

User Manual

PRODUCT NAME : WiFi / BT Combo Module

MODEL NAME : LGSBW41

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1. Features

is the small size and low power module for IEEE 802.11a/b/g/n wireless LAN & BT4.0 + HS. is based on Broadcom BCM43242 solution.

- IEEE 802.11 a/b/g/n Dual Band WLAN infrastructure
- Bluetooth 4.0 + HS (Supports Low Energy(LE))
- Size : 54.0mm x 34.0mm x 4.95mm
- Two stream spatial multiplexing up to 300Mbps
- Single-and dual-antenna Support
 - Single antenna with shared LNA
 - Simultaneous BT/WLAN receive with single antenna
- Use on-chip OTP (One-Time Programmable)
- Host Interface : USB (WiFi & BT)
- Security : WAPI, WEP, WPA, WPA2, WMM, AES, WEP, TKIP, CKP
- Application: DTV, DVR, HD DVD Player, Blue-ray Disk Player, STB

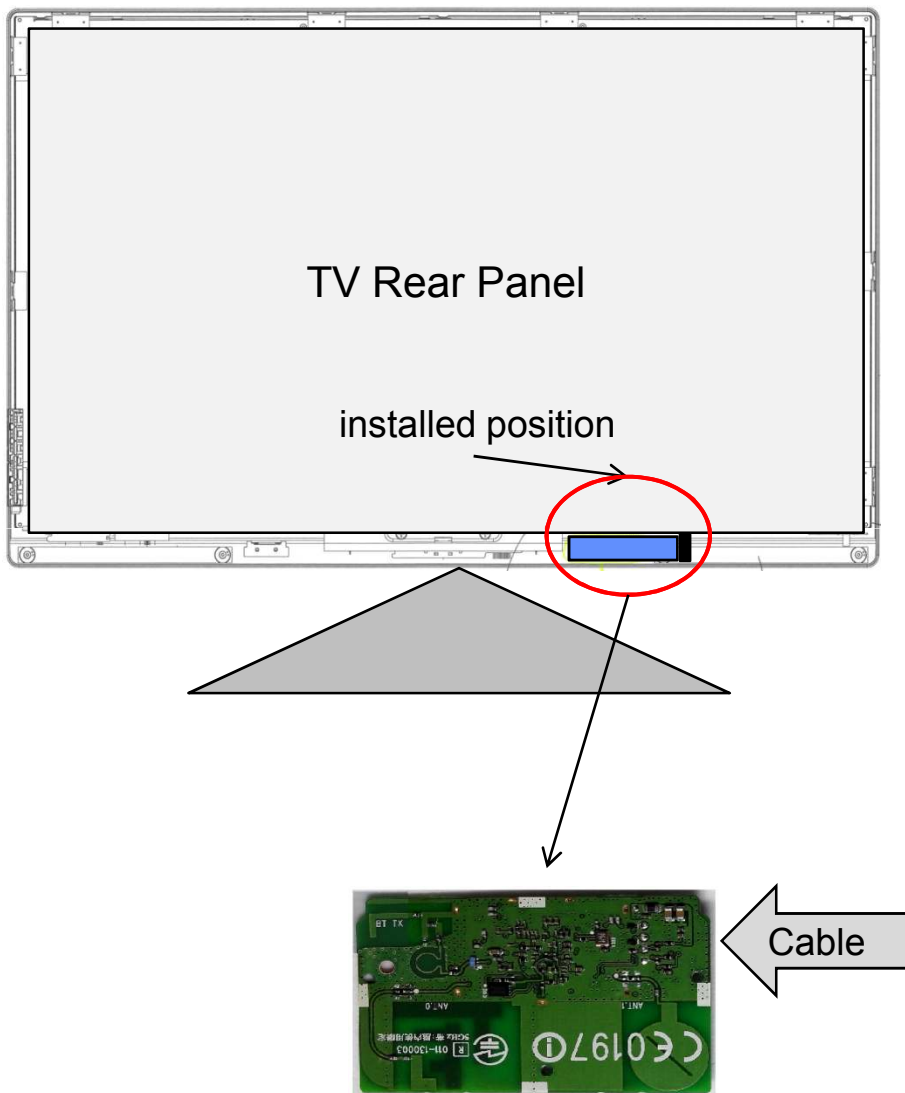
2. Module Photo



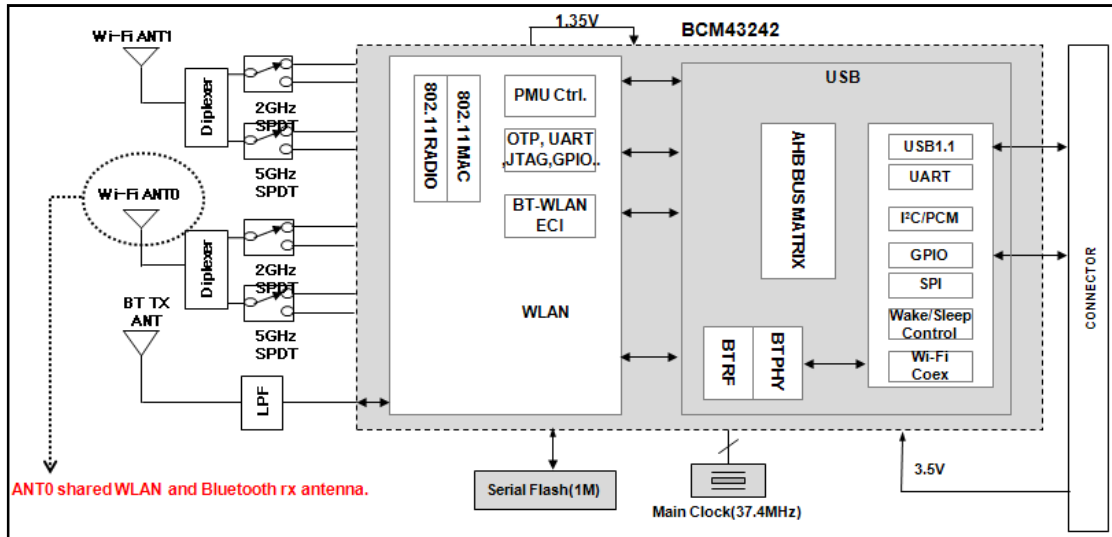
3. Install Guide

Cable is connected to the TV then inserted into the module.

Not an escape module, as shown below is mounted on the TV.



4. Block Diagram



5. Absolute Maximum Ratings

Caution : The specifications in Table 1 define levels at which permanent damage to the device can occur. Function operation is not guaranteed under these conditions.

Operating at absolute maximum conditions for extend periods can adversely affect the long-term reliability of the device.

