ELEMENT
7185 Oakland Mills Road, Columbia, MD 21046 USA
Tel. +1.410.290.6652 / Fax +1.410.290.6654
http://www.element.com

SAR EVALUATION REPORT

Applicant Name:
Samsung Electronics Co., Ltd.
129, Samsung-ro, Maetan dong,
Yeongtong-gu, Suwon-si
Gyeonggi-do, 16677, Korea

Date of Testing:
07/01/2024 – 08/05/2024
Test Site/Location:
Element, Columbia, MD, USA
Document Serial No.:
1M2405140042-12.A3L

FCC ID: **A3LSMX920**

APPLICANT: **SAMSUNG ELECTRONICS CO., LTD.**

DUT Type: Portable Computing Device
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model(s): SM-X920

Equipment Class	Band & Mode	Tx Frequency	SAR	
			1g Laptop SAR (W/kg)	1g Tablet SAR (W/kg)
DTS	2.4 GHz WLAN	2412 - 2472 MHz	0.43	0.75
NII	5 GH WIFI	U-NII-1: 5180 - 5240 MHz U-NII-2A: 5260 - 5320 MHz U-NII-2C: 5500 - 5720 MHz U-NII-3: 5745 - 5825 MHz U-NII-4: 5845 - 5885 MHz	0.24	0.84
6CD	6 GHz WIFI	U-NII-5: 5935 - 6415 MHz U-NII-6: 6435 - 6515 MHz U-NII-7: 6535 - 6875 MHz U-NII-8: 6895 - 7115 MHz	0.22	0.45
DSS	Bluetooth	2402 - 2480 MHz	0.19	0.45
Simultaneous SAR per KDB 690783 D01v01r03:			0.86	1.57

Equipment Class	Band & Mode	Tx Frequency	APD (W/m^2)		Reported PD (W/m^2)
			1g Laptop SAR (W/kg)	1g Tablet SAR (W/kg)	
6CD	6 GHz WIFI	U-NII-5: 5935 - 6415 MHz U-NII-6: 6435 - 6515 MHz U-NII-7: 6535 - 6875 MHz U-NII-8: 6895 - 7115 MHz	1.28	2.35	5.56

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.9 of this report; for North American frequency bands only.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.

RJ Ortanez
Executive Vice President

The SAR Tick is an initiative of the Mobile & Wireless Forum (MWF). While a product may be considered eligible, use of the SAR Tick logo requires an agreement with the MWF. Further details can be obtained by emailing: sartick@mwfai.info.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

TABLE OF CONTENTS

1 DEVICE UNDER TEST 3

2 INTRODUCTION 16

3 DOSIMETRIC ASSESSMENT 17

4 TEST CONFIGURATION POSITIONS 18

5 RF EXPOSURE LIMITS 19

6 FCC MEASUREMENT PROCEDURES 21

7 RF CONDUCTED POWERS 23

8 SYSTEM VERIFICATION 43

9 SAR DATA SUMMARY 48

10 POWER DENSITY DATA SUMMARY 58

11 SAR MEASUREMENT VARIABILITY 61

12 EQUIPMENT LIST 62

13 MEASUREMENT UNCERTAINTIES 63

14 CONCLUSION 66

15 REFERENCES 67

APPENDIX A: SAR TEST PLOTS
APPENDIX B: SAR DIPOLE VERIFICATION PLOTS
APPENDIX C: PROBE AND DIPOLE CALIBRATION CERTIFICATES
APPENDIX D: SAR TISSUE SPECIFICATIONS
APPENDIX E: MULTI-TX AND ANTENNA SAR CONSIDERATIONS
APPENDIX F: POWER REDUCTION VERIFICATION
APPENDIX G: SAR SYSTEM VALIDATION
APPENDIX H: IEEE 802.11ax RU SAR EXCLUSION
APPENDIX I: DUT ANTENNA DIAGRAM AND SAR TEST SETUP PHOTOGRAPHS

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
2.4GHz WIFI	Data	2412 - 2472 MHz
5 GHz WIFI	Data	U-NII-1: 5180 - 5240 MHz U-NII-2A: 5260 - 5320 MHz U-NII-2C: 5500 - 5720 MHz U-NII-3: 5745 - 5825 MHz U-NII-4: 5845 - 5885 MHz
	Data	
	Data	
	Data	
	Data	
6 GHZ WIFI	Data	U-NII-5: 5935 - 6415 MHz U-NII-6: 6435 - 6515 MHz U-NII-7: 6535 - 6875 MHz U-NII-8: 6895 - 7115 MHz
	Data	
	Data	
	Data	
Bluetooth	Data	2402 - 2480 MHz

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

1.2 Power Reduction for SAR

This device uses a power reduction mechanism for SAR compliance. The power reduction mechanism is activated when the device is used in close proximity to the user's body. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device. Detailed descriptions of the power reduction mechanism are included in the operational description.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

1.3 Nominal and Maximum Output Power Specifications

This device operates using the following maximum and nominal output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D04v01.

Note: Targets for 802.11ax RU operations can be found in 802.11ax/be RU SAR Exclusion Appendix.

1.3.1 2.4 GHz SISO/MIMO WLAN Output Power

The below table is applicable in the following conditions:

- Maximum Power

Band	Power Level	IEEE 802.11 Modulated Output Power (in dBm)											
		Antenna WIFI 1, Antenna WIFI 2 and SISO in MIMO											
		b		g		n		ac		ax (SU)		be (SU)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
2.4 GHz WLAN	2.45 GHz	16.0	15.0	17.0	16.0	17.0	16.0	16.0	15.0	17.0	16.0	17.0	16.0
		ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0
		ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0

The below table is applicable in the following conditions:

- Grip sensor Active

Band	Power Level	IEEE 802.11 Modulated Output Power (in dBm)											
		Antenna WIFI 1, Antenna WIFI 2 and SISO in MIMO											
		b		g		n		ac		ax (SU)		be (SU)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
2.4 GHz WLAN	2.45 GHz	13.5	12.5	13.5	12.5	13.5	12.5	13.5	12.5	13.5	12.5	13.5	12.5
		ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0
		ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0

The below table is applicable in the following conditions:

- Simultaneous conditions with 5/6 GHz WLAN

Band	Power Level	IEEE 802.11 Modulated Output Power (in dBm)											
		Antenna WIFI 1, Antenna WIFI 2 and SISO in MIMO											
		b		g		n		ac		ax (SU)		be (SU)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
2.4 GHz WLAN	2.45 GHz	12.5	11.5	12.5	11.5	12.5	11.5	12.5	11.5	12.5	11.5	12.5	11.5
		ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0
		ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

1.3.2 5 GHz SISO/MIMO WLAN Output Power

The below table is applicable in the following conditions:

- Maximum Power

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)									
		Antenna WIFI 1, Antenna WIFI 2 and SISO in MIMO									
		a		n		ac		ax (SU)		be (SU)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WIFI (20MHz BW)	UNII-1	18.0 ch. 48: 12.0	17.0 11.0	18.0 ch. 48: 12.0	17.0 11.0	18.0 ch. 48: 12.0	17.0 11.0	15.0 ch. 48: 12.0	14.0 11.0	15.0 ch. 48: 12.0	14.0 11.0
	UNII-2A	18.0	17.0	18.0	17.0	18.0	17.0	15.0	14.0	15.0	14.0
	UNII-2C	18.0	17.0	18.0	17.0	18.0	17.0	15.0	14.0	15.0	14.0
	UNII-3	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
	UNII-4	18.0	17.0	18.0	17.0	18.0	17.0	15.0	14.0	15.0	14.0
5 GHz WIFI (40MHz BW)	UNII-1			17.0 ch. 46: 15.0	16.0 14.0	17.0 ch. 46: 15.0	16.0 14.0	11.0	10.0	11.0	10.0
	UNII-2A			17.0	16.0	17.0	16.0	15.0	14.0	15.0	14.0
	UNII-2C			17.0	16.0	17.0	16.0	15.0	14.0	15.0	14.0
	UNII-3			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
	UNII-4			17.0	16.0	17.0	16.0	15.0	14.0	15.0	14.0
5 GHz WIFI (80MHz BW)	UNII-1					15.0	14.0	9.5	8.5	9.5	8.5
	UNII-2A					16.0	15.0	9.5	8.5	9.5	8.5
	UNII-2C					16.0	15.0	11.5	10.5	11.5	10.5
	UNII-3					14.0	13.0	13.0	12.0	13.0	12.0
	UNII-4					16.0	15.0	13.0	12.0	13.0	12.0
5 GHz WIFI (160MHz BW)	UNII-1/2A					11.0	10.0	10.0	9.0	10.0	9.0
	UNII-2C					15.0	14.0	12.5	11.5	12.5	11.5
	UNII-3/4					14.0	13.0	14.0	13.0	14.0	13.0

The below table is applicable in the following conditions:

- Grip sensor Active

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)									
		Antenna WIFI 1, Antenna WIFI 2 and SISO in MIMO									
		a		n		ac		ax (SU)		be (SU)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WIFI (20MHz BW)	UNII-1	9.5	8.5	9.5	8.5	9.5	8.5	9.5	8.5	9.5	8.5
	UNII-2A	9.5	8.5	9.5	8.5	9.5	8.5	9.5	8.5	9.5	8.5
	UNII-2C	8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5
	UNII-3	8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5
	UNII-4	8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5
5 GHz WIFI (40MHz BW)	UNII-1			9.5	8.5	9.5	8.5	9.5	8.5	9.5	8.5
	UNII-2A			9.5	8.5	9.5	8.5	9.5	8.5	9.5	8.5
	UNII-2C			8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5
	UNII-3			8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5
	UNII-4			8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5
5 GHz WIFI (80MHz BW)	UNII-1					9.5	8.5	9.5	8.5	9.5	8.5
	UNII-2A					9.5	8.5	9.5	8.5	9.5	8.5
	UNII-2C					8.5	7.5	8.5	7.5	8.5	7.5
	UNII-3					8.5	7.5	8.5	7.5	8.5	7.5
	UNII-4					8.5	7.5	8.5	7.5	8.5	7.5
5 GHz WIFI (160MHz BW)	UNII-1/2A					9.5	8.5	9.5	8.5	9.5	8.5
	UNII-2C					8.5	7.5	8.5	7.5	8.5	7.5
	UNII-3/4					8.5	7.5	8.5	7.5	8.5	7.5

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

The below table is applicable in the following conditions:

- Simultaneous conditions with 2.4 GHz WLAN

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)									
		Antenna WIFI 1, Antenna WIFI 2 and SISO in MIMO									
		a		n		ac		ax (SU)		be (SU)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WIFI (20MHz BW)	UNII-1	8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5
	UNII-2A	8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5
	UNII-2C	7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5
	UNII-3	7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5
	UNII-4	7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5
5 GHz WIFI (40MHz BW)	UNII-1			8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5
	UNII-2A			8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5
	UNII-2C			7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5
	UNII-3			7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5
	UNII-4			7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5
5 GHz WIFI (80MHz BW)	UNII-1					8.5	7.5	8.5	7.5	8.5	7.5
	UNII-2A					8.5	7.5	8.5	7.5	8.5	7.5
	UNII-2C					7.5	6.5	7.5	6.5	7.5	6.5
	UNII-3					7.5	6.5	7.5	6.5	7.5	6.5
	UNII-4					7.5	6.5	7.5	6.5	7.5	6.5
5 GHz WIFI (160MHz BW)	UNII-1/2A					8.5	7.5	8.5	7.5	8.5	7.5
	UNII-2C					7.5	6.5	7.5	6.5	7.5	6.5
	UNII-3/4					7.5	6.5	7.5	6.5	7.5	6.5

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

1.3.3 6 GHz SISO/MIMO WLAN Output Power

The below table is applicable in the following conditions:

- Maximum Power

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)					
		Antenna WIFI 1, Antenna WIFI 2 and SISO in MIMO					
		a		ax (SU)		be (SU)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.
6 GHz WIFI (20MHz BW)	UNII-5	10.0	9.0	10.0	9.0	10.0	9.0
	UNII-6	10.0	9.0	10.0	9.0	10.0	9.0
		ch. 113: 11.0	10.0	ch. 113: 11.0	10.0	ch. 113: 11.0	10.0
	UNII-7	10.0	9.0	10.0	9.0	10.0	9.0
		ch. 117: 11.0	10.0	ch. 117: 11.0	10.0	ch. 117: 11.0	10.0
		ch. 121: 11.0	10.0	ch. 121: 11.0	10.0	ch. 121: 11.0	10.0
		ch. 125: 11.0	10.0	ch. 125: 11.0	10.0	ch. 125: 11.0	10.0
	UNII-8	10.0	9.0	10.0	9.0	10.0	9.0
		ch. 225: 11.0	10.0	ch. 225: 11.0	10.0	ch. 225: 11.0	10.0
		ch. 229: 11.0	10.0	ch. 229: 11.0	10.0	ch. 229: 11.0	10.0
		ch. 233: 11.0	10.0	ch. 233: 11.0	10.0	ch. 233: 11.0	10.0
6 GHz WIFI (40MHz BW)	UNII-5			10.0	9.0	10.0	9.0
	UNII-6			10.0	9.0	10.0	9.0
				ch. 115: 11.0	10.0	ch. 115: 11.0	10.0
	UNII-7			10.0	9.0	10.0	9.0
				ch. 123: 11.0	10.0	ch. 123: 11.0	10.0
	UNII-8			10.0	9.0	10.0	9.0
				ch. 227: 11.0	10.0	ch. 227: 11.0	10.0
6 GHz WIFI (80MHz BW)	UNII-5			10.0	9.0	10.0	9.0
	UNII-6			10.0	9.0	10.0	9.0
	UNII-7			10.0	9.0	10.0	9.0
				ch. 119: 11.0	10.0	ch. 119: 11.0	10.0
	UNII-8			10.0	9.0	10.0	9.0
6 GHz WIFI (160MHz BW)	UNII-5			10.0	9.0	10.0	9.0
	UNII-6			10.0	9.0	10.0	9.0
	UNII-7			10.0	9.0	10.0	9.0
	UNII-8			10.0	9.0	10.0	9.0
6 GHz WIFI (320MHz BW)	UNII-5					10.0	9.0
	UNII-6					10.0	9.0
	UNII-7					10.0	9.0
	UNII-8					10.0	9.0

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

The below table is applicable in the following conditions:

- Grip Sensor Active

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)					
		Antenna WIFI 1, Antenna WIFI 2 and SISO in MIMO					
		a		ax (SU)		be (SU)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.
6 GHz WIFI (20MHz BW)	UNII-5	8.0	7.0	8.0	7.0	8.0	7.0
	UNII-6	8.0	7.0	8.0	7.0	8.0	7.0
		ch. 113: 9.0	8.0	ch. 113: 9.0	8.0	ch. 113: 9.0	8.0
	UNII-7	8.0	7.0	8.0	7.0	8.0	7.0
		ch. 117: 9.0	8.0	ch. 117: 9.0	8.0	ch. 117: 9.0	8.0
		ch. 121: 9.0	8.0	ch. 121: 9.0	8.0	ch. 121: 9.0	8.0
		ch. 125: 9.0	8.0	ch. 125: 9.0	8.0	ch. 125: 9.0	8.0
	UNII-8	8.0	7.0	8.0	7.0	8.0	7.0
		ch. 225: 9.0	8.0	ch. 225: 9.0	8.0	ch. 225: 9.0	8.0
		ch. 229: 9.0	8.0	ch. 229: 9.0	8.0	ch. 229: 9.0	8.0
		ch. 233: 9.0	8.0	ch. 233: 9.0	8.0	ch. 233: 9.0	8.0
6 GHz WIFI (40MHz BW)	UNII-5			8.0	7.0	8.0	7.0
	UNII-6			8.0	7.0	8.0	7.0
				ch. 115: 9.0	8.0	ch. 115: 9.0	8.0
	UNII-7			8.0	7.0	8.0	7.0
				ch. 123: 9.0	8.0	ch. 123: 9.0	8.0
	UNII-8			8.0	7.0	8.0	7.0
				ch. 227: 9.0	8.0	ch. 227: 9.0	8.0
6 GHz WIFI (80MHz BW)	UNII-5			8.0	7.0	8.0	7.0
	UNII-6			8.0	7.0	8.0	7.0
	UNII-7			8.0	7.0	8.0	7.0
				ch. 119: 9.0	8.0	ch. 119: 9.0	8.0
	UNII-8			8.0	7.0	8.0	7.0
6 GHz WIFI (160MHz BW)	UNII-5			8.0	7.0	8.0	7.0
	UNII-6			8.0	7.0	8.0	7.0
	UNII-7			8.0	7.0	8.0	7.0
	UNII-8			8.0	7.0	8.0	7.0
6 GHz WIFI (320MHz BW)	UNII-5					8.0	7.0
	UNII-6					8.0	7.0
	UNII-7					8.0	7.0
	UNII-8					8.0	7.0

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

The below table is applicable in the following conditions:

- Simultaneous conditions with 2.4 GHz WLAN

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)					
		Antenna WIFI 1, Antenna WIFI 2 and SISO in MIMO					
		a		ax (SU)		be (SU)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.
6 GHz WIFI (20MHz BW)	UNII-5	7.0	6.0	7.0	6.0	7.0	6.0
	UNII-6	7.0	6.0	7.0	6.0	7.0	6.0
		ch. 113: 8.0	7.0	ch. 113: 8.0	7.0	ch. 113: 8.0	7.0
	UNII-7	7.0	6.0	7.0	6.0	7.0	6.0
		ch. 117: 8.0	7.0	ch. 117: 8.0	7.0	ch. 117: 8.0	7.0
		ch. 121: 8.0	7.0	ch. 121: 8.0	7.0	ch. 121: 8.0	7.0
		ch. 125: 8.0	7.0	ch. 125: 8.0	7.0	ch. 125: 8.0	7.0
	UNII-8	7.0	6.0	7.0	6.0	7.0	6.0
		ch. 225: 8.0	7.0	ch. 225: 8.0	7.0	ch. 225: 8.0	7.0
		ch. 229: 8.0	7.0	ch. 229: 8.0	7.0	ch. 229: 8.0	7.0
		ch. 233: 8.0	7.0	ch. 233: 8.0	7.0	ch. 233: 8.0	7.0
6 GHz WIFI (40MHz BW)	UNII-5			7.0	6.0	7.0	6.0
	UNII-6			7.0	6.0	7.0	6.0
				ch. 115: 8.0	7.0	ch. 115: 8.0	7.0
	UNII-7			7.0	6.0	7.0	6.0
				ch. 123: 8.0	7.0	ch. 123: 8.0	7.0
	UNII-8			7.0	6.0	7.0	6.0
				ch. 227: 8.0	7.0	ch. 227: 8.0	7.0
6 GHz WIFI (80MHz BW)	UNII-5			7.0	6.0	7.0	6.0
	UNII-6			7.0	6.0	7.0	6.0
	UNII-7			7.0	6.0	7.0	6.0
				ch. 119: 8.0	7.0	ch. 119: 8.0	7.0
	UNII-8			7.0	6.0	7.0	6.0
6 GHz WIFI (160MHz BW)	UNII-5			7.0	6.0	7.0	6.0
	UNII-6			7.0	6.0	7.0	6.0
	UNII-7			7.0	6.0	7.0	6.0
	UNII-8			7.0	6.0	7.0	6.0
6 GHz WIFI (320MHz BW)	UNII-5					7.0	6.0
	UNII-6					7.0	6.0
	UNII-7					7.0	6.0
	UNII-8					7.0	6.0

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

1.3.4 2.4 GHz Bluetooth Output Power

The below table is applicable in the following conditions:

- Maximum

Mode	Data Rate	Modulated Output Power (in dBm)			
		Single Antenna			
		Antenna WIFI 1		Antenna WIFI 2	
Maximum / Nominal Power		Max	Nom.	Max	Nom.
Bluetooth	1Mbps	17.5	16.5	16.0	15.0
Bluetooth EDR	2Mbps	16.5	15.5	15.0	14.0
Bluetooth EDR	3Mbps	16.5	15.5	15.0	14.0
Bluetooth LE	1Mbps	14.0	13.0	14.0	13.0
Bluetooth LE	2Mbps	15.0	14.0	15.0	14.0
Bluetooth LE	125kbps	12.5	11.5	12.5	11.5
Bluetooth LE	500kbps	12.5	11.5	12.5	11.5

The below table is applicable in the following conditions:

- Grip Sensor Active

Mode	Data Rate	Modulated Output Power (in dBm)			
		Single Antenna			
		Antenna WIFI 1		Antenna WIFI 2	
Maximum / Nominal Power		Max	Nom.	Max	Nom.
Bluetooth	1Mbps	11.5	10.5	11.5	10.5
Bluetooth EDR	2Mbps	10.5	9.5	9.0	8.0
Bluetooth EDR	3Mbps	10.5	9.5	9.0	8.0
Bluetooth LE	1Mbps	11.5	10.5	11.5	10.5
Bluetooth LE	2Mbps	11.5	10.5	11.5	10.5
Bluetooth LE	125kbps	11.5	10.5	11.5	10.5
Bluetooth LE	500kbps	11.5	10.5	11.5	10.5

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

1.4 DUT Antenna Locations

The overall dimensions of this device is > 200 mm. A diagram showing the location of the device antennas can be found in the DUT Antenna Diagram and SAR Test Setup Photographs Appendix. Exact dimensions and separation distances are shown in the Technical Descriptions in the FCC filings.

Table 1-1
Device Edges/Sides for SAR Testing Tablet Mode

Antenna	Back	Front	Top	Bottom	Right	Left
1	Yes	No	Yes	No	Yes	Yes
2	Yes	No	Yes	No	Yes	Yes
MIMO	Yes	No	Yes	No	Yes	Yes

Table 1-2
Device Edges/Sides for SAR Testing Laptop Mode

Antenna	Back	Front	Top	Bottom	Right	Left
1	No	No	No	Yes	No	No
2	No	No	No	Yes	No	No
MIMO	No	No	No	Yes	No	No

Note: Note: Per FCC KDB Publication 616217 D04v01r01, particular edges were not required to be evaluated for SAR based on the SAR exclusion threshold in KDB 447498 D04v01. Additional edges may have been evaluated for simultaneous transmission analysis.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

1.5 Simultaneous Transmission Capabilities

According to FCC KDB Publication 447498 D04v01, transmitters are considered to be operating simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds.

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB Publication 447498 D04v01 4.3.2 procedures.

