

TEST REPORT

EUT Description	Portable Computing Device
Brand Name	Microsoft
Model Name	2038
FCC ID	PD9AX211D2
Date of Test Start/End	2022-07-21 / 2022-07-22
Features	IEEE802.11a/b/g/n/ac/ax

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Test Report identification	220705-01.TR01
Revision Control	Rev. 01 This test report replaces any previous versions of this test report (see Section 2)

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2. Document Revision History

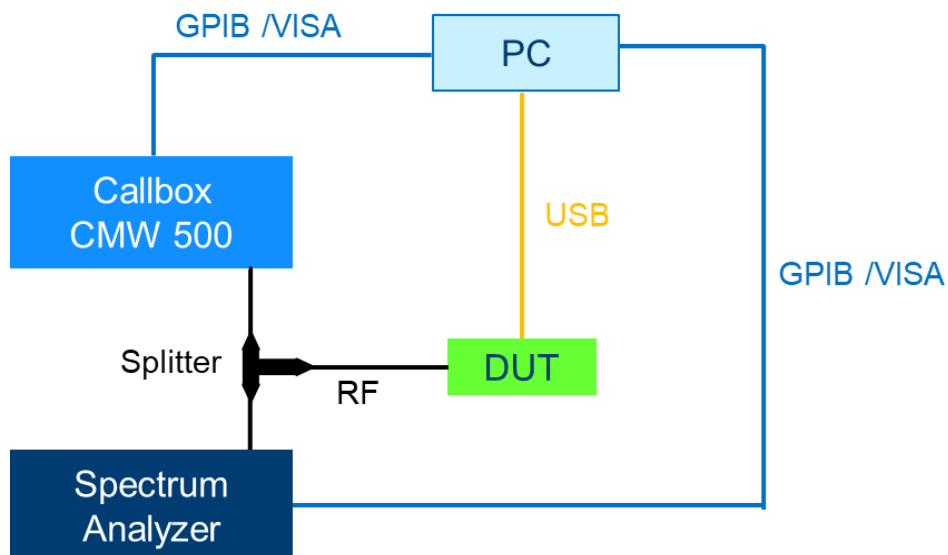
Revision #	Date	Modified by	Revision Details
Rev.00	2022-08-20	Tanguy MATHIEU	First Issue
Rev.01	2022-09-14	Cheiel In	Modification of EUT description

3. Test Setup

The conducted power measurement test setup is described in the following and illustrated in Figure 1.

- The DUT which AX211 WiFi module is installed inside portable computing device from Microsoft model 2038.
- A control PC is used to configure the Call Box as an access point to manage the uplink and downlink data traffic.
- Uplink signal power is measured with the spectrum analyzer and recorded by the PC with a maximum time resolution of 0.3333 ms.
- Uplink signal from the module is fed through a 3 dB power splitter, which delivers an equal amount of signal to the spectrum analyzer and the call box. The splitter has high isolation between the spectrum analyzer and the call box.

Figure.1 – Validation using conducted power measurement test setup.



4. Test Sample

Sample	ID #	Description	Model	Serial #	Note
#1	220704-01.S01	Portable Computing Device	2038	0F0133V22193BF	-

5. Test Equipment List

Equipment and accessories used for the conducted power measurement test setup are listed below.

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
025-005	Communication Tester	CMW500	161493	Rohde & Schwarz	N/A	N/A
131-000	Spectrum Analyzer	FSV40	101425	Rohde & Schwarz	2021-05-27	2023-05-27
452	Cable Setup	-	-	-	Attenuation and loss verified before usage	

