

Project Status Letter PSL Number: PSL_08

Covering period: 03/25-03/31

Prepared by: J. Mahati Hari and Rachel Szteinberg

Task Summary from Previous Week / Proposed Changes:

TEAM	TASKS COMPLETED	FURTHER INVESTIGATION	PROPOSED CHANGES
VSCADA	None	None	[+] VSC.1.3 [Setup Local Network] [+] VSC.1.4 [Refactor Database]
Cell App	None	CELL.1.4.[Demonstrated log display view] - Will demonstrate on Monday CELL.1.5.[Demonstrated general circular view] - Will demonstrate on Monday	None
DYNO	DYNO.2.1 [Demonstrated power supply communication] DYNO.2.2 [Demonstrated functional resistance meter flip] DYNO.3.3 [Integrated with GLV]	None	None
TSV	None	None	None
TSI	TSI 1.2 [PCB Layout Approved] TSI 4.1 [Inventor file approved by machine shop] TSI 5.1 [Box acquired]	None	[+] PCB Populated (before PCB debugged)
Cooling	COOL.6.4 [Flow meter sensor integrated]	COOL.3.1 [LCD display function works] - Are you saying that you can display pump information on the LCD display? On WBS, COOL.3.1 [Pump Algorithm written – automatic mode]?	[+] LCD display

Systems Engineering	None	Continue pacman updates (including maintenance, CAN, configuration, etc.) improvements. - This has been referenced in multiple areas of the WBS, so maybe refactoring is a better idea.	None
GLV	None	None	None
Interconnect	IC.3.1 [Assembled all W1 cables] IC.3.2 [Assembled all W2 cables] IC.3.3 [Assembled all W3 cables]	None	[+] Cable testing tasks
Communications	None	Please reference WBS items. If not accurate, please let me know.	None
Car Physics Investigation	PHYS.4.1 [Theoretical Statics model delivered] PHYS.4.2 [Theoretical dynamics model delivered] PHYS. 4.3 [Theoretical power model delivered]	None	None
JGB	None	JGB 1.1 [Bidirectional Serial IO between Realterm and JGB Board] - Has this been demonstrated? JGB 1.2 [Send arbitrary packets from Keyboard over CAN] - Has this been demonstrated?	[+] JGB tasks
MGMT	M.11.1.[Weekly revision of purchasing report]	None	[+] M.10.4 Website delivered

Plan for next week:

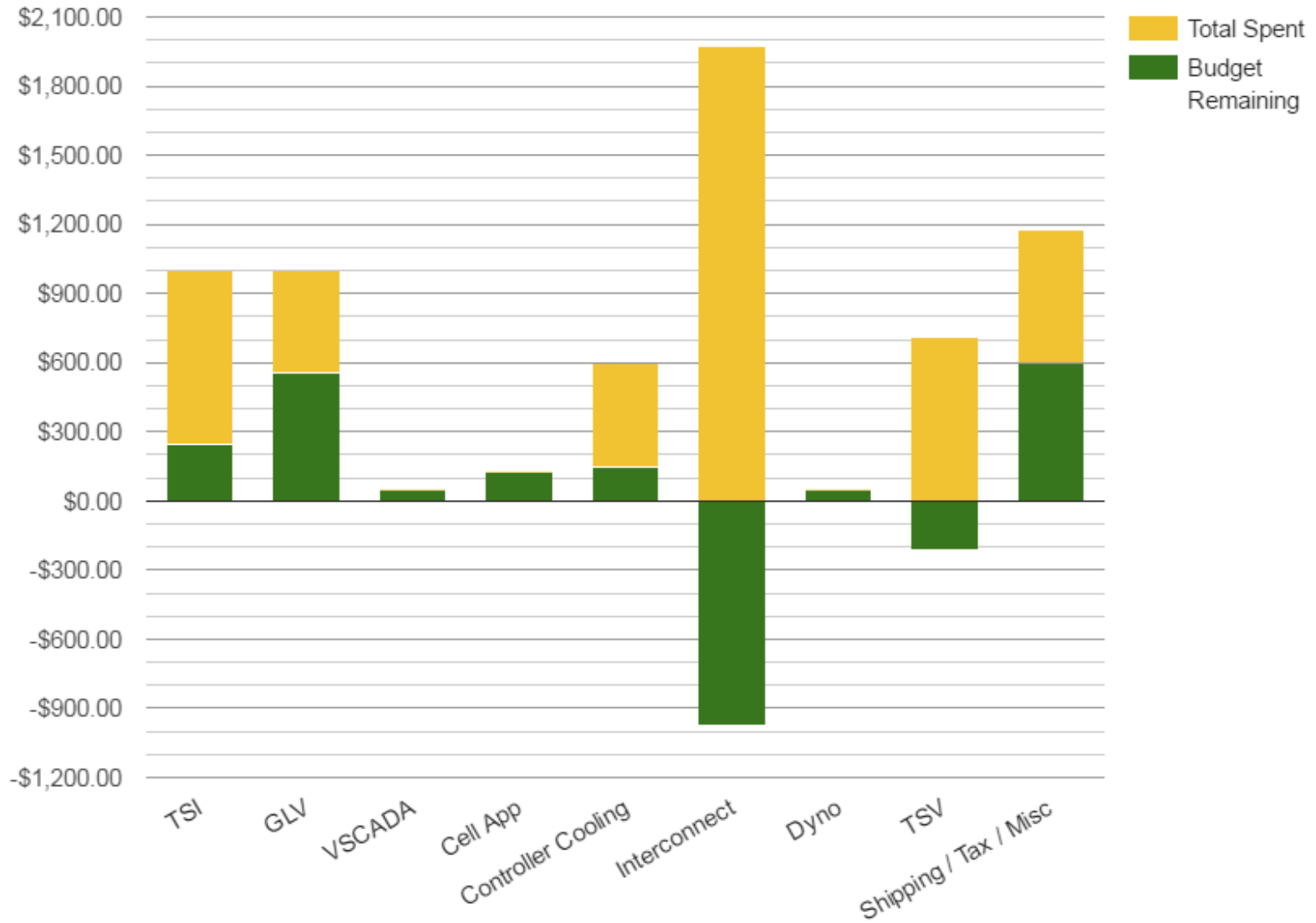
TEAM	TASKS TO BE COMPLETED
VSCADA	VSC 2.1 [Maintenance View] VSC 3.1 [Interface with all subsystems]
Cell App	CELL.?.?.integrating data with views CELL.?.?.starting with graphs
DYNO	DYNO.5.3 [User manual delivered] DYNO5.4. [Maintenance manual delivered]
TSV	TSV 1.7 [Debugged communication between AMS and PackMan Boards]
TSI	TSI 1.3. [PCB Fabricated] TSI.1.4. [PCB Debugged] TSI 2.1. [Schematic Design Approved] TSI 4.2. [Precharge relay / HV cabling mounted]
Cooling	Cool.?.? Physical design of the box
Systems Engineering	Continue pacman updates (including maintenance, CAN, configuration, etc.) improvements. M.5.1. [ATP delivered]
GLV	GLV.3.2 [Interior Panel Delivered] GLV.3.3 [Exterior Panel Delivered] GLV.4.6 [Enclosure-Mount Panels Delivered]
Interconnect	IC.3 (General Cable Assembly, will not complete all next week) IC.3.20 [Assembled all W28 cables] IC.3.21 [Assembled all W31 cables] IC.3.22 [Assembled all W32 cables] IC.3.23 [Assembled all W33 cables] IC.3.24 [Assembled all W34 cables] IC.3.25 [Assembled all W35 cables]
Communications	Continue ongoing maintenance efforts
Car Physics Investigation	PHYS.3.1 [Derivation for dynamic model delivered] PHYS.3.2 [Derivation for static model delivered] PHYS.3.4 [Derivation for cascade relations]

JGB	JGB 1.3 [Demonstrate a CAN Dump]
MGMT	Submitting purchase orders Receiving orders Updating website Proposing schedule for remainder of semester Updating WBS and submitting for printing

Cost Summary:

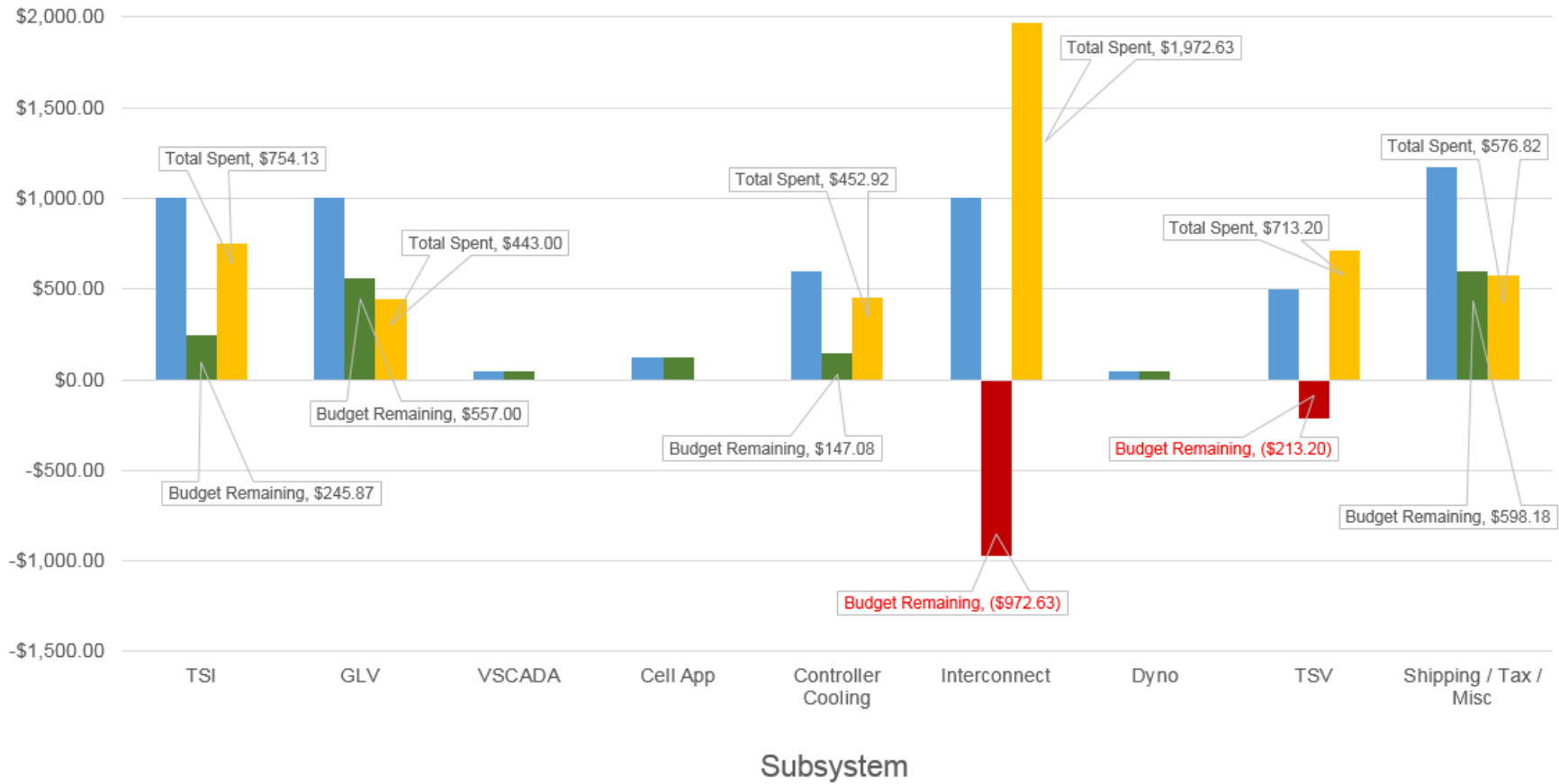
Subsystem	Spent this period	Spent to date	Budget Allocated	Budget Remaining	Percentage Spent
TSI	\$600.52	\$754.13	\$1,000	\$245.87	75.41%
GLV	\$100.97	\$443.00	\$1,000	\$557.00	44.30%
VSCADA	\$0.00	\$0	\$50	\$50.00	0.00%
Cell App	\$0.00	\$0	\$125	\$125.00	0.00%
Controller Cooling System	\$0.00	\$452.92	\$600	\$147.08	75.49%
Interconnect / Cabling / ICD	\$0.00	\$1,972.63	\$1,000	-\$972.63	197.26%
Dyno	\$0.00	\$0	\$50	\$50.00	0.00%
TSV	\$217.51	\$713.20	\$500	-\$213.20	142.64%
Physics & Cruise Control	\$0.00	\$0	\$0	-	-
JGB	\$0.00	\$0	\$0	-	-
Shipping / Tax / Misc	\$206.17	\$576.82	\$1,175	\$598.18	49.09%
Total	\$1,626.66	\$4,912.70	\$5,500	\$587.30	89.32%

