

Page 1 of 139

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

CLASS II PC REPORT

OF

Applicant: Murata Electronics North America

2200 Lake Park Dr #7604, Smyrna, GA 30080 USA

Product Name: Type 1SE

Brand Name: Murata

LBAD0ZZ1SE Model No.:

Model Difference: N/A

Report Number: E2/2020/B0031

FCC ID HSW-TY1SCDM

FCC Rule Part: 2, 22H & 24E & 27C & 90S

Issue Date: December 23, 2020

Date of Test: November 19, 2020 - December 16, 2020

Date of EUT Received: November 13, 2020

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.26-2015 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits.

The test results of this report relate only to the tested sample identified in this report.

Approved By: Vito Pei / Sr. Engineer





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.cc 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 f (886-2) 2298-0488



Page 2 of 139

Revision History						
Report Number Revision Description Issue Date Remark						
E2/2020/B0031	Rev.00	Original.	December 23, 2020	Revised By: Susan Lin		

Note:

1 · Disclaimer

Antenna information is provided by the applicant, the test results of this report are applicable to the sample EUT received.

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 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



Page 3 of 139

Contents

1	GENERAL PRODUCT INFORMATION	4
2	SYSTEM TEST CONFIGURATION	9
3	SUMMARY OF TEST RESULTS	11
4	DESCRIPTION OF TEST MODES	12
5	MEASUREMENT UNCERTAINTY	15
6	FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT	16

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。



Page 4 of 139

GENERAL PRODUCT INFORMATION

Product Description

Product Name:	Type 1SE
Brand Name:	Murata
Model No.:	LBAD0ZZ1SE
Model Difference:	N/A
Hardware Version:	ES2
Software Version:	RK_02_01_02_00_82
Class II Permissive change:	New antenna trace design need compliance C2PC rule
Power Supply:	3.6Vdc from DC power supply
IMEI:	351521100024390

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。



Page 5 of 139

1.2 **Frequency Range**

1.2.1 **NB IoT**

NB IoT Band	Subcar- rier Spacing (kHz)	Operation Frequency (MHz)			
2	3.75	1850.2		1909.8	
2	15	1000.2	-	1909.6	
4	3.75	1710.2	-	17510	
	15			1734.0	
5	3.75	824.2	-	848.8	
5	15			040.0	
12	3.75	000.0		715.8	
12	15	699.2		7 10.0	
13	3.75	777.2		786.8	
	15	111.2		700.0	

NB IoT Band	Subcar- rier Spacing (kHz)	Operation Frequency (MHz)		
25	3.75	1850.2		1914.8
25	15	1000.2		1914.0
17	3.75	704.2		715.8
17	15		_	7 15.6
26	3.75	924.2	324.2 - 848.	848.8
20	15	024.2		040.0
26	3.75	0440		823.8
Part 90	15	814.2	-	023.0

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。



Page 6 of 139

1.2.2 Cat. M1

M1 Band	BW	Operation Frequency			
IVI Danu	(MHz)	(MHz)			
	1.4	1850.7	-	1909.3	
	3	1851.5	-	1908.5	
2	5	1852.5	-	1907.5	
	10	1855	-	1905	
	15	1857.5	-	1902.5	
	20	1860	-	1900	
	1.4	1710.7	-	1754.3	
	3 5	1711.5	-	1753.5	
4	5	1712.5	-	1752.5	
4	10	1715	-	1750	
	15	1717.5	-	1747.5	
	20	1720	-	1745	
	1.4	824.7	-	848.3	
5	3	825.5	-	847.5	
3	5	826.5	-	846.5	
	10	829	-	844	
	1.4	699.7	-	715.3	
12	3	700.5	-	714.5	
12	5	701.5	-	713.5	
	10	704	-	711	
13	5	779.5	-	784.5	
13	10	782			
14	5	7	90.5		
14	10	793			

DW						
M1 Band	BW (MHz)	Operation Frequency (MHz)				
	1.4	1850.7	-	1914.3		
	3	1851.5	-	1913.5		
25	5	1852.5	-	1912.5		
25	10	1855	-	1910		
	15	1857.5	-	1907.5		
	20	1860	-	1905		
	1.4	824.7	-	848.3		
	3	825.5	-	847.5		
26	5	826.5	-	846.5		
	10	829	-	844		
	15	831.5	-	841.5		
	1.4	814.7	-	823.3		
26	3	815.5	-	822.5		
Part90	5	816.5	-	821.5		
	10		819			
17	5	706.5	-	713.5		
17	10	709.0	-	711.0		

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.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) teste fullest extent of the law.



Page 7 of 139

1.3 **Antenna Designation**

NB IoT Bands	Allowable Gain (dBi)
2	10.25
4	7.08
5	15.99
12	11.28
13	11.34
17	11.22
25	12.15
26	15.05
26 Part 90	26.63

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。



Page 8 of 139

Test Methodology of Applied Standards

FCC 47 CFR Part 2, 22H, 24E, 27C, Part 90. ANSI C63.26-2015

KDB971168 D01 Power Meas license Digital System v03r01

TS 151 010-1 is used to set, and measure the output power.

1.5 **Test Facility**

SGS Taiwan Ltd. Central RF Lab (TAF code 3702) No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333

FCC Designation number: TW0028

1.6 **Special Accessories**

No special accessories were used during testing.

1.7 **Equipment Modifications**

There was no modifications incorporated into the EUT.

1.8 Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz

Radiated emission below 30MHz is measured in a 9m*9m*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site. There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

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。



Page 9 of 139

SYSTEM TEST CONFIGURATION

2.1 **EUT Configuration**

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 **EUT Exercise**

The EUT (Transmitter) was operated in the continuous transmission mode employed with the simulator of the Base Station that fixates at test default channels to fix the Tx frequency which was for the purpose of the measurements.

2.3 **Test Procedure**

2.3.1 Radiated Emissions (ERP/EIRP)

The EUT is placed on a turn table, for emission measurements below 1 GHz is 0.8 m above ground plane, for emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both Horizontal and Vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.

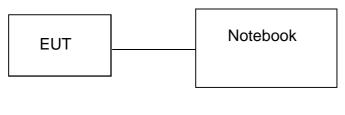
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。



Page 10 of 139

Configuration of Tested System 2.4

Fig. 2-1 Configuration of Tested System (Fixed Channel-Radiated)



Remote Side

8821C

Table 2-1 Equipment Used in

Item	Equipment	Mfr/Brand	Model / Type No.	Series No.	Data Cable	Power Cord
1.	Universal Radio Communication Tester	Anritsu	MT8821C	6261786084	shielded	Un-shielded
2.	Notebook	Lenovo	L440	P0000367	N/A	N/A

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 f (886-2) 2298-0488 www.sgs.com.tw



Page 11 of 139

SUMMARY OF TEST RESULTS

NB IoT

FCC Rules	Description Of Test	Result
§2.1053 §22.917(a) §24.238(a) §27.53(g) §27.53(h) §27.53(c)(f) 1559-1610 MHz §90.691	Field Strength of Spurious Radiation	Compliant

Cat M1

FCC Rules	Description Of Test	Result
§2.1053 §22.917(a) §24.238(a) §27.53(g) §27.53(h) §27.53(c)(f) 1559-1610 MHz §90.543(e)(3) §90.543 (f) §90.691	Field Strength of Spurious Radiation	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。

##打分見記憶: 地域であるままりの場合に使用する。 | 1990年には、1990年には 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.



Page 12 of 139

DESCRIPTION OF TEST MODES

The Worst Test Modes and Configuration

- 1. The EUT has been tested under operating condition.
- 2. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, X(E1)Y(E2)Z(H) axis and antenna ports. The worst case was found as listed below. Following channel(s) was (were) selected for the final test as listed below:

The EUT Serial Number is K191700015.

4.2 **NB IoT**

4.1

NB IoT	Radiated Emission			
Modes	E1	E2	Н	
B2	-	٧	-	
B4	ı	٧	-	
B5	-	٧		
B12	-	٧	-	
B13	•	٧		
B14	-	٧	-	
B17	•	٧		
B25	-	٧		
B26	-	٧	-	
B26 Part 90	-	٧	-	

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。



Page 13 of 139

4.3 Cat M1

M1 Band 2

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
RADIATED EMISSION	18607 to 19193	18607	10MHz	QPSK, 16QAM	6 RB, 0 RB Offest

M1 Band 4

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
RADIATED EMISSION	19957 to 19393	19957	10MHz	QPSK, 16QAM	6 RB, 0 RB Offest

M1 Band 5

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
RADIATED EMISSION	20407 to 20643	20407	10MHz	QPSK, 16QAM	6 RB, 0 RB Offest

M1 Band 12

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
RADIATED EMISSION	23017 to 23173	23017	5MHz	QPSK, 16QAM	6 RB, 0 RB Offest

M1 Band 13

٠.	. D ana 10					
	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	RADIATED EMISSION	23205 to 23255	23205	10MHz	QPSK, 16QAM	6RB/ 0 RB Offest

M1 Band 14

· Dana · ·					
TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
RADIATED EMISSION	23305 to 23355	23305	10MHz	QPSK, 16QAM	6 RB/ 0 RB Offest

M1 Band 17

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
RADIATED EMISSION	23755 to 23825	23755	10MHz	QPSK, 16QAM	6 RB/ 0 RB Offest

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 f (886-2) 2298-0488 www.sgs.com.tw



Page 14 of 139

M1 Band 25

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
RADIATED EMISSION	26047 to 26683	26047	5MHz	QPSK, 16QAM	6 RB, 0 RB Offest

M1 Band 26

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
RADIATED EMISSION	26797 to 27033	26797	5MHz	QPSK, 16QAM	6 RB, 0 RB Offest

M1 Band 26 for 90S

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
RADIATED EMISSION	26697 to 26783	26693	5MHz	QPSK, 16QAM	6 RB, 0 RB Offest

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。



Page 15 of 139

MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	
Temperature	+/- 0.65 °C	
Humidity	+/- 4.6 %	
DC / AC Power Source	DC= +/- 0.13%, AC=+/- 0.2%	

Radiated Spurious Emission:

Magaziramantungantaintu	9kHz – 30MHz: +/- 2.87 dB
	30MHz - 180MHz: +/- 3.37dB
Measurement uncertainty (Polarization : Vertical)	180MHz -417MHz: +/- 3.19dB
(1 Glanzation : Vertical)	0.417GHz-1GHz: +/- 3.19dB
	1GHz - 18GHz: +/- 4.04dB
	18GHz - 40GHz: +/- 4.04dB

	9kHz – 30MHz: +/- 2.87 dB
Measurement uncertainty (Polarization : Horizontal)	30MHz - 167MHz: +/- 4.22dB
	167MHz -500MHz: +/- 3.44dB
(1 dianzation : Honzontal)	0.5GHz-1GHz: +/- 3.39dB
	1GHz - 18GHz: +/- 4.08dB
	18GHz - 40GHz: +/- 4.08dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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。



Page 16 of 139

FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

Standard Applicable

According to FCC §2.1053, FCC §22.917(a), §24.238(a), §27.53(h), §90.543(e)(3)

FCC §27.53(c) for B13

For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB (-13dBm)
- (4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than
- 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

