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Retlif Testing Laboratories Report No. R-3578P-7A

For

Siemens Mobility, Inc.

IMU 100 Tester

FCC ID: 2A8HRS25447-H8-A2

Requirement: 1.1310(d)(2), Radiofrequency Radiation Exposure Limits

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Requirements and Test Results

Requirement: 1.1310(d)(2), Radiofrequency Radiation Exposure Limits
For operations within the frequency range of 300 kHz and 6 GHz (inclusive), the limits for maximum permissible exposure (MPE), derived from whole-body SAR limits and listed in Table 1 in paragraph (e)(1) of this section, may be used instead of whole-body SAR limits as set forth in paragraphs (a) through (c) of this section to evaluate the environmental impact of human exposure to RF radiation as specified in § 1.1307(b) of this part, except for portable devices as defined in § 2.1093 of this chapter as these evaluations shall be performed according to the SAR provisions in § 2.1093.

Table 1 FCC § 1.1310(e)(1) - Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f^2)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f^2)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

Conclusion
The results of all measured configurations and locations yield a minimum separation distance of 20 cm from any system component in order to comply with FCC RF exposure requirements when used as specified by the manufacturer.

Equipment List

EN	Manufacturer	Model No.	Description	Serial No.	Due Date
3207	ETS / EMCO	6502	ANTENNA, ACTIVE LOOP, 9 kHz - 30 MHz	1033	5/31/2023
8619	OMEGA	OM-73	HYGROMETER, -20 to 70 deg. C, 0-99% RH	051442102C	4/30/2023
8816	ROHDE &	ESW26	RECEIVER, EMI, 1 Hz - 26 GHz	103087	8/31/2023
R849	NARDA	EHP-200A	ANALYZER, FIELD STRENGTH, 9 kHz - 30 MHz	180ZX00616	11/25/2023

Results

The calculated power density based on the manufacturers specified antenna gain and maximum measured output power did not exceed the specified MPE limits at a distance of 20 cm for both General Population/Uncontrolled Exposure and for Occupational/Controlled Exposure.

Test Data

MPE CALCULATIONS DATA SHEET	
Test Specification:	FCC Part 1.1310, Radiofrequency radiation exposure limits
Method:	FCC Part 1.1310 (d)(2), Maximum Permissible Exposure (MPE)
Limit:	FCC Part 1.1310 (e)(1), Table 1, Section(ii), Limits for General Population / Uncontrolled Exposure
Job Number/Customer:	R-3578P-7/ Siemens Mobility
Test Sample:	IMU 100 Tester
Model Number:	S25447-H8-A2 (IMU 100); S25447-H80-A2-02 (Antenna)
Serial Number:	0225
Operating Mode:	IMU 100 Test Device Transmitting at 850 kHz
Technician:	M. Nowak
Date(s):	2/28/23

EUT Orientation	Magnetic Reading	Magnetic Limit	Electrical Reading	Electrical Limit
Measured at 20 cm	**A/m**	**A/m**	**V/m**	**V/m**
Transmitting at 850 kHz				
Side 1	0.02	1.63	0.10	614
Side 2	0.02	|	0.10	|
Side 3	0.02	|	0.10	|
Side 4	0.02	|	0.10	|
Side 5	0.02	|	0.10	|
Side 6	0.02	1.63	0.10	614