Subsystem Budget Spending



Budget Spending

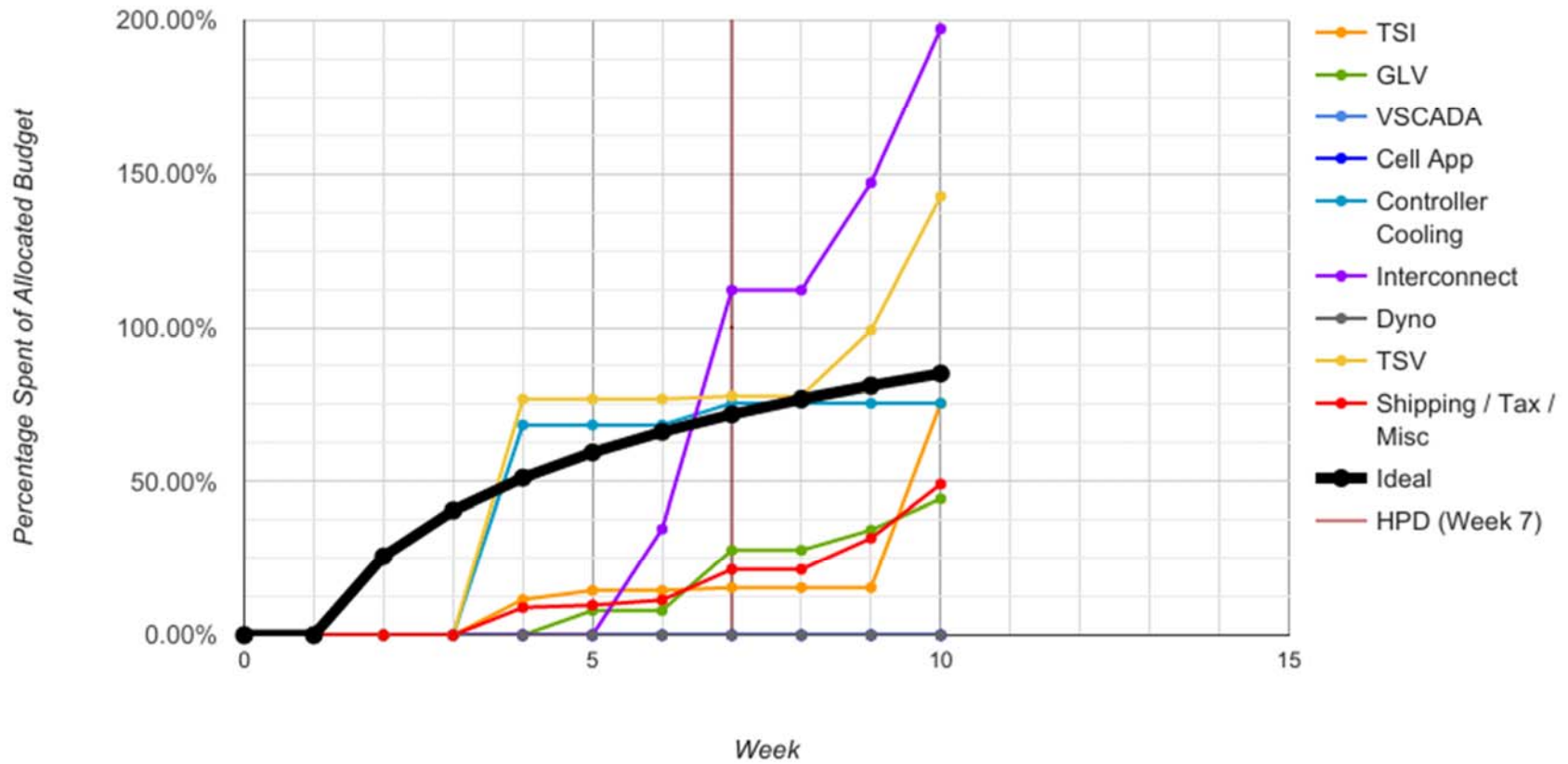
■ Allocated Budget ■ Budget Remaining ■ Total Spent



Total Spent

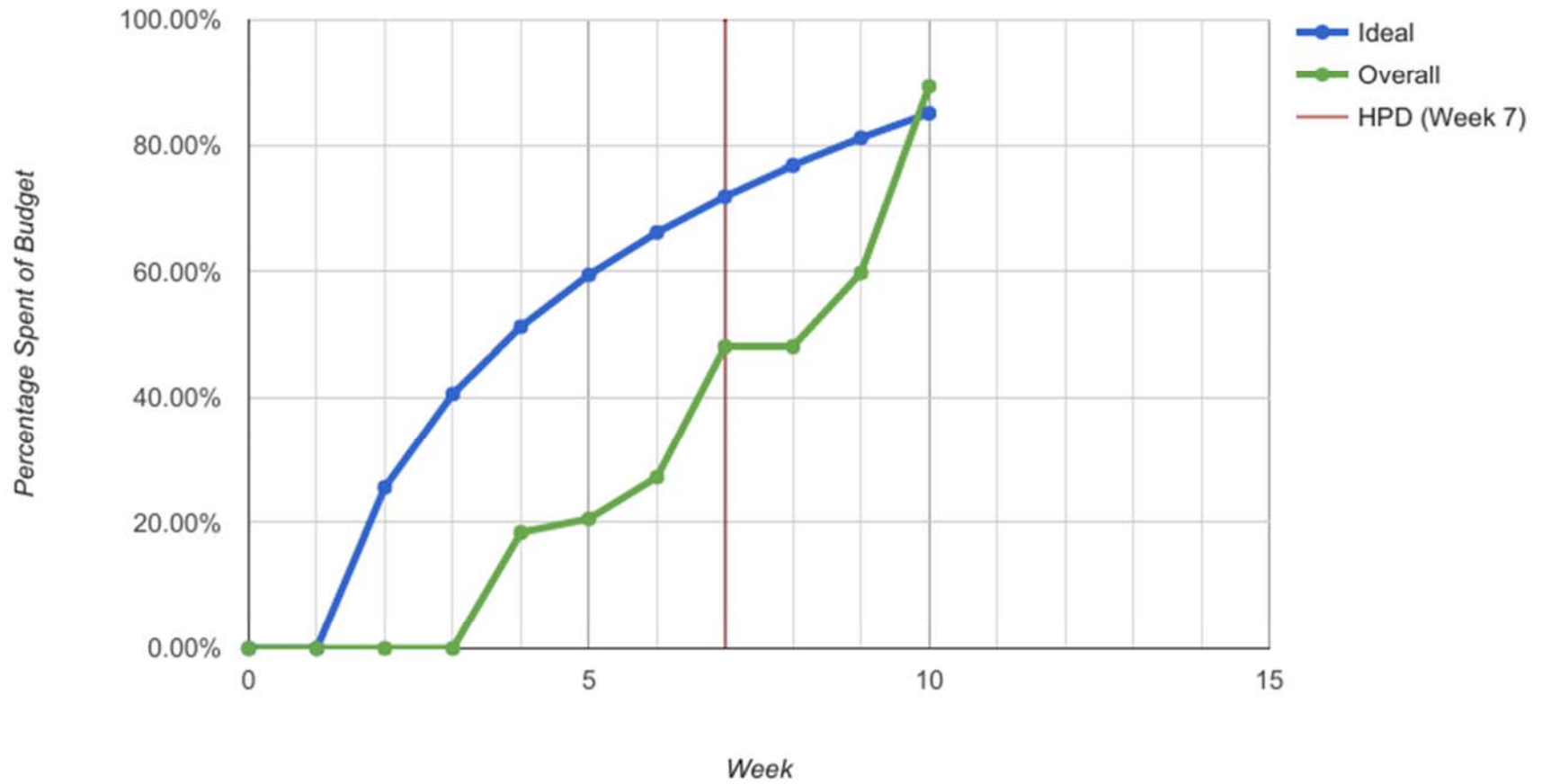


Percentage Spent of Subsystem Budget Allocations



Ideally Spent per Subsystem (by Week 10): 85.03%

Percentage Spent of Total Budget



Ideally Spent Overall (by Week 10): 85.03%

Receiving Report:

The following items were all received this week:

Purchase Order #19 – TSV – Mouser – Pack Connectors (Appendix I)

