



EDS-11030FNPVA Series DVB-S/S2 Half NIM

SPECIFICATION

Earda Technologies Co.,Ltd

DSGD.	CHKD.	APPD.	PRODUCT: DVB-S/S2 Half NIM Tuner
Lu Gekun	Yu yali	Li Jinling	MODEL: EDS-11030FNPVA Series
			DATE: 2013.08.14



Record of Version

Date of Change	Version No.	Summary	Check & Approval
2013.08.14	1.0	First issue	Lu Gekun



1. GENERAL SPECIFICATIONS

Input frequency	950MHz — 2150MHz
Input signal level	-65dBm — -25dBm
Input connector	F-Connector
Input impedance	75 Ω
Channel selection system	PLL synthesizer (Clock 27.0MHz I ² C bus interface)
Down-conversion output	Baseband I & Q signal
Operating voltage	B1: LNB power supply 25V DC, 400mA(MAX.) B2: +3.3V ± 0.1V
Temperature	0°C ~ +70°C Storage: -20°C ~ +85°C
Humidity	Operating: Less than 85% Storage: Less than 95%

2. ELECTRICAL SPECIFICATION

Item	Condition	Specification			
		Min.	Typ.	Max.	Unit
RF input VSWR	950MHz — 2150MHz	-	2.0	2.5	
Noise figure	950MHz — 2150MHz Max gain	-	8	12	dB
Intermodulation rejection Desired signal Fo Undesired signal(2 signals) (Fo+29.5MHz,Fo+59MHz) or (Fo-29.5MHz,Fo-59MHz)	Input level -25dBm I/Q Output level 0.6Vp_p 1K Ω load	40	60	-	dB
Local oscillation signal Leak at input terminal	950MHz — 2150MHz	-	-72	-68	dBm
PLL phase noise	10KHz offset	-	-75	-70	dBc/Hz
	100KHz offset	-	-100	-90	dBc/Hz
Current consumption	B2=3.3V	-	150	180	mA

3. PLL FUNCTIONAL DESCRIPTION

I²C BUS DATA FORMATS

AV2012 I2C Address: 0xC2 Write address and 0xC3 Read address

AV2012 Register Summary



Register Map V0.1

Register Address (decimal)	Read/Write	Register Name	Register Content								Recommend Register (hex)
			D7	D6	D5	D4	D3	D2	D1	D0	
0	R/W	Integer	int<7:0>								38
1	R/W	Fraction 1	frac<16:9>								00
2	R/W	Fraction 2	frac<8:1>								00
3	R/W	Fraction 3	frac<0>	1	0	1	0	0	0	0	50
4	R/W	Config04	0	0	0	1	1	1	1	1	1F
5	R/W	Config05	BF<7:0>								A3
6	R/W	Config06	1	1	1	1	1	1	0	1	FD
7	R/W	Config07	X	X	X	X	X	X	X	X	00
8	R/W	Config08	0	gc2<3:0>			1	PGAout-cs<1:0>			0E
9	R/W	Config09	xocore-ct<1:0>		0	0	0	0	1	0	82
10	R/W	Config10	1	0	0	0	1	0	0	0	88
11	R/W	Config11	1	0	1	1	0	1	X	X	B4
12	R/W	Config12	xocore-ena	RFLP-ena	0	1	0	1	1	0	96
13	R/W	Config13	0	1	0	0	0	0	0	0	40
14	R/W	Config14	0	1	0	1	1	0	1	1	5B
15	R/W	Config15	0	1	1	0	1	0	1	0	6A
16	R/W	Config16	0	1	1	0	0	1	1	0	66
17	R/W	Config17	0	1	0	0	0	0	0	0	40
18	R/W	Config18	1	0	0	0	0	0	0	0	80
19	R/W	Config19	0	0	1	0	1	0	1	1	2B
20	R/W	Config20	0	1	1	0	1	0	1	0	6A
21	R/W	Config21	0	1	0	1	0	0	0	0	50
22	R/W	Config22	1	0	0	1	0	0	0	1	91
23	R/W	Config23	0	0	1	0	0	1	1	1	27
24	R/W	Config24	1	0	0	0	1	1	1	1	8F
25	R/W	Config25	1	1	0	0	1	1	0	0	CC
26	R/W	Config26	0	0	1	0	0	0	0	1	21
27	R/W	Config27	0	0	0	1	0	0	0	0	10
28	R/W	Config28	1	X	X	X	X	X	X	X	80
29	R/W	Config29	0	0	0	0	0	0	X	X	00
30	R/W	Config30	1	1	1	1	0	1	0	1	F5
31	R/W	Config31	0	1	1	1	1	1	1	1	7F
32	R/W	Config32	0	1	0	0	1	0	1	0	4A
33	R/W	Config33	1	0	0	1	1	0	1	1	9B
34	R/W	Config34	1	1	1	0	0	0	0	0	E0
35	R/W	Config35	1	1	1	0	0	0	0	0	E0
36	R/W	Config36	0	0	1	1	0	1	1	0	36
37	R/W	Config37	X	X	X	X	0	FT-block	FT-EN	FT-hold	02
38	R/W	Config38	1	0	1	0	1	0	1	1	AB
39	R/W	Config39	1	0	0	1	0	1	1	1	97
40	R/W	Config40	1	1	0	0	0	1	0	1	C5
41	R/W	Config41	1	0	1	0	1	0	0	0	A8

