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TEST REPORT

KCTL Inc. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea TEL: 82-31-285-0894 FAX: 82-505-299-8311 www.kctl.co.kr	Report No.: KR21-SPF0017 Page (1) of (54)	KCTL

1. Client

- Name : Intel Mobile Communications
- Address : 100 Center Point Circle, Suite 200 Columbia, South Carolina 29210 USA
- Date of Receipt : 2021-03-10

2. Use of Report : Class II Permissive Change

3. Name of Product and Model : WLAN and BT, 2x2 PCIe M.2 1216 SD adapter card
- Model Number : AX210D2W
- Manufacturer and Country of Origin : Intel Mobile Communications / USA

4. Host Product Name : Notebook PC
- Host Model Name : NP950QDB
- Manufacturer : Samsung Electronics Co., Ltd.

5. FCC ID Number : PD9AX210D2

6. Date of Test : 2021-03-15

7. Location of Test : ■ Permanent Testing Lab □ On Site Testing (Address: Address of testing location)

8. Test Standards : KDB Publication

9. Test Results : Refer to the test result in the test report

Affirmation	Tested by	Technical Manager
	Name : Kyounghoo Min (Signature)	Name : Jongwon Ma (Signature)

2021-03-31

KCTL Inc.

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REPORT REVISION HISTORY

Date	Revision	Page No
2021-03-31	Originally issued	-
		-

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1. General information

Client	:	Intel Mobile Communications
Address	:	100 Center Point Circle, Suite 200 Columbia, South Carolina 29210 USA
Manufacturer	:	Intel Mobile Communications
Address	:	100 Center Point Circle, Suite 200 Columbia, South Carolina 29210 USA
Contact Person		Steven Hackett / Steven.c.hackett@intel.com
Laboratory	:	KCTL Inc.
Address	:	65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea
Accreditations	:	FCC Site Designation No: KR0040, FCC Site Registration No: 687132 VCCI Registration No. : R-3327, G-198, C-3706, T-1849 ISED Number: 8035A KOLAS No.: KT231 CAB Identifier: KR0040

1.1 Report Overview

This report details the results of testing carried out on the samples listed in section 2, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2. Device information

2.1 Basic description

Product Name		WLAN and BT, 2x2 PCIe M.2 1216 SD adapter card
Product Model Number		AX210D2W
Product Manufacturer		Intel Mobile Communications
Host Product Name		Notebook PC
Host Model Number		NP950QDB
Host Manufacturer		Samsung Electronics Co., Ltd.
Host Product Serial Number	Radiation	1GDW91ZR100010K
	Conduction	1GDW91ZR100021Z
Mode of Operation		WLAN 2.4 ㎓ / 5 ㎓, Bluetooth
Device Overview		WLAN 2.4 ㎓: 2 412.0 ㎒ ~ 2 472.0 ㎒ WLAN 5.3 ㎓: 5 260.0 ㎒ ~ 5 320.0 ㎒ WLAN 5.6 ㎓: 5 500.0 ㎒ ~ 5 720.0 ㎒ WLAN 5.8 ㎓: 5 745.0 ㎒ ~ 5 825.0 ㎒ Bluetooth: 2 402.0 ㎒ ~ 2 480.0 ㎒
TDWR Information		5.60 ㎓ ~ 5.65 ㎓ band (TDWR) is supported by the device.

2.2 Summary of SAR Test Results

Band	Equipment Class	Highest Reported 1g SAR (W/kg)
U-NII-2A	NII	**0.87**
U-NII-3	NII	0.61

Note: This report is C2PC according to U-NII-1, U-NII-2A and U-NII-3 of the main port in notebook mode with changed maximum output power.

