

# DRA818V

### **VHF Band Voice Transceiver Module**

V1.23

#### **Features:**

Frequency Range: 134~174MHz

Tx/Rx frequency independentChannel space: 12.5/25KHz

• Chaimer space: 12.3/23KHZ

• Configurable multi-channels

■ Sensitivity: -122dBm

Output power: +27/30dBm

CTCSS / CDCSS codes

8 volume levels

8 squelch levels

UART interface

• Temperature:  $-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$ 

TX current: 450/750mA

■ Supply voltage: 3.3~4.5V



## **Applications**

- Portable walkie-talkie
- Outdoor sports products
- Audio monitor system
- Building security system

#### **DESCRIPTION**

DRA818V is a type of compact wireless voice transceiver module based on RFIC RDA1846 and works in VHF band. It integrates high speed microcontroller, high performance wireless transceiver IC, high power PA, audio process and squelching circuits. It provides standard UART interface which users can easily configure appropriate parameters for different applications. Users can easily construct a walkie-talkie system by connecting microphone, audio PA and speaker.

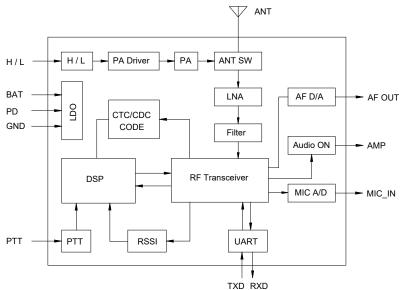


Figure 1: DRA818V Functional Block



# **PIN FUNCTIONS**

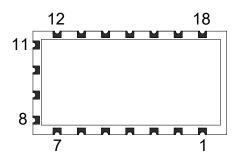


Figure 2: DRA818V Pin Layout

PIN	Name	Function	Description
1	SQ	Output	Squelch detection Low→ Audio amplifier on
2	NC		No connection
3	AF_OUT	Output	Audio output pin.
4	NC		No connection
5	PTT	Input	Tx/Rx control pin: Low→TX; High→ RX
6	PD	Input	Power saving control pin: Low→sleep mode; High→normal mode
7	H/L	Input	RF Power Selection: Low→0.5W; <b>floated→</b> 1W
8	VBAT	Power	Power supply
9	GND	Ground	Ground (0V)
10	GND	Ground	Ground (0V)
11	NC		No connection
12	ANT		Antenna port. 50 Ohm impedance
13	NC		No connection
14	NC		No connection
15	NC		No connection
16	RXD	Input	UART input, TTL level
17	TXD	Output	UART output, TTL level
18	MIC_IN	Input	MIC input

**Table 1: DRA818V Pin Functions** 

## **ELECTRICAL SPECIFICATIONS**

Symbol	Parameter (condition)	Min.	Тур.	Max.	Units
VCC	Supply Voltage	3.3	4.0	4.5	V
Freq	Frequency range	134		174	MHz
Temp	Operating temperature range	-20	25	70	°C
IDD_R	Current in receive mode @ Audio amplifier on		60		mA



	@ Audio amplifier off		55		mA
IDD T	Current in transmit mode @ Low Power Mode		400	550	4
IDD_T	@ High Power Mode		700	750	mA
Idd_s	Current in sleep mode		1		uA
CH_w	Channel Space selection		25		kHz
T_sw	Tx/Rx switching time		20		mS
T_IN	Module initializing time		300	500	mS
Zant	Antenna Impedance		50		Ohm

