

블루투스 300W D Class Stereo 오디오 앰프

A. Model : 블루투스 300W BTL Stereo 오디오 앰프 (5630 BT)

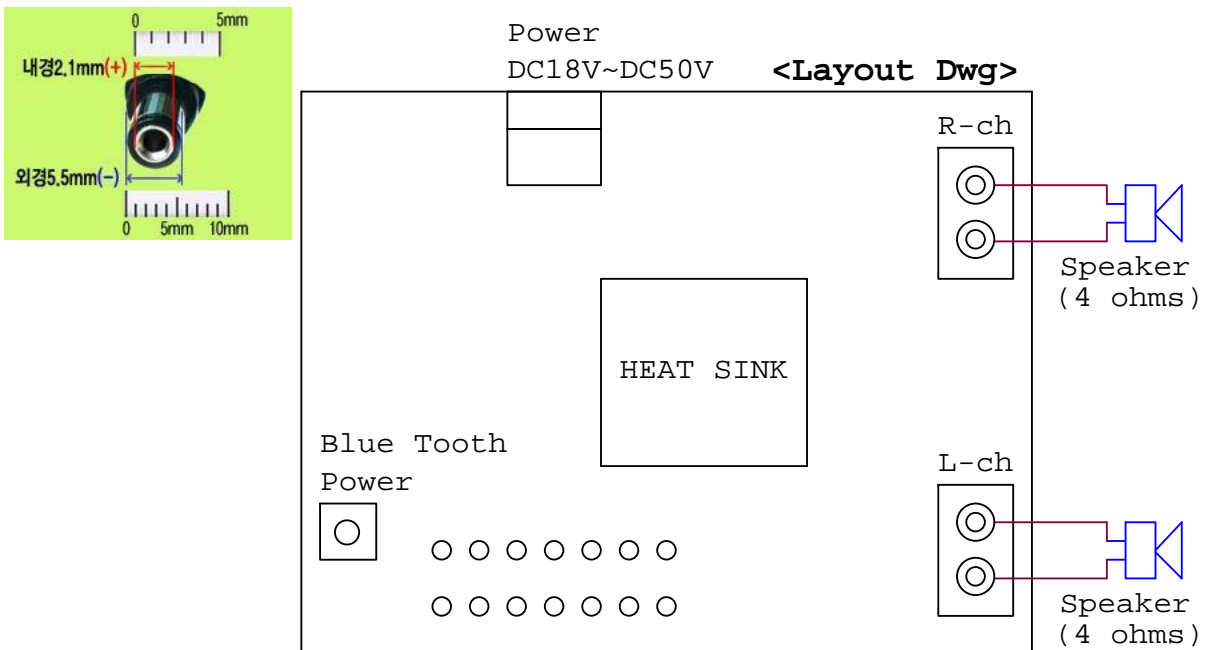
B. 제품 설명

1. 블루투스 300W 오디오 앰프 (5630 BT) 는 저 잡음 프리 앰프 와 SVR 이 보드내에 일체형 실장 된 HiFi D Class 300W 출력의 오디오 앰프로 고급 음질 오디오 앰프에 적합하다.
2. Pre-Amplifier 실장(증폭 Gain 45 dB) 설계로 광 범위 응용 적용이 쉽고, **음량을 조절할 수 있는 SVR 이 실장 되어 폭 넓게 음원 소스를 결합하여 사용할 수 있다.**

