

	MODEL NO.		PAGE
	VGG804838-Q	SPEC SAMPLE	5

4. Application

The 5" LCM is a Human Machine Interface (HMI) solution combining an onboard processor and memory touch display with ADE Editor software for HMI GUI project development.

Using the ADE Editor software, you can quickly develop the HMI GUI by drag-and-drop components (graphics, text, button, slider etc.) and Blocky instructions for coding at display side

5. Features

- WVGA (800×480 pixels) resolution.
- Projected Capacitive Touch
- Work with ADE for delivering the Smart HMI total solution
- 32-bit ARM CPU @480Mhz with 32MB DRAM
- Built-in 2Gb (256MB) Flash memory for storage
- Support ARGB888 (16.7M colors) with 256 level of transparency
- Support LCM backlight control
- Support GPIO, PWM, input-Capture and ADC functions
- Support UART communication interfaces
- Support USB interface for downloading designs from ADE

6. General Specifications

Item	Specifications	Unit
Screen Size	5 (5:3 diagonal)	inch
Display Format	800RGB(H)×480(V)	dot
Active Area	108(H)×64.8(V)	mm
Pixel Pitch	0.135(H)×0.135(V)	mm
Pixel Configuration	RGB Vertical Stripe	-
Display Mode	IPS Type / Transmissive Mode / Normally Black	-
Surface Treatment	Clear (7H)	-
Viewing Direction	Full view angle	-
Outline Dimension	118.5(W)×77.55(H)×17(D)	mm
Weight	(110.2)	g
RoHS Compliance	RoHS Compliance	-

	MODEL NO.		PAGE
	VGG804838-Q	SPEC SAMPLE	6

7. Absolute Maximum Ratings

7.1 Absolute Ratings of Environment

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Storage Temperature	T _{ST}	-30	+80	°C	(1)(2)
Operating Ambient Temperature	T _{OP}	-20	+70	°C	(1)(2)

Note1: Background color changes slightly depending on ambient temperature.

This phenomenon is reversible.

Note2: Please refer to item of RELIABILITY.

7.2 Electrical Absolute Ratings

(Ta=25±2°C, GND=0V)

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Input supply voltage with respect to GND	VCC	+4.75	+5.5	V	-
IO Voltage with respect to GND	-	+3.3V (+/- 10%)	+5.0	V	(1)

Note1: IO Voltage is specified under the no-pull configuration.