**Table 2: DRA818V Electrical Specifications** 

# RADIO CHARACTERISTICS

Symbol	Parameter (condition)	Min.	Тур.	Max.	Units
Freq	Frequency range	134		174	MHz
Sen.	Receiver sensitivity @12dB SINAD		-122		dBm
Sen_sq	Squelch function sensitivity		-120		dBm
SNR_R	S/N in receive mode @ 1.5KHz Fdev.	45	50		dB
ACS	Adjacent channel selection @ CH_w = 25 KHz	55	60		dB
IR	Inter-modulation rejection @ CH_w = 25 KHz	55	60		dB
SPR	Spurious emission rejection@ CH_w = 25 KHz	55	60		dB
AF_zout	Audio output impedance		200		Ohm
AF_amp	Audio signal amplitude @1KHz		700		mV
D 4	Output power @ Low Power Mode		26	27	1D
Pout	@ High Power Mode		29	31	dBm
Fdev	Max. Frequency deviation @ Narrow band			2.5	KHz
Sen_mod	Modulation Sensitivity @1KHz at 2.5KHz Fdev.		10		mV
AF_td	Audio modulation distortion@1KHz at 2.5KHz Fdev.		2	5	%
SNR_T	S/N in Transmit mode @1KHz at 2.5KHz Fdev.	38	40	45	dB
Fdev_c	CTCSS frequency deviation	0.35	0.5	0.75	KHz

**Table 3: DRA818V Radio Characteristics** 



#### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Min.	Max.	Units
VCC	Supply Voltage	-3.3	5	V
V <sub>IN</sub>	Input voltage	-0.3	VCC+0.3	V
In	Input current	-10	10	mA
Tst	Storage temperature	-40	90	°C

**Table 4: DRA818V Maximum Ratings** 

#### PARAMETERS SETTING

Some parameters of DRA818V modules can be changed by following the commands in this section, which provide flexibility for designers to optimize related parameters to achieve the best performance. DRA818V modules use standard UART interface to communicate with microcontrollers or other hosts. The default data format is: 8 data bits, 1 stop bit, no parity and 9600 kbps data rate. All commands in ASCII codes start with "AT" and end with "<CR><LF>". The parameters will be lost after the module is powered off. Therefore, the module must be configured with the parameters at each power-on in order to work normally.

#### 1. Handshake Command

Description: It is used to check if the module works normally. DRA818V module will send back response information when it receives this command from the host. If the host doesn't receive any response from module after three times of continuously sending this command, it will restart the module.

Format: AT+DMOCONNECT <CR><LF>
Module response: +DMOCONNECT: 0 <CR><LF>

#### 2. Frequency Scanning Command

Description: It scans the wanted frequency.

Format: S+Frequency <CR><LF>

Module response: S=x <CR><LF>

 $x \rightarrow 0$ : there is signal in this frequency

 $x \rightarrow 1$ : there is no signal in this frequency

E.g Command: S+152.1250

Response: S=0



### 3. Group Setting Command

Description: This command is used to configure a group of module parameters.

Format: AT+DMOSETGROUP=GBW,TFV, RFV,Tx CTCSS,SQ,Rx CTCSS<CR><LF>

Module response: +DMOCONNECT: x<CR><LF>

• GBW: Channels space.  $1 \rightarrow 25$ k. The RFIC RDA1846S offers the channel space selection

for  $12.5 \, \text{KHz}$  and  $25 \, \text{KHz}$ . The firmware only chooses  $25 \, \text{KHz}$  option fixedly. However the frequency modulation deviation in  $25 \, \text{KHz}$  channel space is still very narrow

(about +/-2.5KHz) so the module works more likely at 12.5KHz channel space.

TFV: Transmit frequency. Range: 134.0000~174.0000MHz
 RFV: Receive frequency. Range: 134.0000~174.0000MHz.

• Tx\_CTCSS: CTCSS value in transmit

• SQ: Squelch level  $(0 \sim 8)$ . 0  $\rightarrow$  monitor mode which can't be used in scanning mode.

• Rx\_CTCSS: CTCSS value in receive

•  $\mathbf{x}$ : Configuration result.  $0 \rightarrow$  succeeded;  $1 \rightarrow$  data out of range.

E.g. Command: AT+DMOSETGROUP=0,152.1250,152.1250,0012,4,0003<CR><LF>

 $Or \quad Command: \quad AT+DMOSETGROUP=0,152.1250,152.1250,754N,4,445I < CR> < LF>$ 

Response: +DMOSETGROUP:0<CR><LF>

Notes: The Tx\_CXCSS and Rx\_CXCSS can be different values.  $0000 \rightarrow$  no coding;  $0001 \sim 0038 \rightarrow$  CTCSS; Alphanum $\rightarrow$ CDCSS (seeing table 6).

