

# RF Exposure Report

## (Part 0: SAR Char Evaluation)

FCC ID : QYLEM9190F  
Equipment : WWAN Module  
Brand Name : Getac  
Model Name : EM9190  
Applicant : Getac Technology Corporation.  
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Taiwan, R.O.C.  
Standard : FCC 47 CFR Part 2 (2.1093)

We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager



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### History of this test report

Report No.	Version	Description	Issued Date
FA182625-01C	01	Initial issue of report	Dec. 01, 2022

## 1. Introduction

The FCC RF exposure limit is defined based on time-averaged RF exposure. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency  $\leq 6\text{GHz}$ ) to control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement. Cannot operate without SAR characterization at the device level, beforehand.

This report describes the procedures for the SAR char and the parameters obtained from SAR characterization (referred to as SAR char respectively) will be used as input for Smart Transmit GEN1. Both SAR char will be entered via the Embedded File System (EFS) to enable the Smart Transmit Feature.

Terminologies in this report

$P_{\text{limit}}$	The time-averaged RF power which corresponds to SAR_design_target.
$P_{\text{max}}$	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	$P_{\text{limit}}$ for all the technologies/bands for all applicable DSI

### Test Lab Information

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FCC Designation No.	TW1190
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## **2. SAR Characterization**

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for Smart Transmit to control and manage RF exposure for  $f < 6$  GHz.

### **2.1 SAR design target and uncertainty**

#### **<SAR design target and uncertainty>**

Exposure conditions	SAR design target	W/kg
Bottom of Laptop	1g SAR design target	0.95

Item	Uncertainty dB (k=2)
Total uncertainty	1.0

To account for total uncertainty, SAR\_design\_target should be determined as:

$$SAR_{design\_target} < SAR_{regulatory\_limit} \times 10^{\frac{-total\ uncertainty}{10}}$$

## 2.2 SAR Char Table

### <P<sub>limit</sub> for supported technologies and bands (P<sub>limit</sub> in EFS file)>

\*P<sub>max</sub> is used for RF tune up procedure. The maximum allowed output power is equal to P<sub>max</sub> + 1dB uncertainty.

\*\*All P<sub>limit</sub> power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).

The max allowed output power is the P<sub>limit</sub> + 1dB device uncertainty, and if P<sub>limit</sub> is higher than P<sub>max</sub>, the device output power will be P<sub>max</sub> instead.

Band	Antenna	Duty cycle	P limit (dBm) time-average power	P Max* (dBm) time-average power
WCDMA B2	Main	100.00%	20.90	23.50
WCDMA B4	Main	100.00%	19.00	23.50
WCDMA B5	Main	100.00%	25.90	23.50
LTE B7	Main	100.00%	20.30	23.00
LTE B12/17	Main	100.00%	28.80	23.00
LTE B13	Main	100.00%	27.30	23.00
LTE B14	Main	100.00%	26.90	23.00
LTE B25/2	Main	100.00%	21.10	23.00
LTE B26/5	Main	100.00%	25.60	23.00
LTE B41/B38 PC3	Main	63.30%	18.90	20.80
LTE B41 PC2	Main	43.30%		20.70
LTE B48	Main	63.30%	21.10	21.00
LTE B66/4	Main	100.00%	19.50	23.00
LTE B71	Main	100.00%	28.60	23.00
FR1 n2	Main	100.00%	20.40	22.50
FR1 n5	Main	100.00%	24.80	22.50
FR1 n66	Main	100.00%	19.00	22.50
FR1 n71	Main	100.00%	28.10	22.50
FR1 n77 PC3	Main	100.00%	19.10	23.50