FCC §27.53 (f) for B13

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

FCC §90.543 (f) for LTE B14

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

FCC §27.53(c) (5) & FCC §27.53(g) for B12, 13

Compliance for operations in the 600 MHz, 698-746 MHz, 746-758 MHz and the 776-788 MHz band with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

§90.691 Emission mask requirements for EA-based systems for B26

- (a) Out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:
- (1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than
- (2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

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

Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined documents, subject to Terms and Conditions for Electronic Documents at http://www therein. Any holder of this document is advised that information contained between 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 t (886-2) 2299-3279 f (886-2) 2298-0488 www.sgs.com.tw



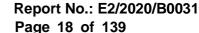
Page 17 of 139

Table 2 — Unwanted Emissions for Mobile, Portable and Low-Power Fixed Subscriber Equipment

Frequency (MHz)	Attenuation (dB)
<2200	$43 + 10 \log_{10}(p)$
2200 - 2288	$70 + 10 \log_{10}(p)$
2288 - 2292	$67 + 10 \log_{10}(p)$
2292 - 2296	$61 + 10 \log_{10}(p)$
2296 - 2300	$55 + 10 \log_{10}(p)$
2300 - 2305	$43 + 10 \log_{10}(p)$
2305 - 2320	$43 + 10 \log_{10}(p)^{\text{Note}}$
2320 - 2324	$55 + 10 \log_{10}(p)$
2324 - 2328	$61 + 10 \log_{10}(p)$
2328 - 2337	$67 + 10 \log_{10}(p)$
2337 - 2341	$61 + 10 \log_{10}(p)$
2341 - 2345	$55 + 10 \log_{10}(p)$
2345 - 2360	$43 + 10 \log_{10}(p)^{\text{Note}}$
2360 - 2365	$43 + 10 \log_{10}(p)$
2365 - 2395	$70 + 10 \log_{10}(p)$
>2395	$43 + 10 \log_{10}(p)$

Note: Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See Section 1.2 for the permitted frequency ranges for various equipment types.

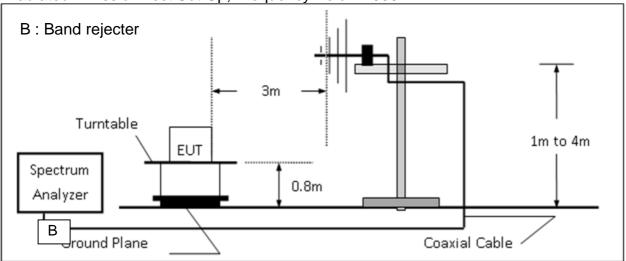
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。



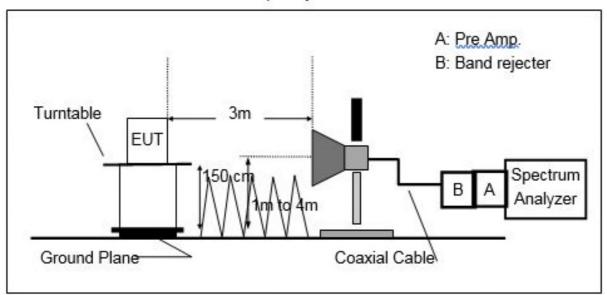


6.2 **EUT Setup**

Radiated Emission Test Set-Up, Frequency Below 1000MHz



Radiated Emission Test Set-UP Frequency Over 1 GHz



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 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/ 新北市五般區新北產業園區五工路134號 f (886-2) 2298-0488 www.sgs.com.tw



Page 19 of 139

6.3 **Measurement Procedure:**

The EUT was placed on a non-conductive; the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

6.4 **Measurement Equipment Used:**

1	ERP, EIRP MEASUREMENT EQUIPMENT List 966 Chamber								
EQUIPMENT TYPE	MFR/BRAND	MODEL NUMBER	SERIAL NUM- BER	LAST CAL.	CAL DUE.				
Broadband Antenna	TESEQ	CBL 6112D	35240	09/08/2020	09/07/2021				
Horn Antenna	Schwarzbeck	BBHA9170	184	12/25/2019	12/24/2020				
Horn Antenna	Schwarzbeck	BBHA9120D	1187	01/10/2020	01/09/2021				
Loop Antenna	ETS.LIND- GREN	6502	143303	04/28/2020	04/27/2021				
EMI Test Receiver	R&S	ESU 40	100363	04/29/2020	04/28/2021				
Radio Communication Analyer	Anritsu	MT8821C	6261786084	01/18/2020	01/17/2021				
Pre-Amplifier	EMC Instruments	EMC330	980096	11/19/2020	11/18/2021				
Pre-Amplifier	EMC Instruments	EMC0011830	980199	11/19/2020	11/18/2021				
Pre-Amplifier	EMC Instruments	EMC184045B	980135	10/27/2020	10/26/2021				
High Pass Filter	WI	WHKX1.1/15G	RF172	11/19/2020	11/18/2021				
High Pass Filter	R&S	F13 HPF 3GHz	RF175	11/19/2020	11/18/2021				
Notch Filter	Woken	EWT-54-0037	RF177	11/19/2020	11/18/2021				
Notch Filter	Woken	EWT-54-0038	RF178	11/19/2020	11/18/2021				
Notch Filter	EWT	EWT-54-0038	RF185	11/19/2020	11/18/2021				
Coaxial Cable	Huber Suhner	EMC106-SM-SM-9100	150704	11/19/2020	11/18/2021				
Coaxial Cable	Huber Suhner	SUCOFLEX 104	MY17413/4	11/19/2020	11/18/2021				

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 Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined documents, subject to Terms and Conditions for Electronic Documents at http://www 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 f (886-2) 2298-0488 www.sgs.com.tw



Page 20 of 139

6.5 **Measurement Result:**

6.5.1 **Radiated Spurious Emission**

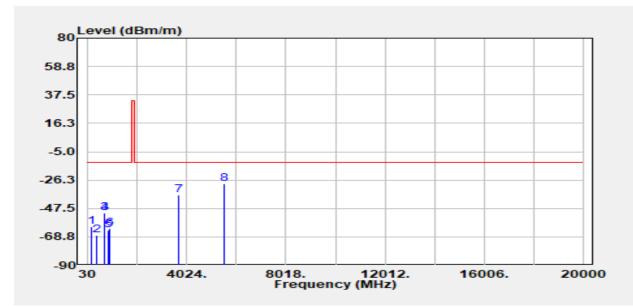
NB IOT Band 2

Test Site Report Number :E2/2020/B0031 :966 Chamber C

Operation Mode :NB IoT B2 BPSK **Test Date** :2020-12-16

Test Mode :TX CH Low Temp./Humi. :21.4/67 **EUT Pol** :E2 Plan Antenna Pol. :Vertical

Test Frequency :1850.1 MHz Engineer :Ashton Chiu



EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	Output Level	Gain	Loss		J
dBm	dBm	dBi/dBd	dB	dBm	dB
-61.21	-59.19	-1.22	-0.80	-13.00	-48.20
-67.62	-65.65	-0.75	-1.22	-13.00	-54.61
-50.65	-47.49	-1.17	-1.99	-13.00	-37.64
-50.64	-47.39	-1.51	-1.74	-13.00	-37.63
-63.43	-60.65	-1.12	-1.66	-13.00	-50.42
-62.63	-59.46	-1.42	-1.75	-13.00	-49.62
-37.45	-41.79	12.31	-7.97	-13.00	-24.44
-29.37	-33.80	12.86	-8.43	-13.00	-16.36
_	-61.21 -67.62 -50.65 -50.64 -63.43 -62.63 -37.45	Output Level dBm dBm -61.21 -59.19 -67.62 -65.65 -50.65 -47.49 -50.64 -47.39 -63.43 -60.65 -62.63 -59.46 -37.45 -41.79	Output Level Gain dBi/dBd -61.21 -59.19 -1.22 -67.62 -65.65 -0.75 -50.65 -47.49 -1.17 -50.64 -47.39 -1.51 -63.43 -60.65 -1.12 -62.63 -59.46 -1.42 -37.45 -41.79 12.31	dBm Output Level dBm Gain dBi/dBd Loss dB -61.21 -59.19 -1.22 -0.80 -67.62 -65.65 -0.75 -1.22 -50.65 -47.49 -1.17 -1.99 -50.64 -47.39 -1.51 -1.74 -63.43 -60.65 -1.12 -1.66 -62.63 -59.46 -1.42 -1.75 -37.45 -41.79 12.31 -7.97	dBm Output Level dBm Gain dBi/dBd Loss dB dBm -61.21 -59.19 -1.22 -0.80 -13.00 -67.62 -65.65 -0.75 -1.22 -13.00 -50.65 -47.49 -1.17 -1.99 -13.00 -50.64 -47.39 -1.51 -1.74 -13.00 -63.43 -60.65 -1.12 -1.66 -13.00 -62.63 -59.46 -1.42 -1.75 -13.00 -37.45 -41.79 12.31 -7.97 -13.00

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

Inis occument is issued by the Company subject to its General Conditions or Service printed overnear, available on request or accessible at https://www.sgs.com.tw/ refreshed conditions and for electronic Documents and for electronic Documents at https://www.sgs.com.tw/ refreshed 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 f (886-2) 2298-0488 www.sgs.com.tw



Page 21 of 139

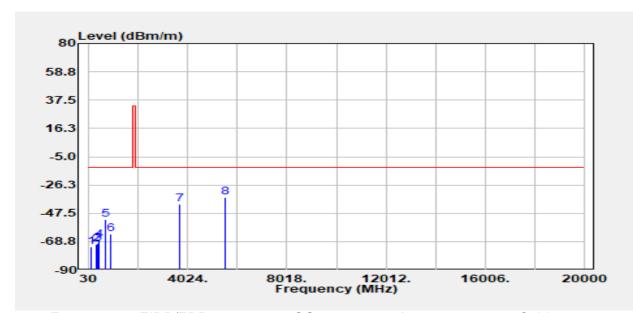
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B2 BPSK Test Date :2020-12-14

Test Mode :TX CH Low Temp./Humi. :21.4/67

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :1850.1 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		· ·
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
141.550	-72.40	-64.80	-6.98	-0.62	-13.00	-59.39
370.470	-71.02	-69.43	-0.58	-1.01	-13.00	-58.01
405.390	-70.41	-68.36	-0.68	-1.37	-13.00	-57.40
486.870	-67.38	-65.13	-0.70	-1.55	-13.00	-54.37
745.860	-52.36	-49.11	-1.51	-1.74	-13.00	-39.35
936.950	-63.08	-59.89	-1.44	-1.75	-13.00	-50.07
3700.200	-40.35	-44.69	12.31	-7.97	-13.00	-27.34
5550.300	-35.35	-39.78	12.86	-8.43	-13.00	-22.34

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 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



:E2 Plan

EUT Pol

Report No.: E2/2020/B0031

Page 22 of 139

:Vertical

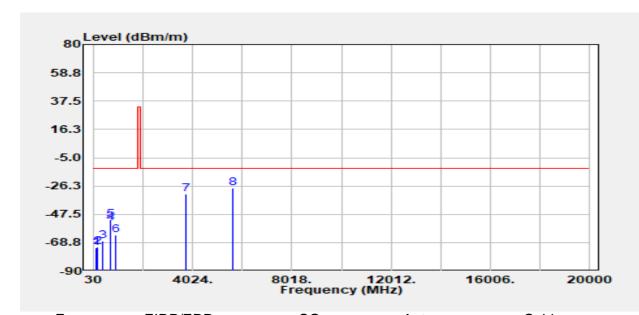
Antenna Pol.

