

**Manufacturer** Planmeca Oy  
**Device** RFID reader unit, model: PlanID  
FCC ID: YIIPID001, IC ID: 9050A-PID001  
**Test Specification** EN 62479:2010, section 4, route D  
**Report No.** 287492-1

## REFERENCE DOCUMENTS

1999/519/EC, European Council Recommendation, 1999-07-30  
286927-1-4, FCC Part 15.209 Test Report, 2017-01-20  
FCC Parts 1.1310 and 2.1093  
FCC KDB 447498 D01 General RF Exposure Guidance v06  
RSS-102, Issue 5

## RF EXPOSURE ASSESSMENT

RF characteristics of the assessed radio:

Operating Frequency Range (OFR)	13.56 MHz
Channels	1
Channel separation	-
Channel bandwidth	-
Effective isotropic radiated power (e.i.r.p.)	-49.83 dBm
Modulation	ASK
Integral PCB loop antenna gain	-

$S = E^2/Z_0 = P_{\text{eirp}}/(4\pi r^2) \Rightarrow P_{\text{eirp}} = (E^2 \cdot r^2)/30$   
 $E = 45.4 \text{ dB}\mu\text{V/m}$ ,  $r = 3\text{m}$ ,  $P_{\text{eirp}} = -49.83 \text{ dBm}$

### Evaluation against 1999/518/EC

Low power exclusion level,  $P_{\max}$ , given in EN 62479:2010: 20 mW (13 dBm)  
Environment: Uncontrolled, General Public

Assessment result:

Channel	Frequency [MHz]	Peak Power [dBm]	Duty cycle [%]	Duty cycle correction [dB]	Average Power [dBm]	Limit $P_{\max}$ [dBm]	Margin [dB]
Mid	13.56	-49.83	100	0	-49.83	13.0	62.83

### Evaluation against FCC Parts 1.1310 and 2.1093 and FCC KDB 447498 D01 General RF Exposure Guidance v06

SAR test exclusion threshold:

FCC KDB 447498 D01 General RF Exposure Guidance v06 chapter 4.3.1 c) 2)

- a)  $P_{\max}/d_{\min} \cdot \sqrt{f_{\text{GHz}}} = 3.0 \Rightarrow P_{\max} = 1288 \text{ mW}$  ( $d_{\min} = 50 \text{ mm}$ ,  $f = 13.56 \text{ MHz}$ )
- b)  $1288 \text{ mW} \cdot (d_{\min} - 50 \text{ mm}) = 1288 \text{ mW}$
- c)  $1288 \text{ mW} \cdot (1 + \log(100/f_{\text{MHz}})) \cdot 0.5 = 2406 \text{ mW} \cdot 0.5 = 1203 \text{ mW}$

SAR test exclusion threshold is 1203 mW

The power of EUT is -49.83 dBm = 0.0000104 mW

### Evaluation against RSS-102, Issue 5

SAR test exclusion threshold:

RSS-102, Issue 5, chapter 2.5.1, Table 1: SAR test exclusion threshold is 71 mW

The power of EUT is -49.83 dBm = 0.0000104 mW

## **RF EXPOSURE STATEMENT**

Based on the assessment above PlanID RFID reader unit in portable use complies with the basic restriction and requirements according to 1999/519/EC, FCC Parts 1.1310 and 2.1093 and RSS-102 Issue 5.

Date: February 10, 2017

SGS Fimko Oy



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