SAR TEST REPORT

Test Report No.: 10656953S-C

Applicant : **FUJIFILM Corporation**

Type of Equipment : **Flat Panel Sensor**

Model No. : **DR-ID1200 FLAT PANEL SENSOR DR-ID1213SE**
(*. With built-in wireless LAN module)

FCC ID : **W2Z-01000006**

Test Standard : **FCC 47CFR §2.1093**

Test Result : **Complied**

Highest Reported SAR(1g) Value	Operation Band	Remarks
< 0.10W/kg (body)	2412-2462MHz	(DTS) Antenna#0, 2427MHz, 11n(40HT)(MCS0), Output power: 14.58dBm, Measured SAR(1g)=0.041W/kg.
< 0.10W/kg (head)		(DTS) Antenna#0, 2427MHz, 11n(40HT)(MCS0), Output power: 14.58dBm, Measured SAR(1g)=0.030W/kg.
< 0.10W/kg (body)	5180-5320MHz, 5500-5700MHz, 5745-5825MHz	(UNII) Antenna#0, 5825MHz, 11a (6Mbps), Output power: 16.42dBm, Measured SAR(1g)=0.026W/kg.
< 0.10W/kg (head)		(UNII) Antenna#0, 5825MHz, 11a (6Mbps), Output power: 16.42dBm, Measured SAR(1g)=0.029W/kg.

*. **The highest reported SAR (1g) value across all exposure condition of this EUT is "< 0.10 W/kg."**
*. **Co-location was not considered, because the SPLSR (SAR to peak location separation ratio) was smaller than 0.04.**

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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.

Date of test: January 26-30, February 2-4, 2015

Test engineer:
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Toyokazu Imamura
Leader, Consumer Technology Division

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☒ There is no testing item of "Non-accreditation".

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JAB Testing RTL02610

REVISION HISTORY

Revision	Test report No.	Date	Page revised	Contents
Original	10656953S-C	February 24, 2015	-	-
-r01	10656953S-C	March 10, 2015	p1,2,10	Correction of erroneous description.

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

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SECTION 1: Customer information

Company Name	FUJIFILM Corporation
Brand Name	FUJIFILM
Address	2-26-30 Nishiazabu Minatoku Tokyo 106-8620, Japan
Telephone Number	81-3-6271-1975
Facsimile Number	81-3-6271-1189
Contact Person	Mitsuyuki Komiya

SECTION 2: Equipment under test (EUT)

2.1 Identification of EUT

Type of Equipment	Flat Panel Sensor
Model Number	DR-ID1200 FLAT PANEL SENSOR DR-ID1213SE
Serial Number	W120002
Condition of EUT	Engineering prototype (*. Not for sale. This sample is equivalent to mass-production items)
Receipt Date of Sample	January 23, 2015 (*. No modification by the Lab.)
Country of Mass-production	Japan
Rating	DC8V
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.)
SAR Accessary	Any head-worn, body-worn accessory was not applied.
Feature of EUT, SAR tested consideration	Model: DR-ID1200 FLAT PANEL SENSOR DR-ID1213SE (referred to as the EUT in this report) is a Flat Panel Sensor with a wireless function and used in the hospitality environment. 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 side (patient side) of the EUT. **Therefore, the SAR test was only applied to the front surface side (patient side) of the EUT.**

*. This EUT (model: DR-ID1200 FLAT PANEL SENSOR DR-ID1213SE) has the following series model.

Model number (DR-ID1200 FLAT PANEL SENSOR **)		Size of panel (mm)	Sensor of X-ray (Scintillator)	Antenna						SAR report number
				No.	Model	Type	Maximum gain (dBi) (*. including cable loss)	Cable (mm)	#0↔#1, distance (mm)	
1	DR-ID 1201SE	393.8×459.8 ×16	GOS	#0	113Y120036A	Monopole antenna	-6.9 (2.4GHz), -1.8 (5GHz)	575	417	10318894S-C-r04
				#1	113Y120035A		-5.1 (2.4GHz), -1.3 (5GHz)	300		
2	DR-ID 1211SE	393.8×459.8 ×16	CsI	#0	113Y120036A	Monopole antenna	-6.9 (2.4GHz), -1.8 (5GHz)	575	417	*1
				#1	113Y120035A		-5.1 (2.4GHz), -1.3 (5GHz)	300		
3	DR-ID 1202SE	459.8×459.8 ×16	GOS	#0	113Y120036A	Monopole antenna	-6.9 (2.4GHz), -1.8 (5GHz)	575	481.3	10318897S-C
				#1	113Y120035A		-5.1 (2.4GHz), -1.3 (5GHz)	300		
4	DR-ID 1212SE	459.8×459.8 ×16	CsI	#0	113Y120036A	Monopole antenna	-6.9 (2.4GHz), -1.8 (5GHz)	575	481.3	*1
				#1	113Y120035A		-5.1 (2.4GHz), -1.3 (5GHz)	300		
5	DR-ID 1213SE	328(W)×268(D) ×15(H)	CsI	#0	113Y120216	Monopole antenna	-7.3 (2.4GHz), -2.3 (5GHz)	300	315	This report (10656953S-C)
				#1	113Y120216		-6.5 (2.4GHz), -0.3 (5GHz)	300		

*1. DR-ID1201SE and DR-ID1202SE and have a series model of DR-ID1211SE and DR-ID1212SE respectively. There is the same mechanically and electrically, except X ray detection component. This difference doesn't influence the characteristic of wireless LAN applications. The SAR was tested using 1 model of the representative.

*. The antenna location of DR-ID1213SE refers to "Appendix 1-6: Photograph of EUT and antenna position."

2.2 Product Description (Wireless LAN module, antenna)

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

Frequency band	Mode	2.4GHz band	5GHz band				
			Mode	W52 band	W53 band	W56 band	W58 band
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(11a,n(20HT))/40(11n(40HT))				
Bandwidth (MHz)	20(11b,g,n(20HT))/40(11n(40HT))		20(11a,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 #0 (Bottom, short edge side)	antenna #1 (Left, long edge side)
Antenna quantity	2 pcs. (*. Separation distance between the antenna 1 and the antenna: 315mm) 11b,g,a: One selected Tx antenna operation. 11n(20HT),n(40HT): One selected Tx antenna operation (MCS0~7) 11n(20HT),n(40HT): Two Tx antenna operation (MCS8~13)	
Antenna model	113Y120216 (cable length: 300mm)	
Antenna type / connector type	λ/2 dipole antenna / Connector; PCB side: U.FL, Antenna side: soldered	
Antenna gain (max.peak) (dBi)	-7.3(2.4GHz), -7.7(2.5GHz), -2.3(5.2GHz), -2.7(5.3GHz), -4.3(5.6GHz), -5.0(5.8GHz)	-7.1(2.4GHz), -6.5(2.5GHz), -0.3(5.2GHz), -1.1(5.3GHz), -4.4(5.6GHz), -4.5(5.8GHz)
	(*.including cable loss, This antenna gain is when antenna was installed in the EUT body.)	

*. 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	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 (v05r02): General RF exposure guidance
KDB 248227 D01 (v01r02): SAR Measurement Procedures for 802.11a/b/g Transmitters
KDB 865664 D01 (v01r03): SAR measurement 100MHz to 6GHz
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
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.
(*. The reference for Uncertainty in SAR correction for deviations in permittivity and conductivity, in clause E.3.2.)

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 (UNII) (5180-5320MHz)		Wi-Fi (UNII) (5500-5700MHz)		Wi-Fi (UNII) (5745-5825MHz)	
Test Procedure	SAR measurement; KDB 447498, KDB 248227, KDB 865664, IEEE Std.1528							
Category	FCC 47CFR §2.1093							
Results (SAR(1g))	Complied		Complied		Complied		Complied	
Antenna	ant#0	ant#1	ant#0	ant#1	ant#0	ant#1	ant#0	ant#1
Liquid type	Body liquid							
Reported SAR value (*. Scaled)	< 0.1W/kg (0.057W/kg)	< 0.1W/kg (0.046W/kg)	< 0.1W/kg (0.0074W/kg)	< 0.1W/kg (0.0010W/kg)	< 0.1W/kg (0.016W/kg)	< 0.1W/kg (0.012W/kg)	< 0.1W/kg (0.033W/kg)	< 0.1W/kg (0.018W/kg)
Measured SAR value	0.041W/kg	0.032W/kg	0.00613W/kg	0.000828W/kg	0.013W/kg	0.00959W/kg	0.026W/kg	0.014W/kg
Operation mode, frequency[MHz] (ch.)	n40, MCS0, 2427 (4ch)	11g, 6Mbps, 2417 (2ch)	11a, 6Mbps, 5180 (36ch)	11a, 6Mbps, 5180 (36ch)	11a, 6Mbps, 5520 (104ch)	11a, 6Mbps, 5520 (104ch)	11a, 6Mbps, 5825 (165ch)	11a, 6Mbps, 5825 (165ch)
Output power (max. power[dBm], scaled factor)	14.58dBm (16.0, ×1.39)	17.93dBm (19.5, ×1.44)	14.22dBm (15.0, ×1.20)	14.28dBm (15.0, ×1.18)	16.63dBm (17.5, ×1.22)	16.59dBm (17.5, ×1.23)	16.42dBm (17.5, ×1.28)	16.49dBm (17.5, ×1.26)
Liquid type	Head liquid (by Flat phantom)							
Reported SAR value (*. Scaled)	< 0.1W/kg (0.042W/kg)	< 0.1W/kg (0.036W/kg)	< 0.1W/kg (0.0066W/kg)	< 0.1W/kg (0.00072W/kg)	< 0.1W/kg (0.017W/kg)	< 0.1W/kg (0.0113W/kg)	< 0.1W/kg (0.037W/kg)	< 0.1W/kg (0.020W/kg)
Measured SAR value	0.030W/kg	0.025W/kg	0.00546W/kg	0.000611W/kg	0.0137W/kg	0.00917W/kg	0.029W/kg	0. 016W/kg
Operation mode, frequency[MHz] (ch.)	n40, MCS0, 2427 (4ch)	11g, 6Mbps, 2417 (2ch)	11a, 6Mbps, 5180 (36ch)	11a, 6Mbps, 5180 (36ch)	11a, 6Mbps, 5520 (104ch)	11a, 6Mbps, 5520 (104ch)	11a, 6Mbps, 5825 (165ch)	11a, 6Mbps, 5825 (165ch)
Output power (max. power[dBm], scaled factor)	14.58dBm (16.0, ×1.39)	17.93dBm (19.5, ×1.44)	14.22dBm (15.0, ×1.20)	14.28dBm (15.0, ×1.18)	16.63dBm (17.5, ×1.22)	16.59dBm (17.5, ×1.23)	16.42dBm (17.5, ×1.28)	16.49dBm (17.5, ×1.26)

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

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 test

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.

Step.1 Data rate check

The data rate check was measurement on one of the channel for 802.11b,g,a,n(20HT) and n(40HT) at each frequency band.

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

*. The average power related with the data rate was measured on one of the channel for 802.11b/g/a/n(20HT)/n(40HT) modes.

Step.2 Decision of SAR test channel

The following operation mode, data rate and channels were determined by the SAR reference power measured. (Refer to Section 6.)