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B2 BPSK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.4/67

Test Frequency :1880 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		· ·
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
140.580	-72.56	-64.96	-6.99	-0.61	-13.00	-59.55
191.020	-72.22	-69.59	-1.82	-0.81	-13.00	-59.21
427.700	-67.26	-65.26	-0.82	-1.18	-13.00	-54.25
730.340	-54.15	-50.99	-1.17	-1.99	-13.00	-41.14
746.830	-51.77	-48.54	-1.51	-1.72	-13.00	-38.76
932.100	-62.91	-59.78	-1.39	-1.74	-13.00	-49.90
3760.000	-31.99	-36.54	12.40	-7.85	-13.00	-18.98
5640.000	-27.73	-31.83	13.00	-8.90	-13.00	-14.72

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。



Page 23 of 139

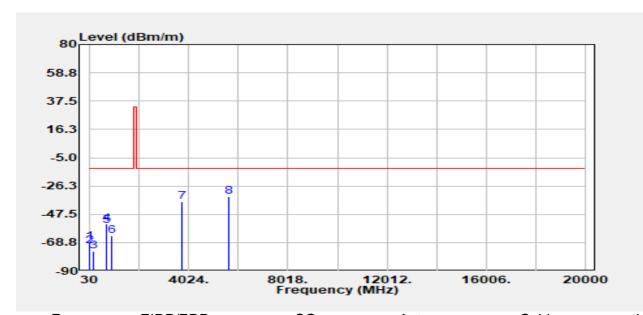
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B2 BPSK Test Date :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.4/67

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :1880 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		J
 MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.850	-68.37	-48.85	-19.27	-0.25	-13.00	-55.36
62.010	-71.41	-56.90	-14.09	-0.42	-13.00	-58.40
201.690	-75.20	-73.44	-0.95	-0.81	-13.00	-62.19
737.130	-54.76	-51.59	-1.27	-1.90	-13.00	-41.75
745.860	-55.98	-52.73	-1.51	-1.74	-13.00	-42.97
935.980	-63.49	-60.31	-1.43	-1.75	-13.00	-50.48
3760.000	-37.72	-42.27	12.40	-7.85	-13.00	-24.71
5640.000	-33.91	-38.01	13.00	-8.90	-13.00	-20.90

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。



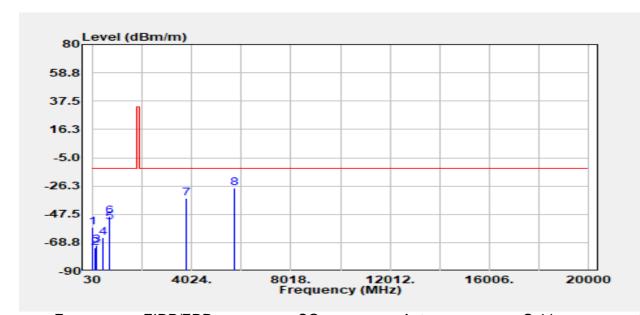
Page 24 of 139

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B2 BPSK **Test Date** :2020-12-14

Test Mode :TX CH High Temp./Humi. :21.3/68 **EUT Pol** :E2 Plan Antenna Pol. :Vertical

Test Frequency :1909.9 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		J
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-57.17	-37.95	-18.97	-0.25	-13.00	-44.16
138.640	-72.79	-65.11	-7.07	-0.61	-13.00	-59.78
201.690	-70.89	-69.13	-0.95	-0.81	-13.00	-57.88
445.160	-65.12	-63.12	-0.97	-1.03	-13.00	-52.11
730.340	-53.44	-50.28	-1.17	-1.99	-13.00	-40.43
746.830	-48.75	-45.52	-1.51	-1.72	-13.00	-35.74
3819.800	-35.21	-38.66	12.36	-8.91	-13.00	-22.20
5729.700	-27.92	-31.58	12.80	-9.14	-13.00	-14.91

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。



Page 25 of 139

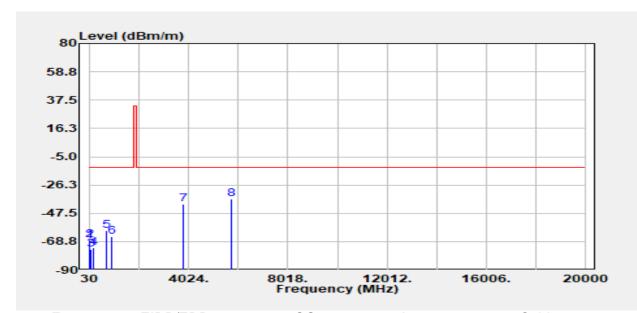
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B2 BPSK **Test Date** :2020-12-14

Test Mode :TX CH High Temp./Humi. :21.3/68

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :1909.9 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		J
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.850	-68.10	-48.58	-19.27	-0.25	-13.00	-55.09
52.310	-67.84	-51.10	-16.40	-0.34	-13.00	-54.83
88.200	-74.60	-68.21	-5.91	-0.48	-13.00	-61.59
191.990	-73.47	-70.99	-1.67	-0.81	-13.00	-60.46
730.340	-60.73	-57.57	-1.17	-1.99	-13.00	-47.72
936.950	-65.01	-61.82	-1.44	-1.75	-13.00	-52.00
3819.800	-40.69	-44.14	12.36	-8.91	-13.00	-27.68
5729.700	-36.55	-40.21	12.80	-9.14	-13.00	-23.54

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。



Page 26 of 139

NB IOT Band 4

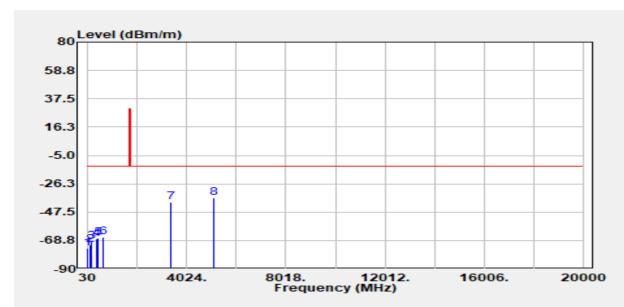
Test Site :966 Chamber C Report Number :E2/2020/B0031

Operation Mode :NB IoT B4 BPSK **Test Date** :2020-12-14

Test Mode :TX CH Low Temp./Humi. :21.1/66

EUT Pol :E2 Plan Antenna Pol. :Vertical

:1710.1 MHz Engineer :Ashton Chiu **Test Frequency**



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
51.340	-74.85	-57.92	-16.60	-0.33	-13.00	-61.84
141.550	-72.14	-64.54	-6.98	-0.62	-13.00	-59.13
201.690	-69.37	-67.61	-0.95	-0.81	-13.00	-56.36
425.760	-67.30	-65.31	-0.79	-1.20	-13.00	-54.29
493.660	-66.64	-64.38	-0.72	-1.54	-13.00	-53.63
693.480	-66.14	-63.93	-0.99	-1.22	-13.00	-53.13
3420.200	-39.87	-44.65	12.57	-7.79	-13.00	-26.86
5130.300	-36.59	-39.79	12.10	-8.90	-13.00	-23.58

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 f (886-2) 2298-0488 www.sgs.com.tw

t (886-2) 2299-3279



Page 27 of 139

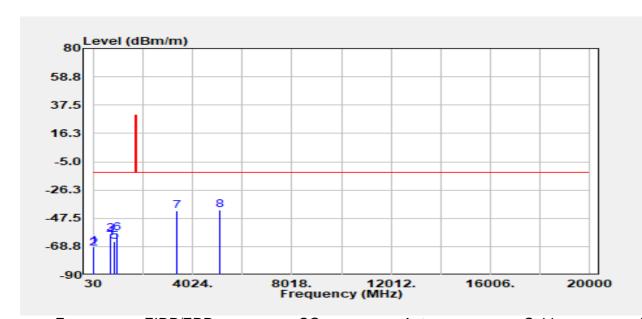
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B4 BPSK **Test Date** :2020-12-14

Test Mode :TX CH Low Temp./Humi. :21.1/66

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :1710.1 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		J
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-68.60	-49.38	-18.97	-0.25	-13.00	-55.59
44.550	-70.05	-51.78	-17.98	-0.29	-13.00	-57.04
734.220	-59.05	-55.92	-1.20	-1.93	-13.00	-46.04
746.830	-60.92	-57.69	-1.51	-1.72	-13.00	-47.91
880.690	-65.08	-62.36	-1.04	-1.68	-13.00	-52.07
1000.000	-58.83	-54.07	-1.04	-3.72	-13.00	-45.82
3420.200	-41.96	-46.52	12.56	-8.00	-13.00	-28.95
5130.300	-41.34	-44.54	12.10	-8.90	-13.00	-28.33

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。



:E2 Plan

EUT Pol

Report No.: E2/2020/B0031

Page 28 of 139

:Vertical

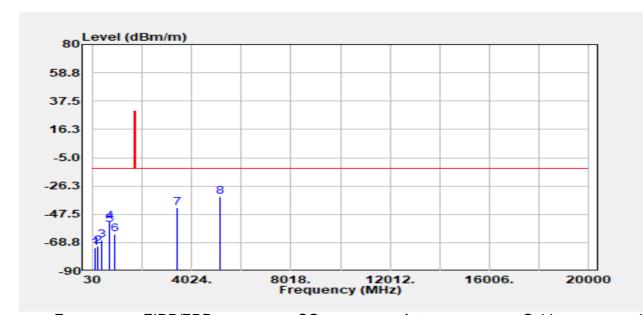
Antenna Pol.

