

# Project Assessment Sheet

Student Number	Family Name	First Name

**This project is to be attempted on an individual basis.**

**Declaration of Originality:**

The work contained in this assignment, other than that specifically attributed to another source, is that of the author. It is recognised that, should this declaration be found to be false, disciplinary action could be taken and the assignments of all students involved will be given zero marks. In the statement below, I have indicated the extent to which I have collaborated with other students, whom I have named.

**Statement of Collaboration:**

**Signature**

## **Evaluation**

When we evaluate an assessment item, we will use the following criteria:

- G** = All relevant material is presented in a logical manner showing clear understanding, and sound reasoning. For software - evidence of correct coding style, efficient implementation and / or novel (and correct) code.
- A** = Most relevant material is presented with acceptable organisation and understanding. For software – some code may be prone to errors under certain operating conditions (e.g. input parameters) or usage, style may have inconsistent sections, occasional inefficient or incorrect code.
- P** = Little relevant material is presented and/or code displays poor organisation or understanding of the underlying concepts.

## **Oral Defence**

During the demonstration session you will be asked a number of questions based on material which you have learnt in the subject and then used to implement the assignment. You are expected to know exactly how your implementation works and be able to justify the design choices which you have made. If you fail to answer the questions with appropriate substance then you will be awarded zero for that component.

## VRR – Basic Functionality

Self-assessment: indicate your mark and grade, and provide evidence with the filename and line number.

Mark	Grade	Item	Comments	Filename(s)	Line Number(s)
/2	G A P	Voltage sampling.	Three channels have synchronous sampling. 16 samples per cycle at 50 Hz. Hard real-time constraint met.		
/6	G A P	True RMS.	Measurement of true RMS for voltage. Speed of calculation. Efficiency of algorithm.		
/4	G A P	Outputs.	Three channel operation is aggregated (raise/lower initiated on any channel). Alarm signal. Non-volatile storage of number of raise/lower events.		
/6	G A P	Timing.	Definite. Inverse. Accuracy.		
/2	G A P	Settings / interrogation.	Tower protocol expanded to achieve Basic Functionality.		
<b>/20</b>		<b>SUBTOTAL</b>			

## VRR – Intermediate Functionality

Self-assessment: indicate your mark and grade, and provide evidence with the filename and line number.

Mark	Grade	Item	Comments	Filename(s)	Line Number(s)
/5	G A P	Sample rate.	16 samples per cycle (i.e. frequency measurement to 0.1 Hz and tracking).		
/5	G A P	RTOS.	Multiple threads are used with an RTOS – i.e. one thread for analog, one thread for PC comms, one thread for logic, etc.		
/2	G A P	Settings / interrogation.	Tower protocol expanded to achieve Intermediate Functionality.		
/12		<b>SUBTOTAL</b>			

## VRR – Advanced Functionality

Self-assessment: indicate your mark and grade, and provide evidence with the filename and line number.

Mark	Grade	Item	Comments	Filename(s)	Line Number(s)
/8	G A P	Spectrum.	Spectral content of Phase A voltage up to 350 Hz with 50 Hz resolution.  Magnitude of 50 Hz component calculated.  Tower protocol expanded to achieve Advanced Functionality.		
/8		<b>SUBTOTAL</b>			