



preliminary DATA SHEET



AWM669A TX MODULE
5.8GHz Transmitter Module

承認	品保	工程
Approve	QA	E/E



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1. Descriptions:

Airwave 5.8GHz Audio/Video wireless RF module contains one Transmitter and one Receiver. Using of the most popular 5.8GHz ISM band and being designed with high reliability, Airwave RF module can transmit/receive a wide band audio & video signals up to 500 feet in open area.

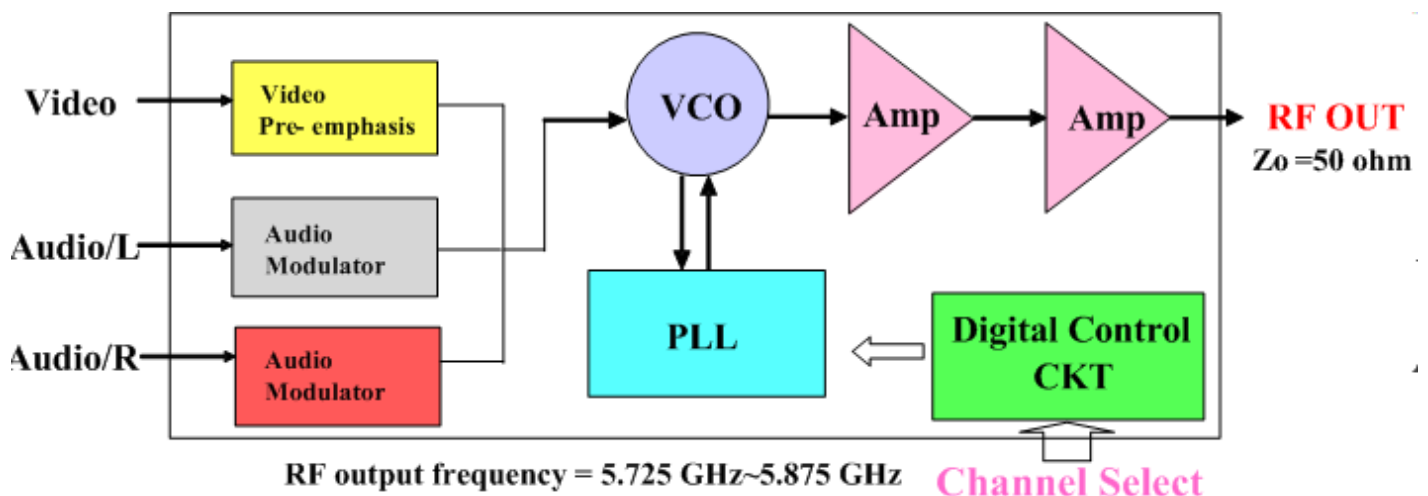
2. Feature:

- Use worldwide 5.8GHz ISM band
- Design in compact size and low power consumption
- Reach highly efficient FM-FM modulation/demodulation scheme
- Be compatible with both NTSC and PAL video formats
- Integrate Audio/Video input and output onto one module base-band PCB
- Don't need external Audio circuit
- Provide with 7 selectable channels
- Set tack switch for channel selection

3. Application:

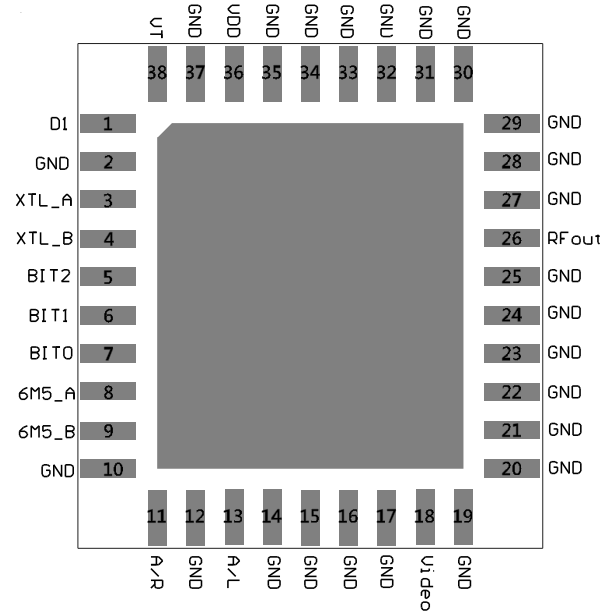
- AV Sender
- Baby monitor
- Surveillance
- Wireless Camera

