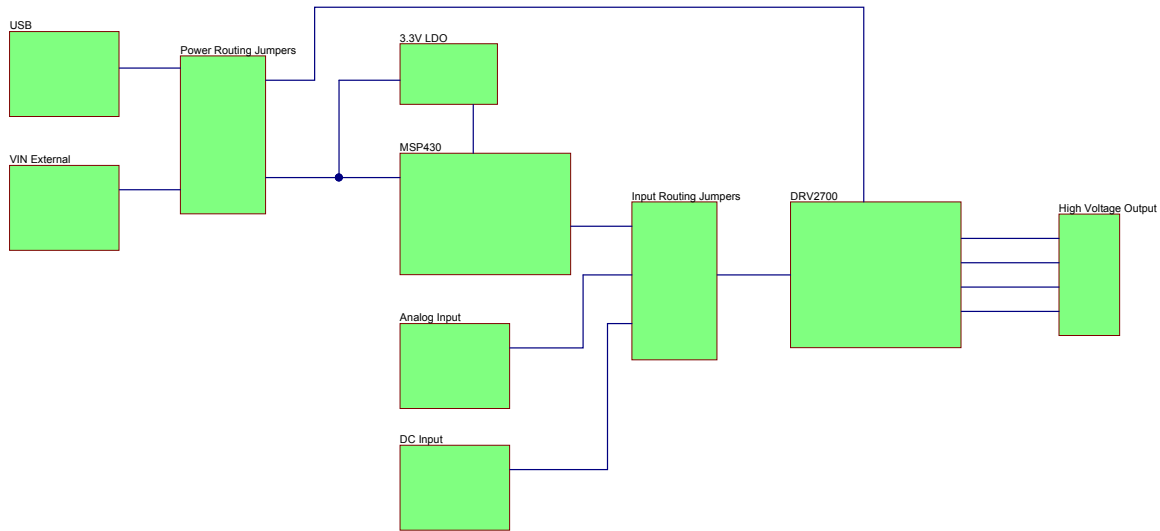



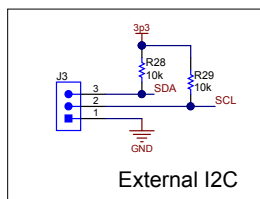
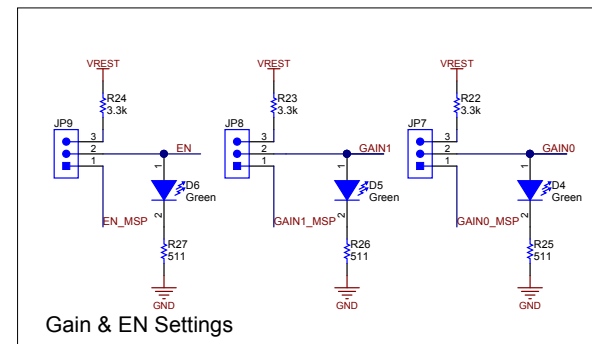
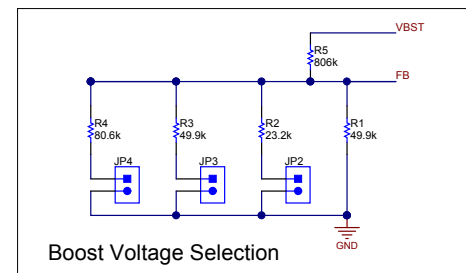
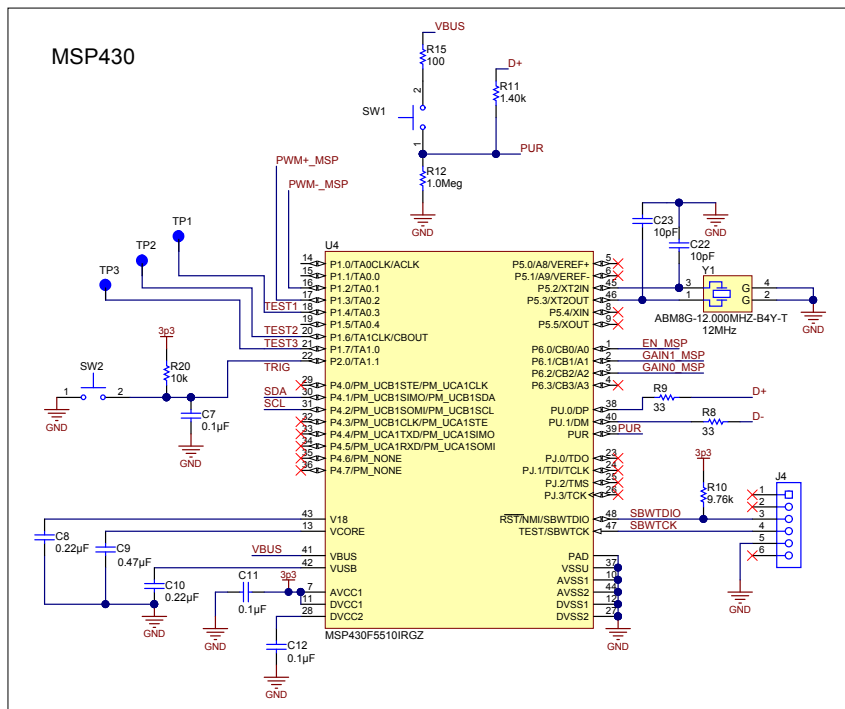
