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Embedded Demonstration Board Product Datasheet

EMB070INTDEMO

7.0" Integrated TFT Demonstration Board

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1. Introduction

The Displaytech EMB070INTDEMO is a demonstration board for the Displaytech INT070ATFT integrated driver board. The EMB070INTDEMO is controlled by a Microchip PIC32MX460F512L MCU and includes a USB connection, 2Mbyte SPI flash, and an SD card slot.

The INT070ATFT integrated display module powers and controls a Displaytech TFT display with an 800 x 480 RGB resolution. The TFT module is mounted on a PCB on which is mounted a Solomon SSD1963 controller with integrated touch screen control and LED backlight power circuitry. Please see the [INT070ATFT Datasheet](#) for more information.

The EMB070INTDEMO is powered via a 5v USB connection, with a power switch (SW2) to turn the device on and off. All power levels required by the INT070TFT are generated and

regulated by on-board voltage regulators (see the [schematic](#) for more information).

2. INT Module Auto-Initialization

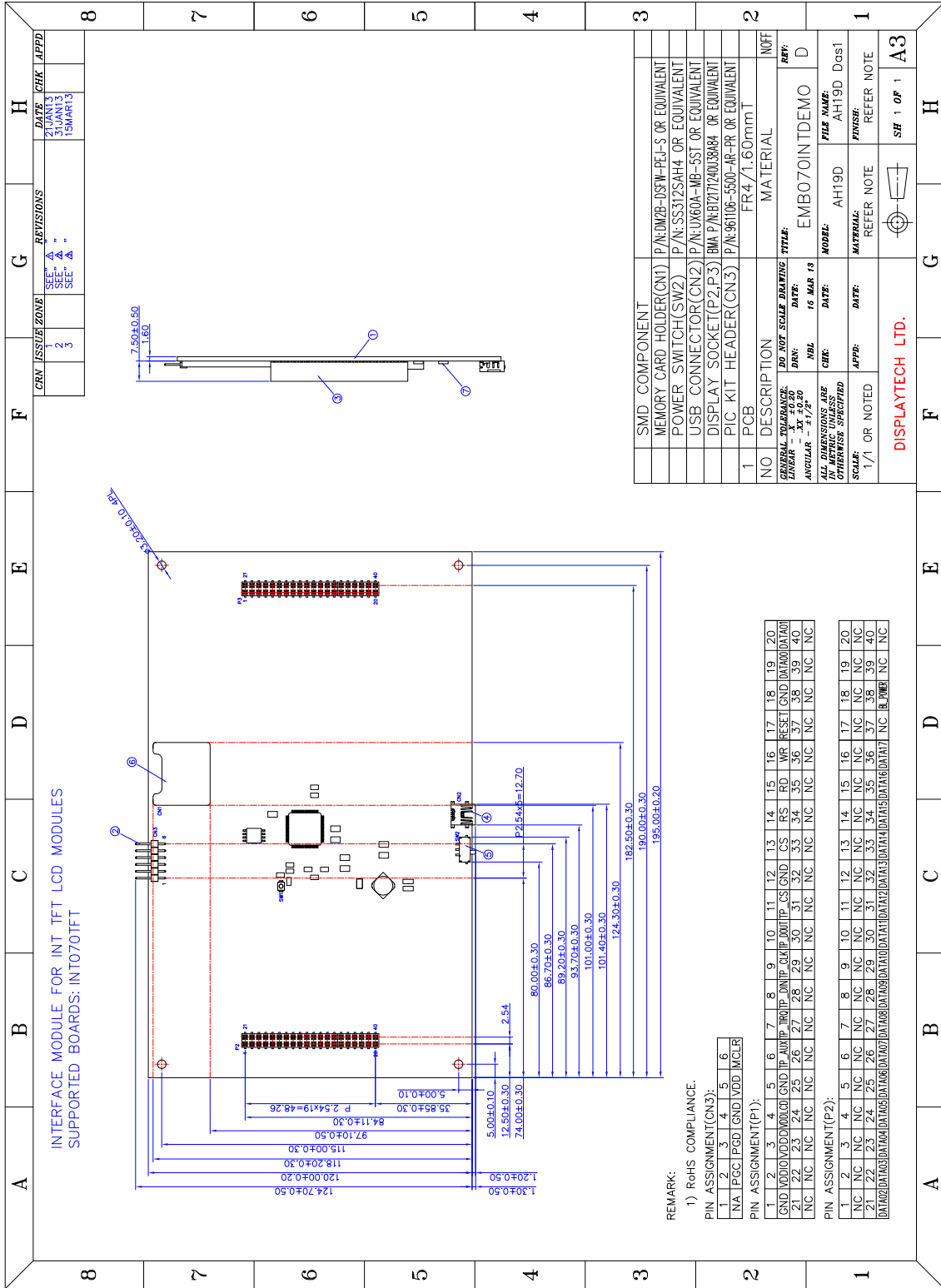
The SSD1963 as well as the Himax HX8264-A COG TFT Controller/Driver on-board the TFT module are automatically initialized upon power-up of the integrated module by an on-board ATmega8 microcontroller.