4. Function block





5. PIN Define



6. PIN Descriptions

PIN	NAME	Descriptions	PIN	NAME	Descriptions
01	D1	Connect 22uF to GND	20	GND	Ground
02	GND	Ground	21	GND	Ground
03	XTL_A	Connect 8MHz Crystal or input	22	GND	Ground
04	XTL_B	8MHz clock signal from XTL_A	23	GND	Ground
05	BIT2	see note1	24	GND	Ground
06	BIT1		25	GND	Ground
07	BIT0		26	RFout	RF output
08	6M5_A	Connect C1	27	GND	Ground
09	6M5_B		28	GND	Ground
10	GND		29	GND	Ground
11	6M5_A/R	Audio Right CH Input	30	GND	Ground
12	GND	Ground	31	GND	Ground
13	6M0_A/L	Audio Left CH Input	32	GND	Ground
14	GND	Ground	33	GND	Ground
15	GND	Ground	34	GND	Ground
16	GND	Ground	35	GND	Ground
17	GND	Ground	36	VDD	DC +3.6V power supply in
18	Video	Connect Video Input Circuit	37	GND	Ground
19	GND	Ground	38	V _T	Voltage Check



Note 1:

Pin5 BIT2	Pin6 BIT1	Pin7 BIT0	Descriptions	Frequency
0	0	0	Pin 5, Pin 6, Pin 7 connect to GND.	5740MHz (CH1)
0	0	1	Pin 5 and Pin 6 connect to GND, Pin 7 OPEN.	5760MHz (CH2)
0	1	0	Pin 5 and Pin 7 connect to GND, Pin 6 OPEN.	5780MHz (CH3)
0	1	1	Pin 5 connect to GND, Pin 6 and Pin 7 OPEN.	5800MHz (CH4)
1	0	0	Pin 6 and Pin 7 connect to GND, Pin 5 OPEN.	5820MHz (CH5)
1	0	1	Pin 6 connect to GND, Pin 5 and Pin 7 OPEN.	5840MHz (CH6)
1	1	0	Pin 7 connect to GND, Pin 5 and Pin 6 OPEN.	5860MHz (CH7)
1	1	1	Pin 5, Pin 6, Pin 7 OPEN.	5860MHz (CH7)

Channel Setting:

	MIN.	TYP.	MAX.
High Voltage	2.5V	3V	VDD
Low Voltage	-0.3V	0V	1V

Minimum settling time: < 100ms

7. Absolute Maximum Ratings

Parameters	Model.	Min.	Typ.	Max.	Unit
Storage Temperature Range	AWM669A	-40	-	85	°C
Supply voltage	AWM669A	-0.5	-	4.0	V



8. DC/AC Electrical characteristic:

RF/ DC Parameters		Min.	Typ.	Max.	Unit
Supply voltage (DC)	AWM669A	+3.5		+3.6	V
Supply current	AWM669A	110		140	mA
RF output power	AWM669A	13	14		dBm
Operating temperature		-10		60	°C
Carrier to Subcarrier Ratio	AWM669A	27		31	dBc
RF Deviation- Video (Input 10KHz, 1Vpp)	AWM669A		3.5		MHz
RF Deviation- Audio (Input 1KHz, 2Vpp)	AWM669A	R	75		kHz
		L	70		
Antenna Port Impedance			50		Ohm
5.8GHz Carrier Frequency Accuracy			±300		kHz
Audio subcarrier frequency	left	6MHz			
	right	6.5MHz			
Operation Frequency Range		5725		5875	MHz
Channel Selection		PLL Synthesizer, 7CH (See Tab11)			
Channel Frequency		Ch1=5740, CH2=5760, CH3=5780 Ch4=5800, CH5=5820, CH6=5840 Ch7=5860			
Video-Audio Modulation/Demodulation Type		FM-FM			