6. Test Results

6.1. SAR Tune-Up Power as per SAR assessment

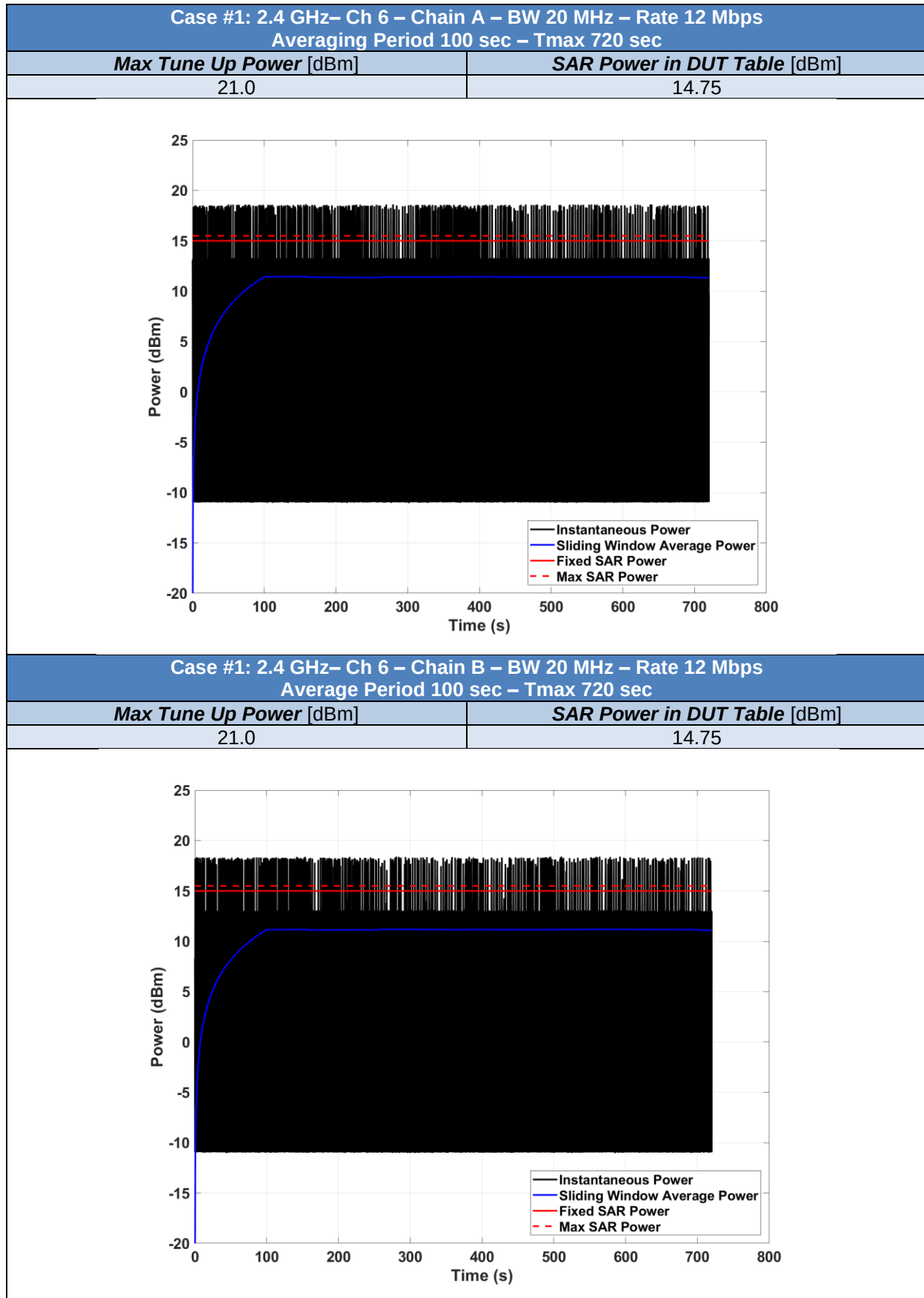
Chain A		Chain B	
IEEE 802.11g CH6	IEEE 802.11a CH120	IEEE 802.11g CH6	IEEE 802.11a CH120
14.75	10.75	14.75	10.75

6.2. TAS Validation for 2.4 GHz Band on Channel 6

Table B1 – Test Cases for 2.4 GHz Channel 6

Test Case #	Channel	Chain	Channel Bandwidth	Measurement Averaging Period	Measurement Time Resolution	Max Tune-Up Power [dBm]	SAR Power in DUT Table [dBm]
1	6	A	20 MHz	100 sec	0.3333 msec	21.0	14.75
2	6	B	20 MHz	100 sec	0.3333 msec	21.0	14.75