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B4 BPSK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.1/66

Test Frequency :1732.5 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		· ·
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
141.550	-72.65	-65.05	-6.98	-0.62	-13.00	-59.64
249.220	-71.51	-69.76	-0.79	-0.96	-13.00	-58.50
430.610	-67.20	-65.16	-0.88	-1.16	-13.00	-54.19
731.310	-52.67	-49.52	-1.18	-1.97	-13.00	-39.66
746.830	-55.38	-52.15	-1.51	-1.72	-13.00	-42.37
940.830	-62.11	-58.88	-1.47	-1.76	-13.00	-49.10
3465.000	-42.81	-46.20	12.47	-9.08	-13.00	-29.80
5197.500	-34.31	-37.56	12.39	-9.14	-13.00	-21.30

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。



Page 29 of 139

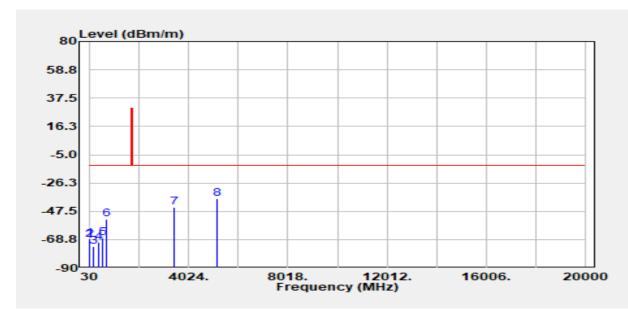
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B4 BPSK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.1/66

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :1732.5 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		•
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-68.11	-48.89	-18.97	-0.25	-13.00	-55.10
51.340	-68.98	-52.05	-16.60	-0.33	-13.00	-55.97
196.840	-74.20	-72.16	-1.24	-0.80	-13.00	-61.19
433.520	-70.99	-68.91	-0.94	-1.14	-13.00	-57.98
575.140	-67.42	-64.76	-0.95	-1.71	-13.00	-54.41
731.310	-53.21	-50.06	-1.18	-1.97	-13.00	-40.20
3465.000	-44.63	-48.02	12.47	-9.08	-13.00	-31.62
5197.500	-37.98	-41.23	12.39	-9.14	-13.00	-24.97

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。



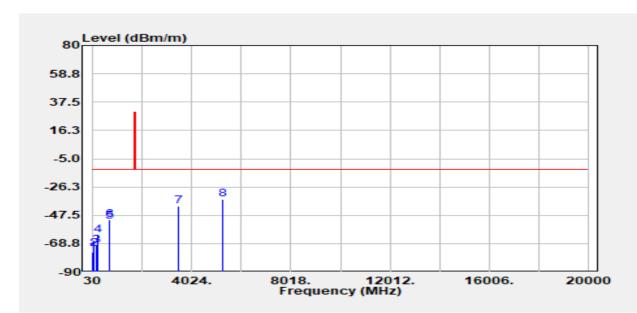
Page 30 of 139

Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B4 BPSK **Test Date** :2020-12-14

Test Mode :TX CH High Temp./Humi. :21.1/66 **EUT Pol** :E2 Plan Antenna Pol. :Vertical

:1754.9 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
51.340	-74.98	-58.05	-16.60	-0.33	-13.00	-61.97
114.390	-72.40	-65.15	-6.65	-0.60	-13.00	-59.39
197.810	-69.81	-67.79	-1.22	-0.80	-13.00	-56.80
278.320	-62.55	-60.58	-1.05	-0.92	-13.00	-49.54
731.310	-52.46	-49.31	-1.18	-1.97	-13.00	-39.45
745.860	-50.83	-47.58	-1.51	-1.74	-13.00	-37.82
3509.800	-40.37	-43.52	12.40	-9.25	-13.00	-27.36
5264.700	-35.38	-39.43	12.87	-8.82	-13.00	-22.37

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。



Page 31 of 139

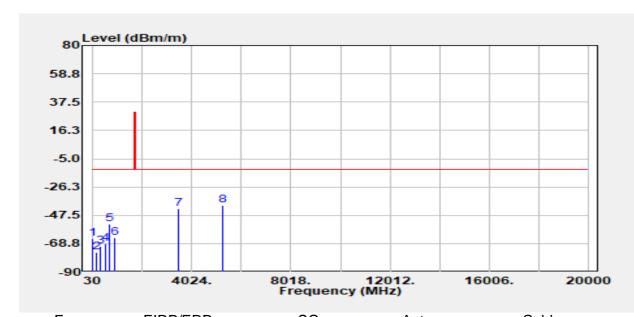
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B4 BPSK **Test Date** :2020-12-14

Test Mode :TX CH High Temp./Humi. :21.1/66

EUT Pol :E2 Plan Antenna Pol. :Horizontal

:1754.9 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
44.550	CE 04	40.74	47.00	0.00	42.00	F2 00
44.550	-65.01	-46.74	-17.98	-0.29	-13.00	-52.00
201.690	-75.23	-73.47	-0.95	-0.81	-13.00	-62.22
345.250	-71.01	-69.39	-0.47	-1.15	-13.00	-58.00
578.050	-68.63	-65.96	-0.96	-1.71	-13.00	-55.62
745.860	-53.76	-50.51	-1.51	-1.74	-13.00	-40.75
943.740	-64.37	-61.16	-1.44	-1.77	-13.00	-51.36
3509.800	-42.65	-46.03	12.40	-9.02	-13.00	-29.64
5264.700	-39.74	-43.79	12.86	-8.81	-13.00	-26.73

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。



Page 32 of 139

NB IOT Band 5

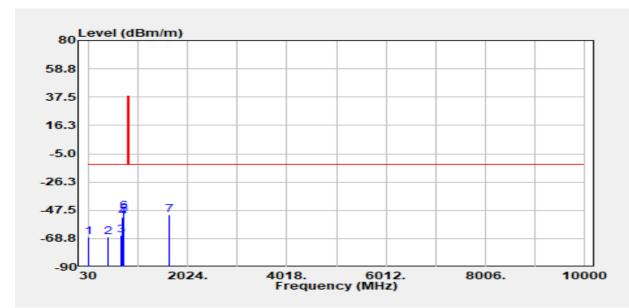
Report Number Test Site :966 Chamber C :E2/2020/B0031

:NB IoT B5 BPSK **Test Date** :2020-12-14 **Operation Mode**

Test Mode :TX CH Low Temp./Humi. :20.5/66

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :824.1 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
47.460	-67.83	-50.01	-17.52	-0.30	-13.00	-54.82
424.790	-67.36	-65.38	-0.77	-1.21	-13.00	-54.35
688.630	-66.00	-63.83	-0.95	-1.22	-13.00	-52.99
731.310	-53.05	-49.90	-1.18	-1.97	-13.00	-40.04
738.100	-50.98	-47.80	-1.30	-1.88	-13.00	-37.97
745.860	-48.32	-45.07	-1.51	-1.74	-13.00	-35.31
1648.200	-50.72	-54.97	9.50	-5.25	-13.00	-37.71

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。



Page 33 of 139

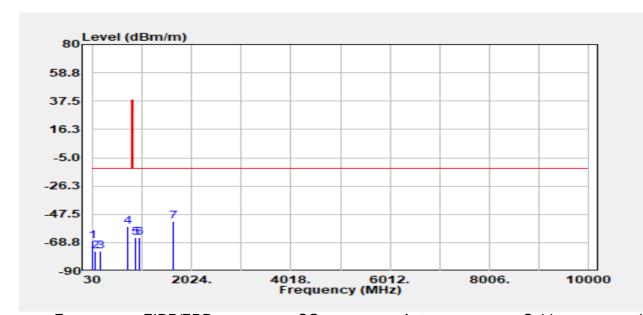
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B5 BPSK **Test Date** :2020-12-14

Test Mode :TX CH Low Temp./Humi. :20.5/66

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :824.1 MHz Engineer :Ashton Chiu



Margin
•
dB
-54.44
-61.97
-61.92
-43.45
-51.99
-51.67
-39.89

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。



Page 34 of 139

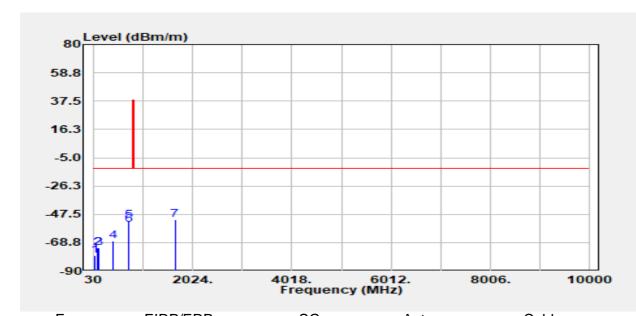
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B5 BPSK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :20.5/66

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :836.5 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
57.160	-78.57	-62.89	-15.30	-0.38	-13.00	-65.56
118.270	-72.90	-65.58	-6.71	-0.61	-13.00	-59.89
142.520	-72.92	-65.28	-7.01	-0.63	-13.00	-59.91
430.610	-67.44	-65.40	-0.88	-1.16	-13.00	-54.43
735.190	-51.86	-48.72	-1.22	-1.92	-13.00	-38.85
746.830	-55.40	-52.17	-1.51	-1.72	-13.00	-42.39
1673.000	-51.72	-56.05	9.55	-5.22	-13.00	-38.71

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。



Page 35 of 139

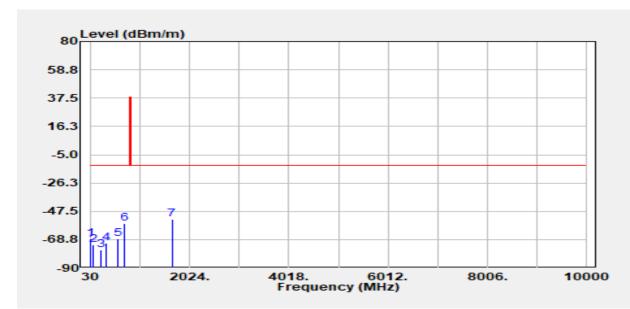
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B5 BPSK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :20.5/66

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :836.5 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-68.10	-48.88	-18.97	-0.25	-13.00	-55.09
103.720	-72.41	-65.86	-5.99	-0.56	-13.00	-59.40
238.550	-76.74	-75.23	-0.65	-0.86	-13.00	-63.73
355.920	-71.43	-69.95	-0.45	-1.03	-13.00	-58.42
600.360	-68.48	-66.01	-1.29	-1.18	-13.00	-55.47
731.310	-56.32	-53.17	-1.18	-1.97	-13.00	-43.31
1673.000	-53.34	-57.67	9.55	-5.22	-13.00	-40.33

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。



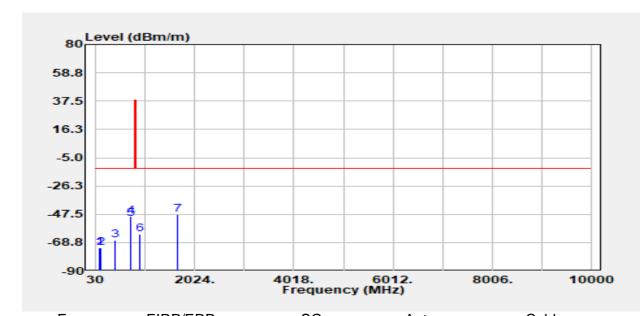
Page 36 of 139

Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B5 BPSK **Test Date** :2020-12-14

Test Mode :TX CH High Temp./Humi. :20.5/67 **EUT Pol** :E2 Plan Antenna Pol. :Vertical

Test Frequency :848.9 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
116.330	-72.86	-65.63	-6.63	-0.60	-13.00	-59.85
140.580	-72.85	-65.25	-6.99	-0.61	-13.00	-59.84
429.640	-66.67	-64.65	-0.86	-1.16	-13.00	-53.66
733.250	-48.72	-45.57	-1.20	-1.95	-13.00	-35.71
746.830	-51.03	-47.80	-1.51	-1.72	-13.00	-38.02
933.070	-62.31	-59.17	-1.40	-1.74	-13.00	-49.30
1697.800	-47.63	-52.05	9.60	-5.18	-13.00	-34.62

