.5	99.0	0.04	×1.01	17.0	17.30	-2.20	-	-	17.0	17.37	-2.13	-	-					-
	2417	24	17.0	19.5	98.8	0.05	×1.01	17.0	17.20	-2.30	-	-	17.0	17.35	-2.15	-	-					-
	2417	36	17.0	19.5	98.4	0.07	×1.02	17.0	17.21	-2.29	-	-	17.0	17.39	-2.11	-	-					-
	2417	48	16.0	18.5	97.4	0.11	×1.03	16.0	15.92	-2.58	-	-	16.0	16.29	-2.21	-	-					-
	2417	56	15.0	17.5	97.1	0.13	×1.03	15.0	15.02	-2.48	-	-	15.0	15.45	-2.05	-	-					-
	2412	6	13.5	16.0	99.8	0.01	×1.00	13.5	14.57	-1.43	×1.39	-	13.5	14.63	-1.37	×1.37	-					-
	2417	6	17.0	19.5	99.8	0.01	×1.00	18.0	**18.52**	-0.98	×1.25	**Tested**	-	-	-	-	-					tune-up
	2437	6	15.5	18.0	99.8	0.01	×1.00	17.0	17.09	-1.41	×1.38	**Tested**	17.0	17.25	-1.25	×1.33	**Tested**					tune-up
	2462	6	15.0	17.5	99.8	0.01	×1.00	16.0	16.08	-1.42	×1.39	**Tested**	16.0	15.87	-1.63	×1.46	**Tested**					tune-up
11n (20HT) (1Tx)	2417	MCS0	14.5	17.0	99.6	0.02	×1.00	14.5	**15.16**	-1.84	×1.53	no (*1)	14.5	**15.12**	-1.88	×1.54	no (*1)					-
	2417	MCS1	14.5	17.0	99.3	0.03	×1.01	14.5	14.87	-2.13	-	-	14.5	14.99	-2.01	-	-					-
	2417	MCS2	14.5	17.0	98.8	0.05	×1.01	14.5	14.74	-2.26	-	-	14.5	14.80	-2.20	-	-					-
	2417	MCS3	14.5	17.0	98.6	0.06	×1.01	14.5	14.72	-2.28	-	-	14.5	14.79	-2.21	-	-					-
	2417	MCS4	14.5	17.0	97.9	0.09	×1.02	14.5	14.62	-2.38	-	-	14.5	14.78	-2.22	-	-					-
	2417	MCS5	14.5	17.0	97.3	0.12	×1.03	14.0	14.39	-2.11	-	-	14.0	14.29	-2.21	-	-					-
	2417	MCS6	14.5	17.0	96.8	0.14	×1.03	13.5	13.95	-2.05	-	-	13.5	13.83	-2.17	-	-					-
	2417	MCS7	14.5	17.0	96.4	0.16	×1.04	13.0	13.54	-1.96	-	-	13.0	13.53	-1.97	-	-					-
	2412	MCS0	10.5	13.0	99.6	0.02	×1.00	10.5	11.71	-1.29	×1.35	-	10.5	11.36	-1.64	×1.46	-					-
	2437	MCS0	12.5	15.0	99.6	0.02	×1.00	13.5	13.73	-1.27	×1.34	-	13.5	14.04	-0.96	×1.25	-					tune-up
	2462	MCS0	10.5	13.0	99.6	0.02	×1.00	11.5	11.34	-1.66	×1.47	-	11.5	11.79	-1.21	×1.32	-					tune-up
11n (40HT) (1Tx)	2427	MCS0	13.5	16.0	99.3	0.03	×1.01	13.5	**14.19**	-1.81	×1.52	**Tested**	13.5	**14.34**	-1.66	×1.47	**Tested**					-
	2427	MCS1	13.5	16.0	98.6	0.06	×1.01	13.5	13.99	-2.01	-	-	13.5	14.26	-1.74	-	-					-
	2427	MCS2	13.5	16.0	97.8	0.10	×1.02	13.5	14.00	-2.00	-	-	13.5	14.16	-1.84	-	-					-
	2427	MCS3	13.5	16.0	97.2	0.12	×1.03	13.5	14.05	-1.95	-	-	13.5	14.21	-1.79	-	-					-
	2427	MCS4	13.5	16.0	96.9	0.14	×1.03	13.5	13.98	-2.02	-	-	13.5	14.09	-1.91	-	-					-
	2427	MCS5	13.0	15.5	94.8	0.23	×1.05	13.0	13.52	-1.98	-	-	13.0	13.72	-1.78	-	-					-
	2427	MCS6	12.5	15.0	94.3	0.25	×1.06	12.5	12.94	-2.06	-	-	12.5	13.07	-1.93	-	-					-
	2427	MCS7	12.0	14.5	93.9	0.27	×1.06	12.0	12.59	-1.91	-	-	12.0	12.72	-1.78	-	-					-
	2422	MCS0	6.0	8.5	99.3	0.03	×1.01	6.0	7.29	-1.21	×1.32	-	6.0	6.79	-1.71	×1.48	-					-
	2437	MCS0	10.5	13.0	99.3	0.03	×1.01	10.5	10.57	-2.43	×1.75	-	10.5	11.24	-1.76	×1.50	-					-
	2452	MCS0	7.0	9.5	99.3	0.03	×1.01	7.0	7.54	-1.96	×1.57	-	7.0	7.69	-1.81	×1.52	-					-
11n (20HT) (2Tx)	2417	MCS8	14.5	17.0	99.6	0.02	×1.00	14.5	15.02	-1.98	×1.58	no (*2)	14.5	15.16	-1.84	×1.53	no (*2)	17.5	20.0	**18.10**	-1.90	-
	2417	MCS9	14.5	17.0	99.3	0.03	×1.01	14.5	14.76	-2.24	-	-	14.5	14.93	-2.07	-	-	17.5	20.0	17.86	-2.14	-
	2417	MCS10	14.5	17.0	98.8	0.05	×1.01	14.5	14.81	-2.19	-	-	14.5	14.86	-2.14	-	-	17.5	20.0	17.85	-2.15	-
	2417	MCS11	14.5	17.0	98.6	0.06	×1.01	14.5	14.82	-2.18	-	-	14.5	14.77	-2.23	-	-	17.5	20.0	17.81	-2.19	-
	2417	MCS12	14.5	17.0	97.9	0.09	×1.02	14.5	14.87	-2.13	-	-	14.5	14.74	-2.26	-	-	17.5	20.0	17.82	-2.18	-
	2417	MCS13	14.0	16.5	97.3	0.12	×1.03	14.0	14.37	-2.13	-	-	14.0	14.19	-2.31	-	-	17.0	19.5	17.29	-2.21	-
	2417	MCS14	13.5	16.0	96.8	0.14	×1.03	13.5	13.79	-2.21	-	-	13.5	13.73	-2.27	-	-	16.5	19.0	16.77	-2.23	-
	2417	MCS15	13.0	15.5	96.4	0.16	×1.04	13.0	13.31	-2.19	-	-	13.0	13.26	-2.24	-	-	16.0	18.5	16.30	-2.20	-
	2412	MCS8	10.5	13.0	99.6	0.02	×1.00	10.5	11.79	-1.21	×1.32	-	10.5	11.27	-1.73	×1.49	-	13.5	16.0	14.55	-1.45	-
	2437	MCS8	12.5	15.0	99.6	0.02	×1.00	13.5	13.66	-1.34	×1.36	-	13.5	14.00	-1.00	×1.26	-	15.5	18.0	16.84	-1.16	tune-up
	2462	MCS8	10.5	13.0	99.6	0.02	×1.00	11.5	11.50	-1.50	×1.41	-	11.5	11.70	-1.30	×1.35	-	13.5	16.0	14.61	-1.39	tune-up
11n (40HT) (2Tx)	2427	MCS8	13.5	16.0	98.9	0.05	×1.01	13.5	14.18	-1.82	×1.52	no (*2)	13.5	14.26	-1.74	×1.49	no (*2)	16.5	19.0	**17.23**	-1.77	-
	2427	MCS9	13.5	16.0	97.4	0.11	×1.03	13.5	14.04	-1.96	-	-	13.5	14.10	-1.90	-	-	16.5	19.0	17.08	-1.92	-
	2427	MCS10	13.5	16.0	96.3	0.16	×1.04	13.5	14.04	-1.96	-	-	13.5	14.11	-1.89	-	-	16.5	19.0	17.09	-1.91	-
	2427	MCS11	13.5	16.0	95.5	0.20	×1.05	13.5	13.99	-2.01	-	-	13.5	13.98	-2.02	-	-	16.5	19.0	16.99	-2.01	-
	2427	MCS12	13.5	16.0	93.8	0.28	×1.07	13.5	13.85	-2.15	-	-	13.5	13.90	-2.10	-	-	16.5	19.0	16.89	-2.11	-
	2427	MCS13	13.0	15.5	92.8	0.32	×1.08	13.0	13.40	-2.10	-	-	13.0	13.28	-2.22	-	-	16.0	18.5	16.35	-2.15	-
	2427	MCS14	12.5	15.0	92.1	0.36	×1.09	12.5	13.02	-1.98	-	-	12.5	12.88	-2.12	-	-	15.5	18.0	15.96	-2.04	-
	2427	MCS15	12.0	14.5	91.4	0.39	×1.09	12.0	12.61	-1.89	-	-	12.0	12.58	-1.92	-	-	15.0	17.5	15.61	-1.89	-
	2422	MCS8	6.0	8.5	98.9	0.05	×1.01	6.0	7.37	-1.13	×1.30	-	6.0	6.97	-1.53	×1.42	-	9.0	11.5	10.19	-1.31	-
	2452	MCS8	7.0	9.5	98.9	0.05	×1.01	7.0	7.62	-1.88	×1.54	-	7.0	7.52	-1.98	×1.58	-	10.0	12.5	10.58	-1.92	-
	2437	MCS8	10.5	13.0	98.9	0.05	×1.01	11.5	11.98	-1.02	×1.26	-	11.5	12.08	-0.92	×1.24	-	13.5	16.0	15.04	-0.96	tune-up