2.3 #Changed Maximum WLAN Output Power (Notebook Mode)

Band	Ant.	Mode	Channel	Output Power (dB m)	
				Target	Max. Allowed
U-NII-1, U-NII-2A U-NII-3	Main	802.11a	All Channel	11.00	**12.00**
		802.11n	All Channel	11.00	**12.00**
		802.11ax	All Channel	11.00	**12.00**

2.4 Tested Conditions

KDB 178919 D01 sec.VI, B, 3)

When adding an equivalent antenna for a Part 15 device, i.e., identical antenna type with the same or lower gain, with no other change to the transmitter and host device configurations, and the highest SAR measured for that antenna type in previous certification(s) is less than 0.8 W/kg, SAR evaluation is not required to add an equivalent antenna. Otherwise, SAR should be evaluated for the additional equivalent antenna(s) according to the procedures required for the transmitter, antenna and host device configurations.

Notebook Mode						
Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII-2A	Main	802.11ac(VHT80)	All Channel	11.00	**12.00**	Yes
U-NII-3		802.11ac(VHT80)	All Channel	11.00	**12.00**	Yes

Note : The specified maximum output power is the same for both UNII-1 and UNII-2A, was measured only for UNII-2A.

3. Specific Absorption Rate

3.1 Introduction

The SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational / controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

3.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$\mathbf{SAR} = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\mathbf{dm}}\right) = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\boldsymbol{\rho}\mathbf{dv}}\right)$$

SAR is expressed in units of Watts per kilogram (W/kg)
SAR measurement can be either related to the temperature elevation in tissue by

$$\mathbf{SAR} = \mathbf{C}\left(\frac{\boldsymbol{\delta}\mathbf{T}}{\boldsymbol{\delta}\mathbf{t}}\right)$$

Where: C is the specific head capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}|\mathbf{E}|^2}{\boldsymbol{\rho}}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength. However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

4. SAR Measurement Procedures

4.1 SAR Scan Procedures

Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The Minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 1.4 ㎜. This distance cannot be smaller than the Distance of sensor calibration points to probe tip as defined in the probe properties.

Step 2: Area Scan & Zoom Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot and Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing1 g and 10 g of simulated tissue. If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly. Area Scan & Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 ㎒ to 6 ㎓ v01r04.

<table>
<tr><td colspan="3"></td><td>≤ 3 ㎓</td><td>> 3 ㎓</td></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 ㎜ ± 1 ㎜</td><td>½·δ·ln(2) ㎜ 0.5 ㎜</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 ㎓: ≤ 15 ㎜
2 – 3 ㎓: ≤ 12 ㎜</td><td>3 – 4 ㎓: ≤ 12 ㎜
4 – 6 ㎓: ≤ 10 ㎜</td></tr>
<tr><td colspan="2">When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>≤ 2 ㎓: ≤ 8 ㎜
2 – 3 ㎓: ≤ 5 ㎜*</td><td>3 – 4 ㎓: ≤ 5 ㎜*
4 – 6 ㎓: ≤ 4 ㎜*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤ 5 ㎜</td><td>3 – 4 ㎓: ≤ 4 ㎜
4 – 5 ㎓: ≤ 3 ㎜
5 – 6 ㎓: ≤ 2 ㎜</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤ 4 ㎜</td><td>3 – 4 ㎓: ≤ 3 ㎜
4 – 5 ㎓: ≤ 2.5 ㎜
5 – 6 ㎓: ≤ 2 ㎜</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">≤ 1.5·$\Delta z_{Zoom}(n-1)$ ㎜</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 ㎜</td><td>3 – 4 ㎓: ≥ 28 ㎜
4 – 5 ㎓: ≥ 25 ㎜
5 – 6 ㎓: ≥ 22 ㎜</td></tr>
<tr><td colspan="5">Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details.
* When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 ㎜, ≤ 7 ㎜ and ≤ 5 ㎜ zoom scan resolution may be applied, respectively, for 2 ㎓ to 3 ㎓, 3 ㎓ to 4 ㎓ and 4 ㎓ to 6 ㎓.</td></tr>
</table>