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。



Page 37 of 139

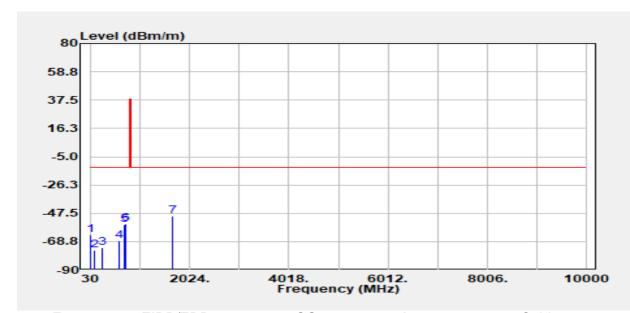
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B5 BPSK **Test Date** :2020-12-14

Test Mode :TX CH High Temp./Humi. :20.5/67

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :848.9 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		•
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-63.69	-44.47	-18.97	-0.25	-13.00	-50.68
126.030	-75.51	-68.06	-6.84	-0.61	-13.00	-62.50
264.740	-73.02	-71.41	-0.68	-0.93	-13.00	-60.01
612.000	-67.90	-65.33	-1.40	-1.17	-13.00	-54.89
731.310	-55.72	-52.57	-1.18	-1.97	-13.00	-42.71
746.830	-55.18	-51.95	-1.51	-1.72	-13.00	-42.17
1697.800	-49.49	-53.91	9.60	-5.18	-13.00	-36.48

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。



Page 38 of 139

NB IOT Band 12

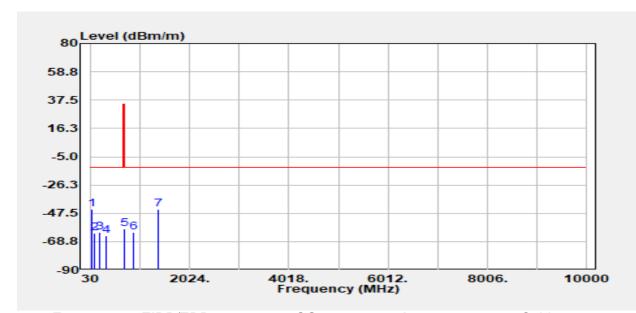
Report Number Test Site :966 Chamber C :E2/2020/B0031

:NB IoT B12 QPSK **Test Date** :2020-12-15 Operation Mode

Test Mode :TX CH Low Temp./Humi. :21.3/62

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :699.1 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
55.220	-44.32	-28.24	-15.72	-0.36	-13.00	-31.31
115.360	-62.62	-55.35	-6.67	-0.60	-13.00	-49.61
212.360	-61.48	-60.25	-0.40	-0.83	-13.00	-48.47
342.340	-64.57	-62.84	-0.55	-1.18	-13.00	-51.56
730.340	-58.96	-55.80	-1.17	-1.99	-13.00	-45.95
906.880	-61.50	-58.39	-1.23	-1.88	-13.00	-48.49
1398.200	-44.67	-47.88	7.58	-4.37	-13.00	-31.66

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 https://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 f (886-2) 2298-0488 www.sgs.com.tw



Page 39 of 139

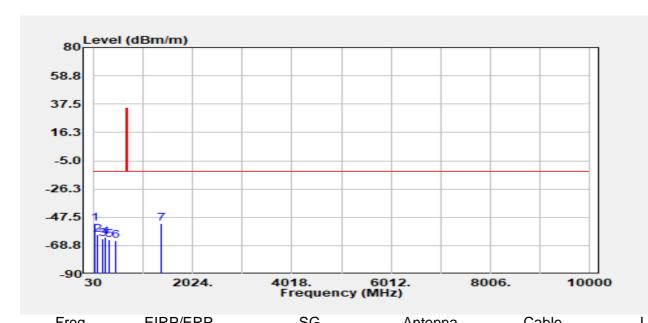
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B12 QPSK **Test Date** :2020-12-15

Test Mode :TX CH Low Temp./Humi. :21.3/62

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :699.1 MHz Engineer :Ashton Chiu



	Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
_	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
	62.010	-52.27	-37.76	-14.09	-0.42	-13.00	-39.26
	128.940	-60.32	-52.78	-6.93	-0.61	-13.00	-47.31
	213.330	-63.73	-62.54	-0.36	-0.83	-13.00	-50.72
	266.680	-62.42	-60.72	-0.76	-0.94	-13.00	-49.41
	341.370	-64.28	-62.52	-0.57	-1.19	-13.00	-51.27
	480.080	-65.29	-63.02	-0.82	-1.45	-13.00	-52.28
	1398.200	-52.25	-55.46	7.58	-4.37	-13.00	-39.24

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。



Page 40 of 139

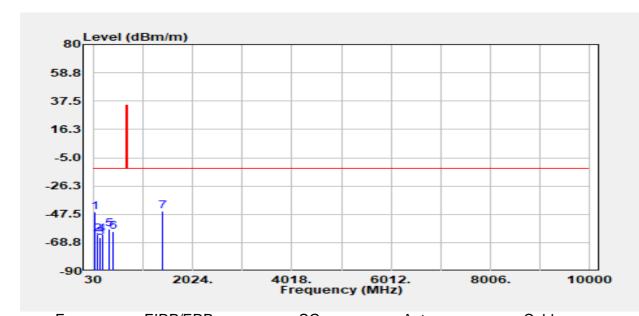
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B12 QPSK **Test Date** :2020-12-15

Test Mode :TX CH Mid Temp./Humi. :21.4/62

EUT Pol :E2 Plan Antenna Pol. :Vertical

:707.5 MHz **Test Frequency** Engineer :Ashton Chiu



	Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
_	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
	55.220	-46.03	-29.95	-15.72	-0.36	-13.00	-33.02
	119.240	-62.24	-54.87	-6.76	-0.61	-13.00	-49.23
	174.530	-64.73	-59.23	-4.80	-0.70	-13.00	-51.72
	209.450	-62.57	-61.21	-0.53	-0.83	-13.00	-49.56
	355.920	-58.87	-57.39	-0.45	-1.03	-13.00	-45.86
	420.910	-60.79	-58.84	-0.70	-1.25	-13.00	-47.78
	1415.000	-45.39	-48.70	7.72	-4.41	-13.00	-32.38

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。



Page 41 of 139

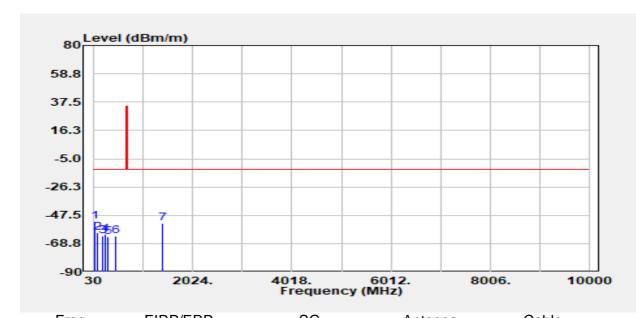
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B12 QPSK **Test Date** :2020-12-15

Test Mode :TX CH Mid Temp./Humi. :21.4/62

EUT Pol :E2 Plan Antenna Pol. :Horizontal

:707.5 MHz **Test Frequency** Engineer :Ashton Chiu



	Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
_							
	62.010	-52.11	-37.60	-14.09	-0.42	-13.00	-39.10
	128.940	-60.63	-53.09	-6.93	-0.61	-13.00	-47.62
	231.760	-62.76	-61.81	-0.09	-0.86	-13.00	-49.75
	262.800	-61.67	-60.09	-0.66	-0.92	-13.00	-48.66
	336.520	-63.77	-61.90	-0.70	-1.17	-13.00	-50.76
	477.170	-62.88	-60.65	-0.81	-1.42	-13.00	-49.87
	1415.000	-53.49	-56.80	7.72	-4.41	-13.00	-40.48

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。



Page 42 of 139

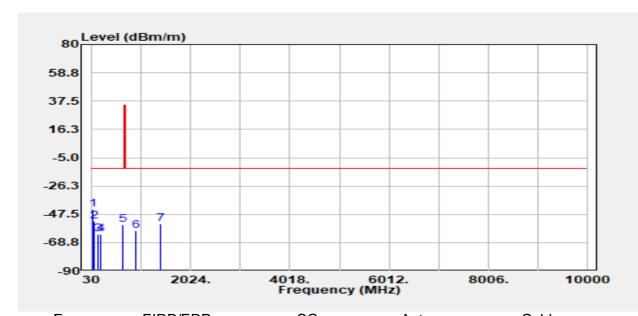
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B12 QPSK **Test Date** :2020-12-15

Test Mode :TX CH High Temp./Humi. :21.4/62

EUT Pol :E2 Plan Antenna Pol. :Vertical

:715.9 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
56.190	-43.65	-27.67	-15.61	-0.37	-13.00	-30.64
102.750	-52.53	-46.00	-5.98	-0.55	-13.00	-39.52
175.500	-62.73	-57.38	-4.65	-0.70	-13.00	-49.72
226.910	-62.19	-61.56	0.22	-0.85	-13.00	-49.18
666.320	-55.11	-52.33	-1.06	-1.72	-13.00	-42.10
937.920	-59.70	-56.49	-1.46	-1.75	-13.00	-46.69
1431.800	-54.97	-58.35	7.86	-4.48	-13.00	-41.96

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。



Page 43 of 139

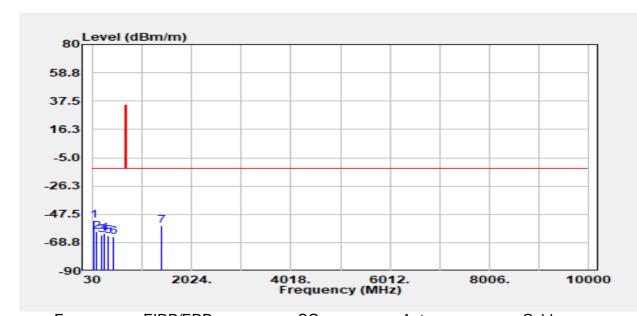
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B12 QPSK **Test Date** :2020-12-15

Test Mode :TX CH High Temp./Humi. :21.4/62

EUT Pol :E2 Plan Antenna Pol. :Horizontal

:715.9 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
57.160	-51.89	-36.21	-15.30	-0.38	-13.00	-38.88
128.940	-60.17	-52.63	-6.93	-0.61	-13.00	-47.16
226.910	-63.26	-62.63	0.22	-0.85	-13.00	-50.25
271.530	-61.46	-59.59	-0.92	-0.95	-13.00	-48.45
341.370	-63.81	-62.05	-0.57	-1.19	-13.00	-50.80
464.560	-64.18	-62.09	-0.89	-1.20	-13.00	-51.17
1431.800	-55.97	-59.35	7.86	-4.48	-13.00	-42.96

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。



Page 44 of 139

NB IOT Band 13

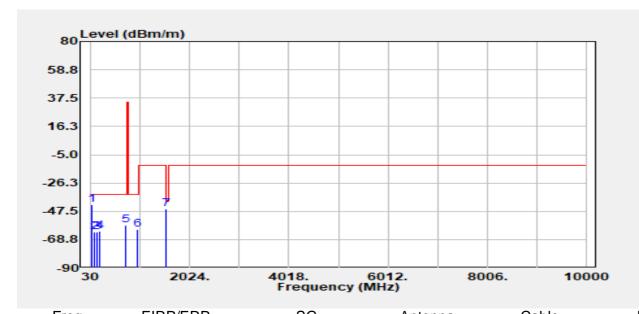
Report Number Test Site :966 Chamber C :E2/2020/B0031