*. : SAR test was applied. *. xx.xx highlight is shown the maximum measured output power.

*1. (KDB248227 D01 (v02r02)) The reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg.
*2. (KDB447498 D01 (v06)) Since SPLSR (SAR to peak location separation ratio) was enough smaller than 0.04, SAR test of MIMO mode was reduced.
*. Date measured February 3 and 4, 2016 / measured by: H. Naka (21 ± 2 deg.C./ 50 ± 5 %RH, at preparation room of S/R#7)

6.1.2 5GHz band

Mode	Freq.	Data rate	Power spec.		Duty cycle			Antenna #0 (chain #0) power					Antenna #1 (chain #1) power					MIMO Ant.#0+Ant.#1 power				Power Tune -up?
			Typical	Max.	duty cycle	factor	scaled factor	Set pwr.	Ave.	Δ Max.	Tune-up factor	SAR Tested?	Set pwr.	Ave.	Δ Max.	Tune-up factor	SAR Tested?	MIMO target	MIMO max.	SUM Ave.	Δ Max.	
	[MHz]	[Mbps]	[dBm]	[dBm]	[%]	[dB]	[-]	[dBm]	[dBm]	[dB]	[-]		[dBm]	[dBm]	[dB]	[-]		[dBm]	[dBm]	[dBm]	[dB]	
11a	5500	6	15.0	17.5	99.7	0.01	×1.00	15.0	14.93	-2.57	×1.81	-	15.0	14.60	-2.90	×1.95	-					-
	5500	9	15.0	17.5	99.6	0.02	×1.00	15.0	14.92	-2.58	-	-	15.0	14.54	-2.96	-	-					-
	5500	12	15.0	17.5	99.2	0.03	×1.01	15.0	14.87	-2.63	-	-	15.0	14.51	-2.99	-	-					-
	5500	18	15.0	17.5	98.9	0.05	×1.01	15.0	14.81	-2.69	-	-	15.0	14.54	-2.96	-	-					-
	5500	24	15.0	17.5	98.8	0.05	×1.01	15.0	14.72	-2.78	-	-	15.0	14.53	-2.97	-	-					-
	5500	36	15.0	17.5	98.1	0.08	×1.02	15.0	14.77	-2.73	-	-	15.0	14.49	-3.01	-	-					-
	5500	48	15.0	17.5	97.3	0.12	×1.03	15.0	14.76	-2.74	-	-	15.0	14.46	-3.04	-	-					-
	5500	56	14.0	16.5	97.0	0.13	×1.03	14.0	13.78	-2.72	-	-	14.0	13.16	-3.34	-	-					-
	5180	6	12.5	15.0	99.7	0.01	×1.00	15.0	13.70	-1.30	×1.35	-	15.0	13.50	-1.50	×1.41	-					tune-up
	5220	6	12.5	15.0	99.7	0.01	×1.00	15.0	13.91	-1.09	×1.29	-	15.0	13.58	-1.42	×1.39	-					tune-up
	5240	6	12.5	15.0	99.7	0.01	×1.00	15.0	**14.00**	-1.00	×1.26	-	15.0	**13.69**	-1.31	×1.35	-					tune-up
	5260	6	12.5	15.0	99.7	0.01	×1.00	15.0	13.67	-1.33	×1.36	**Tested**	15.0	13.55	-1.45	×1.40	**Tested**					tune-up
	5300	6	12.5	15.0	99.7	0.01	×1.00	15.0	**13.94**	-1.06	×1.28	**Tested**	15.0	13.56	-1.44	×1.39	**Tested**					tune-up
	5320	6	12.5	15.0	99.7	0.01	×1.00	15.0	13.88	-1.12	×1.29	**Tested**	15.0	**13.84**	-1.16	×1.31	**Tested**					tune-up
	5500	6	15.0	17.5	99.7	0.01	×1.00	16.5	15.99	-1.51	×1.42	**Tested**	16.5	**16.18**	-1.32	×1.36	**Tested**					tune-up
	5580	6	15.0	17.5	99.7	0.01	×1.00	16.5	**16.39**	-1.11	×1.29	**Tested**	16.5	16.14	-1.36	×1.37	**Tested**					tune-up
	5600	6	15.0	17.5	99.7	0.01	×1.00	16.5	16.38	-1.12	×1.29	**Tested**	16.5	16.13	-1.37	×1.37	**Tested**					tune-up
	5700	6	15.0	17.5	99.7	0.01	×1.00	16.5	15.95	-1.55	×1.43	**Tested**	16.5	15.80	-1.70	×1.48	**Tested**					tune-up
	5745	6	15.0	17.5	99.7	0.01	×1.00	17.0	15.95	-1.55	×1.43	**Tested**	17.0	15.91	-1.59	×1.44	**Tested**					tune-up
	5785	6	15.0	17.5	99.7	0.01	×1.00	17.0	15.93	-1.57	×1.44	**Tested**	17.0	15.99	-1.51	×1.42	**Tested**					tune-up
	5825	6	15.0	17.5	99.7	0.01	×1.00	17.0	**16.05**	-1.45	×1.40	**Tested**	17.0	**16.39**	-1.11	×1.29	**Tested**					tune-up
11n (20HT) (1Tx)	5500	MCS0	13.5	16.0	99.6	0.02	×1.00	13.5	13.66	-2.34	×1.71	-	13.5	12.76	-3.24	×2.11	-					-
	5500	MCS1	13.5	16.0	99.3	0.03	×1.01	13.5	13.62	-2.38	-	-	13.5	12.75	-3.25	-	-					-
	5500	MCS2	13.5	16.0	98.9	0.05	×1.01	13.5	13.61	-2.39	-	-	13.5	12.74	-3.26	-	-					-
	5500	MCS3	13.5	16.0	98.6	0.06	×1.01	13.5	13.47	-2.53	-	-	13.5	12.74	-3.26	-	-					-
	5500	MCS4	13.5	16.0	98.1	0.08	×1.02	13.5	13.47	-2.53	-	-	13.5	12.69	-3.31	-	-					-
	5500	MCS5	12.5	15.0	97.6	0.11	×1.03	12.5	12.28	-2.72	-	-	12.5	12.18	-2.82	-	-					-
	5500	MCS6	10.5	13.0	97.0	0.13	×1.03	10.5	10.02	-2.98	-	-	10.5	9.87	-3.13	-	-					-
	5500	MCS7	8.5	11.0	96.7	0.15	×1.04	8.5	8.18	-2.82	-	-	8.5	7.35	-3.65	-	-					-
	5180	MCS0	11.0	13.5	99.6	0.02	×1.00	13.5	12.04	-1.46	×1.40	-	13.5	12.56	-0.94	×1.24	-					tune-up