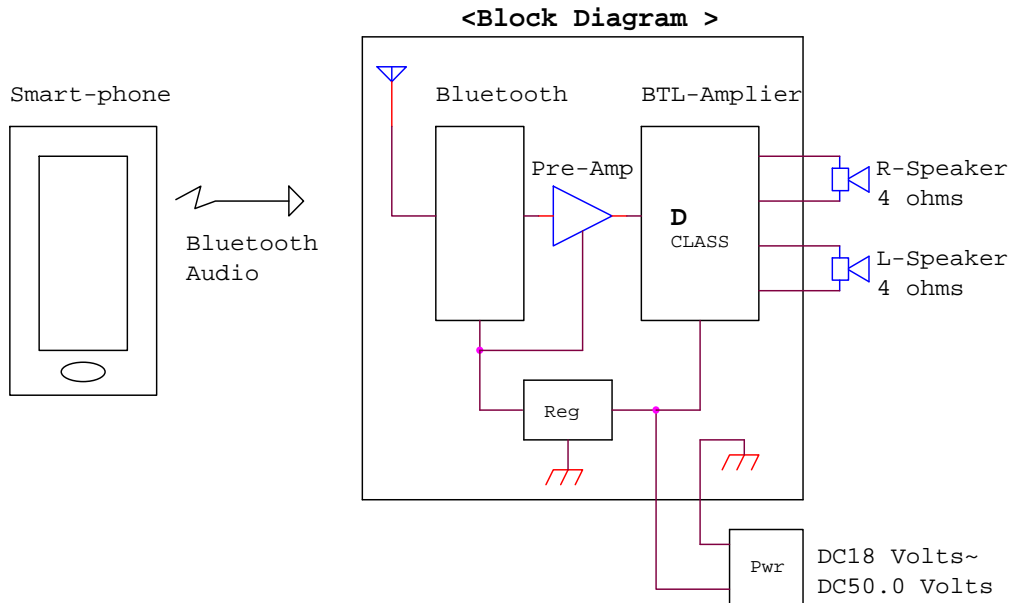
C. 제품 사양

1. 전원 (전원 전압이 DC18 Volts 일 경우 최대 출력이 낮아져 40Watt 수준으로 동작 됨).
 - *. 최소 DC18Volts/ 3A ~ 최대 DC50 Volts / 10A
2. 스피커 :
 - *. 임피던스 : 2 ohms~8.0 ohms (4 ohms 사용을 권장 한다).