Step 3: Power drift measurement

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in ㏈ from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

5. RF Exposure Limits

UNCONTROLLED ENVIRONMENTS are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

CONTROLLED ENVIRONMENTS are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Partial Peak SAR [1] (Partial)	1.60 mW/g	8.00 mW/g
Partial Average SAR [2] (Whole Body)	0.08 mW/g	0.40 mW/g
Partial Peak SAR [3] (Hands/Feet/Ankle/Wrist)	4.00 mW/g	20.00 mW/g

1) The spatial Peak value of the SAR averaged over any 1g gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
2) The spatial Average value of the SAR averaged over the whole body.
3) The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

6. RF Average Conducted Output Power

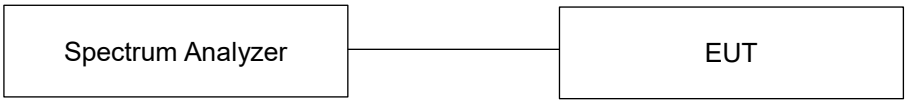
6.1 WLAN Average Conducted Output Power (Notebook Mode)

Band	Ant.	Mode	Conducted Powers (dBm)		
			Low	Mid	High
U-NII-2A	Main	802.11ac(VHT80)	-	11.91	-
U-NII-3	Main	802.11ac(VHT80)	-	11.88	-

Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:

- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission modes with the same maximum output power specification, powers were measured for the largest channel bandwidth, lowest order modulation and lowest data rate.
- For transmission modes with identical maximum specified output power, channel bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-band channel(s) when there were at least 3 channels supported.

Power Measurement Setup



7. System Verification

7.1 Tissue Verification

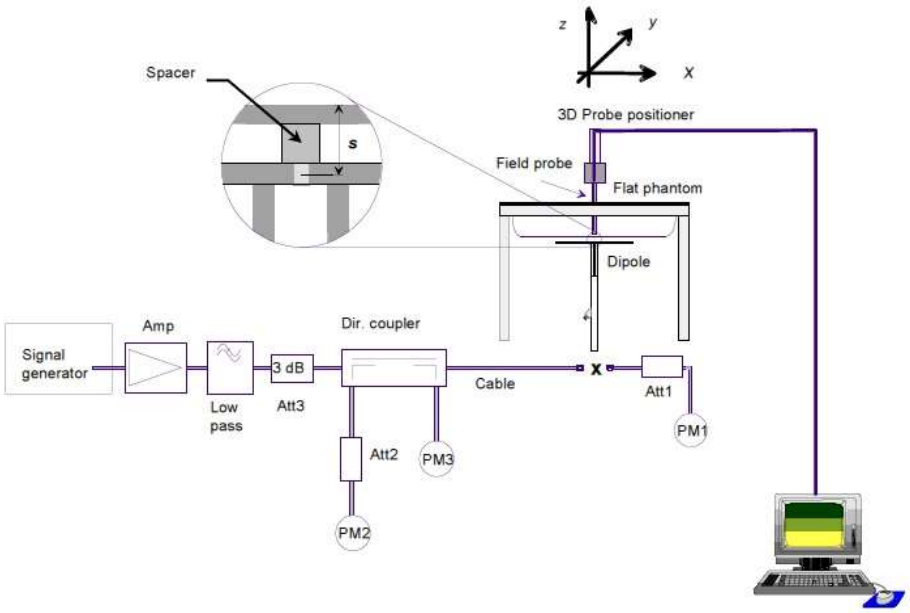
The dielectric properties for this Tissue Simulant Liquids were measured by using the SPEAG Model DAK3.5 Dielectric Probe in conjunction with Agilent E5071B Network Analyzer (300 ㎑ – 8 500 ㎒). The Conductivity (σ) and Permittivity (ρ) are listed in Table 1.For the SAR measurement given in this report. The temperature variation of the Tissue Simulant Liquids was (22 ± 2) ℃.