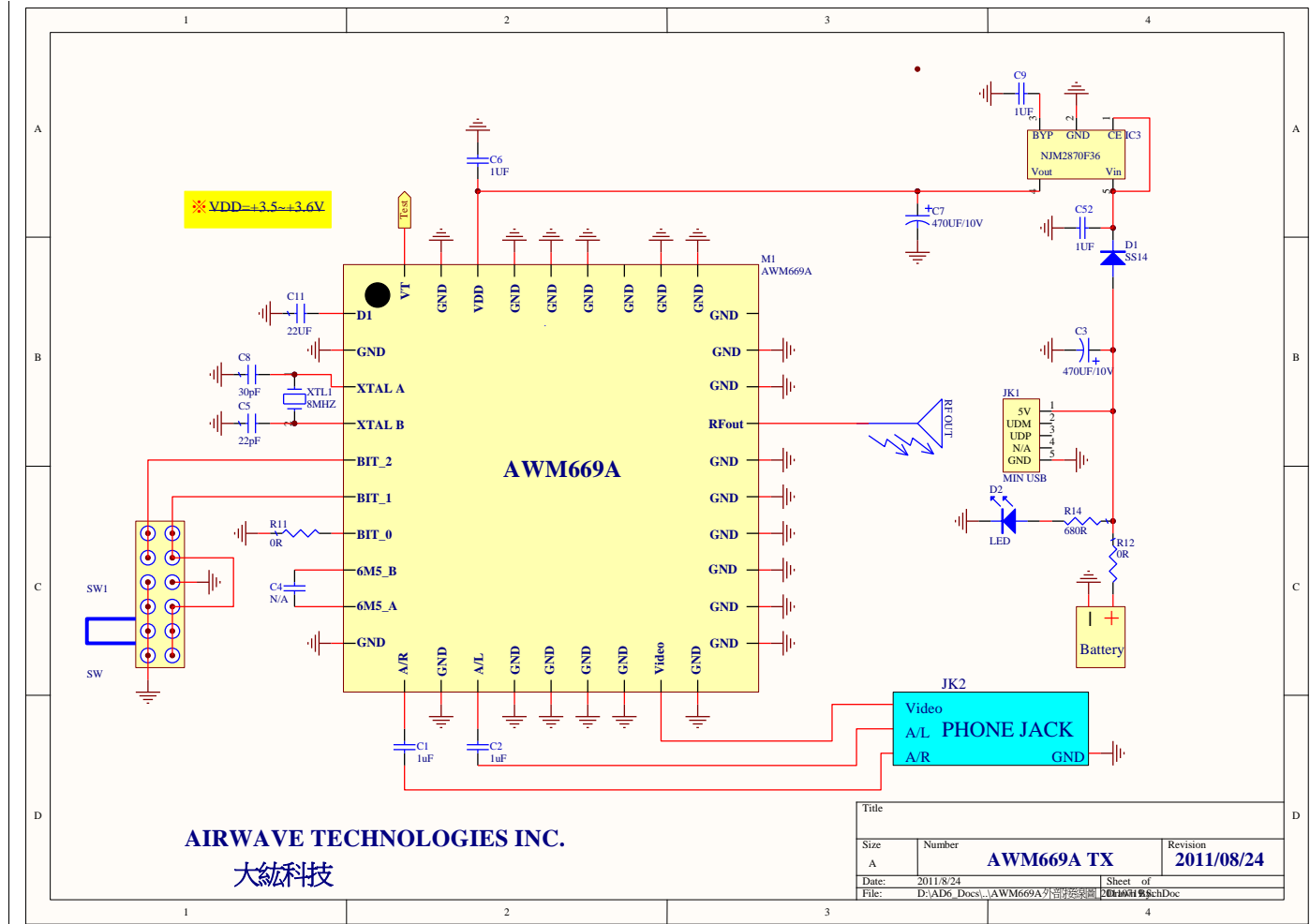


9. BOM of Demo Board

AWM669A Demo Board part list

Part Type & Description	Quantity	Designator	Notes
0402, 22pF	1	C5	
0402, 30pF	1	C8	
0603, 1uF	4	C1 C2 C6 C9 C52	
0805, 10uF	1	C11	
0402, 0R	1	R11	
0603, 0R	2	R12 R13	
E/CAP 470UF(10V)	2	C3 C7	
USB SERIES Connector(BS-USB-112)	1	JK1	
NJM2870 3.6V	1	IC3	JRC
STERO PHONE JACK(TSH3724)	1	JK2	
SWITCH(SK24D02G6)(DC 50V 0.3A/2P4T)	1	SW1	
SCHOTTKY DIODE (SS14)	1	D1	
AT-39, CRYSTAL 8MHZ	1	XTL1	友桂
AWM669A	1	M1	AIRWAVE