#### 3. Volume Command

Description: This command is used to adjust the volume of module.

Format: AT+DMOSETVOLUME=x <CR><LF>
Module response: + DMOSETVOLUME: X < CR> < LF>

x in command: Volume range (1~8).
x in response: 0→ succeeded; 1→ failed.

#### 4. SETFILTER Command

Description: This command is used to turn on/off Pre/de-emphasis, Highpass, Lowpass filter

Format: AT+ SETFILTER=PRE/DE-EMPH, Highpass, Lowpass <CR><LF>

Module response: + DMOSETFILTER: x<CR><LF>

• PRE/DE-EMPH= $0\rightarrow$ turn on;  $1\rightarrow$ turn off

• Highpass=0→turn on; 1→turn off\

• Lowpass=0→turn on; 1→turn off

E.g AT+SETFILTER=0,0,0

Response: + DMOSETFILTER:0

From the field testing results, the RFIC on module should automatically filter the frequencies



below 300Hz no mater Highpass filter is enabled or not so please pay attention to it if the applications need low frequency.

Code	Equivalent BIN	Equivalent HEX
0231	11001000000111000110111	640E37
0251	10101000000111101101011	540F6B
0261	01101000000110111010011	340DD3
0311	10011000000111111000101	4C0FC5
0321	01011000000110101111101	2C0D7D
0431	11000100000101101101101	620B6D
0471	11100100000110111111000	720DF8
0511	10010100000101010011111	4A0A9F
0541	00110100000100101111011	1A097B
0651	10101100000110001011101	560C5D
0711	10011100000110011110011	4E0CF3
0721	01011100000111001001011	2E0E4B
0731	11011100000101100111010	6E0B3A
0741	00111100000111100010111	1E0F17
1141	00110010000101111010110	190BD6
1151	10110010000111010100111	590EA7
1161	01110010000110000011111	390C1F
1251	10101010000111011110000	550EF0
1311	10011010000111001011110	4D0E5E
1321	01011010000110011100110	2D0CE6
1341	00111010000110110111010	1D0DBA
1431	11000110000101011110110	630AF6
1521	01010110000100110111100	2B09BC
1551	10110110000110110010001	5B0D91
1561	01110110000111100101001	3B0F29
1621	01001110000100111101011	2709EB
1651	10101110000110111000110	570DC6
1721	01011110000111111010000	2F0FD0
1741	00111110000111010001100	1F0E8C
2051	10100001000110010111011	508CBB
2231	11001001000101110001011	648B8B
2261	01101001000100001101111	34886F
2431	11000101000111011010001	628ED1
2441	00100101000101011111100	128AFC
2451	10100101000111110001101	528F8D