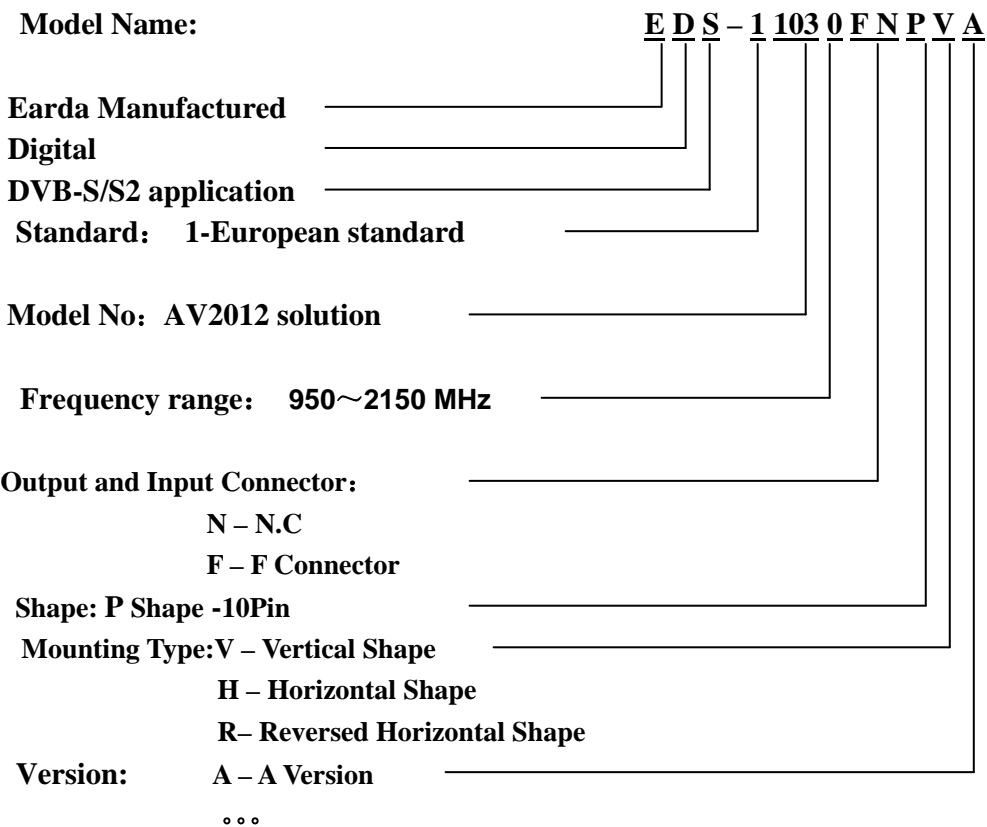


Note:

1. The bits on green Xblocks are read only bits. Any data written to these bits will be ignored.
2. Please refer to AV2012 datasheet for more detail information.

PS: (I²C need standard voltage waveform)

4. Ordering Information





5. Reliability Test

5-1. High Temperature Storage Test

Conditions	Into the chamber in the conditions below :-Temperature : $90\pm 5^{\circ}\text{C}$ -Period : 96Hr; -Quantity : 10pcs; -Leave in the Room temperature for 12Hr before measurement.
Test Result	-Electrical characteristics are within specification, Screen Test.

5-2. High Temperature / Humidity Test

Conditions	Into the chamber in the conditions below :-Temperature : $85\pm 5^{\circ}\text{C}$ -Humidity : 85% RH; -Period : 96Hr ; -Quantity : 10pcs ; -Leave in the Room temperature for 12Hr before measurement.
Test Result	-Electrical characteristics are within specification, Screen Test.