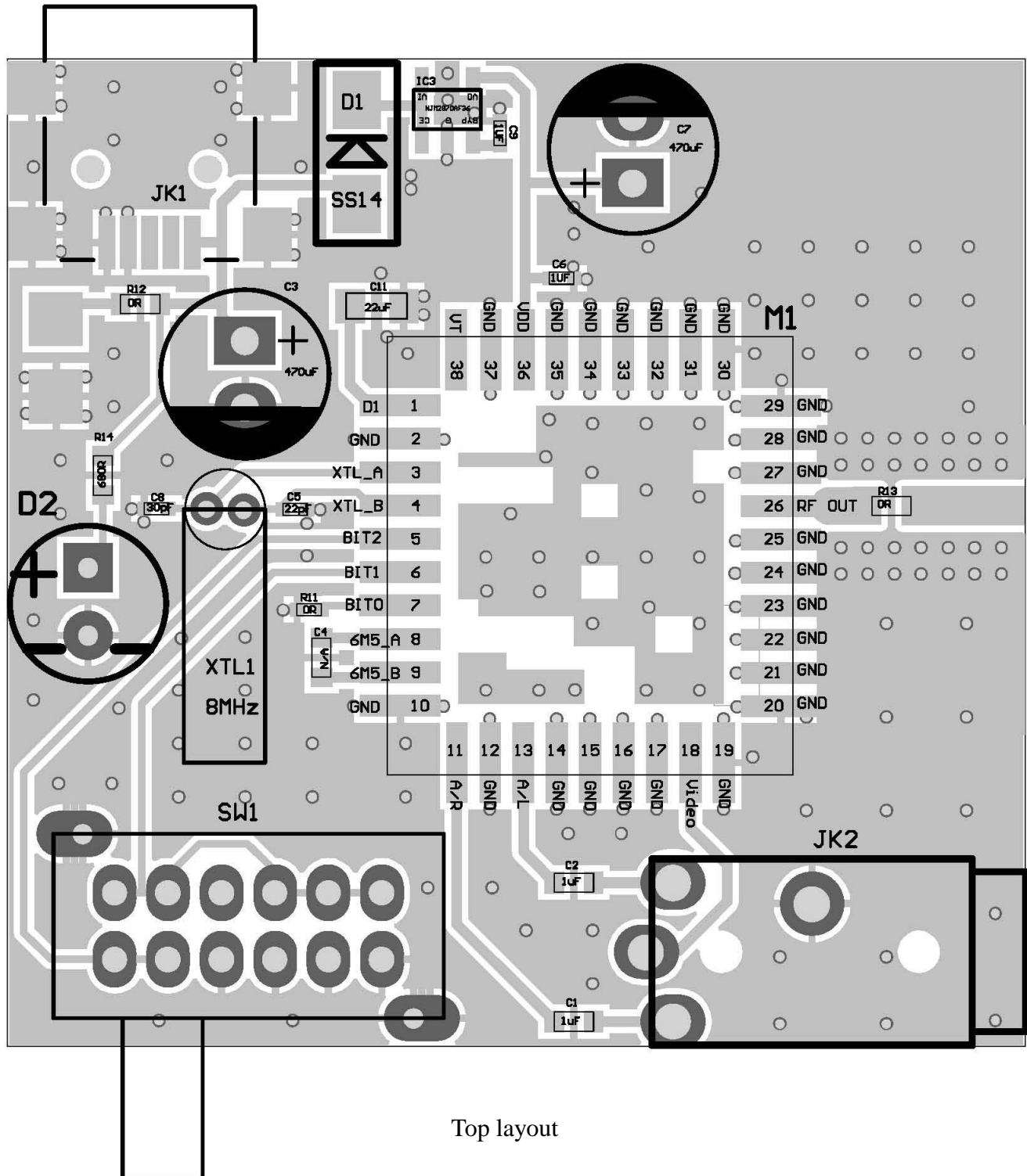
10. Demo Board circuit schematic:



+V_{DD} requires a regulated voltage supplied by a very low noise regulator, such as NJRC NJM2870F36 or better, and a bypass capacitor with a recommended value of at least 470µ F.