Parameter	Min	Max	Unit
Storage Temperature	-10	+80	°C
Storage Humidity (40°C)	-	90	%

. Other conditions

1) Do not use or store modules in the corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are contained.

Also, avoid exposure to moisture.

2) Store the modules where the temperature and relative humidity do not exceed 5 to 40°C and 20 to 60%.

3) Assemble the modules within 6 months.

Check the soldering ability in case of 6 months over.

6. Operating Conditions

Parameter	Min	Typ	Max	Unit
Operating Temperature	0	-	+55	°C
Operating Humidity (40°C)	-	-	85	%
Supply Voltage	3.325	3.5	3.675	Vdc

7. Standard Test Conditions

The Test for electrical specification shall be performed under the following condition
Otherwise this following conditions, not guaranteed this performance.

7-1. Ambient condition

Temperature	$25 \pm 5^{\circ}\text{C}$
Humidity	$65 \pm 5\%$

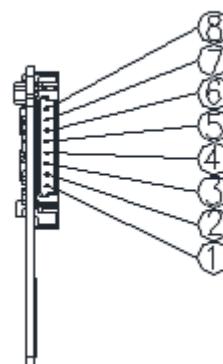
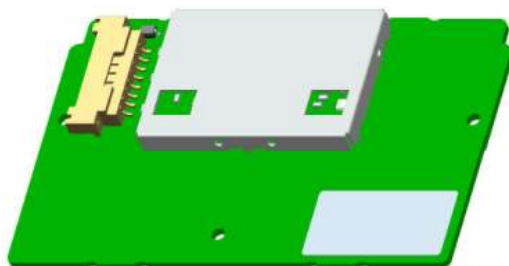
7-2. Power supply voltages

Input power	Supply Voltage
VDD_3.5V	$+3.5\text{V} \pm 0.175\text{V}$

8. Pin Description

Pin No.	Pin Name	I/O	Pin Description
1	GND	-	Ground
2	BT_REG_ON	-	BT Regulator ON
3	3DG	-	3D Glasses sync.
4	WL_HOST_WAKE	-	Wake On WLAN
5	GND	-	Ground
6	USB D+	I/O	USB Communication signal USB_DP
7	USB D-	I/O	USB Communication signal USB_DP
8	VCC	I	VDD 3.5V