(default: KDB248227->)			default	SAR tested channel (1Tx)				SAR tested channel (2Tx)		Remarks
Mode	MHz	Channel	b/g/n(20HT)	b	g	n(20HT)	n(40HT)	n(20HT)	n(40HT)	
11 b/g/n	2412	1	√	# (ant.#0,#1)	n/a (*1)	n/a (*1)	-	n/a (*2)	-	*1. Since the 1g averaged SAR in a highest output power channel was ≤0.4W/kg, the testing for other channels were omitted. (KDB447498)
	2417	2			# (ant.#0,#1)	# (ant.#0,#1)	(2427MHz) #(ant.#0,#1)	n/a (*2)	(2422MHz) n/a (*2)	
	2437	6	√	n/a (*1)	n/a (*1)	n/a (*1)	n/a (*1)	n/a (*2)	n/a (*2)	
	2462	11	√	n/a (*1)	n/a (*1)	n/a (*1)	(2452MHz) n/a (*1)	n/a (*2)	(2452MHz) n/a (*2)	
Mode	MHz	Channel	a/n(20HT)	a		n(20HT)	n(40HT)	n(20HT)	n(40HT)	
11 a/n	5180	36	√	# (ant.#0,#1)		# (ant.#0)	(5190MHz) n/a (*3)	n/a (*2)	(5190MHz) n/a (*2)	*2. Since SPLSR (SAR to peak location separation ratio) was enough smaller than 0.04, SAR test of MIMO mode was reduced. (KDB447498)
	5200	40	*	-		-		-		
	5220	44	*	-		-		-		
	5240	48	√	n/a (*1)		n/a (*3)	(5230MHz) #(ant.#0)	n/a (*2)	(5230MHz) n/a (*2)	
	5260	52	√	n/a (*1)		n/a (*3)	(5270MHz) n/a (*3)	n/a (*2)	(5270MHz) n/a (*2)	
	5280	56	*	-		-		-		*3. At 5GHz band, in body liquid, since antenna#0's SAR was higher than antenna#1's SAR, the SAR in operation mode was checked only by antenna#0. At 5GHz band, in head liquid, almost all body SAR(1g) and head SAR(1g) were the same value, so the SAR in operation mode was checked only by the condition of body SAR test.
	5300	60	*	-		-		-		
	5320	64	√	n/a (*1)		n/a (*3)	(5310MHz) n/a (*3)	n/a (*2)	(5310MHz) n/a (*2)	
	5500	100	*	-		-	(5510MHz) #(ant.#0)	-	(5510MHz) n/a (*2)	
	5520	104	√	# (ant.#0,#1)		# (ant.#0)		n/a (*2)		
	5540	108	*	-		-	(5550MHz) -	-	(5550MHz) -	
	5560	112	*	-		-		-		
	5580	116	√	n/a (*1)		n/a (*3)	(5590MHz) n/a (*3)	n/a (*2)	(5590MHz) n/a (*2)	
	5600	120	*	-		-		-		
	5620	124	√	n/a (*1)		n/a (*3)	(5630MHz) -	n/a (*2)	(5630MHz) -	
	5640	128	*	-		-		-		
	5660	132	*	-		-	(5670MHz) n/a (*3)	-	(5670MHz) n/a (*2)	
	5680	136	√	n/a (*1)		n/a (*3)		n/a (*2)		
	5700	140	*	-		-		-		
	5745	149	√	n/a (*1)		n/a (*3)	(5755MHz) n/a (*3)	n/a (*2)	(5755MHz) n/a (*2)	
	5765	153	*	-		-		-		
	5785	157	√	n/a (*1)		n/a (*3)	(5795MHz) #(ant.#0)	n/a (*2)	(5795MHz) n/a (*2)	
	5805	161	*	-		-		-		
	5825	165	√	# (ant.#0,#1)		# (ant.#0)		n/a (*2)		

√ = "default test channels of requested by KDB248227", **n/a = SAR test was not applied**, **# = SAR test was applied (max. output power channel)**.
* = Possible 802.11a channels with maximum average output > the "default test channels"

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 EUT, 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	
		Antenna distance	SAR Tested /Reduced	Antenna distance	SAR Tested /Reduced
Front	The front surface (patient side) of EUT was touched to the Flat phantom.	**9.7mm**	**Tested** (*1,*2)	**9.7mm**	**Tested** (*1,*2)
Back	The back surface (operator side) of EUT was touched to the Flat phantom.	**2mm**	Reduced (*1)	**2mm**	Reduced (*1)
Left (antenna#1)	The left surface (near antenna #1) of EUT was touched to the Flat phantom.	**≈200mm**	Excluded (>200mm)	**8.4mm**	Reduced (*1)
Left-tilt (antenna#1)	The left surface (near antenna #1) of EUT was tilted and touched to the Flat phantom.			**≈6mm**	Reduced (*1)
Bottom (antenna#0)	The bottom surface (near antenna #0) of EUT was touched to the Flat phantom.	**8.4mm**	Excluded (*1)	**≈263mm**	Excluded (>200mm)
Bottom-tilt (antenna#0)	The bottom surface (near antenna #0) of EUT was tilted and touched to the Flat phantom.	**≈6mm**	Reduced (*1)		
Right	The right surface (opposite to antenna#1) of EUT was touched to the Flat phantom.	**31.4mm**	Reduced (*1)	**≈257mm**	Excluded (>200mm)
Top	The top surface (opposite to antenna#0) of EUT was touched to the Flat phantom.	**≈317mm**	Excluded (>200mm)	**28.7m**	Reduced (*1)

*. **Antenna distance**: this means the distance from the antenna inside a EUT to the outer surface of EUT form which an operator may touch.
*. Size of EUT: 328(W) × 268(D) × 15(H) [mm]

***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 side (patient side) of the EUT. Therefore, the SAR test was only applied to the front surface side (patient side) of the EUT.**

***2. SAR test exclusion thresholds consideration**

Parenthesis 1), Clause 4.3.1, KDB 447498 D01 (v05) 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))

Parenthesis 2), Clause 4.3.1, KDB 447498 D01 (v05) 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))

According to this formula, the calculated results in typical antenna distance of platform are shown in the following table.

Upper frequency in band [GHz]	SAR(1g) test exclusion thresholds [mW] Antenna separation distance [mm] (≤50mm) 5	10	25	46	47	(>50mm) 51	EUT's maximum power [mW] (including tune-up tolerance)
2.462	**10** (9.8dBm)	**19** (12.8dBm)	-	-	**90** (19.5dBm)	**106** (20.3dBm)	**89 (19.5dBm)**
5.24	**7** (8.1dBm)	**13** (11.1dBm)	**33** (15.1dBm)			**76** (18.8dBm)	**32 (15.0dBm)**
5.32	**7** (8.1dBm)	**13** (11.1dBm)	**33** (15.1dBm)	-	-	**75** (18.8dBm)	**32 (15.0dBm)**
5.7	**6** (8.0dBm)	**13** (11.0dBm)	-	**58** (17.6dBm)	-	**73** (18.6dBm)	**56 (17.5dBm)**
5.825	**6** (7.9dBm)	**12** (10.9dBm)	-	**57** (17.6dBm)	-	**72** (18.6dBm)	**56 (17.5dBm)**

*. The measured average power of EUT was shown in Section 6: Confirmation before SAR testing.

*** Simultaneous transmission consideration**

The simultaneous transmission does not occur, because the EUT has single transmitter.

*** Co-location consideration**

Parenthesis 2) and 3), Clause 4.3.2, KDB 447498 D01 (v05) 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	Upper frequency	Max. power (with tune-up tolerance)	Estimate SAR(1g) Ant#0	Ant#1	Ant#0+#1	ant#0<->#1 distance	SPLSR	SAR test apply?
n20	MCS8	2.4GHz	Front (Patient side)	10mm	2.462GHz	17.0dBm (50mW)	1.05 W/kg	1.05 W/kg	2.1 W/kg	315mm	0.007	Reduced, <0.04(SPLSR)
n20	MCS8	W52/53			5.32GHz	13.5dBm (22mW)	0.68 W/kg	0.68 W/kg	1.36 W/kg	315mm	0.004	
n20	MCS8	W56			5.7GHz	16.0dBm (40mW)	1.27 W/kg	1.27 W/kg	2.54 W/kg	315mm	0.008	
n20	MCS8	W58			5.825GHz	16.0dBm (40mW)	1.29 W/kg	1.29 W/kg	2.58 W/kg	315mm	0.008	

*. Calculating formula: Estimate standalone SAR(1g) = [(max.power, mW) / (min.test separation distance, mm)] × [√f (GHz)] / [7.5]

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.
Step 3	Change liquid. Repeat Step1 and 2 in above.

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

SECTION 4: Operation of EUT during testing

4.1 Operation mode for SAR testing

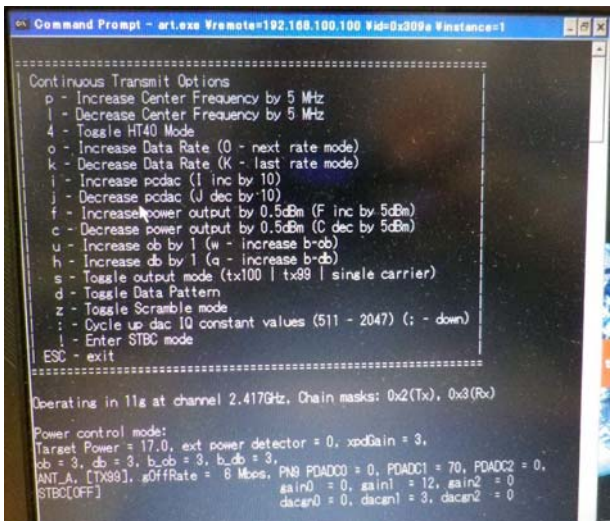
This EUT has IEEE.802.11b,g,a,11n(20HT) and 11n(40HT) continuous transmitting modes.
The frequency and the operation mode which carried out the SAR test are shown below.

Operation mode		11b	11g	11n(20HT)		11n(40HT)		11a	11n(20HT)		11n(40HT)	
				(1×SS)	(2×SS)	(1×SS)	(2×SS)		(1×SS)	(2×SS)	(1×SS)	(2×SS)
Tx frequency band		2412-2462MHz				2412-2452MHz		W52/53: 5180-5320MHz			5190-5310MHz	
Bandwidth [MHz]		20	20	20	20	40	40	20	20	20	40	40
SAR Tested /Reduced?		Tested	Tested	Tested	Reduced(*2)	Tested	Reduced(*2)	Tested	Tested	Reduced(*2)	Tested	Reduced(*2)
Tested frequency [MHz]	ant.#0	2412(*1)	2417(*1)	2417(*1)	-	2427(*1)	-	5180(*1)	5180(*1)	-	5230(*1)	-
	ant.#1	2412(*1)	2417(*1)	2417(*1)		2427(*1)		5180(*1)	-(*3)		-(*3)	
Highest power condition	Modulation	DBPSK /DSSS	BPSK /OFDM	BPSK /OFDM	-	BPSK /OFDM	-	BPSK /OFDM	BPSK /OFDM	-	BPSK /OFDM	-
	Data rate	1Mbps	6Mbps	MCS0	-	MCS0	-	MCS0	MCS0	-	MCS0	-

Operation mode		11a	11n(20HT)		11n(40HT)		11a	11n(20HT)		11n(40HT)	
			(1×SS)	(2×SS)	(1×SS)	(2×SS)		(1×SS)	(2×SS)	(1×SS)	(2×SS)
Tx frequency band		W56: 5500-5700MHz			5510-5670MHz		W58: 5745-5825MHz			5755, 5795MHz	
Bandwidth [MHz]		20	20	20	40	40	20	20	20	40	40
SAR Tested/Reduced?		Tested	Tested	Reduced(*2)	Tested	Reduced(*2)	Tested	Tested	Reduced(*2)	Tested	Reduced(*2)
Tested frequency [MHz]	ant.#0	5520(*1)	5520(*1)	-	5510(*1)	-	5825(*1)	5825(*1)	-	5795(*1)	-
	ant.#1	5520(*1)	-(*3)		-(*3)		5825(*1)	-(*3)		-(*3)	
Highest power condition	Modulation	BPSK /OFDM	BPSK /OFDM	-	BPSK /OFDM	-	BPSK /OFDM	BPSK /OFDM	-	BPSK /OFDM	-
	Data rate	6Mbps	MCS0	-	MCS0	-	6Mbps	MCS0	-	MCS0	-

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: The default power value was used.
*. As for parameters other than the above, the initial value was used.