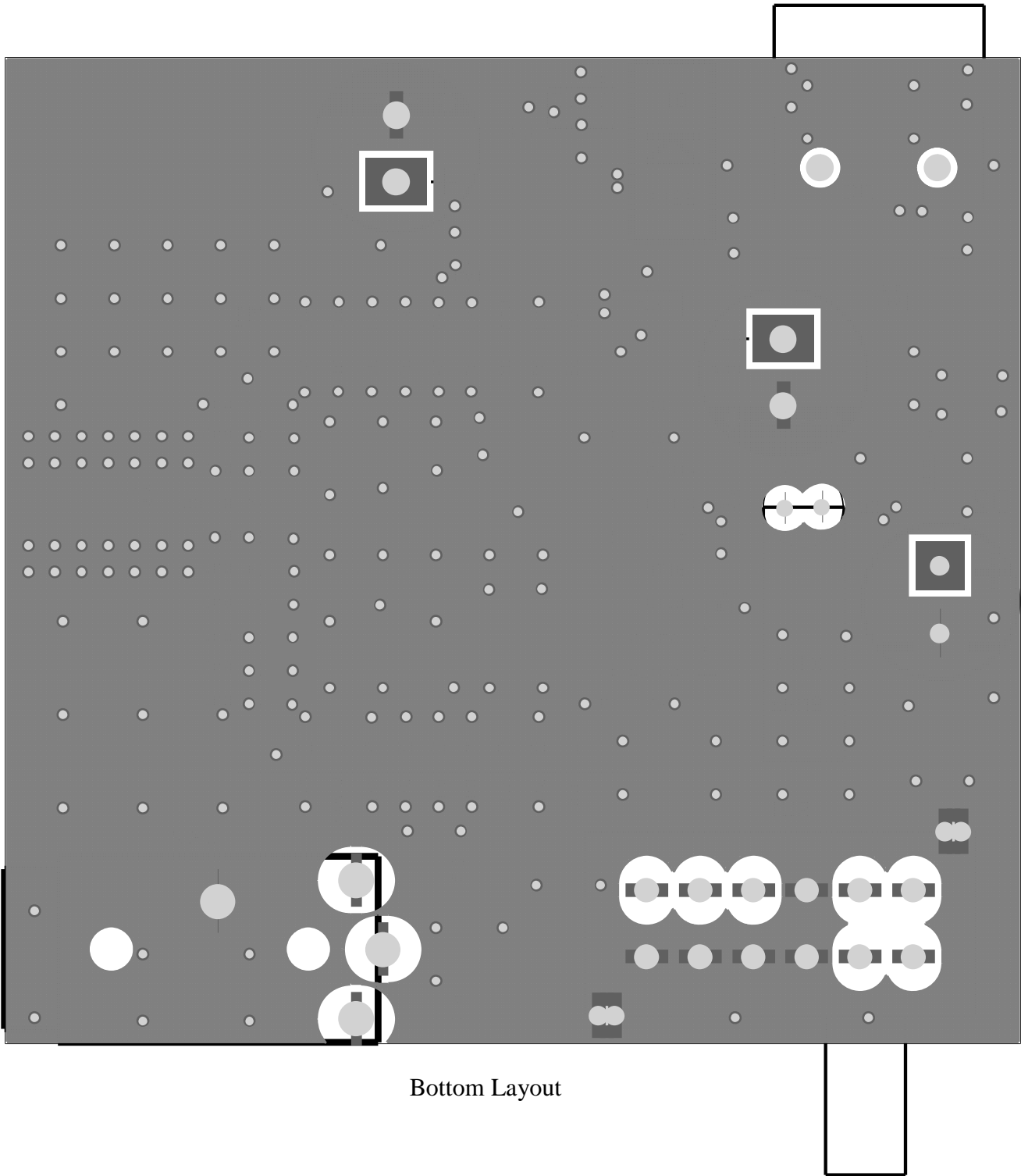
11. BB PCB layout design guide

a. Top View of Demo board PCB



