

## 1. Module: GB8773

This B12R150 Module can be easily designed into any embedded system for Bluetooth Spec 5.1 feature. It is based on RTL8773CFL with specific interface design to meet LGE electronics's needs.

## 2. Module Specification

<b>Chips</b>	<b>RTL8773CFL</b>
<b>Bluetooth Spec</b>	<b>Bluetooth 5.1</b>
<b>Frequency Band</b>	<b>2402~2480 MHz</b>
<b>Tx Power</b>	<b>10.5dB</b>
<b>Rx Sensitivity</b>	<b>&lt;-70dBm(BER 0.1%)</b>
<b>Power Voltage</b>	<b>3.3V</b>
<b>Dimension</b>	<b>18.6m x31.6</b>
<b>Environmental Range</b>	<b>Operation temperature:0~70°C</b>
<b>Modulation</b>	<b>GFSK, <math>\pi/4</math>-DQPSK,8DPSK</b>

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## 1. Electrical Characteristics

Conditions: VBA = 3.3V, unless otherwise noted.

### Recommended Operating Conditions

Parameter	Min	Max	Unit
Power Supply Voltage : VBAT	2.8V	3.3V	V
Storage Temperature	-40	105	°C

### Digital I/O

Item	Condition	Min	Typ	Max	Unit
Input Low Voltage		-0.4		$0.25 \cdot V_{DDIO}$	V
Input High Voltage	VDDIO=1.8V	1.35		1.98	V
Input High Voltage	VDDIO=3V	2.25		3.3	V
Output Low Voltage	VDDIO=1.8V	-	0	0.15	V
Output High Voltage	VDDIO=1.8V	1.71	1.8	-	V
Output Low Voltage	VDDIO=3V		0	0.15	
Output High Voltage	VDDIO=3V	2.85	3		

### General Performance

Parameter	Condition	Min	Typ	Max	Unit
Frequency Range	Normal	2402	-	2480	MHz

<b>Transmitter Performance</b>					
<b>Parameter</b>	<b>Condition</b>	<b>Min</b>	<b>Avg</b>	<b>Max</b>	<b>Unit</b>
Transmit Power	Normal	5	-	10.5	dBm
<b>Parameter</b>	<b>Condition</b>	<b>Min</b>	<b>Typ</b>	<b>Max</b>	<b>Unit</b>
Power density	Normal	-	-	<20	dBm
20dB bandwidth	Normal			1000	KHz
Adjacent channel power ( $F_0 = 2441\text{MHz}$ )	$F = F_0 \pm 2\text{MHz}$	-	-	-20	dBm
	$F = F_0 \pm 3\text{MHz}$	-	-	-40	dBm
Out-band Spurious Emission	30MHz~1GHz			-74	dBm
	1GHz~12.75GHz			-58	dBm
	1.8GHz~1.9GHz			-68	dBm
	5.1GHz~5.3GHz			-64	dBm
Modulation Characteristic	$\Delta F_{1\text{avg}}$	140	-	175	KHz
	$\Delta F_{2\text{max}}$	115	-	-	KHz
	$\Delta F_{2\text{avg}} / \Delta F_{1\text{avg}}$	80	-	-	%
Initial Carrier Frequency Tolerance	DH1 packet	-75	-	75	KHz
Carrier Frequency Drift	DH5 packet	-40		40	KHz

<b>Receiver Performance</b>					
<b>Parameter</b>	<b>Condition</b>	<b>Min</b>	<b>Type</b>	<b>Max</b>	<b>Unit</b>
Sensitivity at 0.1% BER	Single slot (DH1 packet)	-	-	-70	dBm
Sensitivity at 0.1% BER	Multi slot (DH5 packet)	-	-	-70	dBm
Maximum received signal at 0.1% BER		-20	-	-	dBm

## **FCC Statement**

### Federal Communication 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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this 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.

Manufacturers integrating the Module into other devices should note the following:

The device is compliant with part 15.247 of Title 47 of the FCC rules. If the bluetooth Module is integrated into a new host product, the final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

## **IC Statement**

This Class B digital apparatus complies with Canadian ICES-003.

This device complies with Industry Canada license-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.

Cet appareil est conforme aux normes CNR exemptes de licence d'Industrie Canada. Le fonctionnement est soumis aux deux conditions suivantes :

- (1) cet appareil ne doit pas provoquer d'interférences et
- (2) cet appareil doit accepter toute interférence, y compris celles susceptibles de provoquer un fonctionnement non souhaité de l'appareil.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

## **-Label and Compliance Information**

The final end product must be labeled in a visible area with the following:

"Contains FCC ID: BEJ-GB8773",

"Contains IC: 2703H- GB8773" .

The grantee's FCC ID can be used only when all FCC/ IC compliance requirements are met.

## **-RF exposure**

The module will install into mobile device such as Sound Bar

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

## **Information on test modes and additional testing requirements**

-OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, soundbar, audio equipment requirement, additional transmitter in the host, etc.).

The product under test is placed into a normal "paired" mode with another Bluetooth device, as per the normal intended use of the product. For example, soundbar, audio equipment requirement, additional transmitter in the host etc.