*. SS: Spatial Stream
*1. Since the 1g averaged SAR in a highest output power channel was ≤0.4W/kg, the testing for other channels were omitted. (KDB447498)
*2. Since SPLSR (SAR to peak location separation ratio) was enough smaller than 0.04, SAR test of MIMO mode was reduced. (KDB447498)
*3. At 5GHz band, in body liquid, since antenna#0's SAR was higher than antenna#1's SAR, the SAR in operation mode was checked only by antenna#0. At 5GHz band, in head liquid, almost all body SAR(1g) and head SAR(1g) were the same value, so the SAR in operation mode was checked only by the condition of body SAR test.



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 SAR Measurement 100 MHz to 6 GHz v01r01 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 2412-2462MHz

Mode	Freq.	Data rate	Power spec.		Duty factor	Standalone: Antenna #0 (chain #0)					Standalone: Antenna #1 (chain #1)					MIMO Ant.#0+Ant.#1					
			Typ. target	Max.	Meas.	Set pwr.	Ave.	Δ target	Δ Max.	Apply SAR test?	Set pwr.	Ave.	Δ target	Δ Max.	Apply SAR test?	MIMO target	MIMO max.	SUM Ave.	Δ target	Δ Max.	Power Tune-up
	[MHz]	[Mbps]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[dB]	[dB]		[dBm]	[dBm]	[dB]	[dBm]		[dBm]	[dBm]	[dBm]	[dB]	[dB]	
11b	**2412**	1	13.5	16.0	0.01	13.5	14.20	0.70	-1.80	(tune-up)	13.5	13.84	0.24	-2.26	(tune-up)						default
	2412	2(long)	13.5	16.0	0.01	13.5	14.11	0.61	-1.89	-	13.5	13.80	0.30	-2.20	-						default
	2412	5.5(long)	13.5	16.0	0.02	13.5	13.92	0.42	-2.08	-	13.5	13.78	0.28	-2.22	-						default
	2412	11(long)	13.5	16.0	0.04	13.5	13.86	0.36	-2.14	-	13.5	13.77	0.27	-2.23	-						default
	2417	1	13.5	16.0	0.01	13.5	13.61	0.11	-2.39	-	13.5	13.81	0.31	-2.19	-						default
	2437	1	13.5	16.0	0.01	13.5	13.75	0.25	-2.25	(tune-up)	13.5	13.35	-0.15	-2.65	(tune-up)						default
	2462	1	13.5	16.0	0.00	13.5	13.21	-0.29	-2.79	(tune-up)	13.5	12.77	-0.73	-3.23	(tune-up)						default
	2412	1	13.5	16.0	0.00	14.5	**14.91**	1.41	-1.09	Yes	15.0	**15.16**	1.66	-0.84	Yes						tune-up
	2437	1	13.5	16.0	0.00	14.5	14.31	0.81	-1.69	no(*1)	15.0	14.75	1.25	-1.25	no(*1)						tune-up
	2462	1	13.5	16.0	0.00	14.5	14.19	0.69	-1.81	no(*1)	15.0	14.49	0.99	-1.51	no(*1)						tune-up
11g	**2412**	6	13.5	16.0	0.03	13.5	14.42	0.92	-1.58	no(*1)	13.5	14.61	1.11	-1.39	no(*1)						default
	2417	6	17.0	19.5	0.03	17.0	**18.01**	1.01	-1.49	Yes	17.0	**17.93**	0.93	-1.57	Yes						default
	2417	9	17.0	19.5	0.05	17.0	17.90	0.90	-1.60	-	17.0	17.87	0.87	-1.63	-						default
	2417	12	17.0	19.5	0.06	17.0	17.89	0.89	-1.61	-	17.0	17.88	0.88	-1.62	-						default
	2417	18	17.0	19.5	0.09	17.0	17.84	0.84	-1.66	-	17.0	17.72	0.72	-1.78	-						default
	2417	24	17.0	19.5	0.10	17.0	17.88	0.88	-1.62	-	17.0	17.72	0.72	-1.78	-						default
	2417	36	17.0	19.5	0.16	17.0	17.84	0.84	-1.66	-	17.0	17.67	0.67	-1.83	-						default
	2417	48	16.0	18.5	0.20	16.0	16.78	0.78	-1.72	-	16.0	16.79	0.79	-1.71	-						default
	2417	56	15.0	17.5	0.23	15.0	15.89	0.89	-1.61	-	15.0	15.76	0.76	-1.74	-						default
	2422	6	16.5	19.0	0.03	16.5	17.41	0.91	-1.59	-	16.5	17.08	0.58	-1.92	-						default
	2427	6	16.5	19.0	0.03	16.5	17.31	0.81	-1.69	-	16.5	17.07	0.57	-1.93	-						default
	2432	6	16.0	18.5	0.03	16.0	16.65	0.65	-1.85	-	16.0	16.61	0.61	-1.89	-						default
	2437	6	16.0	18.5	0.03	16.0	16.64	0.64	-1.86	no(*1)	16.0	16.64	0.64	-1.86	no(*1)						default
	2442	6	15.5	18.0	0.03	15.5	15.88	0.38	-2.12	-	15.5	15.93	0.43	-2.07	-						default
	2447	6	15.5	18.0	0.03	15.5	15.73	0.23	-2.27	-	15.5	15.48	-0.02	-2.52	-						default
	2452	6	15.0	17.5	0.03	15.0	14.94	-0.06	-2.56	-	15.0	15.04	0.04	-2.46	-						default
	2457	6	15.0	17.5	0.03	15.0	14.88	-0.12	-2.62	-	15.0	15.05	0.05	-2.45	-						default
	2462	6	15.0	17.5	0.03	15.0	14.91	-0.09	-2.59	(tune-up)	15.0	15.06	0.06	-2.44	(tune-up)						default
	2462	6	15.0	17.5	0.03	15.5	16.08	1.08	-1.42	no(*1)	15.5	15.67	0.67	-1.83	no(*1)						tune-up
11n (20HT) (1Tx)	**2412**	MCS0	10.5	13.0	0.03	10.5	11.33	0.83	-1.67	no(*1)	10.5	11.36	0.86	-1.64	no(*1)						default
	2417	MCS0	14.5	17.0	0.03	14.5	**15.34**	0.94	-1.56	Yes	14.5	**15.34**	0.84	-1.66	Yes						default
	2417	MCS1	14.5	17.0	0.06	14.5	15.34	0.84	-1.66	-	14.5	15.32	0.82	-1.68	-						default
	2417	MCS2	14.5	17.0	0.09	14.5	15.31	0.81	-1.69	-	14.5	15.30	0.80	-1.70	-						default
	2417	MCS3	14.5	17.0	0.12	14.5	15.34	0.84	-1.66	-	14.5	15.28	0.78	-1.72	-						default
	2417	MCS4	14.5	17.0	0.17	14.5	15.31	0.81	-1.69	-	14.5	15.30	0.80	-1.70	-						default
	2417	MCS5	14.0	16.5	0.22	14.0	14.93	0.93	-1.57	-	14.0	14.88	0.88	-1.62	-						default
	2417	MCS6	13.5	16.0	0.24	13.5	14.40	0.90	-1.60	-	13.5	14.33	0.83	-1.67	-						default
	2417	MCS7	13.0	15.5	0.27	13.0	13.99	0.99	-1.51	-	13.0	13.83	0.83	-1.67	-						default
	2422	MCS0	14.0	16.5	0.03	14.0	14.90	0.90	-1.60	-	14.0	14.88	0.88	-1.62	-						default
	2427	MCS0	13.5	16.0	0.03	13.5	14.38	0.88	-1.62	-	13.5	14.18	0.68	-1.82	-						default
	2432	MCS0	13.0	15.5	0.03	13.0	13.65	0.65	-1.85	-	13.0	13.30	0.30	-2.20	-						default
	2437	MCS0	12.5	15.0	0.03	12.5	13.00	0.50	-2.00	(tune-up)	12.5	12.83	0.33	-2.17	(tune-up)						default
	2442	MCS0	12.0	14.5	0.03	12.0	12.62	0.62	-1.88	-	12.0	12.55	0.55	-1.95	-						default
	2447	MCS0	11.5	14.0	0.03	11.5	11.73	0.23	-2.27	-	11.5	11.95	0.45	-2.05	-						default
	2452	MCS0	11.0	13.5	0.03	11.0	11.25	0.25	-2.25	-	11.0	11.52	0.52	-1.98	-						default
	2457	MCS0	10.5	13.0	0.03	10.5	10.36	-0.14	-2.64	-	10.5	10.31	-0.19	-2.69	-						default
	2462	MCS0	10.5	13.0	0.03	10.5	10.44	-0.06	-2.56	(tune-up)	10.5	10.33	-0.17	-2.67	(tune-up)						default
	2437	MCS0	12.5	15.0	0.03	13.0	13.60	1.10	-1.40	no(*1)	13.0	13.32	0.82	-1.68	no(*1)						tune-up
	2462	MCS0	10.5	13.0	0.03	11.0	11.19	0.69	-1.81	no(*1)	11.5	11.61	1.11	-1.39	no(*1)						tune-up
11n (40HT) (1Tx)	**2422**	MCS0	6.0	8.5	0.07	6.0	7.12	1.12	-1.38	no(*1)	6.0	7.03	1.03	-1.47	no(*1)						default
	2427	MCS0	13.5	16.0	0.07	13.5	**14.58**	1.08	-1.42	Yes	13.5	**14.54**	1.04	-1.46	Yes						default
	2427	MCS1	13.5	16.0	0.12	13.5	14.54	1.04	-1.46	-	13.5	14.53	1.03	-1.47	-						default
	2427	MCS2	13.5	16.0	0.17	13.5	14.57	1.07	-1.43	-	13.5	14.46	0.96	-1.54	-						default
	2427	MCS3	13.5	16.0	0.22	13.5	14.52	1.02	-1.48	-	13.5	14.38	0.88	-1.62	-						default
	2427	MCS4	13.5	16.0	0.30	13.5	14.55	1.05	-1.45	-	13.5	14.33	0.83	-1.67	-						default
	2427	MCS5	13.0	15.5	0.39	13.0	14.05	1.05	-1.45	-	13.0	13.94	0.94	-1.56	-						default
	2427	MCS6	12.5	15.0	0.42	12.5	13.64	1.14	-1.36	-	12.5	13.44	0.94	-1.56	-						default
	2427	MCS7	12.0	14.5	0.45	12.0	13.12	1.12	-1.38	-	12.0	12.68	0.68	-1.82	-						default
	2432	MCS0	12.0	14.5	0.07	12.0	13.09	1.09	-1.41	-	12.0	12.96	0.96	-1.54	-						default
	2437	MCS0	10.5	13.0	0.07	10.5	11.33	0.83	-1.67	no(*1)	10.5	11.21	0.71	-1.79	no(*1)						default
	2442	MCS0	9.5	12.0	0.07	9.5	10.35	0.85	-1.65	-	9.5	10.52	1.02	-1.48	-						default
	2447	MCS0	8.0	10.5	0.07	8.0	8.52	0.52	-1.98	-	8.0	8.43	0.43	-2.07	-						default
	2452	MCS0	7.0	9.5	0.07	7.0	7.88	0.88	-1.62	no(*1)	7.0	7.58	0.58	-1.92	no(*1)						default

cont'd)

6.1.1 2412-2462MHz (cont'd)

(cont'd)