Table 1-3
Simultaneous Transmission Scenarios

No.	Capable Transmit Configuration	Tablet/Laptop	Notes
1	2.4 GHz Bluetooth Ant 2 + 6 GHz WLAN MIMO	Yes^	^ Bluetooth Tethering is considered
2	2.4 GHz Bluetooth Ant 2 + 5 GHz WLAN MIMO	Yes^	^ Bluetooth Tethering is considered
3	2.4 GHz Bluetooth Ant 1 + 6 GHz WLAN MIMO	Yes^	^ Bluetooth Tethering is considered
4	2.4 GHz Bluetooth Ant 1 + 5 GHz WLAN MIMO	Yes^	^ Bluetooth Tethering is considered
5	2.4 GHz WLAN Ant 1 + 2.4 GHz WLAN Ant 2 + 6 GHz WLAN MIMO	Yes	
6	2.4 GHz WLAN Ant 1 + 2.4 GHz WLAN Ant 2 + 5 GHz WLAN MIMO	Yes	
7	2.4 GHz WLAN MIMO	Yes	
8	5 GHz WLAN MIMO	Yes	
9	6 GHz WLAN MIMO	Yes	
10	2.4 GHz Bluetooth Ant 1 + 2.4 GHz WLAN Ant 2 + 5 GHz WLAN MIMO	Yes^	^ Bluetooth Tethering is considered
11	2.4 GHz Bluetooth Ant 1 + 2.4 GHz WLAN Ant 2 + 6 GHz WLAN MIMO	Yes^	^ Bluetooth Tethering is considered
12	2.4 GHz Bluetooth Ant 1 + 2.4 GHz WLAN Ant 2	Yes^	^ Bluetooth Tethering is considered

1. This device supports 2x2 MIMO Tx for WLAN 802.11b/a/g/n/ac/ax/be. 802.11b/a/g/n/ac/ax/be supports CDD and STBC and 802.11n/ac/ax/be additionally supports SDM.
2. This device supports Bluetooth Tethering.
3. 2.4 GHz WLAN Antenna 1 and 2.4 GHz Bluetooth Ant 1 share the same antenna path and cannot transmit simultaneously.
4. 2.4 GHz WLAN Antenna 2 and 2.4 GHz Bluetooth Ant 2 share the same antenna path and cannot transmit simultaneously.
5. 5 GHz WLAN and 6 GHz WLAN share the same antenna path and cannot transmit simultaneously.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

1.6 Miscellaneous SAR Test Considerations

(A) WIFI/BT

Since U-NII-1 and U-NII-2A bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg, SAR is not required for U-NII-1 band according to FCC KDB Publication 248227 D01v02r02.

This device supports IEEE 802.11ac with the following features:

a) Up to 160 MHz Bandwidth only
b) No aggregate channel configurations
c) 2 Tx antenna output
d) 256 QAM is supported
e) TDWR and Band gap channels are supported

This device supports IEEE 802.11ax/be with the following features:

a) Up to 320 MHz Bandwidth only for 6 GHz
b) Up to 160 MHz Bandwidth only for 5 GHz
c) Up to 40 MHz Bandwidth only for 2.4 GHz
d) 2 Tx antenna output
e) Up to 1024 QAM is supported
f) TDWR and Band gap channels are supported for 5/6 GHz
g) MU-MIMO UL Operations are not supported

Per FCC Guidance, 802.11ax RU was considered a higher order 802.11 mode when compared to a/b/g/n/ac to apply KDB Publication 248227 D01v02r02 for OFDM mode selection. Therefore, SAR tests were not required for 802.11ax/be RU based on the maximum allowed output powers of OFDM modes and the reported SAR values. Per FCC Guidance, maximum conducted powers were performed for each RU size to demonstrate that the output powers would not be higher than the other OFDM 802.11 modes. Please see Measurement Reports SNs: 1M2405140042-04.A3L, 1M2405140042-06.A3L, 1M2405140042-08.A3L for 802.11ax RU output powers.

This device supports channel 1-13 for 2.4 GHz WLAN. However, because channel 12/13 targets are not higher than that of channels 1-11, channels 1, 6, and 11 were considered for SAR testing per FCC KDB 248227 D01V02r02.

When U-NII-1 and U-NII-2A bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg, SAR is not required for U-NII-1 band according to FCC KDB Publication 248227 D01v02r02.

Per FCC guidance, SAR was performed using 6.5 GHz SAR probe calibration factors. FCC KDB 648474 and FCC KDB 248227 were followed for test positions, distances, and modes. Per TCB workshop October 2020 notes, 5 channels were tested. Absorbed power density (APD) using a 4cm2 averaging area is reported based on SAR measurements. Incident power density is evaluated at 2mm ensuring that the resolution is sufficient such that integrated power density (iPD) between d=2mm and d=λ/5mm is ≥ -1dB per equipment manufacturer guidance. Power density results are scaled up for uncertainty above 30%.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

1.7 Guidance Applied

- IEEE 1528-2013
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D04v01 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- April 2019 TCB Workshop Notes (IEEE 802.11ax/be)
- FCC KDB 648474 D04 (Accessories)
- FCC KDB Publication 616217 D04v01r02 (Tablet/Laptop)
- IEC 62479:2010
- SPEAG DASY6 System Handbook
- IEC/IEEE 63195-1:2022
- SPEAG DASY6 Application Note (Interim Procedures for Devices Operating at 6-10 GHz) (Nov 2021)

1.8 Device Serial Numbers

Several samples with identical hardware were used to support SAR testing. 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. The serial numbers used for each test are indicated alongside the results in Section 9 and Section 10.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

2 INTRODUCTION

The FCC and Innovation, Science, and Economic Development Canada have adopted the guidelines for evaluating the environmental effects of radio frequency (RF) radiation in ET Docket 93-62 on Aug. 6, 1996 and Health Canada Safety Code 6 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices. [1]

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz [3] and Health Canada RF Exposure Guidelines Safety Code 6 [22]. The measurement procedure described in IEEE/ANSI C95.3-2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave [4] is used for guidance in measuring the Specific Absorption Rate (SAR) due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the International Committee for Non-Ionizing Radiation Protection (ICNIRP) in Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," Report No. Vol 74. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

2.1 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 2-1).

Equation 2-1
SAR Mathematical Equation

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

SAR is expressed in units of Watts per Kilogram (W/kg).

$$SAR = \frac{\sigma \cdot E^2}{\rho}$$

where:

σ = conductivity of the tissue-simulating material (S/m)
ρ = mass density of the tissue-simulating material (kg/m^3)
E = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relation to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.[6]

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

3 DOSIMETRIC ASSESSMENT

3.1 Measurement Procedure

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013:

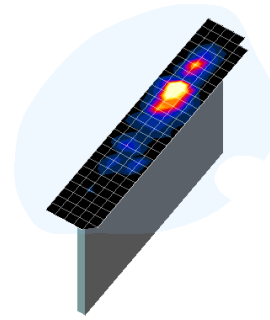


Figure 3-1
Sample SAR Area Scan

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 3-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 3-1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):
   a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 3-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).
   b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the “Not a knot” condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.
   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

Table 3-1
Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04*

Frequency	Maximum Area Scan Resolution (mm) (Δx_{area}, Δy_{area})	Maximum Zoom Scan Resolution (mm) (Δx_{zoom}, Δy_{zoom})	Maximum Zoom Scan Spatial Resolution (mm)			Minimum Zoom Scan Volume (mm) (x,y,z)
			Uniform Grid	Graded Grid		
			$\Delta z_{zoom}(n)$	$\Delta z_{zoom}(1)$*	$\Delta z_{zoom}(n>1)$*	
≤ 2 GHz	≤ 15	≤ 8	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
2-3 GHz	≤ 12	≤ 5	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
3-4 GHz	≤ 12	≤ 5	≤ 4	≤ 3	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 28
4-5 GHz	≤ 10	≤ 4	≤ 3	≤ 2.5	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 25
5-6 GHz	≤ 10	≤ 4	≤ 2	≤ 2	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 22

*Also compliant to IEEE 1528-2013 Table 6

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

4 TEST CONFIGURATION POSITIONS

4.1 Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameters: relative permittivity ε = 3 and loss tangent δ = 0.02.

4.2 SAR Testing for Tablet per KDB Publication 616217 D04v01r02

Per FCC KDB Publication 616217 D04v01r02, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR Exclusion Threshold in KDB 447498 D04v01 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

5 RF EXPOSURE LIMITS

5.1 Uncontrolled Environment

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.

5.2 Controlled Environment

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.

Table 5-1
SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6

HUMAN EXPOSURE LIMITS		
	UNCONTROLLED ENVIRONMENT *General Population* (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT *Occupational* (W/kg) or (mW/g)
Peak Spatial Average SAR Head	1.6	8.0
Whole Body SAR	0.08	0.4
Peak Spatial Average SAR Hands, Feet, Ankle, Wrists, etc.	4.0	20

1. The Spatial Peak value of the SAR averaged over any 1 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.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

5.3 RF Exposure Limits for Frequencies above 6 GHz

Per §1.1310 (d)(3), the MPE limits are applied for frequencies above 6 GHz. Power Density is expressed in units of W/m^2 or mW/cm^2.

Peak Spatially Averaged Power Density was evaluated over a circular area of 4 cm^2 per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes.

Table 5-2
Human Exposure Limits Specified in FCC 47 CFR §1.1310

Human Exposure to Radiofrequency (RF) Radiation Limits		
Frequency Range [MHz]	**Power Density** [mW/cm^2]	**Average Time** [Minutes]
(A) Limits For Occupational / Controlled Environments		
1,500 – 100,000	5.0	6
(B) Limits For General Population / Uncontrolled Environments		
1,500 – 100,000	1.0	30

Note: 1.0 mW/cm^2 is 10 W/m^2

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

6 FCC MEASUREMENT PROCEDURES

Power measurements for licensed transmitters are performed using a base station simulator under digital average power.

6.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D04v01, 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. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as *reported* SAR. The highest *reported* SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

6.2 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

6.2.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.

A periodic duty factor is required for current generation SAR systems to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

6.2.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII-2A bands, when the same maximum output power is specified for both bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is > 1.2 W/kg. When different maximum output powers are specified for the bands, SAR measurement for the U-NII band with the lower maximum output power is not required unless the highest reported SAR for the U-NII band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two bands, is > 1.2 W/kg. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

6.2.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 – 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification. Unless band gap channels are permanently disabled, SAR must be considered for these channels. Each band is

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

tested independently according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

6.2.4 2.4 GHz SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.

2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

2.4 GHz 802.11 g/n/ax OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

6.2.5 OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. Per April 2019 TCB Workshop guidance, 802.11ax was considered the highest order 802.11 mode. When the maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

6.2.6 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg, no additional SAR tests for the subsequent test configurations are required. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

6.2.7 MIMO SAR considerations

Per KDB Publication 248227 D01v02r02, the simultaneous SAR provisions in KDB Publication 447498 D04v01 should be applied to determine simultaneous transmission SAR test exclusion for WIFI MIMO. If the sum of 1g single transmission chain SAR measurements is <1.6 W/kg, no additional SAR measurements for MIMO are required. Alternatively, SAR for MIMO can be measured with all antennas transmitting simultaneously at the specified maximum output power of MIMO operation. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

7 RF CONDUCTED POWERS

7.1 WLAN Conducted Powers

Table 7-1
2.4 GHz WLAN Maximum Average RF Power – Antenna 1

2.4GHz WIFI (20MHz 802.11b SISO ANT1)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	15.59
2437	6		15.28
2462	11		15.46
2.4GHz WIFI (20MHz 802.11g SISO ANT1)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.66
2437	6		16.15
2462	11		16.43
2.4GHz WIFI (20MHz 802.11n SISO ANT1)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.56
2437	6		16.42
2462	11		16.41
2.4GHz WIFI (20MHz 802.11ac SISO ANT1)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	15.47
2437	6		15.38
2462	11		15.35
2.4GHz WIFI (20MHz 802.11ax SISO ANT1)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.51
2437	6		16.63
2462	11		16.61
2.4GHz WIFI (20MHz 802.11be SISO ANT1)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.48
2437	6		16.54
2462	11		16.62

Table 7-2
2.4 GHz WLAN Reduced Average RF Power with Grip Sensor Active – Antenna 1

2.4GHz WIFI (20MHz 802.11b SISO ANT1)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	13.07
2437	6		12.67
2462	11		12.90

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 7-3
2.4 GHz WLAN Maximum Average RF Power – Antenna 2

2.4GHz WIFI (20MHz 802.11b SISO ANT2)			
Freq. [MHz]	**Channel**	**Detector**	**Conducted Power [dBm]**
2412	1	Average	15.41
2437	6		15.62
2462	11		15.54
2.4GHz WIFI (20MHz 802.11g SISO ANT2)			
Freq. [MHz]	**Channel**	**Detector**	**Conducted Power [dBm]**
2412	1	Average	16.28
2437	6		16.31
2462	11		16.03
2.4GHz WIFI (20MHz 802.11n SISO ANT2)			
Freq. [MHz]	**Channel**	**Detector**	**Conducted Power [dBm]**
2412	1	Average	16.23
2437	6		16.15
2462	11		16.04
2.4GHz WIFI (20MHz 802.11ac SISO ANT2)			
Freq. [MHz]	**Channel**	**Detector**	**Conducted Power [dBm]**
2412	1	Average	15.22
2437	6		15.18
2462	11		15.03
2.4GHz WIFI (20MHz 802.11ax SISO ANT2)			
Freq. [MHz]	**Channel**	**Detector**	**Conducted Power [dBm]**
2412	1	Average	16.04
2437	6		16.42
2462	11		16.55
2.4GHz WIFI (20MHz 802.11be SISO ANT2)			
Freq. [MHz]	**Channel**	**Detector**	**Conducted Power [dBm]**
2412	1	Average	16.05
2437	6		16.38
2462	11		16.29

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 7-4
2.4 GHz WLAN Reduced Average RF Power with Grip Sensor Active – Antenna 2

2.4GHz WIFI (20MHz 802.11b SISO ANT2)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	13.06
2437	6		13.31
2462	11		13.10

Table 7-5
2.4 GHz WLAN Reduced Average RF Power with 5/6 GHz WLAN Active – Antenna 2

2.4GHz WIFI (20MHz 802.11b SISO ANT2)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	11.85
2437	6		11.89
2462	11		11.55

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 7-6
2.4 GHz WLAN Maximum Average RF Power – MIMO

2.4GHz WIFI (20MHz 802.11b MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	15.61	15.24	18.44
2437	6		15.58	15.36	18.48
2462	11		15.52	15.38	18.46
2.4GHz WIFI (20MHz 802.11g MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	16.64	16.39	19.53
2437	6		16.52	16.32	19.43
2462	11		16.51	16.14	19.34
2.4GHz WIFI (20MHz 802.11n MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	16.58	16.31	19.46
2437	6		16.45	16.22	19.35
2462	11		16.41	16.06	19.25
2.4GHz WIFI (20MHz 802.11ac MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	15.47	15.51	18.50
2437	6		15.39	15.17	18.29
2462	11		15.57	15.03	18.32
2.4GHz WIFI (20MHz 802.11ax MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	16.16	15.94	19.06
2437	6		16.63	16.67	19.66
2462	11		16.51	16.25	19.39
2.4GHz WIFI (20MHz 802.11be MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	16.13	15.93	19.04
2437	6		16.54	16.41	19.49
2462	11		16.58	16.29	19.45

Table 7-7
2.4 GHz WLAN Reduced Average RF Power with Grip Sensor Active – MIMO

2.4GHz WIFI (20MHz 802.11b MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	13.25	13.33	16.30
2437	6		13.13	12.85	16.00
2462	11		13.26	13.12	16.20

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 7-8
2.4 GHz WLAN Reduced Average RF Power with 5/6 GHz WLAN Active – MIMO

2.4GHz WIFI (20MHz 802.11b MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	12.10	11.85	14.99
2437	6		11.73	11.71	14.73
2462	11		11.85	11.67	14.77

Table 7-9
5 GHz WLAN Maximum Average RF Power – Antenna 1

5GHz WIFI (20MHz 802.11a SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	17.97
	5200	40	17.45
	5220	44	17.69
	5240	48	11.55
UNII-2A	5260	52	17.56
	5280	56	17.85
	5300	60	17.85
	5320	64	17.77
UNII-2C	5500	100	17.82
	5600	120	17.83
	5620	124	17.74
	5720	144	17.76
UNII-3	5745	149	13.80
	5785	157	13.77
	5825	165	13.07
UNII-4	5845	169	17.81
	5865	173	17.64
	5885	177	17.56

5GHz WIFI (20MHz 802.11n SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	17.51
	5200	40	17.79
	5220	44	17.88
	5240	48	11.34
UNII-2A	5260	52	17.69
	5280	56	17.96
	5300	60	17.98
	5320	64	17.66
UNII-2C	5500	100	17.72
	5600	120	17.71
	5620	124	17.63
	5720	144	17.88
UNII-3	5745	149	13.44
	5785	157	13.64
	5825	165	13.09
UNII-4	5845	169	17.61
	5865	173	17.49
	5885	177	17.89

5GHz WIFI (20MHz 802.11ac SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	17.79
	5200	40	17.59
	5220	44	17.59
	5240	48	11.31
UNII-2A	5260	52	17.50
	5280	56	17.98
	5300	60	17.97
	5320	64	17.68
UNII-2C	5500	100	17.69
	5600	120	17.72
	5620	124	17.61
	5720	144	17.67
UNII-3	5745	149	13.71
	5785	157	13.61
	5825	165	13.00
UNII-4	5845	169	17.91
	5865	173	17.48
	5885	177	17.69

5GHz WIFI (20MHz 802.11ax SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	14.45
	5200	40	14.51
	5220	44	14.40
	5240	48	11.26
UNII-2A	5260	52	14.68
	5280	56	14.65
	5300	60	14.56
	5320	64	14.57
UNII-2C	5500	100	14.45
	5620	124	14.79
	5640	128	14.71
	5720	144	14.41
UNII-3	5745	149	13.99
	5785	157	13.84
	5825	165	13.11
UNII-4	5845	169	14.81
	5865	173	14.66
	5885	177	14.62

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

5GHz WIFI (20MHz 802.11be SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	14.50
	5200	40	14.52
	5220	44	14.66
	5240	48	11.59
UNII-2A	5260	52	14.88
	5280	56	14.62
	5300	60	14.56
	5320	64	14.79
UNII-2C	5500	100	14.79
	5600	120	14.88
	5620	124	14.58
	5720	144	14.26
UNII-3	5745	149	13.98
	5785	157	13.85
	5825	165	13.25
UNII-4	5845	169	14.57
	5865	173	14.68
	5885	177	14.61

5GHz WIFI (80MHz 802.11ac SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5210	42	14.88
UNII-2A	5290	58	15.80
UNII-2C	5530	106	15.99
	5610	122	15.72
	5690	138	15.98
UNII-3	5775	155	13.62
UNII-4	5885	171	15.99

Table 7-10
5 GHz WLAN Reduced Average RF Power with Grip Sensor Active – Antenna 1

5GHz WIFI (80MHz 802.11ac SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5210	42	8.72
UNII-2A	5290	58	8.48
UNII-2C	5530	106	7.61
	5610	122	7.74
	5690	138	8.26
UNII-3	5775	155	8.16
UNII-4	5885	171	8.02

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 7-11
5 GHz WLAN Maximum Average RF Power – Antenna 2

5GHz WIFI (20MHz 802.11a SISO ANT2)				5GHz WIFI (20MHz 802.11n SISO ANT2)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]	Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	17.53	UNII-1	5180	36	17.62
	5200	40	17.93		5200	40	17.79
	5220	44	17.54		5220	44	17.95
	5240	48	11.43		5240	48	11.27
UNII-2A	5260	52	17.57	UNII-2A	5260	52	17.71
	5280	56	17.51		5280	56	17.64
	5300	60	17.43		5300	60	17.55
	5320	64	17.38		5320	64	17.53
UNII-2C	5500	100	17.68	UNII-2C	5500	100	17.54
	5600	120	17.59		5600	120	17.48
	5620	124	17.48		5620	124	17.78
	5720	144	17.67		5720	144	17.54
UNII-3	5745	149	13.43	UNII-3	5745	149	13.25
	5785	157	13.48		5785	157	13.55
	5825	165	13.37		5825	165	13.36
UNII-4	5845	169	17.95	UNII-4	5845	169	17.49
	5865	173	17.45		5865	173	17.86
	5885	177	17.93		5885	177	17.81

5GHz WIFI (20MHz 802.11ac SISO ANT2)				5GHz WIFI (20MHz 802.11ax SISO ANT2)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]	Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	17.81	UNII-1	5180	36	14.82
	5200	40	17.81		5200	40	14.81
	5220	44	17.68		5220	44	14.65
	5240	48	11.34		5240	48	11.48
UNII-2A	5260	52	17.67	UNII-2A	5260	52	14.48
	5280	56	17.64		5280	56	14.89
	5300	60	17.53		5300	60	14.79
	5320	64	17.25		5320	64	14.78
UNII-2C	5500	100	17.56	UNII-2C	5500	100	14.83
	5600	120	17.49		5600	120	14.81
	5620	124	17.77		5620	124	14.51
	5720	144	17.57		5720	144	14.71
UNII-3	5745	149	13.79	UNII-3	5745	149	13.68
	5785	157	13.89		5785	157	13.62
	5825	165	13.36		5825	165	13.64
UNII-4	5845	169	17.86	UNII-4	5845	169	14.53
	5865	173	17.88		5865	173	14.94
	5885	177	17.79		5885	177	14.83

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

5GHz WIFI (20MHz 802.11be SISO ANT2)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	14.62
	5200	40	14.57
	5220	44	14.61
	5240	48	11.48
UNII-2A	5260	52	14.69
	5280	56	14.95
	5300	60	14.61
	5320	64	14.52
UNII-2C	5500	100	14.86
	5600	120	14.57
	5620	124	14.47
	5720	144	14.71
UNII-3	5745	149	13.59
	5785	157	13.38
	5825	165	13.69
UNII-4	5845	169	14.57
	5865	173	14.94
	5885	177	14.61

5GHz WIFI (80MHz 802.11ac SISO ANT2)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5210	42	14.53
UNII-2A	5290	58	15.30
UNII-2C	5530	106	15.38
	5610	122	15.46
	5690	138	15.20
UNII-3	5775	155	13.80
UNII-4	5885	171	15.60

Table 7-12
5 GHz WLAN Reduced Average RF Power with Grip Sensor Active – Antenna 2

5GHz WIFI (80MHz 802.11ac SISO ANT2)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5210	42	8.49
UNII-2A	5290	58	8.14
UNII-2C	5530	106	7.45
	5610	122	7.49
	5690	138	8.00
UNII-3	5775	155	7.85
UNII-4	5855	171	7.35

Table 7-13
5GHz WLAN Reduced Average RF Power with 2.4GHz WLAN Active – Antenna 2

5GHz WIFI (80MHz 802.11ac SISO ANT2)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
1	5210	42	7.46
A	5290	58	7.51
UNII-2C	5530	106	6.72
	5610	122	6.90
	5690	138	6.94
3	5775	155	6.85
4	5885	171	6.90

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 7-14
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz WIFI (20MHz 802.11a MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-1	5180	36	17.53	17.36	20.46
	5200	40	17.95	17.55	20.76
	5220	44	17.96	17.53	20.76
	5240	48	11.43	11.13	14.29
UNII-2A	5260	52	17.73	17.75	20.75
	5280	56	17.62	17.69	20.67
	5300	60	17.53	17.39	20.47
	5320	64	17.44	17.54	20.50
UNII-2C	5500	100	17.06	17.54	20.32
	5600	120	17.83	17.82	20.84
	5620	124	17.88	17.82	20.86
	5720	144	17.72	17.46	20.60
UNII-3	5745	149	13.44	12.65	16.07
	5785	157	13.79	12.67	16.28
	5825	165	13.82	13.36	16.61
UNII-4	5845	169	17.79	17.89	20.85
	5865	173	17.77	17.81	20.80
	5885	177	17.74	17.77	20.77

5GHz WIFI (20MHz 802.11n MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-1	5180	36	17.58	17.25	20.43
	5200	40	17.79	17.13	20.48
	5220	44	17.71	17.19	20.47
	5240	48	11.92	11.22	14.59
UNII-2A	5260	52	17.57	17.32	20.46
	5280	56	17.52	17.29	20.42
	5300	60	17.82	17.76	20.80
	5320	64	17.81	17.68	20.76
UNII-2C	5500	100	17.61	17.89	20.76
	5620	124	17.72	17.65	20.70
	5720	144	17.51	17.36	20.45
UNII-3	5745	149	13.79	12.97	16.41
	5785	157	13.55	12.47	16.05
	5825	165	13.62	13.12	16.39
UNII-4	5845	169	17.59	17.63	20.62
	5865	173	17.61	17.63	20.63
	5885	177	17.29	17.61	20.46