Freq. (㎒)	Limit/Measured		Permittivity (ρ)	Conductivity (σ)	Temp. (°C)
5 300.0	Recommended Limit		35.90 ± 5 % (34.11~37.70)	4.76 ± 5 % (4.52~5.00)	22 ± 2
	Measured	2021-03-15	35.42	4.93	20.38
5 800.0	Recommended Limit		35.30 ± 5 % (33.54~37.07)	5.27 ± 5 % (5.01~5.53)	22 ± 2
	Measured	2021-03-15	34.43	5.50	20.38

<Table 1. Measurement result of Tissue electric parameters>

7.2 Test System Verification

The microwave circuit arrangement for system verification is sketched below picture.
The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within ± 10% from the t arget SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the Table 2. During the tests, the ambient temperature of the laboratory was in the range (22 ± 2) ℃, th e relative humidity was in the range(50 ± 20)% and the liquid depth Above the ear/grid refer ence points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



Verification Kit	Probe S/N	Frequency (㎒)	Tissue Type	Limit/Measured (Normalized to 1 W)		
D5GHzV2 SN: 1134	EX3DV4 SN: 7541	5 300.0	HSL	Recommended Limit 1g		82.30 ± 10 % (74.07~90.53)
				(Normalized)		
				Measured	2021-03-15	80.50
D5GHzV2 SN: 1134	EX3DV4 SN: 7541	5 800.0	HSL	Recommended Limit 1g		81.50 ± 10 % (73.35~89.65)
				(Normalized)		
				Measured	2021-03-15	78.40

<Table 1. System Verification Result>

8. SAR Test Results

8.1 Standalone Body SAR Test Results (Notebook Mode)

U-NII-2A											
Mode	Ant.	EUT Position	Distance (㎜)	Frequency (㎒)	Measured Conducted Power (dB m)	Max. Tune-up Power (dB m)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1g SAR (W/kg)	Scaled 1g SAR (W/kg)	Plot No.
Before Change Result (Report No: KR21-SPF0011)											
802.11ac (VHT80)	Main	Rear	0	5 290.0	12.91	13.00	1.021	1.012	0.926	0.957	
After Changed Result											
802.11ac (VHT80)	Main	Rear	0	5 290.0	11.91	12.00	1.021	1.012	0.839	**0.867**	1

U-NII-3											
Mode	Ant.	EUT Position	Distance (㎜)	Frequency (㎒)	Measured Conducted Power (dB m)	Max. Tune-up Power (dB m)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1g SAR (W/kg)	Scaled 1g SAR (W/kg)	Plot No.
Before Change Result (Report No: KR21-SPF0011)											
802.11ac (VHT80)	Main	Rear	0	5 775.0	12.99	13.00	1.002	1.012	0.714	0.724	
After Changed Result											
802.11ac (VHT80)	Main	Rear	0	5 775.0	11.88	12.00	1.028	1.012	0.587	**0.611**	2

General Notes:

1. Battery is fully charged for all readings and the standard batteries are the only options.
2. Liquid tissue depth was at least 15 cm.
3. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.

WLAN Notes:

1. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance.
2. When the maximum reported 1g averaged SAR is ≤0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg for 1g evaluations or all test channels were measured.

9. Measurement Uncertainty

Per KDB 865664 D01 SAR measurement 100㎒ to 6㎓, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of *k* = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Standard 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