Purchase Order #20 – GLV / TSV – Digikey – Op Amps, Transistors, ICs (Appendix II)

Purchase Order #21 – IC* – Newark – DT04-8P Connectors (Appendix III)

Purchase Order #22 – IC* – Wire Care – 16-20 AWG Pins (Appendix IV)

Purchase Order #24 – IC* – Allied Electronics – DT06-6S Connectors (Appendix VI)

Purchase Order #25 – IC* – Automation Direct – 20AWG Red Cable (Appendix VII)

Purchase Order #29 – TSV/GLV – McMaster – Screws for AMS Heat Sinks and GLV Box (Appendix XI)

Purchase Order #31 – TSV(Department) – Newark Element14 – Crimper (Appendix XIII)

*IC stands for Interconnect/Cabling/ICD

Req #	Team	Vendor	Vendor PN	Qty	Item Description	Ordered Date	Received Date
19	TSV	Mouser	879-1827G1-BK	5	Heavy Duty Power Connectors PP15/45 PREMATE HSG ONLY GRN -BULK	23-Mar -17	28-Mar -17
19	TSV	Mouser	879-115G1	5	Heavy Duty Power Connectors PP PAK-2-4P HDWE PAK-CABLE	23-Mar -17	28-Mar -17
19	TSV	Mouser	879-110G9	25	Heavy Duty Power Connectors SNAP-IN RECEPTACLE RETAINING PINS	23-Mar -17	28-Mar -17
19	TSV	Mouser	879-1470G1	5	Heavy Duty Power Connectors PP PAK 2-4P HSG SNAP-IN RECEPT	23-Mar -17	28-Mar -17
19	TSV	Mouser	879-1460G1	3	Heavy Duty Power Connectors PP PAK 2-4P HSG-PLUG W/LATCH	23-Mar -17	28-Mar -17
19	TSV	Mouser	636-983-037-020R121	8	D-Sub Backshells 37P STRAIGHT SNAP METALIZED PLASTIC	23-Mar -17	28-Mar -17
20	GLV	Digikey	AD5593RBRUZ-ND	3	8 Channel, ADC/DAC Chip	23-Mar -17	28-Mar -17
20	GLV	Digikey	MCP6004T-I/STCT-ND	5	Quad Op Amp	23-Mar -17	28-Mar -17

20	GLV	Digikey	BSS84CT-ND	10	MOSFET P-CH 50V 130MA SOT-23	23-Mar -17	28-Mar -17
20	GLV	Digikey	Z1013-ND	4	Single Pole Double Throw 24V Relay	23-Mar -17	28-Mar -17
20	TSV	Digikey	LT1307BCS8#PBF-ND	10	IC REG BOOST ADJ 0.6A 8SOIC	23-Mar -17	28-Mar -17
21	IC	Newark	77R3075	4	RECEPTACLE, FLANGE, 8 POSITION, PIN	23-Mar-17	27-Mar -17
22	IC	Wire Care	0462-201-16141	200	Female, Crimp 16 - 20 AWG	23-Mar-17	28-Mar -17
22	IC	Wire Care	0460-202-16141	200	Male pin 16 - 20 AWG	23-Mar-17	28-Mar -17
24	IC	Allied Electronics	571-1011-267-0605	20	DT BACKSHELL 180 6way plug, DT06-6S	23-Mar-17	28-Mar -17
25	IC	Automation Direct	29892469184	1	Type MTW wire, 20 AWG, 10-strand, bare copper, red insulation, 600V, 500 ft spool. Alternate part ID: 029892469184.	23-Mar-17	27-Mar -17
29	TSV	McMaster	90272A087	1	Steel Phillips Rounded Head Screws, 2- 56 Thread Size, 1-1/4" long	29-Mar -17	30-Mar-17
29	TSV	McMaster	90631A003	1	Low-Strength Steel Nylon-Insert Locknut, Zinc-Plated, 2-56 thread size	29-Mar -17	30-Mar-17
29	GLV	McMaster	95185A105	1	Press Fit Nuts for sheet metal (2-56)	29-Mar -17	30-Mar-17
29	GLV	McMaster	95185A185	1	Press Fit Nuts for sheet metal (10-32)	29-Mar -17	30-Mar-17
29	GLV	McMaster	94639A703	1	Nylon unthreaded spacers (2)	29-Mar -17	30-Mar-17
29	GLV	McMaster	94639A351	1	Nylon unthreaded spacers (10)	29-Mar -17	30-Mar-17
29	GLV	McMaster	90272A079	1	Steel Phillips Screws 2-56	29-Mar -17	30-Mar-17
29	GLV	McMaster	90272A827	1	Steel Phillips Screws 10-32	29-Mar -17	30-Mar-17
31	TSV	Newark – Element14	44f8409	1	Crimp Tool, Hand, AMP 28-16 AWG, Contacts	29-Mar -17	31-Mar-17

Purchase Requests:

The following items were ordered during this period:

Purchase Order #26 – TSV(Department) – AA Portable Power Corp – Pack Cells (Appendix VIII)

Purchase Order #27 – GLV – Amazon – Digital Display Multimeter (Appendix IX)

Purchase Order #28 – GLV – Digikey – DC Converter, Connector, .1uF Caps (Appendix X)

Purchase Order #29 – TSV/GLV – McMaster – Screws for AMS Heat Sinks and GLV Box (Appendix XI)

Purchase Order #30 – TSI/TSV – Mouser – CAN Bus Isolator, AMS Heat Sinks (Appendix XII)

Purchase Order #31 – TSV(Department) – Newark Element14 – Crimper (Appendix XIII)

Purchase Order #32 – TSV(Department) – Powerwerx – Crimper (Appendix XIV)

Purchase Order #33 – TSI – Digikey – PCB Parts (Appendix XV)

Purchase Order #34 – TSV – DFRobot – LCD Displays (Appendix XVI)

Purchase Order #35 – IC* – IEWC – Shielded Double Insulated Cable (Appendix XVII)

Purchase Order #36 – IC* – Newark Element 14 – TSV Pack Blue ITT Cannon Line Source/Drain (Appendix XVIII)

*IC stands for Interconnect/Cabling/ICD

Req #	Team	Vendor	Vendor PN	Qty	Item Description	Ordered Date
26	TSV	AA Portable Power Corp	LFP-G60	3	Heavy Duty Power Connectors PP15/45 PREMATE HSG ONLY GRN -BULK	28-Mar -17
27	GLV	Amazon	PZEM-031	1	Digital Display Multimeter	29-Mar -17
28	GLV	Digikey	102-2927-ND	1	DC/DC CONVERTER 5V 20W	29-Mar -17
28	GLV	Digikey	AE10921-ND	1	CONN D-SUB RCPT 9POS R/A SOLDER	29-Mar -17
28	GLV	Digikey	399-1170-1-ND	1000	CAP CER 0.1UF 50V X7R 0805	29-Mar -17
29	TSV	McMaster	90272A087	1	Steel Phillips Rounded Head Screws, 2- 56 Thread Size, 1-1/4" long	29-Mar -17
29	TSV	McMaster	90631A003	1	Low-Strength Steel Nylon-Insert Locknut, Zinc-Plated, 2-56 thread size	29-Mar -17
29	GLV	McMaster	95185A105	1	Press Fit Nuts for sheet metal (2-56)	29-Mar -17
29	GLV	McMaster	95185A185	1	Press Fit Nuts for sheet metal (10-32)	29-Mar -17

29	GLV	McMaster	94639A703	1	Nylon unthreaded spacers (2)	29-Mar -17
29	GLV	McMaster	94639A351	1	Nylon unthreaded spacers (10)	29-Mar -17
29	GLV	McMaster	90272A079	1	Steel Phillips Screws 2-56	29-Mar -17
29	GLV	McMaster	90272A827	1	Steel Phillips Screws 10-32	29-Mar -17
30	TSI	Mouser	600-CANOP	1	Interface Modules CAN OPTICAL REPEATER W/TB	29-Mar -17
30	TSV	Mouser	567-657-10ABPE	29	Heat Sinks HI PERF VERT Board MTG TO220/227/218 RoHS Compliant	29-Mar -17
31	TSV	Newark – Element14	44f8409	1	Crimp Tool, Hand, AMP 28-16 AWG, Contacts	29-Mar -17
32	TSV	Powerwerx	TRIcrimp	1	TRIcrimp, the best crimping tool for Powerpole for 15, 30 and 45 amp contacts	29-Mar -17
33	TSI	Digikey	102-3865-ND	2	DC/DC CONVERTER 5V 10W	29-Mar -17
33	TSI	Digikey	102-2728-ND	2	CONVERT DC/DC 2W 12V 167MA OUT	29-Mar -17
33	TSI	Digikey	1715-1676-1-ND	3	SWITCH PUSH SPST-NO 0.1A 42V	29-Mar -17
33	TSI	Digikey	296-39512-1-ND	3	IC ANLG SW SPDT SOT23-6	29-Mar -17
33	TSI	Digikey	296-40259-1-ND	3	IC GATE NAND 1CH 8-INP 14-SOIC	29-Mar -17
33	TSI	Digikey	296-4180-1-ND	3	SENSOR TEMPERATURE SPI SOT23-5	29-Mar -17
33	TSI	Digikey	311-120CRCT-ND	25	RES SMD 120 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	311-47.0KCRCT-ND	25	RES SMD 47K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	399-1108-1-ND	25	CAP CER 10PF 50V NP0 0805	29-Mar -17
33	TSI	Digikey	401-2001-ND	5	SWITCH SLIDE DPDT 300MA 6V	29-Mar -17
33	TSI	Digikey	475-1278-1-ND	10	LED RED DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	475-1410-1-ND	10	LED GREEN DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	475-2560-1-ND	10	LED YELLOW DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	490-10515-1-ND	10	CAP CER 10UF 35V X5R 0805	29-Mar -17
33	TSI	Digikey	490-3550-1-ND	3	CAP CER 1UF 250V X7R 2220	29-Mar -17
33	TSI	Digikey	490-6538-1-ND	3	CAP CER 47UF 16V X5R 1210	29-Mar -17
33	TSI	Digikey	497-10252-1-ND	6	IC OPAMP GP 1.4MHZ RRO 8SO	29-Mar -17
33	TSI	Digikey	497-2271-1-ND	4	IC COMP LP DUAL CMOS VOLT 8 SOIC	29-Mar -17
33	TSI	Digikey	516-1445-1-ND	10	LED BLUE DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	516-2578-5-ND	4	IC OPAMP ISOLATION 100KHZ 8SO	29-Mar -17