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

5GHz WIFI (20MHz 802.11ac MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-1	5180	36	17.81	17.25	20.55
	5200	40	17.53	17.41	20.48
	5220	44	17.69	17.08	20.41
	5240	48	11.91	11.23	14.59
UNII-2A	5260	52	17.55	17.33	20.45
	5280	56	17.76	17.35	20.57
	5300	60	17.91	17.77	20.85
	5320	64	17.79	17.72	20.77
UNII-2C	5500	100	17.44	17.66	20.56
	5600	120	17.73	17.66	20.71
	5620	124	17.69	17.66	20.69
	5720	144	17.51	17.31	20.42
UNII-3	5745	149	13.75	12.98	16.39
	5785	157	13.35	12.51	15.96
	5825	165	13.67	13.11	16.41
UNII-4	5845	169	17.52	17.63	20.59
	5865	173	17.56	17.63	20.61
	5885	177	17.62	17.66	20.65

5GHz WIFI (20MHz 802.11ax MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-1	5180	36	14.92	14.16	17.57
	5200	40	14.81	14.07	17.47
	5220	44	14.65	14.20	17.44
	5240	48	11.41	10.88	14.16
UNII-2A	5260	52	14.81	14.49	17.66
	5280	56	14.74	14.46	17.61
	5300	60	14.76	14.46	17.62
	5320	64	14.61	14.39	17.51
UNII-2C	5500	100	14.18	14.24	17.22
	5600	120	14.58	14.25	17.43
	5620	124	14.77	14.66	17.73
	5720	144	14.56	14.52	17.55
UNII-3	5745	149	13.78	12.76	16.31
	5785	157	13.52	12.67	16.13
	5825	165	13.47	12.66	16.09
UNII-4	5845	169	14.55	14.61	17.59
	5865	173	14.54	14.51	17.54
	5885	177	14.49	14.53	17.52

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

5GHz WIFI (20MHz 802.11be MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-1	5180	36	14.46	13.66	17.09
	5200	40	14.44	13.52	17.01
	5220	44	14.42	13.59	17.04
	5240	48	11.86	11.60	14.74
UNII-2A	5260	52	14.91	13.36	17.21
	5280	56	14.92	14.51	17.73
	5300	60	14.58	14.52	17.56
	5320	64	14.79	14.49	17.65
UNII-2C	5500	100	13.94	14.25	17.11
	5600	120	14.34	14.45	17.41
	5620	124	14.73	14.67	17.71
	5720	144	14.55	14.31	17.44
UNII-3	5745	149	13.53	12.76	16.17
	5785	157	13.77	12.69	16.27
	5825	165	13.42	12.67	16.07
UNII-4	5845	169	14.55	14.61	17.59
	5865	173	14.51	14.51	17.52
	5885	177	14.51	14.55	17.54
5GHz WIFI (80MHz 802.11ac MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-1	5210	42	14.77	14.40	17.60
UNII-2A	5290	58	15.95	15.61	18.79
UNII-2C	5530	106	15.48	15.38	18.44
	5610	122	15.52	15.41	18.48
	5690	138	15.77	15.89	18.84
UNII-3	5775	155	13.71	12.96	16.36
UNII-4	5885	171	15.69	15.86	18.79

Table 7-15
5 GHz WLAN Reduced Average RF Power with Grip Sensor Active – MIMO

5GHz WIFI (80MHz 802.11ac MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-1	5210	42	9.06	8.34	11.73
UNII-2A	5290	58	8.62	8.23	11.44
UNII-2C	5530	106	7.95	7.35	10.67
	5610	122	8.30	7.12	10.76
	5690	138	8.39	7.67	11.06
UNII-3	5775	155	8.10	6.90	10.55
UNII-4	5855	171	8.24	7.27	10.79

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 7-16
5 GHz WLAN Reduced Average RF Power with 2.4 GHz WLAN Active– MIMO

5GHz WIFI (80MHz 802.11ac MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-1	5210	42	7.89	7.37	10.65
UNII-2A	5290	58	7.88	7.34	10.63
UNII-2C	5530	106	7.25	6.46	9.88
	5610	122	7.38	6.68	10.05
	5690	138	7.11	6.61	9.88
UNII-3	5775	155	7.19	6.21	9.74
UNII-4	5855	171	7.12	6.03	9.62

Table 7-17
6 GHz WLAN Maximum Average RF Power – Antenna 1

6GHz WIFI (40MHz 802.11ax SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5965	3	9.76
	6165	43	9.95
	6285	67	9.88
	6405	91	9.83
UNII-6	6445	99	9.98
	6485	107	9.84
	6525	115	10.69
UNII-7	6565	123	10.75
	6685	147	9.68
	6725	155	9.80
	6845	179	9.78
UNII-8	6885	187	9.65
	7005	211	9.75
	7085	227	10.82

6GHz WIFI (40MHz 802.11be SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5965	3	9.76
	6165	43	9.88
	6285	67	9.79
	6405	91	9.93
UNII-6	6445	99	9.97
	6485	107	9.84
	6525	115	10.65
UNII-7	6565	123	10.70
	6685	147	9.68
	6725	155	9.81
	6845	179	9.68
UNII-8	6885	187	9.68
	7005	211	9.90
	7085	227	10.77

6GHz WIFI (80MHz 802.11ax SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	9.84
	6145	39	9.56
	6305	71	9.34
	6385	87	9.90
UNII-6	6465	103	9.74
UNII-7	6545	119	10.85
	6705	151	9.78
	6785	167	9.82
	6865	183	9.74
UNII-8	6945	199	9.86
	7025	215	9.85

6GHz WIFI (80MHz 802.11be SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	9.77
	6145	39	9.78
	6305	71	9.99
	6385	87	9.98
UNII-6	6465	103	9.72
UNII-7	6545	119	10.80
	6705	151	9.97
	6785	167	9.86
	6865	183	9.80
UNII-8	6945	199	9.85
	7025	215	9.86

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 7-18
6 GHz WLAN Reduced Average RF Power with Grip Sensor Active – Antenna 1

6GHz WIFI (40MHz 802.11ax SISO ANT1)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-6	6525	115	8.82
UNII-7	6565	123	8.67
UNII-8	7085	227	8.61
6GHz WIFI (80MHz 802.11ax SISO ANT1)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-5	5985	7	7.72
	6145	39	7.51
	6305	71	7.53
	6385	87	7.56
UNII-6	6465	103	7.59
UNII-7	6545	119	8.75
	6705	151	7.71
	6785	167	7.77
	6865	183	7.66
UNII-8	6945	199	7.54
	7025	215	7.51

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 7-19
6 GHz WLAN Maximum Average RF Power – Antenna 2

6GHz WIFI (40MHz 802.11ax SISO ANT2)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-5	5965	3	9.30
	6165	43	9.46
	6285	67	9.54
	6405	91	9.43
UNII-6	6445	99	9.26
	6485	107	9.10
	6525	115	10.52
UNII-7	6565	123	10.58
	6685	147	9.26
	6725	155	9.15
	6845	179	9.12
UNII-8	6885	187	9.23
	7005	211	9.32
	7085	227	10.43

6GHz WIFI (40MHz 802.11be SISO ANT2)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-5	5965	3	9.25
	6165	43	9.54
	6285	67	9.58
	6405	91	9.45
UNII-6	6445	99	9.16
	6485	107	9.03
	6525	115	10.44
UNII-7	6565	123	10.35
	6685	147	9.31
	6725	155	9.15
	6845	179	9.09
UNII-8	6885	187	9.01
	7005	211	9.28
	7085	227	10.28

6GHz WIFI (80MHz 802.11ax SISO ANT2)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-5	5985	7	9.29
	6145	39	9.18
	6305	71	9.23
	6385	87	9.07
UNII-6	6465	103	9.28
UNII-7	6545	119	10.22
	6705	151	9.34
	6785	167	9.06
	6865	183	9.26
UNII-8	6945	199	9.13
	7025	215	9.44

6GHz WIFI (80MHz 802.11be SISO ANT2)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-5	5985	7	9.25
	6145	39	9.16
	6305	71	9.20
	6385	87	9.05
UNII-6	6465	103	9.28
UNII-7	6545	119	10.22
	6705	151	9.38
	6785	167	9.08
	6865	183	9.24
UNII-8	6945	199	9.12
	7025	215	9.09

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 7-20
6 GHz WLAN Reduced Average RF Power with Grip Sensor Active – Antenna 2

6GHz WIFI (40MHz 802.11ax SISO ANT2)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-6	6525	115	8.15
UNII-7	6565	123	8.22
UNII-8	7085	227	8.33

6GHz WIFI (80MHz 802.11ax SISO ANT2)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-5	5985	7	7.39
	6145	39	7.16
	6305	71	7.14
	6385	87	7.27
UNII-6	6465	103	7.24
UNII-7	6545	119	8.56
	6705	151	7.03
	6785	167	7.15
	6865	183	7.61
UNII-8	6945	199	7.43
	7025	215	7.06

Table 7-21
6 GHz WLAN Maximum Average RF Power – MIMO

6GHz WIFI (40MHz 802.11ax MIMO)					
Band	**Freq [MHz]**	**Channel**	**Avg. Conducted Powers [dBm]**		
			ANT1	**ANT2**	**MIMO**
UNII-5	5965	3	9.19	9.66	12.44
	6165	43	9.61	9.35	12.49
	6285	67	9.75	9.22	12.50
	6405	91	9.86	8.30	12.16
UNII-6	6445	99	9.92	9.94	12.94
	6485	107	9.56	8.59	12.11
	6525	115	10.75	10.45	13.61
UNII-7	6565	123	10.61	10.22	13.43
	6685	147	9.91	9.89	12.91
	6725	155	9.65	9.73	12.70
	6845	179	9.51	9.43	12.48
UNII-8	6885	187	9.57	9.63	12.61
	7005	211	9.38	9.41	12.41
	7085	227	10.77	10.61	13.70

6GHz WIFI (40MHz 802.11be MIMO)					
Band	**Freq [MHz]**	**Channel**	**Avg. Conducted Powers [dBm]**		
			ANT1	**ANT2**	**MIMO**
UNII-5	5965	3	9.59	9.72	12.67
	6165	43	9.59	9.21	12.41
	6285	67	9.76	8.74	12.29
	6405	91	9.76	8.43	12.16
UNII-6	6445	99	9.88	8.81	12.39
	6485	107	9.59	8.43	12.06
	6525	115	10.61	10.21	13.42
UNII-7	6565	123	10.75	10.37	13.57
	6685	147	9.51	9.23	12.38
	6725	155	9.51	9.32	12.43
	6845	179	9.83	9.31	12.59
UNII-8	6885	187	9.66	9.53	12.61
	7005	211	9.92	9.81	12.88
	7085	227	10.54	10.21	13.39

6GHz WIFI (80MHz 802.11ax MIMO)					
Band	**Freq [MHz]**	**Channel**	**Avg. Conducted Powers [dBm]**		
			ANT1	**ANT2**	**MIMO**
UNII-5	5985	7	9.39	9.60	12.51
	6145	39	9.76	9.73	12.76
	6305	71	9.83	9.26	12.56
	6385	87	9.79	8.69	12.29
UNII-6	6465	103	9.98	9.35	12.69
UNII-7	6545	119	10.75	10.34	13.56
	6705	151	9.71	9.26	12.50
	6785	167	9.58	8.80	12.22
	6865	183	9.61	9.71	12.67
UNII-8	6945	199	9.61	9.63	12.63
	7025	215	9.93	9.69	12.82

6GHz WIFI (80MHz 802.11be MIMO)					
Band	**Freq [MHz]**	**Channel**	**Avg. Conducted Powers [dBm]**		
			ANT1	**ANT2**	**MIMO**
UNII-5	5985	7	9.24	9.79	12.53
	6145	39	9.77	9.75	12.77
	6305	71	9.82	9.29	12.57
	6385	87	9.76	8.98	12.40
UNII-6	6465	103	9.88	9.26	12.59
UNII-7	6545	119	10.52	10.00	13.28
	6705	151	9.74	9.46	12.61
	6785	167	9.54	8.76	12.18
	6865	183	9.61	9.68	12.66
UNII-8	6945	199	9.61	9.69	12.66
	7025	215	9.63	9.65	12.65

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 7-22
6 GHz WLAN Reduced Average RF Power with Grip Sensor Active – MIMO

6GHz WIFI (40MHz 802.11ax MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-6	6525	115	8.71	8.50	11.62
UNII-7	6565	123	8.56	8.15	11.37
UNII-8	7085	227	8.66	8.19	11.44
6GHz WIFI (80MHz 802.11ax MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-5	5985	7	6.83	7.42	10.14
	6145	39	6.99	7.13	10.07
	6305	71	7.31	6.92	10.13
	6385	87	7.33	7.22	10.29
UNII-6	6465	103	7.08	7.27	10.19
UNII-7	6545	119	8.72	8.43	11.59
	6705	151	7.03	7.27	10.16
	6785	167	7.97	7.04	10.54
	6865	183	7.75	7.70	10.73
UNII-8	6945	199	7.48	7.32	10.41
	7025	215	7.32	7.12	10.23

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. For configurations with multiple mid-band channels, due to an even number of channels, both channels were measured.

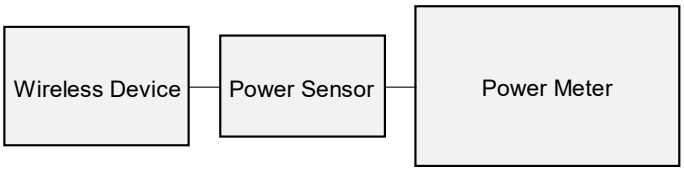


Figure 7-1
Power Measurement Setup

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

7.2 Bluetooth Conducted Powers

Table 7-23
Bluetooth Maximum Average RF Power – Antenna 1

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	16.35	43.166
2441	1.0	39	16.96	49.712
2480	1.0	78	15.39	34.610
2402	2.0	0	15.36	34.362
2441	2.0	39	16.06	40.410
2480	2.0	78	14.59	28.750
2402	3.0	0	15.54	35.783
2441	3.0	39	16.14	41.089
2480	3.0	78	14.76	29.932

Table 7-24
Bluetooth Reduced Average RF Power with Grip Sensor Active – Antenna 1

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	10.30	10.715
2441	1.0	39	10.97	12.503
2480	1.0	78	10.21	10.495

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 7-25
Bluetooth Maximum Average RF Power – Antenna 2

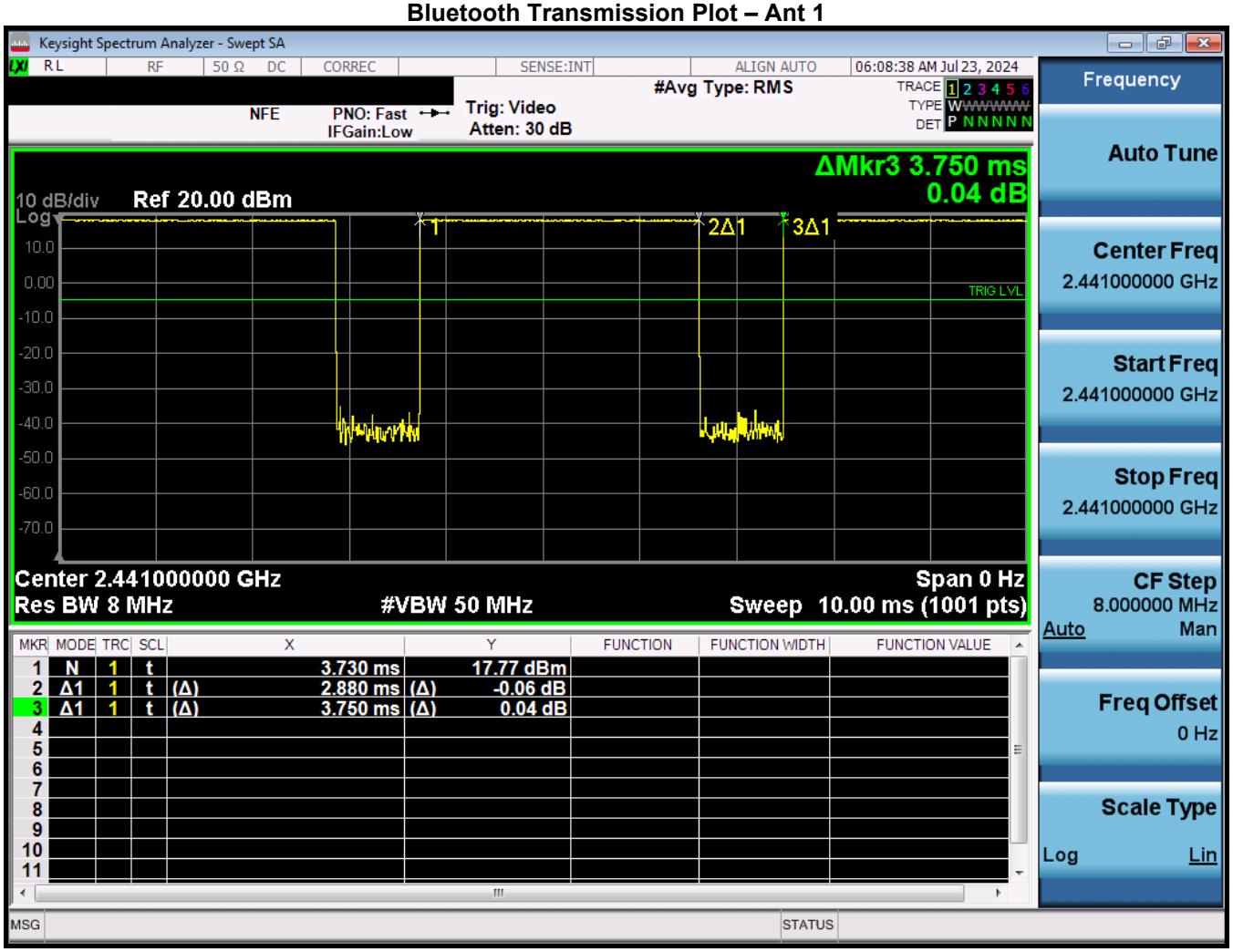
Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	14.86	30.607
2441	1.0	39	15.72	37.296
2480	1.0	78	13.93	24.708
2402	2.0	0	14.10	25.679
2441	2.0	39	14.48	28.028
2480	2.0	78	13.32	21.492
2402	3.0	0	14.21	26.376
2441	3.0	39	14.57	28.642
2480	3.0	78	13.36	21.670

Table 7-26
Bluetooth Reduced Average RF Power with Grip Sensor Active – Antenna 2

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	11.08	12.823
2441	1.0	39	11.10	12.882
2480	1.0	78	10.72	11.803

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Figure 7-2
Bluetooth Transmission Plot – Ant 1

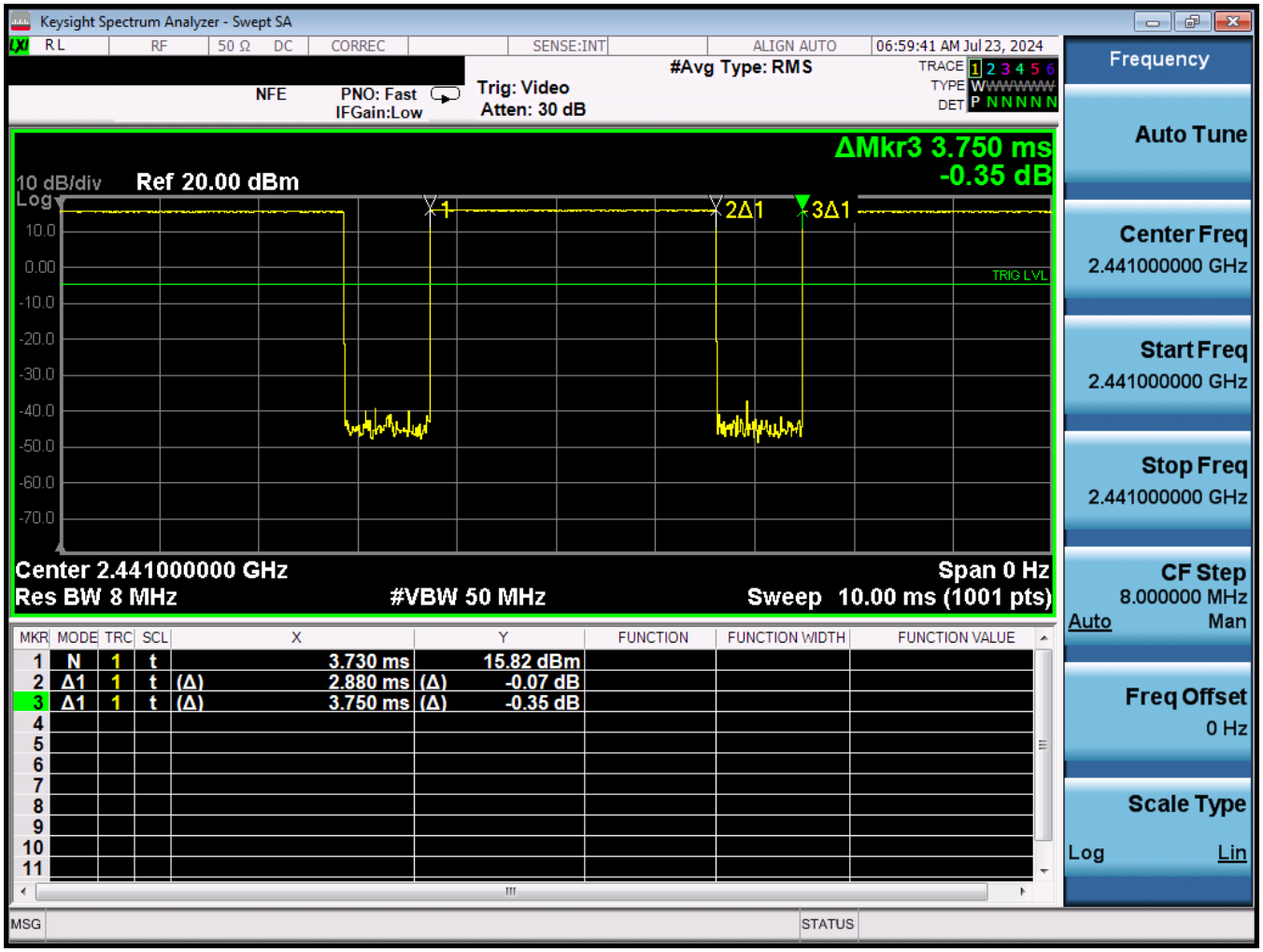


Equation 7-1
Bluetooth Antenna 1 Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.88ms}{3.75ms} * 100\% = 76.8\%$$

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Figure 7-3
Bluetooth Transmission Plot – Ant 2



Equation 7-2
Bluetooth Antenna 2 Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.88ms}{3.75ms} * 100\% = 76.8\%$$