Test Date Operation Mode :NB IoT B13 BPSK :2020-12-15

Test Mode :TX CH Low Temp./Humi. :22.1/61

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :777.1 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
56.190	-42.37	-26.39	-15.61	-0.37	-35.00	-7.36
126.030	-62.85	-55.40	-6.84	-0.61	-35.00	-27.84
175.500	-63.33	-57.98	-4.65	-0.70	-35.00	-28.32
216.240	-62.56	-61.52	-0.21	-0.83	-35.00	-27.55
746.830	-58.12	-54.89	-1.51	-1.72	-35.00	-23.11
988.360	-60.94	-57.83	-1.21	-1.90	-35.00	-25.93
1554.200	-45.59	-49.92	9.13	-4.80	-13.00	-32.58

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 https://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 f (886-2) 2298-0488 www.sgs.com.tw



:777.1 MHz

Test Frequency

Report No.: E2/2020/B0031

:Ashton Chiu

Page 45 of 139

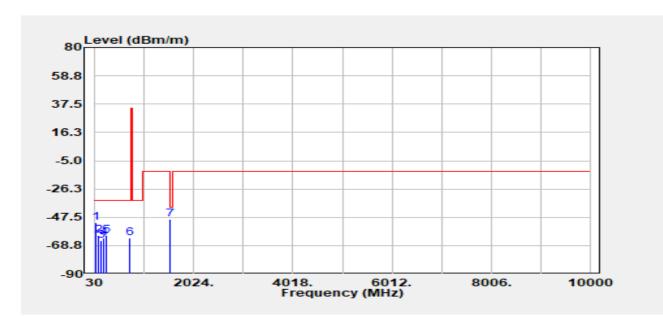
Engineer

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B13 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Low Temp./Humi. :22.1/61

EUT Pol :E2 Plan Antenna Pol. :Horizontal



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		J
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
62.010	-51.67	-37.16	-14.09	-0.42	-35.00	-16.66
127.970	-61.43	-53.92	-6.90	-0.61	-35.00	-26.42
169.680	-65.23	-59.02	-5.55	-0.66	-35.00	-30.22
224.970	-63.37	-62.83	0.30	-0.84	-35.00	-28.36
265.710	-60.86	-59.21	-0.71	-0.94	-35.00	-25.85
737.130	-62.87	-59.70	-1.27	-1.90	-35.00	-27.86
1544.200	-48.94	-53.19	9.05	-4.80	-13.00	-35.93

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。



:E2 Plan

EUT Pol

Report No.: E2/2020/B0031

Page 46 of 139

:Vertical

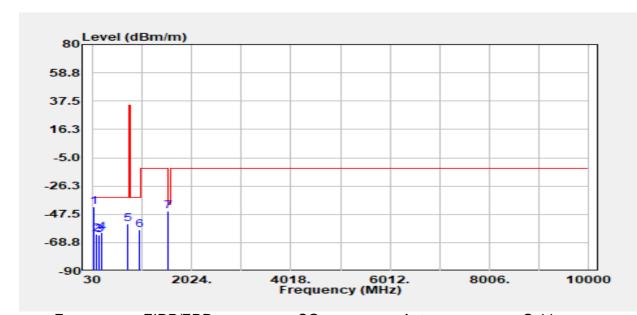
Antenna Pol.

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B13 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Mid Temp./Humi. :22.3/60

Test Frequency :782 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		•
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
56.190	-41.68	-25.70	-15.61	-0.37	-35.00	-6.67
122.150	-62.53	-55.02	-6.90	-0.61	-35.00	-27.52
175.500	-62.82	-57.47	-4.65	-0.70	-35.00	-27.81
227.880	-61.34	-60.67	0.18	-0.85	-35.00	-26.33
740.040	-54.65	-51.43	-1.36	-1.86	-35.00	-19.64
982.540	-59.21	-56.14	-1.19	-1.88	-35.00	-24.20
1564.000	-44.87	-49.21	9.18	-4.84	-40.00	-4.86

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。



Page 47 of 139

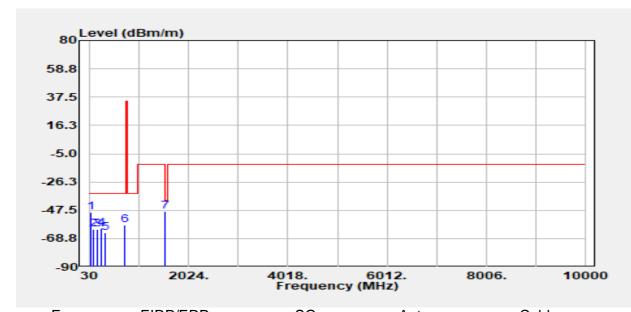
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B13 BPSK Test Date :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :22.3/60

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :782 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
55.220	-48.95	-32.87	-15.72	-0.36	-35.00	-13.94
127.970	-61.64	-54.13	-6.90	-0.61	-35.00	-26.63
205.570	-62.02	-60.43	-0.77	-0.82	-35.00	-27.01
266.680	-61.09	-59.39	-0.76	-0.94	-35.00	-26.08
341.370	-64.48	-62.72	-0.57	-1.19	-35.00	-29.47
739.070	-58.51	-55.31	-1.33	-1.87	-35.00	-23.50
1564.000	-48.49	-52.83	9.18	-4.84	-40.00	-8.48

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。



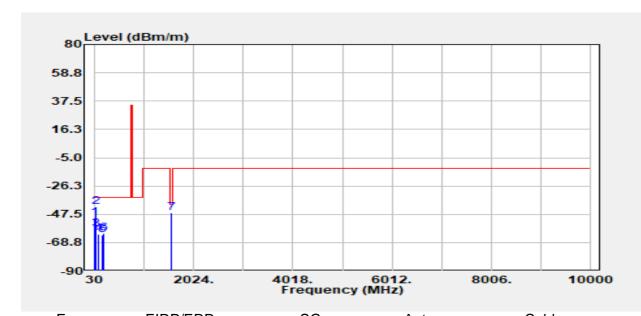
Page 48 of 139

Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B13 BPSK **Test Date** :2020-12-15

Test Mode :TX CH High Temp./Humi. :22.7/57 **EUT Pol** :E2 Plan Antenna Pol. :Vertical

Test Frequency :786.9 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
51.340	-50.17	-33.24	-16.60	-0.33	-35.00	-15.16
56.190	-42.11	-26.13	-15.61	-0.37	-35.00	-7.10
66.860	-58.49	-45.18	-12.85	-0.46	-35.00	-23.48
115.360	-62.61	-55.34	-6.67	-0.60	-35.00	-27.60
205.570	-62.89	-61.30	-0.77	-0.82	-35.00	-27.88
226.910	-61.60	-60.97	0.22	-0.85	-35.00	-26.59
1573.800	-46.58	-50.95	9.24	-4.87	-40.00	-6.57

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。



Page 49 of 139

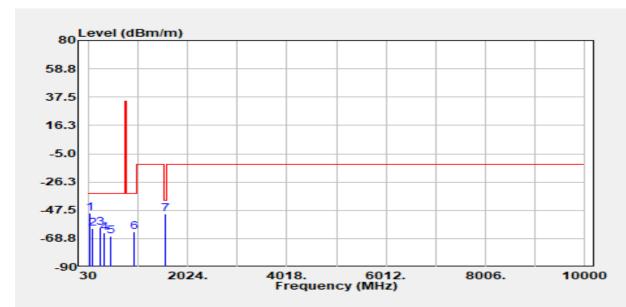
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B13 BPSK **Test Date** :2020-12-15

Test Mode :TX CH High Temp./Humi. :22.7/57

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :786.9 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
56.190	-49.79	-33.81	-15.61	-0.37	-35.00	-14.78
128.940	-61.14	-53.60	-6.93	-0.61	-35.00	-26.13
269.590	-60.72	-58.88	-0.89	-0.95	-35.00	-25.71
347.190	-64.17	-62.61	-0.43	-1.13	-35.00	-29.16
475.230	-66.79	-64.57	-0.81	-1.41	-35.00	-31.78
951.500	-63.44	-60.28	-1.37	-1.79	-35.00	-28.43
1573.800	-50.01	-54.38	9.24	-4.87	-40.00	-10.00

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。



Page 50 of 139

NB IOT Band 13 (763-775MHz)

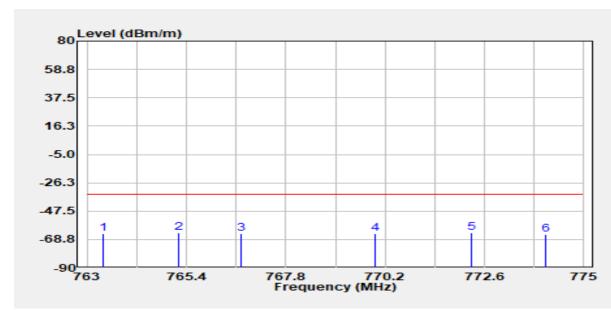
Report Number :E2/2020/B0031 **Test Site** :966 Chamber C

Operation Mode :NB IoT B13 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Low Temp./Humi. :23.0/56

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency Engineer :Ashton Chiu :777.1 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		
 MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
763.384	-64.54	-61.62	-1.49	-1.43	-35.00	-29.53
765.220	-63.43	-60.55	-1.47	-1.41	-35.00	-28.42
766.708	-64.10	-61.22	-1.48	-1.40	-35.00	-29.09
769.972	-64.09	-61.22	-1.51	-1.36	-35.00	-29.08
772.276	-64.02	-61.12	-1.53	-1.37	-35.00	-29.01
774.064	-64.74	-61.83	-1.54	-1.37	-35.00	-29.73

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 https://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 f (886-2) 2298-0488 www.sgs.com.tw



:E2 Plan

EUT Pol

Report No.: E2/2020/B0031

Page 51 of 139

:Horizontal

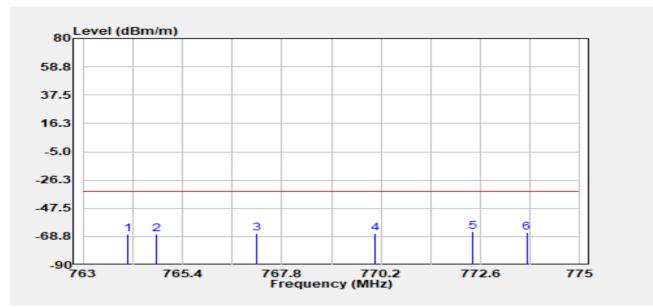
Antenna Pol.

