

# **EMPEN T116 Sensor SPECIFICATION**

**Product Name:TF1-DIGITIZER;ASIC,11.6”,F110G4,EMP**

**Getac P/N: 412888700007**

**EMPEN P/N : 20160002**



# 1. Product Specifications

## 1.1 General Specifications



<b>Technology</b>	<b>Battery free Electro-magnetic</b> Freauency: 83.3KHz Clock Frequency: 16MHz
Interface	USB
VID & PID	VID:0x0458, PID:0x501D
Active Area	258.13×146mm
Resolution	0.01mm / 2560 LPI (see Note 5)
Coordinate Accuracy	±0.4mm (see Note 1, 2, 3 and 5)
Coordinate Jitters	1-point max (see Note 1 and 5)
Detectable Pen tilt	Up to 50° from vertical (see Note 5)
Detectable Height	4 to 14mm above the Sensor Film (see Note 1 and 5)
Position Report Rate	133 PPS ( Pen hover at sensor center )
Pressure Resolution	1024 levels (see Note 4 and 5)
EM module Thickness	3.0 mm max

Note 1: The EM Sensor Board and Stylus at ordinary temperature.

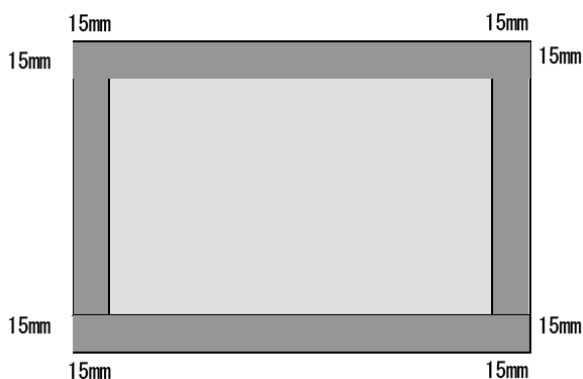
Note 2: The pen held vertically at 0mm high from sensor film.

Note 3: See Picture1, the accuracy guaranteed region is 15mm or more inside region from the active area edge.

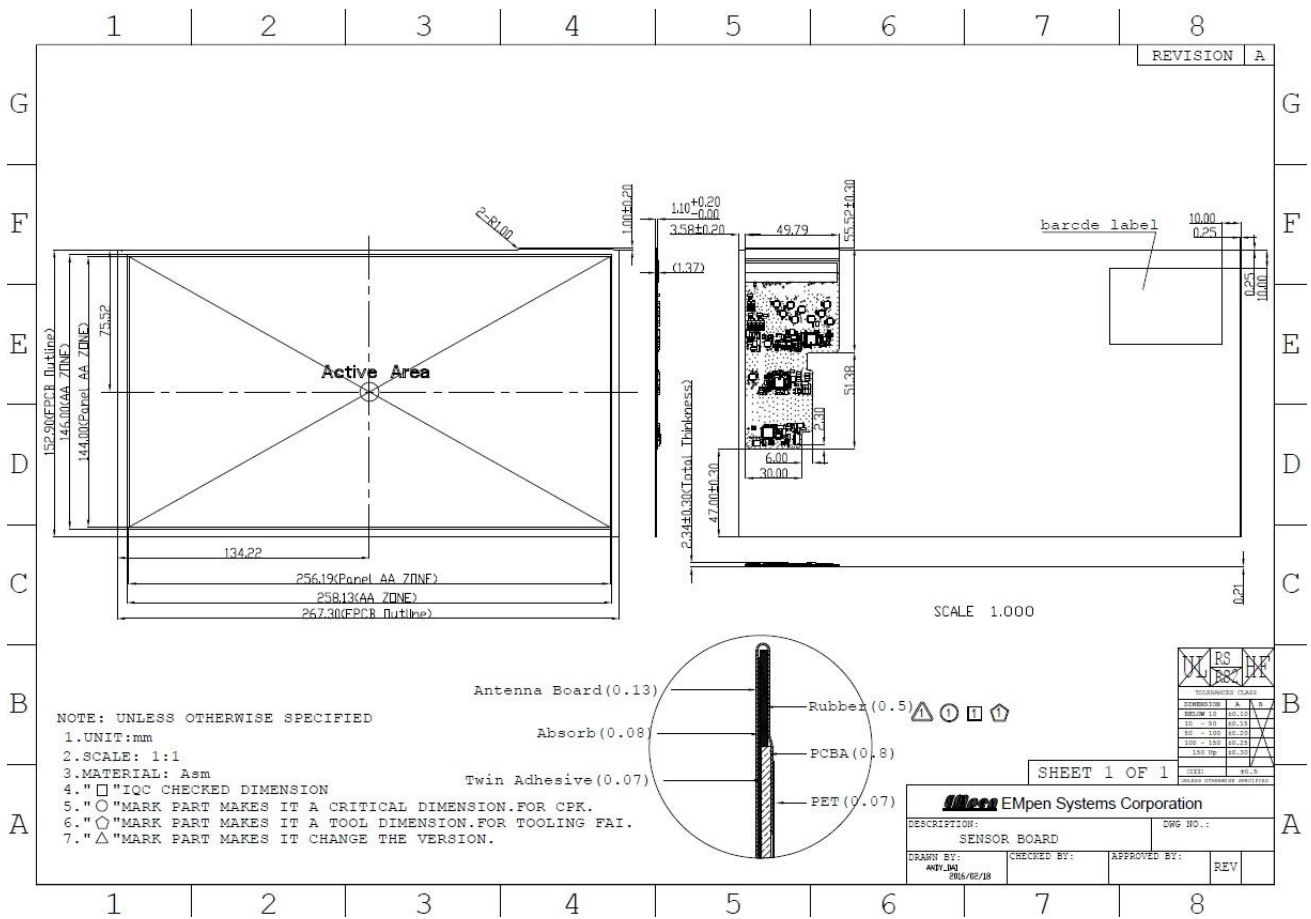
Note 4: Pressure range is  $20g \leq 200$  levels and  $650g \leq 1023$  levels