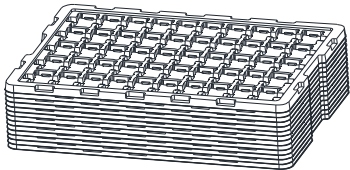
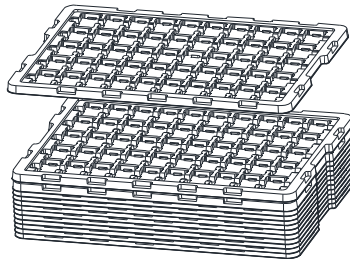
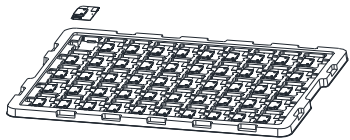
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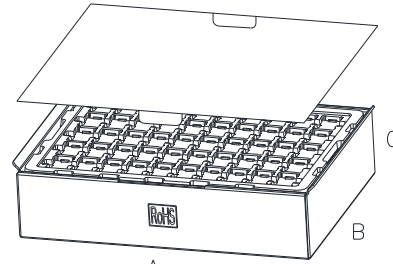
10. Packing Information

PACKING SPECIFICATION

- o 1 Tray Packing Q'ty : 50 EA
- o Tray Material : antistatic PET
- o 1 Tray Weight : 0.18kg
(1 Module Weight : 6.5±0.4g)



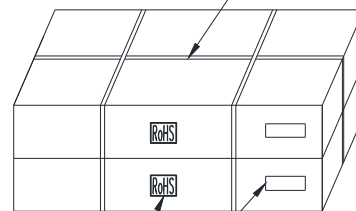
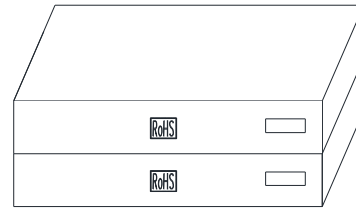
- o All of tray are stacked by zigzag.
- o Top of tray is empty.



A

B

- o 1 Box Packing Q'ty : 600 EA
- o Size : A X B X C (512 X 375 X 121.5)
- o Box Material : Corrugated Fibreboards
- o 1 Box Packing Weight : 6.4±0.6kg



RoHS Marking

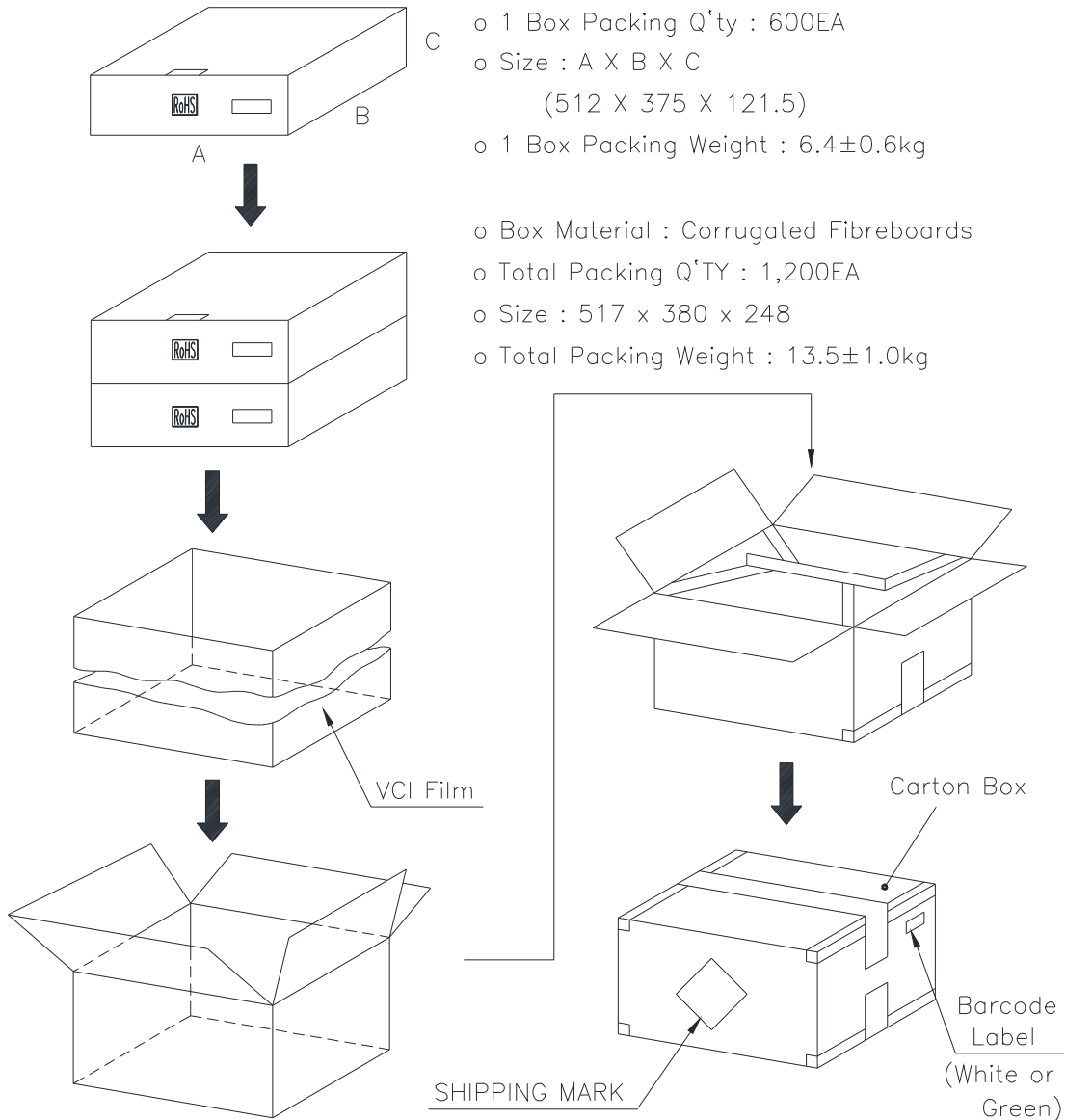
 Barcode Label
(White)