33	TSI	Digikey	587-1293-1-ND	10	CAP CER 2.2UF 16V X5R 0805	29-Mar -17
33	TSI	Digikey	587-2004-1-ND	3	FIXED IND 100UH 1A 377 MOHM SMD	29-Mar -17
33	TSI	Digikey	609-4054-ND	2	CONN HEADER 10POS DUAL SHRD SMD	29-Mar -17
33	TSI	Digikey	887-1741-1-ND	3	CRYSTAL 10.0000MHZ 12PF SMD	29-Mar -17
33	TSI	Digikey	A113980-ND	2	CONN RCPT 2POS 11.18MM PCB SLDR	29-Mar -17
33	TSI	Digikey	AT90CAN128-16AURCT-ND	3	IC MCU 8BIT 128KB FLASH 64TQFP	29-Mar -17
33	TSI	Digikey	LTC3638EMSE#PBF-ND	3	IC REG BUCK ADJ 0.25A 16MSOP	29-Mar -17
33	TSI	Digikey	MCP2551-I/SN-ND	3	IC TRANSCEIVER CAN HI-SPD 8-SOIC	29-Mar -17
33	TSI	Digikey	MCP6001T-I/OTCT-ND	4	IC OPAMP GP 1MHZ RRO SOT23-5	29-Mar -17
33	TSI	Digikey	MCP6002T-I/SNCT-ND	4	IC OPAMP GP 1MHZ RRO 8SOIC	29-Mar -17
33	TSI	Digikey	MCP6004T-I/SLCT-ND	6	IC OPAMP GP RRO 1MHZ 14-SOIC	29-Mar -17
33	TSI	Digikey	MMBF170CT-ND	10	MOSFET N-CH 60V 500MA SOT-23	29-Mar -17
33	TSI	Digikey	P1.00KCCT-ND	25	RES SMD 1K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P10.0KCCT-ND	100	RES SMD 10K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P100KCCT-ND	25	RES SMD 100K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P137KCCT-ND	25	RES SMD 137K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P196CCT-ND	25	RES SMD 196 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P2.00KCCT-ND	25	RES SMD 2K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P4.75KCCT-ND	25	RES SMD 4.75K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P499DACT-ND	25	RES SMD 499 OHM 0.1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P665KCCT-ND	25	RES SMD 665K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P750KCCT-ND	25	RES SMD 750K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P9.31KCCT-ND	25	RES SMD 9.31K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	SK310A-LTPMSCT-ND	4	DIODE SCHOTTKY 100V 3A DO214AC	29-Mar -17
33	TSI	Digikey	TLP293(GB-TPLECT-ND	25	OPTOISOLATOR 3.75KV TRANS 4-SO	29-Mar -17
33	TSI	Digikey	WM14741-ND	2	QF50 SRD HDR VT .1AU 20POS	29-Mar -17

33	TSI	Digikey	WM3789CT-ND	2	CONN MOD JACK 6P6C VERT UNSHLD	29-Mar -17
33	TSI	Digikey	WM4128-ND	2	CONN HEADER 8POS .100 VERT 30AU	29-Mar -17
33	TSI	Digikey	WM4802-ND	2	CONN HEADER 4POS .100 VERT GOLD	29-Mar -17
33	TSI	Digikey	WM8632-ND	2	CONN HEADER 14POS 2.54MM VERT	29-Mar -17
33	TSI	Digikey	Z5375-ND	4	JUMPER PLUG 3POS SING ROW	29-Mar -17
33	TSI	Digikey	ZVP4525GCT-ND	4	MOSFET P-CH 250V 0.265A SOT223	29-Mar -17
33	TSI	Digikey	LM7810ACT-ND	4	IC REG LDO 10V 1A TO220-3	29-Mar -17
33	TSI	Digikey	311-150CRCT-ND	50	RES SMD 150 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	399-1122-1-ND	25	CAP CER 100PF 50V NP0 0805	29-Mar -17
33	TSI	Digikey	P150KCCT-ND	50	RES SMD 150K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P16KACT-ND	50	RES SMD 16K OHM 5% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P24.9KCCT-ND	50	RES SMD 24.9K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P249KCCT-ND	50	RES SMD 249K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P330CCT-ND	25	RES SMD 330 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	350-4050-ND	3	LED PANEL INDICATOR RED 24V	29-Mar -17
33	TSI	Digikey	350-4053-ND	3	LED PANEL INDICATOR GREEN 24V	29-Mar -17
33	TSI	Digikey	102-3865-ND	2	DC/DC CONVERTER 5V 10W	29-Mar -17
33	TSI	Digikey	102-2728-ND	2	CONVERT DC/DC 2W 12V 167MA OUT	29-Mar -17
33	TSI	Digikey	1715-1676-1-ND	3	SWITCH PUSH SPST-NO 0.1A 42V	29-Mar -17
33	TSI	Digikey	296-39512-1-ND	3	IC ANLG SW SPDT SOT23-6	29-Mar -17
33	TSI	Digikey	296-40259-1-ND	3	IC GATE NAND 1CH 8-INP 14-SOIC	29-Mar -17
33	TSI	Digikey	296-4180-1-ND	3	SENSOR TEMPERATURE SPI SOT23-5	29-Mar -17
33	TSI	Digikey	311-120CRCT-ND	25	RES SMD 120 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	311-47.0KCRCT-ND	25	RES SMD 47K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	399-1108-1-ND	25	CAP CER 10PF 50V NP0 0805	29-Mar -17
33	TSI	Digikey	401-2001-ND	5	SWITCH SLIDE DPDT 300MA 6V	29-Mar -17
33	TSI	Digikey	475-1278-1-ND	10	LED RED DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	475-1410-1-ND	10	LED GREEN DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	475-2560-1-ND	10	LED YELLOW DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	490-10515-1-ND	10	CAP CER 10UF 35V X5R 0805	29-Mar -17
33	TSI	Digikey	490-3550-1-ND	3	CAP CER 1UF 250V X7R 2220	29-Mar -17
33	TSI	Digikey	490-6538-1-ND	3	CAP CER 47UF 16V X5R 1210	29-Mar -17

33	TSI	Digikey	497-10252-1-ND	6	IC OPAMP GP 1.4MHZ RRO 8SO	29-Mar -17
33	TSI	Digikey	497-2271-1-ND	4	IC COMP LP DUAL CMOS VOLT 8 SOIC	29-Mar -17
33	TSI	Digikey	516-1445-1-ND	10	LED BLUE DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	516-2578-5-ND	4	IC OPAMP ISOLATION 100KHZ 8SO	29-Mar -17
33	TSI	Digikey	587-1293-1-ND	10	CAP CER 2.2UF 16V X5R 0805	29-Mar -17
33	TSI	Digikey	587-2004-1-ND	3	FIXED IND 100UH 1A 377 MOHM SMD	29-Mar -17
33	TSI	Digikey	609-4054-ND	2	CONN HEADER 10POS DUAL SHRD SMD	29-Mar -17
33	TSI	Digikey	887-1741-1-ND	3	CRYSTAL 10.0000MHZ 12PF SMD	29-Mar -17
33	TSI	Digikey	A113980-ND	2	CONN RCPT 2POS 11.18MM PCB SLDR	29-Mar -17
33	TSI	Digikey	AT90CAN128-16AURCT-ND	3	IC MCU 8BIT 128KB FLASH 64TQFP	29-Mar -17
33	TSI	Digikey	LTC3638EMSE#PBF-ND	3	IC REG BUCK ADJ 0.25A 16MSOP	29-Mar -17
33	TSI	Digikey	MCP2551-I/SN-ND	3	IC TRANSCEIVER CAN HI-SPD 8-SOIC	29-Mar -17
33	TSI	Digikey	MCP6001T-I/OTCT-ND	4	IC OPAMP GP 1MHZ RRO SOT23-5	29-Mar -17
33	TSI	Digikey	MCP6002T-I/SNCT-ND	4	IC OPAMP GP 1MHZ RRO 8SOIC	29-Mar -17
33	TSI	Digikey	MCP6004T-I/SLCT-ND	6	IC OPAMP GP RRO 1MHZ 14-SOIC	29-Mar -17
33	TSI	Digikey	MMBF170CT-ND	10	MOSFET N-CH 60V 500MA SOT-23	29-Mar -17
33	TSI	Digikey	P1.00KCCT-ND	25	RES SMD 1K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P10.0KCCT-ND	100	RES SMD 10K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P100KCCT-ND	25	RES SMD 100K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P137KCCT-ND	25	RES SMD 137K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P196CCT-ND	25	RES SMD 196 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P2.00KCCT-ND	25	RES SMD 2K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P4.75KCCT-ND	25	RES SMD 4.75K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P499DACT-ND	25	RES SMD 499 OHM 0.1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P665KCCT-ND	25	RES SMD 665K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P750KCCT-ND	25	RES SMD 750K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P9.31KCCT-ND	25	RES SMD 9.31K OHM 1% 1/8W 0805	29-Mar -17

33	TSI	Digikey	SK310A-LTPMSCT-ND	4	DIODE SCHOTTKY 100V 3A DO214AC	29-Mar -17
33	TSI	Digikey	TLP293(GB-TPLECT-ND	25	OPTOISOLATOR 3.75KV TRANS 4-SO	29-Mar -17
33	TSI	Digikey	WM14741-ND	2	QF50 SRD HDR VT .1AU 20POS	29-Mar -17
33	TSI	Digikey	WM3789CT-ND	2	CONN MOD JACK 6P6C VERT UNSHLD	29-Mar -17
33	TSI	Digikey	WM4128-ND	2	CONN HEADER 8POS .100 VERT 30AU	29-Mar -17
33	TSI	Digikey	WM4802-ND	2	CONN HEADER 4POS .100 VERT GOLD	29-Mar -17
33	TSI	Digikey	WM8632-ND	2	CONN HEADER 14POS 2.54MM VERT	29-Mar -17
33	TSI	Digikey	Z5375-ND	4	JUMPER PLUG 3POS SING ROW	29-Mar -17
33	TSI	Digikey	ZVP4525GCT-ND	4	MOSFET P-CH 250V 0.265A SOT223	29-Mar -17
33	TSI	Digikey	LM7810ACT-ND	4	IC REG LDO 10V 1A TO220-3	29-Mar -17
33	TSI	Digikey	311-150CRCT-ND	50	RES SMD 150 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	399-1122-1-ND	25	CAP CER 100PF 50V NP0 0805	29-Mar -17
33	TSI	Digikey	P150KCCT-ND	50	RES SMD 150K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P16KACT-ND	50	RES SMD 16K OHM 5% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P24.9KCCT-ND	50	RES SMD 24.9K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P249KCCT-ND	50	RES SMD 249K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P330CCT-ND	25	RES SMD 330 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	350-4050-ND	3	LED PANEL INDCATOR RED 24V	29-Mar -17
33	TSI	Digikey	350-4053-ND	3	LED PANEL INDCATOR GREEN 24V	29-Mar -17
34	TSV	DFRobot	DFR0154	2	I2C 20x4 Arduino LCD Display Module	30-Mar-17
35	IC	IEWC	EXRAD2/0-XLEOBS	30 ft	Single-Shielded Double-Insulated Cable EXRAD2/0-XLEOBS-5 (2/0 1254B IRRAD EXRAD OBS 150C 600V ORG)	30-Mar-17
36	IC	Newark – Element14	44W4336	2	ITT CANNON LINE DRAIN, NEUTRAL, BLUE, 400A	30-Mar-17
36	IC	Newark – Element14	44W4346	1	ITT CANNON LINE SOURCE, NEUTRAL, BLUE, 400A	30-Mar-17
36	IC	Newark – Element14	64W3407	3	VEAM REDUCTION SLEEVE R70	30-Mar-17