2511         1001010100011110010011         4A8F23           2611         1000110100011110110100         468F74           2631         1100110100010010111101         6688BD           2651         10101101000100111110001         5689E1           2711         1001110100010010101111         4E894F           3061         0110001100011011000         318F98           3111         10010011000110110001101         498D8E           3151         10110011000101101001         4D8BE2           3431         100110110001101101001         4D8BE2           3431         110011110001110101010         4B8EB8           3511         10010111000110110100         4B8EB8           3641         0110111100011010101011         57887A           3711         1001111100011010001111010         57887A           3711         100111110001001011101010         4F88D4           4111         100100001001011011101111         2849CF           4131         11010000100110011101111         684CBE           4231         110010001001100111101001         644CE9           4311         1001100010011100111101001         644CE9           4321         01011000100111010011111         2C4FA3           4451 <td< th=""><th></th><th></th><th></th></td<>			
263I         1100110100010010111101         6688BD           265I         1010110100010010111100001         5689E1           271I         100110100010010101111         4E894F           306I         0110001100011111001100         318F98           311I         10010011000110110001101         498D8E           315I         1011001100010111100010         498BE           331I         10011011000101111100010         4D8BE2           343I         1100011100011011010         638F4A           346I         01100111000110101010         4B8EB8           364I         001011110001101010001011         178D0B           365I         101011110001000110100         4F88D4           411I         100100010010011010100         4F88D4           411I         10010000100101101111         2849CF           413I         1101000100110011110100         644CE9           431I         100110001001100111110001         644CE9           431I         1001100100101010101111         2C4FA3           445I         101010010010111010011         4C4D1B           432I         010110010010011001111         5248EF           466I         0110101001001110100111         364C3B           503I         1100001001	2511	10010101000111100100011	4A8F23
265I         10101101000100111100001         5689E1           271I         1001110100010010101111         4E894F           306I         0110001100011111001100         318F98           311I         1001001100011010001101         498D8E           315I         10110011000101100011011         598B1B           331I         10010110001111100010         4D8BE2           343I         1100011100011111000101         638F4A           346I         011001110001100101010         338CAE           351I         100101110001101010100         4B8EB8           364I         001011110001101010001011         178D0B           365I         10101111000100010110100         4F88D4           411I         1001000010010011011010         4F88D4           411I         100100001001011011111         2849CF           413I         1101000010011001011111         684CBE           423I         110010010010100101111         4C4D1B           432I         010110001001101001111         4C4D1B           432I         010110010010110100111         2C4FA3           445I         101001001001001101111         5248EF           466I         011010100100111000011101         164BF2           466I         01100100	2611	10001101000111101110100	468F74
271I         1001110100010010101111         4E894F           306I         01100011000111110011000         318F98           311I         10010011000110110001101         498D8E           315I         10110011000101111000101         598B1B           331I         100101110001111100010         4D8BE2           343I         1100011100011010101         638F4A           346I         011001110001101010100         4B8EB8           364I         0010111100011010000111         178D0B           365I         1010111100010001110100         4F88D4           411I         100100001001010101010         4F88D4           411I         10010000100101101111         2849CF           413I         1101000010011001110101         684CBE           423I         11001000100110011101001         644CE9           431I         100110001001101001101         4C4D1B           432I         01011000100111111000011         2C4FA3           445I         1010100100111111000011         164BF2           466I         0110101001011101000111         164BF2           466I         01101100100111000011101         364C3B           503I         11000010100101001111000         3148FA           506I         01100101	2631	11001101000100010111101	6688BD
306  01100011000111111001000 318F98   311  10010011000110110001110	2651	10101101000100111100001	5689E1
311I         10010011000110110001101         498D8E           315I         10110011000101100011011         598B1B           331I         1001101100011111100010         4D8BE2           343I         110001110001101010101         638F4A           346I         0110011100011010100         4B8EB8           351I         10010111000110100001011         178D0B           365I         1010111100010001111010         57887A           371I         100111110001000110100         4F88D4           411I         1001000010010011011011         2849CF           413I         11010000100110011110         684CBE           423I         11001000100110011011         4C4D1B           432I         11001000100110100111         4C4D1B           432I         010110001001111100011         2C4FA3           445I         1010010010011111100011         2C4FA3           466I         011011001001011101100         164BF2           465I         1010110010011110100011110         364C3B           503I         11000010100101100011110         3148FA           516I         0110011010100111100001         3148FA           516I         01110010101111000111100000         334BCC           565I         10101110	2711	10011101000100101001111	4E894F