Mode	Freq.	Data rate	Power spec.		Duty factor Meas.	Standalone: Antenna #0 (chain #0)					Standalone: Antenna #1 (chain #1)					MIMO Ant.#0+Ant.#1					Power Tune-up
			Typ. target	Max.		Set pwr.	Ave.	Δ target	Δ Max.	Apply SAR test?	Set pwr.	Ave.	Δ target	Δ Max.	Apply SAR test?	MIMO target	MIMO max.	SUM Ave.	Δ target	Δ Max.	
	[MHz]	[Mbps]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[dB]	[dB]		[dBm]	[dBm]	[dB]	[dBm]		[dBm]	[dBm]	[dBm]	[dB]	[dB]	
11n (20HT) (2Tx)	**2412**	MCS8	10.5	13.0	0.06	10.5	11.77	1.27	-1.23	no (*2)	10.5	11.47	0.97	-1.53	no (*2)	13.5	16.0	14.63	1.13	-1.37	default
	2417	MCS8	14.5	17.0	0.06	14.5	**15.66**	1.16	-1.34	no (*2)	14.5	**15.46**	0.96	-1.54	no (*2)	17.5	20.0	18.57	1.07	-1.43	default
	2417	MCS9	14.5	17.0	0.12	14.5	15.60	1.10	-1.40	-	14.5	15.32	0.82	-1.68	-	17.5	20.0	18.47	0.97	-1.53	default
	2417	MCS10	14.5	17.0	0.16	14.5	15.51	1.01	-1.49	-	14.5	15.32	0.82	-1.68	-	17.5	20.0	18.43	0.93	-1.57	default
	2417	MCS11	14.5	17.0	0.21	14.5	15.40	0.90	-1.60	-	14.5	15.36	0.86	-1.64	-	17.5	20.0	18.39	0.89	-1.61	default
	2417	MCS12	14.5	17.0	0.30	14.5	15.35	0.85	-1.65	-	14.5	15.31	0.81	-1.69	-	17.5	20.0	18.34	0.84	-1.66	default
	2417	MCS13	14.0	16.5	0.38	14.0	15.13	1.13	-1.37	-	14.0	14.88	0.88	-1.62	-	17.0	19.5	18.02	1.02	-1.48	default
	2417	MCS14	13.5	16.0	0.41	13.5	14.51	1.01	-1.49	-	13.5	14.24	0.74	-1.76	-	16.5	19.0	17.39	0.89	-1.61	default
	2417	MCS15	13.0	15.5	0.44	13.0	14.14	1.14	-1.36	-	13.0	13.68	0.68	-1.82	-	16.0	18.5	16.93	0.93	-1.57	default
	2422	MCS8	14.0	16.5	0.06	14.0	14.73	0.73	-1.77	-	14.0	14.83	0.83	-1.67	-	17.0	19.5	17.79	0.79	-1.71	default
	2427	MCS8	13.5	16.0	0.06	13.5	14.23	0.73	-1.77	-	13.5	14.10	0.60	-1.90	-	16.5	19.0	17.18	0.68	-1.82	default
	2432	MCS8	13.0	15.5	0.06	13.0	13.69	0.69	-1.81	-	13.0	13.69	0.69	-1.81	-	16.0	18.5	16.70	0.70	-1.80	default
	2437	MCS8	12.5	15.0	0.06	12.5	13.28	0.78	-1.72	no (*2)	12.5	13.08	0.58	-1.92	no (*2)	15.5	18.0	16.19	0.69	-1.81	default
	2442	MCS8	12.0	14.5	0.06	12.0	12.85	0.85	-1.65	-	12.0	12.57	0.57	-1.93	-	15.0	17.5	15.72	0.72	-1.78	default
	2447	MCS8	11.5	14.0	0.06	11.5	11.83	0.33	-2.17	-	11.5	11.67	0.17	-2.33	-	14.5	17.0	14.76	0.26	-2.24	default
	2452	MCS8	11.0	13.5	0.06	11.0	11.43	0.43	-2.07	-	11.0	11.33	0.33	-2.17	-	14.0	16.5	14.39	0.39	-2.11	default
	2457	MCS8	10.5	13.0	0.06	10.5	10.58	0.08	-2.42	-	10.5	10.91	0.41	-2.09	-	13.5	16.0	13.76	0.26	-2.24	default
	2462	MCS8	10.5	13.0	0.06	10.5	10.58	0.08	-2.42	(tune-up)	10.5	10.83	0.33	-2.17	(tune-up)	13.5	16.0	13.72	0.22	-2.28	default
	2462	MCS8	10.5	13.0	0.06	11.5	11.84	1.34	-1.16	no (*2)	11.5	11.74	1.24	-1.26	no (*2)	13.5	16.0	14.80	1.30	-1.20	tune-up
11n (40HT) (2Tx)	**2422**	MCS8	6.0	8.5	0.12	6.0	7.24	1.24	-1.26	no (*2)	6.0	7.20	1.20	-1.30	no (*2)	9.0	11.5	10.23	1.23	-1.27	default
	2427	MCS8	13.5	16.0	0.12	13.5	**14.58**	1.08	-1.42	no (*2)	13.5	**14.47**	0.97	-1.53	no (*2)	16.5	19.0	17.54	1.04	-1.46	default
	2427	MCS9	13.5	16.0	0.22	13.5	14.45	0.95	-1.55	-	13.5	14.36	0.86	-1.64	-	16.5	19.0	17.42	0.92	-1.58	default
	2427	MCS10	13.5	16.0	0.30	13.5	14.49	0.99	-1.51	-	13.5	14.41	0.91	-1.59	-	16.5	19.0	17.46	0.96	-1.54	default
	2427	MCS11	13.5	16.0	0.38	13.5	14.54	1.04	-1.46	-	13.5	14.39	0.89	-1.61	-	16.5	19.0	17.48	0.98	-1.52	default
	2427	MCS12	13.5	16.0	0.51	13.5	14.55	1.05	-1.45	-	13.5	14.32	0.82	-1.68	-	16.5	19.0	17.45	0.95	-1.55	default
	2427	MCS13	13.0	15.5	0.61	13.0	14.04	1.04	-1.46	-	13.0	13.72	0.72	-1.78	-	16.0	18.5	16.89	0.89	-1.61	default
	2427	MCS14	12.5	15.0	0.65	12.5	13.48	0.98	-1.52	-	12.5	13.32	0.82	-1.68	-	15.5	18.0	16.41	0.91	-1.59	default
	2427	MCS15	12.0	14.5	0.69	12.0	13.05	1.05	-1.45	-	12.0	12.77	0.77	-1.73	-	15.0	17.5	15.92	0.92	-1.58	default
	2432		12.0	14.5	0.12	12.0	13.09	1.09	-1.41	-	12.0	12.80	0.80	-1.70	-	15.0	17.5	15.96	0.96	-1.54	default
	2437	MCS8	10.5	13.0	0.12	10.5	11.51	1.01	-1.49	no (*2)	10.5	11.26	0.76	-1.74	no (*2)	13.5	16.0	14.40	0.90	-1.60	default
	2442		9.5	12.0	0.12	9.5	10.51	1.01	-1.49	-	9.5	10.52	1.02	-1.48	-	12.5	15.0	13.53	1.03	-1.47	default
	2447		8.0	10.5	0.12	8.0	8.65	0.65	-1.85	-	8.0	8.60	0.60	-1.90	-	11.0	13.5	11.63	0.63	-1.87	default
	2452	MCS8	7.0	9.5	0.12	7.0	7.66	0.66	-1.84	no (*2)	7.0	7.66	0.66	-1.84	no (*2)	10.0	12.5	10.67	0.67	-1.83	default

*. [ ]: SAR test was applied.

*1. (Clause 4.3.3 of KDB447498 D01) Since the 1g averaged SAR was ≤ 0.8W/kg (when the Tx band is ≤ 100MHz.), the testing for other channels were omitted.
*2. (KDB447498) Since SPLSR (SAR to peak location separation ratio) was enough smaller than 0.04, SAR test of MIMO mode was reduced.

*. Freq.: Frequency, Typ.: Typical, Max.: Maximum, Power spec.: Power specification, Set pwr: Setting power for the measurement, Ave.: Average
*. Calculating formula: Δtarget.(dB)= (measured power, dBm) - (Typ.target power, dBm); ΔMax.(dB)= (measured power, dBm) - (Max. specification power, dBm)
Results (Ave, dBm) = (P/M Reading, dBm)+(Cable loss, dBm)+(Attenuator, dBm)+(duty factor, dBm), where (duty factor, dBm)=10 × log (100/(duty cycle, %))
*. Date measured January 26-27, 2015 / measured by: H. Naka (24±1deg.C./40±10%RH, at Preparation room of S/R#7)
*. Uncertainty of antenna port conducted test; Power measurement uncertainty above 1GHz for this test was: (±) 1.5dB

