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Retlif Testing Laboratories Report No. R-3578P-6A

For

**Siemens Mobility, Inc.
Wayside Radio**

FCC ID: 2A8HRS25442-B58-A2

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



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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.

- 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.

MPE CALCULATION 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-6A / Siemens Mobility						
Test Sample:		2.4 GHz ZRadio System, Train to Wayside Communications						
Model Number:		S25442-B58-A2-1.F						
Serial Number:		6101142365-009						
Date(s):		2/2/23						
Radio								
The test sample is a DTS Radio operating in the 2400 to 2483.5 MHz frequency band								
Antenna Employed								
The test sample utilizes the following antenna: Manufacturer: Huber+Suhner Model: SENCITY Spot-S Part Number: 1324.17.0098 Antenna Gain: 8.5 dBi								
MPE Evaluation for Single Source Emitters								
Band	Antenna Gain		Conducted Output		EIRP	PG	Result	Limit
	dBi	Numeric	dBm	mW	dBm	mW	mW/cm ²	mW/cm ²
WiFi	8.5	7.079	9.41	8.730	17.910	61.802	0.012	1.000
The transmitter complies with the specified MPE limits at a distance of 20 cm for both General Population/Uncontrolled Exposure and for Occupational Controlled Exposure..								