	5220	MCS0	11.0	13.5	99.6	0.02	×1.00	13.5	12.26	-1.24	×1.33	-	13.5	**12.75**	-0.75	×1.19	no (*1)					tune-up
	5240	MCS0	11.0	13.5	99.6	0.02	×1.00	13.5	**12.37**	-1.13	×1.30	no (*1)	13.5	12.30	-1.20	×1.32	-					tune-up
	5260	MCS0	11.0	13.5	99.6	0.02	×1.00	13.5	12.22	-1.28	×1.34	-	13.5	**12.41**	-1.09	×1.29	no (*1)					tune-up
	5300	MCS0	11.0	13.5	99.6	0.02	×1.00	13.5	12.54	-0.96	×1.25	-	13.5	12.38	-1.12	×1.29	-					tune-up
	5320	MCS0	11.0	13.5	99.6	0.02	×1.00	13.5	**12.65**	-0.85	×1.22	no (*1)	13.5	12.27	-1.23	×1.33	-					tune-up
	5500	MCS0	13.5	16.0	99.6	0.02	×1.00	15.0	14.90	-1.10	×1.29	-	15.0	14.60	-1.40	×1.38	-					tune-up
	5580	MCS0	13.5	16.0	99.6	0.02	×1.00	15.0	**15.03**	-0.97	×1.25	-	15.0	**14.74**	-1.26	×1.34	no (*1)					tune-up
	5600	MCS0	13.5	16.0	99.6	0.02	×1.00	15.0	**15.03**	-0.97	×1.25	no (*1)	15.0	14.70	-1.30	×1.35	-					tune-up
	5700	MCS0	13.5	16.0	99.6	0.02	×1.00	15.0	14.76	-1.24	×1.33	-	15.0	14.63	-1.37	×1.37	-					tune-up
	5745	MCS0	13.5	16.0	99.6	0.02	×1.00	16.0	**15.02**	-0.98	×1.25	no (*1)	16.0	14.98	-1.02	×1.26	-					tune-up
	5785	MCS0	13.5	16.0	99.6	0.02	×1.00	16.0	14.81	-1.19	×1.32	-	16.0	14.98	-1.02	×1.26	-					tune-up
	5825	MCS0	13.5	16.0	99.6	0.02	×1.00	16.0	14.82	-1.18	×1.31	-	16.0	**15.37**	-0.63	×1.16	no (*1)					tune-up
11n (40HT) (1Tx)	5510	MCS0	11.0	13.5	99.3	0.03	×1.01	11	10.82	-2.68	×1.85	-	13.5	10.44	-3.06	×2.02	-					-
	5510	MCS1	11.0	13.5	98.9	0.05	×1.01	11	10.81	-2.69	-	-	13.5	10.33	-3.17	-	-					-
	5510	MCS2	11.0	13.5	98.0	0.09	×1.02	11	10.81	-2.69	-	-	13.5	10.21	-3.29	-	-					-
	5510	MCS3	11.0	13.5	97.4	0.11	×1.03	11	10.81	-2.69	-	-	13.5	10.27	-3.23	-	-					-
	5510	MCS4	11.0	13.5	96.4	0.16	×1.04	11	10.77	-2.73	-	-	13.5	10.13	-3.37	-	-					-
	5510	MCS5	11.0	13.5	95.4	0.20	×1.05	11	10.80	-2.70	-	-	12.5	10.11	-3.39	-	-					-
	5510	MCS6	10.0	12.5	94.9	0.23	×1.05	10	9.60	-2.90	-	-	10.5	9.44	-3.06	-	-					-
	5510	MCS7	8.0	10.5	94.2	0.26	×1.06	8.0	8.00	-2.50	-	-	8.5	7.37	-3.13	-	-					-
	5230	MCS0	11.0	13.5	99.3	0.03	×1.01	13.5	**12.21**	-1.29	×1.35	-	13.5	**12.45**	-1.05	×1.27	-					tune-up
	5270	MCS0	11.0	13.5	99.3	0.03	×1.01	13.5	**12.23**	-1.27	×1.34	-	13.5	**12.16**	-1.34	×1.36	**Tested**					tune-up
	5510	MCS0	11.0	13.5	99.3	0.03	×1.01	12.5	12.32	-1.18	×1.31	-	12.5	12.16	-1.34	×1.36	-					tune-up
	5550	MCS0	11.0	13.5	99.3	0.03	×1.01	12.5	**12.59**	-0.91	×1.23	-	12.5	**12.22**	-1.28	×1.34	**Tested**					tune-up
	5590	MCS0	11.0	13.5	99.3	0.03	×1.01	12.5	12.49	-1.01	×1.26	-	12.5	11.95	-1.55	×1.43	-					tune-up
	5670	MCS0	11.0	13.5	99.3	0.03	×1.01	12.5	12.09	-1.41	×1.38	-	12.5	11.99	-1.51	×1.42	-					tune-up
	5755	MCS0	11.0	13.5	99.3	0.03	×1.01	13.5	**12.25**	-1.25	×1.33	-	13.5	12.06	-1.44	×1.39	-					tune-up
	5795	MCS0	11.0	13.5	99.3	0.03	×1.01	13.5	11.94	-1.56	×1.43	-	13.5	**12.21**	-1.29	×1.35	**Tested**					tune-up
11n (20HT) (2Tx)	5500	MCS8	13.5	16.0	99.3	0.03	×1.01	13.5	13.83	-2.17	×1.65	-	13.5	12.74	-3.26	×2.12	-	16.5	19.0	16.33	-2.67	-
	5500	MCS9	13.5	16.0	98.6	0.06	×1.01	13.5	13.47	-2.53	-	-	13.5	12.64	-3.36	-	-	16.5	19.0	16.09	-2.91	-
	5500	MCS10	13.5	16.0	97.9	0.09	×1.02	13.5	13.43	-2.57	-	-	13.5	12.66	-3.34	-	-	16.5	19.0	16.07	-2.93	-
	5500	MCS11	13.5	16.0	97.3	0.12	×1.03	13.5	13.40	-2.60	-	-	13.5	12.66	-3.34	-	-	16.5	19.0	16.06	-2.94	-
	5500	MCS12	13.5	16.0	96.1	0.17	×1.04	13.5	13.35	-2.65	-	-	13.5	12.55	-3.45	-	-	16.5	19.0	15.98	-3.02	-
	5500	MCS13	12.5	15.0	94.9	0.23	×1.05	12.5	12.71	-2.29	-	-	12.5	11.64	-3.36	-	-	15.5	18.0	15.22	-2.78	-
	5500	MCS14	10.5	13.0	94.7	0.24	×1.06	10.5	10.28	-2.72	-	-	10.5	9.82	-3.18	-	-	13.5	16.0	13.07	-2.93	-
	5500	MCS15	8.5	11.0	94.0	0.27	×1.06	8.5	8.53	-2.47	-	-	8.5	7.81	-3.19	-	-	11.5	14.0	11.20	-2.80	-

(cont'd)

*. : SAR test was applied. *. xx.xx highlight is shown the maximum measured output power.