6.1.2 5GHz band

Mode	Freq. [MHz]	Data rate [Mbps]	Power spec. Typ. target [dBm]	Power spec. Max. [dBm]	Duty factor Meas. [dB]	Standalone: Antenna #0 (chain #0) Set pwr. [dBm]	Ave. [dBm]	Δ target [dB]	Δ Max. [dB]	Apply SAR test?	Standalone: Antenna #1 (chain #1) Set pwr. [dBm]	Ave. [dBm]	Δ target [dB]	Δ Max. [dB]	Apply SAR test?	MIMO Ant.#0+Ant.#1 MIMO target [dBm]	MIMO max. [dBm]	SUM Ave. [dBm]	Δ target [dB]	Δ Max. [dB]	Power Tune-up
11a	**5180**	6	12.5	15.0	0.02	12.5	**12.80**	0.30	-2.20	(tune-up)	12.5	**13.06**	0.56	-1.94	(tune-up)						default
	5200	6	12.5	15.0	0.02	12.5	12.61	0.11	-2.39	-	12.5	13.05	0.55	-1.95	-						default
	5220	6	12.5	15.0	0.02	12.5	12.59	0.09	-2.41	-	12.5	12.99	0.49	-2.01	-						default
	5240	6	12.5	15.0	0.02	12.5	12.38	-0.12	-2.62	(tune-up)	12.5	12.64	0.14	-2.36	(tune-up)						default
	5260	6	12.5	15.0	0.02	12.5	12.35	-0.15	-2.65	(tune-up)	12.5	12.54	0.04	-2.46	(tune-up)						default
	5280	6	12.5	15.0	0.02	12.5	12.35	-0.15	-2.65	-	12.5	12.50	0.00	-2.50	-						default
	5300	6	12.5	15.0	0.02	12.5	12.33	-0.17	-2.67	-	12.5	12.57	0.07	-2.43	-						default
	5320	6	12.5	15.0	0.02	12.5	12.51	0.01	-2.49	(tune-up)	12.5	12.42	-0.08	-2.58	(tune-up)						default
	5500	6	15.0	17.5	0.02	15.0	15.36	0.36	-2.14	-	15.0	15.49	0.49	-2.01	-						default
	5500	9	15.0	17.5	0.03	15.0	15.32	0.32	-2.18	-	15.0	15.48	0.48	-2.02	-						default
	5500	12	15.0	17.5	0.04	15.0	15.31	0.31	-2.19	-	15.0	15.43	0.43	-2.07	-						default
	5500	18	15.0	17.5	0.06	15.0	15.33	0.33	-2.17	-	15.0	15.43	0.43	-2.07	-						default
	5500	24	15.0	17.5	0.08	15.0	15.25	0.25	-2.25	-	15.0	15.46	0.46	-2.04	-						default
	5500	36	15.0	17.5	0.11	15.0	15.31	0.31	-2.19	-	15.0	15.48	0.48	-2.02	-						default
	5500	48	15.0	17.5	0.15	15.0	15.28	0.28	-2.22	-	15.0	15.42	0.42	-2.08	-						default
	5500	56	14.0	16.5	0.17	14.0	14.41	0.41	-2.09	-	14.0	14.11	0.11	-2.39	-						default
	5520	6	15.0	17.5	0.02	15.0	**15.47**	0.47	-2.03	(tune-up)	15.0	**15.51**	0.51	-1.99	(tune-up)						default
	5540	6	15.0	17.5	0.02	15.0	15.42	0.42	-2.08	-	15.0	15.34	0.34	-2.16	-						default
	5560	6	15.0	17.5	0.02	15.0	15.39	0.39	-2.11	-	15.0	15.25	0.25	-2.25	-						default
	5580	6	15.0	17.5	0.02	15.0	15.34	0.34	-2.16	(tune-up)	15.0	15.04	0.04	-2.46	(tune-up)						default
	5600	6	15.0	17.5	0.02	15.0	15.23	0.23	-2.27	-	15.0	14.92	-0.08	-2.58	-						default
	5620	6	15.0	17.5	0.02	15.0	15.11	0.11	-2.39	(tune-up)	15.0	14.86	-0.14	-2.64	(tune-up)						default
	5640	6	15.0	17.5	0.02	15.0	15.07	0.07	-2.43	-	15.0	14.74	-0.26	-2.76	-						default
	5660	6	15.0	17.5	0.02	15.0	14.92	-0.08	-2.58	-	15.0	14.71	-0.29	-2.79	-						default
	5680	6	15.0	17.5	0.02	15.0	15.04	0.04	-2.46	(tune-up)	15.0	14.69	-0.31	-2.81	(tune-up)						default
	5700	6	15.0	17.5	0.02	15.0	15.22	0.22	-2.28	-	15.0	14.78	-0.22	-2.72	-						default
	5745	6	15.0	17.5	0.02	15.0	15.40	0.40	-2.10	(tune-up)	15.0	15.04	0.04	-2.46	(tune-up)						default
	5765	6	15.0	17.5	0.02	15.0	15.39	0.39	-2.11	-	15.0	15.12	0.12	-2.38	-						default
	5785	6	15.0	17.5	0.02	15.0	15.41	0.41	-2.09	(tune-up)	15.0	15.18	0.18	-2.32	(tune-up)						default
	5805	6	15.0	17.5	0.02	15.0	15.37	0.37	-2.13	-	15.0	15.32	0.32	-2.18	-						default
	5825	6	15.0	17.5	0.02	15.0	**15.42**	0.42	-2.08	(tune-up)	15.0	**15.52**	0.52	-1.98	(tune-up)						default
	5180	6	12.5	15.0	0.02	13.5	**14.22**	1.72	-0.78	Yes	13.5	**14.28**	1.78	-0.72	Yes						tune-up
	5240	6	12.5	15.0	0.02	13.5	13.49	0.99	-1.51	no (*1)	13.5	13.79	1.29	-1.21	no (*1)						tune-up
	5260	6	12.5	15.0	0.02	13.5	13.55	1.05	-1.45	no (*1)	13.5	13.73	1.23	-1.27	no (*1)						tune-up
	5320	6	12.5	15.0	0.02	13.5	13.83	1.33	-1.17	no (*1)	13.5	13.66	1.16	-1.34	no (*1)						tune-up
	5520	6	15.0	17.5	0.02	16.0	**16.63**	1.63	-0.87	Yes	16.0	**16.59**	1.59	-0.91	Yes						tune-up
	5580	6	15.0	17.5	0.02	16.0	16.43	1.43	-1.07	no (*1)	16.0	16.23	1.23	-1.27	no (*1)						tune-up
	5620	6	15.0	17.5	0.02	16.0	16.17	1.17	-1.33	no (*1)	16.0	16.08	1.08	-1.42	no (*1)						tune-up
	5680	6	15.0	17.5	0.02	16.0	16.22	1.22	-1.28	no (*1)	16.0	15.86	0.86	-1.64	no (*1)						tune-up
	5745	6	15.0	17.5	0.02	16.0	16.37	1.37	-1.13	no (*1)	16.0	16.06	1.06	-1.44	no (*1)						tune-up
	5785	6	15.0	17.5	0.02	16.0	16.28	1.28	-1.22	no (*1)	16.0	16.13	1.13	-1.37	no (*1)						tune-up
	5825	6	15.0	17.5	0.02	16.0	**16.42**	1.42	-1.08	Yes	16.0	**16.49**	1.49	-1.01	Yes						tune-up
11n (20HT) (1Tx)	**5180**	MCS0	11.0	13.5	0.03	11.0	**11.64**	0.64	-1.86	(tune-up)	11.0	**11.23**	0.23	-2.27	(tune-up)						default
	5200	MCS0	11.0	13.5	0.03	11.0	11.53	0.53	-1.97	-	11.0	11.19	0.19	-2.31	-						default
	5220	MCS0	11.0	13.5	0.03	11.0	11.44	0.44	-2.06	-	11.0	11.14	0.14	-2.36	-						default
	5240	MCS0	11.0	13.5	0.03	11.0	11.27	0.27	-2.23	no (*2)	11.0	11.12	0.12	-2.38	no (*2)						default
	5260	MCS0	11.0	13.5	0.03	11.0	11.19	0.19	-2.31	no (*2)	11.0	11.08	0.08	-2.42	no (*2)						default
	5280	MCS0	11.0	13.5	0.03	11.0	11.24	0.24	-2.26	-	11.0	11.15	0.15	-2.35	-						default
	5300	MCS0	11.0	13.5	0.03	11.0	11.20	0.20	-2.30	-	11.0	11.21	0.21	-2.29	-						default
	5320	MCS0	11.0	13.5	0.03	11.0	11.11	0.11	-2.39	no (*2)	11.0	11.05	0.05	-2.45	no (*2)						default
	5500	MCS0	13.5	16.0	0.03	13.5	14.05	0.55	-1.95	-	13.5	13.72	0.22	-2.28	-						default
	5500	MCS1	13.5	16.0	0.04	13.5	13.96	0.46	-2.04	-	13.5	13.71	0.21	-2.29	-						default
	5500	MCS2	13.5	16.0	0.06	13.5	13.88	0.38	-2.12	-	13.5	13.70	0.20	-2.30	-						default
	5500	MCS3	13.5	16.0	0.08	13.5	13.92	0.42	-2.08	-	13.5	13.69	0.19	-2.31	-						default
	5500	MCS4	13.5	16.0	0.12	13.5	13.96	0.46	-2.04	-	13.5	13.70	0.20	-2.30	-						default
	5500	MCS5	12.5	15.0	0.14	12.5	12.96	0.46	-2.04	-	12.5	12.71	0.21	-2.29	-						default
	5500	MCS6	10.5	13.0	0.16	10.5	11.06	0.56	-1.94	-	10.5	10.98	0.48	-2.02	-						default
	5500	MCS7	8.5	11.0	0.18	8.5	8.82	0.32	-2.18	-	8.5	9.01	0.51	-1.99	-						default
	5520	MCS0	13.5	16.0	0.03	13.5	**14.06**	0.56	-1.94	(tune-up)	13.5	**13.74**	0.24	-2.26	(tune-up)						default
	5540	MCS0	13.5	16.0	0.03	13.5	14.01	0.51	-1.99	-	13.5	13.60	0.10	-2.40	-						default
	5560	MCS0	13.5	16.0	0.03	13.5	13.93	0.43	-2.07	-	13.5	13.49	-0.01	-2.51	-						default
	5580	MCS0	13.5	16.0	0.03	13.5	13.92	0.42	-2.08	no (*2)	13.5	13.37	-0.13	-2.63	no (*2)						default
	5600	MCS0	13.5	16.0	0.03	13.5	13.80	0.30	-2.20	-	13.5	13.17	-0.33	-2.83	-						default
	5620	MCS0	13.5	16.0	0.03	13.5	13.53	0.03	-2.47	no (*2)	13.5	13.15	-0.35	-2.85	no (*2)						default
	5640	MCS0	13.5	16.0	0.03	13.5	13.45	-0.05	-2.55	-	13.5	13.06	-0.44	-2.94	-						default
	5660	MCS0	13.5	16.0	0.03	13.5	13.34	-0.16	-2.66	-	13.5	12.93	-0.57	-3.07	-						default
	5680	MCS0	13.5	16.0	0.03	13.5	13.43	-0.07	-2.57	no (*2)	13.5	12.88	-0.62	-3.12	no (*2)						default
	5700	MCS0	13.5	16.0	0.03	13.5	13.45	-0.05	-2.55	-	13.5	12.89	-0.61	-3.11	-						default
	5745	MCS0	13.5	16.0	0.03	13.5	13.86	0.36	-2.14	no (*2)	13.5	13.23	-0.27	-2.77	no (*2)						default
	5765	MCS0	13.5	16.0	0.03	13.5	13.67	0.17	-2.33	no (*2)	13.5	13.46	-0.04	-2.54	-						default
	5785	MCS0	13.5	16.0	0.03	13.5	13.91	0.41	-2.09	-	13.5	13.77	0.27	-2.23	no (*2)						default
	5805	MCS0	13.5	16.0	0.03	13.5	13.98	0.48	-2.02	-	13.5	14.01	0.51	-1.99	-						default
	5825	MCS0	13.5	16.0	0.03	13.5	**14.37**	0.87	-1.63	(tune-up)	13.5	**14.39**	0.89	-1.61	(tune-up)						default

(cont'd)

6.1.2 5GHz band (cont'd)

(cont'd)