During the auto-initialization time, the PIC MCU should configure all I/O pins connected to the integrated board as inputs, as the on-board ATmega8 asserts control over these pins to configure the controller and driver. Please see the [INT070ATFT datasheet](#) for more details.

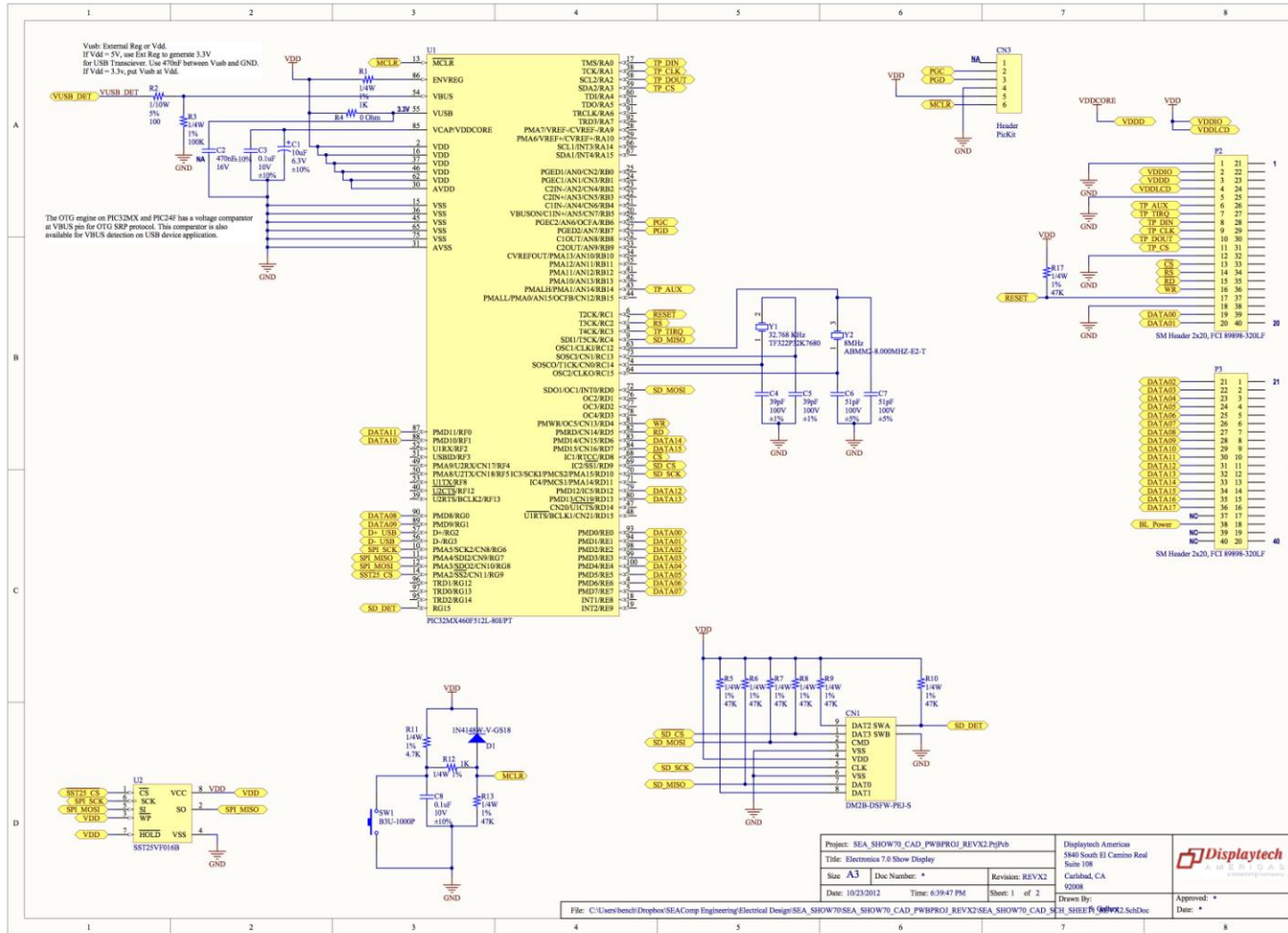
3. Example Software

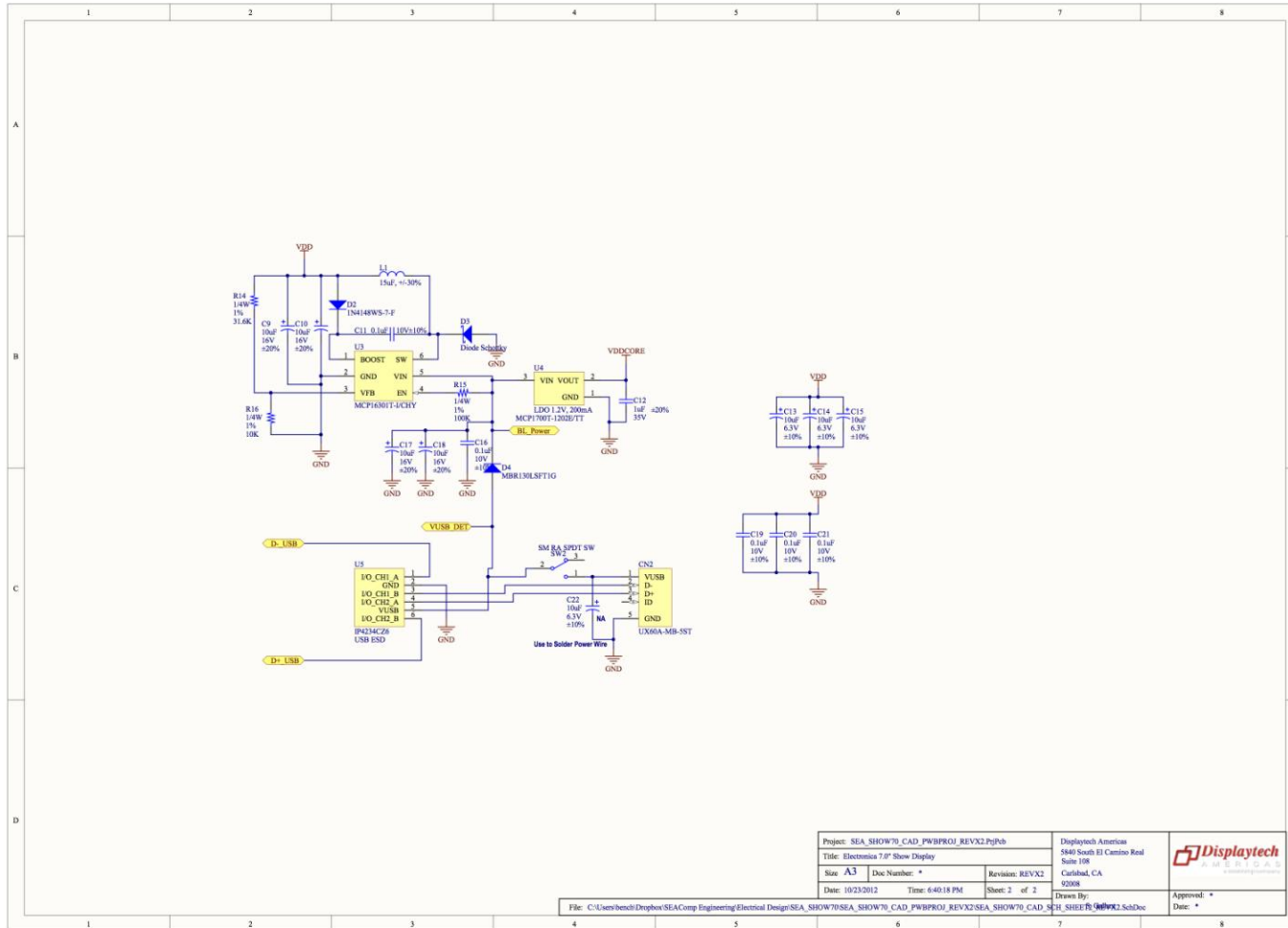
Example software is available from Displaytech upon request. Please contact Displaytech at sales@displaytech-us.com.