Top layout

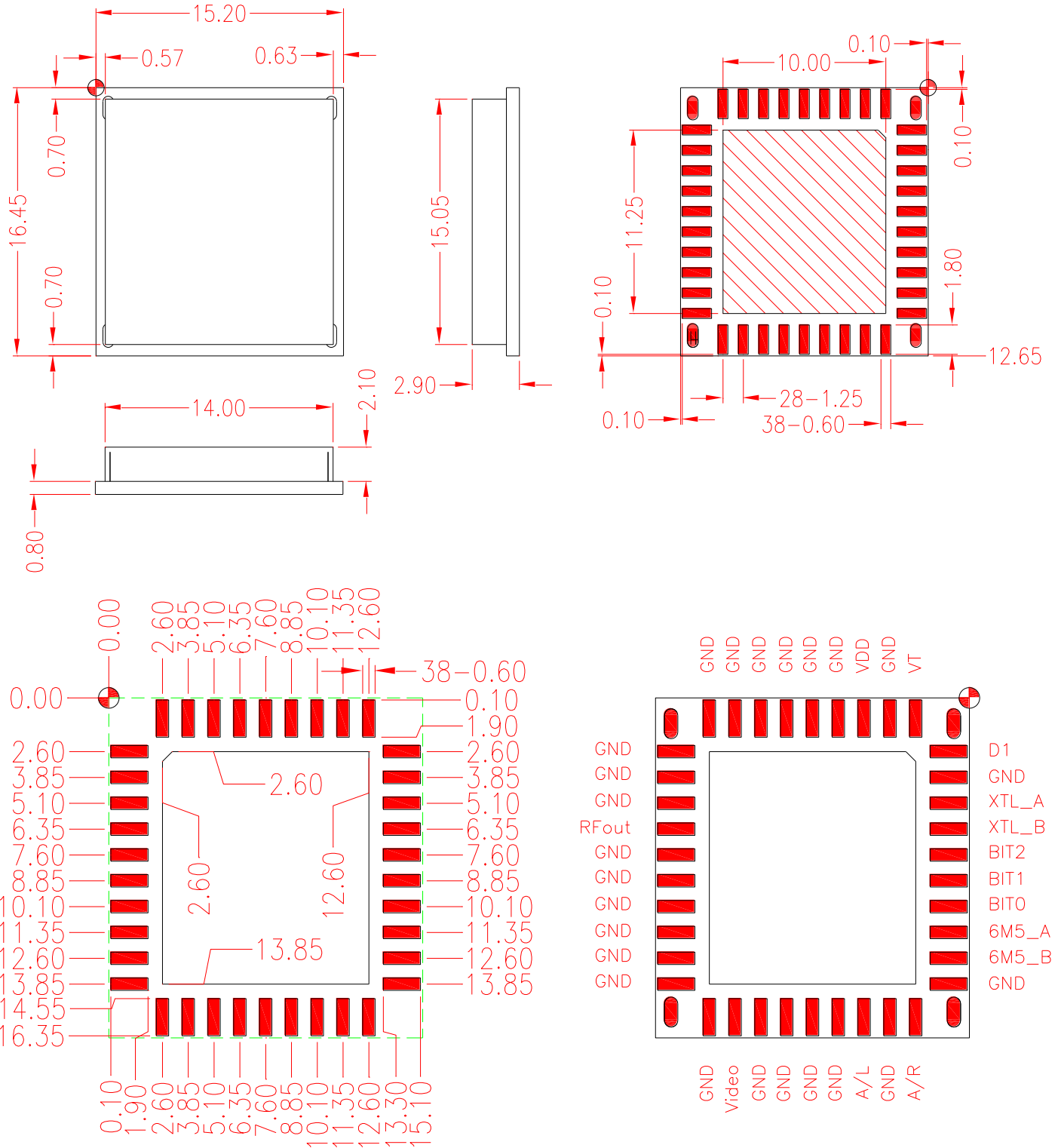
b. Bottom View of demo board PCB



Bottom Layout