*1. (KDB248227 D01 (v02r02)) The reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg.
*. Date measured February 3 and 4, 2016 / measured by: H. Naka (21 ± 2 deg.C./ 50 ± 5 %RH, at preparation room of S/R#7)

(cont'd) **6.1.2 5GHz band (cont'd)**

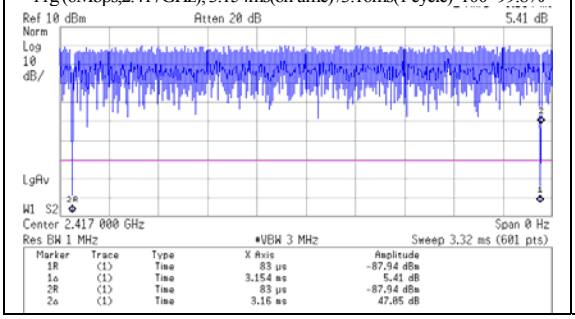
Mode	Freq.	Data rate	Power spec.		Duty cycle			Antenna #0 (chain #0) power					Antenna #1 (chain #1) power					MIMO Ant.#0+Ant.#1 power				
			Typical	Max.	duty cycle	factor	scaled factor	Set pwr.	Ave.	Δ Max.	Tune-up factor	SAR Tested?	Set pwr.	Ave.	Δ Max.	Tune-up factor	SAR Tested?	MIMO target	MIMO max.	SUM Ave.	Δ Max.	Power Tune -up?
	[MHz]	[Mbps]	[dBm]	[dBm]	[%]	[dB]	[-]	[dBm]	[dBm]	[dB]	[-]		[dBm]	[dBm]	[dB]	[-]		[dBm]	[dBm]	[dBm]	[dB]	
11n (20HT) (2Tx)	5180	MCS8	11.0	13.5	99.3	0.03	×1.01	13.5	11.84	-1.66	×1.47	-	13.5	12.42	-1.08	×1.28	-	14.0	16.5	15.15	-1.35	tune-up
	5220	MCS8	11.0	13.5	99.3	0.03	×1.01	13.5	12.32	-1.18	×1.31	-	13.5	12.43	-1.07	×1.28	-	14.0	16.5	15.39	-1.11	tune-up
	5240	MCS8	11.0	13.5	99.3	0.03	×1.01	13.5	12.43	-1.07	×1.28	no (*1)	13.5	12.54	-0.96	×1.25	no (*1)	14.0	16.5	**15.50**	-1.00	tune-up
	5260	MCS8	11.0	13.5	99.3	0.03	×1.01	13.5	12.54	-0.96	×1.25	-	13.5	12.68	-0.82	×1.21	-	14.0	16.5	15.62	-0.88	tune-up
	5300	MCS8	11.0	13.5	99.3	0.03	×1.01	13.5	12.81	-0.69	×1.17	no (*1)	13.5	12.63	-0.87	×1.22	no (*1)	14.0	16.5	**15.73**	-0.77	tune-up
	5320	MCS8	11.0	13.5	99.3	0.03	×1.01	13.5	12.92	-0.58	×1.14	-	13.5	12.40	-1.10	×1.29	-	14.0	16.5	15.68	-0.82	tune-up
	5500	MCS8	13.5	16.0	99.3	0.03	×1.01	15.0	14.96	-1.04	×1.27	-	15.0	14.51	-1.49	×1.41	-	16.5	19.0	17.75	-1.25	tune-up
	5580	MCS8	13.5	16.0	99.3	0.03	×1.01	15.0	15.00	-1.00	×1.26	-	15.0	14.69	-1.31	×1.35	-	16.5	19.0	17.86	-1.14	tune-up
	5600	MCS8	13.5	16.0	99.3	0.03	×1.01	15.0	15.03	-0.97	×1.25	no (*1)	15.0	14.72	-1.28	×1.34	no (*1)	16.5	19.0	**17.89**	-1.11	tune-up
	5700	MCS8	13.5	16.0	99.3	0.03	×1.01	15.0	14.77	-1.23	×1.33	-	15.0	14.54	-1.46	×1.40	-	16.5	19.0	17.67	-1.33	tune-up
	5745	MCS8	13.5	16.0	99.3	0.03	×1.01	16.0	14.89	-1.11	×1.29	-	16.0	14.82	-1.18	×1.31	-	16.5	19.0	17.87	-1.13	tune-up
	5785	MCS8	13.5	16.0	99.3	0.03	×1.01	16.0	14.85	-1.15	×1.30	-	16.0	15.13	-0.87	×1.22	-	16.5	19.0	18.00	-1.00	tune-up
	5825	MCS8	13.5	16.0	99.3	0.03	×1.01	16.0	14.83	-1.17	×1.31	no (*1)	16.0	15.18	-0.82	×1.21	no (*1)	16.5	19.0	**18.02**	-0.98	tune-up
11n (40HT) (2Tx)	5510	MCS8	11.0	13.5	98.7	0.06	×1.01	11.0	10.88	-2.62	×1.83	-	11.0	10.69	-2.81	×1.91	-	14.0	16.5	13.80	-2.70	-
	5510	MCS9	11.0	13.5	98.0	0.09	×1.02	11.0	10.84	-2.66	-	-	11.0	10.56	-2.94	-	-	14.0	16.5	13.71	-2.79	-
	5510	MCS10	11.0	13.5	96.8	0.14	×1.03	11.0	10.80	-2.70	-	-	11.0	10.22	-3.28	-	-	14.0	16.5	13.53	-2.97	-
	5510	MCS11	11.0	13.5	95.4	0.20	×1.05	11.0	10.83	-2.67	-	-	11.0	10.11	-3.39	-	-	14.0	16.5	13.50	-3.00	-
	5510	MCS12	11.0	13.5	93.6	0.29	×1.07	11.0	10.79	-2.71	-	-	11.0	10.22	-3.28	-	-	14.0	16.5	13.52	-2.98	-
	5510	MCS13	11.0	13.5	92.8	0.32	×1.08	11.0	10.63	-2.87	-	-	11.0	10.14	-3.36	-	-	14.0	16.5	13.40	-3.10	-
	5510	MCS14	10.0	12.5	91.8	0.37	×1.09	10.0	9.67	-2.83	-	-	10.0	9.55	-2.95	-	-	13.0	15.5	12.62	-2.88	-
	5510	MCS15	8.0	10.5	91.3	0.40	×1.10	8.0	7.99	-2.51	-	-	8.0	7.36	-3.14	-	-	11.0	13.5	10.70	-2.80	-
	5230	MCS8	11.0	13.5	98.7	0.06	×1.01	13.5	12.29	-1.21	×1.32	no (*1)	13.5	12.30	-1.20	×1.32	no (*1)	14.0	16.5	**15.30**	-1.20	tune-up
	5270	MCS8	11.0	13.5	98.7	0.06	×1.01	13.5	12.17	-1.33	×1.36	no (*1)	13.5	12.39	-1.11	×1.29	no (*1)	14.0	16.5	**15.29**	-1.21	tune-up
	5510	MCS8	11.0	13.5	98.7	0.06	×1.01	12.5	12.76	-0.74	×1.19	no (*1)	12.5	11.72	-1.78	×1.51	no (*1)	14.0	16.5	**15.28**	-1.22	tune-up
	5550	MCS8	11.0	13.5	98.7	0.06	×1.01	12.5	12.45	-1.05	×1.27	-	12.5	11.85	-1.65	×1.46	-	14.0	16.5	15.17	-1.33	tune-up
	5590	MCS8	11.0	13.5	98.7	0.06	×1.01	12.5	12.51	-0.99	×1.26	-	12.5	11.81	-1.69	×1.48	-	14.0	16.5	15.18	-1.32	tune-up
	5670	MCS8	11.0	13.5	98.7	0.06	×1.01	12.5	12.17	-1.33	×1.36	-	12.5	12.21	-1.29	×1.35	-	14.0	16.5	15.20	-1.30	tune-up
	5755	MCS8	11.0	13.5	98.7	0.06	×1.01	13.5	12.45	-1.05	×1.27	no (*1)	13.5	12.36	-1.14	×1.30	no (*1)	14.0	16.5	**15.42**	-1.08	tune-up
	5795	MCS8	11.0	13.5	98.7	0.06	×1.01	13.5	11.93	-1.57	×1.44	-	13.5	12.12	-1.38	×1.37	-	14.0	16.5	15.04	-1.46	tune-up

