

RF EXPOSURE REPORT



Applicant: Murata Manufacturing Co., Ltd.
1-10-1 Higashikotari, Nagaokakyo-shi, Kyoto 617-8555 Japan

Manufacturer: Murata Manufacturing Co., Ltd.
1-10-1 Higashikotari, Nagaokakyo-shi, Kyoto 617-8555 Japan

Product Name: Communication Module

Brand Name: Murata Manufacturing Co., Ltd.

Model No.: LBES0ZZ2LL

Family Model No.: LBEE0ZZ2KL

Model Difference: Different functions: LBES0ZZ2LL includes Zigbee functionality.

FCC ID VPYLBES0ZZ2LL

IC: 772C-LBES0ZZ2LL

Date of EUT Received: Sep. 24, 2024

Issue Date: Dec. 10, 2024

John Yeh
Approved By _____

John Yeh

We hereby certify that:

The above equipment was evaluated by SGS Taiwan Ltd. The evaluation in this report is in compliance with FCC Rule Part §1.1307 & KDB 447498 D04 v01 and RSS-102 issue 6.

The results of this report relate to the specific sample identified in this report.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.sgs.com.tw

Member of SGS Group

Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TESA2410000625ES	00	Original	Dec. 10, 2024	Cindy Chou	

Note:

- 1、The remark "*" indicates modification of the report upon requests from certification body.
- 2、Variant information of model numbers is provided by the applicant, test results of this report are applicable to the sample EUT(s) received.
And are assessed as electrically identical in RF characteristics, therefore, no further assessment required for the variant(s).

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.sgs.com.tw

Member of SGS Group

Contents

1	DESCRIPTION OF EQUIPMENT UNDER TEST (EUT).....	4
1.1	PRODUCT DESCRIPTION.....	4
1.2	EVALUATION SITE	4
1.3	ANTENNA INFORMATION:	5
2	DETERMINATION OF MPE EXEMPTION.....	6
2.1	FCC.....	6
2.2	MULTIPLE RF SOURCES EVALUATION RESULTS	8
3	ISED	9
3.1	STANDARD APPLICABLE	9
3.2	MAXIMUM PERMISSIBLE EXPOSURE (MPE) EXEMPTION	10

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.sgs.com.tw

Member of SGS Group



1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

1.1 Product Description

Product Name:	Communication Module
Brand Name:	Murata Manufacturing Co., Ltd.
Model No.:	LBES0ZZ2LL
Family Model No.:	LBEE0ZZ2KL
Model Difference:	Different functions: LBES0ZZ2LL includes Zigbee functionality.

1.2 Evaluation site

Laboratory	Site Address		FCC Designation number	ISED Company Number	CAB Identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	<input checked="" type="checkbox"/>	No. 134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, 24803, Taiwan.	TW0027	4620A	TW3702
	<input type="checkbox"/>	No. 2, Keji 1st Rd., Guishan Township, Taoyuan County, 333 Taiwan.	TW0028	4620E	
	<input type="checkbox"/>	1F, No. 8, Alley 15, Lane 120, Sec. 1, Nei Hu Road, Neihu District, Taipei City, 222 Taiwan.	TW0029	23862	

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路134號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.sgs.com.tw

Member of SGS Group



1.3 Antenna Information:

BT / WLAN 2.4GHz

Antenna Type	Supplier	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)	Worst Antenna Gain
dipole	Molex	146187	2400~2500	3.20	
dipole	Molex	146153	2400~2500	3.20	
dipole	Molex	219611	2400~2500	2.67	
dipole	Unictron	WT32D1-KX	2400~2500	3.00	
dipole	Unictron	AA258	2400~2500	0.90	
dipole	Taoglas	FPX830.07.0100C	2400~2500	2.50	
dipole	Antenova	SRF2W012	2400~2500	3.00	
dipole	Sansei	STDANTEMD-013	2400~2500	1.90	
dipole	Laird	EMF2471A3S	2400~2500	2.20	
dipole	KyoceraAVX(KAVX)	1001932FT	2400~2500	2.50	
dipole	KyoceraAVX(KAVX)	1001932PT	2400~2500	2.03	
dipole	KyoceraAVX(KAVX)	W3P35x8W04	2400~2500	2.30	
dipole	Inventek	W2.4-5P-U	2400~2500	3.73	V
monopole	Murata	LBES0ZZ2LL/ LBEE0ZZ2KL	2400~2500	3.60	

WLAN 5GHz

Antenna Type	Supplier	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)	Worst Antenna Gain
dipole	Molex	146187	5150~5850	4.25	
dipole	Molex	146153	5150~5850	4.25	
dipole	Molex	219611	5150~5850	3.67	
dipole	Unictron	WT32D1-KX	5150~5850	4.00	
dipole	Unictron	AA258	5150~5850	3.80	
dipole	Taoglas	FPX830.07.0100C	5150~5850	4.70	
dipole	Antenova	SRF2W012	5150~5850	4.00	
dipole	Sansei	STDANTEMD-013	5150~5850	2.80	
dipole	Laird	EMF2471A3S	5150~5850	4.40	
dipole	KyoceraAVX(KAVX)	1001932FT	5150~5850	4.40	
dipole	KyoceraAVX(KAVX)	1001932PT	5150~5850	4.45	
dipole	KyoceraAVX(KAVX)	W3P35x8W04	5150~5850	5.00	
dipole	Inventek	W2.4-5P-U	5150~5850	5.18	V
monopole	Murata	LBES0ZZ2LL/ LBEE0ZZ2KL	5150~5850	4.60	

Note: Antenna information is provided by the applicant.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路134號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.sgs.com.tw

Member of SGS Group



2 DETERMINATION OF MPE EXEMPTION

2.1 FCC

2.1.1 Single RF Source

As per §1.1307(b)(3)(i),

- (A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);
- (B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the separation distance (cm);

Note: when 10-g extremity SAR applies, SAR test exemption may be considered by applying a factor of 2.5 to the SAR-based exemption thresholds.