5-3. Low Temperature Storage Test

Conditions	Into the chamber in the conditions below: -Temperature : $-40\pm 5^{\circ}\text{C}$ -Period : 96Hr ; -Quantity : 10pcs; -No load ; -Leave in the Room temperature for 12Hr before measurement.
Test Result	Electrical characteristics are within specification. Screen Test

5-4. High Temperature Operating / Power Test

Conditions	Into the chamber in the conditions below -Temperature : 80°C -Period : 96Hr -Quantity : 10pcs ; -Impress rated values : +10% ; -Leave in the Room temperature for 12Hr before measurement.
Test Result	Electrical characteristics are within specification. Screen Test

5-5. Thermal Shock test

Conditions	Into the chamber in the conditions below: -Temperature and Period : $-40\pm 5(30\text{min})$ $\sim 120\pm 5(30\text{min})$ 100Cycle ; -Quantity : 10pcs
Test Result	Electrical characteristics are within specification, Screen Test.

5-6. ESD (Electro-Static Discharge) Test

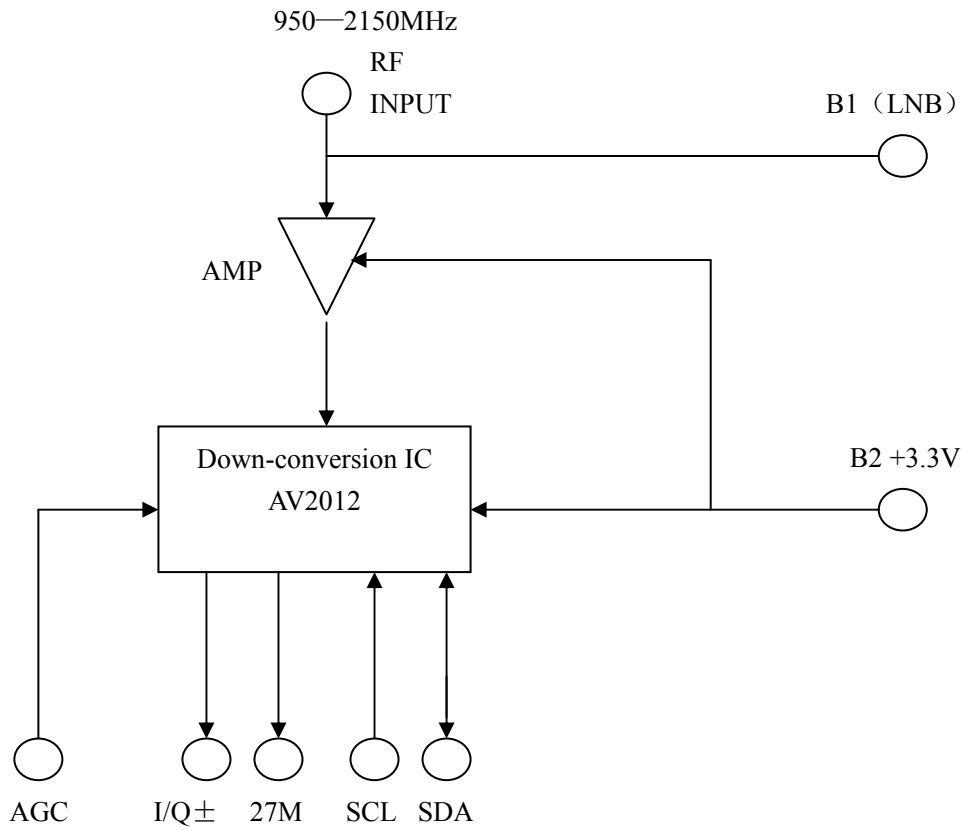
Conditions	-HBM Class 2. -Discharging Capacitance : 150pF, Charging Resistance : 330 Ω -Discharging Method : Contact discharging -5 successive discharge with 1sec. interval at each +/-voltage. -Quantity : 5pcs
Test Result	- ANT : 10KV, sub-out and other pins : 1KV , Screen Test.