	MODEL NO.		PAGE
	VGG804838-Q	SPEC SAMPLE	7

8. Electrical Characteristics

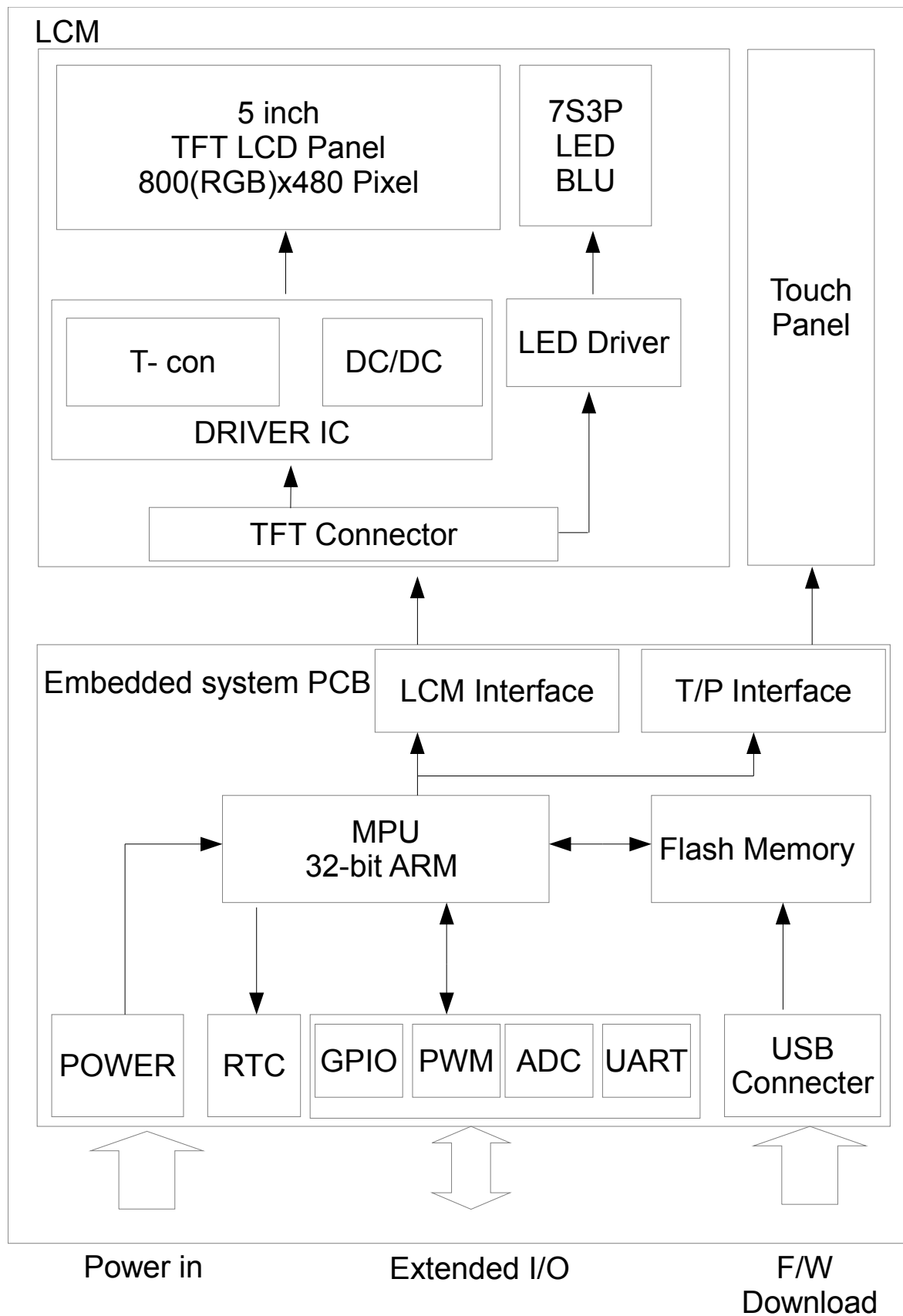
8.1 DC Characteristics

(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Power Supply Voltage	VCC	4.75	5.0	5.5	V	Input
Operating current with B/L(100%)	ICC		750	1050	mA	
Extended IO Voltage	VDD	3.0	3.3	3.5	V	
MPU interface Input High Level	VIH	0.7VDD	-	VDD	V	-
MPU interface Input Low Level	VIL	0	-	0.3VDD	V	
MPU interface Output High Level	VOH	VDD – 0.4	-	VDD	V	-
MPU interface Output Low Level	VOL	0	-	0.3VDD	V	-
LED life time	-	50000	60000	-	Hr	(1)

Note (1) : LED life time is defined as under 25±2°C , when the average brightness decrease to 50% of original brightness