3. Over load 보호 회로 가 Chip IC 내부에 실장 되어 보다 더 안전하게 사용 된다.

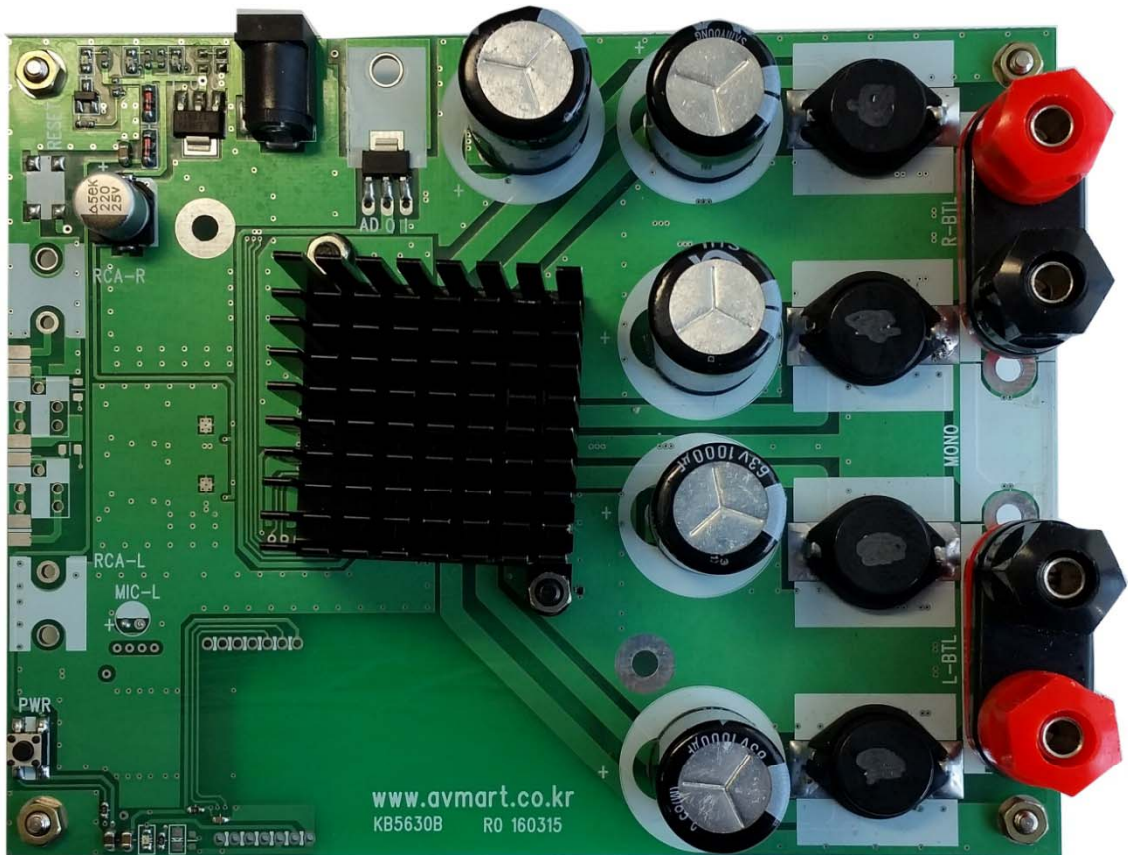
(참고 : Impulse 충격 입력 또는 Over Load 에 따른 일시적 무동작 상태는 (Led 6 ,7 켜짐) 전원을 끄고 다시 전원 입력하면 IC 기능이 회복되어 정상적으로 동작 된다).
4. 구성 (Board Size : 140 * 110 * 33 mm, 전원 단자 의 내경이 플러스 임)