Test Photographs
RF Exposure

Test Setup

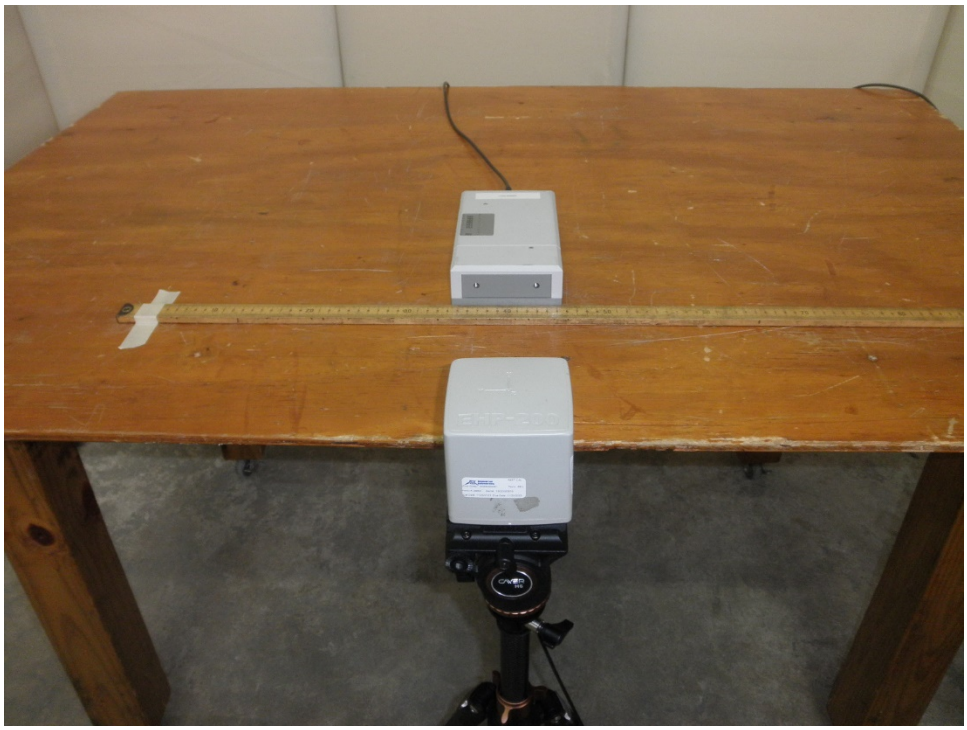
Side 1, 20 cm

Test Photographs
RF Exposure

Side 2, 20 cm

Side 3, 20 cm

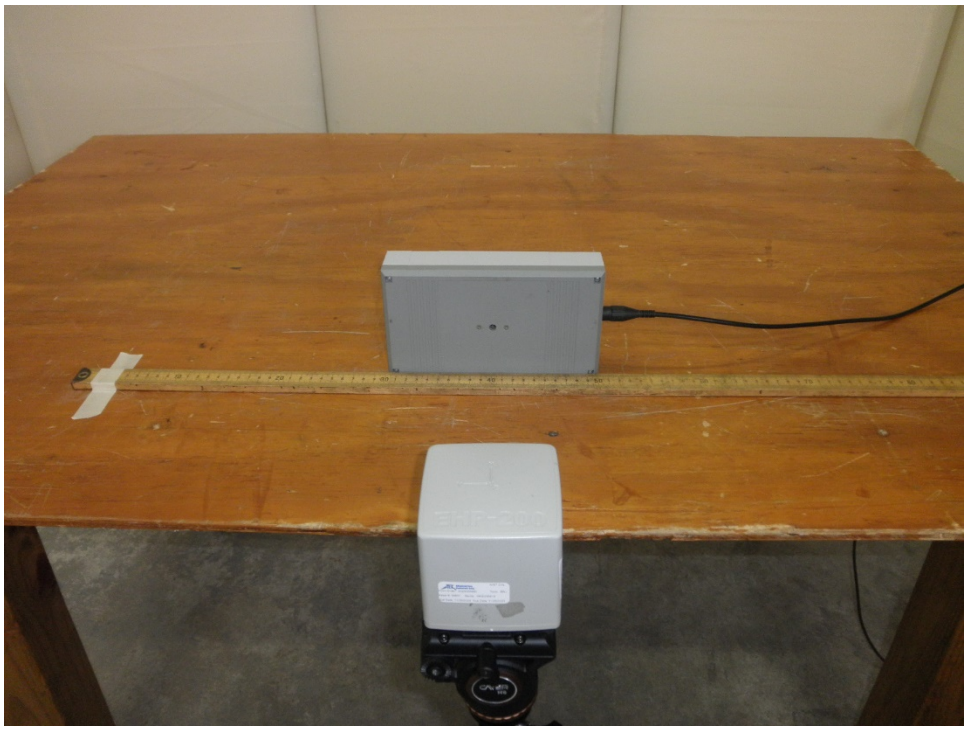
Test Photographs
RF Exposure



Side 4, 20 cm

Side 5, 20 cm

Test Photographs
RF Exposure



Side 6, 20 cm