4. Mechanical Drawing



5. Schematic





6. Bill of Materials

Manufacturer	Part Number	Package	Qty	Value	Designator	Description
Kemet	T491A106M016AT	1206	5	10uF	C1, C13, C14, C15, C22	Polarized Capacitor (Axial)
TDK	C1608X7R1C474K	0603	1	470nF	C2	Ceramic Capacitor
Kemet	C0603C104K8RACTU	0603	7	0.1uF	C3, C8, C11, C16, C19, C20, C21	Polarized Capacitor (Axial)
AVX	06031A390FAT2A	0603	2	39pF	C4, C5	Polarized Capacitor (Axial)
AVX	06031A510JAT2A	0603	2	51pF	C6, C7	Polarized Capacitor (Axial)
Kemet	T491A106M016AT	1206	4	10uF	C9, C10, C17, C18	Polarized Capacitor (Axial)
TDK	C1608X7R1V105M	0603	1	1uF	C12	Ceramic Capacitor
Hirose	DM2B-DSFW-PEJ-S	-	1	-	CN1	CONN MEMORY MINI SD BOTTM MT SMD
Hirose	UX60A-MB-5ST	-	1	-	CN2	USB 2.0, Right Angle, SMT, MINI-B Type, Receptacle, 5 Position
3M	961106-5500-AR-PR	-	1	-	CN3	SM Header, 1x6-Pin, Right Angle, 0.1"
Vishay	1N4148W-V-GS18	SOD-123-2	1	-	D1	High Conductance Fast Diode
Vishay	1N4148WS-7-F	SOD-323	1	-	D2	High Conductance Fast Diode
Diodes	ZLLS400TA	SOD-323	1	-	D3	Schottky Rectifier
ON Semi	MBR130LSFT1G	SOD-123FL	1	-	D4	High Conductance Fast Diode
Sumida	CDRH6D28NP-150NC	-	1	15uF, +/- 30%	L1	Inductor
FCI	89898-320LF	-	2	-	P2, P3	Header, SMT, 2x20-Pin, 0.1"
Vishay	CRCW06031K00FKEA	0603	2	1K	R1, R12	Resistor

Manufacturer	Part Number	Package	Qty	Value	Designator	Description
	HP					
Yageo	RC0603JR-07100RL	0603	1	100	R2	Resistor
Vishay	CRCW0603100KFKEA HP	0603	2	100K	R3, R15	Resistor
Yageo	RC0603JR-070RL	0603	1	0 Ohm	R4	Resistor
Vishay	CRCW060347K0FKEA HP	0603	7	47K	R5, R6, R7, R8, R9, R10, R13	Resistor
Vishay	CRCW06034K70FKEA HP	0603	1	4.7K	R11	Resistor
Vishay	CRCW060331K6FKEA	0603	1	31.6K	R14	Resistor
Vishay	CRCW060310K0FKEA HP	0603	1	10K	R16	Resistor
Omron	B3U-1000P	ELTSM-65	1	-	SW1	Switch
NKK Switches	SS312SAH4	-	1	-	SW2	SM SPDT Sub Min Tog Switch, Right Angle
Microchip	PIC32MX460F512L- 80I/PT	TQFP- PT100	1		U1	80 MHz 32-Bit Microcontroller with USB, 512KB Program Memory, 100-pin TQFP
Microchip	SST25VF016B-75-4I- S2AF	SOIJ-SM8	1	-	U2	16mbit SPI Bus Serial flash, 8-Pin SOIJ, Industrial Temperature
Microchip	MCP16301T-I/CHY	SOT-23-6	1	-	U3	Buck Adj 0.6A SOT23-6 Regulator. 2-15Vout, 4-30Vin
Microchip	MCP1700T-1202E/TT	SOT23-3	1	-	U4	LDO, 3-Pin SOT-23, 1.2V Out, 200mA
NXP	IP4234CZ6	SC-74, SOT-457	1	-	U5	Single USB 2.0 ESD protection to IEC 61000-4-2 level 4
CTS	TF322P32K7680	3215	1	-	Y1	Crystal Oscillator

Manufacturer	Part Number	Package	Qty	Value	Designator	Description
CTS	ABMM2-8.000MHZ-E2-T	SMD 6mmx3.6 mm	1	-	Y2	Crystal Oscillator