Arifact ID	Artifact Title
RM-001	Requirements Matrix

Revision:	Date:
1.8	10/2/2019

Team: 15

Prepared By: Nick

Checked By: Garret

Definitions:

Onboard: This defines that an object is housed locally on the radar unit. The object is attached directly to the unit. Or in the case of software, it is run without any external processing.

Trigger: Refers to an event which is intended to cause an LED to flash. These include system health status indicators, successful data transmissions, and error indicators.

System: This refers to the entirety of our deliverable, i.e. the onboard computer, the positioner, the camera mount, and the software.

Performance Measures

#	Performance Measure	Units
1	Input acceptance rate of LLA and GPGGA.	Hz
2	Percent of time in FOV (Excluding wrap time and acquisition time)	%
3	System health message output rate	Hz
4	Gimbal pointing update rate	Hz
5	Time to train a user how to use the user interface	min
6	Total computer hardware length	mm
7	Total computer hardware width	mm
8	Total computer hardware height	mm
9	Percent of false/missed triggers presented by LEDs	%
10	Percent increase in target acquisition time from minimum acquisition time.	%
11	Processing is done onboard	T/F
13	Settling time of positioner	s
14	Offset measured at drone caused by camera mount tolerances	%
15	Initialization time after reboot (including power failure)	s

Market Requirements

#	Market Requirements	1	2	3	4	5	6	7	8	9	10	11	13	14	15	Rating	Artifact ID
1	System computer communicates through Ethernet	X		X													
2	System tracks in-flight vehicle		X		X							X	X				
3	System provides frequent status updates			X							X						
4	User interface is intuitive and requires minimal training					X											
5	Onboard computer fits in existing housing						X	X	X					X			
6	Computer stores previously configured settings										X	X			X		
7	Camera can be mounted to antenna mount													X			

Importance (optional) / Ideal Values

	1	2	3	4	5	6	7	8	9	10	11	13	14	15
Lower Acceptable Limit	2	100%	2 Hz	2 Hz	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ideal	10	100%	2 Hz	10 Hz	5	N/A	N/A	N/A	0	0	T/F	0.1	0	10
Upper Acceptable Limit	N/A	N/A	N/A	N/A	30	6.5	6.5	1.2	5	50	N/A	0.5	1	60

Real Values — Predicted (Artifact, Value), Measured (Artifact, Value) — Target, Stretch

Revision History

Rev.	Date.	By	Approval	Description	ECO
1.0				Initial release	
1.1	9/11/2019	Nick		Added 5 additional market requirements	
1.2	9/13/2019	Joe	Garret	Added additional market specifications	
1.3	9/17/2019	Garret	Joe	Update After Face to Face With Mark and Daniel	
1.4	9/18/2019	Mark	Daniel Gunyan	Reviewed and edited by IMSAR	
1.5	9/24/2019	Garret	Nick	Updated based on feedback from initial TODO submission	
1.6	9/26/2019	Nick	Autumn	Revised based on feedback from design review	
1.7	9/30/2019	Daniel	Joe	Finished up final values and wording	
1.8	10/2/2019	Nick	Garret	Fixed typos, reworded performance measure #10	