Mode	Freq.	Data rate	Power spec.		Duty factor	Standalone: Antenna #0 (chain #0)					Standalone: Antenna #1 (chain #1)					MIMO Ant.#0+Ant.#1					Power Tune-up
			Typ. target	Max.	Meas.	Set pwr.	Ave.	Δ target	Δ Max.	Apply SAR	Set pwr.	Ave.	Δ target	Δ Max.	Apply SAR	MIMO target	MIMO max.	SUM Ave.	Δ target	Δ Max.	
	[MHz]	[Mbps]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[dB]	[dB]	test?	[dBm]	[dBm]	[dB]	[dBm]	test?	[dBm]	[dBm]	[dBm]	[dB]	[dB]	
11n (20HT) (1Tx)	**5180**	MCS0	11.0	13.5	0.03	11.5	**12.18**	1.18	-1.32	Yes	11.5	**11.72**	0.72	-1.78	no (*3)						tune-up
	5520	MCS0	13.5	16.0	0.03	14.5	**14.84**	1.34	-1.16	Yes	14.5	**14.77**	1.27	-1.23	no (*3)						tune-up
	5825	MCS0	13.5	16.0	0.03	14.0	**14.98**	1.48	-1.02	Yes	14.0	**15.08**	1.58	-0.92	no (*3)						tune-up
11n (40HT) (1Tx)	5190	MCS0	10.0	12.5	0.05	10.0	10.82	0.82	-1.68	no (*1)	10.0	10.72	0.72	-1.78	no (*2)						default
	5230	MCS0	11.0	13.5	0.05	11.0	**11.77**	0.77	-1.73	Yes	11.0	**11.69**	0.69	-1.81	no (*3)						default
	5270	MCS0	11.0	13.5	0.05	11.0	11.59	0.59	-1.91	no (*1)	11.0	11.11	0.11	-2.39	-						default
	5310	MCS0	10.0	12.5	0.05	10.0	10.60	0.60	-1.90	no (*1)	10.0	10.67	0.67	-1.83	no (*2)						default
	5510	MCS0	11.0	13.5	0.05	11.0	**11.73**	0.73	-1.77	(tune-up)	11.0	**11.52**	0.52	-1.98	(tune-up)						default
	5510	MCS1	11.0	13.5	0.08	11.0	11.68	0.68	-1.82	-	11.0	11.50	0.50	-2.00	-						default
	5510	MCS2	11.0	13.5	0.11	11.0	11.54	0.54	-1.96	-	11.0	11.44	0.44	-2.06	-						default
	5510	MCS3	11.0	13.5	0.14	11.0	11.58	0.58	-1.92	-	11.0	11.48	0.48	-2.02	-						default
	5510	MCS4	11.0	13.5	0.21	11.0	11.53	0.53	-1.97	-	11.0	11.41	0.41	-2.09	-						default
	5510	MCS5	11.0	13.5	0.25	11.0	11.53	0.53	-1.97	-	11.0	11.41	0.41	-2.09	-						default
	5510	MCS6	10.0	12.5	0.28	10.0	10.69	0.69	-1.81	-	10.0	10.27	0.27	-2.23	-						default
	5510	MCS7	8.0	10.5	0.31	8.0	8.76	0.76	-1.74	-	8.0	8.32	0.32	-2.18	-						default
	5550	MCS0	11.0	13.5	0.05	11.0	11.61	0.61	-1.89	-	11.0	11.34	0.34	-2.16	-						default
	5590	MCS0	11.0	13.5	0.05	11.0	11.47	0.47	-2.03	no (*1)	11.0	11.14	0.14	-2.36	no (*1)						default
	5630	MCS0	11.0	13.5	0.05	11.0	11.25	0.25	-2.25	-	11.0	10.94	-0.06	-2.56	-						default
	5670	MCS0	11.0	13.5	0.05	11.0	11.52	0.52	-1.98	no (*1)	11.0	10.61	-0.39	-2.89	no (*2)						default
	5755	MCS0	11.0	13.5	0.05	11.0	11.31	0.31	-2.19	no (*1)	11.0	10.88	-0.12	-2.62	no (*2)						default
	5795	MCS0	11.0	13.5	0.05	11.0	**11.41**	0.41	-2.09	(tune-up)	11.0	**11.01**	0.01	-2.49	(tune-up)						default
	5510	MCS0	11.0	13.5	0.05	12.0	**12.87**	1.87	-0.63	Yes	12.0	**12.54**	1.54	-0.96	no (*3)						tune-up
	5795	MCS0	11.0	13.5	0.05	12.0	**12.23**	1.23	-1.27	Yes	12.0	**12.04**	1.04	-1.46	no (*3)						tune-up
11n (20HT) (2Tx)	**5180**	MCS8	11.0	13.5	0.04	11.0	**11.64**	0.64	-1.86	(tune-up)	11.0	**11.35**	0.35	-2.15	(tune-up)	14.0	16.5	**14.51**	0.51	-1.99	default
	5200	MCS8	11.0	13.5	0.04	11.0	11.58	0.58	-1.92	-	11.0	11.34	0.34	-2.16	-	14.0	16.5	14.47	0.47	-2.03	default
	5220	MCS8	11.0	13.5	0.04	11.0	11.57	0.57	-1.93	-	11.0	11.27	0.27	-2.23	-	14.0	16.5	14.43	0.43	-2.07	default
	5240	MCS8	11.0	13.5	0.04	11.0	11.33	0.33	-2.17	no (*2)	11.0	11.15	0.15	-2.35	no (*2)	14.0	16.5	14.25	0.25	-2.25	default
	5260	MCS8	11.0	13.5	0.04	11.0	11.28	0.28	-2.22	no (*2)	11.0	11.17	0.17	-2.33	no (*2)	14.0	16.5	14.24	0.24	-2.26	default
	5280	MCS8	11.0	13.5	0.04	11.0	11.25	0.25	-2.25	-	11.0	11.14	0.14	-2.36	-	14.0	16.5	14.21	0.21	-2.29	default
	5300	MCS8	11.0	13.5	0.04	11.0	11.26	0.26	-2.24	-	11.0	11.21	0.21	-2.29	-	14.0	16.5	14.25	0.25	-2.25	default
	5320	MCS8	11.0	13.5	0.04	11.0	11.11	0.11	-2.39	no (*2)	11.0	11.11	0.11	-2.39	no (*2)	14.0	16.5	14.12	0.12	-2.38	default
	5500	MCS8	13.5	16.0	0.04	13.5	13.67	0.17	-2.33	-	13.5	13.63	0.13	-2.37	-	16.5	19.0	16.66	0.16	-2.34	default
	5500	MCS9	13.5	16.0	0.08	13.5	13.61	0.11	-2.39	-	13.5	13.58	0.08	-2.42	-	16.5	19.0	16.60	0.10	-2.40	default
	5500	MCS10	13.5	16.0	0.11	13.5	13.64	0.14	-2.36	-	13.5	13.54	0.04	-2.46	-	16.5	19.0	16.60	0.10	-2.40	default
	5500	MCS11	13.5	16.0	0.14	13.5	13.61	0.11	-2.39	-	13.5	13.53	0.03	-2.47	-	16.5	19.0	16.58	0.08	-2.42	default
	5500	MCS12	13.5	16.0	0.20	13.5	13.60	0.10	-2.40	-	13.5	13.50	0.00	-2.50	-	16.5	19.0	16.56	0.06	-2.44	default
	5500	MCS13	12.5	15.0	0.26	12.5	12.97	0.47	-2.03	-	12.5	12.61	0.11	-2.39	-	15.5	18.0	15.80	0.30	-2.20	default
	5500	MCS14	10.5	13.0	0.29	10.5	10.81	0.31	-2.19	-	10.5	10.89	0.39	-2.11	-	13.5	16.0	13.86	0.36	-2.14	default
	5500	MCS15	8.5	11.0	0.31	8.5	9.02	0.52	-1.98	-	8.5	8.92	0.42	-2.08	-	11.5	14.0	11.98	0.48	-2.02	default
	5520	MCS8	13.5	16.0	0.04	13.5	**13.84**	0.34	-2.16	(tune-up)	13.5	**13.67**	0.17	-2.33	(tune-up)	16.5	19.0	**16.77**	0.27	-2.23	default
	5540	MCS8	13.5	16.0	0.04	13.5	13.65	0.15	-2.35	-	13.5	13.54	0.04	-2.46	-	16.5	19.0	16.60	0.10	-2.40	default
	5560	MCS8	13.5	16.0	0.04	13.5	13.63	0.13	-2.37	-	13.5	13.40	-0.10	-2.60	-	16.5	19.0	16.53	0.03	-2.47	default
	5580	MCS8	13.5	16.0	0.04	13.5	13.66	0.16	-2.34	no (*2)	13.5	13.34	-0.16	-2.66	no (*2)	16.5	19.0	16.51	0.01	-2.49	default
	5600	MCS8	13.5	16.0	0.04	13.5	13.53	0.03	-2.47	-	13.5	13.25	-0.25	-2.75	-	16.5	19.0	16.40	-0.10	-2.60	default
	5620	MCS8	13.5	16.0	0.04	13.5	13.58	0.08	-2.42	no (*2)	13.5	13.17	-0.33	-2.83	no (*2)	16.5	19.0	16.39	-0.11	-2.61	default
	5640	MCS8	13.5	16.0	0.04	13.5	13.54	0.04	-2.46	-	13.5	13.07	-0.43	-2.93	-	16.5	19.0	16.32	-0.18	-2.68	default
	5660	MCS8	13.5	16.0	0.04	13.5	13.44	-0.06	-2.56	-	13.5	13.15	-0.35	-2.85	-	16.5	19.0	16.31	-0.19	-2.69	default
	5680	MCS8	13.5	16.0	0.04	13.5	13.47	-0.03	-2.53	no (*2)	13.5	13.10	-0.40	-2.90	no (*2)	16.5	19.0	16.30	-0.20	-2.70	default
	5700	MCS8	13.5	16.0	0.04	13.5	13.38	-0.12	-2.62	-	13.5	13.06	-0.44	-2.94	-	16.5	19.0	16.23	-0.27	-2.77	default
	5745	MCS8	13.5	16.0	0.04	13.5	13.72	0.22	-2.28	no (*2)	13.5	13.26	-0.24	-2.74	no (*2)	16.5	19.0	16.51	0.01	-2.49	default
	5765	MCS8	13.5	16.0	0.04	13.5	13.84	0.34	-2.16	-	13.5	13.38	-0.12	-2.62	-	16.5	19.0	16.63	0.13	-2.37	default
	5785	MCS8	13.5	16.0	0.04	13.5	13.90	0.40	-2.10	no (*2)	13.5	13.74	0.24	-2.26	no (*2)	16.5	19.0	16.83	0.33	-2.17	default
	5805	MCS8	13.5	16.0	0.04	13.5	13.97	0.47	-2.03	-	13.5	13.90	0.40	-2.10	-	16.5	19.0	16.95	0.45	-2.05	default
	5825	MCS8	13.5	16.0	0.04	13.5	**14.22**	0.72	-1.78	(tune-up)	13.5	**14.35**	0.85	-1.65	(tune-up)	16.5	19.0	**17.30**	0.80	-1.70	default
	5180	MCS8	11.0	13.5	0.04	11.5	**12.11**	1.11	-1.39	no (*2)	11.5	**11.78**	0.78	-1.72	no (*2)	14.0	16.5	**14.96**	0.96	-1.54	tune-up
	5520	MCS8	13.5	16.0	0.04	14.5	**14.75**	1.25	-1.25	no (*2)	14.5	**14.61**	1.11	-1.39	no (*2)	16.5	19.0	**17.69**	1.19	-1.31	tune-up
	5825	MCS8	13.5	16.0	0.04	14.0	**14.64**	1.14	-1.36	no (*2)	14.0	**15.08**	1.58	-0.92	no (*2)	16.5	19.0	**17.88**	1.38	-1.12	tune-up
11n (40HT) (2Tx)	**5190**	MCS8	10.0	12.5	0.08	10.0	10.95	0.95	-1.55	no (*2)	10.0	10.41	0.41	-2.09	no (*2)	13.0	15.5	13.70	0.70	-1.80	default
	5230	MCS8	11.0	13.5	0.08	11.0	**11.29**	0.29	-2.21	(tune-up)	11.0	**11.42**	0.42	-2.08	(tune-up)	14.0	16.5	14.37	0.37	-2.13	default
	5270	MCS8	11.0	13.5	0.08	11.0	11.11	0.11	-2.39	no (*2)	11.0	11.12	0.12	-2.38	no (*2)	14.0	16.5	14.12	0.12	-2.38	default
	5310	MCS8	10.0	12.5	0.08	10.0	10.45	0.45	-2.05	no (*2)	10.0	10.52	0.52	-1.98	no (*2)	13.0	15.5	13.49	0.49	-2.01	default
	5510	MCS8	11.0	13.5	0.08	11.0	**11.92**	0.92	-1.58	(tune-up)	11.0	**11.56**	0.56	-1.94	(tune-up)	14.0	16.5	14.75	0.75	-1.75	default
	5510	MCS9	11.0	13.5	0.14	11.0	11.75	0.75	-1.75	-	11.0	11.38	0.38	-2.12	-	14.0	16.5	14.58	0.58	-1.92	default
	5510	MCS10	11.0	13.5	0.20	11.0	11.73	0.73	-1.77	-	11.0	11.41	0.41	-2.09	-	14.0	16.5	14.58	0.58	-1.92	default
	5510	MCS11	11.0	13.5	0.26	11.0	11.72	0.72	-1.78	-	11.0	11.42	0.42	-2.08	-	14.0	16.5	14.58	0.58	-1.92	default
	5510	MCS12	11.0	13.5	0.35	11.0	11.84	0.84	-1.66	-	11.0	11.50	0.50	-2.00	-	14.0	16.5	14.68	0.68	-1.82	default
	5510	MCS13	11.0	13.5	0.42	11.0	11.83	0.83	-1.67	-	11.0	11.27	0.27	-2.23	-	14.0	16.5	14.57	0.57	-1.93	default
	5510	MCS14	10.0	12.5	0.45	11.0	10.87	0.87	-1.63	-	11.0	10.36	0.36	-2.14	-	14.0	16.5	13.63	0.63	-1.87	default
	5510	MCS15	8.0	10.5	0.48	11.0	8.95	0.95	-1.55	-	11.0	8.52	0.52	-1.98	-	14.0	16.5	11.75	0.75	-1.75	default
	5550	MCS8	11.0	13.5	0.08	11.0	11.65	0.65	-1.85	-	11.0	11.28	0.28	-2.22	-	14.0	16.5	14.48	0.48	-2.02	default
	5590	MCS8	11.0	13.5	0.08	11.0	11.57	0.57	-1.93	no (*2)	11.0	11.22	0.22	-2.28	no (*2)	14.0	16.5	14.41	0.41	-2.09	default
	5630	MCS8	11.0	13.5	0.08	11.0	11.41	0.41	-2.09	-	11.0	10.81	-0.19	-2.69	-	14.0	16.5	14.13	0.13	-2.37	default
	5670	MCS8	11.0	13.5	0.08	11.0	11.16	0.16	-2.34	no (*2)	11.0	10.50	-0.50	-3.00	no (*2)	14.0	16.5	13.85	-0.15	-2.65	default

(cont'd)

6.1.2 5GHz band (cont'd)

(cont'd)