- o Total Packing Q'TY : 1,200 EA
- o Total Packing Weight : 12.8±0.8kg
- o RoHS Marking : Label, Stamp, Printing
- o Marking Color : Gray or Red for Stamp, Label, Printing on the Board and etc.
Black only for Printing on Label.

PART NO.		NAME		MATERIAL		SPEC.		FINISH		A4	
ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD	UNIT	SCALE	LGSBW41 Packing Spec.			
						mm		TITLE			
						APPD.	CHKD.	DRAW.		EXP. Packing Specification	
						'13.07.10				DOCUMENT NO.	
						Lee				TH43431(1/3)	
						Kap					
						Soul					
						Hyun					

10. Packing Information

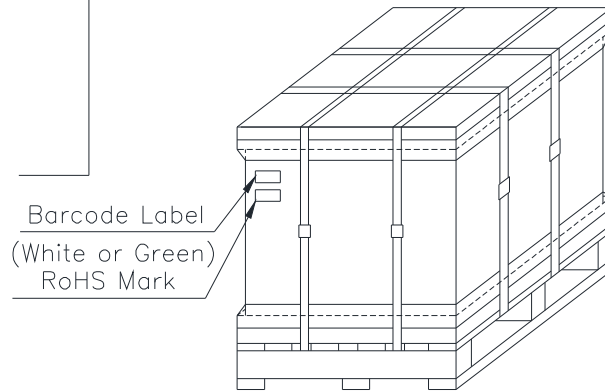
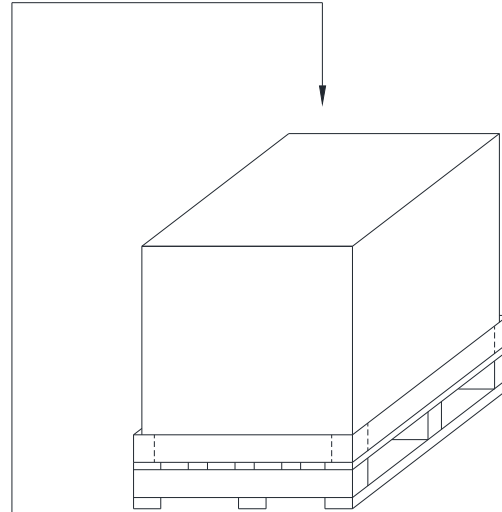
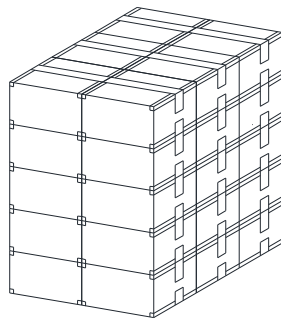
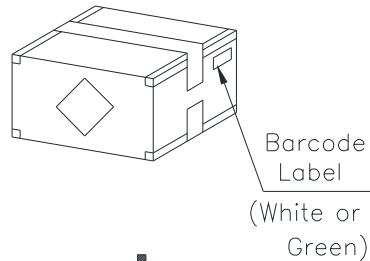
CARTON BOX PACKING SPECIFICATION