Outstanding Orders:

The following items have been ordered but have not yet been received:

Purchase Order #23 – IC* – Cable Ties and More – Heat Shrink, Wire Loom (Appendix V)

Purchase Order #26 – TSV(Department) – AA Portable Power Corp – Pack Cells (Appendix VIII)

Purchase Order #27 – GLV – Amazon – Digital Display Multimeter (Appendix IX)

Purchase Order #28 – GLV – Digikey – DC Converter, Connector, .1uF Caps (Appendix X)

Purchase Order #30 – TSI/TSV – Mouser – CAN Bus Isolator, AMS Heat Sinks (Appendix XII)

Purchase Order #32 – TSV(Department) – Powerwerx – Crimper (Appendix XIV)

Purchase Order #33 – TSI – Digikey – PCB Parts (Appendix XV)

Purchase Order #34 – TSV – DFRobot – LCD Displays (Appendix XVI)

Purchase Order #35 – IC* – IEWC – Shielded Double Insulated Cable (Appendix XVII)

Purchase Order #36 – IC* – Newark Element 14 – TSV Pack Blue ITT Cannon Line Source/Drain (Appendix XVIII)

*IC stands for Interconnect/Cabling/ICD

Req #	Team	Vendor	Vendor PN	Qty	Item Description	Ordered Date
23	IC	Cable Ties and More	HSK3-1-KIT-BK	1	3:1 Shrink Black 6 sizes, 110 pcs 6" Length	23-Mar-17
23	IC	Cable Ties and More	WL923	1	3/4" Diameter Split Wire Loom 100' Roll	23-Mar-17
26	TSV	AA Portable Power Corp	LFP-G60	3	Heavy Duty Power Connectors PP15/45 PREMATE HSG ONLY GRN -BULK	28-Mar -17
27	GLV	Amazon	PZEM-031	1	Digital Display Multimeter	29-Mar -17
28	GLV	Digikey	102-2927-ND	1	DC/DC CONVERTER 5V 20W	29-Mar -17
28	GLV	Digikey	AE10921-ND	1	CONN D-SUB RCPT 9POS R/A SOLDER	29-Mar -17
28	GLV	Digikey	399-1170-1-ND	1000	CAP CER 0.1UF 50V X7R 0805	29-Mar -17
30	TSI	Mouser	600-CANOP	1	Interface Modules CAN OPTICAL REPEATER W/TB	29-Mar -17
30	TSV	Mouser	567-657-10ABPE	29	Heat Sinks HI PERF VERT Board MTG TO220/227/218 RoHS Compliant	29-Mar -17

32	TSV	Powerwerx	TRIcrimp	1	TRIcrimp, the best crimping tool for Powerpole for 15, 30 and 45 amp contacts	29-Mar -17
33	TSI	Digikey	102-3865-ND	2	DC/DC CONVERTER 5V 10W	29-Mar -17
33	TSI	Digikey	102-2728-ND	2	CONVERT DC/DC 2W 12V 167MA OUT	29-Mar -17
33	TSI	Digikey	1715-1676-1-ND	3	SWITCH PUSH SPST-NO 0.1A 42V	29-Mar -17
33	TSI	Digikey	296-39512-1-ND	3	IC ANLG SW SPDT SOT23-6	29-Mar -17
33	TSI	Digikey	296-40259-1-ND	3	IC GATE NAND 1CH 8-INP 14-SOIC	29-Mar -17
33	TSI	Digikey	296-4180-1-ND	3	SENSOR TEMPERATURE SPI SOT23-5	29-Mar -17
33	TSI	Digikey	311-120CRCT-ND	25	RES SMD 120 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	311-47.0KCRCT-ND	25	RES SMD 47K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	399-1108-1-ND	25	CAP CER 10PF 50V NP0 0805	29-Mar -17
33	TSI	Digikey	401-2001-ND	5	SWITCH SLIDE DPDT 300MA 6V	29-Mar -17
33	TSI	Digikey	475-1278-1-ND	10	LED RED DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	475-1410-1-ND	10	LED GREEN DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	475-2560-1-ND	10	LED YELLOW DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	490-10515-1-ND	10	CAP CER 10UF 35V X5R 0805	29-Mar -17
33	TSI	Digikey	490-3550-1-ND	3	CAP CER 1UF 250V X7R 2220	29-Mar -17
33	TSI	Digikey	490-6538-1-ND	3	CAP CER 47UF 16V X5R 1210	29-Mar -17
33	TSI	Digikey	497-10252-1-ND	6	IC OPAMP GP 1.4MHZ RRO 8SO	29-Mar -17
33	TSI	Digikey	497-2271-1-ND	4	IC COMP LP DUAL CMOS VOLT 8 SOIC	29-Mar -17
33	TSI	Digikey	516-1445-1-ND	10	LED BLUE DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	516-2578-5-ND	4	IC OPAMP ISOLATION 100KHZ 8SO	29-Mar -17
33	TSI	Digikey	587-1293-1-ND	10	CAP CER 2.2UF 16V X5R 0805	29-Mar -17
33	TSI	Digikey	587-2004-1-ND	3	FIXED IND 100UH 1A 377 MOHM SMD	29-Mar -17
33	TSI	Digikey	609-4054-ND	2	CONN HEADER 10POS DUAL SHRD SMD	29-Mar -17
33	TSI	Digikey	887-1741-1-ND	3	CRYSTAL 10.0000MHZ 12PF SMD	29-Mar -17
33	TSI	Digikey	A113980-ND	2	CONN RCPT 2POS 11.18MM PCB SLDR	29-Mar -17
33	TSI	Digikey	AT90CAN128-16AURCT-ND	3	IC MCU 8BIT 128KB FLASH 64TQFP	29-Mar -17
33	TSI	Digikey	LTC3638EMSE#PBF-ND	3	IC REG BUCK ADJ 0.25A 16MSOP	29-Mar -17
33	TSI	Digikey	MCP2551-I/SN-ND	3	IC TRANSCEIVER CAN HI-SPD 8-SOIC	29-Mar -17

33	TSI	Digikey	MCP6001T-I/OTCT-ND	4	IC OPAMP GP 1MHZ RRO SOT23-5	29-Mar -17
33	TSI	Digikey	MCP6002T-I/SNCT-ND	4	IC OPAMP GP 1MHZ RRO 8SOIC	29-Mar -17
33	TSI	Digikey	MCP6004T-I/SLCT-ND	6	IC OPAMP GP RRO 1MHZ 14-SOIC	29-Mar -17
33	TSI	Digikey	MMBF170CT-ND	10	MOSFET N-CH 60V 500MA SOT-23	29-Mar -17
33	TSI	Digikey	P1.00KCCT-ND	25	RES SMD 1K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P10.0KCCT-ND	100	RES SMD 10K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P100KCCT-ND	25	RES SMD 100K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P137KCCT-ND	25	RES SMD 137K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P196CCT-ND	25	RES SMD 196 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P2.00KCCT-ND	25	RES SMD 2K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P4.75KCCT-ND	25	RES SMD 4.75K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P499DACT-ND	25	RES SMD 499 OHM 0.1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P665KCCT-ND	25	RES SMD 665K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P750KCCT-ND	25	RES SMD 750K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P9.31KCCT-ND	25	RES SMD 9.31K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	SK310A-LTPMSCT-ND	4	DIODE SCHOTTKY 100V 3A DO214AC	29-Mar -17
33	TSI	Digikey	TLP293(GB-TPLECT-ND	25	OPTOISOLATOR 3.75KV TRANS 4-SO	29-Mar -17
33	TSI	Digikey	WM14741-ND	2	QF50 SRD HDR VT .1AU 20POS	29-Mar -17
33	TSI	Digikey	WM3789CT-ND	2	CONN MOD JACK 6P6C VERT UNSHLD	29-Mar -17
33	TSI	Digikey	WM4128-ND	2	CONN HEADER 8POS .100 VERT 30AU	29-Mar -17
33	TSI	Digikey	WM4802-ND	2	CONN HEADER 4POS .100 VERT GOLD	29-Mar -17
33	TSI	Digikey	WM8632-ND	2	CONN HEADER 14POS 2.54MM VERT	29-Mar -17
33	TSI	Digikey	Z5375-ND	4	JUMPER PLUG 3POS SING ROW	29-Mar -17
33	TSI	Digikey	ZVP4525GCT-ND	4	MOSFET P-CH 250V 0.265A SOT223	29-Mar -17
33	TSI	Digikey	LM7810ACT-ND	4	IC REG LDO 10V 1A TO220-3	29-Mar -17
33	TSI	Digikey	311-150CRCT-ND	50	RES SMD 150 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	399-1122-1-ND	25	CAP CER 100PF 50V NP0 0805	29-Mar -17
33	TSI	Digikey	P150KCCT-ND	50	RES SMD 150K OHM 1% 1/8W 0805	29-Mar -17