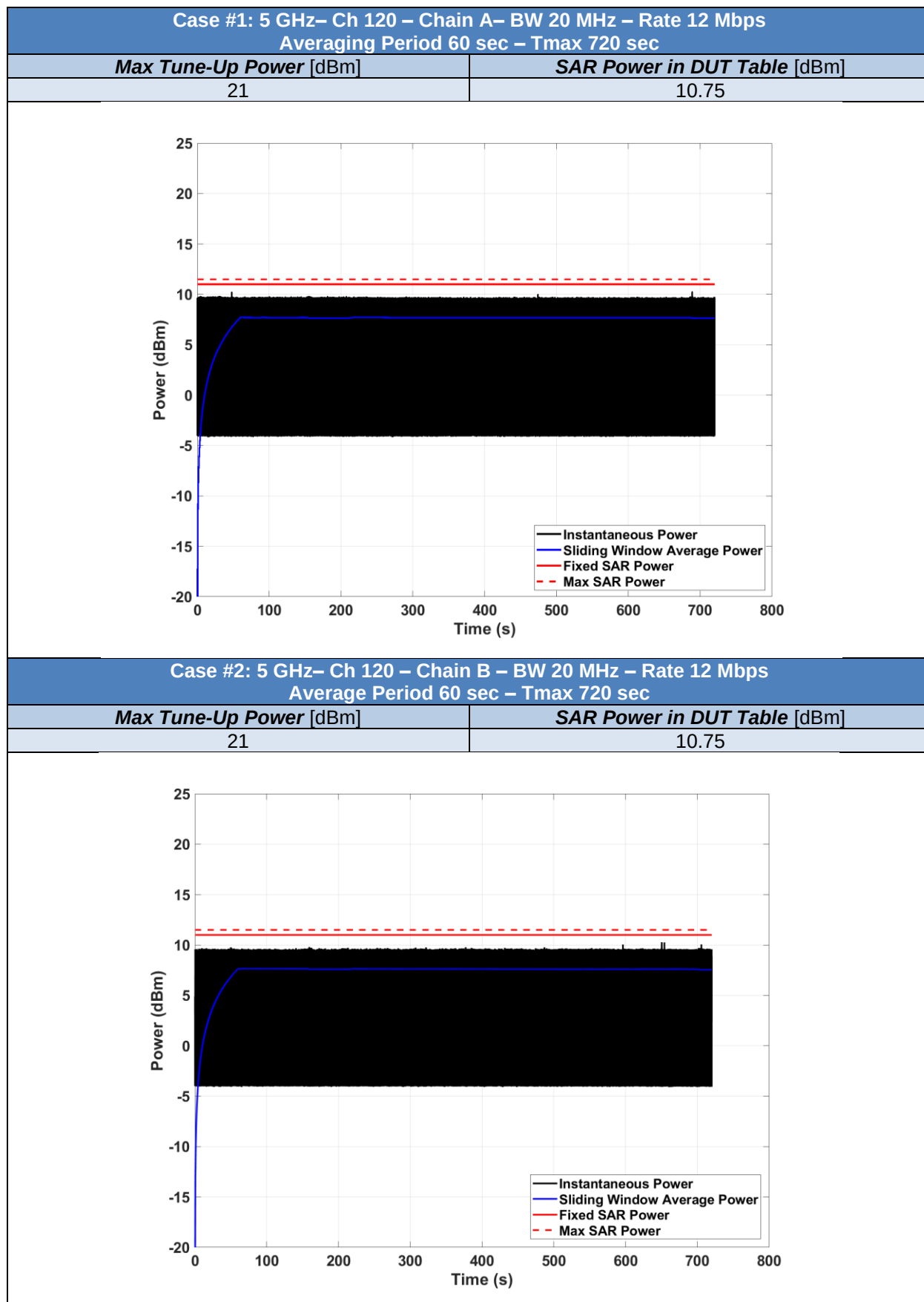
Results of test cases in Table B1 are shown in the following plots.



6.3. TAS Validation for 5 GHz Band on Channel 120*Table B2 – Test Cases for 5 GHz Channel 120*

Test Case #	Channel	Chain	Channel Bandwidth	Measurement Averaging Period	Measurement Time Resolution	Max Tune-Up Power [dBm]	SAR Power in DUT Table [dBm]
1	120	A	20 MHz	60 sec	0.3333 msec	21	10.75
2	120	B	20 MHz	60 sec	0.3333 msec	21	10.75

Results of test cases in Table B2 are shown in the following plots.



7. Conclusion

The TAS Intel Algorithm functionality of AX211 WiFi Module Integrated inside Microsoft 2038 platform is tested. All test cases are compliant with SAR limit.