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B13 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Low Temp./Humi. :23.0/56

Test Frequency :777.1 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		•
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
764.080	-67.15	-64.25	-1.48	-1.42	-35.00	-32.14
764.764	-67.07	-64.18	-1.47	-1.42	-35.00	-32.06
767.200	-66.31	-63.43	-1.49	-1.39	-35.00	-31.30
770.044	-66.14	-63.27	-1.51	-1.36	-35.00	-31.13
772.408	-65.20	-62.30	-1.53	-1.37	-35.00	-30.19
773.716	-65.86	-62.95	-1.54	-1.37	-35.00	-30.85

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。



Page 52 of 139

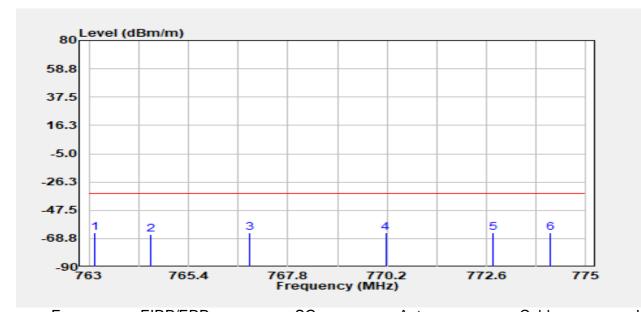
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B13 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Mid Temp./Humi. :23.0/56

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :782 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		_
 MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
763.132	-64.19	-61.26	-1.49	-1.44	-35.00	-29.18
764.488	-65.75	-62.85	-1.48	-1.42	-35.00	-30.74
766.888	-64.40	-61.52	-1.49	-1.39	-35.00	-29.39
770.164	-64.05	-61.18	-1.51	-1.36	-35.00	-29.04
772.744	-64.30	-61.40	-1.53	-1.37	-35.00	-29.29
774.136	-64.11	-61.20	-1.54	-1.37	-35.00	-29.10

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。



Page 53 of 139

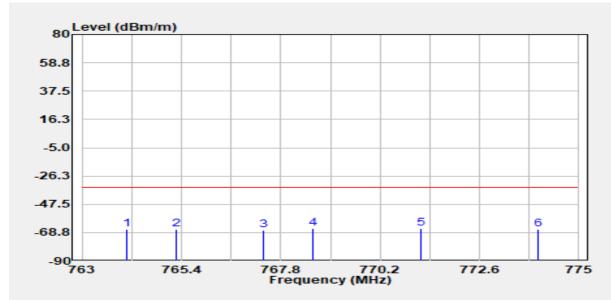
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B13 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Mid Temp./Humi. :23.0/56

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :782 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
764.080	-66.53	-63.63	-1.48	-1.42	-35.00	-31.52
765.280	-66.55	-63.67	-1.47	-1.41	-35.00	-31.54
767.368	-66.62	-63.74	-1.49	-1.39	-35.00	-31.61
768.580	-65.68	-62.80	-1.50	-1.38	-35.00	-30.67
771.196	-65.44	-62.56	-1.52	-1.36	-35.00	-30.43
774.028	-66.14	-63.23	-1.54	-1.37	-35.00	-31.13

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。



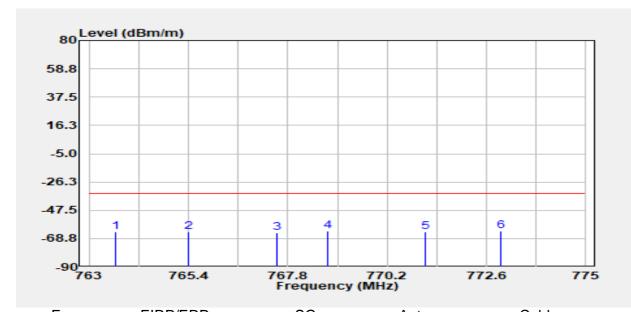
Page 54 of 139

Report Number Test Site :966 Chamber C :E2/2020/B0031

:2020-12-15 **Operation Mode** :NB IoT B13 BPSK **Test Date**

Test Mode :TX CH High Temp./Humi. :23.2/55 **EUT Pol** :E2 Plan Antenna Pol. :Vertical

Test Frequency :786.9 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
763.648	-63.44	-60.53	-1.48	-1.43	-35.00	-28.43
765.400	-63.69	-60.81	-1.47	-1.41	-35.00	-28.68
767.548	-64.10	-61.22	-1.49	-1.39	-35.00	-29.09
768.760	-63.38	-60.51	-1.50	-1.37	-35.00	-28.37
771.124	-63.77	-60.89	-1.52	-1.36	-35.00	-28.76
772.948	-63.18	-60.28	-1.53	-1.37	-35.00	-28.17

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。



Page 55 of 139

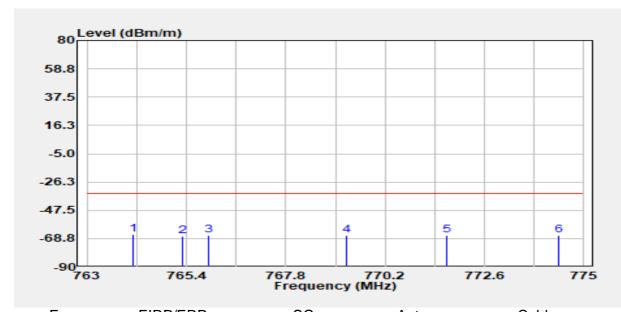
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :2020-12-15 :NB IoT B13 BPSK **Test Date**

Test Mode :TX CH High Temp./Humi. :23.2/55

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :786.9 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
764.116	-65.54	-62.64	-1.48	-1.42	-35.00	-30.53
765.292	-66.81	-63.93	-1.47	-1.41	-35.00	-31.80
765.928	-66.28	-63.40	-1.48	-1.40	-35.00	-31.27
769.276	-66.02	-63.15	-1.50	-1.37	-35.00	-31.01
771.700	-66.01	-63.12	-1.52	-1.37	-35.00	-31.00
774.400	-66.16	-63.24	-1.55	-1.37	-35.00	-31.15

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。



Page 56 of 139

NB IOT Band 13 (793-805MHz)

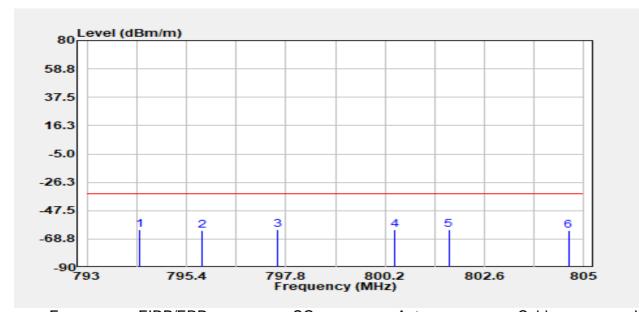
Report Number :E2/2020/B0031 **Test Site** :966 Chamber C

Operation Mode :2020-12-15 :NB IoT B13 BPSK **Test Date**

Test Mode :TX CH Low Temp./Humi. :23.2/55

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :777.1 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
794.272	-61.83	-26.51	-1.52	-1.56	-35.00	-26.82
795.784	-62.30	-57.42	-1.49	-1.58	-35.00	-27.29
797.596	-62.08	-61.43	-1.40	-1.60	-35.00	-27.07
800.416	-61.99	-61.72	-1.27	-1.64	-35.00	-26.98
801.736	-61.79	-59.60	-1.26	-1.65	-35.00	-26.78
804.628	-62.26	-62.10	-1.22	-1.69	-35.00	-27.25

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 https://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 f (886-2) 2298-0488 www.sgs.com.tw



Page 57 of 139

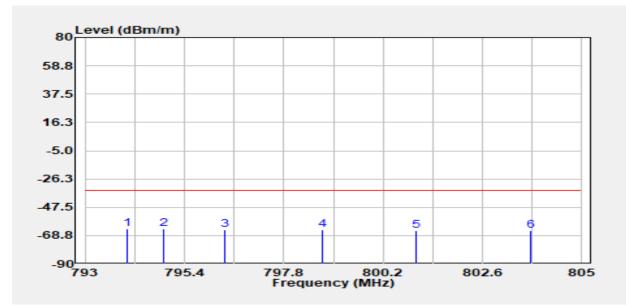
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B13 BPSK Test Date :2020-12-15

Test Mode :TX CH Low Temp./Humi. :23.2/55

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :777.1 MHz Engineer :Ashton Chiu



EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	Output Level	Gain	Loss		
dBm	dBm	dBi/dBd	dB	dBm	dB
-63.69	-26.51	-1.52	-1.55	-35.00	-28.68
-63.92	-57.42	-1.53	-1.56	-35.00	-28.91
-64.06	-61.43	-1.46	-1.58	-35.00	-29.05
-64.60	-61.72	-1.34	-1.61	-35.00	-29.59
-64.80	-59.60	-1.27	-1.64	-35.00	-29.79
-64.84	-62.10	-1.23	-1.68	-35.00	-29.83
	-63.69 -63.92 -64.06 -64.60 -64.80	Output Level dBm -63.69 -63.92 -64.06 -61.43 -64.60 -61.72 -64.80 -59.60	Output Level Gain dBm dBi/dBd -63.69 -26.51 -1.52 -63.92 -57.42 -1.53 -64.06 -61.43 -1.46 -64.60 -61.72 -1.34 -64.80 -59.60 -1.27	dBm Output Level dBm Gain dBi/dBd Loss dB -63.69 -26.51 -1.52 -1.55 -63.92 -57.42 -1.53 -1.56 -64.06 -61.43 -1.46 -1.58 -64.60 -61.72 -1.34 -1.61 -64.80 -59.60 -1.27 -1.64	dBm Output Level dBm Gain dBi/dBd Loss dBm -63.69 -26.51 -1.52 -1.55 -35.00 -63.92 -57.42 -1.53 -1.56 -35.00 -64.06 -61.43 -1.46 -1.58 -35.00 -64.60 -61.72 -1.34 -1.61 -35.00 -64.80 -59.60 -1.27 -1.64 -35.00

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。



Page 58 of 139

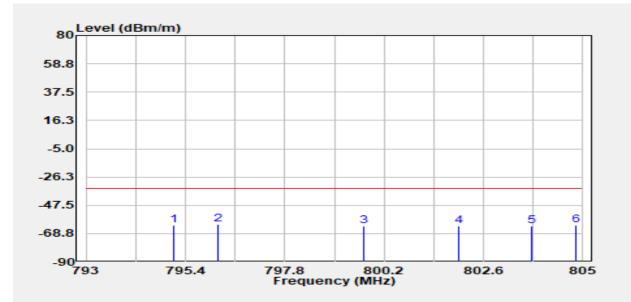
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B13 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Mid Temp./Humi. :23.2/55

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :782 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
795.124	-62.69	-26.51	-1.52	-1.57	-35.00	-27.68
796.192	-61.94	-57.42	-1.47	-1.58	-35.00	-26.93
799.708	-62.90	-61.43	-1.29	-1.63	-35.00	-27.89
801.988	-62.79	-61.72	-1.26	-1.66	-35.00	-27.78
803.752	-62.90	-59.60	-1.23	-1.68	-35.00	-27.89
804.844	-62.29	-62.10	-1.22	-1.69	-35.00	-27.28

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。



Page 59 of 139

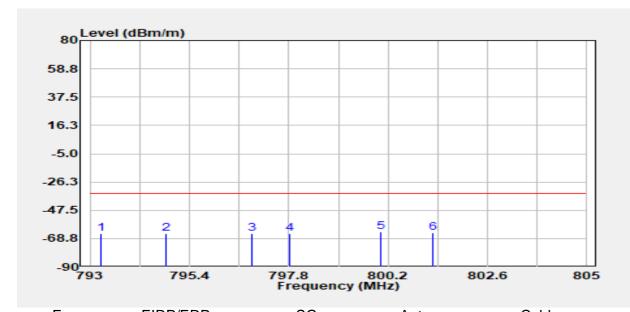
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B13 BPSK Test Date :2020-12-15