315I         10110011000101100011011         598B1B           331I         10011011000101111100010         4D8BE2           343I         1100011100011110101010         638F4A           346I         011001110001100101010         38CAE           351I         1001011100011010000101         178D0B           364I         00101111000100001111010         57887A           371I         100111110001000110100         4F88D4           411I         10010000100101101111         2849CF           413I         11010000100110011111         684CBE           423I         11001000100110010111         4C4D1B           432I         01011000100111010011         4C4D1B           432I         0101100010011111100011         2C4FA3           445I         1010010010011111100001         164BF2           464I         001011001001111110000011         564E83           466I         0110110010011000111101         314BFA           506I         01100101001001111000011100         334BCC           565I         10101101001111000111000         574F18           606I         011000110011001100110111101         30CCDD	3061	01100011000111110011000	318F98
331I         10011011000101111100010         4D8BE2           343I         110001110001111001010         638F4A           346I         01100111000110010101110         338CAE           351I         10010111000110101000101         178D0B           364I         00101111000100001111010         57887A           371I         100111110001000110100         4F88D4           411I         100100001001011011011         2849CF           413I         110100001001100101111         2849CF           413I         1100100010011001011101         684CBE           423I         11001000100110010111         4C4D1B           432I         0101100010011010001101         2C4FA3           445I         101010010010111111000011         2C4FA3           445I         10101001001011111110000         164BF2           466I         0110100100110101011101         364C3B           503I         11000010100101100011110         614B1E           506I         011000101010111000111100         334BCC           565I         10101101001110011011011101         30CCDD	3111	10010011000110110001110	498D8E
343I         1100011100011110101010         638F4A           346I         01100111000110010101110         338CAE           351I         100101110001110100001011         178D0B           364I         00101111000100001111010         57887A           365I         101011110001000110100         4F88D4           411I         100100001001011011011         2849CF           413I         110100001001100111110         684CBE           423I         11001000100110011110001         644CE9           431I         100110001001101010111         4C4D1B           432I         0101100010011111000011         2C4FA3           445I         101001001001001110111         5248EF           464I         001011001001011101100         164BF2           465I         10101100100111000011101         364C3B           503I         1100001010101010111010         614B1E           506I         0110010100111001110100         394EC1           532I         0101101010011110001111000         334BCC           565I         1010111010011100110111011         30CCDD	3151	10110011000101100011011	598B1B
346I         0110011100011001011110         338CAE           351I         10010111000111010100001011         178D0B           364I         00101111000100001111010         57887A           365I         101011110001000110100         4F88D4           411I         1001000010010110110111         484B77           412I         01010000100100111001111         2849CF           413I         110100001001100111110         684CBE           423I         11001000100110101011         4C4D1B           432I         0101100010011010011         4C4D1B           432I         0101100010011011011         2C4FA3           445I         10100100100100110111         5248EF           464I         00101100100101111110010         164BF2           465I         10101100100111000011101         364C3B           503I         1100001010100101100011110         614B1E           506I         011001010101011010111000         3148FA           516I         011100101011110001111000         334BCC           565I         10101110100111110001101101         30CCDD	3311	10011011000101111100010	4D8BE2
351I         10010111000111010111000         4B8EB8           364I         00101111000110100001011         178D0B           365I         1010111100010001111010         57887A           371I         10011111000100110111011         4F8BD4           411I         10010000100101101110111         2849CF           413I         110100001001100111110         684CBE           423I         110010001001100110101         644CE9           431I         10011000100110100111         4C4D1B           432I         010110001001111110100011         2C4FA3           445I         1010010010010011101111         5248EF           464I         00101100100101110100011         164BF2           465I         10101100100111000011101         364C3B           503I         1100001001010100111101         614B1E           506I         0110010100100111000111100         3148FA           516I         01110010100111100111000         394EC1           532I         01011011010011110001111000         334BCC           565I         101011100011100110011011101         30CCDD	3431	11000111000111101001010	638F4A