Mode	Freq. [MHz]	Data rate [Mbps]	Power spec. Typ. target [dBm]	Power spec. Max. [dBm]	Duty factor Meas. [dB]	Standalone: Antenna #0 (chain #0) Set pwr. [dB]	Standalone: Antenna #0 (chain #0) Ave. [dBm]	Standalone: Antenna #0 (chain #0) Δ target [dB]	Standalone: Antenna #0 (chain #0) Δ Max. [dB]	Standalone: Antenna #0 (chain #0) Apply SAR test?	Standalone: Antenna #1 (chain #1) Set pwr. [dBm]	Standalone: Antenna #1 (chain #1) Ave. [dBm]	Standalone: Antenna #1 (chain #1) Δ target [dB]	Standalone: Antenna #1 (chain #1) Δ Max. [dBm]	Standalone: Antenna #1 (chain #1) Apply SAR test?	MIMO Ant.#0+Ant.#1 MIMO target [dBm]	MIMO Ant.#0+Ant.#1 MIMO max. [dBm]	MIMO Ant.#0+Ant.#1 SUM Ave. [dBm]	MIMO Ant.#0+Ant.#1 Δ target [dB]	MIMO Ant.#0+Ant.#1 Δ Max. [dB]	Power Tune-up
11n (40HT) (2Tx)	**5755**	MCS8	11.0	13.5	0.08	11.0	11.60	0.60	-1.90	no (*2)	11.0	10.87	-0.13	-2.63	no (*2)	14.0	16.5	14.26	0.26	-2.24	default
	5795	MCS8	11.0	13.5	0.08	11.0	**11.70**	0.70	-1.80	(tune-up)	11.0	**11.22**	0.22	-2.28	(tune-up)	14.0	16.5	**14.48**	0.48	-2.02	default
	5230	MCS8	11.0	13.5	0.08	12.0	**12.19**	1.19	-1.31	no (*2)	12.0	**12.47**	1.47	-1.03	no (*2)	14.0	16.5	**15.34**	1.34	-1.16	tune-up
	5510	MCS8	11.0	13.5	0.08	12.0	**12.59**	1.59	-0.91	no (*2)	12.0	**12.34**	1.34	-1.16	no (*2)	14.0	16.5	**15.48**	1.48	-1.02	tune-up
	5795	MCS8	11.0	13.5	0.08	12.0	**12.54**	1.54	-0.96	no (*2)	12.0	**12.31**	1.31	-1.19	no (*2)	14.0	16.5	**15.44**	1.44	-1.06	tune-up

*. : SAR test was applied.

*1. (Clause 4.3.3 of KDB447498 D01) Since the 1g averaged SAR was ≤ 0.8W/kg (when the Tx band is ≤ 100MHz.), the testing for other channels were omitted.
Since the 1g averaged SAR was ≤ 0.6W/kg (when the Tx band is 100~200MHz.), the testing for other channels were omitted.
Since the 1g averaged SAR was ≤ 0.4W/kg (when the Tx band is ≥ 200MHz), the testing for other channels were omitted.

*2. (KDB447498) Since SPLSR (SAR to peak location separation ratio) was enough smaller than 0.04, SAR test of MIMO mode was reduced.

*3. Since antenna#0's SAR was higher than antenna#1's SAR, the SAR in operation mode was checked only by antenna#0 side.

*. Freq.: Frequency, Typ.: Typical, Max.: Maximum, Power spec.: Power specification, Set pwr: Setting power for the measurement, Ave.: Average

*. Calculating formula: Δtarget.(dB)= (measured power, dBm) - (Typ.target power, dBm); ΔMax.(dB)= (measured power, dBm) - (Max. specification power, dBm)
Results (Ave, dBm) = (P/M Reading, dBm)+(Cable loss, dBm)+(Attenuator, dBm)+(duty factor, dBm), where (duty factor, dBm)=10 × log (100/(duty cycle, %))

*. Date measured January 26-27, 2015 / measured by: H. Naka (24±1deg.C./40±10%RH, at Preparation room of S/R#7)

*. Uncertainty of antenna port conducted test; Power measurement uncertainty above 1GHz for this test was: (±) 1.5dB

6.2 Comparison of the power of wireless LAN module (SX-PCEAN(FF-E)) in the past tested

	Platform model No. (DR-ID1200 FLAT PANEL SENSOR **)	SX-PCEAN (FF-E) serial No.	Date power measured	Reference report#	Average power (antenna#0) [dBm] (at each frequency [MHz]) (without tuning) 11g(6Mbps) 2417	11g(6Mbps) 2437	11g(6Mbps) 2462	11a(6Mbps) 5180	11a(6Mbps) 5240	11a(6Mbps) 5260	11a(6Mbps) 5320	11a(6Mbps) 5520	11a(6Mbps) 5580	11a(6Mbps) 5680	11a(6Mbps) 5745	11a(6Mbps) 5785	11a(6Mbps) 5825
#1	DR-ID1201SE	008092609256	May, 2014	10318894S-C-r04	17.77	16.63	15.65	12.82	13.18	13.29	13.09	15.15	15.16	15.35	15.56	15.70	15.66
#2	DR-ID1202SE	0080920126C3	May, 2014	10318897S-C	17.31	16.48	14.87	13.09	12.92	12.92	13.22	15.42	15.89	15.74	15.54	15.06	14.73
#3	DR-ID1213SE	0080926D3A0F	Jan., 2015	This report	18.01	16.64	14.91	12.80	12.38	12.35	12.51	15.47	15.34	15.04	15.40	15.41	15.42

	Platform model No. (DR-ID1200 FLAT PANEL SENSOR **)	SX-PCEAN (FF-E) serial No.	Date power measured	Reference report#	Average power (antenna#1) [dBm] (at each frequency [MHz]) (without tuning) 11g(6Mbps) 2417	11g(6Mbps) 2437	11g(6Mbps) 2462	11a(6Mbps) 5180	11a(6Mbps) 5240	11a(6Mbps) 5260	11a(6Mbps) 5320	11a(6Mbps) 5520	11a(6Mbps) 5580	11a(6Mbps) 5680	11a(6Mbps) 5745	11a(6Mbps) 5785	11a(6Mbps) 5825
#1	DR-ID1201SE	008092609256	May, 2014	10318894S-C-r04	18.08	16.98	16.06	12.80	12.73	12.84	13.16	15.01	15.52	15.48	15.17	14.90	15.16
#2	DR-ID1202SE	0080920126C3	May, 2014	10318897S-C	17.52	16.24	15.49	13.72	12.71	12.62	12.56	15.75	15.80	15.84	15.47	15.00	14.69
#3	DR-ID1213SE	0080926D3A0F	Jan., 2015	This report	17.93	16.64	15.06	13.06	12.99	12.64	12.42	15.51	15.04	14.69	15.04	15.18	15.52

*. Since the deviation of the maximum output average power between SAR samples were ≤ 1.2dB (manufacture's specification: 2.5dB), it was judged that the wireless LAN modules were equivalent.

SECTION 7: Measurement results

7.1 SAR test results (Body)

Target Frequency [MHz]	Liquid type	Liquid parameters (Body liquid) (*a)								Temp. [deg.C.]	Depth [mm]	ΔSAR Coefficients (*c)		Date measured
		Permittivity (εr) [-]				Conductivity [S/m]								
		Target	Measured		Limit (*b)	Target	Measured		Limit (*b)			ΔSAR (1g) [%]	Correction required?	
			Meas.	Δεr [%]			Meas.	Δσ [%]						
2412	Body	52.75	51.22	-2.9	-5% ≤ εr-meas. ≤ 0%	1.914	1.958	+2.3	0% ≤ σ-meas. ≤ +5%	22.2	153	+1.78	not required.	January 29, 2015 before SAR test
2417		52.74	51.14	-3.0		1.918	1.960	+2.2				+1.75	not required.	
2427		52.73	51.17	-3.0		1.928	1.973	+2.3				+1.79	not required.	
5510		48.59	47.31	-2.6		5.661	5.847	+3.3		21.8	150	+0.39	not required.	February 2, 2015 before SAR test
5520		48.58	47.32	-2.6		5.673	5.833	+2.8				+0.40	not required.	
5795		48.21	46.79	-2.9		5.994	6.225	+3.9				+0.41	not required.	
5825		48.17	46.80	-2.8		6.029	6.243	+3.5				+0.40	not required.	
5180		49.04	47.82	-2.5		5.276	5.441	+3.1		22.2	150	+0.43	not required.	February 3, 2015 before SAR test
5230		48.97	47.73	-2.5		5.334	5.519	+3.5				+0.41	not required.	

SAR measurement results (Body simulated tissue)																Reported SAR (1g) [W/kg]			
Mode (*2)	[MHz] (CH) (*1)	Data rate	EUT setup conditions				Liquid temp. [deg.C.]	Power drift [dB]	SAR (1g) [W/kg] maximum value of multi-peak			SAR plot # in Appendix 2-2	Average power [dBm]	Max. power [dBm]	Scaled factor	Tuned-up SAR (*d)
			Antenna *SAR measured.	Setup	Gap [mm]	Battery ID	Before/After		Measured	ΔSAR [%]	ΔSAR corrected					
11g	2417(2)	6Mbps	ant.#0	Front (Patient side)	0	#1	22.0/22.0	0.07	0.036	+1.75	n/a (*c)	Plot 1-1	18.01	19.5	×1.41	0.051
n(20)(1Tx)	2417(2)	MCS0			0	#1	22.0/22.0	0.14	0.036	+1.75	n/a (*c)	Plot 1-2	15.44	17.0	×1.43	0.051
n(40)(1Tx)	2427(4)	MCS0			0	#1	22.0/22.0	-0.12	0.041	+1.79	n/a (*c)	Plot 1-3	14.58	16.0	×1.39	0.057
11b	2412(1)	1Mbps			0	#2	22.0/22.0	-0.05	0.037	+1.78	n/a (*c)	Plot 1-4	14.91	16.0	×1.29	0.048
11g	2417(2)	6Mbps	ant.#1		0	#3	22.0/22.1	-0.08	0.032	+1.75	n/a (*c)	Plot 1-5	17.93	19.5	×1.44	0.046
n(20)(1Tx)	2417(2)	MCS0			0	#3	22.1/22.1	-0.20	0.030	+1.75	n/a (*c)	Plot 1-6	15.34	17.0	×1.47	0.044
n(40)(1Tx)	2427(4)	MCS0			0	#3	22.1/22.1	0.16	0.029	+1.79	n/a (*c)	Plot 1-7	14.54	16.0	×1.40	0.041
11b	2412(1)	1Mbps			0	#3	22.1/22.2	-0.05	0.032	+1.78	n/a (*c)	Plot 1-8	15.16	16.0	×1.21	0.039
11a	5180(36)	6Mbps	ant.#0	Front (Patient side)	0	#1	21.8/21.7	-0.20	0.00613	+0.43	n/a (*c)	Plot 2-1	14.22	15.0	×1.20	0.0074
n(20)(1Tx)	5180(36)	MCS0			0	#2	21.7/21.7	-0.20	0.00324	+0.43	n/a (*c)	Plot 2-2	12.18	13.5	×1.36	0.0044
n(40)(1Tx)	5230(46)	MCS0			0	#2	21.7/21.7	0.20	0.00326	+0.41	n/a (*c)	Plot 2-3	12.23	13.5	×1.34	0.0044
11a	5180(36)	6Mbps	ant.#1		0	#3	21.8/21.9	-0.19	0.000828	+0.43	n/a (*c)	Plot 2-4	14.28	15.0	×1.18	0.0010
11a	5520(104)	6Mbps	ant.#0	Front (Patient side)	0	#1	21.5/21.6	-0.09	0.013	+0.40	n/a (*c)	Plot 2-5	16.63	17.5	×1.22	0.016
n(20)(1Tx)	5520(104)	MCS0			0	#2	21.6/21.6	-0.09	0.00672	+0.40	n/a (*c)	Plot 2-6	14.84	16.0	×1.31	0.0088
n(40)(1Tx)	5510(102)	MCS0			0	#2	21.8/21.8	-	No peak SAR of area scan.			Plot 2-7	12.81	13.5	×1.16	-
11a	5520(104)	6Mbps	ant.#1		0	#3	21.9/21.9	-0.04	0.00959	+0.40	n/a (*c)	Plot 2-8	16.59	17.5	×1.23	0.012
11a	5825(165)	6Mbps	ant.#0	Front (Patient side)	0	#1	21.5/21.5	-0.20	0.026	+0.40	n/a (*c)	Plot 2-9	16.42	17.5	×1.28	0.033
n(20)(1Tx)	5825(165)	MCS0			0	#2	21.7/21.7	0	0.014	+0.40	n/a (*c)	Plot 2-10	14.98	16.0	×1.26	0.018
n(40)(1Tx)	5795(159)	MCS0			0	#2	21.7/21.8	-0.20	0.00498	+0.41	n/a (*c)	Plot 2-11	12.23	13.5	×1.34	0.0067
11a	5825(165)	6Mbps	ant.#1		0	#1	21.9/21.9	-0.07	0.014	+0.40	n/a (*c)	Plot 2-12	16.49	17.5	×1.26	0.018