33	TSI	Digikey	P16KACT-ND	50	RES SMD 16K OHM 5% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P24.9KCCT-ND	50	RES SMD 24.9K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P249KCCT-ND	50	RES SMD 249K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P330CCT-ND	25	RES SMD 330 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	350-4050-ND	3	LED PANEL INDICATOR RED 24V	29-Mar -17
33	TSI	Digikey	350-4053-ND	3	LED PANEL INDICATOR GREEN 24V	29-Mar -17
33	TSI	Digikey	102-3865-ND	2	DC/DC CONVERTER 5V 10W	29-Mar -17
33	TSI	Digikey	102-2728-ND	2	CONVERT DC/DC 2W 12V 167MA OUT	29-Mar -17
33	TSI	Digikey	1715-1676-1-ND	3	SWITCH PUSH SPST-NO 0.1A 42V	29-Mar -17
33	TSI	Digikey	296-39512-1-ND	3	IC ANLG SW SPDT SOT23-6	29-Mar -17
33	TSI	Digikey	296-40259-1-ND	3	IC GATE NAND 1CH 8-INP 14-SOIC	29-Mar -17
33	TSI	Digikey	296-4180-1-ND	3	SENSOR TEMPERATURE SPI SOT23-5	29-Mar -17
33	TSI	Digikey	311-120CRCT-ND	25	RES SMD 120 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	311-47.0KCRCT-ND	25	RES SMD 47K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	399-1108-1-ND	25	CAP CER 10PF 50V NP0 0805	29-Mar -17
33	TSI	Digikey	401-2001-ND	5	SWITCH SLIDE DPDT 300MA 6V	29-Mar -17
33	TSI	Digikey	475-1278-1-ND	10	LED RED DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	475-1410-1-ND	10	LED GREEN DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	475-2560-1-ND	10	LED YELLOW DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	490-10515-1-ND	10	CAP CER 10UF 35V X5R 0805	29-Mar -17
33	TSI	Digikey	490-3550-1-ND	3	CAP CER 1UF 250V X7R 2220	29-Mar -17
33	TSI	Digikey	490-6538-1-ND	3	CAP CER 47UF 16V X5R 1210	29-Mar -17
33	TSI	Digikey	497-10252-1-ND	6	IC OPAMP GP 1.4MHZ RRO 8SO	29-Mar -17
33	TSI	Digikey	497-2271-1-ND	4	IC COMP LP DUAL CMOS VOLT 8 SOIC	29-Mar -17
33	TSI	Digikey	516-1445-1-ND	10	LED BLUE DIFFUSED 0805 SMD	29-Mar -17
33	TSI	Digikey	516-2578-5-ND	4	IC OPAMP ISOLATION 100KHZ 8SO	29-Mar -17
33	TSI	Digikey	587-1293-1-ND	10	CAP CER 2.2UF 16V X5R 0805	29-Mar -17
33	TSI	Digikey	587-2004-1-ND	3	FIXED IND 100UH 1A 377 MOHM SMD	29-Mar -17
33	TSI	Digikey	609-4054-ND	2	CONN HEADER 10POS DUAL SHRD SMD	29-Mar -17
33	TSI	Digikey	887-1741-1-ND	3	CRYSTAL 10.0000MHZ 12PF SMD	29-Mar -17
33	TSI	Digikey	A113980-ND	2	CONN RCPT 2POS 11.18MM PCB SLDR	29-Mar -17

33	TSI	Digikey	AT90CAN128-16AURCT-ND	3	IC MCU 8BIT 128KB FLASH 64TQFP	29-Mar -17
33	TSI	Digikey	LTC3638EMSE#PBF-ND	3	IC REG BUCK ADJ 0.25A 16MSOP	29-Mar -17
33	TSI	Digikey	MCP2551-I/SN-ND	3	IC TRANSCEIVER CAN HI-SPD 8-SOIC	29-Mar -17
33	TSI	Digikey	MCP6001T-I/OTCT-ND	4	IC OPAMP GP 1MHZ RRO SOT23-5	29-Mar -17
33	TSI	Digikey	MCP6002T-I/SNCT-ND	4	IC OPAMP GP 1MHZ RRO 8SOIC	29-Mar -17
33	TSI	Digikey	MCP6004T-I/SLCT-ND	6	IC OPAMP GP RRO 1MHZ 14-SOIC	29-Mar -17
33	TSI	Digikey	MMBF170CT-ND	10	MOSFET N-CH 60V 500MA SOT-23	29-Mar -17
33	TSI	Digikey	P1.00KCCT-ND	25	RES SMD 1K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P10.0KCCT-ND	100	RES SMD 10K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P100KCCT-ND	25	RES SMD 100K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P137KCCT-ND	25	RES SMD 137K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P196CCT-ND	25	RES SMD 196 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P2.00KCCT-ND	25	RES SMD 2K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P4.75KCCT-ND	25	RES SMD 4.75K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P499DACT-ND	25	RES SMD 499 OHM 0.1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P665KCCT-ND	25	RES SMD 665K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P750KCCT-ND	25	RES SMD 750K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P9.31KCCT-ND	25	RES SMD 9.31K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	SK310A-LTPMSCT-ND	4	DIODE SCHOTTKY 100V 3A DO214AC	29-Mar -17
33	TSI	Digikey	TLP293(GB-TPLECT-ND	25	OPTOISOLATOR 3.75KV TRANS 4-SO	29-Mar -17
33	TSI	Digikey	WM14741-ND	2	QF50 SRD HDR VT .1AU 20POS	29-Mar -17
33	TSI	Digikey	WM3789CT-ND	2	CONN MOD JACK 6P6C VERT UNSHLD	29-Mar -17
33	TSI	Digikey	WM4128-ND	2	CONN HEADER 8POS .100 VERT 30AU	29-Mar -17
33	TSI	Digikey	WM4802-ND	2	CONN HEADER 4POS .100 VERT GOLD	29-Mar -17
33	TSI	Digikey	WM8632-ND	2	CONN HEADER 14POS 2.54MM VERT	29-Mar -17
33	TSI	Digikey	Z5375-ND	4	JUMPER PLUG 3POS SING ROW	29-Mar -17

33	TSI	Digikey	ZVP4525GCT-ND	4	MOSFET P-CH 250V 0.265A SOT223	29-Mar -17
33	TSI	Digikey	LM7810ACT-ND	4	IC REG LDO 10V 1A TO220-3	29-Mar -17
33	TSI	Digikey	311-150CRCT-ND	50	RES SMD 150 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	399-1122-1-ND	25	CAP CER 100PF 50V NP0 0805	29-Mar -17
33	TSI	Digikey	P150KCCT-ND	50	RES SMD 150K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P16KACT-ND	50	RES SMD 16K OHM 5% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P24.9KCCT-ND	50	RES SMD 24.9K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P249KCCT-ND	50	RES SMD 249K OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	P330CCT-ND	25	RES SMD 330 OHM 1% 1/8W 0805	29-Mar -17
33	TSI	Digikey	350-4050-ND	3	LED PANEL INDICATOR RED 24V	29-Mar -17
33	TSI	Digikey	350-4053-ND	3	LED PANEL INDICATOR GREEN 24V	29-Mar -17
34	TSV	DFRobot	DFR0154	2	I2C 20x4 Arduino LCD Display Module	30-Mar-17
35	IC	IEWC	EXRAD2/0-XLEOBS	30 ft	Single-Shielded Double-Insulated Cable EXRAD2/0-XLEOBS-5 (2/0 1254B IRRAD EXRAD OBS 150C 600V ORG)	30-Mar-17
36	IC	Newark – Element14	44W4336	2	ITT CANNON LINE DRAIN, NEUTRAL, BLUE, 400A	30-Mar-17
36	IC	Newark – Element14	44W4346	1	ITT CANNON LINE SOURCE, NEUTRAL, BLUE, 400A	30-Mar-17
36	IC	Newark – Element14	64W3407	3	VEAM REDUCTION SLEEVE R70	30-Mar-17

APPENDIX I

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 19

Requested By: TSV (Emilie)
Requested Date: 23-Mar-17
Ship By: Ground

Vendor: Mouser
Web Site: www.mouser.com
Phone: (800) 346-6873

#	Vendor PN	Manufacturer PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	879-1827G1-BK	1827G1-BK	Heavy Duty Power Connectors PP15/45 PREMATE HSG ONLY GRN -BULK	5	\$0.49	\$2.45	28-Mar-17
2	879-115G1	115G1	Heavy Duty Power Connectors PP PAK-2-4P HDWE PAK-CABLE	5	\$1.32	\$6.60	28-Mar-17
3	879-110G9	110G9	Heavy Duty Power Connectors SNAP-IN RECEPTACLE RETAINING PINS	25	\$0.20	\$5.00	28-Mar-17
4	879-1470G1	1470G1	Heavy Duty Power Connectors PP PAK 2-4P HSG SNAP-IN RECEPT	5	\$2.94	\$14.70	28-Mar-17
5	879-1460G1	1460G1	Heavy Duty Power Connectors PP PAK 2-4P HSG-PLUG W/LATCH	3	\$2.03	\$6.09	28-Mar-17
6	636-983-037-020R121	983-037-020R121	D-Sub Backshells 37P STRAIGHT SNAP METALIZED PLASTIC	8	\$3.80	\$30.40	28-Mar-17

Subtotal:	\$65.24
Tax / Shipping:	\$7.99
Grand Total:	\$73.23

APPENDIX II

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 20

Requested By: GLV / TSV
Requested Date: 23-Mar-17
Ship By: Ground

Vendor: Digikey
Web Site: <http://www.digikey.com/>
Phone: 218-681-6674

#	Team	Vendor PN	Manufacturer PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	GLV	AD5593RBRUZ-ND	AD5593R	8 Channel, ADC/DAC Chip	3	\$7.90	\$23.70	28-Mar-17
2	GLV	MCP6004T-I/STCT-ND	MCP6004	Quad Op Amp	5	\$0.45	\$2.25	28-Mar-17
3	GLV	BSS84CT-ND	BSS84	MOSFET P-CH 50V 130MA SOT-23	10	\$0.19	\$1.94	28-Mar-17
4	GLV	Z1013-ND	G5LE-14 DC24	Single Pole Double Throw 24V Relay	4	\$1.33	\$5.32	28-Mar-17
5	TSV	LT1307BCS8#PBF-ND	LT1307BCS8#PBF	IC REG BOOST ADJ 0.6A 8SOIC	10	\$4.15	\$41.50	28-Mar-17

Subtotal:	\$74.71
Tax / Shipping:	\$8.99
Grand Total:	\$83.70

APPENDIX III

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 21

Requested By: IC (Larisa)
Requested Date: 23-Mar-17
Ship By: Ground

Vendor: Newark
Web Site: www.newark.com
Phone: 1 800 463 9275

#	Vendor PN	Manufacturer PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	77R3075	DT048P-CLO6	RECEPTACLE, FLANGE, 8 POSITION, PIN	4	\$9.44	\$37.76	27-Mar-17