364I         00101111000110100001011         178D0B           365I         10101111000100001111010         57887A           371I         100111110001000110100         4F88D4           411I         10010000100101101110111         484B77           412I         0101000010010011001111         2849CF           413I         1101000100110010111110         684CBE           423I         1100100010011001101001         644CE9           431I         1001100010011010001101         4C4D1B           432I         01011000100111110100011         2C4FA3           445I         10100100100101110111         5248EF           464I         00101100100101111110010         164BF2           465I         101011001001110010011101         364C3B           503I         1100001010101001011101         614B1E           506I         0110010100101110100111100         3148FA           516I         01110010101110011110001         394EC1           532I         01011011010011110001111000         334BCC           565I         101011100011110011101011101         30CCDD	3461	01100111000110010101110	338CAE
365I         101011111000100001111010         57887A           371I         10011111100010001101010         4F88D4           411I         10010000100101101110111         484B77           412I         0101000010010011001111         2849CF           413I         110100001001100111110         684CBE           423I         11001000100110011101001         644CE9           431I         10011000100110100111         4C4D1B           432I         0101100010010110111         5248EF           464I         0010110010010010110111         5248EF           465I         1010110010011101000011         364C3B           466I         0110110010011000011101         364C3B           503I         110000101001001011100         3148FA           516I         01110010010111000111100         394EC1           532I         010110101001111000111100         334BCC           565I         10101110100111110011011101         30CCDD	3511	10010111000111010111000	4B8EB8
371I         1001111100010001101010         4F88D4           411I         10010000100101101110111         484B77           412I         01010000100100111001111         2849CF           413I         11010000100110010111110         684CBE           423I         1100100010011001101001         644CE9           431I         1001100010011010001101         4C4D1B           432I         01011000100111110100011         2C4FA3           445I         10100100100101110111         5248EF           464I         00101100100101111110000         164BF2           465I         10101100100111000011101         364C3B           503I         11000010100101000111101         614B1E           506I         0110001010011101001111000         3148FA           516I         01110010101111000111000         2D4E38           546I         011001101001011110001100         574F18           606I         0110000110011001101101101         30CCDD	3641	00101111000110100001011	178D0B
411I         10010000100101101110111         484B77           412I         01010000100100111001111         2849CF           413I         11010000100110010111110         684CBE           423I         11001000100110011101001         644CE9           431I         1001100010011010001101         4C4D1B           432I         01011000100111110100011         2C4FA3           445I         10100100100101110111         5248EF           464I         00101100100101111110000         164BF2           465I         10101100100111000011101         364C3B           503I         110000101001011000111101         614B1E           506I         011000101001011101000111100         3148FA           516I         01110010011110001111000         2D4E38           546I         0110011010010111100011000         574F18           606I         0110000110011001101101101         30CCDD	3651	10101111000100001111010	57887A
412I       010100001001001110011111       2849CF         413I       11010000100110010111110       684CBE         423I       11001000100110011101001       644CE9         431I       1001100010011010001101       4C4D1B         432I       01011000100111110100011       2C4FA3         445I       1010010010010010110111       5248EF         464I       00101100100101111110010       164BF2         465I       101011001001110000011       364C3B         503I       11000010100101100011110       614B1E         506I       011001010010101111010       3148FA         516I       0111001010011110001111000       2D4E38         546I       011001101001111100011100       334BCC         565I       1010111010011110011011011       574F18         606I       011000011001100110111011101       30CCDD	3711	10011111000100011010100	4F88D4
413I       11010000100110010111110       684CBE         423I       11001000100110011101001       644CE9         431I       1001100010011010001101       4C4D1B         432I       01011000100111110100011       2C4FA3         445I       1010010010010111111       5248EF         464I       00101100100101111110010       164BF2         465I       101011001001110000111       364C3B         503I       1100001010010100011110       614B1E         506I       011000101001001111010       3148FA         516I       01110010101110001111000       2D4E38         546I       01100110100111100011100       334BCC         565I       10101110100111100110101       574F18         606I       01100001100110011011101       30CCDD	4111	10010000100101101110111	484B77
423I       11001000100110011101001       644CE9         431I       10011000100110100011011       4C4D1B         432I       01011000100111110100011       2C4FA3         445I       1010010010010011101111       5248EF         464I       0010110010011111110010       164BF2         465I       1010110010011101000011       564E83         466I       011011001001100011101       364C3B         503I       110000101001011100011110       614B1E         506I       0110001010010011111010       3148FA         516I       01110010101110001111000       2D4E38         546I       01100110100111100011100       334BCC         565I       10101110100111100110101       574F18         606I       01100001100110011011101       30CCDD	4121	01010000100100111001111	2849CF