9. Block Diagram

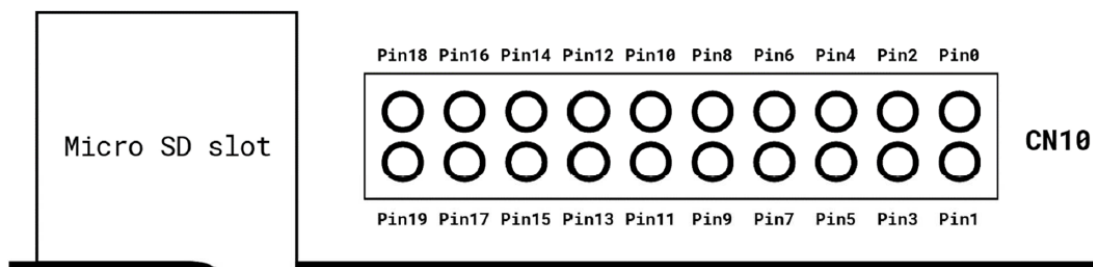


	MODEL NO.		PAGE
	VGG804838-Q	SPEC SAMPLE	9

10. Input / Output Terminals Pin Assignment

10.1.1. CN10

Connector : CHERNG WEEI : P40X-MTN-A-12-20 OR EQUIVALENT



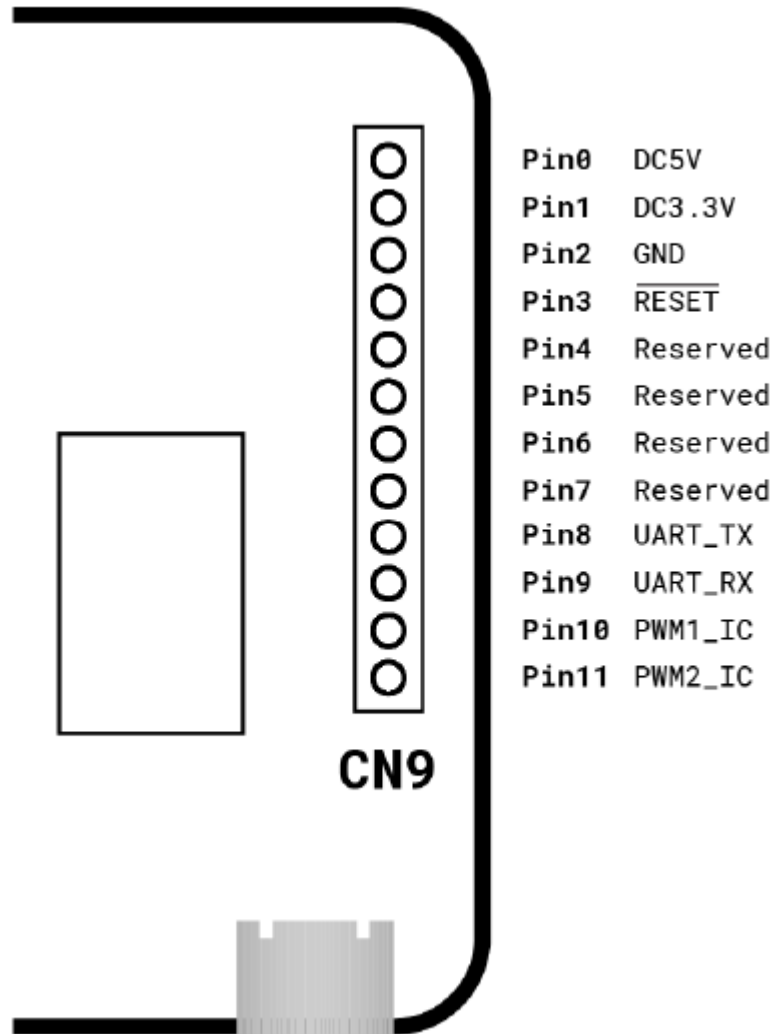
Pin No.	Symbol	I/O	Description
0	VCC	P	DC 5V output
1	GND	P	Ground
2	VDD	P	DC 3.3V
3	GPIO1	I/O	General Purpose Input/Output, 3.3V Level - 5V Tolerant.
4	Reserved	N/A	Reserved
5	GPIO2	I/O	General Purpose Input/Output, 3.3V Level - 5V Tolerant.
6	PWM4	I/O	This pin offers two different functions: GPIO and PWM. Users can select which function to be assigned to this pin inside ADE. For PWM, this pin generates digital pulses based on the parameters including frequency and duration set in the ADE.
7	GPIO3	I/O	General Purpose Input/Output, 3.3V Level - 5V Tolerant.
8	PWM5	I/O	This pin shares the same functionality as that of PWM4. Please refer to PWM4 description for details.
9	GPIO4	I/O	General Purpose Input/Output, 3.3V Level - 5V Tolerant.
10	PWM6	I/O	This pin shares the same functionality as that of PWM4. Please refer to PWM4 description for details.
11	GPIO5	I/O	General Purpose Input/Output, 3.3V Level - 5V Tolerant.
12	GND	P	Ground
13	GND	P	Ground

	MODEL NO.		PAGE
	VGG804838-Q	SPEC SAMPLE	10

Pin No.	Symbol	I/O	Description
14	ADC0	I/O	General Purpose I/O pin with Analog Capability. This pin has a range of 0-3.3V when used as an Analog Input, and is 3.3V tolerant only.
15	ADC1	I/O	General Purpose I/O pin with Analog Capability. This pin has a range of 0-3.3V when used as an Analog Input, and is 3.3V tolerant only.
16	ADC2	I/O	General Purpose I/O pin with Analog Capability. This pin has a range of 0-3.3V when used as an Analog Input, and is 3.3V tolerant only.
17	ADC3	I/O	General Purpose I/O pin with Analog Capability. This pin has a range of 0-3.3V when used as an Analog Input, and is 3.3V tolerant only.
18	ADC4	I/O	General Purpose I/O pin with Analog Capability. This pin has a range of 0-3.3V when used as an Analog Input, and is 3.3V tolerant only.
19	ADC5	I/O	General Purpose I/O pin with Analog Capability. This pin has a range of 0-3.3V when used as an Analog Input, and is 3.3V tolerant only.