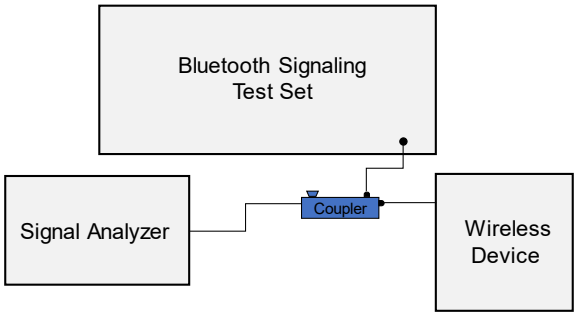


Figure 7-4
Power Measurement Setup

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

8 SYSTEM VERIFICATION

8.1 Tissue Verification

Table 8-1
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
07/08/2024	2450 Head	20.3	2300	1.700	37.889	1.670	39.500	1.80%	-4.08%
			2310	1.708	37.874	1.679	39.480	1.73%	-4.07%
			2320	1.716	37.849	1.687	39.460	1.72%	-4.08%
			2400	1.776	37.724	1.756	39.289	1.14%	-3.98%
			2450	1.810	37.638	1.800	39.200	0.56%	-3.98%
			2480	1.833	37.565	1.833	39.162	0.00%	-4.08%
			2500	1.852	37.529	1.855	39.136	-0.16%	-4.11%
			2510	1.861	37.514	1.866	39.123	-0.27%	-4.11%
			2535	1.879	37.495	1.893	39.092	-0.74%	-4.09%
			2550	1.889	37.487	1.909	39.073	-1.05%	-4.06%
			2560	1.896	37.469	1.920	39.060	-1.25%	-4.07%
			2600	1.927	37.358	1.964	39.009	-1.88%	-4.23%
			2650	1.969	37.279	2.018	38.945	-2.43%	-4.28%
			2680	1.990	37.261	2.051	38.907	-2.97%	-4.23%
			2700	2.006	37.216	2.073	38.882	-3.23%	-4.28%
07/15/2024	2450 Head	20.1	2300	1.723	38.316	1.670	39.500	3.17%	-3.00%
			2310	1.731	38.301	1.679	39.480	3.10%	-2.99%
			2320	1.739	38.286	1.687	39.460	3.08%	-2.98%
			2400	1.799	38.175	1.756	39.289	2.45%	-2.84%
			2450	1.839	38.091	1.800	39.200	2.17%	-2.83%
			2480	1.862	38.042	1.833	39.162	1.58%	-2.86%
			2500	1.879	38.009	1.855	39.136	1.29%	-2.88%
			2510	1.887	37.992	1.866	39.123	1.13%	-2.89%
			2535	1.905	37.949	1.893	39.092	0.63%	-2.92%
			2550	1.916	37.923	1.909	39.073	0.37%	-2.94%
			2560	1.924	37.906	1.920	39.060	0.21%	-2.95%
			2600	1.958	37.828	1.964	39.009	-0.31%	-3.03%
			2650	1.997	37.738	2.018	38.945	-1.04%	-3.10%
			2680	2.023	37.689	2.051	38.907	-1.37%	-3.13%
			2700	2.040	37.643	2.073	38.882	-1.59%	-3.19%
07/17/2024	2450 Head	22.2	2300	1.708	37.675	1.670	39.500	2.28%	-4.62%
			2310	1.714	37.660	1.679	39.480	2.08%	-4.61%
			2320	1.721	37.641	1.687	39.460	2.02%	-4.61%
			2400	1.780	37.519	1.756	39.289	1.37%	-4.51%
			2450	1.815	37.437	1.800	39.200	0.83%	-4.50%
			2480	1.837	37.369	1.833	39.162	0.22%	-4.58%
			2500	1.854	37.341	1.855	39.136	-0.05%	-4.59%
			2510	1.863	37.331	1.866	39.123	-0.16%	-4.58%
			2535	1.883	37.302	1.893	39.092	-0.53%	-4.58%
			2550	1.893	37.275	1.909	39.073	-0.84%	-4.60%
			2560	1.899	37.255	1.920	39.060	-1.09%	-4.62%
			2600	1.929	37.172	1.964	39.009	-1.78%	-4.71%
			2650	1.972	37.106	2.018	38.945	-2.28%	-4.72%
			2680	1.993	37.059	2.051	38.907	-2.83%	-4.75%
			2700	2.007	37.012	2.073	38.882	-3.18%	-4.81%
07/01/2024	5200-5800 Head	21.1	5180	4.500	35.407	4.635	36.009	-2.91%	-1.67%
			5190	4.510	35.388	4.645	35.998	-2.91%	-1.69%
			5200	4.520	35.368	4.655	35.986	-2.90%	-1.72%
			5210	4.527	35.348	4.666	35.975	-2.98%	-1.74%
			5220	4.536	35.331	4.676	35.963	-2.99%	-1.76%
			5240	4.558	35.272	4.696	35.940	-2.94%	-1.86%
			5250	4.569	35.238	4.706	35.929	-2.91%	-1.92%
			5260	4.581	35.212	4.717	35.917	-2.88%	-1.96%
			5270	4.596	35.191	4.727	35.906	-2.77%	-1.99%
			5280	4.611	35.175	4.737	35.894	-2.66%	-2.00%
			5290	4.622	35.164	4.748	35.883	-2.65%	-2.00%
			5300	4.630	35.158	4.758	35.871	-2.69%	-1.99%
			5310	4.640	35.151	4.768	35.860	-2.68%	-1.98%
			5320	4.651	35.138	4.778	35.849	-2.66%	-1.98%
			5500	4.835	34.734	4.963	35.643	-2.58%	-2.55%
			5510	4.849	34.698	4.973	35.632	-2.49%	-2.62%
			5520	4.863	34.671	4.983	35.620	-2.41%	-2.66%
			5530	4.876	34.652	4.994	35.609	-2.36%	-2.69%
			5540	4.887	34.638	5.004	35.597	-2.34%	-2.69%
			5550	4.898	34.624	5.014	35.586	-2.31%	-2.70%
			5560	4.912	34.611	5.024	35.574	-2.23%	-2.71%
			5580	4.934	34.582	5.045	35.551	-2.20%	-2.73%
			5600	4.950	34.537	5.065	35.529	-2.27%	-2.79%
			5610	4.961	34.517	5.076	35.518	-2.27%	-2.82%
			5620	4.973	34.490	5.086	35.506	-2.22%	-2.86%
			5640	4.997	34.441	5.106	35.483	-2.13%	-2.94%
			5660	5.026	34.398	5.127	35.460	-1.97%	-2.99%
			5670	5.038	34.376	5.137	35.449	-1.93%	-3.03%
			5680	5.047	34.366	5.147	35.437	-1.94%	-3.02%
			5690	5.057	34.359	5.158	35.426	-1.96%	-3.01%
			5700	5.069	34.349	5.168	35.414	-1.92%	-3.01%
			5710	5.082	34.330	5.178	35.403	-1.85%	-3.03%
			5720	5.093	34.303	5.188	35.391	-1.83%	-3.07%
			5745	5.119	34.251	5.214	35.363	-1.82%	-3.14%
			5750	5.126	34.241	5.219	35.357	-1.78%	-3.16%
			5755	5.132	34.227	5.224	35.351	-1.76%	-3.18%
			5765	5.143	34.208	5.234	35.340	-1.74%	-3.20%
			5775	5.152	34.187	5.245	35.329	-1.77%	-3.23%
			5785	5.162	34.166	5.255	35.317	-1.77%	-3.26%
			5795	5.174	34.145	5.265	35.305	-1.73%	-3.29%
			5800	5.181	34.137	5.270	35.300	-1.69%	-3.29%
			5800	5.181	34.137	5.270	35.300	-1.69%	-3.29%
			5805	5.186	34.127	5.275	35.294	-1.69%	-3.31%
			5825	5.207	34.094	5.296	35.271	-1.68%	-3.34%
			5835	5.218	34.081	5.305	35.230	-1.64%	-3.26%
			5845	5.231	34.069	5.315	35.210	-1.58%	-3.24%
			5850	5.237	34.062	5.320	35.200	-1.56%	-3.23%
			5855	5.244	34.053	5.325	35.197	-1.52%	-3.25%
			5865	5.256	34.035	5.336	35.190	-1.50%	-3.28%
			5865	5.256	34.035	5.336	35.190	-1.50%	-3.28%
			5865	5.256	34.035	5.336	35.190	-1.50%	-3.28%
			5865	5.256	34.035	5.336	35.190	-1.50%	-3.28%
			5875	5.266	34.022	5.347	35.183	-1.51%	-3.30%
			5885	5.275	34.001	5.357	35.177	-1.53%	-3.34%
			5905	5.294	33.946	5.379	35.163	-1.58%	-3.46%

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 8-2
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
			5180	4.572	35.343	4.635	36.009	-1.36%	-1.85%
			5190	4.582	35.323	4.645	35.998	-1.36%	-1.88%
			5200	4.592	35.302	4.655	35.986	-1.35%	-1.90%
			5210	4.603	35.278	4.666	35.975	-1.35%	-1.94%
			5220	4.615	35.254	4.676	35.963	-1.30%	-1.97%
			5240	4.637	35.205	4.696	35.940	-1.26%	-2.05%
			5250	4.647	35.177	4.706	35.929	-1.25%	-2.09%
			5260	4.659	35.156	4.717	35.917	-1.23%	-2.12%
			5270	4.670	35.134	4.727	35.906	-1.21%	-2.15%
			5280	4.682	35.115	4.737	35.894	-1.16%	-2.17%
			5290	4.693	35.101	4.748	35.883	-1.16%	-2.18%
			5300	4.704	35.085	4.758	35.871	-1.13%	-2.19%
			5310	4.713	35.059	4.768	35.860	-1.15%	-2.23%
			5320	4.721	35.033	4.778	35.849	-1.19%	-2.28%
			5500	4.907	34.633	4.963	35.643	-1.13%	-2.83%
			5510	4.918	34.609	4.973	35.632	-1.11%	-2.87%
			5520	4.931	34.588	4.983	35.620	-1.04%	-2.90%
			5530	4.943	34.566	4.994	35.609	-1.02%	-2.93%
			5540	4.952	34.542	5.004	35.597	-1.04%	-2.96%
			5550	4.962	34.522	5.014	35.586	-1.04%	-2.99%
			5560	4.974	34.506	5.024	35.574	-1.00%	-3.00%
			5580	4.999	34.460	5.045	35.551	-0.91%	-3.07%
			5600	5.018	34.422	5.065	35.529	-0.93%	-3.12%
			5610	5.027	34.401	5.076	35.518	-0.97%	-3.14%
			5620	5.038	34.374	5.086	35.506	-0.94%	-3.19%
			5640	5.066	34.331	5.106	35.483	-0.78%	-3.25%
			5660	5.091	34.296	5.127	35.460	-0.70%	-3.28%
07/08/2024	5200-5800 Head	20.4	5670	5.102	34.282	5.137	35.449	-0.68%	-3.29%
			5680	5.112	34.268	5.147	35.437	-0.68%	-3.30%
			5690	5.122	34.252	5.158	35.426	-0.70%	-3.31%
			5700	5.135	34.231	5.168	35.414	-0.64%	-3.34%
			5710	5.147	34.211	5.178	35.403	-0.60%	-3.37%
			5720	5.158	34.191	5.188	35.391	-0.58%	-3.39%
			5745	5.188	34.130	5.214	35.363	-0.50%	-3.49%
			5750	5.195	34.121	5.219	35.357	-0.46%	-3.50%
			5755	5.201	34.115	5.224	35.351	-0.44%	-3.50%
			5765	5.212	34.103	5.234	35.340	-0.42%	-3.50%
			5775	5.223	34.090	5.245	35.329	-0.42%	-3.51%
			5785	5.234	34.069	5.255	35.317	-0.40%	-3.53%
			5795	5.245	34.054	5.265	35.305	-0.38%	-3.54%
			5800	5.251	34.046	5.270	35.300	-0.36%	-3.55%
			5800	5.251	34.046	5.270	35.300	-0.36%	-3.55%
			5805	5.258	34.039	5.275	35.294	-0.32%	-3.56%
			5825	5.284	34.015	5.296	35.271	-0.23%	-3.56%
			5835	5.294	33.998	5.305	35.230	-0.21%	-3.50%
			5845	5.305	33.982	5.315	35.210	-0.19%	-3.49%
			5850	5.312	33.975	5.320	35.200	-0.15%	-3.48%
			5855	5.317	33.968	5.325	35.197	-0.15%	-3.49%
			5865	5.330	33.951	5.336	35.190	-0.11%	-3.52%
			5865	5.330	33.951	5.336	35.190	-0.11%	-3.52%
			5865	5.330	33.951	5.336	35.190	-0.11%	-3.52%
			5865	5.330	33.951	5.336	35.190	-0.11%	-3.52%
			5875	5.343	33.934	5.347	35.183	-0.07%	-3.55%
			5885	5.354	33.913	5.357	35.177	-0.06%	-3.59%
			5905	5.378	33.880	5.379	35.163	-0.02%	-3.65%
			5935	5.246	36.533	5.411	35.143	-3.05%	3.96%
			5970	5.289	36.479	5.448	35.120	-2.92%	3.87%
			5985	5.309	36.458	5.464	35.110	-2.84%	3.84%
			6000	5.328	36.433	5.480	35.100	-2.77%	3.80%
			6025	5.359	36.387	5.510	35.070	-2.74%	3.76%
			6065	5.415	36.313	5.557	35.022	-2.56%	3.69%
			6075	5.429	36.297	5.569	35.010	-2.51%	3.68%
			6085	5.444	36.281	5.580	34.998	-2.44%	3.67%
			6185	5.571	36.120	5.698	34.878	-2.23%	3.56%
			6275	5.677	35.962	5.805	34.770	-2.20%	3.43%
			6285	5.689	35.946	5.816	34.758	-2.18%	3.42%
			6305	5.712	35.909	5.840	34.734	-2.19%	3.38%
			6345	5.756	35.827	5.887	34.686	-2.23%	3.29%
			6475	5.917	35.609	6.041	34.530	-2.05%	3.12%
			6485	5.930	35.594	6.052	34.518	-2.02%	3.12%
07/15/2024	6000 Head	19.6	6500	5.948	35.570	6.070	34.500	-2.01%	3.10%
			6505	5.954	35.561	6.076	34.494	-2.01%	3.09%
			6545	6.004	35.483	6.122	34.446	-1.93%	3.01%
			6665	6.162	35.279	6.265	34.302	-1.64%	2.85%
			6675	6.174	35.264	6.273	34.290	-1.58%	2.84%
			6685	6.186	35.248	6.285	34.278	-1.58%	2.83%
			6715	6.223	35.202	6.319	34.242	-1.52%	2.80%
			6785	6.306	35.089	6.400	34.158	-1.47%	2.73%
			6825	6.350	35.026	6.447	34.110	-1.50%	2.69%
			6985	6.525	34.758	6.633	33.918	-1.63%	2.48%
			6995	6.538	34.743	6.644	33.906	-1.60%	2.47%
			7000	6.545	34.736	6.650	33.900	-1.58%	2.47%
			7005	6.552	34.728	6.656	33.894	-1.56%	2.46%
			7025	6.577	34.694	6.680	33.870	-1.54%	2.43%
			7500	7.166	33.873	7.240	33.300	-1.02%	1.72%
			7980	7.763	33.069	7.816	32.724	-0.68%	1.05%
			8000	7.792	33.013	7.840	32.700	-0.61%	0.96%

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 8-3
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
08/05/2024	6000 Head	21.7	5935	5.432	34.493	5.411	35.143	0.39%	-1.85%
			5970	5.459	34.443	5.448	35.120	0.20%	-1.93%
			5985	5.470	34.405	5.464	35.110	0.11%	-2.01%
			6000	5.487	34.306	5.480	35.100	0.13%	-2.26%
			6025	5.561	34.319	5.510	35.070	0.93%	-2.14%
			6065	5.585	34.269	5.557	35.022	0.50%	-2.15%
			6075	5.580	34.222	5.569	35.010	0.20%	-2.25%
			6085	5.594	34.181	5.580	34.998	0.25%	-2.33%
			6185	5.731	34.054	5.698	34.878	0.58%	-2.36%
			6275	5.868	33.848	5.805	34.770	1.09%	-2.65%
			6285	5.864	33.860	5.816	34.758	0.83%	-2.58%
			6305	5.881	33.822	5.840	34.734	0.70%	-2.63%
			6345	5.952	33.729	5.887	34.686	1.10%	-2.76%
			6475	6.117	33.523	6.041	34.530	1.26%	-2.92%
			6485	6.141	33.527	6.052	34.518	1.47%	-2.87%
			6500	6.131	33.480	6.070	34.500	1.00%	-2.96%
			6505	6.122	33.471	6.076	34.494	0.76%	-2.97%
			6545	6.174	33.297	6.122	34.446	0.85%	-3.34%
			6665	6.300	33.128	6.265	34.302	0.56%	-3.42%
			6675	6.327	33.078	6.273	34.290	0.86%	-3.53%
			6685	6.349	33.051	6.285	34.278	1.02%	-3.58%
			6715	6.384	33.135	6.319	34.242	1.03%	-3.23%
			6785	6.444	32.867	6.400	34.158	0.69%	-3.78%
			6825	6.513	32.878	6.447	34.110	1.02%	-3.61%
			6985	6.650	32.665	6.633	33.918	0.26%	-3.69%
			6995	6.645	32.601	6.644	33.906	0.02%	-3.85%
			7000	6.647	32.559	6.650	33.900	-0.05%	-3.96%
			7005	6.651	32.521	6.656	33.894	-0.08%	-4.05%
			7025	6.713	32.407	6.680	33.870	0.49%	-4.32%

The above measured tissue parameters were used in the DASY software. The DASY software was used to perform interpolation to determine the dielectric parameters at the SAR test device frequencies (per KDB Publication 865664 D01v01r04 and IEEE 1528-2013 6.6.1.2. The tissue parameters listed in the SAR test plots may slightly differ from the table above due to significant digit rounding in the software.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

8.2 Test System Verification

Prior to SAR assessment, the system is verified to ±10% of the SAR measurement on the reference dipole at the time of calibration by the calibration facility. Full system validation status and result summary can be found in the SAR System Validation Appendix.

Table 8-4
System Verification Results

System Verification TARGET & MEASURED																					
SAR System	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp. (C)	Liquid Temp. (C)	Input Power (W)	Source SN	Probe SN	DAE	Measured SAR 1g (W/kg)	1W Target SAR 1g (W/kg)	1W Normalized SAR 1g (W/kg)	Deviation 1g (%)	Measured SAR 10g (W/kg)	1W Target SAR 10g (W/kg)	1W Normalized SAR 10g (W/kg)	Deviation 10g (%)	Measured 4cm2 APD (W/m2)	1W Target 4cm2 APD (W/m2)	1W Normalized 4cm2 APD (W/m2)	Deviation 4cm2 APD (%)
K4	2450	HEAD	07-08-2024	21.3	20.3	0.10	882	7565	1466	5.32	53.00	53.20	0.38%	2.48	24.90	24.80	-0.40%	0.00	0.00	0.00	0.00%
K4	2450	HEAD	07-15-2024	20.9	20.1	0.10	882	7565	1466	5.51	53.00	55.10	3.96%	2.56	24.90	25.60	2.81%	0.00	0.00	0.00	0.00%
K4	2450	HEAD	07-17-2024	22.5	22.2	0.10	882	7565	1466	5.31	53.00	53.10	0.19%	2.46	24.90	24.60	-1.20%	0.00	0.00	0.00	0.00%
K6	5250	HEAD	07-01-2024	21.8	21.1	0.05	1120	7402	1502	3.77	80.70	75.40	-6.57%	1.08	23.10	21.60	-6.49%	0.00	0.00	0.00	0.00%
K6	5250	HEAD	07-08-2024	21.3	20.4	0.05	1120	7402	1502	3.84	80.70	76.80	-4.83%	1.10	23.10	22.00	-4.76%	0.00	0.00	0.00	0.00%
K6	5600	HEAD	07-01-2024	21.8	21.1	0.05	1120	7402	1502	4.13	83.50	82.60	-1.08%	1.18	23.80	23.60	-0.84%	0.00	0.00	0.00	0.00%
K6	5600	HEAD	07-08-2024	21.3	20.4	0.05	1120	7402	1502	3.94	83.50	78.80	-5.63%	1.11	23.80	22.20	-6.72%	0.00	0.00	0.00	0.00%
K6	5750	HEAD	07-01-2024	21.8	21.1	0.05	1120	7402	1502	4.02	79.80	80.40	0.75%	1.15	22.60	23.00	1.77%	0.00	0.00	0.00	0.00%
K6	5750	HEAD	07-08-2024	21.3	20.4	0.05	1120	7402	1502	3.92	79.80	78.40	-1.75%	1.12	22.60	22.40	-0.88%	0.00	0.00	0.00	0.00%
K6	5850	HEAD	07-01-2024	21.8	21.1	0.05	1120	7402	1502	3.90	81.60	78.00	-4.41%	1.11	23.20	22.20	-4.31%	0.00	0.00	0.00	0.00%
K6	5850	HEAD	07-08-2024	21.3	20.4	0.05	1120	7402	1502	4.11	81.60	82.20	0.74%	1.17	23.20	23.40	0.86%	0.00	0.00	0.00	0.00%
AM7	6500	HEAD	07-15-2024	19.9	19.5	0.03	1019	7421	604	7.31	293.00	292.40	-0.20%	1.32	54.10	52.80	-2.40%	32.30	1320.00	1292.00	-2.12%
C	6500	HEAD	08-05-2024	23.0	21.7	0.03	1111	7659	1407	7.30	291.00	292.00	0.34%	1.36	53.50	54.40	1.68%	33.00	1300.00	1320.00	1.54%

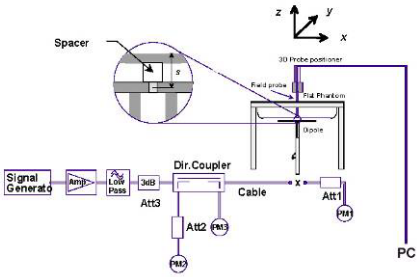


Figure 8-1
System Verification Setup Diagram

Figure 8-2
System Verification Setup Photo

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

8.3 Power Density Test System Verification

The system was verified to be within ±0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check.

The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes.