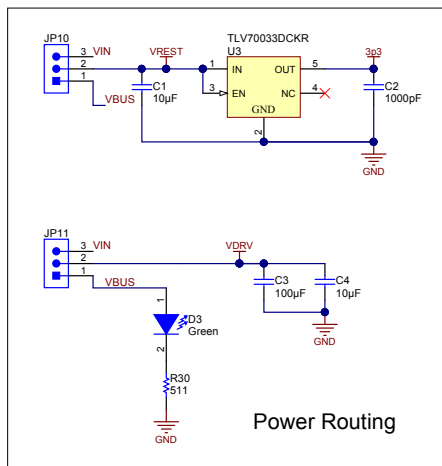
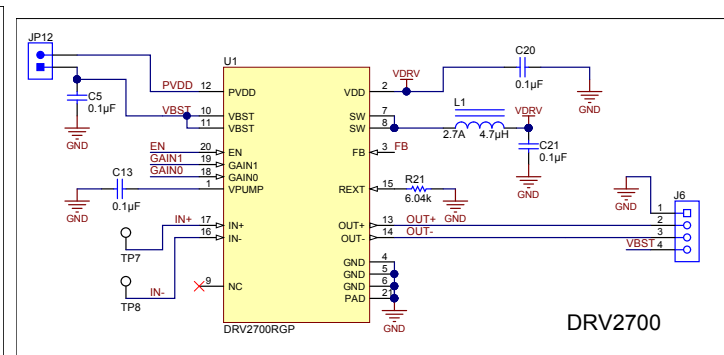
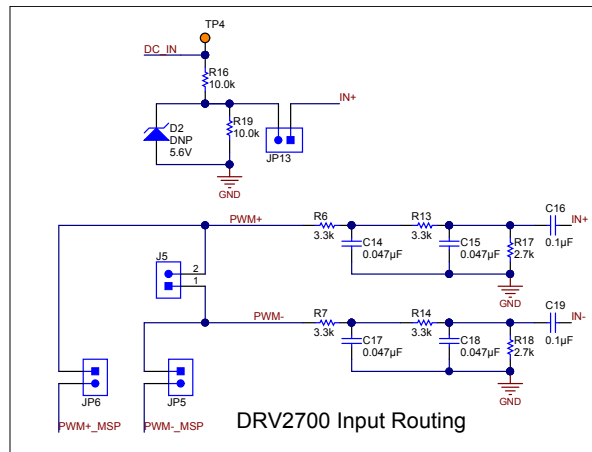
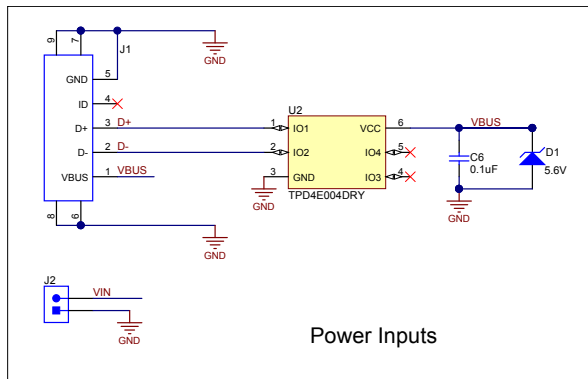
Revision History	
Revision	Notes