5-7. Vibration Test

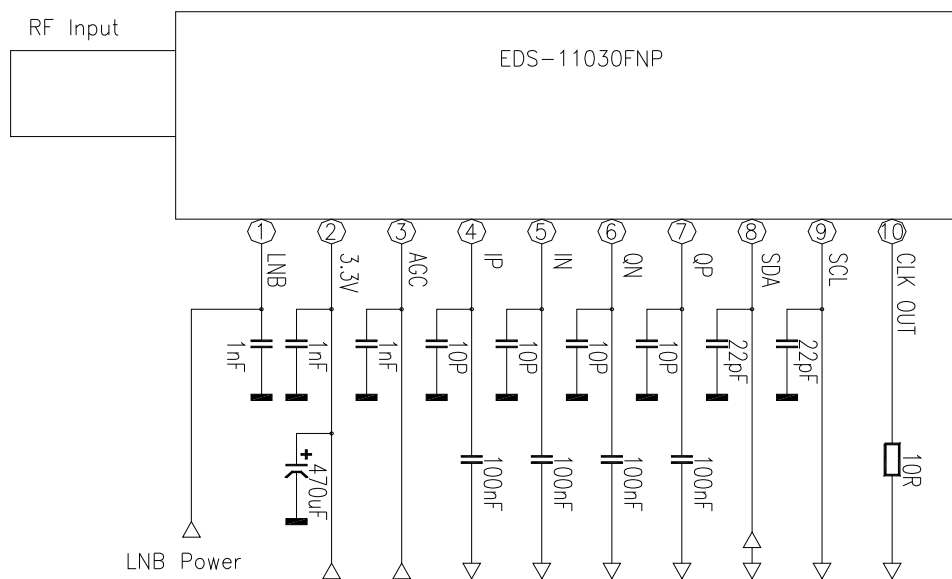
Conditions	-Amplitude 1.5mm , -Frequency 10-55-10Hz -Period : 6hr (2hr per each axis) -Quantity : 10pcs
Test Result	Electrical characteristics are within specification, Screen Test.



6. System Block Diagram:

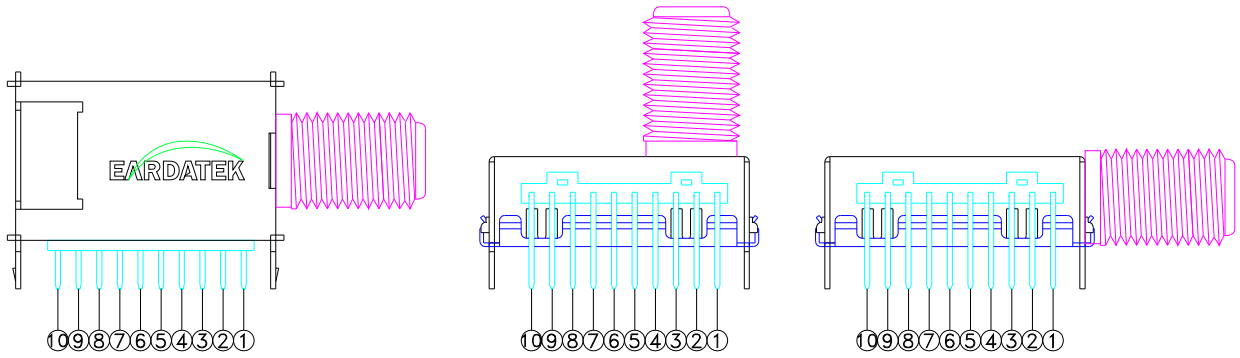


7. Application Circuit:





8. Pin definition



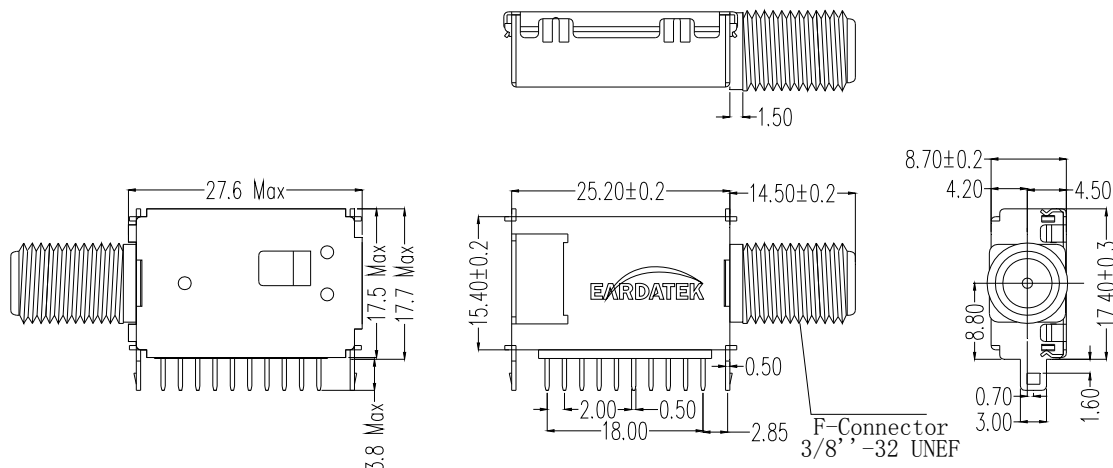
Pin List:

PIN No.	PIN NAME	PIN DESCRIPTION
1	B1	LNB Voltage supply. Please ground it with a 1nF ceramic cap.
2	B2	+3.3V Power Supply
3	AGC	AGC input (High voltage for low gain)
4	IP	IP Signal out
5	IN	IN Signal out
6	QN	QN Signal out
7	QP	QP Signal out
8	SDA	I2C Data
9	SCL	I2C Clock
10	Clock out	27MHz Main clock out for Demodulator
	Mounting Tags	Ground



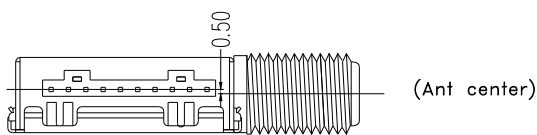
9. Tuner Dimension and PCB Mounting

EDS-11030FNPVA Vertical Tuner Dimension and PCB Mounting (Top view):

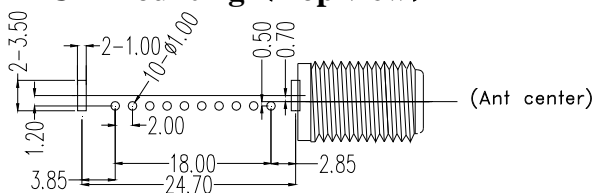


Dimensional Tolerance:±0.1mm

Unit : mm

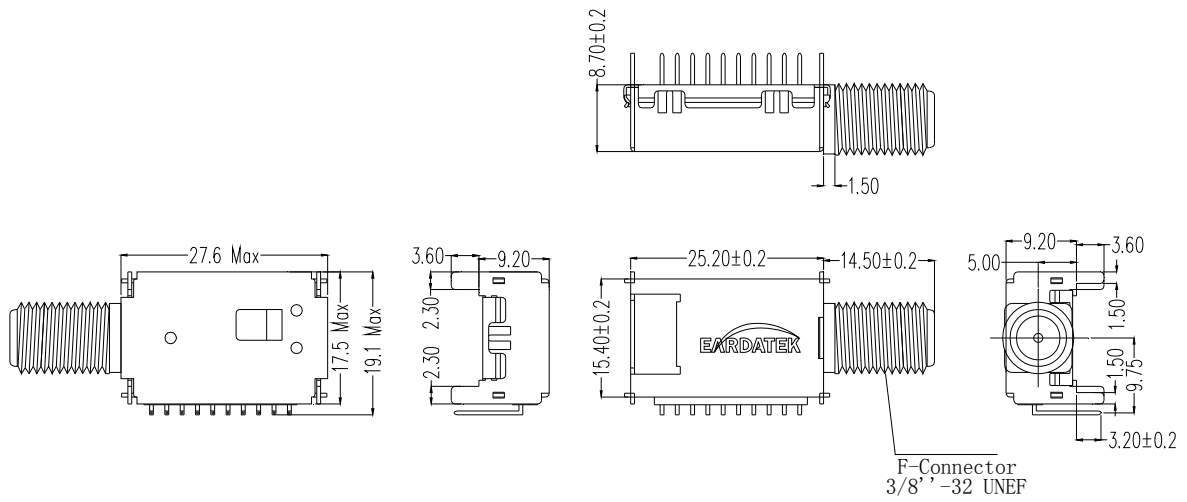


PCB Mounting (Top view)



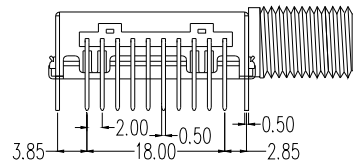


EDS-11030FNPRA Reverse Horizontal Tuner Dimension and PCB Mounting (Top view):

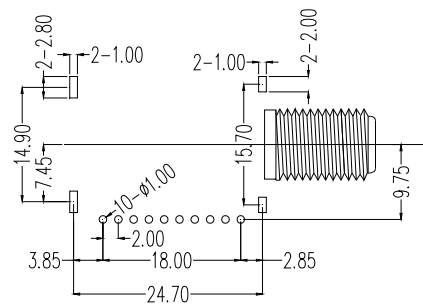


Dimensional Tolerance:±0.1mm

Unit : mm



PCB Mounting (Top view)





10. Packing figure