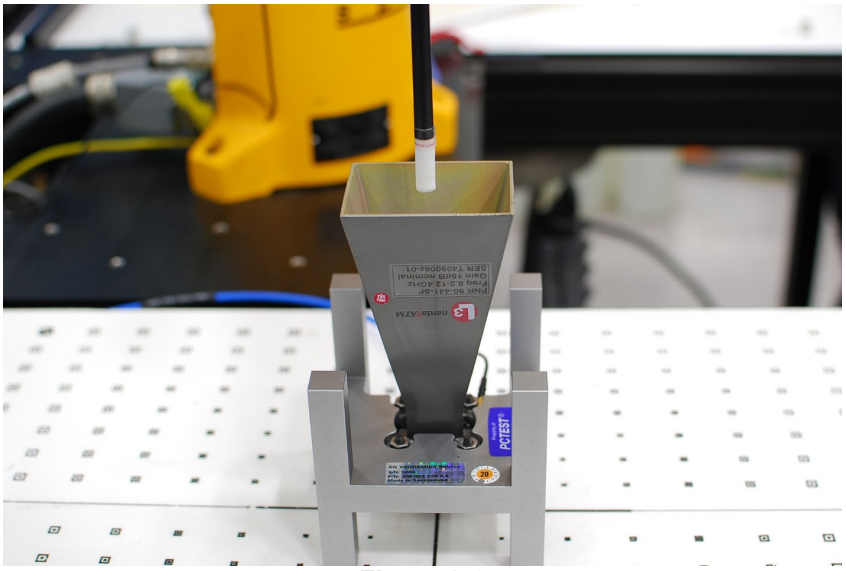


Figure 8-3
System Verification Setup Photo

Table 8-5
10 GHz Verifications

System Verification											
System	Frequency (GHz)	Date	Source S/N	Probe S/N	Prad (mW)	Normal psPD (W/m² over 4 cm²)		Deviation (dB)	Total psPD (W/m² over 4 cm²)		Deviation (dB)
						Measured	Target		Measured	Target	
Q	10	7/28/2024	1002	9622	93.3	60.70	54.60	0.46	61.00	54.90	0.46

Note: A **10 mm distance spacing** was used from the reference horn antenna aperture to the probe element.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

9 SAR DATA SUMMARY

9.1 2.4 GHz WLAN SISO Standalone SAR

Table 9-1
2.4 GHz WLAN Ant 1 Tablet Max Power

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	1	0024M	98.59	-0.03	2412.00	1	1	16.0	15.59	Back	15	0.133	1.099	1.014	0.148	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	1	0024M	98.59	-0.04	2412.00	1	1	16.0	15.59	Top	19	0.060	1.099	1.014	0.067	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	1	0024M	98.59	0.04	2412.00	1	1	16.0	15.59	Right	0	0.012	1.099	1.014	0.013	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	1	0024M	98.59	0.01	2412.00	1	1	16.0	15.59	Left	9	0.269	1.099	1.014	0.300	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 9-2
2.4 GHz WLAN Ant 1 Tablet with Grip Sensor Active

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	1	0024M	98.59	0.04	2412.00	1	1	13.5	13.07	Back	0	0.670	1.104	1.014	0.750	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	1	0024M	98.59	-0.04	2412.00	1	1	13.5	13.07	Top	0	0.166	1.104	1.014	0.186	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	1	0024M	98.59	0.01	2412.00	1	1	13.5	13.07	Left	0	0.574	1.104	1.014	0.643	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 9-3
2.4 GHz WLAN Ant 1 Laptop

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Configuration	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	1	Laptop	0024M	98.59	0.05	2412.00	1	1	13.5	13.07	Bottom	0	Variant 1	0.103	1.104	1.014	0.115	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	1	Laptop	0024M	98.59	-0.06	2412.00	1	1	13.5	13.07	Bottom	0	Variant 2	0.380	1.104	1.014	0.425	A2
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 9-4
2.4 GHz WLAN Ant 2 Tablet Max Power

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	2	1937M	98.59	0.02	2437.00	6	1	16.0	15.62	Back	16	0.101	1.091	1.014	0.112	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	2	1937M	98.59	0.03	2437.00	6	1	16.0	15.62	Top	20	0.078	1.091	1.014	0.086	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	2	0024M	98.59	-0.01	2437.00	6	1	16.0	15.62	Right	7	0.427	1.091	1.014	0.472	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	2	0024M	98.59	-0.10	2437.00	6	1	16.0	15.62	Left	0	0.008	1.091	1.014	0.009	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 9-5
2.4 GHz WLAN Ant 2 Tablet with Grip Sensor Active

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	2	1937M	98.59	0.01	2437.00	6	1	13.5	13.31	Back	0	0.408	1.045	1.014	0.432	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	2	1937M	98.59	0.00	2437.00	6	1	13.5	13.31	Top	0	0.202	1.045	1.014	0.214	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	2	0024M	98.59	0.04	2437.00	6	1	13.5	13.31	Right	0	0.676	1.045	1.014	0.716	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 9-6
2.4 GHz WLAN Ant 2 Tablet with 5 GHz WLAN Active

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	2	0024M	98.59	0.00	2437.00	6	1	12.5	11.89	Back	0	0.340	1.151	1.014	0.397	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	2	1937M	98.59	-0.02	2437.00	6	1	12.5	11.89	Top	0	0.167	1.151	1.014	0.195	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	2	0024M	98.59	0.06	2437.00	6	1	12.5	11.89	Right	0	0.517	1.151	1.014	0.603	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 9-7
2.4 GHz WLAN Ant 2 Laptop

posure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Configuration	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	2	Laptop	0024M	98.59	0.07	2437.00	6	1	16.0	15.62	Bottom	0	Variant 1	0.000	1.091	1.014	0.000	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	2	Laptop	0024M	98.59	0.08	2437.00	6	1	16.0	15.62	Bottom	0	Variant 2	0.001	1.091	1.014	0.001	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram							

9.2 2.4 GHz WLAN MIMO Standalone SAR

Table 9-8
2.4 GHz WLAN MIMO Tablet Max Power

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Peak Number	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1	0024M	98.61	-0.05	2437.00	6	1	16.0	15.58	16.0	15.36	Back	15	0.083	1.159	1.014	0.098	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	2	0024M	98.61	-0.01	2437.00	6	1	16.0	15.58	16.0	15.36	Back	15	0.072	1.159	1.014	0.085	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	N/A	0024M	98.61	0.07	2437.00	6	1	16.0	15.58	16.0	15.36	Top	19	0.065	1.159	1.014	0.076	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	N/A	0024M	98.61	-0.02	2437.00	6	1	16.0	15.58	16.0	15.36	Right	7	0.383	1.159	1.014	0.450	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	N/A	0024M	98.61	0.03	2437.00	6	1	16.0	15.58	16.0	15.36	Left	9	0.282	1.159	1.014	0.331	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 9-9
2.4 GHz WLAN MIMO Tablet with Grip Sensor Active

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Peak Number	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1	0024M	98.61	0.03	2412.00	1	1	13.5	13.25	13.5	13.33	Back	0	N/A	0.689	1.059	1.014	0.740	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	2	0024M	98.61	0.01	2412.00	1	1	13.5	13.25	13.5	13.33	Back	0	N/A	0.432	1.059	1.014	0.464	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	N/A	0024M	98.61	0.02	2412.00	1	1	13.5	13.25	13.5	13.33	Top	0	N/A	0.220	1.059	1.014	0.236	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	N/A	0024M	98.61	0.03	2412.00	1	1	13.5	13.25	13.5	13.33	Right	0	N/A	0.699	1.059	1.014	0.751	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	N/A	0024M	98.61	-0.05	2412.00	1	1	13.5	13.25	13.5	13.33	Left	0	N/A	0.740	1.059	1.014	0.795	A1
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	N/A	0024M	98.61	-0.01	2412.00	1	1	13.5	13.25	13.5	13.33	Left	0	Variant 1	0.080	1.059	1.014	0.086	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	N/A	0024M	98.61	0.01	2412.00	1	1	13.5	13.25	13.5	13.33	Left	0	Variant 2	0.266	1.059	1.014	0.286	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	N/A	0018M	98.61	0.04	2437.00	6	1	13.5	13.13	13.5	12.85	Left	0	N/A	0.620	1.161	1.014	0.730	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	N/A	0018M	98.61	-0.01	2462.00	11	1	13.5	13.26	13.5	13.12	Left	0	N/A	0.662	1.091	1.014	0.732	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: To achieve the 16.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 13.5 dBm.

Table 9-10
2.4 GHz WLAN MIMO Tablet with 5/6 GHz WLAN Active

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Peak Number	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1	0024M	98.61	0.00	2412.00	1	1	12.5	12.10	12.5	11.85	Back	0	0.554	1.161	1.014	0.652	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	2	0024M	98.61	0.03	2412.00	1	1	12.5	12.10	12.5	11.85	Back	0	0.343	1.161	1.014	0.404	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	N/A	0024M	98.61	0.03	2412.00	1	1	12.5	12.10	12.5	11.85	Top	0	0.192	1.161	1.014	0.226	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	N/A	0024M	98.61	-0.02	2412.00	1	1	12.5	12.10	12.5	11.85	Right	0	0.523	1.161	1.014	0.616	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	N/A	0024M	98.61	0.02	2412.00	1	1	12.5	12.10	12.5	11.85	Left	0	0.536	1.161	1.014	0.631	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: To achieve the 15.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 12.5 dBm.

Table 9-11
2.4 GHz WLAN MIMO Laptop

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Configuration	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	Laptop	0024M	98.61	-0.02	2412.00	1	1	13.5	13.25	13.5	13.33	Bottom	0	Variant 1	0.083	1.059	1.014	0.089	
Body	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	Laptop	0024M	98.61	0.03	2412.00	1	1	13.5	13.25	13.5	13.33	Bottom	0	Variant 2	0.337	1.059	1.014	0.362	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram						

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

9.3 5 GHz WLAN SISO Standalone SAR

Table 9-12
5 GHz WLAN Ant 1 Tablet Max Power

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	1	0018M	97.55	-0.16	5300.00	60	U-NII-2A	6.0	18.0	17.85	Back	15	0.083	1.035	1.025	0.088	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	1	0018M	97.55	0.11	5600.00	120	U-NII-2C	6.0	18.0	17.83	Back	15	0.118	1.040	1.025	0.126	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	-0.08	5775.00	155	U-NII-3	29.3	14.0	13.62	Back	15	0.036	1.091	1.058	0.042	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	1	0018M	97.55	-0.21	5845.00	169	U-NII-4	6.0	18.0	17.81	Back	15	0.108	1.045	1.025	0.116	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	1	0018M	97.55	0.02	5300.00	60	U-NII-2A	6.0	18.0	17.85	Top	19	0.041	1.035	1.025	0.043	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	1	0018M	97.55	0.02	5600.00	120	U-NII-2C	6.0	18.0	17.83	Top	19	0.058	1.040	1.025	0.062	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	0.02	5775.00	155	U-NII-3	29.3	14.0	13.62	Top	19	0.020	1.091	1.058	0.023	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	1	0018M	97.55	-0.16	5845.00	169	U-NII-4	6.0	18.0	17.81	Top	19	0.059	1.045	1.025	0.063	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	1	0018M	97.55	0.05	5300.00	60	U-NII-2A	6.0	18.0	17.85	Right	0	0.010	1.035	1.025	0.011	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	1	0018M	97.55	-0.15	5600.00	120	U-NII-2C	6.0	18.0	17.83	Right	0	0.016	1.040	1.025	0.017	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	-0.15	5775.00	155	U-NII-3	29.3	14.0	13.62	Right	0	0.004	1.091	1.058	0.005	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	1	0018M	97.55	0.01	5845.00	169	U-NII-4	6.0	18.0	17.81	Right	0	0.009	1.045	1.025	0.010	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	1	0018M	97.55	-0.02	5300.00	60	U-NII-2A	6.0	18.0	17.85	Left	9	0.351	1.035	1.025	0.372	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	1	0018M	97.55	-0.04	5600.00	120	U-NII-2C	6.0	18.0	17.83	Left	9	0.565	1.040	1.025	0.602	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	-0.01	5775.00	155	U-NII-3	29.3	14.0	13.62	Left	9	0.218	1.091	1.058	0.252	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	1	0018M	97.55	0.02	5845.00	169	U-NII-4	6.0	18.0	17.81	Left	9	0.529	1.045	1.025	0.567	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 9-13
5 GHz WLAN Ant 1 Tablet with Grip Sensor Active

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	-0.10	5290.00	58	U-NII-2A	29.3	9.5	8.48	Back	0	0.628	1.265	1.058	0.840	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	0.16	5690.00	138	U-NII-2C	29.3	8.5	8.26	Back	0	0.583	1.058	1.058	0.653	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	0.06	5775.00	155	U-NII-3	29.3	8.5	8.16	Back	0	0.709	1.082	1.058	0.812	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	0.08	5855.00	171	U-NII-4	29.3	8.5	8.02	Back	0	0.601	1.117	1.058	0.710	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	0.02	5290.00	58	U-NII-2A	29.3	9.5	8.48	Top	0	0.111	1.265	1.058	0.149	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	0.07	5690.00	138	U-NII-2C	29.3	8.5	8.26	Top	0	0.166	1.058	1.058	0.186	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	0.07	5775.00	155	U-NII-3	29.3	8.5	8.16	Top	0	0.143	1.082	1.058	0.164	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	0.13	5855.00	171	U-NII-4	29.3	8.5	8.02	Top	0	0.108	1.117	1.058	0.128	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	-0.03	5290.00	58	U-NII-2A	29.3	9.5	8.48	Left	0	0.599	1.265	1.058	0.802	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	0.05	5690.00	138	U-NII-2C	29.3	8.5	8.26	Left	0	0.562	1.058	1.058	0.629	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	-0.09	5775.00	155	U-NII-3	29.3	8.5	8.16	Left	0	0.441	1.082	1.058	0.505	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	0018M	94.52	-0.03	5855.00	171	U-NII-4	29.3	8.5	8.02	Left	0	0.408	1.117	1.058	0.482	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 9-14
5 GHz WLAN Ant 1 Laptop

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Configuration	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	Laptop	2303M	94.52	-0.05	5290.00	58	U-NII-2A	29.3	9.5	8.48	Bottom	0	Variant 1	0.112	1.265	1.058	0.150	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	Laptop	2281M	94.52	0.10	5290.00	58	U-NII-2A	29.3	9.5	8.48	Bottom	0	Variant 2	0.110	1.265	1.058	0.147	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	Laptop	2303M	94.52	-0.05	5690.00	138	U-NII-2C	29.3	8.5	8.26	Bottom	0	Variant 1	0.132	1.058	1.058	0.148	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	Laptop	2281M	94.52	-0.07	5690.00	138	U-NII-2C	29.3	8.5	8.26	Bottom	0	Variant 2	0.183	1.058	1.058	0.205	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	Laptop	2303M	94.52	0.05	5775.00	155	U-NII-3	29.3	8.5	8.16	Bottom	0	Variant 1	0.110	1.082	1.058	0.126	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	Laptop	2281M	94.52	0.19	5775.00	155	U-NII-3	29.3	8.5	8.16	Bottom	0	Variant 2	0.210	1.082	1.058	0.240	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	Laptop	2303M	94.52	-0.10	5855.00	171	U-NII-4	29.3	8.5	8.02	Bottom	0	Variant 1	0.092	1.117	1.058	0.109	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	1	Laptop	2281M	94.52	0.18	5855.00	171	U-NII-4	29.3	8.5	8.02	Bottom	0	Variant 2	0.142	1.117	1.058	0.168	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 9-15
5 GHz WLAN Ant 2 Tablet Max Power

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	0018M	97.55	-0.09	5260.00	52	U-NII-2A	6.0	18.0	17.57	Back	16	0.052	1.104	1.025	0.059	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	0018M	97.55	0.01	5500.00	100	U-NII-2C	6.0	18.0	17.68	Back	16	0.058	1.076	1.025	0.064	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	0018M	94.55	0.05	5775.00	155	U-NII-3	29.3	14.0	13.80	Back	16	0.025	1.047	1.058	0.028	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	0018M	97.55	0.08	5845.00	169	U-NII-4	6.0	18.0	17.95	Back	16	0.075	1.012	1.025	0.078	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	0018M	97.55	0.05	5260.00	52	U-NII-2A	6.0	18.0	17.57	Top	20	0.019	1.104	1.025	0.022	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	0018M	97.55	0.06	5500.00	100	U-NII-2C	6.0	18.0	17.68	Top	20	0.025	1.076	1.025	0.028	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	0018M	94.55	0.05	5775.00	155	U-NII-3	29.3	14.0	13.80	Top	20	0.015	1.047	1.058	0.017	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	0018M	97.55	0.01	5845.00	169	U-NII-4	6.0	18.0	17.95	Top	20	0.045	1.012	1.025	0.047	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	0018M	97.55	0.00	5260.00	52	U-NII-2A	6.0	18.0	17.57	Right	7	0.335	1.104	1.025	0.379	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	0018M	97.55	0.03	5500.00	100	U-NII-2C	6.0	18.0	17.68	Right	7	0.458	1.076	1.025	0.505	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	0018M	94.55	0.15	5775.00	155	U-NII-3	29.3	14.0	13.80	Right	7	0.197	1.047	1.058	0.218	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	0018M	97.55	0.03	5845.00	169	U-NII-4	6.0	18.0	17.95	Right	7	0.532	1.012	1.025	0.552	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	1937M	97.55	0.01	5260.00	52	U-NII-2A	6.0	18.0	17.57	Left	0	0.005	1.104	1.025	0.006	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	1937M	97.55	0.06	5500.00	100	U-NII-2C	6.0	18.0	17.68	Left	0	0.000	1.076	1.025	0.000	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	0018M	94.55	0.05	5775.00	155	U-NII-3	29.3	14.0	13.80	Left	0	0.000	1.047	1.058	0.000	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	1937M	97.55	0.07	5845.00	169	U-NII-4	6.0	18.0	17.95	Left	0	0.000	1.012	1.025	0.000	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram						

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 9-16
5 GHz WLAN Ant 2 Tablet with Grip Sensor Active

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	1937M	94.55	0.08	5290.00	58	U-NII-2A	29.3	9.5	8.14	Back	0	0.092	1.368	1.058	0.133	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	1937M	94.55	0.08	5690.00	138	U-NII-2C	29.3	8.5	8.00	Back	0	0.119	1.122	1.058	0.141	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	1937M	94.55	0.01	5775.00	155	U-NII-3	29.3	8.5	7.85	Back	0	0.117	1.161	1.058	0.144	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	1937M	94.55	0.09	5855.00	171	U-NII-4	29.3	8.5	7.35	Back	0	0.107	1.303	1.058	0.148	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	1937M	94.55	0.16	5290.00	58	U-NII-2A	29.3	9.5	8.14	Top	0	0.049	1.368	1.058	0.071	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	1937M	94.55	0.15	5690.00	138	U-NII-2C	29.3	8.5	8.00	Top	0	0.062	1.122	1.058	0.074	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	1937M	94.55	0.07	5775.00	155	U-NII-3	29.3	8.5	7.85	Top	0	0.058	1.161	1.058	0.071	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	1937M	94.55	0.05	5855.00	171	U-NII-4	29.3	8.5	7.35	Top	0	0.052	1.303	1.058	0.072	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	1937M	94.55	-0.01	5290.00	58	U-NII-2A	29.3	9.5	8.14	Right	0	0.207	1.368	1.058	0.300	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	1937M	94.55	-0.07	5690.00	138	U-NII-2C	29.3	8.5	8.00	Right	0	0.373	1.122	1.058	0.443	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	1937M	94.55	0.02	5775.00	155	U-NII-3	29.3	8.5	7.85	Right	0	0.286	1.161	1.058	0.351	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	1937M	94.55	0.04	5855.00	171	U-NII-4	29.3	8.5	7.35	Right	0	0.313	1.303	1.058	0.431	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 9-17
5 GHz WLAN Ant 2 Laptop

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Configuration	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	Laptop	0018M	97.55	0.01	5260.00	52	U-NII-2A	6.0	18.0	17.57	Bottom	0	Variant 1	0.002	1.104	1.025	0.002	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	Laptop	1937M	97.55	0.06	5260.00	52	U-NII-2A	6.0	18.0	17.57	Bottom	0	Variant 2	0.000	1.104	1.025	0.000	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	Laptop	0018M	97.55	0.09	5500.00	100	U-NII-2C	6.0	18.0	17.68	Bottom	0	Variant 1	0.000	1.076	1.025	0.000	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	Laptop	1937M	97.55	0.01	5500.00	100	U-NII-2C	6.0	18.0	17.68	Bottom	0	Variant 2	0.000	1.076	1.025	0.000	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	Laptop	0018M	94.55	0.05	5825.00	155	U-NII-3	29.3	14.0	13.80	Bottom	0	Variant 1	0.010	1.047	1.058	0.011	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	2	Laptop	1937M	94.55	0.01	5825.00	155	U-NII-3	29.3	14.0	13.80	Bottom	0	Variant 2	0.000	1.047	1.058	0.000	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	Laptop	0018M	97.55	0.02	5845.00	169	U-NII-4	6.0	18.0	17.95	Bottom	0	Variant 1	0.004	1.012	1.025	0.004	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	2	Laptop	1937M	97.55	0.05	5845.00	169	U-NII-4	6.0	18.0	17.95	Bottom	0	Variant 2	0.000	1.012	1.025	0.000	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

9.4 5 GHz WLAN MIMO Standalone SAR

Table 9-18
5 GHz WLAN MIMO Tablet Max Power

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Peak Number	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power [2nd ant] [dBm]	Conducted Power [2nd ant] [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	1	0018M	97.55	0.05	5260.00	52	U-NII-2A	6.0	18.0	17.73	18.0	17.75	Back	15	0.087	1.064	1.025	0.095	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	2	0018M	97.55	0.05	5260.00	52	U-NII-2A	6.0	18.0	17.73	18.0	17.75	Back	15	0.041	1.064	1.025	0.045	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	1	0018M	97.55	0.03	5620.00	124	U-NII-2C	6.0	18.0	17.88	18.0	17.82	Back	15	0.137	1.042	1.025	0.146	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	2	0018M	97.55	0.03	5620.00	124	U-NII-2C	6.0	18.0	17.88	18.0	17.82	Back	15	0.055	1.042	1.025	0.059	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	1937M	90.36	0.08	5775.00	155	U-NII-3	58.5	14.0	13.71	14.0	12.96	Back	15	0.045	1.271	1.107	0.063	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	1937M	90.36	0.03	5775.00	155	U-NII-3	58.5	14.0	13.71	14.0	12.96	Back	15	0.007	1.271	1.107	0.010	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	1	0018M	97.55	0.02	5845.00	169	U-NII-4	6.0	18.0	17.93	18.0	17.89	Back	15	0.105	1.026	1.025	0.110	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	2	0018M	97.55	0.05	5845.00	169	U-NII-4	6.0	18.0	17.93	18.0	17.89	Back	15	0.055	1.026	1.025	0.058	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	N/A	0018M	97.55	0.06	5260.00	52	U-NII-2A	6.0	18.0	17.73	18.0	17.75	Top	19	0.034	1.064	1.025	0.037	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	N/A	0018M	97.55	0.05	5620.00	124	U-NII-2C	6.0	18.0	17.88	18.0	17.82	Top	19	0.073	1.042	1.025	0.078	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	1937M	90.36	0.17	5775.00	155	U-NII-3	58.5	14.0	13.71	14.0	12.96	Top	19	0.032	1.271	1.107	0.045	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	N/A	0018M	97.55	0.07	5845.00	169	U-NII-4	6.0	18.0	17.93	18.0	17.89	Top	19	0.068	1.026	1.025	0.072	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	N/A	0018M	97.55	0.12	5260.00	52	U-NII-2A	6.0	18.0	17.73	18.0	17.75	Right	7	0.336	1.064	1.025	0.366	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	N/A	0018M	97.55	0.03	5620.00	124	U-NII-2C	6.0	18.0	17.88	18.0	17.82	Right	7	0.490	1.042	1.025	0.523	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	1937M	90.36	0.03	5775.00	155	U-NII-3	58.5	14.0	13.71	14.0	12.96	Right	7	0.124	1.271	1.107	0.174	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	N/A	0018M	97.55	-0.19	5845.00	169	U-NII-4	6.0	18.0	17.93	18.0	17.89	Right	7	0.478	1.026	1.025	0.503	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	N/A	0018M	97.55	-0.06	5260.00	52	U-NII-2A	6.0	18.0	17.73	18.0	17.75	Left	9	0.389	1.064	1.025	0.424	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	N/A	0018M	97.55	0.07	5620.00	124	U-NII-2C	6.0	18.0	17.88	18.0	17.82	Left	9	0.649	1.042	1.025	0.693	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	1937M	90.36	0.10	5775.00	155	U-NII-3	58.5	14.0	13.71	14.0	12.96	Left	9	0.292	1.271	1.107	0.411	
Body	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	N/A	0018M	97.55	0.02	5845.00	169	U-NII-4	6.0	18.0	17.93	18.0	17.89	Left	9	0.600	1.026	1.025	0.631	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: To achieve the 21/17 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18/14 dBm.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 9-19
5 GHz WLAN MIMO Tablet with Grip Sensor Active