10. Test Equipment Information

Test Platform	SPEAG DASY5 System			
Version	DASY52: 52.10.4.1527 / SEMCAD: 14.6.14 (7483)			
Location	KCTL Inc, 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea			
Manufacture	SPEAG			
Hardware Reference				
Equipment	Model	Serial Number	Date of Calibration	Due date of next Calibration
Shield Room	-	8F - 4	-	-
DASY6 Robot	TX60 Lspeag	F/19/0007289/A/001	-	-
Phantom	2mm Oval Phantom ELI5	2098	-	-
Mounting Device	Laptop Holder	-	-	-
DAE	DAE4	1587	2020-07-29	2021-07-29
Probe	EX3DV4	7541	2020-07-30	2021-07-30
ESG Vector Signal Generator	E4438C	MY42080845	2021-02-25	2022-02-25
Dual Power Meter	EPM-442A	GB37480680	2020-05-12	2021-05-12
Power Sensor	8481H	2703A11902	2020-05-12	2021-05-12
Power Sensor	8481H	3318A18090	2020-05-12	2021-05-12
Attenuator	8491A	21552	2020-05-12	2021-05-12
Attenuator	8491A	35560	2020-05-12	2021-05-12
Attenuator	8491A	35934	2020-05-12	2021-05-12
Power Amplifier	AMP2027	10010	2020-05-12	2021-05-12
Dual Directional Coupler	772D	2839A160504	2020-05-12	2021-05-12
Low Pass Filter	VLF-6000+	31838	2020-05-12	2021-05-12
Dipole Validation Kits	D5GHzV2	1134	2020-05-20	2022-05-20
Network Analyzer	E5071B	MY42403524	2021-02-15	2022-02-15
Dielectric Assessment Kit	DAK-3.5	1078	2020-05-19	2021-05-19
Humidity/Temp	MHB-382SD	46301	2021-02-28	2022-02-28

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11. Test System Verification Results

Date: 3/15/2021

Test Laboratory: KCTL Inc.
File Name: 5300 MHz Verification Input Power 100 mW 2021-03-15.da5:0

DUT: Dipole D5GHzV2, Type: D5GHzV2, Serial: D5GHzV2 - SN:1134

Communication System: UID 0, CW (0); Frequency: 5300 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5300 MHz; σ = 4.929 S/m; ε_r = 35.415; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

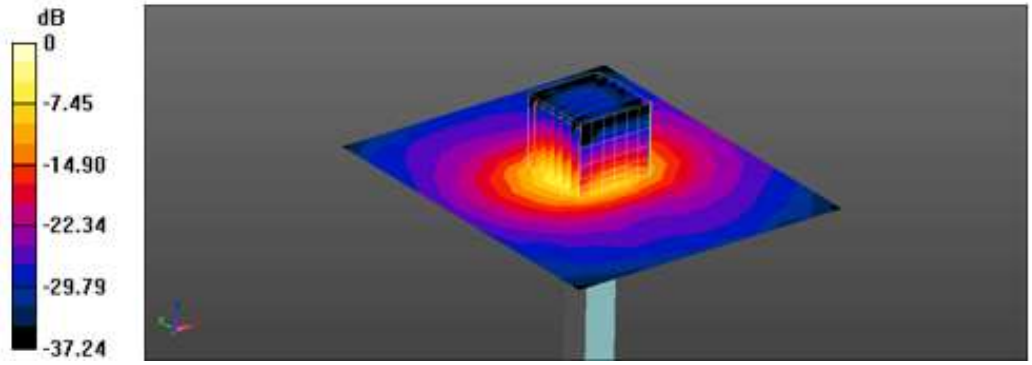
- Probe: EX3DV4 - SN7541; ConvF(5.3, 5.3, 5.3) @ 5300 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Right; Type: QD OVA 004 Ax; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/5300 MHz Verification Input Power 100 mW 2021-03-15/Area Scan (10x12x1):
Measurement grid: dx=10mm, dy=10mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 15.1 W/kg

Configuration/5300 MHz Verification Input Power 100 mW 2021-03-15/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 66.77 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 31.9 W/kg
SAR(1 g) = 8.05 W/kg; SAR(10 g) = 2.33 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 65%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 19.9 W/kg



0 dB = 19.9 W/kg = 12.99 dBW/kg

Date: 3/15/2021

Test Laboratory: KCTL Inc.
File Name: 5800 MHz Verification Input Power 100 mW 2021-03-15.da5:0