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Designed for: Public Release		Mod. Date: 10/20/2014	
Project Title: DRV2700EVM			
Number: AIP037	Rev: A	Sheet Title: Schematic	
SVN Rev: Not in version control		Assembly Variant: [No Variations]	Sheet: 1 of 3
Drawn By:		File: AIP037A_Cover Sheet Sch.Doc	Size: B
Engineer: Rodney Miranda		Contact: http://www.ti.com/haptics	

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Number: AIP037	Rev: A	Designed for: Public Release	Mod. Date: 10/23/2014
SVN Rev: Not in version control	Assembly Variant: [No Variations]	Project Title: DRV2700EVM	Sheet Title: Cover
Drawn By: Rodney Miranda	File: AIP037A_SchDoc	Sheet: 2 of 3	Size: B
Engineer: Rodney Miranda	Contact: http://www.ti.com/haptics		



DANGER HIGH VOLTAGE

PCB
LOGO
Pb-Free Symbol
PCB
LOGO
FCC disclaimer
PCB
LOGO
CAUTION. READ USER GUIDE BEFORE USE



PCB
LOGO
Texas Instruments

PCB Number: AIP037
PCB Rev: A

ZZ2

Assembly Note
These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ3

Assembly Note
These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ4

Assembly Note
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.



SH-JP1



SH-JP2



SH-JP3



SH-JP4



SH-JP5



SH-JP6



SH-JP7



SH-JP8



SH-JP9



SH-JP10



SH-JP11

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Designed for: Public Release		Mod. Date: 10/23/2014	
Project Title: DRV2700EVM			
Number: AIP037	Rev: A	Sheet Title: Hardware	
SVN Rev: Not in version control	Assembly Variant: [No Variations]		Sheet: 3 of 3
Drawn By:	File: AIP037A_Hardware.SchDoc		Size: B
Engineer: Rodney Miranda	Contact: http://www.ti.com/haptics		

DESIGN INFORMATION

BOARD SIZE: (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)

174BML

X

2893ML

Number of Layers : 4

MIN. TRACK WIDTH: 8 ML

MIN. CLEARANCE: 6 ML

MIN. VIA PAD SIZE: 19.6 ML

MINIMUM ANNUAL RING 0.05mm (2ML) EXTERNAL

PER IPC-D-275 CLASS 2 LEVEL C

REGISTRATION TOLERANCES: METAL +/- 3 ML, HOLES +/- 3 ML

MATERIAL:

☐ FR-408

☒ FR-4 High Tg

☐ OTHER

THICKNESS: ☒ 62 ML (1.6mm) +/-10%

☐ OTHER

TOLERANCE: ☒ ANSI IPC-6012 TYPE 3 CLASS 2

☐ OTHER +/-

BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2

☐ OTHER +/-

COPPER THICKNESS (FINISHED):

OUTER: ☒ 1.4ML (1oz)

☐ 2ML (1.4oz)

☐ 2.8ML (2oz)

INNER SIGNAL: ☒ 1.4ML (1oz)

☐ 2.8ML (2oz)

☐ N/A

DRILLING:

REFERENCE: ☒ AS SHOWN

☒ NC DRILL FILES

PTH MIN COPPER THICKNESS: ☒ 1ML

☐ OTHER

BOARD FINISH:

SILKSCREEN: ☒ TOP

☐ BOTTOM

SILKSCREEN COLOR: ☒ WHITE

☐ OTHER

SOLDER RESIST COLOR:

☐ GREEN

☒ BLUE

☐ OTHER

SURFACE FINISH: ☒ IMMERSION GOLD (ENIG)

☐ ENENIG

☐ IMM. TIN/SILVER OR EQUIV

☐ OTHER

ARRAY/PANEL:

☐ CUT AND TRIM PER MECH LAYER 1

☐ N/C ROUTE

☒ V. SCORE

CERTIFICATION:

MATERIALS AND WORKMANSHIP FOR ALL PCBs TO MEET OR EXCEED THE REQUIREMENTS OF:

☒ ANSI IPC-A-600F CLASS ->

☐ 1

☒ 2

☐ 3

☒ UL 94V-0

☐ RoHS

☐ OTHER

PER ORDER

ADDITIONAL REQUIREMENTS:

MICROSECTION: ☐ YES

☐ NO

BARE BOARD ELEC. TESTS: ☐ NONE

☒ REQUIRED

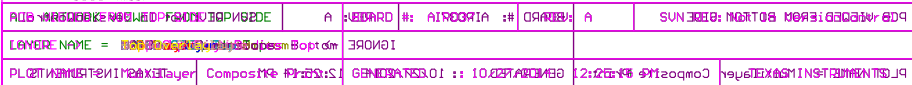
☐ PER ORDER

MANUFACTURER'S UL: ☐ RAIL

☐ METAL

☒ SILK

	6
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Bill of Materials

Cover

Source Data From: AIP037A.PrjPcb
Project: AIP037A.PrjPcb
Variant: None

Creation Date: 10/27/2014 12:26:00 PM
Print Date: 41939 41939.51812

Footprint	Comment	LibRef	Designator	Description	Quantity
	Printed Circuit Board	PCB	PCB	Printed Circuit Board	1
0805_HV	0805YD106MAT	0805YD106MAT	C1, C4	CAP, CERM, 10uF, 16V, +/-20%, X5R, 9805	2
0402	GRM155R60J10 2KA01D	GRM155R60J10 2KA01D	C2	CAP, CERM, 1000pF, 6.3V, +/-10%, X5R, 0402	1
1206	GRM31CR60J10 7ME39L	GRM31CR60J10 7ME39L	C3	CAP, CERM, 100uF, 6.3V, +/-20%, X5R, 1206	1
1206	C3216X7R2E10 4K	C3216X7R2E10 4K	C5	CAP, CERM, 0.1uF, 250V, +/-10%, X7R, 1206	1
0402	GRM155R71C1 04JA880	0402YC132KAT 2A	C6	CAP CER 0.1UF 16V 5% X7R 0402	1
0402	C1005XR0J104 K	C1005XR0J104 K	C7, C11, C12	CAP, CERM, 0.1uF, 6.3V, +/-10%, X5R, 0402	3
0402	GRM155C8J22 4KE01D	GRM155C8J22 4KE01D	C8, C10	CAP, CERM, 0.22uF, 6.3V, +/-10%, X6S, 0402	2
0603	C0603C474K8R ACTU	C0603C474K8R ACTU	C9	CAP, CERM, 0.47uF, 10V, +/-10%, X7R, 0603	1
0402	GRM155R71C1 04KA880	GRM155R71C1 04KA880	C13, C16, C19, C20	CAP, CERM, 0.1uF, 16V, +/-10%, X7R, 0402	4
0402	GRM155R71C4 73KA01D	GRM155R71C4 73KA01D	C14, C15, C17, C18	CAP, CERM, 0.047uF, 16V, +/-10%, X7R, 0402	4
0603	06033D104KAT 2A	06033D104KAT 2A	C21	CAP, CERM, 0.1uF, 25V, +/-10%, X5R, 0603	1
0402	GRM1555C1H1 00JA01D	GRM1555C1H1 00JA01D	C22, C23	CAP, CERM, 10pF, 50V, +/-5%, COG/NP0, 0402	2
SOD-123	MMSZ5232B-7-F	MMSZ5232B-7-F	D1	Diode, Zener, 5.6V, 500 mW, SOD-123	1
LED_L1TST-C190_G	LTST-C190KGKT	LTST-C190KGKT	D3, D4, D5, D6	LED, Green, SMD	4
Fiducial10-20	Fiducial	Fiducial	FID1, FID2, FID3	Fiducial mark. There is nothing to buy or mount.	3
Bumpcon_SJ61A2	SJ61A2	SJ61A2	H1, H2, H3, H4	Bumpcon, Hemisphere, 0.375 X 0.235, Black	4
MILLMAX_897-43-005-00-100001	897-43-005-00-100001	897-43-005-00-100001	J1	Connector, USB Mini B	1
CONN_1725656	1725656	1725656	J2, J5	Header, 2 Pos, 6A, 63V, TH	2
TE_5-146278-3	5-146278-3	5-146278-3	J3, JP7, JP8, JP9, JP10, JP11	Header, 100mil, 3x1, Tin, TH	6
SULLINS_LP PB061NGCN-RC	LPPB061NGCN-RC	LPPB061NGCN-RC	J4	Receptacle, 50mil, 6x1, RA, TH	1
MOLEX_39544-3004	39544-3004	39544-3004	J6	Terminal Block, 4x1, 5.08mm, TH	1
CONN_PECO2SAAN XFL4020	PEC02SAAN XFL4020	PEC02SAAN XFL4020	JP2, JP3, JP4, JP5, JP6, JP12, JP13	Header, 100mil, 2x1, Tin, TH	7