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Peak Number	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	0018M	90.36	-0.07	5290.00	58	U-NII-2A	58.5	9.5	8.62	9.5	8.23	Back	0	N/A	0.759	1.340	1.107	1.126	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	0018M	90.36	0.01	5290.00	58	U-NII-2A	58.5	9.5	8.62	9.5	8.23	Back	0	N/A	0.098	1.340	1.107	0.145	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	0018M	90.36	0.18	5530.00	106	U-NII-2C	58.5	8.5	7.95	8.5	7.35	Back	0	N/A	0.519	1.303	1.107	0.749	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	0018M	90.36	-0.07	5530.00	106	U-NII-2C	58.5	8.5	7.95	8.5	7.35	Back	0	N/A	0.100	1.303	1.107	0.144	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	0018M	90.36	0.06	5610.00	122	U-NII-2C	58.5	8.5	8.30	8.5	7.12	Back	0	N/A	0.693	1.374	1.107	1.054	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	0018M	90.36	0.07	5610.00	122	U-NII-2C	58.5	8.5	8.30	8.5	7.12	Back	0	N/A	0.103	1.374	1.107	0.157	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	0018M	90.36	0.16	5690.00	138	U-NII-2C	58.5	8.5	8.39	8.5	7.67	Back	0	N/A	0.846	1.211	1.107	1.134	A3
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	0018M	90.36	0.02	5690.00	138	U-NII-2C	58.5	8.5	8.39	8.5	7.67	Back	0	N/A	0.128	1.211	1.107	0.172	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	1937M	90.36	0.03	5690.00	138	U-NII-2C	58.5	8.5	8.39	8.5	7.67	Back	0	Variant 1	0.049	1.211	1.107	0.066	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	1937M	90.36	0.01	5690.00	138	U-NII-2C	58.5	8.5	8.39	8.5	7.67	Back	0	Variant 1	0.009	1.211	1.107	0.012	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	1937M	90.36	-0.06	5690.00	138	U-NII-2C	58.5	8.5	8.39	8.5	7.67	Back	0	Variant 2	0.050	1.211	1.107	0.067	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	1937M	90.36	0.02	5690.00	138	U-NII-2C	58.5	8.5	8.39	8.5	7.67	Back	0	Variant 2	0.008	1.211	1.107	0.011	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	0018M	90.36	-0.14	5690.00	138	U-NII-2C	58.5	8.5	8.39	8.5	7.67	Back	0	N/A	0.810	1.211	1.107	1.086	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	1937M	90.36	0.02	5690.00	138	U-NII-2C	58.5	8.5	8.39	8.5	7.67	Back	0	N/A	0.092	1.211	1.107	0.123	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	0018M	90.36	0.17	5775.00	155	U-NII-3	58.5	8.5	8.10	8.5	6.90	Back	0	N/A	0.625	1.445	1.107	1.000	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	0018M	90.36	0.02	5775.00	155	U-NII-3	58.5	8.5	8.10	8.5	6.90	Back	0	N/A	0.101	1.445	1.107	0.162	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	0018M	90.36	0.02	5855.00	171	U-NII-4	58.5	8.5	8.24	8.5	7.27	Back	0	N/A	0.698	1.327	1.107	1.025	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	0018M	90.36	0.07	5855.00	171	U-NII-4	58.5	8.5	8.24	8.5	7.27	Back	0	N/A	0.101	1.327	1.107	0.148	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.03	5290.00	58	U-NII-2A	58.5	9.5	8.62	9.5	8.23	Top	0	N/A	0.121	1.340	1.107	0.179	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.02	5690.00	138	U-NII-2C	58.5	8.5	8.39	8.5	7.67	Top	0	N/A	0.171	1.211	1.107	0.229	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.03	5775.00	155	U-NII-3	58.5	8.5	8.10	8.5	6.90	Top	0	N/A	0.160	1.445	1.107	0.256	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	-0.18	5855.00	171	U-NII-4	58.5	8.5	8.24	8.5	7.27	Top	0	N/A	0.106	1.327	1.107	0.156	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.13	5290.00	58	U-NII-2A	58.5	9.5	8.62	9.5	8.23	Right	0	N/A	0.289	1.340	1.107	0.429	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.04	5690.00	138	U-NII-2C	58.5	8.5	8.39	8.5	7.67	Right	0	N/A	0.423	1.211	1.107	0.567	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.07	5775.00	155	U-NII-3	58.5	8.5	8.10	8.5	6.90	Right	0	N/A	0.290	1.445	1.107	0.464	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.04	5855.00	171	U-NII-4	58.5	8.5	8.24	8.5	7.27	Right	0	N/A	0.339	1.327	1.107	0.498	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	-0.14	5290.00	58	U-NII-2A	58.5	9.5	8.62	9.5	8.23	Left	0	N/A	0.557	1.340	1.107	0.826	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	-0.07	5690.00	138	U-NII-2C	58.5	8.5	8.39	8.5	7.67	Left	0	N/A	0.585	1.211	1.107	0.784	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	-0.04	5775.00	155	U-NII-3	58.5	8.5	8.10	8.5	6.90	Left	0	N/A	0.583	1.445	1.107	0.933	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	-0.08	5855.00	171	U-NII-4	58.5	8.5	8.24	8.5	7.27	Left	0	N/A	0.597	1.327	1.107	0.877	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Body 1.6 W/kg (mW/g) averaged over 1 gram							

Note: Blue entry represents variability measurement

Note: To achieve the 12.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 9.5 dBm.

Table 9-20
5 GHz WLAN MIMO Tablet with 2.4 GHz WLAN Active

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Peak Number	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	0018M	90.36	-0.03	5290.00	58	U-NII-2A	58.5	8.5	7.88	8.5	7.34	Back	0	0.535	1.306	1.107	0.773	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	0018M	90.36	-0.20	5290.00	58	U-NII-2A	58.5	8.5	7.88	8.5	7.34	Back	0	0.073	1.306	1.107	0.106	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	0018M	90.36	0.01	5610.00	122	U-NII-2C	58.5	7.5	7.38	7.5	6.68	Back	0	0.515	1.208	1.107	0.689	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	0018M	90.36	0.03	5610.00	122	U-NII-2C	58.5	7.5	7.38	7.5	6.68	Back	0	0.085	1.208	1.107	0.114	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	0018M	90.36	-0.01	5775.00	155	U-NII-3	58.5	7.5	7.19	7.5	6.21	Back	0	0.566	1.346	1.107	0.843	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	0018M	90.36	-0.08	5775.00	155	U-NII-3	58.5	7.5	7.19	7.5	6.21	Back	0	0.060	1.346	1.107	0.089	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1	0018M	90.36	0.00	5855.00	171	U-NII-4	58.5	7.5	7.12	7.5	6.03	Back	0	0.474	1.403	1.107	0.736	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	2	0018M	90.36	0.04	5855.00	171	U-NII-4	58.5	7.5	7.12	7.5	6.03	Back	0	0.057	1.403	1.107	0.089	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.13	5290.00	58	U-NII-2A	58.5	8.5	7.88	8.5	7.34	Top	0	0.093	1.306	1.107	0.134	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.08	5610.00	122	U-NII-2C	58.5	7.5	7.38	7.5	6.68	Top	0	0.124	1.208	1.107	0.166	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.04	5775.00	155	U-NII-3	58.5	7.5	7.19	7.5	6.21	Top	0	0.112	1.346	1.107	0.167	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.11	5855.00	171	U-NII-4	58.5	7.5	7.12	7.5	6.03	Top	0	0.082	1.403	1.107	0.127	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.08	5290.00	58	U-NII-2A	58.5	8.5	7.88	8.5	7.34	Right	0	0.245	1.306	1.107	0.354	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	-0.01	5610.00	122	U-NII-2C	58.5	7.5	7.38	7.5	6.68	Right	0	0.342	1.208	1.107	0.457	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.21	5775.00	155	U-NII-3	58.5	7.5	7.19	7.5	6.21	Right	0	0.269	1.346	1.107	0.401	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.11	5855.00	171	U-NII-4	58.5	7.5	7.12	7.5	6.03	Right	0	0.259	1.403	1.107	0.402	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	-0.03	5290.00	58	U-NII-2A	58.5	8.5	7.88	8.5	7.34	Left	0	0.454	1.306	1.107	0.656	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.09	5610.00	122	U-NII-2C	58.5	7.5	7.38	7.5	6.68	Left	0	0.365	1.208	1.107	0.488	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.03	5775.00	155	U-NII-3	58.5	7.5	7.19	7.5	6.21	Left	0	0.343	1.346	1.107	0.511	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	N/A	0018M	90.36	0.07	5855.00	171	U-NII-4	58.5	7.5	7.12	7.5	6.03	Left	0	0.327	1.403	1.107	0.508	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: To achieve the 11.5/10.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 8.5/7.5 dBm.

Table 9-21
5 GHz WLAN MIMO Laptop

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Configuration	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	Laptop	0018M	90.36	0.03	5290.00	58	U-NII-2A	58.5	9.5	8.62	9.5	8.23	Bottom	0	Variant 1	0.037	1.340	1.107	0.055	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	Laptop	1937M	90.36	0.13	5290.00	58	U-NII-2A	58.5	9.5	8.62	9.5	8.23	Bottom	0	Variant 2	0.229	1.340	1.107	0.340	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	Laptop	0018M	90.36	0.15	5690.00	138	U-NII-2C	58.5	8.5	8.39	8.5	7.67	Bottom	0	Variant 1	0.055	1.211	1.107	0.074	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	Laptop	1937M	90.36	-0.08	5690.00	138	U-NII-2C	58.5	8.5	8.39	8.5	7.67	Bottom	0	Variant 2	0.308	1.211	1.107	0.413	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	Laptop	0018M	90.36	0.09	5775.00	155	U-NII-3	58.5	8.5	8.10	8.5	6.90	Bottom	0	Variant 1	0.041	1.446	1.107	0.066	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	Laptop	1937M	90.36	0.03	5775.00	155	U-NII-3	58.5	8.5	8.10	8.5	6.90	Bottom	0	Variant 2	0.309	1.446	1.107	0.495	A4
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	Laptop	0018M	90.36	-0.04	5855.00	171	U-NII-4	58.5	8.5	8.24	8.5	7.27	Bottom	0	Variant 1	0.072	1.328	1.107	0.106	
Body	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	Laptop	1937M	90.36	0.06	5855.00	171	U-NII-4	58.5	8.5	8.24	8.5	7.27	Bottom	0	Variant 2	0.272	1.328	1.107	0.400	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Body 1.6 W/kg (mW/g) averaged over 1 gram							

Note: To achieve the 12.5/11.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 9.5/8.5 dBm.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

9.5 6 GHz SISO Standalone SAR and APD

Table 9-22
6 GHz WLAN Ant 1 Tablet Max Power

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.04	5985.00	7	34	10.0	9.84	Back	15	0.006	1.038	1.064	0.007	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.01	6545.00	119	34	11.0	10.85	Back	15	0.002	1.035	1.064	0.002	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.07	5985.00	7	34	10.0	9.84	Top	19	0.005	1.038	1.064	0.006	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.08	6545.00	119	34	11.0	10.85	Top	19	0.000	1.035	1.064	0.000	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.09	5985.00	7	34	10.0	9.84	Right	0	0.000	1.038	1.064	0.000	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.06	6545.00	119	34	11.0	10.85	Right	0	0.002	1.035	1.064	0.002	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.05	5985.00	7	34	10.0	9.84	Left	9	0.050	1.038	1.064	0.055	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.02	6545.00	119	34	11.0	10.85	Left	9	0.006	1.035	1.064	0.007	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						
Exposure	**Band/ Mode**	**Bandwidth [MHz]**	**Service/ Modulation**	**Ant.**	**Serial Number**	**Duty Cycle [%]**	**Power Drift [dB]**	**Frequency [MHz]**	**Channel #**	**Data Rate [Mbps]**	**Max Allowed Power [dBm]**	**Conducted Power [dBm]**	**Test Position**	**Spacing [mm]**	**Measured APD [W/m² (4cm²)]**	**Power Scaling Factor**	**Duty Cycle Scaling Factor**	**Reported APD [W/m² (4cm²)]**	**Plot #**
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.04	5985.00	7	34	10.0	9.84	Back	15	0.040	1.038	1.064	0.044	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.01	6545.00	119	34	11.0	10.85	Back	15	0.022	1.035	1.064	0.024	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.07	5985.00	7	34	10.0	9.84	Top	19	0.028	1.038	1.064	0.031	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.08	6545.00	119	34	11.0	10.85	Top	19	0.010	1.035	1.064	0.011	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.09	5985.00	7	34	10.0	9.84	Right	0	0.000	1.038	1.064	0.000	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.06	6545.00	119	34	11.0	10.85	Right	0	0.032	1.035	1.064	0.035	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.05	5985.00	7	34	10.0	9.84	Left	9	0.312	1.038	1.064	0.345	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.02	6545.00	119	34	11.0	10.85	Left	9	0.037	1.035	1.064	0.041	

Table 9-23
6 GHz WLAN Ant 1 Tablet with Grip Sensor Active

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	-0.13	5985.00	7	34	8.0	7.72	Back	0	0.398	1.067	1.064	0.452	A5
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.10	6305.00	71	34	8.0	7.53	Back	0	0.210	1.114	1.064	0.249	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	1	0002M	94.24	-0.07	6525.00	115	16.3	9.0	8.82	Back	0	0.121	1.042	1.061	0.134	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.02	6545.00	119	34	9.0	8.75	Back	0	0.129	1.059	1.064	0.145	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	1	0002M	94.24	0.01	7085.00	227	16.3	9.0	8.61	Back	0	0.093	1.094	1.061	0.108	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	-0.21	5985.00	7	34	8.0	7.72	Top	0	0.043	1.067	1.064	0.049	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	1	0002M	94.24	0.06	6525.00	115	16.3	9.0	8.82	Top	0	0.005	1.042	1.061	0.006	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	-0.05	5985.00	7	34	8.0	7.72	Left	0	0.323	1.067	1.064	0.367	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	1	0002M	94.24	0.02	6525.00	115	16.3	9.0	8.82	Left	0	0.080	1.042	1.061	0.088	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						
Exposure	**Band/ Mode**	**Bandwidth [MHz]**	**Service/ Modulation**	**Ant.**	**Serial Number**	**Duty Cycle [%]**	**Power Drift [dB]**	**Frequency [MHz]**	**Channel #**	**Data Rate [Mbps]**	**Max Allowed Power [dBm]**	**Conducted Power [dBm]**	**Test Position**	**Spacing [mm]**	**Measured APD [W/m² (4cm²)]**	**Power Scaling Factor**	**Duty Cycle Scaling Factor**	**Reported APD [W/m² (4cm²)]**	**Plot #**
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	-0.13	5985.00	7	34	8.0	7.72	Back	0	2.070	1.067	1.064	2.350	A5
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.10	6305.00	71	34	8.0	7.53	Back	0	1.000	1.114	1.064	1.185	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	1	0002M	94.24	-0.07	6525.00	115	16.3	9.0	8.82	Back	0	0.588	1.042	1.061	0.650	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	0.02	6545.00	119	34	9.0	8.75	Back	0	0.617	1.059	1.064	0.695	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	1	0002M	94.24	0.01	7085.00	227	16.3	9.0	8.61	Back	0	0.384	1.094	1.061	0.446	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	-0.21	5985.00	7	34	8.0	7.72	Top	0	0.141	1.067	1.064	0.160	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	1	0002M	94.24	0.06	6525.00	115	16.3	9.0	8.82	Top	0	0.032	1.042	1.061	0.035	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	0002M	94.02	-0.05	5985.00	7	34	8.0	7.72	Left	0	1.560	1.067	1.064	1.771	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	1	0002M	94.24	0.02	6525.00	115	16.3	9.0	8.82	Left	0	0.379	1.042	1.061	0.419	

Table 9-24
6 GHz WLAN Ant 1 Laptop

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Configuration	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	Laptop	0021M	94.02	0.04	5985.00	7	34	8.0	7.72	Bottom	0	Variant 1	0.062	1.067	1.064	0.070	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	Laptop	0021M	94.02	0.03	5985.00	7	34	8.0	7.72	Bottom	0	Variant 2	0.193	1.067	1.064	0.219	A6
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	1	Laptop	0021M	94.24	-0.03	6525.00	115	16.3	9.0	8.82	Bottom	0	Variant 1	0.117	1.042	1.061	0.129	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	1	Laptop	0021M	94.24	0.03	6525.00	115	16.3	9.0	8.82	Bottom	0	Variant 2	0.100	1.042	1.061	0.111	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram							
Exposure	**Band/ Mode**	**Bandwidth [MHz]**	**Service/ Modulation**	**Ant.**	**Housing Type**	**Serial Number**	**Duty Cycle [%]**	**Power Drift [dB]**	**Frequency [MHz]**	**Channel #**	**Data Rate [Mbps]**	**Max Allowed Power [dBm]**	**Conducted Power [dBm]**	**Test Position**	**Spacing [mm]**	**Add'l Info**	**Measured APD [W/m² (4cm²)]**	**Power Scaling Factor**	**Duty Cycle Scaling Factor**	**Reported APD [W/m² (4cm²)]**	**Plot #**
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	Laptop	0021M	94.02	0.04	5985.00	7	34	8.0	7.72	Bottom	0	Variant 1	0.423	1.067	1.064	0.480	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	1	Laptop	0021M	94.02	0.03	5985.00	7	34	8.0	7.72	Bottom	0	Variant 2	1.130	1.067	1.064	1.283	A6
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	1	Laptop	0021M	94.24	-0.03	6525.00	115	16.3	9.0	8.82	Bottom	0	Variant 1	0.851	1.042	1.061	0.941	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	1	Laptop	0021M	94.24	0.03	6525.00	115	16.3	9.0	8.82	Bottom	0	Variant 2	0.533	1.042	1.061	0.589	

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 9-25
6 GHz WLAN Ant 2 Tablet Max Power

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.04	5985.00	7	34	9.0	9.29	Back	16	0.007	0.935	1.063	0.007	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.05	6525.00	115	16.3	10.0	10.52	Back	16	0.008	0.887	1.062	0.008	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.01	5985.00	7	34	9.0	9.29	Top	20	0.004	0.935	1.063	0.004	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.03	6525.00	115	16.3	10.0	10.52	Top	20	0.003	0.887	1.062	0.003	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.18	5985.00	7	34	9.0	9.29	Right	7	0.054	0.935	1.063	0.054	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.06	6525.00	115	16.3	10.0	10.52	Right	7	0.019	0.887	1.062	0.018	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.05	5985.00	7	34	9.0	9.29	Left	0	0.000	0.935	1.063	0.000	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.09	6525.00	115	16.3	10.0	10.52	Left	0	0.002	0.887	1.062	0.002	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						
Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.04	5985.00	7	34	9.0	9.29	Back	16	0.040	0.935	1.063	0.040	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.05	6525.00	115	16.3	10.0	10.52	Back	16	0.061	0.887	1.062	0.057	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.01	5985.00	7	34	9.0	9.29	Top	20	0.017	0.935	1.063	0.017	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.03	6525.00	115	16.3	10.0	10.52	Top	20	0.021	0.887	1.062	0.020	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.18	5985.00	7	34	9.0	9.29	Right	7	0.385	0.935	1.063	0.383	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.06	6525.00	115	16.3	10.0	10.52	Right	7	0.140	0.887	1.062	0.132	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.05	5985.00	7	34	9.0	9.29	Left	0	0.002	0.935	1.063	0.002	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.09	6525.00	115	16.3	10.0	10.52	Left	0	0.009	0.887	1.062	0.008	

Table 9-26
6 GHz WLAN Ant 2 Tablet with Grip Sensor Active

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	-0.16	5985.00	7	34	8.0	7.39	Back	0	0.118	1.151	1.063	0.144	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.17	6545.00	119	34	9.0	8.56	Back	0	0.156	1.107	1.063	0.184	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.13	5985.00	7	34	8.0	7.39	Top	0	0.046	1.151	1.063	0.056	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.06	6545.00	119	34	9.0	8.56	Top	0	0.026	1.107	1.063	0.031	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.02	5985.00	7	34	8.0	7.39	Right	0	0.353	1.151	1.063	0.432	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.19	6305.00	71	34	8.0	7.14	Right	0	0.125	1.219	1.063	0.162	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.01	6525.00	115	16.3	9.0	8.15	Right	0	0.092	1.216	1.062	0.119	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.17	6545.00	119	34	9.0	8.56	Right	0	0.093	1.107	1.063	0.109	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.03	7085.00	227	16.3	9.0	8.33	Right	0	0.165	1.167	1.062	0.204	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						
Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	-0.16	5985.00	7	34	8.0	7.39	Back	0	0.749	1.151	1.063	0.916	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.02	6525.00	115	16.3	9.0	8.15	Back	0	0.936	1.216	1.062	1.209	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.17	6545.00	119	34	9.0	8.56	Back	0	0.982	1.107	1.063	1.156	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.18	7085.00	227	16.3	9.0	8.33	Back	0	0.611	1.167	1.062	0.757	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.13	5985.00	7	34	8.0	7.39	Top	0	0.225	1.151	1.063	0.275	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.06	6545.00	119	34	9.0	8.56	Top	0	0.164	1.107	1.063	0.193	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.02	5985.00	7	34	8.0	7.39	Right	0	1.790	1.151	1.063	2.190	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.19	6305.00	71	34	8.0	7.14	Right	0	0.593	1.219	1.063	0.768	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.01	6525.00	115	16.3	9.0	8.15	Right	0	0.486	1.216	1.062	0.628	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	0002M	94.04	0.17	6545.00	119	34	9.0	8.56	Right	0	0.490	1.107	1.063	0.577	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	0002M	94.19	0.03	7085.00	227	16.3	9.0	8.33	Right	0	0.846	1.167	1.062	1.048	

Table 9-27
6 GHz WLAN Ant 2 Laptop

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Configuration	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	Laptop	0021M	94.04	0.03	5985.00	7	34	10.0	9.29	Bottom	0	Variant 1	0.000	1.178	1.063	0.000	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	Laptop	0021M	94.04	0.03	5985.00	7	34	10.0	9.29	Bottom	0	Variant 2	0.003	1.178	1.063	0.004	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	Laptop	0021M	94.19	0.04	6525.00	115	16.3	11.0	10.52	Bottom	0	Variant 1	0.000	1.117	1.062	0.000	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	Laptop	0021M	94.19	0.03	6525.00	115	16.3	11.0	10.52	Bottom	0	Variant 2	0.000	1.117	1.062	0.000	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram							
Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Housing Type	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	Laptop	0021M	94.04	0.03	5985.00	7	34	10.0	9.29	Bottom	0	Variant 1	0.000	1.178	1.063	0.000	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	2	Laptop	0021M	94.04	0.03	5985.00	7	34	10.0	9.29	Bottom	0	Variant 2	0.031	1.178	1.063	0.039	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	Laptop	0021M	94.19	0.04	6525.00	115	16.3	11.0	10.52	Bottom	0	Variant 1	0.000	1.117	1.062	0.000	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	2	Laptop	0021M	94.19	0.03	6525.00	115	16.3	11.0	10.52	Bottom	0	Variant 2	0.000	1.117	1.062	0.000	

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

9.6 6 GHz MIMO Standalone SAR and APD

Table 9-28
6 GHz WLAN MIMO Tablet Max Power

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Peak Number	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1	0148M	89.95	0.01	5985.00	7	68.1	10.0	9.39	10.0	9.60	Back	15	0.008	1.151	1.112	0.010	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	2	0148M	89.95	0.05	5985.00	7	68.1	10.0	9.39	10.0	9.60	Back	15	0.000	1.151	1.112	0.000	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	1	0148M	90.23	-0.10	7085.00	227	32.5	11.0	10.77	11.0	10.61	Back	15	0.008	1.094	1.108	0.010	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	2	0148M	90.23	0.06	7085.00	227	32.5	11.0	10.77	11.0	10.61	Back	15	0.004	1.094	1.108	0.005	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0148M	89.95	0.02	5985.00	7	68.1	10.0	9.39	10.0	9.60	Top	19	0.004	1.151	1.112	0.005	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	N/A	0021M	90.23	0.05	7085.00	227	32.5	11.0	10.77	11.0	10.61	Top	19	0.005	1.094	1.108	0.006	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0148M	89.95	0.04	5985.00	7	68.1	10.0	9.39	10.0	9.60	Right	7	0.048	1.151	1.112	0.061	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	N/A	0021M	90.23	0.01	7085.00	227	32.5	11.0	10.77	11.0	10.61	Right	7	0.050	1.094	1.108	0.061	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0148M	89.95	0.13	5985.00	7	68.1	10.0	9.39	10.0	9.60	Left	9	0.073	1.151	1.112	0.093	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	N/A	0021M	90.23	0.01	7085.00	227	32.5	11.0	10.77	11.0	10.61	Left	9	0.013	1.094	1.108	0.016	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: To achieve the 13 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 10 dBm.