431I       10011000100110100011011       4C4D1B         432I       01011000100111110100011       2C4FA3         445I       1010010010010011101111       5248EF         464I       0010110010011111110010       164BF2         465I       1010110010011101000011       564E83         466I       011011001001100011101       364C3B         503I       11000010100101100011110       614B1E         506I       01100010100101111010       3148FA         516I       01110010101110100001       394EC1         532I       01011010100111100011100       2D4E38         546I       01100110100101111001100       574F18         606I       01100001100110011011101       30CCDD	4131	11010000100110010111110	684CBE
432I       010110001001111110100011       2C4FA3         445I       1010010010010011101111       5248EF         464I       001011001001011111110010       164BF2         465I       1010110010011101000011       564E83         466I       0110110010011000011101       364C3B         503I       110000101001011100011110       614B1E         506I       011000101001011111010       3148FA         516I       0111001010111000111000       394EC1         532I       0101101010111100011100       334BCC         565I       10101110100111100011000       574F18         606I       01100001100110011011101       30CCDD	4231	11001000100110011101001	644CE9
445I       1010010010010011101111       5248EF         464I       00101100100101111110010       164BF2         465I       1010110010011101000011       564E83         466I       0110110010011000011101       364C3B         503I       11000010100101100011110       614B1E         506I       01100010100101111010       3148FA         516I       011100101011101000001       394EC1         532I       0101101010011110001       2D4E38         546I       011001101001111001100       334BCC         565I       10101110100111100011001       574F18         606I       01100001100110011011101       30CCDD	4311	10011000100110100011011	4C4D1B
464I       001011001001011111110010       164BF2         465I       1010110010011101000011       564E83         466I       01101100100110000111011       364C3B         503I       11000010100101100011110       614B1E         506I       011000101001011111010       3148FA         516I       011100101011101100001       394EC1         532I       01011010101111000111000       2D4E38         546I       0110011010011111001100       334BCC         565I       10101110100111110011001       574F18         606I       01100001100110011011101       30CCDD	4321	01011000100111110100011	2C4FA3
465I       1010110010011101000011       564E83         466I       01101100100110000111011       364C3B         503I       11000010100101100011110       614B1E         506I       011000101001011111010       3148FA         516I       0111001010111011000001       394EC1         532I       0101101010111000111000       2D4E38         546I       01100110100101111001100       334BCC         565I       10101110100111100011001       574F18         606I       01100001100110011011101       30CCDD	4451	10100100100100011101111	5248EF
466I       01101100100110000111011       364C3B         503I       11000010100101100011110       614B1E         506I       0110001010010011111010       3148FA         516I       0111001010111011000001       394EC1         532I       0101101010111000111000       2D4E38         546I       01100110100101111001100       334BCC         565I       10101110100111100011000       574F18         606I       01100001100110011011101       30CCDD	4641	00101100100101111110010	164BF2
503I         11000010100101100011110         614B1E           506I         01100010100100011111010         3148FA           516I         0111001010111011000001         394EC1           532I         0101101010111000111000         2D4E38           546I         01100110100101111001100         334BCC           565I         1010111010011110001         574F18           606I         01100001100110011011101         30CCDD	4651	10101100100111010000011	564E83
506I     01100010100100011111010     3148FA       516I     0111001010111011000001     394EC1       532I     01011010101111000111000     2D4E38       546I     01100110100101111001100     334BCC       565I     10101110100111100011000     574F18       606I     01100001100110011011101     30CCDD	4661	01101100100110000111011	364C3B
516I     0111001010111011000001     394EC1       532I     0101101010111000111000     2D4E38       546I     01100110100101111001100     334BCC       565I     10101110100111100011000     574F18       606I     01100001100110011011101     30CCDD	5031	11000010100101100011110	614B1E
532I     0101101010111000111000     2D4E38       546I     01100110100101111001100     334BCC       565I     10101110100111100011000     574F18       606I     01100001100110011011101     30CCDD	5061	01100010100100011111010	3148FA
546I         01100110100101111001100         334BCC           565I         101011101001111000         574F18           606I         01100001100110011011101         30CCDD	5161	01110010100111011000001	394EC1
565I         10101110100111100011000         574F18           606I         01100001100110011011101         30CCDD	5321	01011010100111000111000	2D4E38
606l 01100001100110011011 30CCDD	5461	01100110100101111001100	334BCC
	5651	10101110100111100011000	574F18
6131 010100011001110011 290073	6061	01100001100110011011101	30CCDD
0121 010100011001110011 28CC73	6121	01010001100110001110011	28CC73
624I 00101001100110101111000 14CD78	6241	00101001100110101111000	14CD78
627I 111010011001111111000000 74CFC0	6271	111010011001111111000000	74CFC0
631I 10011001100100101111 4CC8A7	6311	10011001100100010100111	4CC8A7
632I 01011001100101000011111 2CCA1F	6321	01011001100101000011111	2CCA1F
654I 001101011100111000011001 1ACE19	6541	00110101100111000011001	1ACE19
662I 01001101100111100010010 26CF12	6621	01001101100111100010010	26CF12
664I 0010110110011100 16CE4E	6641	00101101100111001001110	16CE4E
703I 110000111001110100010 61CEA2	7031	110000111001111010100010	61CEA2