*. : SAR test was applied. *. xx.xx highlight is shown the maximum measured output power.

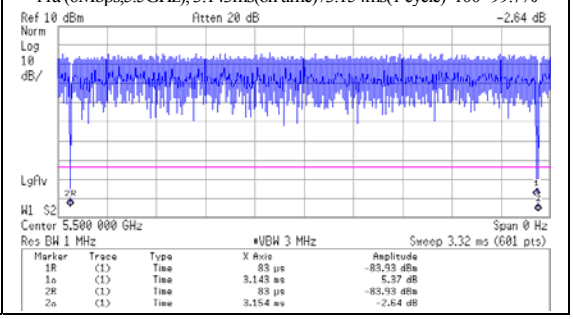
*1. (KDB447498 D01 (v06)) Since SPLSR (SAR to peak location separation ratio) was enough smaller than 0.04, SAR test of MIMO mode was reduced.
*. Date measured February 3 and 4, 2016 / measured by: H. Naka (21 ± 2 deg.C./ 50 ± 5 %RH, at preparation room of S/R#7)

(Common definition)
*. Freq.: Frequency, Max.: Maximum, Power spec.: Power specification, Set pwr: Setting power for the measurement, Ave.: Average
*. Calculating formula: Average power (dBm) = (P/M Reading, dBm)+(Cable loss, dB)+(Attenuator, dB)+(duty factor, dB)
Duty cycle: (duty cycle, %) = (Tx on time, ms) / (1 cycle time, ms) × 100; Duty factor: (duty factor, dBm) = 10 × log (100/(duty cycle, %))
Duty scaled factor: Duty cycle correction factor for obtained SAR value, Duty scaled factor [-] = 100(%) / (duty cycle, %)
ΔMax. (Deviation form maximum power, dB) = (results power (average, dBm)) - (Max.-specification output power (average, dBm))
Tune-up factor: Power tune-up factor for obtained SAR value, Tune-up factor [-] = 1 / (10 ^ ("Deviation from max., dB" / 10))
*. Date measured: February 3 and 4, 2016 / Measured by: Hiroshi Naka / Place: preparation room of No. 7 shielded room. (21 ±1 deg.C./45 ±10 %RH)
*. Uncertainty of antenna port conducted test; Power measurement uncertainty above 1GHz for this test was: (±) 0.76 dB.
*. Uncertainty of antenna port conducted test; Duty cycle and time measurement: (±) 0.012 %.

11g (6Mbps,2.417GHz); 3.154ms(on time) /3.16ms(1 cycle)*100=99.8%



11a (6Mbps,5.5GHz); 3.143ms(on time) /3.154ms(1 cycle)*100=99.7%



SECTION 7: SAR Measurement results

Measurement date: February 10, 12, 15, 16, 23 and 24, 2016 Measurement by: Hiroshi Naka

7.1 Liquid measurement

Target Frequency [MHz]	Liquid type	Liquid parameters (*a)								Temp. [deg.C.]	Depth [mm]	ΔSAR Coefficients(*c)		Date measured
		Permittivity (εr) [-]				Conductivity [S/m]						ΔSAR (1g) [%]	Correction required?	
		Target	Measured		Limit (*b)	Target	Measured		Limit (*b)					
			Meas.	Δεr [%]			Meas.	Δσ [%]						
5500	Body	***48.61***	47.05	-3.2	-5% ≤ εr-meas. ≤ 0%	***5.650***	5.844	+3.4	0% ≤ σ-meas. ≤ +5%	22.9	146	+0.49	not required.	February 10, 2016 before SAR test
5550		***48.54***	46.98	-3.2		***5.708***	5.934	+4.0				+0.47	not required.	
5580		***48.50***	46.96	-3.2		***5.743***	5.954	+3.7				+0.47	not required.	
5600		***48.47***	46.92	-3.2		***5.766***	6.010	+4.2				+0.45	not required.	
5700		***48.34***	46.78	-3.2		***5.883***	6.108	+3.8				+0.47	not required.	
5745		***48.27***	46.87	-2.9		***5.936***	6.199	+4.4				+0.38	not required.	
5785		***48.22***	46.64	-3.3		***5.982***	6.265	+4.7				+0.44	not required.	
5795		***48.21***	46.60	-3.3		***5.994***	6.241	+4.1				+0.48	not required.	
5825		***48.17***	46.71	-3.0		***6.029***	6.283	+4.2				+0.41	not required.	
5260	Body	***48.93***	47.51	-2.9		***5.369***	5.552	+3.4		22.9	146	+0.48	not required.	February 12, 2016 before SAR test
5270		***48.92***	47.51	-2.9		***5.381***	5.564	+3.4				+0.48	not required.	
5300		***48.88***	47.43	-3.0		***5.416***	5.589	+3.2				+0.49	not required.	
5320		***48.85***	47.40	-3.0		***5.439***	5.609	+3.1				+0.49	not required.	
5500	Head	***35.64***	35.20	-1.2	-5% ≤ εr-meas. ≤ 0%	***4.963***	4.804	-3.2	-5% ≤ σ-meas. ≤ +5%	22.9	149	+0.38	not required.	February 15, 2016 before SAR test
5580		***35.55***	35.05	-1.4		***5.045***	4.861	-3.6				+0.44	not required.	
5600		***35.53***	34.99	-1.5		***5.065***	4.915	-3.0				+0.44	not required.	
5700		***35.41***	34.91	-1.4		***5.168***	5.017	-2.9				+0.41	not required.	
5745		***35.36***	34.90	-1.3		***5.214***	5.054	-3.1				+0.40	not required.	
5785		***35.32***	34.83	-1.4		***5.255***	5.074	-3.4				+0.43	not required.	
5825		***35.27***	34.82	-1.3		***5.296***	5.160	-2.6				+0.37	not required.	
5260	Head	***35.92***	35.51	-1.1		***4.717***	4.549	-3.6		22.9	149	+0.33	not required.	February 16, 2016 before SAR test
5300		***35.87***	35.42	-1.3		***4.758***	4.595	-3.4				+0.37	not required.	
5320		***35.85***	35.43	-1.2		***4.778***	4.622	-3.3				+0.34	not required.	
2412	Head	***39.27***	38.13	-2.9	-5% ≤ εr-meas. ≤ 0%	***1.766***	1.808	+2.4	0% ≤ σ-meas. ≤ +5%	23.8	151	+1.82	not required.	February 23, 2016 before SAR test
2417		***39.26***	38.10	-3.0		***1.771***	1.817	+2.6				+1.95	not required.	
2427		***39.24***	38.08	-3.0		***1.780***	1.834	+3.1				+2.16	not required.	
2437		***39.22***	38.01	-3.1		***1.788***	1.843	+3.1				+2.18	not required.	
2462		***39.18***	37.96	-3.1		***1.813***	1.877	+3.5				+2.39	not required.	
2412	Body	***52.75***	50.76	-3.8	-5% ≤ εr-meas. ≤ 0%	***1.914***	1.961	+2.5	0% ≤ σ-meas. ≤ +5%	22.5	153	+2.05	not required.	February 24, 2016 before SAR test
2417		***52.74***	50.80	-3.7		***1.918***	1.973	+2.9				+2.22	not required.	
2427		***52.73***	50.73	-3.8		***1.928***	1.995	+3.5				+2.54	not required.	
2437		***52.72***	50.66	-3.9		***1.938***	2.001	+3.3				+2.45	not required.	
2462		***52.68***	50.59	-4.0		***1.967***	2.031	+3.3				+2.45	not required.	