5 . Block Diagram



6. 실물 사진



D Bluetooth

1. General specification : Ver 4

2. Key Features For Bluetooth Module

Bluetooth V4.0 + EDR compliant

Bluetooth solution for mono and stereo audio solutions.

Integrated DSP, stereo codec .

Class 2 – range up to 30 meters.

Industrial temperature range from -10°C to $+85^{\circ}\text{C}$

Low power consumption

Supported Bluetooth profiles : HFPV1.6 , A2DP1.2 , AVRCP1.4

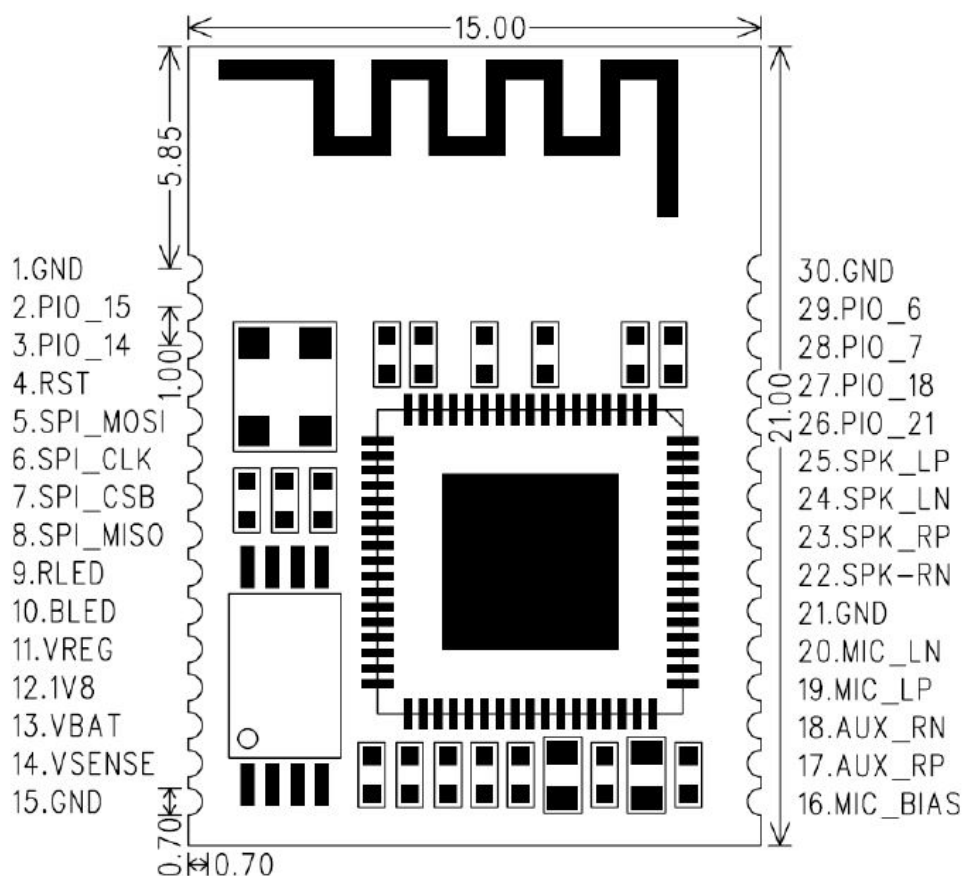
3. Applications

High quality stereo headsets

High quality mono headsets

Bluetooth speakers .

4. Pin Definition



5. Pin Function Described

| Pin NO. | Pin definition | Input / Output | Pin a description of |
|---------|----------------|----------------|--|
| 1 | GND | VSS | Ground pot |
| 2 | PIO_14 | Bi-Directional | F / F |
| 3 | PIO_5 | Bi-Directional | MUTE |
| 4 | RST | CMOS input | Internal pull-up Reset if low |
| 5 | SPI_MOSI | CMOS input | Serial peripheral interface data input |
| 6 | SPI_CLK | CMOS input | Serial peripheral interface data clock |
| 7 | SPI_CSB | CMOS input | Chip select for serial peripheral interface, Active low |
| 8 | SPI_MISO | CMOS input | Serial peripheral interface data Output |
| 9 | RED | Output | Pick up Red led, instructions, bluetooth related working state |
| 10 | BLED | Output | Pick up Blue led, instructions, bluetooth related working state |
| 11 | VREG | Input | MFB |
| 12 | 1 V 8 | Output | 1.8V output |
| 13 | VBAT | Input | Lithium battery interface |
| 14 | VCHG | Input | Charging interface |
| 15 | GND | VSS | Ground pot |
| 16 | MIC_BIAS | Output | The microphone power output terminal |
| 17 | MIC_RP | Input | The Right channel microphone input the difference |
| 18 | MIC_RN | Input | The Right channel microphone input the difference negative |
| 19 | MIC_LP | Input | The Left channel microphone input the difference |
| 20 | MIC_LN | Input | The Left channel microphone input the difference negative |
| 21 | GND | VSS | Ground pot |
| 22 | SPK_RN | Output | The Right channel audio differential Output the negative |
| 23 | SPK_RP | Output | The right channel audio differential Output is terminal |
| 24 | SPK_LN | Output | The left channel audio differential output Is negative |
| 25 | SPK_LP | Output | The left channel audio differential output Is terminal |
| 26 | PIO_13 | Bi-Directional | Play |
| 27 | PIO_11 | Bi-Directional | Vol- |
| 28 | PIO_12 | Bi-Directional | Vol+ |
| 29 | PIO_9 | Bi-Directional | Back |
| 30 | GND | Bi-Directional | Ground pot |

6. Electrical Characteristic

6-1. Recommend Using Conditions

| Operating Conditions | Minimum | Typical value | Maximum | Unit |
|-----------------------|---------|---------------|---------|------|
| Operating temperature | -10 | - | 85 | °C |
| Current peak | 0 | - | 50 | mA |
| VBAT | +3.0 | +3.7 | +4.5 | V |