DUT: Dipole D5GHzV2, Type: D5GHzV2, Serial: D5GHzV2 - SN:1134

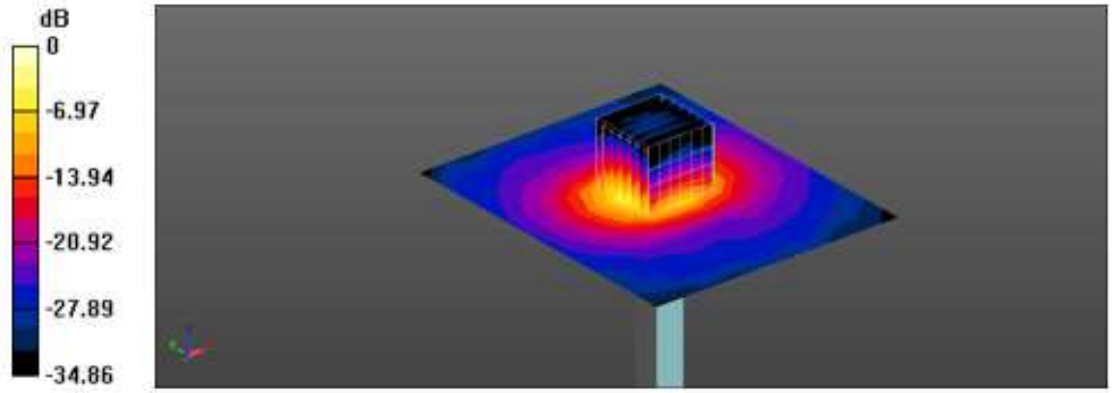
Communication System: UID 0, CW (0); Frequency: 5800 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 5.496 S/m; ε_r = 34.432; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7541; ConvF(4.75, 4.75, 4.75) @ 5800 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Right; Type: QD OVA 004 Ax; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/5800 MHz Verification Input Power 100 mW 2021-03-15/Area Scan (10x12x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 14.7 W/kg

Configuration/5800 MHz Verification Input Power 100 mW 2021-03-15/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 61.02 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 31.3 W/kg
SAR(1 g) = 7.84 W/kg; SAR(10 g) = 2.27 W/kg
Smallest distance from peaks to all points 3 dB below = 7.2 mm
Ratio of SAR at M2 to SAR at M1 = 64.8%
Maximum value of SAR (measured) = 19.4 W/kg



0 dB = 19.4 W/kg = 12.88 dBW/kg

12. Test Results

1)

Date: 3/15/2021

Test Laboratory: KCTL Inc.
File Name: 1.WLAN 5.3 GHz_Notebook.da53:0

DUT: NP950QDB, Type: Notebook, Serial: 1GDW91ZR100010K

Communication System: UID 0, 5GWLAN (0); Frequency: 5290 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5290 MHz; σ = 4.919 S/m; ε_r = 35.433; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

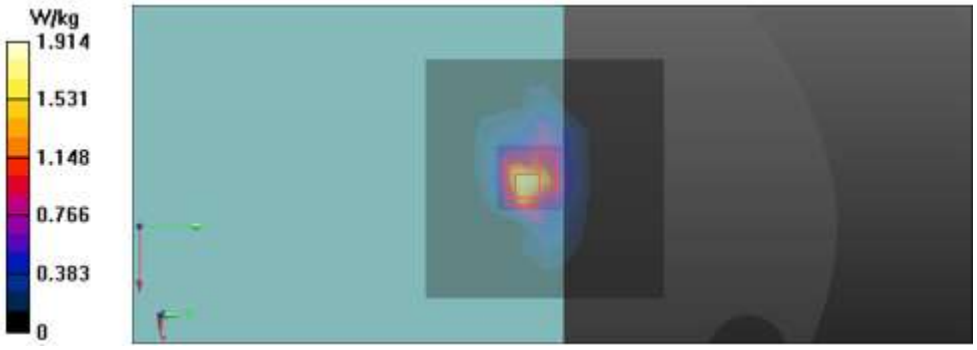
- Probe: EX3DV4 - SN7541; ConvF(5.3, 5.3, 5.3) @ 5290 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Right; Type: QD OVA 004 Ax; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/802.11 ac_VHT80_Main_CH58_Rear_0 mm/Area Scan (11x11x1): Measurement grid: dx=10mm, dy=10mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.91 W/kg