a. The target value is a parameter defined in Appendix A of KDB865664 D01 (v01r04), the dielectric parameters suggested for head and body tissue simulating liquid are given at 2000, 2450, 3000 and 5800MHz. (.The parameters of the head liquid are the same value as IEC 62209-2.) Parameters for the frequencies between 2000-3000, 3000-5800MHz were obtained using linear interpolation. Above 5800MHz were obtained using linear extrapolation.

*b. Refer to KDB865664 D01 (v01r04), item 4), Clause 2.6; "When nominal tissue dielectric parameters are recorded in the probe calibration data; for example, only target values and tolerance are reported, the measured εr and σ of the liquid used in routine measurements must be: ≤ the target εr and ≥ the target σ values and also within 5% of the required target dielectric parameters."

*c. Calculating formula: $\Delta SAR(1g) = C\varepsilon r \times \Delta\varepsilon r + C\sigma \times \Delta\sigma$, $C\varepsilon r = -7.854E\text{-}4 \times f^3 + 9.402E\text{-}3 \times f^2 - 2.742E\text{-}2 \times f - 0.2026$ / $C\sigma = 9.804E\text{-}3 \times f^3 - 8.661E\text{-}2 \times f^2 + 2.981E\text{-}2 \times f + 0.7829$

7.2 SAR measurement results (Body)

[Measured and Reported (Scaled) SAR results]

SAR measurement results												Reported SAR [W/kg]						
Mode	Freq. [MHz] (Channel)	Data rate [Mbps]	EUT setup (*1) Antenna *.SAR measured	Position	Gap [mm]	Bty. ID	SAR [W/kg] Max. value of multi-peak Meas.	ΔSAR [%]	ΔSAR corrected	SAR plot # in Appendix 2-2	Duty cycle correction Duty [%]	Duty scaled	Output average power correction Meas. [dBm].	Max. [dBm]	Tune-up factor	SAR Corrected (Scaled) (*b)	Remarks
Step 1: 2.4GHz Band (Body)																	
11g	2417(2)	6	ant#0	Front (Patient)	0	#2	not detected	+2.22	n/a (*a)	Plot 1-3	99.8	×1.00	18.57	19.5	×1.25	n/a	-
	2417(2)		ant#1		0	#2	not detected	+2.22	n/a (*a)	Plot 1-4	99.8	×1.00	17.63	19.5	×1.54	n/a	-
11g	2417(2)	6	ant#0	Side -an#0	0	#3	0.021	+2.22	n/a (*a)	Plot 1-2	99.8	×1.00	18.57	19.5	×1.25	0.026	ant#0-worst,body,2.4GHz
	2437(6)				0	#3	0.00777	+2.45	n/a (*a)	Plot 1-5	99.8	×1.00	17.09	18.0	×1.38	0.011	-
	2462(11)				0	#3	0.00242	+2.45	n/a (*a)	Plot 1-6	99.8	×1.00	16.08	17.5	×1.39	0.003	-
11b	2412(1)	1			0	#3	0.011	+2.05	n/a (*a)	Plot 1-7	99.8	×1.00	14.99	16.0	×1.26	0.014	-
n40HT	2427(4)	MCS0			0	#3	0.0064	+2.54	n/a (*a)	Plot 1-8	99.3	×1.01	14.19	16.0	×1.52	0.010	-
11g	2417(2)	6	ant#1	Bottom	0	#2	0.025	+2.22	n/a (*a)	Plot 1-1	99.8	×1.00	17.63	19.5	×1.54	0.039	ant#1-worst,body,2.4GHz
	2437(6)				0	#2	0.018	+2.45	n/a (*a)	Plot 1-9	99.8	×1.00	17.25	18.0	×1.33	0.023	-
	2462(11)				0	#2	0.00914	+2.45	n/a (*a)	Plot 1-10	99.8	×1.00	15.87	17.5	×1.46	0.013	-
11b	2412(1)	1			0	#2	0.014	+2.05	n/a (*a)	Plot 1-11	99.8	×1.00	15.20	16.0	×1.20	0.017	-
n40HT	2427(4)	MCS0			0	#2	0.00845	+2.54	n/a (*a)	Plot 1-12	99.3	×1.01	14.34	16.0	×1.47	0.013	-
Step 2: 5GHz Band (Body)																	
11a	5300(60)	6	ant#0	Front (Patient)	0	#2	not detected	+0.49	n/a (*a)	Plot 2-3	99.7	×1.00	13.88	15.0	×1.29	n/a	-
	5580(118)				0	#2	not detected	+0.47	n/a (*a)	Plot 2-4	99.7	×1.00	16.38	17.5	×1.29	n/a	-
	5825(165)				0	#2	not detected	+0.41	n/a (*a)	Plot 2-5	99.7	×1.00	16.05	17.5	×1.40	n/a	-
	5300(60)		ant#1		0	#2	not detected	+0.49	n/a (*a)	Plot 2-6	99.7	×1.00	13.56	15.0	×1.39	n/a	-
	5580(116)				0	#2	not detected	+0.47	n/a (*a)	Plot 2-7	99.7	×1.00	16.14	17.5	×1.37	n/a	-
	5825(165)				0	#2	not detected	+0.41	n/a (*a)	Plot 2-8	99.7	×1.00	16.39	17.5	×1.29	n/a	-
11a	5260(52)	6	ant#0	Side -an#0	0	#3	0.056	+0.48	n/a (*a)	Plot 2-9	99.7	×1.00	13.67	15.0	×1.36	0.077	ant#0-worst,body,w53
	5300(60)				0	#3	0.051	+0.49	n/a (*a)	Plot 2-10	99.7	×1.00	13.94	15.0	×1.28	0.065	-
	5320(64)				0	#3	0.045	+0.49	n/a (*a)	Plot 2-11	99.7	×1.00	13.88	15.0	×1.29	0.059	-
	5500(100)				0	#2	0.081	+0.49	n/a (*a)	Plot 2-12	99.7	×1.00	15.99	17.5	×1.42	0.115	-
	5580(116)				0	#2	0.086	+0.47	n/a (*a)	Plot 2-13	99.7	×1.00	16.39	17.5	×1.29	0.111	-
	5600(120)				0	#2	0.107	+0.45	n/a (*a)	Plot 2-14	99.7	×1.00	16.38	17.5	×1.29	0.138	ant#0-worst,body,w56
	5700(140)				0	#3	0.064	+0.47	n/a (*a)	Plot 2-15	99.7	×1.00	15.95	17.5	×1.43	0.092	-
	5745(149)				0	#2	0.075	+0.38	n/a (*a)	Plot 2-16	99.7	×1.00	15.95	17.5	×1.43	0.108	-
	5785(157)				0	#2	0.153	+0.44	n/a (*a)	Plot 2-2	99.7	×1.00	15.93	17.5	×1.44	0.220	ant#0-worst,body,w58
	5825(165)				0	#2	0.135	+0.41	n/a (*a)	Plot 2-17	99.7	×1.00	16.05	17.5	×1.40	0.189	-
11a	5260(52)	6	ant#1	Bottom	0	#3	0.037	+0.48	n/a (*a)	Plot 2-18	99.7	×1.00	13.55	15.0	×1.40	0.051	-
	5300(60)				0	#3	0.043	+0.49	n/a (*a)	Plot 2-19	99.7	×1.00	13.56	15.0	×1.39	0.059	ant#1-worst,body,w53
	5320(64)				0	#3	0.043	+0.49	n/a (*a)	Plot 2-20	99.7	×1.00	13.84	15.0	×1.31	0.057	-
	5500(100)				0	#2	0.150	+0.49	n/a (*a)	Plot 2-21	99.7	×1.00	16.18	17.5	×1.36	0.204	ant#1-worst,body,w56
	5580(116)				0	#2	0.105	+0.47	n/a (*a)	Plot 2-22	99.7	×1.00	16.14	17.5	×1.37	0.144	-
	5600(120)				0	#2	0.083	+0.45	n/a (*a)	Plot 2-23	99.7	×1.00	16.13	17.5	×1.37	0.114	-
	5700(140)				0	#2	0.054	+0.47	n/a (*a)	Plot 2-24	99.7	×1.00	15.80	17.5	×1.48	0.081	-
	5745(149)				0	#3	0.066	+0.38	n/a (*a)	Plot 2-25	99.7	×1.00	15.91	17.5	×1.44	0.095	-
	5785(157)				0	#3	0.122	+0.44	n/a (*a)	Plot 2-26	99.7	×1.00	15.99	17.5	×1.42	0.173	-
	5825(165)				0	#3	0.219	+0.41	n/a (*a)	Plot 2-1	99.7	×1.00	16.39	17.5	×1.29	0.283	ant#1-worst,body,w58
n40HT	5270(54)	MCS0			0	#2	0.030	+0.48	n/a (*a)	Plot 2-27	99.3	×1.01	12.16	13.5	×1.36	0.041	-
	5550(110)				0	#3	0.039	+0.47	n/a (*a)	Plot 2-28	99.3	×1.01	12.22	13.5	×1.34	0.053	-
	5795(159)				0	#2	0.046	+0.48	n/a (*a)	Plot 2-29	99.3	×1.01	12.21	13.5	×1.35	0.062	-

