NOA - Space Charge Sensor Specs

as in *Nicoll & Harrison 2009* , *Nicoll 2013*

Baud Rate	
Pre Radiosonde	115200
On Radiosonde	9600
	8 data bits, no parity, one stop bit (8N1)
Electrode	
Brass - spherical	
Diameter	15mm
Effective Diameter (deff)	25.4mm
Sampling Rate	
Pre Radiosonde	9500 Samples Per Second
On Radiosonde	1 Sample Per Second
Modes:	
state0	Regular measurement
state1	Calibration period 1
state2	Calibration period 2
Spherical Electrode	
Material	Brass
Diameter	15mm
Thickeness	1.5mm hollow
PCB type:	
PCB1	FR4 1 mm, 35/35µm, double sided (PTH), finish: HAL, 34X26mm
PCB2	FR4 1 mm, 35/35µm, double sided (PTH), finish: HAL, 50X28mm
Microcontroller type	
Arduino Nano CH340	
Operating environment	
Temperature	up to -60^{o}C (with project box)
Altitude	msl to 16km
Humidity	to 100%

Dynamic range	
single sensitive channel	
Noise	
Zero field error	1 ADC cnt
Dark voltage	~ 4.6mV
Sensitivity	± 2.3mV
Resolution	± 2.5V
Accuracy	~ 10mV
Bandwidth (dB)	through UART
	Radiosonde defined bandwidth
Physical	
Mass	90 gr (without battery)
Power	9V batteries (DC in)
Consumption	< 100mA
Project Box Dimensions:	
Height	43.8mm
Length	101mm
Width	54mm