6-2. Stereo Encoder

| Parameter | Condition | Minimum | Typical | Maximum | Unit | |
|---|---|-----------|---------|---------|------|----|
| Resolution | | - | - | 16 | Bits | |
| Input Sample Rate, Sample | | 8 | - | 44.1 | KHz | |
| Signal to Noise Radio, SNR(a) | Fin = 1Khz B/W = 20Hz-20KHz A-Weighted THD+N < 1% 150m Vpk-pk | 8KHz | - | 79 | - | dB |
| | | 11.025KHz | - | 77 | - | dB |
| | | 16KHz | - | 76 | - | dB |
| | | 22.050KHz | - | 76 | - | dB |
| | | 32KHz | - | 75 | - | dB |
| | | 44.1KHz | - | 75 | - | dB |
| Digital Gain | Digital Gain Resolution = 1/32dB | -24 | - | 21.5 | dB | |
| Analogue Gain | Analogue Gain Resolution = 3dB | - | - | 42 | dB | |
| Input full scale at maximum gain (differential) | | - | 4 | - | mV | |
| Input full scale at maximum gain (differential) | | - | 800 | - | mV | |
| 3dB Bandwidth | | - | 20 | - | KHZ | |
| Microphone made input impedance | | - | 6 | - | Ω | |
| THD+N(microphone input @ 30mV rms input | | - | 0.04 | - | % | |

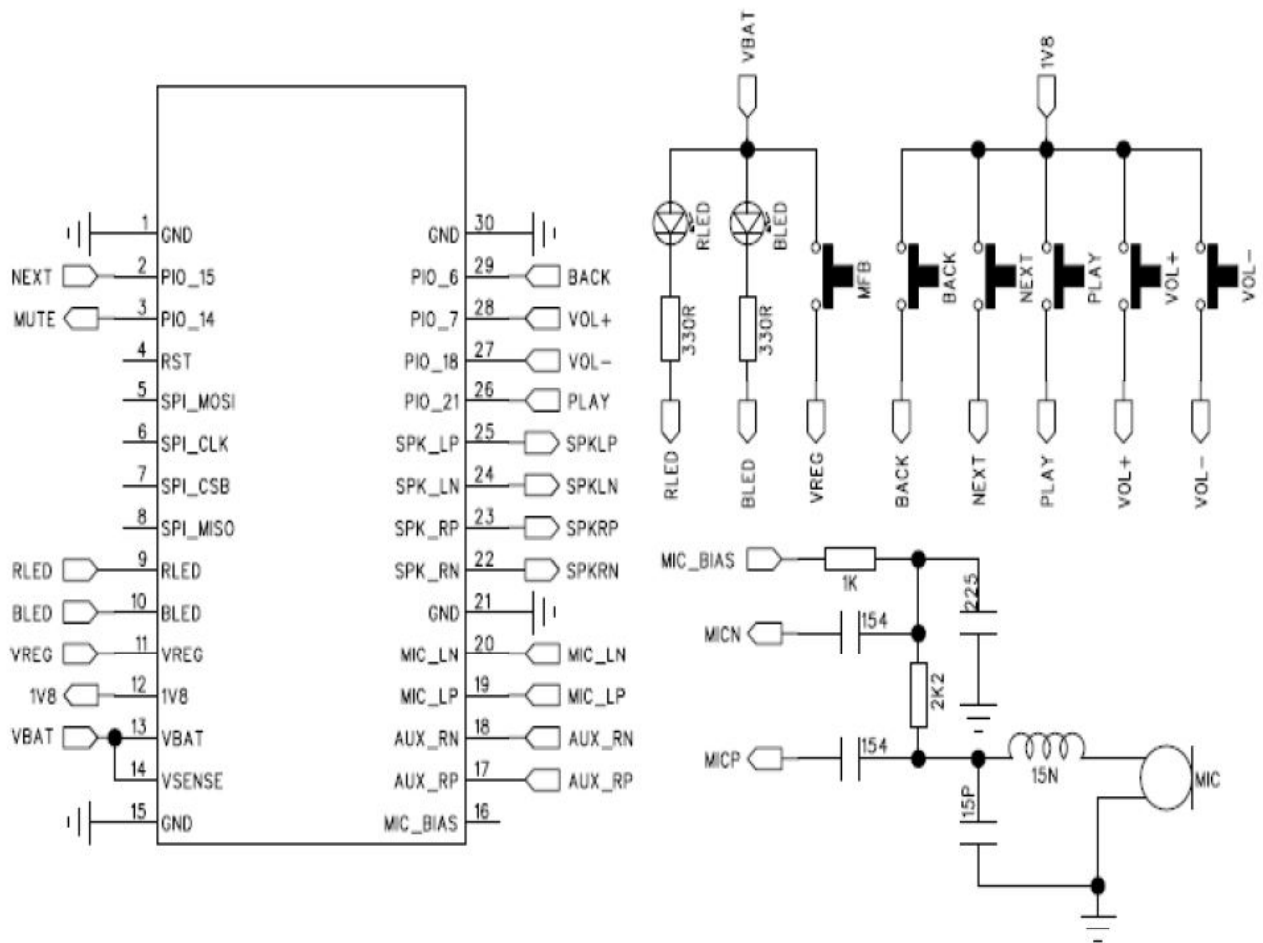
(a) Improved SNR performance can be achieved at the expense of current consumption. See Optimizing BlueCore5-Multimedia ADC Performance Application Note details.