***1. Since this EUT is the medical device, the EUT is only used under the guidance of a doctor or a qualified person. The possibility of the maximum RF human exposure is only a body/head of the patient who comes in contact directly on the front surface (patient side) of the EUT. Therefore, the SAR test was only considered to the front surface of the EUT. However, SAR value couldn't be measured at the front surface, so SAR was evaluated on the side edge.**

Notes: *. Gap: It is the separation distance between the platform outer surface and the bottom outer surface of phantom; Freq.: Frequency; Bty.ID: Battery ID (Battery #2 and #3 were same model. Refer to Appendix 1 for more detail); Max.: Maximum, Meas.: Measured value; n/a: not applied.

*. Calibration frequency of the SAR measurement probe (and used conversion factors)

SAR test frequency	Probe calibration frequency	Validity	Conversion factor	Uncertainty
2412, 2417, 2427, 2437, 2462 MHz	2450 MHz	within ±50MHz of calibration frequency	7.17	±12.0%
5260, 5270, 5300, 5320 MHz	5250 MHz	within ±110 MHz of calibration frequency	4.53	±13.1 %
5500, 5550, 5580, 5600, 5700 MHz	5600 MHz	within ±110 MHz of calibration frequency	3.78	±13.1 %
5745, 5785, 5795, 5825 MHz	5750 MHz	within ±110 MHz of calibration frequency	4.06	±13.1 %

*. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

*a. Since the calculated ΔSAR values of the tested liquid had shown positive correction, the measured SAR was not converted by ΔSAR correction.
Calculating formula: ΔSAR corrected SAR (W/kg) = (Meas. SAR (W/kg)) × (100 - (ΔSAR(%)) / 100

*b. Calculating formula: Reported SAR (W/kg) = (Measured SAR (W/kg)) × (Duty scaled) × (Tune-up factor)
Duty scaled = Duty scaled factor: Duty cycle correction factor for obtained SAR value, Duty scaled factor [-] = 100(%) / (duty cycle, %)
Tune-up factor: Power tune-up factor for obtained SAR value, Tune-up factor [-] = 1 / (10 ^ ("Deviation from max., dB" / 10))

7.3 SAR measurement results (Head)

[Measured and Reported (Scaled) SAR results]