Note 5: This function must be used with Getac TF1-DIGITIZER PEN unit

Picture1

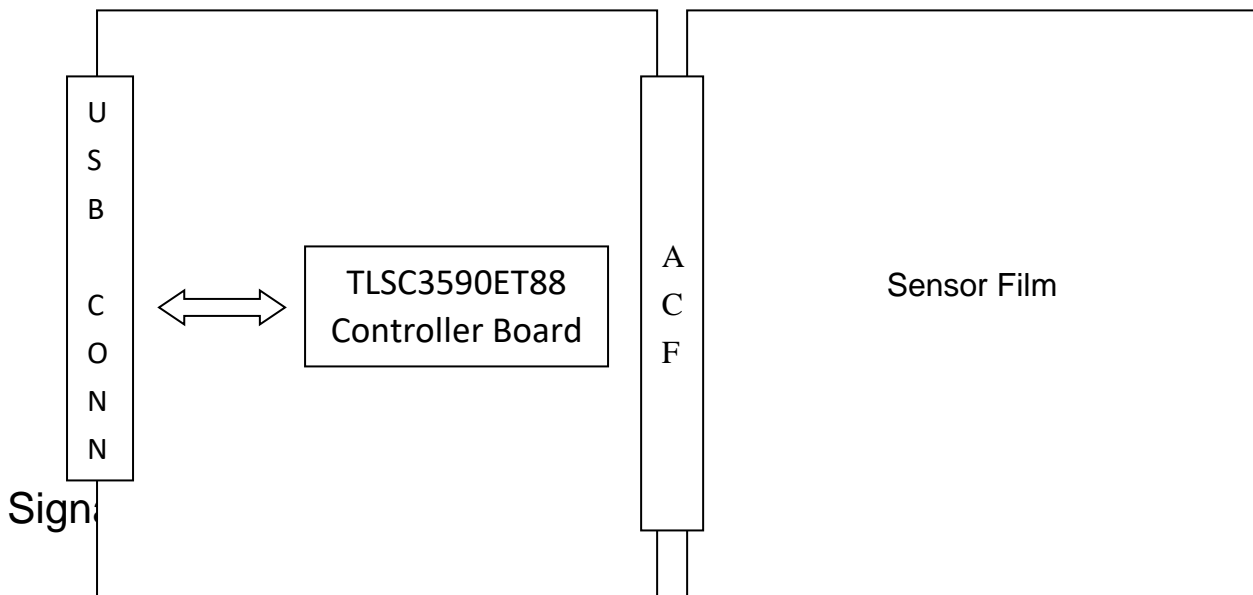


## 1.2 Dimensional Outline of PCBA and Sensor Film



## 1.3 Electrical Specifications

### 1.3.1 Circuit Diagram



Pin	Name	Function
1	NC	Not Connect
2	USB-	USB- Signal
3	USB+	USB+ Signal
4	NC	Not Connect
5	NC	Not Connect
6	NC	Not Connect
7	VCC +5V	Power Supply
8	GND	Ground

### 1.3.2 Test Conditions

- Ambient Temperature : 25+/- 5 °C
- Ambient Humidity : 65 +/- 16% ( RH)
- Supply Voltage : VDD 5V

Item	Min.	Typ.	Max.	Unit.	Remark
Supply Voltage	4.75	5.0	5.25	V	
Current Consumption Pen in touch	75	80	98	mA	
Current Consumption Pen@10cm	85	90	100	mA	
Current Consumption Standby mode	84	110	124	mA	
Low Scan mode	16 (400mSec)	35	125 (130mSec)	mA	Keep standby mode 40 min will entry low scan mode

## 2. Reliability Test

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Item	SPEC	Testing method	Criteria	Number of test samples
Humidity Test	30°C /95%~61°C /95%, 12 hours for 30°C /95%, 12 hours for 61°C /95%, one cycle is 24 hours , test time is 10days	MIL-STD-810G- 507.5 Humidity Procedure – II Aggravated	1. All functions must be normally 2. No oxidation on screws. 3. No visual abnormal.	2
High Temperature Test (Operating)	61°C 96h	MIL-STD-810G-501.5 Procedure II Operation	4. There shall not be any cosmetic damage	2
High Temperature Test (Non-Operating)	33°C~71°C ,10days 12 hours for 31°C , 12 hours for 71°C one cycle is 24 hours, test time is 10days	MIL-STD-810G-501.5 Procedure I	5. T/S cannot allow the abnormal status like peel off, bubble .	2
Low Temperature Test (Operating)	-21°C 96h	MIL-STD-810G-502.5 Procedure II		2
Low Temperature Test (Non-Operating)	-40°C 96h	MIL-STD-810G-502.5 Procedure I		2
Drop Test	120cm Wood floors			2
Temperature Shock Test	-41°C~71°C duration 1h, 3cycle ,total:6h	MIL-STD-810G-503.5 Procedure-I-C Multi-cycle shock.		2