

## Maximum Permissible Exposure (MPE) & Exposure evaluation

**Report identification number: 1-7183/18-03-04 MPE (FCC\_ISED)**

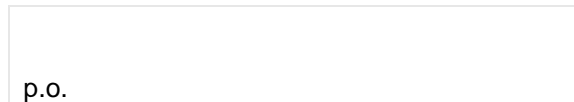
Certification numbers and labeling requirements	
FCC ID	UDDQP11BS
ISED number	6402A-QP11BS
HVIN (Hardware Version Identification Number)	Q-P11BS
PMN (Product Marketing Name)	Pro11 Headset System
FVIN (Firmware Version Identification Number)	-/-
HMN (Host Marketing Name)	-/-

This report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

### Document authorised:



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**EUT technologies:**

Technologies:	Max. power: (PEAK)	Max. antenna gain:	Max duty cycle:
UPCS 1925 (Base station module)	Declared 17 dBm	Declared : 2.0 dBi	3 of 24 Slots 12.25%

**NOTE: 2 modules operating at the same time (max. Uplink: 6 FULL SLOTS – duty cycle 25%)**

**Prediction of MPE limit at given distance - FCC**

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG / 4\pi R^2$$

where: S = Power density  
 P = Power input to the antenna  
 G = Antenna gain  
 R = Distance to the center of radiation of the antenna  
 PG = Output Power including antenna gain

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled “Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure”

Frequency Range (MHz)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
300 -1500	f/1500	30
1500 - 100000	1.0	30

where f = Frequency (MHz)

**Prediction: worst case**

Technologies:	Module 1	Module 2	
Frequency (MHz)	1925	1925	
PG Declared max power (EIRP)	11	11	dBm
R Distance	20	20	cm
S MPE limit for uncontrolled exposure	1	1	mW/cm <sup>2</sup>
<b>Calculated Power density:</b>	0.0025	0.0025	mW/cm <sup>2</sup>
<b>Calculated percentage of Limit:</b>	0.25%	0.25%	
<b>Collocation:</b>			
Both modules active	0.50%		
Calculated percentage of Limit:			

The power density levels for FCC at a distance of 20 cm are below the maximum levels allowed by regulations.

### Prediction of MPE limit at given distance - ISED

RSS-102, Issue 5, 2.5.2

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

- below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);
- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than  $4.49/f^{0.5} \text{ W}$  (adjusted for tune-up tolerance), where  $f$  is in MHz;
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than  $1.31 \times 10^{-2} f^{0.6834} \text{ W}$  (adjusted for tune-up tolerance), where  $f$  is in MHz;
- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

Prediction: worst case

		Module 1	Module 2	
	Frequency	1925	1925	MHz
R	Distance	20	20	cm
P	Max power input to the antenna	11	11	dBm
G	Antenna gain	2	2	dBi
PG	Maximum EIRP	13	13	dBm
PG	<b>Maximum EIRP</b>	20.0	20.0	mW
	<b>Exclusion Limit from above:</b>	2.30	2.30	W
	<b>Calculated percentage of Limit:</b>	0.87%	0.87%	
<b>Collocation:</b>				
	Both modules active	1.73%		
	Calculated percentage of Limit:			

**Conclusion:** RF exposure evaluation is not required.