SAR measurement results												Reported SAR [W/kg]						
Mode	Freq. [MHz] (Channel)	Data rate [Mbps]	EUT setup (*1) Antenna *.SAR measured.	Position	Gap [mm]	Bty. ID	SAR [W/kg] Max. value of multi-peak Meas.	ΔSAR [%]	ΔSAR corrected	SAR plot # in Appendix 2-2	Duty cycle correction Duty [%]	Duty scaled	Output average power correction Meas. [dBm].	Max. [dBm]	Tune-up factor	SAR Corrected (Scaled) (*b)	Remarks
Step 3: 2.4GHz Band (Head)																	
11g	2417(2)	6	ant#0	Front (Patient)	0	#3	not detected	+1.95	n/a (*a)	Plot 3-3	99.8	×1.00	18.57	19.5	×1.25	n/a	-
	2417(2)		ant#1		0	#3	not detected	+1.95	n/a (*a)	Plot 3-4	99.8	×1.00	17.63	19.5	×1.54	n/a	-
11g	2417(2)	6	ant#0	Side -an#0	0	#2	0.026	+1.95	n/a (*a)	Plot 3-2	99.8	×1.00	18.57	19.5	×1.25	0.033	ant#0-worst,head,2.4GHz
	2437(6)				0	#2	0.010	+2.18	n/a (*a)	Plot 3-5	99.8	×1.00	17.09	18.0	×1.38	0.014	-
	2462(11)				0	#2	0.00267	+2.39	n/a (*a)	Plot 3-6	99.8	×1.00	16.08	17.5	×1.39	0.004	-
11b	2412(1)	1			0	#2	0.012	+1.82	n/a (*a)	Plot 3-7	99.8	×1.00	14.99	16.0	×1.26	0.015	-
n40HT	2427(4)	MCS0			0	#2	0.00653	+2.16	n/a (*a)	Plot 3-8	99.3	×1.01	14.19	16.0	×1.52	0.010	-
11g	2417(2)	6	ant#1	Bottom	0	#3	0.031	+1.95	n/a (*a)	Plot 3-1	99.8	×1.00	17.63	19.5	×1.54	0.047	ant#1-worst,head,2.4GHz
	2437(6)				0	#3	0.021	+2.18	n/a (*a)	Plot 3-9	99.8	×1.00	17.25	18.0	×1.33	0.028	-
	2462(11)				0	#3	0.012	+2.39	n/a (*a)	Plot 3-10	99.8	×1.00	15.87	17.5	×1.46	0.017	-
11b	2412(1)	1			0	#3	0.017	+1.82	n/a (*a)	Plot 3-11	99.8	×1.00	15.20	16.0	×1.20	0.021	-
n40HT	2427(4)	MCS0			0	#3	0.010	+2.16	n/a (*a)	Plot 3-12	99.3	×1.01	14.34	16.0	×1.47	0.015	-
Step body-4: 5GHz Band (Head)																	
11a	5300(60)	6	ant#0	Front (Patient)	0	#2	not detected	+0.37	n/a (*a)	Plot 4-3	99.7	×1.00	13.88	15.0	×1.29	n/a	-
	5580(118)				0	#2	not detected	+0.44	n/a (*a)	Plot 4-4	99.7	×1.00	16.38	17.5	×1.29	n/a	-
	5825(165)				0	#2	not detected	+0.37	n/a (*a)	Plot 4-5	99.7	×1.00	16.05	17.5	×1.40	n/a	-
	5300(60)		ant#1		0	#2	not detected	+0.37	n/a (*a)	Plot 4-6	99.7	×1.00	13.56	15.0	×1.39	n/a	-
	5580(116)				0	#2	not detected	+0.44	n/a (*a)	Plot 4-7	99.7	×1.00	16.14	17.5	×1.37	n/a	-
	5825(165)				0	#2	not detected	+0.37	n/a (*a)	Plot 4-8	99.7	×1.00	16.39	17.5	×1.29	n/a	-
11a	5260(52)	6	ant#0	Side -an#0	0	#2	0.063	+0.33	n/a (*a)	Plot 4-9	99.7	×1.00	13.67	15.0	×1.36	0.085	ant#0-worst,head,w53
	5300(60)				0	#2	0.061	+0.37	n/a (*a)	Plot 4-10	99.7	×1.00	13.94	15.0	×1.28	0.078	-
	5320(64)				0	#2	0.058	+0.34	n/a (*a)	Plot 4-11	99.7	×1.00	13.88	15.0	×1.29	0.075	-
	5500(100)				0	#2	0.093	+0.38	n/a (*a)	Plot 4-12	99.7	×1.00	15.99	17.5	×1.42	0.131	-
	5580(116)				0	#2	0.099	+0.44	n/a (*a)	Plot 4-13	99.7	×1.00	16.39	17.5	×1.29	0.128	-
	5600(120)				0	#2	0.124	+0.44	n/a (*a)	Plot 4-14	99.7	×1.00	16.38	17.5	×1.29	0.160	ant#0-worst,head,w56
	5700(140)				0	#2	0.076	+0.41	n/a (*a)	Plot 4-15	99.7	×1.00	15.95	17.5	×1.43	0.108	-
	5745(149)				0	#3	0.085	+0.40	n/a (*a)	Plot 4-16	99.7	×1.00	15.95	17.5	×1.43	0.122	-
	5785(157)				0	#3	0.167	+0.43	n/a (*a)	Plot 4-2	99.7	×1.00	15.93	17.5	×1.44	0.240	ant#0-worst,head,w58
	5825(165)				0	#3	0.152	+0.37	n/a (*a)	Plot 4-17	99.7	×1.00	16.05	17.5	×1.40	0.213	-
11a	5260(52)	6	ant#1	Bottom	0	#3	0.038	+0.33	n/a (*a)	Plot 4-18	99.7	×1.00	13.55	15.0	×1.40	0.054	-
	5300(60)				0	#3	0.048	+0.37	n/a (*a)	Plot 4-19	99.7	×1.00	13.56	15.0	×1.39	0.067	ant#1-worst,head,w53
	5320(64)				0	#3	0.046	+0.34	n/a (*a)	Plot 4-20	99.7	×1.00	13.84	15.0	×1.31	0.060	-
	5500(100)				0	#2	0.150	+0.38	n/a (*a)	Plot 4-21	99.7	×1.00	16.18	17.5	×1.36	0.204	ant#1-worst,head,w56
	5580(116)				0	#2	0.107	+0.44	n/a (*a)	Plot 4-22	99.7	×1.00	16.14	17.5	×1.37	0.147	-
	5600(120)				0	#2	0.088	+0.44	n/a (*a)	Plot 4-23	99.7	×1.00	16.13	17.5	×1.37	0.120	-
	5700(140)				0	#2	0.054	+0.41	n/a (*a)	Plot 4-24	99.7	×1.00	15.80	17.5	×1.48	0.081	-
	5745(149)				0	#2	0.070	+0.40	n/a (*a)	Plot 4-25	99.7	×1.00	15.91	17.5	×1.44	0.101	-
	5785(157)				0	#2	0.128	+0.43	n/a (*a)	Plot 4-26	99.7	×1.00	15.99	17.5	×1.42	0.182	-
	5825(165)				0	#2	0.234	+0.37	n/a (*a)	Plot 4-1	99.7	×1.00	16.39	17.5	×1.29	0.302	ant#1-worst,head,w58

***1. Since this EUT is the medical device, the EUT is only used under the guidance of a doctor or a qualified person. The possibility of the maximum RF human exposure is only a body/head of the patient who comes in contact directly on the front surface (patient side) of the EUT. Therefore, the SAR test was only considered to the front surface of the EUT. However, SAR value couldn't be measured at the front surface, so SAR was evaluated on the side edge.**

Notes: *. Gap: It is the separation distance between the platform outer surface and the bottom outer surface of phantom; Freq.: Frequency; Bty.ID: Battery ID (Battery #2 and #3 were same model. Refer to Appendix 1 for more detail); Max.: Maximum, Meas.: Measured value; n/a: not applied.

*. Calibration frequency of the SAR measurement probe (and used conversion factors)

SAR test frequency	Probe calibration frequency	Validity	Conversion factor	Uncertainty
2412, 2417, 2427, 2437, 2462 MHz	2450 MHz	within ±50MHz of calibration frequency	7	±12.0%
5260, 5300, 5320 MHz	5250 MHz	within ±110 MHz of calibration frequency	5.04	±13.1 %
5500, 5580, 5600, 5700 MHz	5600 MHz	within ±110 MHz of calibration frequency	4.61	±13.1 %
5745, 5785, 5825 MHz	5750 MHz	within ±110 MHz of calibration frequency	4.66	±13.1 %

*. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

*a. Since the calculated ΔSAR values of the tested liquid had shown positive correction, the measured SAR was not converted by ΔSAR correction.
Calculating formula: ΔSAR corrected SAR (W/kg) = (Meas. SAR (W/kg)) × (100 - (ΔSAR(%)) / 100

*b. Calculating formula: Reported SAR (W/kg) = (Measured SAR (W/kg)) × (Duty scaled) × (Tune-up factor)
Duty scaled = Duty scaled factor: Duty cycle correction factor for obtained SAR value, Duty scaled factor [-] = 100(%) / (duty cycle, %)
Tune-up factor: Power tune-up factor for obtained SAR value, Tune-up factor [-] = 1 / (10 ^ ("Deviation from max., dB" / 10))