PART NO.		NAME		MATERIAL		SPEC.		FINISH		A4
						UNIT mm	SCALE	LGSBW41 Packing Spec. (Carton Box)		
						APPD. '13.07.10 Lee Kap Soul	CHKD.	DSGD. '13.07.10 Lee Sae Hyun	DRAW.	TITLE EXP. Packing Specification
ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD					DOCUMENT NO. TH43431(2/3)

10. Packing Information

PALLET PACKING SPECIFICATION



PART NO.		NAME		MATERIAL		SPEC.		FINISH		A4 SIZE
						UNIT mm	SCALE	LGSBW41 Packing Spec. (Pallet)		
						APPD. '13.07.10 Lee Kap Soul	CHKD.	DSGD. '13.07.10 Lee Sae Hyun	DRAW.	TITLE EXP. Packing Specification
ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD					DOCUMENT NO. TH43431(3/3)

Regulatory Notices

1. FCC

FCC Statements:

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.

End Product Labeling

The module is labeled with its own FCC ID and IC Certification Number. If the FCC ID and IC Certification Number are not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following:

"Contains FCC ID: BEJLGSBW41"

"Contains IC: 2703H-LGSBW41"

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module or change RF related parameters in the user manual of the end product.

OEM Responsibilities to comply with FCC and Industry Canada Regulations

The module has been certified for integration into products only by OEM integrators under the following condition:

- The antenna(s) must be installed such that a minimum separation distance of at least 20 cm is maintained between the radiator (antenna) and all persons at all times.
- The transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

As long as the two condition above is met, further transmitter testing will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

IMPORTANT NOTE: In the event that these conditions can't be met (for certain configurations or co-location with another transmitter), then the FCC and Industry Canada authorizations are no longer considered valid and the FCC ID and IC Certification Number can't be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end

product (including the transmitter) and obtaining a separate FCC and Industry Canada authorization.

2. IC

Étiquetage du produit final (IC)

Le module BT111 est étiqueté avec sa propre identification FCC et son propre numéro de certification IC. Si l'identification FCC et le numéro de certification IC ne sont pas visibles lorsque le module est installé à l'intérieur d'un autre dispositif, la partie externe du dispositif dans lequel le module est installé devra également présenter une étiquette faisant référence au module inclus. Dans ce cas, le produit final devra être étiqueté sur une zone visible avec les informations suivantes :

« Contient module émetteur identification FCC ID: BEJLGSBW41»

« Contient module émetteur IC : 2703H-LGSBW41»

Dans le guide d'utilisation du produit final, l'intégrateur OEM doit s'abstenir de fournir des informations à l'utilisateur final portant sur les procédures à suivre pour installer ou retirer ce module RF ou pour changer les paramètres RF.

Responsabilités des OEM quant à la conformité avec les réglementations de FCC et d'Industrie Canada

Les modules ont été certifiés pour entrer dans la fabrication de produits exclusivement réalisés par des intégrateurs dans les conditions suivantes :

- L'antenne (ou les antennes) doit être installée de façon à maintenir à tout instant une distance minimum de au moins 20 cm entre la source de radiation (l'antenne) et toute personne physique.
- Le module transmetteur ne doit pas être installé ou utilisé en concomitance avec une autre antenne ou un autre transmetteur.

Tant que ces deux conditions sont réunies, il n'est pas nécessaire de procéder à des tests supplémentaires sur le transmetteur. Cependant, l'intégrateur est responsable des tests effectués sur le produit final afin de se mettre en conformité avec d'éventuelles exigences complémentaires lorsque le module est installé (exemple : émissions provenant d'appareils numériques, exigences vis-à-vis de périphériques informatiques, etc.)

REMARQUE IMPORTANTE : En cas d'inobservance de ces conditions (en ce qui concerne certaines configurations ou l'emplacement du dispositif à proximité d'un autre émetteur), les autorisations de FCC et d'Industrie Canada ne seront plus considérées valables et l'identification de FCC et le numéro de certification d'IC ne pourront pas être utilisés sur le produit final. Dans ces cas, l'intégrateur OEM sera chargé d'évaluer à nouveau le produit final (y compris l'émetteur) et d'obtenir une autorisation indépendante de FCC et d'Industrie Canada.

IC warning

This device complies with Industry 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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

WIFI caution

This device is capable of operation in 802.11a/n mode. For 802.11a/n devices operating in the frequency range 5.15 – 5.25 GHz, they are restricted for indoor operations to reduce any potential harmful interference for Mobile Satellite Services (MSS) in the US.

WIFI Access Points that are capable of allowing your device to operate in 802.11a/n mode (5.15-5.25 GHz band) are optimized for indoor use only.

If your WIFI network is capable of operation in this mode, please restrict your WIFI use indoor to not violate federal regulations to protect Mobile Satellite Services.