6-3. Stereo Decoder

| Parameter | Condition | Minimum | | Typical | Maximum | Unit |
|---|---|---------|---|---------|---------|----------|
| Resolution | | - | | - | 16 | Bits |
| Input Sample | | 8 | | - | 48 | KHz |
| Signal to Noise Radio, SNR | Fin=1Khz B/W=20Hz-20KHz A-Weighted 32KTHD + N < 0.01% | 8KHz | - | 95 | - | dB |
| | | 11.025 | - | 95 | - | dB |
| | | 16KH | - | 95 | - | dB |
| | | 22.050 | - | 95 | - | dB |
| | | H | - | 95 | - | dB |
| | | 44.1KH | - | 95 | - | dB |
| Digital Gain | Digital Gain | -24 | - | 21.5 | - | dB |
| Analogue Gain | Analogue Gain | 0 | - | -21 | - | dB |
| Output voltage full-scale swing(differential)(a) | | | - | 750 | - | mV |
| Allow load | Resistive | 16(8) | | - | O.C | Ω |
| Allow load | Capactive | - | | - | 500 | pF |
| THD+N 100K Ω load | | | - | - | 0.01 | % |
| THD+N 16 Ω load | | | - | - | 0.1 | % |
| SNR (Load =16 Ω , 0dBFS input relative to digital Silence) | | | - | 95 | - | dB |

(a)Any combination of gain (digital and/or analogue)and input signal which results in the output signal level exceeding the minimum or maximum signal level (analogue or digital)could result in distortion.

8. Typical Application Circuit



참고사항: 본 제품은 Program 이 mask되어 있는 version 입니다.(Mask Version)

E. 기타

1 : Main 오디오 앰프에 적용된 IC 규격 : TAS5630 / TI 사.

2 : 본 제품은 성능 향상을 위하여 Running Change 되어질 수 있다.

3 : 연락처.

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◆ E - mail : kbell@k-bell.co.kr

◆ 전화 : 02 - 6443 - 4703

◆ F A X : 02 - 6443 - 4700

◆ 주소 : 서울 금천구 가산동 345-90, 한라시그마밸리 703호

◆ 대량 구매 시 가격 협상 가능함.

◆ 예상소비자 가격 : ₩99,000- (부가세 별도)