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.		Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO		0148M	89.95	0.01	5985.00	7	68.1	10.0	9.39	10.0	9.60	Back	15	0.031	1.151	1.112	0.040	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO		0148M	89.95	0.05	5985.00	7	68.1	10.0	9.39	10.0	9.60	Back	15	0.000	1.151	1.112	0.000	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO		0148M	90.23	-0.10	7085.00	227	32.5	11.0	10.77	11.0	10.61	Back	15	0.063	1.094	1.108	0.076	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO		0148M	90.23	0.06	7085.00	227	32.5	11.0	10.77	11.0	10.61	Back	15	0.036	1.094	1.108	0.044	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO		0148M	89.95	0.02	5985.00	7	68.1	10.0	9.39	10.0	9.60	Top	19	0.000	1.151	1.112	0.000	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO		0021M	90.23	0.05	7085.00	227	32.5	11.0	10.77	11.0	10.61	Top	19	0.042	1.094	1.108	0.051	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO		0148M	89.95	0.04	5985.00	7	68.1	10.0	9.39	10.0	9.60	Right	7	0.344	1.151	1.112	0.440	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO		0021M	90.23	0.01	7085.00	227	32.5	11.0	10.77	11.0	10.61	Right	7	0.382	1.094	1.108	0.463	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO		0148M	89.95	0.13	5985.00	7	68.1	10.0	9.39	10.0	9.60	Left	9	0.554	1.151	1.112	0.709	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO		0021M	90.23	0.01	7085.00	227	32.5	11.0	10.77	11.0	10.61	Left	9	0.071	1.094	1.108	0.086	

Note: To achieve the 13 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 10 dBm.

Table 9-29
6 GHz WLAN MIMO Tablet with Grip Sensor Active or 2.4 GHz WLAN Active

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Peak Number	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1	0021M	89.95	0.10	5985.00	7	68.1	8.0	6.83	8.0	7.42	Back	0	N/A	0.309	1.309	1.112	0.450	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	2	0148M	89.95	-0.02	5985.00	7	68.1	8.0	6.83	8.0	7.42	Back	0	N/A	0.100	1.309	1.112	0.146	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	1	0021M	90.23	-0.03	6525.00	115	32.5	9.0	8.71	9.0	8.50	Back	0	N/A	0.235	1.122	1.108	0.292	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	2	0021M	90.23	0.07	6525.00	115	32.5	9.0	8.71	9.0	8.50	Back	0	N/A	0.073	1.122	1.108	0.091	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0021M	89.95	-0.06	5985.00	7	68.1	8.0	6.83	8.0	7.42	Top	0	N/A	0.034	1.309	1.112	0.049	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	N/A	0021M	90.23	0.02	6525.00	115	32.5	9.0	8.71	9.0	8.50	Top	0	N/A	0.049	1.122	1.108	0.061	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0021M	89.95	-0.03	5985.00	7	68.1	8.0	6.83	8.0	7.42	Right	0	N/A	0.258	1.309	1.112	0.376	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	N/A	0021M	90.23	0.02	6525.00	115	32.5	9.0	8.71	9.0	8.50	Right	0	N/A	0.223	1.122	1.108	0.277	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0021M	89.95	-0.15	5985.00	7	68.1	8.0	6.83	8.0	7.42	Left	0	N/A	0.340	1.309	1.112	0.495	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0021M	89.95	0.03	5985.00	7	68.1	8.0	6.83	8.0	7.42	Left	0	Variant 1	0.030	1.309	1.112	0.044	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0021M	89.95	-0.13	5985.00	7	68.1	8.0	6.83	8.0	7.42	Left	0	Variant 2	0.067	1.309	1.112	0.098	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0148M	89.95	0.06	6305.00	71	68.1	8.0	7.31	8.0	6.92	Left	0	N/A	0.261	1.282	1.112	0.372	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	N/A	0021M	90.23	0.04	6525.00	115	32.5	9.0	8.71	9.0	8.50	Left	0	N/A	0.146	1.122	1.108	0.182	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0021M	89.95	0.05	6545.00	119	68.1	9.0	8.72	9.0	8.43	Left	0	N/A	0.157	1.140	1.112	0.199	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	N/A	0021M	90.23	0.01	7085.00	227	32.5	9.0	8.66	9.0	8.19	Left	0	N/A	0.127	1.205	1.108	0.170	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram							

Note: To achieve the 12/11 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 9/8 dBm.

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Peak Number	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1	0021M	89.95	0.10	5985.00	7	68.1	8.0	6.83	8.0	7.42	Back	0	N/A	1.710	1.309	1.112	2.489	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	2	0148M	89.95	-0.02	5985.00	7	68.1	8.0	6.83	8.0	7.42	Back	0	N/A	0.659	1.309	1.112	0.959	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	1	0021M	90.23	-0.03	6525.00	115	32.5	9.0	8.71	9.0	8.50	Back	0	N/A	1.450	1.122	1.108	1.803	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	2	0021M	90.23	0.07	6525.00	115	32.5	9.0	8.71	9.0	8.50	Back	0	N/A	0.408	1.122	1.108	0.507	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0021M	89.95	-0.06	5985.00	7	68.1	8.0	6.83	8.0	7.42	Top	0	N/A	0.044	1.309	1.112	0.064	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	N/A	0021M	90.23	0.02	6525.00	115	32.5	9.0	8.71	9.0	8.50	Top	0	N/A	0.250	1.122	1.108	0.311	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0021M	89.95	-0.03	5985.00	7	68.1	8.0	6.83	8.0	7.42	Right	0	N/A	1.380	1.309	1.112	2.009	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	N/A	0021M	90.23	0.02	6525.00	115	32.5	9.0	8.71	9.0	8.50	Right	0	N/A	1.240	1.122	1.108	1.542	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0021M	89.95	-0.15	5985.00	7	68.1	8.0	6.83	8.0	7.42	Left	0	N/A	1.600	1.309	1.112	2.329	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0021M	89.95	0.03	5985.00	7	68.1	8.0	6.83	8.0	7.42	Left	0	Variant 1	0.170	1.309	1.112	0.247	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0021M	89.95	-0.13	5985.00	7	68.1	8.0	6.83	8.0	7.42	Left	0	Variant 2	0.427	1.309	1.112	0.622	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0148M	89.95	0.06	6305.00	71	68.1	8.0	7.31	8.0	6.92	Left	0	N/A	1.360	1.282	1.112	1.939	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	N/A	0021M	90.23	0.04	6525.00	115	32.5	9.0	8.71	9.0	8.50	Left	0	N/A	0.708	1.122	1.108	0.880	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	N/A	0021M	89.95	0.05	6545.00	119	68.1	9.0	8.72	9.0	8.43	Left	0	N/A	0.782	1.140	1.112	0.991	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	N/A	0021M	90.23	0.01	7085.00	227	32.5	9.0	8.66	9.0	8.19	Left	0	N/A	0.601	1.205	1.108	0.802	

Note: To achieve the 12/11 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 9/8 dBm.

Table 9-30
6 GHz WLAN MIMO Laptop

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Configuration	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	Laptop	0148M	89.95	0.09	5985.00	7	68.1	8.0	6.83	8.0	7.42	Bottom	0	Variant 1	0.043	1.310	1.112	0.063	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	Laptop	0148M	89.95	0.02	5985.00	7	68.1	8.0	6.83	8.0	7.42	Bottom	0	Variant 2	0.119	1.310	1.112	0.173	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	Laptop	0021M	90.23	-0.02	6525.00	115	32.5	9.0	8.71	9.0	8.50	Bottom	0	Variant 1	0.017	1.122	1.108	0.021	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	Laptop	0021M	90.23	0.03	6525.00	115	32.5	9.0	8.71	9.0	8.50	Bottom	0	Variant 2	0.150	1.122	1.108	0.186	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram							

Note: To achieve the 12/11 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 9/8 dBm.

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Housing Type	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Plot #
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	Laptop	0148M	89.95	0.09	5985.00	7	68.1	8.0	6.83	8.0	7.42	Bottom	0	Variant 1	0.292	1.310	1.112	0.425	
Body	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	Laptop	0148M	89.95	0.02	5985.00	7	68.1	8.0	6.83	8.0	7.42	Bottom	0	Variant 2	0.692	1.310	1.112	1.008	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	Laptop	0021M	90.23	-0.02	6525.00	115	32.5	9.0	8.71	9.0	8.50	Bottom	0	Variant 1	0.128	1.122	1.108	0.159	
Body	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	Laptop	0021M	90.23	0.03	6525.00	115	32.5	9.0	8.71	9.0	8.50	Bottom	0	Variant 2	0.825	1.122	1.108	1.026	

Note: To achieve the 12/11 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 9/8 dBm.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

9.7 Bluetooth SISO Standalone SAR

Table 9-31
Bluetooth Ant 1 Tablet Max Power

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz Bluetooth	FHSS	1	0024M	76.80	0.00	2441.00	39	1	17.5	16.96	Back	15	0.075	1.132	1.016	0.086	
Body	2.4 GHz Bluetooth	FHSS	1	0024M	76.80	0.03	2441.00	39	1	17.5	16.96	Top	19	0.034	1.132	1.016	0.039	
Body	2.4 GHz Bluetooth	FHSS	1	0024M	76.80	0.00	2441.00	39	1	17.5	16.96	Right	0	0.003	1.132	1.016	0.003	
Body	2.4 GHz Bluetooth	FHSS	1	0024M	76.80	0.00	2441.00	39	1	17.5	16.96	Left	9	0.172	1.132	1.016	0.198	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 9-32
Bluetooth Ant 1 Tablet with Grip Sensor Active

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz Bluetooth	FHSS	1	0024M	76.80	0.00	2441.00	39	1	11.5	10.97	Back	0	0.291	1.130	1.016	0.334	
Body	2.4 GHz Bluetooth	FHSS	1	0024M	76.80	-0.06	2441.00	39	1	11.5	10.97	Top	0	0.083	1.130	1.016	0.095	
Body	2.4 GHz Bluetooth	FHSS	1	0024M	76.80	0.03	2441.00	39	1	11.5	10.97	Left	0	0.281	1.130	1.016	0.323	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 9-33
Bluetooth Ant 1 Laptop

Exposure	Band / Mode	Service / Modulation	Ant.	Configuration	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz Bluetooth	FHSS	1	Laptop	0024M	76.80	0.03	2441.00	39	1	11.5	10.97	Bottom	0	Variant 1	0.040	1.130	1.016	0.046	
Body	2.4 GHz Bluetooth	FHSS	1	Laptop	0024M	76.80	0.04	2441.00	39	1	11.5	10.97	Bottom	0	Variant 2	0.167	1.130	1.016	0.192	A8
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 9-34
Bluetooth Ant 2 Tablet Max Power

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz Bluetooth	FHSS	2	0024M	76.80	-0.05	2441.00	39	1	16.0	15.72	Back	16	0.045	1.067	1.016	0.049	
Body	2.4 GHz Bluetooth	FHSS	2	0024M	76.80	-0.12	2441.00	39	1	16.0	15.72	Top	20	0.044	1.067	1.016	0.048	
Body	2.4 GHz Bluetooth	FHSS	2	0024M	76.80	-0.06	2441.00	39	1	16.0	15.72	Right	7	0.181	1.067	1.016	0.196	
Body	2.4 GHz Bluetooth	FHSS	2	0024M	76.80	0.09	2441.00	39	1	16.0	15.72	Left	0	0.005	1.067	1.016	0.005	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 9-35
Bluetooth Ant 2 Tablet with Grip Sensor Active

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz Bluetooth	FHSS	2	0024M	76.80	0.01	2441.00	39	1	11.5	11.10	Back	0	N/A	0.237	1.096	1.016	0.264	
Body	2.4 GHz Bluetooth	FHSS	2	0024M	76.80	-0.04	2441.00	39	1	11.5	11.10	Top	0	N/A	0.118	1.096	1.016	0.131	
Body	2.4 GHz Bluetooth	FHSS	2	0024M	76.80	0.00	2441.00	39	1	11.5	11.10	Right	0	N/A	0.408	1.096	1.016	0.454	A7
Body	2.4 GHz Bluetooth	FHSS	2	0024M	76.80	0.01	2441.00	39	1	11.5	11.10	Right	0	Variant 1	0.361	1.096	1.016	0.402	
Body	2.4 GHz Bluetooth	FHSS	2	0024M	76.80	-0.06	2441.00	39	1	11.5	11.10	Right	0	Variant 2	0.243	1.096	1.016	0.271	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 9-36
Bluetooth Ant 2 Laptop

Exposure	Band / Mode	Service / Modulation	Ant.	Configuration	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Plot #
Body	2.4 GHz Bluetooth	FHSS	2	Laptop	0024M	76.80	0.02	2441.00	39	1	16.0	15.72	Bottom	0	Variant 1	0.002	1.067	1.016	0.002	
Body	2.4 GHz Bluetooth	FHSS	2	Laptop	0024M	76.80	0.02	2441.00	39	1	16.0	15.72	Bottom	0	Variant 2	0.001	1.067	1.016	0.001	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram							

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

9.8 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, FCC KDB Publication 447498 D04v01, and FCC KDB Publication 616217 D04v01r02.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. 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.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D04v01.
6. FCC KDB Publication 616217 D04v01r02 Section 4.3, SAR tests are required for the back surface and edges of the tablet with the tablet touching the phantom. The SAR Exclusion Threshold in FCC KDB 447498 D04v01 was applied to determine SAR test exclusion for adjacent edge configurations.
7. Per FCC KDB 616217 D04, SAR is evaluated for the bottom surface of a keyboard when it is attached to the DUT in laptop configuration.
8. Per FCC KDB 648474 D04, highest reported SAR tablet configuration for a transmission band on an antenna was additionally evaluated with keyboard accessory attached and folded back at 360˚
9. The orange highlights throughout the report represent the highest scaled SAR per Equipment Class.
10. Peak number 1 and 2 correspond to Ant 1 and Ant 2 of DUT respectively

WLAN Notes:

1. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n/ax/be) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 6.2.4 for more information.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg for 1g evaluations. See Section 6.2.5 for more information.
3. Per KDB Publication 248227 D01v02r02, SAR for MIMO was evaluated by following the simultaneous SAR provisions from KDB Publication 447498 D04v01 by either evaluating the sum of the 1g SAR values of each antenna transmitting independently or making a SAR measurement with both antennas transmitting simultaneously. Please see the Simultaneous Numerical Calculations Appendix for complete analysis.
4. 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.
5. 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. Procedures used to measure the duty factor are identical to that in the associated EMC test reports.
6. Per FCC guidance, SAR was performed using 6.5 GHz SAR probe calibration factors. Per October 2020 TCB Workshop notes, 5 channels were tested.

Bluetooth Notes

1. Bluetooth SAR was measured with the device connected to a call box with hopping disabled with DH5 operation and Tx Tests test mode type. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 78% transmission duty factor for Bluetooth. See RF Conducted Power Section for the time domain plot and calculation for the duty factor of the device.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

10 POWER DENSITY DATA SUMMARY

10.1 6 GHz WIFI Power Density Results

Table 10-1
6 GHz WLAN Ant 1 Tablet

MEASUREMENT RESULTS																						
Frequency (MHz)	Channel	Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Power Drift (dB)	Spacing (mm)	Peak	Antenna Config.	DUT Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Grid Step (λ)	Scaling Factor for Measurement Uncertainty per IEC 62479	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Normal psPD (W/m²)	Scaled Normal psPD (W/m²)	Total psPD (W/m²)	Scaled Total psPD (W/m²)	Plot #
6545.00	119	802.11ax	OFDM	80	11.00	10.85	0.13	2	N/A	1	0148M	34.0	Back	94.02	0.125	1.554	1.035	1.064	0.193	0.330	0.252	0.431	
6545.00	119	802.11ax	OFDM	80	11.00	10.85	0.15	2	N/A	1	0148M	34.0	Top	94.02	0.125	1.554	1.035	1.064	0.187	0.320	0.202	0.346	
6545.00	119	802.11ax	OFDM	80	11.00	10.85	-0.16	2	N/A	1	0148M	34.0	Right	94.02	0.125	1.554	1.035	1.064	0.148	0.253	0.159	0.272	
5985.00	7	802.11ax	OFDM	80	10.00	9.84	0.17	2	N/A	1	0148M	34.0	Left	94.02	0.125	1.554	1.038	1.064	2.530	4.342	3.240	5.561	
6305.00	71	802.11ax	OFDM	80	10.00	9.34	0.00	2	N/A	1	0148M	34.0	Left	94.02	0.125	1.554	1.164	1.064	0.090	0.173	0.100	0.192	
6525.00	115	802.11ax	OFDM	40	11.00	10.69	0.12	2	N/A	1	0148M	16.3	Left	94.24	0.125	1.554	1.074	1.061	0.627	1.110	0.983	1.741	
6545.00	119	802.11ax	OFDM	80	11.00	10.85	-0.13	2	N/A	1	0148M	34.0	Left	94.02	0.125	1.554	1.035	1.064	0.560	0.958	0.961	1.645	
7085.00	227	802.11ax	OFDM	40	11.00	10.82	-0.02	2	N/A	1	0148M	16.3	Left	94.24	0.125	1.554	1.042	1.061	0.612	1.051	0.887	1.524	
47 CFR §1.1310 - SAFETY LIMIT Spatial Average Uncontrolled Exposure / General Population											Power Density 10 W/m² averaged over 4 cm²												

Table 10-2
6 GHz WLAN Ant 1 Laptop

MEASUREMENT RESULTS																						
Frequency (MHz)	Channel	Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Power Drift (dB)	Spacing (mm)	Antenna Config.	Keyboard	DUT Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Grid Step (λ)	Scaling Factor for Measurement Uncertainty per IEC 62479	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Normal psPD (W/m²)	Scaled Normal psPD (W/m²)	Total psPD (W/m²)	Scaled Total psPD (W/m²)	Plot #
6545.00	119	802.11ax	OFDM	80	11.00	10.85	0.16	2	Ant 1	Variant 1	0148M	13	Bottom	94.02	0.125	1.554	1.035	1.064	0.208	0.356	0.291	0.498	
6545.00	119	802.11ax	OFDM	80	11.00	10.85	-0.13	2	Ant 1	Variant 2	0148M	13	Bottom	99.60	0.125	1.554	1.035	1.004	0.351	0.567	0.439	0.709	A10
47 CFR §1.1310 - SAFETY LIMIT Spatial Average Uncontrolled Exposure / General Population											Power Density 10 W/m² averaged over 4 cm²												

Table 10-3
6 GHz WLAN Ant 2 Tablet

MEASUREMENT RESULTS																						
Frequency (MHz)	Channel	Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Power Drift (dB)	Spacing (mm)	Peak	Antenna Config.	DUT Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Grid Step (λ)	Scaling Factor for Measurement Uncertainty per IEC 62479	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Normal psPD (W/m²)	Scaled Normal psPD (W/m²)	Total psPD (W/m²)	Scaled Total psPD (W/m²)	Plot #
5985.00	7	802.11ax	OFDM	80	10.00	9.29	0.10	2	N/A	2	0148M	34.0	Back	94.04	0.125	1.554	1.178	1.063	0.690	1.343	0.772	1.502	
6305.00	71	802.11ax	OFDM	80	10.00	9.23	0.16	2	N/A	2	0148M	34.0	Back	94.04	0.125	1.554	1.194	1.063	0.102	0.201	0.202	0.398	
6525.00	115	802.11ax	OFDM	40	11.00	10.52	0.19	2	N/A	2	0148M	16.3	Back	94.19	0.125	1.554	1.117	1.062	0.709	1.307	0.905	1.668	
6545.00	119	802.11ax	OFDM	80	11.00	10.22	0.13	2	N/A	2	0148M	34.0	Back	94.04	0.125	1.554	1.197	1.063	0.311	0.615	0.539	1.066	
7085.00	227	802.11ax	OFDM	40	11.00	10.43	0.16	2	N/A	2	0148M	16.3	Back	94.19	0.125	1.554	1.140	1.062	0.516	0.971	0.747	1.405	
6525.00	115	802.11ax	OFDM	40	11.00	10.52	-0.14	2	N/A	2	0148M	16.3	Top	94.19	0.125	1.554	1.117	1.062	0.445	0.820	0.455	0.839	
6525.00	115	802.11ax	OFDM	40	11.00	10.52	0.12	2	N/A	2	0148M	16.3	Right	94.19	0.125	1.554	1.117	1.062	0.380	0.701	0.508	0.936	
6525.00	115	802.11ax	OFDM	40	11.00	10.52	-0.13	2	N/A	2	0148M	16.3	Left	94.19	0.125	1.554	1.117	1.062	0.153	0.282	0.163	0.300	
47 CFR §1.1310 - SAFETY LIMIT Spatial Average Uncontrolled Exposure / General Population											Power Density 10 W/m² averaged over 4 cm²												

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Table 10-4
6 GHz WLAN Ant 2 Laptop

MEASUREMENT RESULTS																						
Frequency (MHz)	Channel	Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Power Drift (dB)	Spacing (mm)	Antenna Config.	Keyboard	DUT Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Grid Step (λ)	Scaling Factor for Measurement Uncertainty per IEC 62479	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Normal psPD (W/m²)	Scaled Normal psPD (W/m²)	Total psPD (W/m²)	Scaled Total psPD (W/m²)	Plot #
6525.00	115	802.11ax	OFDM	40	11.00	10.52	0.14	2	Ant 2	Variant 1	0148M	13	Bottom	94.19	0.125	1.554	1.117	1.062	0.131	0.241	0.141	0.260	
6525.00	115	802.11ax	OFDM	40	11.00	10.52	0.00	2	Ant 2	Variant 2	0148M	13	Bottom	99.60	0.125	1.554	1.117	1.004	0.218	0.380	0.232	0.404	
47 CFR §1.1310 - SAFETY LIMIT Spatial Average Uncontrolled Exposure / General Population											Power Density 10 W/m² averaged over 4 cm²												