712I	01010011100110111101000	29CDE8
7231	11001011100100011001110	65C8CE
7311	100110111001001001111100	4DC93C
7321	01011011100101110000100	2DCB84
7341	00111011100101011011000	1DCAD8
7431	11000111100110110010100	63CD94
7541	00110111100111110000010	1BCF82

Table 5: DRA818V CDCSS

**Notes:** The N codes is the Bitwise-NOT of I codes. E.g. 023N=~023I= 00110111111000111001000

### TYPICAL APPLICATION CIRCUIT

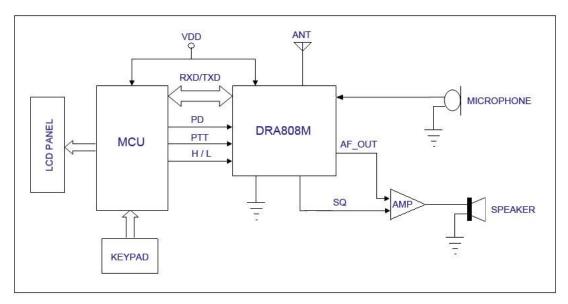


Figure 3: DRA818V Application Circuit



## **MECHANICAL DATA**

Unit:mm

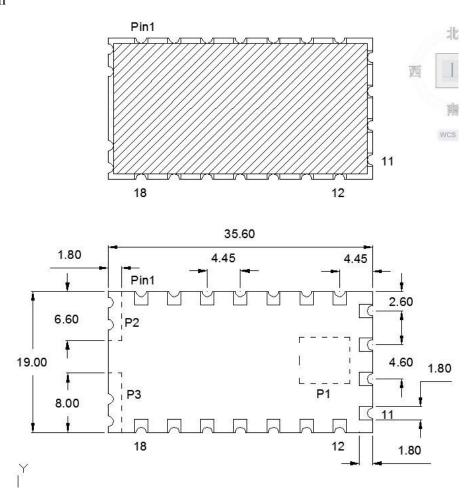


Figure 4: DRA818V Mechanical Dimension

#### **ORDERING INFORMATION**

DRA818V and DRA818U are based on RDA1846. Comparing to DRA808M based on RDA1845, CDCSS and audio control AT command are added, which provides more flexibility for the users who need to process audio signal more precisely. DRA818U is the UHF band version of DRA818V.

Part Name Frequency Range		RFIC	Dimension
DRA808M	400~470MHz	RDA1845	Compatible
DRA818U	400~470MHz	RDA1846	Compatible
DRA818V	134~174MHz	RDA1846	Compatible

**Table 6: Ordering Information** 



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