10.1.2. CN9

Connector : CHERNG WEEI : P30X-MTN-A-12-AT OR EQUIVALENT



Pin No.	Symbol	I/O	Description
0	VCC	P	DC 5V output
1	VDD	P	DC 3.3V output
2	GND	P	Ground
3	Reset	I	Reset signal. Active low.
4	Reserved	N/A	Reserved.
5	Reserved	N/A	Reserved.
6	Reserved	N/A	Reserved.
7	Reserved	N/A	Reserved.

	MODEL NO.		PAGE
	VGG804838-Q	SPEC SAMPLE	12

Pin No.	Symbol	I/O	Description
8	UART1_TX	I/O	TX for UART Asynchronous Serial Transmit pin, TTL level. Connect this pin to the Receive (Rx) signal of other serial devices. Used in conjunction with the UART_RX pin for communication with external MCU by UART Communication Protocol (The communication protocol is described in chapter UART Communication Protocol). This pin is tolerant up to 5.0V levels.
9	UART1_RX	I/O	RX for UART Asynchronous Serial Receive pin, TTL level. Connect this pin to the Transmit (Tx) signal of other serial devices. Used in conjunction with the UART_TX pin for communication with external MCU by UART Communication Protocol (The communication protocol is described in chapter UART Communication Protocol). This pin is tolerant up to 5.0V levels.
10	PWM1_IC	I/O	This pin offers three different functions: GPIO, PWM and Input-capture. Users can select which function to be assigned to this pin inside ADE. For PWM, this pin generates digital pulses based on the parameters including frequency and duration set in the ADE. For the input-capture, the capture mode and the corresponding behavior are all set inside ADE.
11	PWM2_IC	I/O	This pin shares the same functionality as that of PWM1_IC. Please refer to PWM1_IC description for details.

	MODEL NO.		PAGE
	VGG804838-Q	SPEC SAMPLE	13

10.1.3. CN5

Connector : CHERNG WEEI : P30X-MTN-A-06-AT OR EQUIVALENT



Pin No.	Symbol	I/O	Description
0	Reserved	N/A	Reserved.
1	Reserved	N/A	Reserved.
2	Reserved	N/A	Reserved.
3	Reserved	N/A	Reserved.
4	Reserved	N/A	Reserved.
5	Reserved	N/A	Reserved.

10.3 Power In Connector

Connector : JST : S4B-XH-SM4-TB OR EQUIVALENT

No.	Symbol	I/O	Functions
1	GND	P	Ground
2	NC	-	Reserved
3	NC	-	Reserved
4	VCC	P	DC 5V Input

EVERVISION	MODEL NO.		PAGE
	VGG804838-Q	SPEC SAMPLE	15

12. Optical Characteristics

The optical characteristics should be measured in a dark environment (≤ 1 lux) or equivalent state with the methods shown in Note (4).

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit	Note
Contrast Ratio		CR	$\theta_x=0^\circ, \theta_y=0^\circ$ Normal Viewing Angle	800	(1000)	-	-	(2)
Response Time		T_{R+T_F}		-	30	40	ms	(3)
Luminance(Center)		Y		1060	(1140)	-	cd/m ²	(4)
Brightness uniformity		BUNI		75	(80)	-	%	(5)
Color Chromaticity	Red	Rx		0.540	0.590	0.640	-	(1),(4)
		Ry		0.305	0.355	0.405	-	
	Green	Gx		0.325	0.375	0.425	-	
		Gy		0.525	0.575	0.625	-	
	Blue	Bx		0.095	0.145	0.195	-	
		By		0.070	0.120	0.170	-	
	White	Wx		0.270	0.32	0.370	-	
		Wy		0.315	0.365	0.415	-	
Viewing Angle	Horizontal	θ_{x+}	CR $\geq$ 10	70	(80)	-	deg.	
		θ_{x-}		70	(80)	-		
	Vertical	θ_{y+}		70	(80)	-		
		θ_{y-}		70	(80)	-		

16.Outline Drawing