- (C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路134號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.sgs.com.tw

Member of SGS Group

Table 1 to § 1.1307(b)(3)(i)(C) –

Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)		Minimum Distance			Threshold ERP (W)	
fL	fH	$\lambda L / 2\pi$		$\lambda H / 2\pi$		
0.3	-	1.34	159m	-	35.6m	1920 R^2
1.34	-	30	35.6m	-	1.6m	3450 R^2/f^2
30	-	300	1.6m	-	159mm	3.83 R^2
300	-	1500	159mm	-	31.8mm	0.0128 R^2f
1500	-	100000	31.8mm	-	0.5mm	19.2 R^2

R= minimum separation distance in meter

f = frequency in MHz

2.1.2 Multiple RF Sources

In the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure\ Limit_k} \leq 1$$

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.sgs.com.tw

Member of SGS Group



2.1.3 Single RF Source Evaluation Results

Chain 0	Frequency (MHz)	Max. tune-up power (dBm)	Peak gain (dBi)	ERP (dBm)	ERP (W)	Permissible Minimum separation distance ($\lambda/2\pi$) (m)	R = actual Minimum separation distance(m)	ERP _{th} (W)	ERP/ERP _{th}	Simultaneous transmission modes					
										1	2	3	4	5	6
BLE	2402	13	3.73	14.58	0.029	0.0199	0.200	0.768	0.038	V					
IEEE802.15.4.	2442	13	3.73	14.58	0.029	0.0196	0.200	0.768	0.038		V				
WLAN 2.4G	2442	19	3.73	20.58	0.114	0.0196	0.200	0.768	0.148						
WLAN 5.2G	5180	18	5.18	21.03	0.127	0.0092	0.200	0.768	0.165	V	V				
WLAN 5.3G	5320	18	5.18	21.03	0.127	0.0090	0.200	0.768	0.165						
WLAN 5.6G	5500	18	5.18	21.03	0.127	0.0087	0.200	0.768	0.165						
WLAN 5.8G	5727	18	5.18	21.03	0.127	0.0083	0.200	0.768	0.165						

Note: For conservativeness, the lowest uplink frequency of each band is used to determine the minimum separation distance of that band. All the single RF source results (P or ERP) are less than their corresponding threshold (P_{th} or ERP_{th}), so they are exempt from RF exposure testing.

2.2 Multiple RF Sources Evaluation Results

Simultaneous transmission modes	\sum ERP/ERP _{th}	Criteria
1	0.203	1
2	0.203	1

Note:

1. $\Sigma(\text{ERP}/\text{ERP}_{\text{th}})$: This is a summation of [(ERP of RF source / exemption threshold ERP for RF source)].
Considering the collocated transmitters, the aggregated ($\text{ERP}/\text{ERP}_{\text{th}}$) is smaller than 1, and MPE of collocated transmitters is compliant

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路134號



3 ISED

3.1 Standard Applicable

According to RSS-102 issue 6 § 6.6 RF Exposure Evaluation

Field reference level (FRL) exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm (i.e. mobile devices), except when the device operates as follows:

below 20 MHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than 1 W (adjusted for tune-up tolerance)

at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than $4.49/f0.5W$

(adjusted for tune-up tolerance), where f is in MHz

at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance)

at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than $1.31 \times 10^{-2} f 0.6834 W$

(adjusted for tune-up tolerance), where f is in MHz

at or above 6 GHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than 5 W (adjusted for tune-up tolerance)

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the EIRP was derived.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.

No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.sgs.com.tw

Member of SGS Group



3.2 Maximum Permissible Exposure (MPE) Exemption

Operation Mode	Evaluation Frequency (MHz)	Max. output Power include Tolerance (dBm)	Antenna Gain (dBi)	Max. EIRP (W)	Limit (W)	Max. EIRP / Limit	Pass / Fail	Simultaneous transmission modes						
								1	2	3	4	5	6	7
BLE	2402.00	13	3.73	0.05	2.676	0.019	Pass	V						
IEEE802.15.4.	2442.00	13	3.73	0.05	2.707	0.018	Pass		V					
WLAN 2.4G	2442.00	19	3.73	0.19	2.707	0.070	Pass							
WLAN 5.2G	5180.00	18	5.18	0.21	4.525	0.046	Pass	V	V					
WLAN 5.3G	5320.00	18	5.18	0.21	4.608	0.046	Pass							
WLAN 5.6G	5500.00	18	5.18	0.21	4.714	0.045	Pass							
WLAN 5.8G	5727.00	18	5.18	0.21	4.847	0.043	Pass							

Note: For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band.

3.2.1 Exemption evaluation for simultaneous transmission

Simultaneous transmission modes	\sum Max. EIRP/Limit	Criteria
1	0.065	1
2	0.064	1

Note:

1. $\Sigma(EIRP / Limit)$: This is a summation of [(EIRP for each transmitter/antenna included in the simultaneous transmission) / (corresponding exemption limit)].
2. Considering the collocated transmitters, the summation of (EIRP /limit) is smaller than 1, so the MPE of simultaneous transmission is compliant.

~ End of Report ~

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com.tw/Terms-and-Conditions> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.sgs.com.tw

Member of SGS Group