Configuration/802.11 ac_VHT80_Main_CH58_Rear_0 mm/Zoom Scan (10x10x7)/Cube 0:
Measurement grid: dx=3mm, dy=3mm, dz=1.4mm
Reference Value = 21.45 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 4.67 W/kg
SAR(1 g) = 0.839 W/kg; SAR(10 g) = 0.267 W/kg
Smallest distance from peaks to all points 3 dB below = 6.7 mm
Ratio of SAR at M2 to SAR at M1 = 54.9%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 2.27 W/kg



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2)

Date: 3/15/2021

Test Laboratory: KCTL Inc.
File Name: 2.WLAN 5.8 GHz_Notebook.da53:0

DUT: NP950QDB, Type: Notebook, Serial: 1GDW91ZR100010K

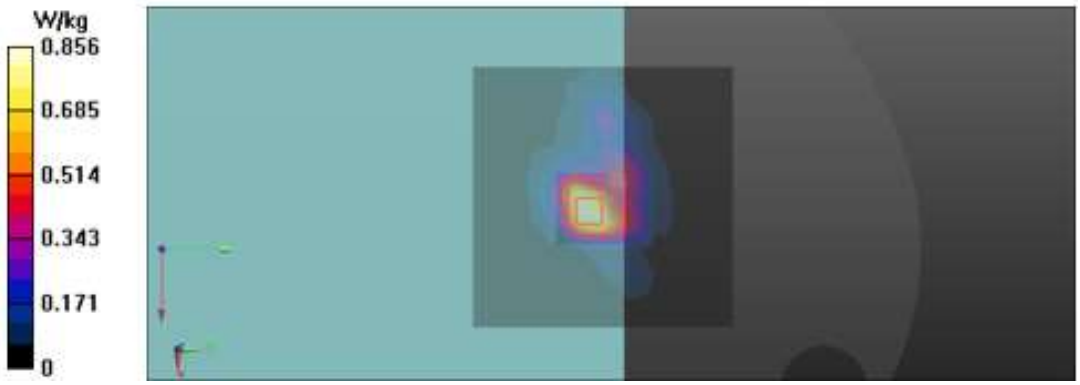
Communication System: UID 0, 5GWLAN (0); Frequency: 5775 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5775 MHz; σ = 5.472 S/m; ε_r = 34.49; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7541; ConvF(4.75, 4.75, 4.75) @ 5775 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Right; Type: QD OVA 004 Ax; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/802.11 ac_VHT80_Main_CH155_Rear_0 mm/Area Scan (11x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.856 W/kg

Configuration/802.11 ac_VHT80_Main_CH155_Rear_0 mm/Zoom Scan (10x10x7)/Cube 0:
Measurement grid: dx=3mm, dy=3mm, dz=1.4mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 3.75 W/kg
SAR(1 g) = 0.587 W/kg; SAR(10 g) = 0.152 W/kg
Smallest distance from peaks to all points 3 dB below = 4.2 mm
Ratio of SAR at M2 to SAR at M1 = 54%
Maximum value of SAR (measured) = 1.68 W/kg



Appendixes List

Appendix A	A.1 Probe Calibration certificate (EX3DV4_7541) A.2 Dipole Calibration certificate (D5GHzV2_1134)
Appendix B	SAR Tissue Specification
Appendix C	#Antenna Location & Distance
Appendix D	EUT Photo
Appendix E	Test Setup Photo