0402	XFL4020-472MEB	XFL4020-472MEB	L1	Inductor, Shielded, Composite, 4.7uH, 2.7A, 0.05 ohm, SMD	1
0402	CRCW040249K 0FKED	CRCW040249K 0FKED	R1, R3	RES, 49.9k ohm, 1%, 0.063W, 0402	2
0402	CRCW040223K 2FKED	CRCW040223K 2FKED	R2	RES, 23.2k ohm, 1%, 0.063W, 0402	1
0402	CRCW040280K 0FKED	CRCW040280K 0FKED	R4	RES, 80.6k ohm, 1%, 0.063W, 0402	1
0402	CRCW0402806 KFKED	CRCW0402806 KFKED	R5	RES, 806k ohm, 1%, 0.063W, 0402	1
0402	CRCW04023K3 0JNED	CRCW04023K3 0JNED	R6, R7, R13, R14, R22, R23, R24	RES, 3.3k ohm, 5%, 0.063W, 0402	7
0402	CRCW040233R 0JNED	CRCW040233R 0JNED	R8, R9	RES, 33 ohm, 5%, 0.063W, 0402	2
0402	CRCW04029K7 0FKED	CRCW04029K7 0FKED	R10	RES, 9.76k ohm, 1%, 0.063W, 0402	1
0402	CRCW04021K4 0FKED	CRCW04021K4 0FKED	R11	RES, 1.40k ohm, 1%, 0.063W, 0402	1
0402	CRCW04021M0 0JNED	CRCW04021M0 0JNED	R12	RES, 1.0Meg ohm, 5%, 0.063W, 0402	1
0402	CRCW0402100 RFKED	CRCW0402100 RFKED	R15	RES, 100 ohm, 1%, 0.063W, 0402	1
0402	CRCW040210K 0FKED	CRCW040210K 0FKED	R16, R19	RES, 10.0k ohm, 1%, 0.063W, 0402	2
0402	CRCW04022K7 0JNED	CRCW04022K7 0JNED	R17, R18	RES, 2.7k ohm, 5%, 0.063W, 0402	2
0402	CRCW040210K 0JNED	CRCW040210K 0JNED	R20, R28, R29	RES, 10k ohm, 5%, 0.063W, 0402	3
0402	CRCW04026K0 4FKED	CRCW04026K0 4FKED	R21	RES, 6.04k ohm, 1%, 0.063W, 0402	1
0402	CRCW0402511 RFKED	CRCW0402511 RFKED	R25, R26, R27, R30	RES, 511 ohm, 1%, 0.063W, 0402	4
25N-BK-G	25N-BK-G	25N-BK-G	SH-JP1, SH-JP2, SH-JP3, SH-JP4, SH-JP5, SH-JP6, SH-JP7, SH-JP8, SH-JP9, SH-JP10, SH-JP11	Shunt, 2mm, Gold plated, Black	11
SW_TL1015 AF160Q	TL1015AF160Q G	TL1015AF160Q G	SW1, SW2	Switch, Tactile, SPST-NO, 0.05A, 12V, SMT	2
PAD_40x40-MIL	PAD_40x40-MIL	PAD_40x40-MIL	TP1, TP2, TP3	Pad, SMT 40x40 mil	3
Keystone5003	5003	5003	TP4	Test Point, Miniature, Orange, TH	1
Keystone5011	GND	5011	TP5, TP6	Test Point, Multipurpose, Black, TH	2
Keystone5002	5002	5002	TP7, TP8	Test Point, Miniature, White, TH	2
RGPO0200	DRV2700RGP	DRV2700RGP	U1	Piezo Driver with Integrated Boost Converter, RGPO0200	1
DRY0006A	TPD4E004DRY	TPD4E004DRY	U2	4-CHANNEL ESD-PROTECTION ARRAY FOR HIGH-SPEED DATA INTERFACES, DRY006A	1
DK0005A_N	TLV70033DCKR	TLV70033DCKR	U3	Single Output LDO, 200 mA, Fixed 3.3 V Output, 2 to 5.5 V input, with low IQ, 5-pin SC70 (DCK), -40 to 125 degC, Green (RoHS & no Sb/Bi)	1
RG2D048A	MSP430F5510 RGZ	MSP430F5510 RGZ	U4	Mixed Signal MicroController, RG2D048A	1
XTAL_NX0225SA	ABM8G-12.000MHZ-B4Y-T	ABM8G-12.000MHZ-B4Y-T	Y1	CRYSTAL 12.000MHZ 10PF SMD	1

Approved	Notes