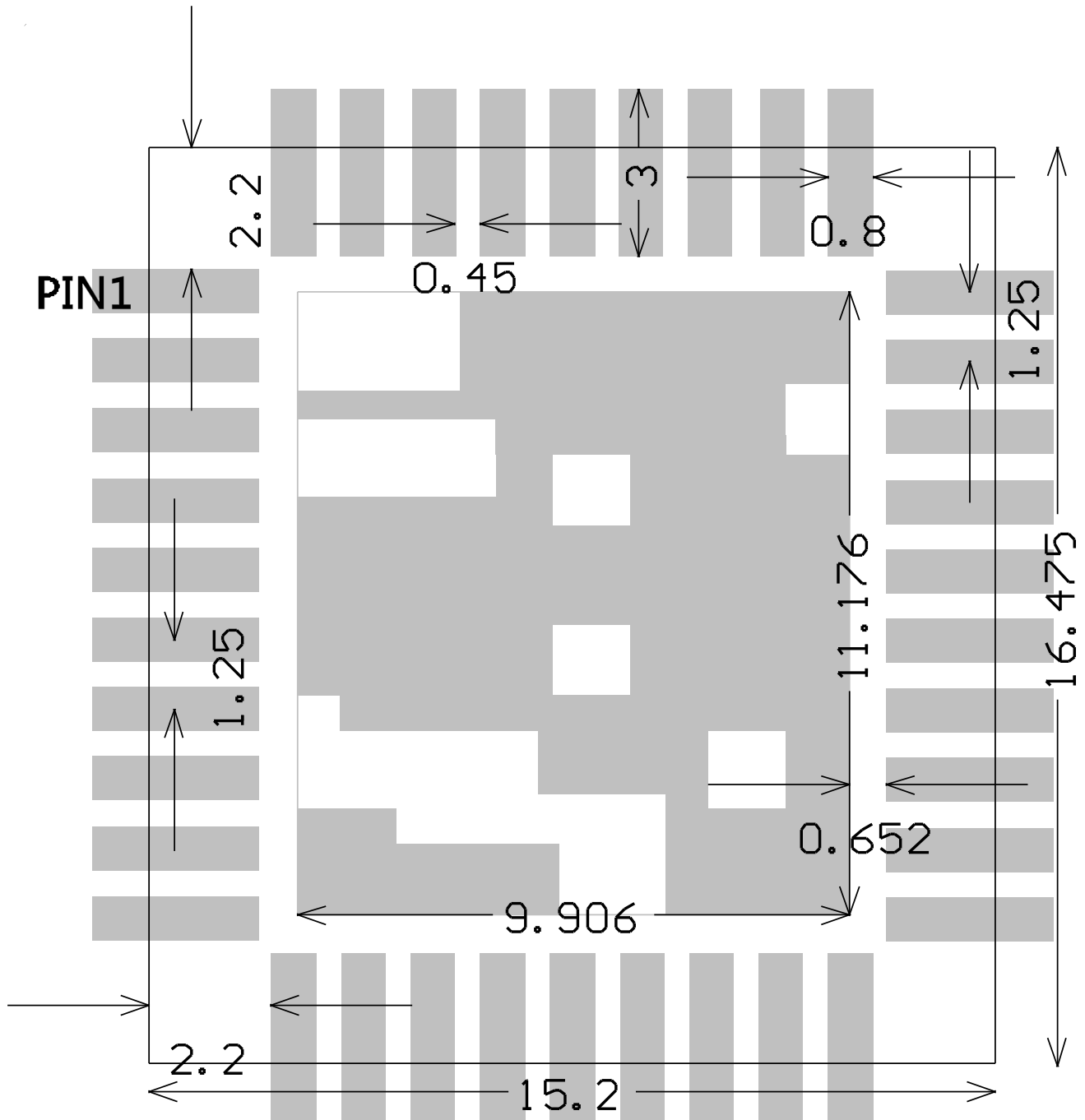
AWM669A TX Baseband

12. AWM669A_TX Dimensions:

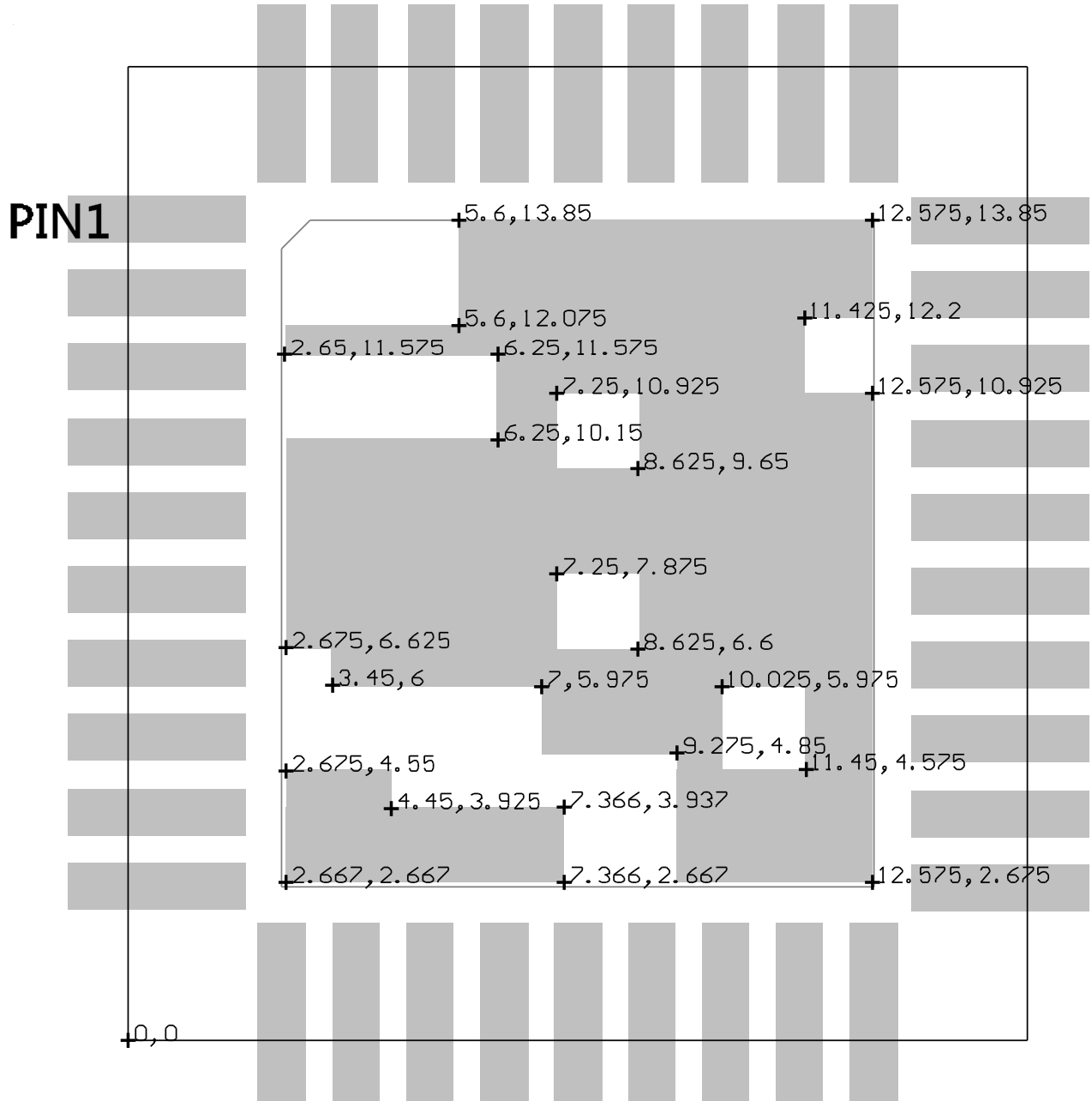


Unit: mm

13. Recommended BB PCB layout for AWM669A_TX



Unit: mm



Unit: mm