*. **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 side (patient side) of the EUT. Therefore, the SAR test was only applied to the front surface side (patient side) of the EUT.**

Notes: *1. (Clause 4.3.3 of KDB447498 D01) At the highest output power channel, Since the 1g averaged SAR was ≤ 0.4W/kg (when the Tx band is ≥ 200MHz), the testing for other channels were omitted.
*2. At 5GHz band, since antenna#0's SAR was higher than antenna#1's SAR, the SAR in operation mode was checked only by antenna#0.
*. Gap: It is the separation distance between the nearest position of platform outer surface and the bottom outer surface of phantom; n/a: not applied.
*. Battery No. #1, #2 and #3were same model. Refer to Appendix 1 for more details.
*. During test, the EUT was operated with LAN remote cable for the Tx control and with a full-charged battery.
*. Calibration frequency of the SAR measurement probe (and used conversion factors)

SAR test frequency	Probe calibration frequency	Validity	Conversion factor	Uncertainty
2412, 2417, 2427MHz	2450MHz	within ±50MHz of calibration frequency	6.88	±12.0%
5180, 5230MHz	5200MHz	within ±50MHz of calibration frequency	4.35	±13.1%
5510, 5520MHz	5600MHz	within ±110MHz of calibration frequency	3.81	±13.1%
5795, 5825MHz	5800MHz	within ±110MHz of calibration frequency	4.05	±13.1%

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

*a. The target value is a parameter defined in Appendix A of KDB865664 D01, the dielectric parameters suggested for head and body tissue simulating liquid are given at 2000, 2450, 3000 and 5800MHz. Parameters for the frequencies 2000-3000, 3000-5800MHz were obtained using linear interpolation, for above 5800MHz were obtained using linear extrapolation (Refer to appendix 3-4.)

*b. Refer to KDB865664 D01, item 2), 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. The coefficients are parameters defined in clause E.3.3.2, IEEE Std 1528(2013). Since the measured liquid parameters were ≤ the target εr and ≥ the target σ values and also within 5% of the required target dielectric parameters, the measured SAR was not compensated by ΔSAR coefficients (. Clause 2) of 2.6, KDB865664 D01).
ΔSAR(1g)= Cεr ×Δεr + Cσ ×Δσ, Cεr=-7.854E-4×f^3+9.402E-3×f^2-2.742E-2×f-0.2026 / Cσ =9.804E-3×f^3-8.661E-2×f^2+2.981E-2×f+0.7829

*d. Tuned-up SAR by scaled factor: Accordance with KDB 447498 D01; "When SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance (clause 4, 4.1, 4)".

*. Calculating formula: ΔSAR corrected SAR (1g) (W/kg) = (Observed SAR(1g) (W/kg)) × (100 - (ΔSAR(%)) / 100
Reported SAR(1g) (=Tuned-up SAR) (W/kg) = (Observed SAR(1g) (W/kg)) × (Scaled factor)

7.2 SAR test results (Head)

Target Frequency [MHz]	Liquid type	Liquid parameters (Head liquid) (*a)								Temp. [deg.C.]	Depth [mm]	ΔSAR Coefficients (*c)		Date measured
		Permittivity (εr) [-]				Conductivity [S/m]								
		Target	Measured		Limit (*b)	Target	Measured		Limit (*b)			ΔSAR (1g) [%]	Correction required?	
			Meas.	Δεr [%]			Meas.	Δσ [%]						
2412	Head	39.27	38.69	-1.5	-5% ≤ εr-meas. ≤ 0%	1.766	1.835	+3.9	0% ≤ σ-meas. ≤ +5%	23.2	153	+2.25	not required.	January 28, 2015 before SAR test
2417		39.26	38.72	-1.4		1.771	1.844	+4.2				+2.33	not required.	
2427		39.24	38.63	-1.6		1.780	1.847	+3.8				+2.18	not required.	
5180		36.01	35.81	-0.5	-5% ≤ εr-meas. ≤ +5%	4.635	4.500	-2.9	-5% ≤ σ-meas. ≤ +5%	22.6	155	+0.18	not required(*b).	February 3, 2015 before SAR test
5520		35.62	35.67	+0.13		5.147	4.836	-3.0		21.5	155	+0.10	not required(*b).	February 4, 2015 before SAR test
5825		35.27	35.27	0		5.275	5.160	-2.6				+0.11	not required(*b).	

SAR measurement results (Head simulated tissue)														Reported SAR (1g) [W/kg]			
Mode (*2)	[MHz] (CH) (*1)	Data rate	EUT setup conditions				Liquid temp. [deg.C.]	Power drift [dB]	SAR (1g) [W/kg] maximum value of multi-peak			SAR plot # in Appendix 2-2	Average power [dBm]	Max. power [dBm]	Scaled factor	Tuned-up SAR (*d)
			Antenna *SAR measured.	Setup	Gap [mm]	Battery ID	Before/After		Measured	ΔSAR [%]	ΔSAR corrected					
11g	2417(2)	6Mbps	ant.#0	Front (Patient side)	0	#1	22.7/22.7	-0.20	0.027	+2.33	n/a (*c)	Plot 3-1	18.01	19.5	×1.41	0.038
n(20)(1Tx)	2417(2)	MCS0			0	#1	22.7/22.8	-0.20	0.028	+2.33	n/a (*c)	Plot 3-2	15.44	17.0	×1.43	0.040
n(40)(1Tx)	2427(4)	MCS0			0	#1	22.8/22.9	-0.18	0.030	+2.18	n/a (*c)	Plot 3-3	14.58	16.0	×1.39	0.042
11b	2412(1)	1Mbps			0	#2	23.0/23.1	0.17	0.029	+2.25	n/a (*c)	Plot 3-4	14.91	16.0	×1.29	0.037
11g	2417(2)	6Mbps	ant.#1		0	#3	23.2/23.3	0.17	0.025	+2.33	n/a (*c)	Plot 3-5	17.93	19.5	×1.44	0.036
n(20)(1Tx)	2417(2)	MCS0			0	#3	23.3/23.3	0.16	0.024	+2.33	n/a (*c)	Plot 3-6	15.34	17.0	×1.47	0.035
n(40)(1Tx)	2427(4)	MCS0			0	#3	23.3/23.3	0.12	0.025	+2.18	n/a (*c)	Plot 3-7	14.54	16.0	×1.40	0.035
11b	2412(1)	1Mbps			0	#3	23.3/23.3	-0.04	0.025	+2.25	n/a (*c)	Plot 3-8	15.16	16.0	×1.21	0.030
11a	5180(36)	6Mbps	ant.#0	Front (Patient side)	0	#3	22.4/22.4	-0.20	0.00546	+0.18	n/a (*c)	Plot 4-1	14.22	15.0	×1.20	0.0066
11a	5180(36)	6Mbps	ant.#1		0	#3	22.4/22.4	-0.20	0.000611	+0.18	n/a (*c)	Plot 4-4	14.28	15.0	×1.18	0.00072
11a	5520(104)	6Mbps	ant.#0	Front (Patient side)	0	#1	21.6/21.7	0.20	0.014	+0.10	n/a (*c)	Plot 4-5	16.63	17.5	×1.22	0.017
11a	5520(104)	6Mbps	ant.#1		0	#2	21.9/22.0	-0.15	0.00917	+0.10	n/a (*c)	Plot 4-8	16.59	17.5	×1.23	0.0113
11a	5825(165)	6Mbps	ant.#0	Front (Patient side)	0	#1	21.6/21.6	-0.02	0.029	+0.11	n/a (*c)	Plot 4-9	16.42	17.5	×1.28	0.037
11a	5825(165)	6Mbps	ant.#1		0	#2	21.7/21.8	-0.19	0.016	+0.11	n/a (*c)	Plot 4-12	16.49	17.5	×1.26	0.020

***. 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 side (patient side) of the EUT. Therefore, the SAR test was only applied to the front surface side (patient side) of the EUT.**

Notes: *1. (Clause 4.3.3 of KDB447498 D01) At the highest output power channel, Since the 1g averaged SAR was ≤ 0.4W/kg (when the Tx band is ≥ 200MHz), the testing for other channels were omitted.
*2. At 5GHz band, almost all body SAR(1g) and head SAR(1g) were the same value, so the SAR in operation mode was checked only by the condition of body SAR test.
*. Gap: It is the separation distance between the nearest position of platform outer surface and the bottom outer surface of phantom; n/a: not applied.
*. Battery No. #1, #2 and #3were same model. Refer to Appendix 1 for more details.
*. During test, the EUT was operated with LAN remote cable for the Tx control and with a full-charged battery.
*. Calibration frequency of the SAR measurement probe (and used conversion factors)

SAR test frequency	Probe calibration frequency	Validity	Conversion factor	Uncertainty
2412, 2417, 2427MHz	2450MHz	within ±50MHz of calibration frequency	6.94	±12.0%
5180MHz	5200MHz	within ±110MHz of calibration frequency	5.08	±13.1%
5520MHz	5600MHz	within ±110MHz of calibration frequency	4.42	±13.1%
5825MHz	5800MHz	within ±110MHz of calibration frequency	4.41	±13.1%

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

*a. The target value is a parameter defined in Appendix A of KDB865664 D01, the dielectric parameters suggested for head and body tissue simulating liquid are given at 2000, 2450, 3000 and 5800MHz. Parameters for the frequencies 2000-3000, 3000-5800MHz were obtained using linear interpolation, for above 5800MHz were obtained using linear extrapolation (Refer to appendix 3-4.)

*b. Refer to KDB865664 D01, item 2), 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: (for 2.4GHz band) ≤ the target εr and ≥ the target σ values and also within 5% of the required target dielectric parameters."
(for 5GHz band) must be: within +5% and -10% of the target εr, and also within -5% and +10% of the target σ values, when the measured SAR is compensated for tissue dielectric deviations." **Since ΔSAR correction value becomes smaller than measured value, compensation is not carried out.**

c. The coefficients are parameters defined in clause E.3.3.2, IEEE Std 1528(2013). Since the measured liquid parameters were ≤ the target εr and ≥ the target σ values and also within 5% of the required target dielectric parameters, the measured SAR was not compensated by ΔSAR coefficients (. Clause 2) of 2.6, KDB865664 D01).
ΔSAR(1g)= Cεr ×Δεr + Cσ ×Δσ, Cεr=-7.854E-4×f^3+9.402E-3×f^2-2.742E-2×f-0.2026 / Cσ =9.804E-3×f^3-8.661E-2×f^2+2.981E-2×f+0.7829

*d. Tuned-up SAR by scaled factor: Accordance with KDB 447498 D01; "When SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance (clause 4, 4.1, 4)".

*. Calculating formula: ΔSAR corrected SAR (1g) (W/kg) = (Observed SAR(1g) (W/kg)) × (100 - (ΔSAR(%)) / 100
Reported SAR(1g) (=Tuned-up SAR) (W/kg) = (Observed SAR(1g) (W/kg)) × (Scaled factor)