

Part 0 SAR Char Report



The following samples were submitted and identified on behalf of the client as:

Product Name Notebook
Brand Name Dell
Model No. P190G
Applicant Dell Inc.
One Dell Way, Round Rock, Texas 78682, USA
FCC ID E2K-QCNCM825
Date of EUT Receipt Jan. 31, 2024
Date of Test(s) Mar. 10, 2024 ~ Mar. 15, 2024
Date of Issue May 03, 2024

In the configuration tested, the EUT complied with the standards specified above.

Remarks:

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

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Signed on behalf of SGS

Clerk / Cindy Chou	PM / Kiki Lin	Approved By / John Yeh

Date: May 03, 2024

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Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TESA2401000059ES	00	Initial creation of document	May 03, 2024	Cindy Chou	

Note:

1. The mark " * " is the revised version of the report due to comments submitted by the certification.

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1 INTRODUCTION

Qualcomm® FastConnect™ WIFI Time Averaged SAR (TAS) operates based on a power limit obtained from this SAR and PD compliance test Note characterization report completed on a device. The power limit and other FastConnect WIFI TAS parameters produced in this characterization report must be entered into the board data file (BDF) to enable the FastConnect WIFI TAS feature.

Terminologies in this report

Plimit	The time-averaged RF power which corresponds to SAR_design_target.
Pmax	Maximum target power level
SAR_design_target:	The design target for SAR compliance. It should be less than regulatory power density limit to account for all device design related uncertainties.
SAR char	Plimit for all the technologies/bands

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2 SAR CHARACTERIZATION

The design target (denoted as RFexptarget) for RF exposure compliance (1g SAR or 10g SAR or PD) must be specified for FastConnect WIFI TAS WLAN before determining the power level required to meet the RFexptarget for each radio configuration and usage case supported. The SAR characterization procedure is defined in the section 3.3 of Qualcomm FastConnect document No.:80-39282-3.

2.1 SAR design target and uncertainty

Definitions of the parameters :		
	Total Uncertainty (dBm)	1.5
	1g SAR_design_target (W/Kg)	0.85

To account for total uncertainty, SAR_design_target should be determined as:

$$\text{SAR_design_target} < \text{SAR}_{\text{regulatory limit}} \times 10^{\frac{-\text{total uncertainty}}{10}}$$

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2.2 SAR Char Table

Remark:

1. Pmax is used for RF tune up procedure. The maximum allowed output power is equal to Pmax + TXAGC uncertainty.
2. The Plimit values, corresponding to SAR_design_target.

<Plimit for supported technologies and bands (Plimit in BDF file)>

DSI	Band / Mode	Antenna	Channel	Frequency (MHz)	Modulation	P _{test}	P _{lim} determination for TAS BDF (Power setting in 0.25 step)
DSI 0 (Laptop Mode)	2.4GHz SISO	ANT 0 (Aux_01)	1	2412	11b / 1Mbps	18	17.75
		ANT 0 (Aux_01)	6	2437		18	
		ANT 0 (Aux_01)	11	2462		18	
		ANT 1 (Main_10)	1	2412		18	17.50
		ANT 1 (Main_10)	6	2437		18	
		ANT 1 (Main_10)	11	2462		18	
	2.4GHz MIMO	ANT 0 (Aux_01)	1	2412	11b / 1Mbps	18	17.25
		ANT 1 (Main_10)	1	2412		18	
		ANT 0 (Aux_01)	6	2437		18	
		ANT 1 (Main_10)	6	2437		18	
		ANT 0 (Aux_01)	11	2462		18	
		ANT 1 (Main_10)	11	2462		18	
	5.2GHz MIMO	ANT 0 (Aux_01)	36	5180	11a / 6Mbps	17.25	14.50
		ANT 1 (Main_10)	36	5180		17.25	
		ANT 0 (Aux_01)	40	5200		17.5	
		ANT 1 (Main_10)	40	5200		17.5	
		ANT 0 (Aux_01)	48	5240		17.5	
		ANT 1 (Main_10)	48	5240		17.5	
	5.3GHz MIMO	ANT 0 (Aux_01)	52	5260	11a / 6Mbps	17.5	13.75
		ANT 1 (Main_10)	52	5260		17.5	
		ANT 0 (Aux_01)	60	5300		17.5	
		ANT 1 (Main_10)	60	5300		17.5	
		ANT 0 (Aux_01)	64	5320		17	
		ANT 1 (Main_10)	64	5320		17	
	5.6GHz MIMO	ANT 0 (Aux_01)	100	5500	11a / 6Mbps	17.5	11.00
		ANT 1 (Main_10)	100	5500		17.5	
		ANT 0 (Aux_01)	116	5580		17.5	
		ANT 1 (Main_10)	116	5580		17.5	
		ANT 0 (Aux_01)	140	5700		17.5	
		ANT 1 (Main_10)	140	5700		17.5	
	5.8GHz MIMO	ANT 0 (Aux_01)	149	5745	11a / 6Mbps	17.5	10.00
		ANT 1 (Main_10)	149	5745		17.5	
		ANT 0 (Aux_01)	157	5785		17.5	
		ANT 1 (Main_10)	157	5785		17.5	
		ANT 0 (Aux_01)	165	5825		17.5	
		ANT 1 (Main_10)	165	5825		17.5	
	5.9GHz MIMO	ANT 0 (Aux_01)	169	5845	11n(20) / HT0	17.25	12.50
		ANT 1 (Main_10)	169	5845		17.25	
		ANT 0 (Aux_01)	173	5865		17.25	
		ANT 1 (Main_10)	173	5865		17.25	
		ANT 0 (Aux_01)	177	5885		16	
		ANT 1 (Main_10)	177	5885		16	
	6.2GHz MIMO (SP)	ANT 0 (Aux_01)	1	5955	11ax(20) / HE0	16.5	13.25
		ANT 1 (Main_10)	1	5955		16.5	
		ANT 0 (Aux_01)	45	6175		16.5	
		ANT 1 (Main_10)	45	6175		16.5	
		ANT 0 (Aux_01)	93	6415		16.5	
		ANT 1 (Main_10)	93	6415		16.5	
	6.5GHz MIMO (LPI)	ANT 0 (Aux_01)	95	6425	11be(320) / EHT0	14.5	12.75
		ANT 1 (Main_10)	95	6425		14.5	
	6.7GHz MIMO (SP)	ANT 0 (Aux_01)	117	6535	11a / 6Mbps	16.5	12.50
		ANT 1 (Main_10)	117	6535		16.5	
		ANT 0 (Aux_01)	149	6695		16.5	
		ANT 1 (Main_10)	149	6695		16.5	
		ANT 0 (Aux_01)	181	6855		16.5	
		ANT 1 (Main_10)	181	6855		16.5	
	7GHz MIMO (LPI)	ANT 0 (Aux_01)	191	6905	11be(320) / EHT0	14.5	12.00
		ANT 1 (Main_10)	191	6905		14.5	

- End of report -

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