User Manual

Product: Bluetooth Multichannel PWM Controller

Model No.: AP6521

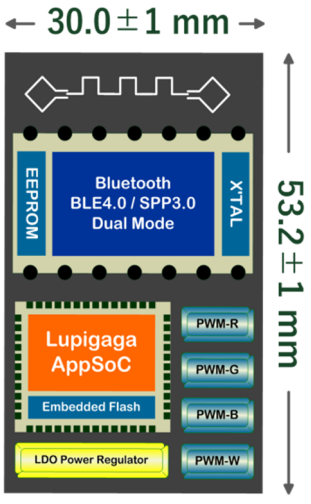
I. Features

- Wireless connectivity Bluetooth 4.0 dual mode including GAP, SDP, SPP, GATT profiles
- 4 programmable PWM channels for RGBW dimming
- App-enabled smart timer and scheduling
- Embedded memory to resume the favorite lighting brightness and color settings ▪ Soft ON/OFF lighting effects

II. Applications

- ✓ Smart home LED lighting controller on E27/E26 bulbs and Flat Panel etc.
- ✓ Jazz up holiday LED strips decoration with stunning light effects display show
- ✓ Interactive toys with app-enabled edutainment gaming
- ✓ Remote control over smart phone
- ✓ Multiple Bluetooth connections for individual or grouping console

III.Block Diagram and Module Contour Dimensions



Thickness: 3.0mm

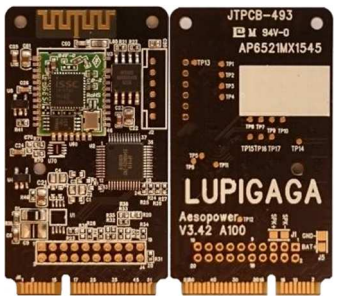
IV. Board to Board Connector (2x10) Pin Assignments

Pin#	I/O	Description	Default	Enabling Mode
1	I	VDD	Power Input	
2		GND		
3	O	SPK-N (-)	Speaker Output	
4		SPK-N (-)		
5		SPK-P (+)		
6		SPK-P (+)		
7	I	Button-0	Normal Open	Active Low
8		Button-1		
9	O	Indicator-0 (-)	Off	Firmware Defined
10	I	Button-2	Normal Open	Active Low
11	O	Indicator-1 (-)	Off	Firmware Defined
12	I	Button-3	Normal Open	Active Low
13	O	PWM-R	Pull High	
14	O	PWM-W	Pull High	Active Low
15	O	PWM-G	Pull High	
16	O	Indicator-2(-)	Off	Firmware Defined
17	O	PWM-B	Pull High	
18	O	Indicator-3(-)	Firmware Defined	
19	I	GND	Power Input	
20		VDD		

AP6521MX I/O interface is designed for standard 2.0mm pitch through hole board to board connector

V. PCBA Marking Information

Top View Bottom View



Note 1 : Tag on side-A shows the Bluetooth MAC information (text may vary by Bluetooth address)

Note 2 : Tag on side-B shows the customized content and date code (text may vary by manufacturing)

Note 3 : Thickness < 3mm (subject to be changed by options)

VI. FCC/IC STATEMENT

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/ TV technician for help.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF exposure warning :

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

End Product Labeling :

This transmitter module is authorized only for use in device where the antenna may be installed such that 20cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains FCC ID: 2AK2JAP6521 ” and "Contains IC: 22651-AP6521 “.

Devices shall bear the following statement in a conspicuous location on the Host :

"This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. "
Note : If the host is so small or for such use that it is not practicable to place the statement, the text associated with the logo may be placed in a prominent location in the instruction manual or pamphlet supplied to the user. However, the unique identification (trade name and model number) and the logo must be displayed on the host.

Information for the OEMs and Integrators :

The following statement must be included with all versions of this document supplied to an OEM or integrator, but should not be distributed to the end user.

1) This device is intended for OEM integrators only.

2) Please see the full Grant of Equipment document for other restrictions.

Canada, Industry Canada (IC) Notices
This device complies with Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Canada, avis d'Industry Canada (IC)
Cet appareil est conforme avec Industrie Canada exemptes de licence RSS standard(s).

Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

En vertu de la réglementation de l'industrie du Canada, cet émetteur de radio ne peuvent fonctionner en utilisant une antenne d'un type et maximum (ou moins) Gain approuvé pour l'émetteur par Industrie Canada. pour réduire risque d'interférence aux autres utilisateurs, le type d'antenne et son gain doivent être choisis de sorte que la puissance isotrope rayonnée équivalente (PIRE) ne dépasse pas ce qui est nécessaire pour la réussite de communication.

Radio Frequency (RF) Exposure Information
The radiated output power of the Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

This device has also been evaluated and shown compliant with the IC RF Exposure limits under mobile exposure conditions. (antennas are greater than 20cm from a person's body).

Informations concernant l'exposition aux fréquences radio (RF)
La puissance de sortie émise par l’appareil de sans fil est inférieure à la limite d'exposition aux fréquences radio d'Industry Canada (IC). Utilisez l’appareil de sans fil de façon à minimiser les contacts humains lors du fonctionnement normal.

Ce périphérique a également été évalué et démontré conforme aux limites d'exposition aux RF d'IC dans des conditions d'exposition à des appareils mobiles (antennes sont supérieures à 20 cm à partir du corps d'une personne).

VII.Model Description

This user manual pertains to Bluetooth Multichannel PWM Controller. The Main board can be assembled in the Specific host Host, liste as below;

Model	Product Name	Hardware	Software
BT6500	LuPiRock RGB Controller	V3.4.2 A100	V1.5 for ios V1.7.0810 for Android