Table 10-5
6 GHz WLAN MIMO Tablet

MEASUREMENT RESULTS																											
Frequency (MHz)	Channel	Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift (dB)	Spacing (mm)	Peak	Antenna Config.	DUT Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Grid Step (λ)	iPD (W/m²)	Scaling Factor for Measurement Uncertainty per IEC 62479	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Normal psPD (W/m²)	Scaled Normal psPD (W/m²)	Total psPD (W/m²)	Scaled Total psPD (W/m²)	Plot #
7085.00	227	802.11ax	OFDM	40	11.00	10.77	11.00	10.61	-0.09	2	1	MIMO	0148M	32.5	Back	90.23	0.125	-	1.554	1.094	1.108	0.236	0.445	0.327	0.616	
7085.00	227	802.11ax	OFDM	40	11.00	10.77	11.00	10.61	-0.19	2	2	MIMO	0148M	32.5	Back	90.23	0.125	-	1.554	1.094	1.108	0.928	1.748	1.050	1.978	
7085.00	227	802.11ax	OFDM	40	11.00	10.77	11.00	10.61	-0.13	2	1	MIMO	0148M	32.5	Top	90.23	0.125	-	1.554	1.094	1.108	0.094	0.177	0.103	0.194	
7085.00	227	802.11ax	OFDM	40	11.00	10.77	11.00	10.61	0.16	2	2	MIMO	0148M	32.5	Top	90.23	0.125	-	1.554	1.094	1.108	0.305	0.575	0.369	0.695	
7085.00	227	802.11ax	OFDM	40	11.00	10.77	11.00	10.61	0.15	2	1	MIMO	0148M	32.5	Right	90.23	0.125	-	1.554	1.094	1.108	0.620	1.168	0.805	1.516	
5985.00	7	802.11ax	OFDM	80	10.00	9.39	10.00	9.60	-0.13	2	1	MIMO	0148M	68.1	Left	89.95	0.125	-	1.554	1.151	1.112	2.880	5.728	3.840	7.638	A9
5985.00	7	802.11ax	OFDM	80	10.00	9.39	10.00	9.60	-0.11	2	1	MIMO	0148M	68.1	Left	89.95	0.125	-	1.554	1.151	1.112	0.456	0.907	0.492	0.979	
5985.00	7	802.11ax	OFDM	80	10.00	9.39	10.00	9.60	0.12	2	1	MIMO	0148M	68.1	Left	89.95	0.125	-	1.554	1.151	1.112	1.460	2.904	1.670	3.322	
6305.00	71	802.11ax	OFDM	80	10.00	9.83	10.00	9.26	-0.02	2	1	MIMO	0148M	68.1	Left	89.95	0.125	-	1.554	1.186	1.112	1.200	2.459	1.900	3.894	
6525.00	115	802.11ax	OFDM	40	11.00	10.75	11.00	10.45	-0.12	2	1	MIMO	0148M	32.5	Left	90.23	0.125	-	1.554	1.135	1.108	0.685	1.339	0.870	1.700	
6545.00	119	802.11ax	OFDM	80	11.00	10.75	11.00	10.34	-0.18	2	1	MIMO	0148M	68.1	Left	89.95	0.125	-	1.554	1.164	1.112	0.746	1.501	1.030	2.072	
7085.00	227	802.11ax	OFDM	40	11.00	10.77	11.00	10.61	-0.15	2	1	MIMO	0148M	32.5	Left	90.23	0.125	1.080	1.554	1.094	1.108	0.772	1.454	1.180	2.223	
7085.00	227	802.11ax	OFDM	40	11.00	10.77	11.00	10.61	0.13	8.46	1	MIMO	0148M	32.5	Left	90.23	0.125	0.503	1.554	1.094	1.108	0.293	0.552	0.384	0.723	
47 CFR §1.1310 - SAFETY LIMIT Spatial Average Uncontrolled Exposure / General Population												Power Density 10 W/m² averaged over 4 cm²														

Note: To achieve the 14/13 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 11/10 dBm.

Table 10-6
6 GHz WLAN MIMO Laptop

MEASUREMENT RESULTS																											
Frequency (MHz)	Channel	Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift (dB)	Spacing (mm)	Antenna Config.	Keyboard	DUT Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Grid Step (λ)	iPD (W/m²)	Scaling Factor for Measurement Uncertainty per IEC 62479	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Normal psPD (W/m²)	Scaled Normal psPD (W/m²)	Total psPD (W/m²)	Scaled Total psPD (W/m²)	Plot #
7085.00	227	802.11ax	OFDM	40	11.00	10.77	11.00	10.61	0.10	2	MIMO	Variant 1	0148M	13	Bottom	90.23	0.125	-	1.554	1.094	1.108	0.185	0.348	0.226	0.426	
7085.00	227	802.11ax	OFDM	40	11.00	10.77	11.00	10.61	-0.20	2	MIMO	Variant 2	0148M	13	Bottom	99.60	0.125	-	1.554	1.094	1.004	0.143	0.244	0.182	0.311	
47 CFR §1.1310 - SAFETY LIMIT Spatial Average Uncontrolled Exposure / General Population													Power Density 10 W/m² averaged over 4 cm²													

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Power Density General Notes

1. The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
2. Batteries are fully charged at the beginning of the measurements. The DUT was connected to a wall charger for some measurements due to the test duration. It was confirmed that the charger plugged into this DUT did not impact the near-field PD test results.
3. Power density was calculated by repeated E-field measurements on two measurement planes separated by λ/4.
4. 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.
5. Per FCC guidance and equipment manufacturer guidance, power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of 2.68 dB (85.4%) was used to determine the psPD measurement scaling factor.
6. Per equipment manufacturer guidance, power density was measured at d=2mm and d=λ/5mm using the same grid size and grid step size for some frequencies and surfaces. The integrated Power Density (iPD) was calculated based on these measurements. Since iPD ratio between the two distances is ≥ -1dB, the grid step was sufficient for determining compliance at d=2mm.
7. PTP-PR algorithm was used during psPD measurement and calculations.
8. PD results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D04.
9. Peak number 1 and 2 correspond to Ant 1 and Ant 2 of DUT respectively

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

11 SAR MEASUREMENT VARIABILITY

11.1 Measurement Variability

Per FCC KDB Publication 865664 D01v01r04, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:

1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1g SAR limit).
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

Table 11-1
Body SAR Measurement Variability Results

TABLET VARIABILITY RESULTS															
Band	FREQUENCY		Mode	Service	Test Position	Antenna Config	Spacing	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
5750	5690.00	138	5 GHz WIFI/IEEE 802.11ac, 80 MHZ Bandwidth	OFDM	Back	1	0	0.846	0.810	1.04	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram							

11.2 Measurement Uncertainty

The measured SAR was <1.5 W/kg for 1g for all frequency bands. Therefore, per KDB Publication 865664 D01v01r04, the extended measurement uncertainty analysis per IEEE 1528-2013 was not required.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

12 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	E4404B	Spectrum Analyzer	N/A	N/A	N/A	MY45113242
Agilent	E4438C	ESG Vector Signal Generator	11/14/2023	Annual	11/14/2024	MY45093852
Agilent	E4438C	ESG Vector Signal Generator	11/15/2023	Annual	11/15/2024	MY45092078
Agilent	N5182A	MXG Vector Signal Generator	10/12/2023	Annual	10/12/2024	MY47400015
Agilent	N5182A	MXG Vector Signal Generator	03/07/2024	Annual	03/07/2025	MY47420603
Agilent	8753ES	S-Parameter Vector Network Analyzer	01/10/2024	Annual	01/10/2025	MY40001472
Agilent	8753ES	S-Parameter Vector Network Analyzer	03/06/2024	Annual	03/06/2025	MY40000670
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433973
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433974
Anritsu	ML2496A	Power Meter	06/24/2024	Annual	06/24/2025	1840005
Anritsu	ML2495A	Power Meter	07/08/2024	Annual	07/08/2025	1039008
Anritsu	MA2411B	Pulse Power Sensor	08/22/2023	Annual	08/22/2024	1726262
Anritsu	MA2411B	Pulse Power Sensor	11/08/2023	Annual	11/08/2024	1027293
Anritsu	MA24106A	USB Power Sensor	12/04/2023	Annual	12/04/2024	1520501
Anritsu	MA24106A	USB Power Sensor	04/15/2024	Annual	04/15/2025	1827528
Mini-Circuits	PWR-4GHS	USB Power Sensor	06/12/2024	Annual	06/12/2025	12001070013
Control Company	4052	Long Stem Thermometer	02/27/2024	Biennial	02/27/2026	240174346
Control Company	4052	Long Stem Thermometer	02/27/2024	Biennial	02/27/2026	240171096
Control Company	4052	Long Stem Thermometer	02/27/2024	Biennial	02/27/2026	240171059
Control Company	4040	Therm./ Clock/ Humidity Monitor	04/15/2024	Biennial	04/15/2026	240310280
Control Company	4040	Therm./ Clock/ Humidity Monitor	04/15/2024	Biennial	04/15/2026	240310282
Control Company	S66279	Therm./ Clock/ Humidity Monitor	02/16/2024	Biennial	02/16/2026	240140051
Mitutoyo	500-196-30	CD-6"ASX 6Inch Digital Caliper	02/16/2022	Triennial	02/16/2025	A20238413
Keysight Technologies	N9020A	MXA Signal Analyzer	04/11/2024	Annual	04/11/2025	MY54500644
Agilent	N9020A	MXA Signal Analyzer	06/14/2024	Annual	06/14/2025	MY56470202
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
Mini-Circuits	VLF-6000+	Low Pass Filter DC to 6000 MHz	CBT	N/A	CBT	32028
Mini-Circuits	VLF-6000+	Low Pass Filter DC to 6000 MHz	CBT	N/A	CBT	31634
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	UU16601938
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	UU19201507
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	ZUDC10-83-S+	Directional Coupler	CBT	N/A	CBT	2050
Narda	3-72	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Seekonk	NC-100	Torque Wrench	CBT	N/A	CBT	22217
Seekonk	NC-100	Torque Wrench	04/02/2024	Biennial	04/02/2026	1262
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	07/08/2024	Annual	07/08/2025	166818
SPEAG	DAK-3.5	Dielectric Assessment Kit	11/13/2023	Annual	11/13/2024	1277
SPEAG	DAKS-3.5	Portable Dielectric Assessment Kit	08/14/2023	Annual	08/14/2024	1041
SPEAG	MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1237
SPEAG	MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1331
SPEAG	MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1390
SPEAG	D2450V2	2.4 GHz SAR Dipole	02/08/2024	Annual	02/08/2025	882
SPEAG	D5GHzV2	5 GHz SAR Dipole	02/13/2024	Annual	02/13/2025	1120
SPEAG	D6.5GHzV2	6 GHz SAR Dipole	10/11/2023	Annual	10/11/2024	1019
SPEAG	D6.5GHzV2	6 GHz SAR Dipole	02/22/2024	Annual	02/22/2025	1111
SPEAG	5G Verification Source 10GHz	10GHz System Verification Antenna	03/05/2024	Annual	03/05/2025	1002
SPEAG	DAE4	Dasy Data Acquisition Electronics	01/16/2024	Annual	01/16/2025	1466
SPEAG	DAE4	Dasy Data Acquisition Electronics	05/08/2024	Annual	05/08/2025	1502
SPEAG	DAE4	Dasy Data Acquisition Electronics	03/06/2024	Annual	03/06/2025	604
SPEAG	DAE4ip	Dasy Data Acquisition Electronics	11/15/2023	Annual	11/15/2024	1639
SPEAG	DAE4	Dasy Data Acquisition Electronics	04/18/2024	Annual	2024-54-18	1407
SPEAG	EX3DV4	SAR Probe	01/16/2024	Annual	01/16/2025	7565
SPEAG	EX3DV4	SAR Probe	05/10/2024	Annual	05/10/2025	7402
SPEAG	EX3DV4	SAR Probe	03/11/2024	Annual	03/11/2025	7421
SPEAG	EX3DV4	SAR Probe	04/17/2024	Annual	04/17/2025	7659
SPEAG	EUmmWV4	EUmmWV4 Probe	02/02/2024	Annual	02/02/2025	9622

Note: 1) All equipment was used solely within its respective calibration period. 2) CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

13 MEASUREMENT UNCERTAINTIES

Applicable for SAR Measurements < 6 GHz:

Uncertainty Component	IEEE 1528 Sec.	Tol. (± %)	Prob. Dist.	f(d,k) Div.	c_i 1gm	c_i 10 gms	c x f/e 1gm u_i (± %)	c x g/e 10gms u_i (± %)	v_i
Measurement System									
Probe Calibration	E.2.1	7	N	1	1	1	7.0	7.0	∞
Axial Isotropy	E.2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E.2.2	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	E.2.3	2	R	1.73	1	1	1.2	1.2	∞
Linearity	E.2.4	0.3	N	1	1	1	0.3	0.3	∞
System Detection Limits	E.2.4	0.25	R	1.73	1	1	0.1	0.1	∞
Modulation Response	E.2.5	4.8	R	1.73	1	1	2.8	2.8	∞
Readout Electronics	E.2.6	0.3	N	1	1	1	0.3	0.3	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1	1	1.5	1.5	∞
RF Ambient Conditions - Noise	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.8	R	1.73	1	1	0.5	0.5	∞
Probe Positioning w/ respect to Phantom	E.6.3	6.7	R	1.73	1	1	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E.5	4	R	1.73	1	1	2.3	2.3	∞
Test Sample Related									
Test Sample Positioning	E.4.2	3.12	N	1	1	1	3.1	3.1	35
Device Holder Uncertainty	E.4.1	1.67	N	1	1	1	1.7	1.7	5
Output Power Variation - SAR drift measurement	E.2.9	5	R	1.73	1	1	2.9	2.9	∞
SAR Scaling	E.6.5	0	R	1.73	1	1	0.0	0.0	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E.3.1	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	E.3.3	4.3	N	1	0.78	0.71	3.3	3.0	76
Liquid Permittivity - measurement uncertainty	E.3.3	4.2	N	1	0.23	0.26	1.0	1.1	75
Liquid Conductivity - Temperature Uncertainty	E.3.4	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	E.3.4	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	E.3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)			RSS				12.2	12.0	191
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				24.4	24.0	

The above measurement uncertainties are according to IEEE Std. 1528-2013

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Applicable for SAR Measurements > 6 GHz:

				f(d,k)			c x f/e	c x g/e	
Uncertainty Component	IEEE 1528 Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i 1gm	c_i 10 gms	1gm u_i (± %)	10gms u_i (± %)	v_i
Measurement System									
Probe Calibration	E.2.1	9.3	N	1	1	1	9.3	9.3	∞
Axial Isotropy	E.2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E.2.2	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	E.2.3	2	R	1.73	1	1	1.2	1.2	∞
Linearity	E.2.4	0.3	N	1	1	1	0.3	0.3	∞
System Detection Limits	E.2.4	0.25	R	1.73	1	1	0.1	0.1	∞
Modulation Response	E.2.5	4.8	R	1.73	1	1	2.8	2.8	∞
Readout Electronics	E.2.6	0.3	N	1	1	1	0.3	0.3	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1	1	1.5	1.5	∞
RF Ambient Conditions - Noise	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.8	R	1.73	1	1	0.5	0.5	∞
Probe Positioning w/ respect to Phantom	E.6.3	6.7	R	1.73	1	1	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E.5	4	R	1.73	1	1	2.3	2.3	∞
Test Sample Related									
Test Sample Positioning	E.4.2	3.12	N	1	1	1	3.1	3.1	35
Device Holder Uncertainty	E.4.1	1.67	N	1	1	1	1.7	1.7	5
Output Power Variation - SAR drift measurement	E.2.9	5	R	1.73	1	1	2.9	2.9	∞
SAR Scaling	E.6.5	0	R	1.73	1	1	0.0	0.0	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E.3.1	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	E.3.3	4.3	N	1	0.78	0.71	3.3	3.0	76
Liquid Permittivity - measurement uncertainty	E.3.3	4.2	N	1	0.23	0.26	1.0	1.1	75
Liquid Conductivity - Temperature Uncertainty	E.3.4	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	E.3.4	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	E.3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)			RSS				13.8	13.6	191
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				27.6	27.1	

The above measurement uncertainties are according to IEEE Std. 1528-2013

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

Applicable for Power Density Measurements:

a	b	c	d	e	f = c x f/e	g
Uncertainty Component	Unc. (± dB)	Prob. Dist.	Div.	c_i	u_i (± dB)	v_i
Measurement System						
Calibration	0.49	N	1	1	0.49	
Probe Correction	0.00	R	1.73	1	0.00	
Frequency Response	0.20	R	1.73	1	0.12	
Sensor Cross Coupling	0.00	R	1.73	1	0.00	
Isotropy	0.50	R	1.73	1	0.29	
Linearity	0.20	R	1.73	1	0.12	
Probe Scattering	0.00	R	1.73	1	0.00	
Probe Positioning offset	0.30	R	1.73	1	0.17	
Probe Positioning Repeatability	0.04	R	1.73	1	0.02	
Sensor MechanicalOffset	0.00	R	1.73	1	0.00	
Probe Spatial Resolution	0.00	R	1.73	1	0.00	
Field Impedence Dependance	0.00	R	1.73	1	0.00	
Amplitude and Phase Drift	0.00	R	1.73	1	0.00	
Amplitude and Phase Noise	0.04	R	1.73	1	0.02	
Measurement Area Truncation	0.00	R	1.73	1	0.00	
Data Acquisition	0.03	N	1	1	0.03	
Sampling	0.00	R	1.73	1	0.00	
Field Reconstruction	2.00	R	1.73	1	1.15	
Forward Transformation	0.00	R	1.73	1	0.00	
Power Density Scaling	0.00	R	1.73	1	0.00	
Spatial Averaging	0.10	R	1.73	1	0.06	
System Detection Limit	0.04	R	1.73	1	0.02	
Test Sample Related						
Probe Coupling with DUT	0.00	R	1.73	1	0.00	
Modulation Response	0.40	R	1.73	1	0.23	
Integration Time	0.00	R	1.73	1	0.00	
Response Time	0.00	R	1.73	1	0.00	
Device Holder Influence	0.10	R	1.73	1	0.06	
DUT alignment	0.00	R	1.73	1	0.00	
RF Ambient Conditions	0.04	R	1.73	1	0.02	
Ambient Reflections	0.04	R	1.73	1	0.02	
Immunity/Secondary Reception	0.00	R	1.73	1	0.00	
Drift of DUT	0.21	R	1.73	1	0.12	∞
Combined Standard Uncertainty (k=1)		RSS			1.34	
Expanded Uncertainty (95% CONFIDENCE LEVEL)		k=2			2.68	

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

14 CONCLUSION

14.1 Measurement Conclusion

The SAR evaluation indicates that the EUT complies with the RF radiation exposure limits of the FCC and Innovation, Science, and Economic Development Canada, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables. [3]

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

15 REFERENCES

[1] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, Aug. 1996.

[2] ANSI/IEEE C95.1-2005, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, 2006.

[3] ANSI/IEEE C95.1-1992, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, Sept. 1992.

[4] ANSI/IEEE C95.3-2002, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave, New York: IEEE, December 2002.

[5] IEEE Standards Coordinating Committee 39 –Standards Coordinating Committee 34 – 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.

[6] NCRP, National Council on Radiation Protection and Measurements, Biological Effects and Exposure Criteria for RadioFrequency Electromagnetic Fields, NCRP Report No. 86, 1986. Reprinted Feb. 1995.

[7] T. Schmid, O. Egger, N. Kuster, Automated E-field scanning system for dosimetric assessments, IEEE Transaction on Microwave Theory and Techniques, vol. 44, Jan. 1996, pp. 105-113.

[8] K. Pokovic, T. Schmid, N. Kuster, Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies, ICECOM97, Oct. 1997, pp. 1 -124.

[9] K. Pokovic, T. Schmid, and N. Kuster, E-field Probe with improved isotropy in brain simulating liquids, Proceedings of the ELMAR, Zadar, Croatia, June 23-25, 1996, pp. 172-175.

[10] Schmid & Partner Engineering AG, Application Note: Data Storage and Evaluation, June 1998, p2.

[11] V. Hombach, K. Meier, M. Burkhardt, E. Kuhn, N. Kuster, The Dependence of EM Energy Absorption upon Human Modeling at 900 MHz, IEEE Transaction on Microwave Theory and Techniques, vol. 44 no. 10, Oct. 1996, pp. 1865-1873.

[12] N. Kuster and Q. Balzano, Energy absorption mechanism by biological bodies in the near field of dipole antennas above 300MHz, IEEE Transaction on Vehicular Technology, vol. 41, no. 1, Feb. 1992, pp. 17-23.

[13] G. Hartsgrove, A. Kraszewski, A. Surowiec, Simulated Biological Materials for Electromagnetic Radiation Absorption Studies, University of Ottawa, Bioelectromagnetics, Canada: 1987, pp. 29-36.

[14] Q. Balzano, O. Garay, T. Manning Jr., Electromagnetic Energy Exposure of Simulated Users of Portable Cellular Telephones, IEEE Transactions on Vehicular Technology, vol. 44, no.3, Aug. 1995.

[15] W. Gander, Computermathematick, Birkhaeuser, Basel, 1992.

[16] W.H. Press, S.A. Teukolsky, W.T. Vetterling, and B.P. Flannery, Numerical Recipes in C, The Art of Scientific Computing, Second edition, Cambridge University Press, 1992.

[17] N. Kuster, R. Kastle, T. Schmid, Dosimetric evaluation of mobile communications equipment with known precision, IEEE Transaction on Communications, vol. E80-B, no. 5, May 1997, pp. 645-652.

[18] CENELEC CLC/SC111B, European Prestandard (prENV 50166-2), Human Exposure to Electromagnetic Fields High-frequency: 10kHz-300GHz, Jan. 1995.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.

[19] Prof. Dr. Niels Kuster, ETH, Eidgenössische Technische Hoschschule Zürich, Dosimetric Evaluation of the Cellular Phone.

[20] IEC 62209-1, Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 1: Devices used next to the ear (Frequency range of 300 MHz to 6 GHz), July 2016.

[21] Innovation, Science, Economic Development Canada RSS-102 Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) Issue 5, March 2015.

[22] Health Canada Safety Code 6 Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3 kHz – 300 GHz, 2015

[23] FCC SAR Test Procedures for 2G-3G Devices, Mobile Hotspot and UMPC Devices KDB Publications 941225, D01-D07

[24] SAR Measurement Guidance for IEEE 802.11 Transmitters, KDB Publication 248227 D01

[25] FCC SAR Considerations for Handsets with Multiple Transmitters and Antennas, KDB Publications 648474 D03-D04

[26] FCC SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers, FCC KDB Publication 616217 D04

[27] FCC SAR Measurement and Reporting Requirements for 100MHz – 6 GHz, KDB Publications 865664 D01-D02

[28] FCC General RF Exposure Guidance and SAR Procedures for Dongles, KDB Publication 447498, D01-D02

[29] Anexo à Resolução No. 533, de 10 de Septembro de 2009.

[30] IEC 62209-2, Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz), Mar. 2010.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact CT.INFO@ELEMENT.COM.