Subtotal:	\$37.76
Shipping Fees:	\$5.00
Grand Total:	\$42.76

APPENDIX IV

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 22

Requested By: IC (Larisa)
Requested Date: 23-Mar-17
Ship By: Ground

Vendor: Wire Care
Web Site: www.wirecare.com
Phone: 973-300-9782

#	Vendor PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	0462-201-16141	Female, Crimp 16 - 20 AWG	200	\$0.336	\$67.20	28-Mar-17
2	0460-202-16141	Male pin 16 - 20 AWG	200	\$0.593	\$118.60	28-Mar-17

Subtotal:	\$185.80
Shipping Fees	\$8.99
Grand Total:	\$194.79

APPENDIX V

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 23

Requested By: IC (Jeremy)
Requested Date: 23-Mar-17
Ship By: Ground

Vendor: Cable Ties And More
Web Site: <http://www.cabletiesandmore.com/>
Phone: 1-877-284-7760

#	Vendor PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	HSK3-1-KIT-BK	3:1 Shrink Black 6 sizes, 110 pcs 6" Length	1	\$42.280	\$42.28	
2	WL923	3/4" Diameter Split Wire Loom 100' Roll	1	\$16.50	\$16.50	

Subtotal:	\$58.78
Shipping Fees:	
Grand Total:	

Instructor Approval: _____

URL: <http://www.cabletiesandmore.com/american/catalog/shrink-black-sizes-length-p-9971.php>
<http://www.cabletiesandmore.com/american/catalog/inside-diameter-split-wire-loom-black-roll-p-187.php>

APPENDIX VI

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 24

Requested By: IC (Larisa)
Requested Date: 23-Mar-17
Ship By: Ground

Vendor: Allied Electronics
Web Site: <http://www.alliedelec.com/>
Phone: 1 (866) 433-5722

#	Vendor PN	Manufacturer PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	571-1011-267-0605	1011-267-0605	DT BACKSHELL 180 6way plug, DT06-6S	20	\$2.08	\$41.60	28-Mar-17

Subtotal:	\$41.60
Shipping Fees:	\$14.14
Grand Total:	\$55.74

APPENDIX VII

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 25

Requested By: IC (Jeremy)
Requested Date: 23-Mar-17
Ship By: Ground

Vendor: AutomationDirect
Web Site: <https://www.automationdirect.com>
Phone: (800) 633-0405

#	Vendor PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	29892469184	Type MTW wire, 20 AWG, 10-strand, bare copper, red insulation, 600V, 500 ft spool. Alternate part ID: 029892469184.	1	\$25.000	\$25.00	27-Mar-17

Shipping Fees	\$25.00
Shipping Fees	\$6.00
Grand Total:	\$31.00

APPENDIX VIII

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 26

Requested By: TSV (Emilie)
Requested Date: 28-Mar-17
Ship By: Ground

Vendor: AA Portable Power Corp
Web Site: www.batteryspace.com
Phone: (510) 525-2328

#	Product ID	Part Number	Description	Quantity	Unit Price	Total Price	Rcvd
1	6334	LFP-G60	LiFeMnPO4 Prismatic Module: 3.2V 60 Ah, 10C Rate (192 wh) - UN38.3 Passed	3	\$96.75	\$290.25	

Subtotal:	\$290.25
Tax / Shipping:	\$30.70
Grand Total:	\$320.95

Instructor Approval: _____

URL: <http://www.batteryspace.com/lifepo4-prismatic-module-3-2v-60-ah-10c-rate-192-wh----un38-3-passed-dgr.aspx>

APPENDIX IX

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 27

Requested By: GLV (Joe)
Requested Date: 29-Mar-17
Ship By: Ground

Vendor: Amazon
Web Site: www.amazon.com
Phone: 1 (888) 280-4331

#	Vendor PN	Manufacturer PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	PZEM-031	PZEM-031	Digital Display Multimeter	1	\$14.990	\$14.99	

Subtotal:	\$14.99
Shipping Fees:	
Grand Total:	

Instructor Approval: _____

URL: <https://www.amazon.com/bayite-6-5-100V-Display-Multimeter-Voltmeter/dp/B013PKYAV6>

APPENDIX X

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 28

Requested By: GLV (Chris)
Requested Date: 29-Mar-17
Ship By: Ground

Vendor: Digikey
Web Site: <http://www.digikey.com/>
Phone: 1-800-344-4539

#	Vendor PN	Manufacturer PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	102-2927-ND	PYB20-Q24-S5	DC/DC CONVERTER 5V 20W	1	\$33.85000	\$33.85	
2	AE10921-ND	A-DF 09 A/KG-T2S	CONN D-SUB RCPT 9POS R/A SOLDER	1	\$0.77000	\$0.77	
3	399-1170-1-ND	C0805C104K5RACTU	CAP CER 0.1UF 50V X7R 0805	1000	\$0.01328	\$13.28	

Subtotal:	\$47.90
Tax / Shipping:	
Grand Total:	

Instructor Approval: _____

Cart URL: <http://www.digikey.com/short/3wqbz2>

APPENDIX XI

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 29

Requested By: TSV & GLV
Requested Date: 29-Mar-17
Ship By: Ground

Vendor: McMaster
Web Site: <https://www.mcmaster.com/>
Phone: 218-681-6674

#	Team	Vendor PN	Manufacturer PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	TSV	90272A087	90272A087	Steel Phillips Rounded Head Screws, 2-56 Thread Size, 1-1/4" long (FOR AMS BOARD HEAT SINKS)	1	\$5.98	\$5.98	
2	TSV	90631A003	90631A003	Low-Strength Steel Nylon-Insert Locknut, Zinc-Plated, 2-56 thread size (FOR AMS BOARD HEAT SINKS)	1	\$3.37	\$3.37	
3	GLV	95185A105	95185A105	Press Fit Nuts for sheet metal (2-56)	1	\$9.40	\$9.40	
4	GLV	95185A185	95185A185	Press Fit Nuts for sheet metal (10-32)	1	\$6.26	\$6.26	
5	GLV	94639A703	94639A703	Nylon unthreaded spacers (2)	1	\$7.51	\$7.51	
6	GLV	94639A351	94639A351	Nylon unthreaded spacers (10)	1	\$7.68	\$7.68	
7	GLV	90272A079	90272A079	Steel Phillips Screws 2-56	1	\$3.28	\$3.28	
8	GLV	90272A827	90272A827	Steel Phillips Screws 10-32	1	\$3.95	\$3.95	

Subtotal:	\$47.43
Shipping Fees	
Grand Total:	

Instructor Approval: _____

APPENDIX XII

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 30

Requested By: TSI & TSV
Requested Date: 29-Mar-17
Ship By: Ground

Vendor: Mouser
Web Site: <http://www.mouser.com/>
Phone: 218-681-6674

#	Team	Vendor PN	Manufacturer PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	TSI	600-CANOP	CANOP	Interface Modules CAN OPTICAL REPEATER W/TB	1	\$209.00	\$209.00	
2	TSV	567-657-10ABPE	657-10ABPE	Heat Sinks HI PERF VERT Board MTG TO220/227/218 RoHS Compliant (FOR AMS BOARD)	29	\$1.04	\$30.16	

Subtotal:	\$239.16
Shipping Fees:	
Grand Total:	

Instructor Approval: _____

APPENDIX XIII

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 31

Requested By: TSV (Emilie)
Requested Date: 29-Mar-17
Ship By: Ground

Vendor: Newark - Element14
Web Site: www.newark.com
Phone: 1-800-463-9275

#	Vendor PN	Manufacturer PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	44f8409	58495-1	Crimp Tool, Hand, AMP 28-16 AWG, Contacts	1	\$185.710	\$185.71	31-Mar-17

Subtotal:	\$185.71
Shipping Fees:	\$0.00
Grand Total:	\$185.71

APPENDIX XIV

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 32

Requested By: TSV (Emilie)
Requested Date: 29-Mar-17
Ship By: Ground

Vendor: Powerwerx
Web Site: www.powerwerx.com
Phone: 888-321-0073

#	Vendor SKU	Description	Quantity	Unit Price	Total Price	Rcvd
1	TRlcrimp	TRlcrimp, the best crimping tool for Powerpole for 15, 30 and 45 amp contacts	1	\$39.990	\$39.99	

Subtotal:	\$39.99
Shipping Fees:	
Grand Total:	

