Project: P16315 Owner : Luke Kranz 12/7/2015

Revision #:	6									
rqmt. #	Importance	Source	Function	Engr. Requirement (metric)	Unit of Measure	Marginal Value	Ideal Value	Comments/Status	Test (how are you going to verify satisfaction)	Functional Decomposition Mapping
									Test for measurement limitations,	Ī
	_				%Displace					Measure Strain,
S1	9	CR1, CR12		Strain Gauge Measureable /Calibrated Range	ment	3	5		after test	Mount Proper Gauges
S2 S3	9	CR1, CR8, CR12 CR1, CR6, CR12	Strain Measurement	Strain Gauge Adhesion/Lamination Life Cycle Strain Gauge Physical Size	hours mm^2	20 100	60 16		Test 20 hours or until failure. Product specifications	Measure Strain Measure Strain
			-	<u> </u>						,
S4 S5	9	CR1, CR12 CR2, CR3		Strain Gauge Waterproofing (NEMA IP67)	IP Code GHz	IP68	IP68+	See NEMA ratings.	Test 20 hours or until failure.	Waterproof Gauges Transmit Data
S6	9	CR2, CR3 CR2, CR3, CR8	Talamatri Cuatam	Telemetry SystemTransmission Frequency Range Telemetry Battery Power System Life Cycle	hours	- 8	0.1-100 12		Product specifications Test until failure.	Power Devices
S7	3	CR2, CR3, CR6	8 Telemetry System	Telemetry Transmission Strength/Range	m	10	100		Product specifications.	Transmit Data
- 37	3	ONZ, ONS		Telemeny Transmission Suengui/Range	- '''	10	100		Froduct specifications.	Receive Data,
S8	3	CR2, CR3		Telemetry Data Collection Rate	Hz	100	150		Product specifications.	Process Data
- 00	J	ORZ, ORO		Telemeny Data Collection Nate	112	100	130		r roduct specifications.	Measure Strain, Find
S9	1	CR15	Aggregate System	Total System Development Cost	\$usd	5000	<5000		List costs.	Proper Arrangement
S10	1	CR8	Qualities	Total Transmission System Weight	kg	2.27	<1.5	Subject to change.	Measure combined weight.	Measure Strain
S11	9	CR8, CR12	1	Well Secured Wires	hours	8	12	, ,	Test 20 hours or until failure.	Wire Gauges
S12	9	CR8, CR12	Telemetry System	Transmitter Case Waterproofing	hours	1	>1	Submerged at depth of 1m.	Case Waterproofing Test Plan.	Transmit Data
										Measure Strain,
								Minutes required for full	Time installation from raw	Transmit Data,
S13	3	CR7, CR10, CR12	Aggregate System	Ease of use/Installation Time	minutes	15	20	installation.	components.	Receive Data
	_		Qualities					Under 5MB, finalized at test		
S14	9	CR9, CR10, CR12	T	CSV Output File(s) Creation	Yes/No	-	Yes	end.	Output file to PC.	Process Data
S15	3	CR2, CR12	Telemetry System	Transmitter Angular Acceleration Tolerance	g's	0.69	5		Product specifications.	Transmit Data
					%Displace			Percentage displacement	Measure poisiton before and after	
S16	6	CR1, CR8, CR12	Strain Measurement	Strain Gauge Placement Precision	ment	10	5	from target position.	mounting.	Measure Strain
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Importance: Sample scale (9=must have, 3=nice to have, 1=preference only).