Instructor Approval: _____

URL: <https://powerwerx.com/tricrimp-powerpole-connector-crimping-tool>

APPENDIX XV

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 33

Requested By: TSI (Rachel)
Requested Date: 30-Mar-17
Ship By: Ground

Vendor: Digkey
Web Site: <http://www.digkey.com/>
Phone: 218-681-6674

#	Ref	Vendor PN	Manufacturer PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	U13	102-3865-ND	PDQ10-Q24-S5-D	DC/DC CONVERTER 5V 10W	2	\$25.8200	\$51.64	
2	U1	102-2728-ND	PDM2-S24-S12-S	CONVERT DC/DC 2W 12V 167MA OUT	2	\$5.7100	\$11.42	
3	SW1	1715-1676-1-ND	1.14100.5030000	SWITCH PUSH SPST-NO 0.1A 42V	3	\$2.4000	\$7.20	
4	SW2	296-39512-1-ND	TS5A3159QDBVR01	IC ANLG SW SPDT SOT23-6	3	\$0.9800	\$2.94	
5	U8	296-40259-1-ND	LM95071QIMFX/NOPB	IC GATE NAND 1CH 8-INP 14-SOIC	3	\$2.2800	\$6.84	
6	U4	296-4180-1-ND	74ACT11030DR	SENSOR TEMPERATURE SPI SOT23-5	3	\$2.9000	\$8.70	
7	R44	311-120CRCT-ND	RC0805FR-07120RL	RES SMD 120 OHM 1% 1/8W 0805	25	\$0.0136	\$0.34	
8	R70	311-47.0KCRCT-ND	RC0805FR-0747KL	RES SMD 47K OHM 1% 1/8W 0805	25	\$0.0136	\$0.34	
9	C5, C6	399-11408-1-ND	C0805C100J5GACTU	CAP CER 10PF 50V NPO 0805	25	\$0.0532	\$1.33	
10	SW3	401-2001-ND	JS202011CON	SWITCH SLIDE DPKT 300MA 6V	5	\$0.4100	\$2.05	
11	D3	475-1278-1-ND	LS R976-NR-1	LED RED DIFFUSED 0805 SMD	10	\$0.1900	\$1.90	
12	D1	475-1410-1-ND	LG R971-KN-1	LED GREEN DIFFUSED 0805 SMD	10	\$0.1800	\$1.80	
13	D2	475-2560-1-ND	LY R976-PS-36	LED YELLOW DIFFUSED 0805 SMD	10	\$0.2530	\$2.53	
14	C10, C11, C19	490-10515-1-ND	GRM21BR6YA106ME43L	CAP CER 10UF 35V X5R 0805	10	\$0.2510	\$2.51	
15	C24	490-3550-1-ND	GRM55DR72E105KW01L	CAP CER 1UF 250V X7R 2220	3	\$0.8500	\$2.55	
16	C4	490-6538-1-ND	GRM32ER61C476KE15K	CAP CER 47UF 16V X5R 1210	3	\$0.8600	\$2.58	
17	U6, U18	497-10252-1-ND	TS912IYDT	IC OPAMP GP 1.4MHZ RRO 8SO	4	\$1.5400	\$6.16	
18	U22	497-2271-1-ND	TS372IDT	IC COMP LP DUAL CMOS VOLT 8 SOIC	3	\$0.6200	\$1.86	
19	D4	516-1445-1-ND	HSMR-C170	LED BLUE DIFFUSED 0805 SMD	3	\$0.8900	\$2.67	
20	U19, U20	516-2578-5-ND	ACPL-C870-000E	IC OPAMP ISOLATION 100KHZ 8SO	4	\$5.3900	\$21.56	
21	C3	587-1293-1-ND	EMK212BJ225KG-T	CAP CER 2.2UF 16V X5R 0805	10	\$0.1140	\$1.14	
22	L1	587-2004-1-ND	NR8040T101M	FIXED IND 100UH 1A 377 MOHM SMD	3	\$0.6000	\$1.80	
23	CON1	609-4054-ND	20021521-00010T1LF	CONN HEADER 10POS DUAL SHRD SMD	2	\$1.1100	\$2.22	
24	Y1	887-1741-1-ND	7A-10.000MAAE-T	CRYSTAL 10.0000MHZ 12PF SMD	2	\$0.6600	\$1.32	
25	P1	A113980-ND	556881-2	CONN RCPT 2POS 11.18MM PCB SLDR	2	\$7.1300	\$14.26	
26	U7	AT90CAN128-16AURCT-ND	AT90CAN128-16AUR	IC MCU 8BIT 128KB FLASH 64TQFP	2	\$7.6600	\$15.32	
27	U16	LTC3638EMSE#PBF-ND	LTC3638EMSE#PBF	IC REG BUCK ADJ 0.25A 16MSOP	2	\$7.7900	\$15.58	
28	U10	MCP2551-I/SN-ND	MCP2551-I/SN	IC TRANSCEIVER CAN HI-SPD 8-SOIC	2	\$1.0500	\$2.10	
29	U21	MCP6001T-I/OTCT-ND	MCP6001T-I/OT	IC OPAMP GP 1MHZ RRO SOT23-5	4	\$0.2500	\$1.00	
30	U2	MCP6002T-I/SNCT-ND	MCP6002T-I/SN	IC OPAMP GP 1MHZ RRO 8SOIC	4	\$0.3400	\$1.36	
31	U3, U17	MCP6004T-I/SLCT-ND	MCP6004T-I/SL	IC OPAMP GP RRO 1MHZ 14-SOIC	6	\$0.4500	\$2.70	
32	O2, O3	MMBF170CT-ND	MMBF170	MOSFET N-CH 60V 500MA SOT-23	10	\$0.2590	\$2.59	
33	R37	P1.00KCCT-ND	ERJ-6ENF1001V	RES SMD 1K OHM 1% 1/8W 0805	25	\$0.0264	\$0.66	
34		P10.0KCCT-ND	ERJ-6ENF1002V	RES SMD 10K OHM 1% 1/8W 0805	100	\$0.0148	\$1.48	
35	R24, R30	P100KCCT-ND	ERJ-6ENF1003V	RES SMD 100K OHM 1% 1/8W 0805	25	\$0.0264	\$0.66	
36	R10, R36	P137KCCT-ND	ERJ-6ENF1373V	RES SMD 137K OHM 1% 1/8W 0805	25	\$0.0264	\$0.66	
37	R77	P196CCT-ND	ERJ-6ENF1960V	RES SMD 196 OHM 1% 1/8W 0805	25	\$0.0264	\$0.66	
38	R25, R26	P2.00KCCT-ND	ERJ-6ENF2001V	RES SMD 2K OHM 1% 1/8W 0805	25	\$0.0264	\$0.66	
39	R32, R34	P4.75KCCT-ND	ERJ-6ENF4751V	RES SMD 4.75K OHM 1% 1/8W 0805	25	\$0.0264	\$0.66	
40	R33, R79, R81, R82, R83	P499DACT-ND	ERA-6AEB4990V	RES SMD 499 OHM 0.1% 1/8W 0805	25	\$0.2096	\$5.24	
41	R1, R9	P665KCCT-ND	ERJ-6ENF6653V	RES SMD 665K OHM 1% 1/8W 0805	25	\$0.0264	\$0.66	
42	R76	P750KCCT-ND	ERJ-6ENF7503V	RES SMD 750K OHM 1% 1/8W 0805	25	\$0.0264	\$0.66	
43	R38, R80	P9.31KCCT-ND	ERJ-6ENF9311V	RES SMD 9.31K OHM 1% 1/8W 0805	25	\$0.0264	\$0.66	
44	D5	SK310A-LTPMSCT-ND	SK310A-LTP	DIODE SCHOTTKY 100V 3A DO214AC	4	\$0.6000	\$2.40	
45	U11, U12, U23, U24, U27, U9	TLP293(GB-TPLECT-ND	TLP293(GB-TPL,E	OPTOISOLATOR 3.75KV TRANS 4-SO	25	\$0.3080	\$7.70	
46	P2	WM14741-ND	906631201	QF50 SRD HDR VT .1AU 20POS	2	\$2.3100	\$4.62	
47	J5	WM3789CT-ND	855135002	CONN MOD JACK 6P6C VERT UNSHLD	2	\$1.1600	\$2.32	
48	J1	WM4128-ND	705430112	CONN HEADER 8POS .100 VERT 30AU	2	\$1.8800	\$3.76	
49	J4	WM4802-ND	705430003	CONN HEADER 4POS .100 VERT GOLD	2	\$0.9400	\$1.88	
50	P3	WM8632-ND	905711141	CONN HEADER 14POS 2.54MM VERT	2	\$2.4000	\$4.80	
51	JP1	Z5375-ND	XG8V-0331	JUMPER PLUG 3POS SING ROW	4	\$0.2600	\$1.04	
52	Q1	ZVP4525GCT-ND	ZVP4525GTA	MOSFET P-CH 250V 0.265A SOT223	4	\$0.7100	\$2.84	
53	U5	LM7810ACT-ND	LM7810ACT	IC REG LDO 10V 1A TO220-3	4	\$0.6400	\$2.56	
54	R12, R15, R27	311-150CRCT-ND	RC0805FR-07150RL	RES SMD 150 OHM 1% 1/8W 0805	50	\$0.0104	\$0.52	
55	C28, C29, C30, C41, C46, C47	399-1122-1-ND	C0805C101J5GACTU	CAP CER 100PF 50V NPO 0805	25	\$0.0368	\$0.92	
56	R61, R65, R67, R68	P150KCCT-ND	ERJ-6ENF1503V	RES SMD 150K OHM 1% 1/8W 0805	50	\$0.0200	\$1.00	
57	R45, R47, R49, R53	P16KACT-ND	ERJ-6GEY163V	RES SMD 16K OHM 5% 1/8W 0805	50	\$0.0136	\$0.68	
58	R54, R55, R58, R64, R66	P24.9KCCT-ND	ERJ-6ENF2492V	RES SMD 24.9K OHM 1% 1/8W 0805	50	\$0.0200	\$1.00	
59	R16, R19, R2, R20, R51	P249KCCT-ND	ERJ-6ENF2493V	RES SMD 249K OHM 1% 1/8W 0805	50	\$0.0200	\$1.00	
60	R71, R72, R73, R74	P330CCT-ND	ERJ-6ENF3300V	RES SMD 330 OHM 1% 1/8W 0805	25	\$0.0264	\$0.66	
61		350-4050-ND	6823135141F	LED PANEL INDICATOR RED 24V	3	\$6.9700	\$20.91	
62		350-4053-ND	6823235142F	LED PANEL INDICATOR GREEN 24V	3	\$8.9400	\$26.82	

Subtotal:	\$300.40
Shipping/Tax:	
Grand Total:	

Instructor Approval: _____

Digkey Cart URL: <http://www.digkey.com/short/3w8vdh>

APPENDIX XVI

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 34

Requested By: TSV (Emilie)
Requested Date: 30-Mar-17
Ship By: Ground

Vendor: DFRobot
Web Site: www.dfrobot.com
Phone: 86-21-61620183

#	Vendor SKU	Description	Quantity	Unit Price	Total Price	Rcvd
1	DFR0154	I2C 20x4 Arduino LCD Display Module	2	\$23.000	\$46.00	

Subtotal:	\$46.00
Shipping Fees:	
Grand Total:	

Instructor Approval: _____

URL: <https://www.dfrobot.com/product-590.html>

APPENDIX XVII

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 35

Requested By: IC (Jeremy)
Requested Date: 30-Mar-17
Ship By: Ground

Vendor: IEWC
Web Site: <http://www.iewc.com/>
Phone: 877-613-4392

#	Vendor PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	EXRAD2/0-XLEOBS	Single-Shielded Double-Insulated Cable EXRAD2/0-XLEOBS-5 (2/0 1254B IRRAD EXTRAD 0BS 150C 600V ORG) quote# 20387303	30 feet	\$10.000	\$300.00	

Subtotal:	\$300.00
Shipping Fees:	
Grand Total:	

Instructor Approval: _____

*** Must call at number and reference the quote number in description above to order

APPENDIX XVIII

ECE Department Material Request

Course: ECE 492
Professor: Nadovich/Schmult

Req Number: 36

Requested By: IC (Larisa)
Requested Date: 30-Mar-17
Ship By: Ground

Vendor: Newark - Element14
Web Site: www.newark.com
Phone: 9275

#	Vendor PN	Manufacturer PN	Description	Quantity	Unit Price	Total Price	Rcvd
1	44W4336	NLDFT-N-BL-L-S120-M40A	ITT CANNON LINE DRAIN, NEUTRAL, BLUE, 400A	2	\$56.41	\$112.82	
2	44W4346	NLS-N-BL-S120-M40A	ITT CANNON LINE SOURCE, NEUTRAL, BLUE, 400A	1	\$56.90	\$56.90	
3	64W3407	A00602825	VEAM REDUCTION SLEEVE R70	3	\$10.590	\$31.77	

Subtotal:	\$201.49
Shipping Fees:	
Grand Total:	

Instructor Approval: _____