Test Mode :TX CH Mid Temp./Humi. :23.2/55

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :782 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
793.276	-64.83	-26.51	-1.52	-1.54	-35.00	-29.82
794.824	-64.73	-57.42	-1.53	-1.56	-35.00	-29.72
796.900	-64.67	-61.43	-1.43	-1.59	-35.00	-29.66
797.812	-64.84	-61.72	-1.39	-1.60	-35.00	-29.83
800.020	-63.87	-59.60	-1.28	-1.63	-35.00	-28.86
801.268	-64.17	-62.10	-1.26	-1.65	-35.00	-29.16

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。



Page 60 of 139

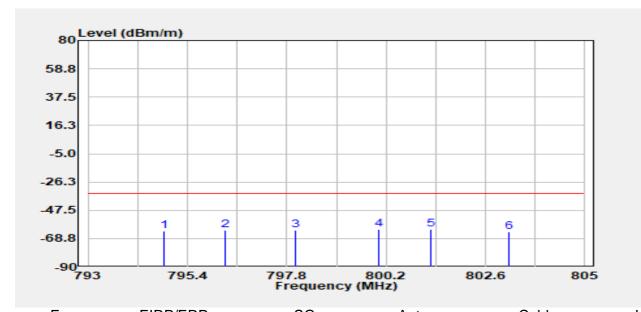
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :2020-12-15 :NB IoT B13 BPSK **Test Date**

Test Mode :TX CH High Temp./Humi. :23.5/54

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :786.9 MHz Engineer :Ashton Chiu



	Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
_	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
	794.824	-62.80	-26.51	-1.53	-1.56	-35.00	-27.79
	796.324	-62.15	-57.42	-1.46	-1.58	-35.00	-27.14
	798.004	-62.31	-61.43	-1.38	-1.60	-35.00	-27.30
	800.020	-61.82	-61.72	-1.28	-1.63	-35.00	-26.81
	801.268	-62.08	-59.60	-1.26	-1.65	-35.00	-27.07
	803.152	-63.57	-62.10	-1.24	-1.67	-35.00	-28.56

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。



Page 61 of 139

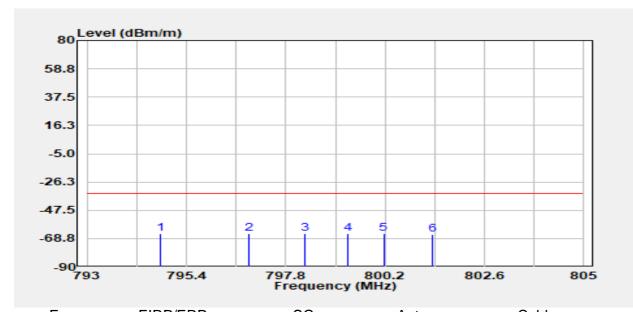
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B13 BPSK **Test Date** :2020-12-15

Test Mode :TX CH High Temp./Humi. :23.5/54

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :786.9 MHz Engineer :Ashton Chiu



	Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
_	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
	794.776	-64.92	-26.51	-1.53	-1.56	-35.00	-29.91
	796.912	-64.71	-57.42	-1.43	-1.59	-35.00	-29.70
	798.268	-65.06	-61.43	-1.37	-1.61	-35.00	-30.05
	799.288	-65.19	-61.72	-1.32	-1.62	-35.00	-30.18
	800.164	-65.07	-59.60	-1.28	-1.63	-35.00	-30.06
	801.340	-65.39	-62.10	-1.26	-1.65	-35.00	-30.38

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。



Page 62 of 139

NB IOT Band 14

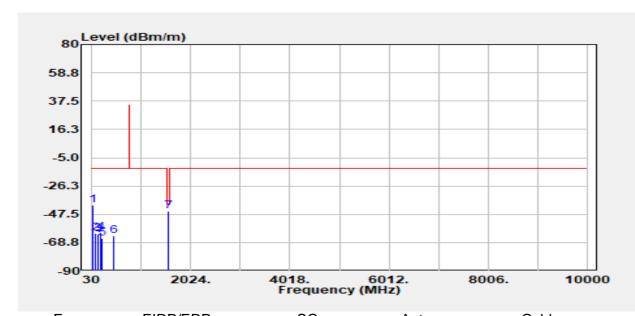
Report Number Test Site :966 Chamber C :E2/2020/B0031

Test Date Operation Mode :NB IoT B14 BPSK :2020-12-15

Test Mode :TX CH Low Temp./Humi. :23.6/54

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :788.1 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
56.190	-40.57	-24.59	-15.61	-0.37	-13.00	-27.56
122.150	-61.86	-54.35	-6.90	-0.61	-13.00	-48.85
175.500	-62.20	-56.85	-4.65	-0.70	-13.00	-49.19
224.000	-61.26	-60.66	0.24	-0.84	-13.00	-48.25
238.550	-65.47	-63.96	-0.65	-0.86	-13.00	-52.46
488.810	-63.77	-61.53	-0.66	-1.58	-13.00	-50.76
1576.200	-44.98	-49.36	9.26	-4.88	-40.00	-4.97

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。



:E2 Plan

EUT Pol

Report No.: E2/2020/B0031

Page 63 of 139

:Horizontal

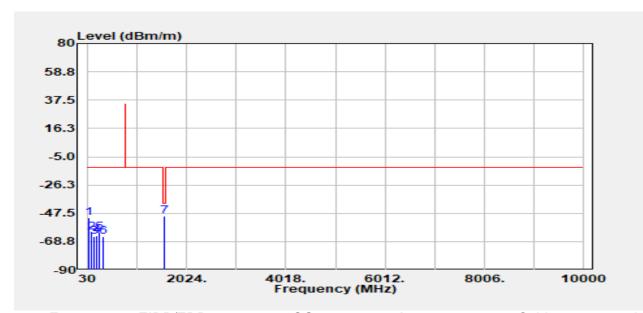
Antenna Pol.

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B14 BPSK **Test Date** :2020-12-16

Test Mode :TX CH Low Temp./Humi. :23.6/54

Test Frequency :788.1 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		J
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
56.190	-50.69	-34.71	-15.61	-0.37	-13.00	-37.68
128.940	-61.71	-54.17	-6.93	-0.61	-13.00	-48.70
174.530	-65.14	-59.64	-4.80	-0.70	-13.00	-52.13
211.390	-64.24	-62.97	-0.44	-0.83	-13.00	-51.23
266.680	-61.55	-59.85	-0.76	-0.94	-13.00	-48.54
344.280	-64.68	-63.02	-0.50	-1.16	-13.00	-51.67
1576.200	-49.71	-54.09	9.26	-4.88	-40.00	-9.70

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。



Page 64 of 139

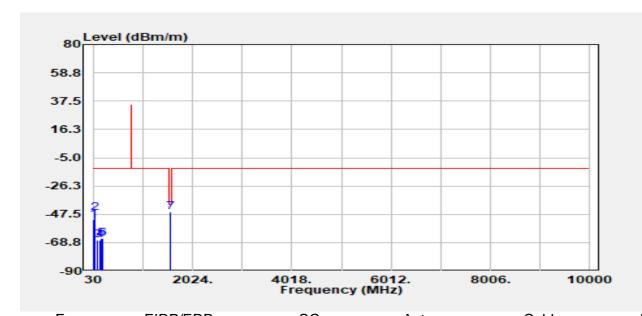
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B14 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Mid Temp./Humi. :23.6/54

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :793 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
 MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
50.370	-51.47	-34.23	-16.92	-0.32	-13.00	-38.46
56.190	-46.39	-30.41	-15.61	-0.37	-13.00	-33.38
119.240	-67.13	-59.76	-6.76	-0.61	-13.00	-54.12
176.470	-67.22	-62.10	-4.41	-0.71	-13.00	-54.21
204.600	-65.88	-64.24	-0.82	-0.82	-13.00	-52.87
211.390	-65.84	-64.57	-0.44	-0.83	-13.00	-52.83
1586.000	-45.67	-50.08	9.32	-4.91	-40.00	-5.66

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。



Page 65 of 139

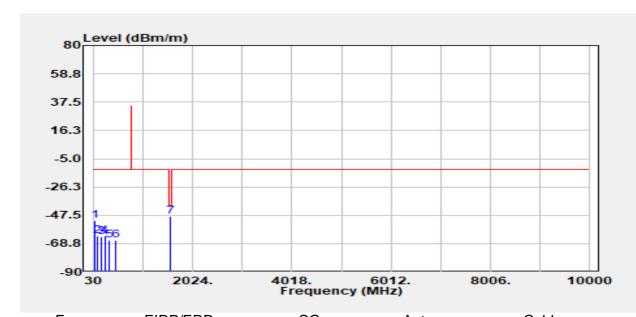
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B14 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Mid Temp./Humi. :23.6/54

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :793 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
56.190	-51.70	-35.72	-15.61	-0.37	-13.00	-38.69
127.970	-62.81	-55.30	-6.90	-0.61	-13.00	-49.80
199.750	-63.96	-62.13	-1.03	-0.80	-13.00	-50.95
261.830	-63.02	-61.45	-0.65	-0.92	-13.00	-50.01
347.190	-66.55	-64.99	-0.43	-1.13	-13.00	-53.54
480.080	-66.44	-64.17	-0.82	-1.45	-13.00	-53.43
1586.000	-48.46	-52.87	9.32	-4.91	-40.00	-8.45

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。



Page 66 of 139

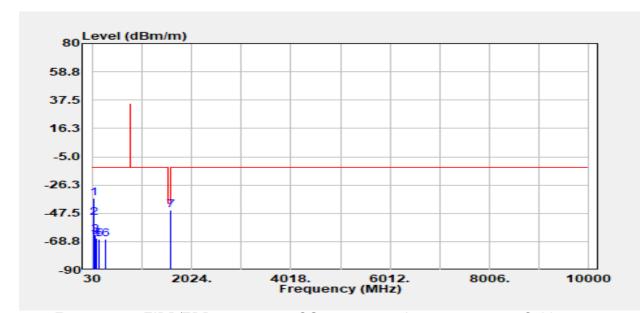
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B14 BPSK **Test Date** :2020-12-15

Test Mode :TX CH High Temp./Humi. :23.8/54

EUT Pol :E2 Plan Antenna Pol. :Vertical

:797.9 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
56.190	-35.85	-19.87	-15.61	-0.37	-13.00	-22.84
67.830	-51.12	-37.77	-12.88	-0.47	-13.00	-38.11
88.200	-63.64	-57.25	-5.91	-0.48	-13.00	-50.63
119.240	-66.43	-59.06	-6.76	-0.61	-13.00	-53.42
174.530	-67.22	-61.72	-4.80	-0.70	-13.00	-54.21
292.870	-66.82	-64.84	-1.02	-0.96	-13.00	-53.81
1595.800	-45.37	-49.80	9.38	-4.95	-40.00	-5.36

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。



Page 67 of 139

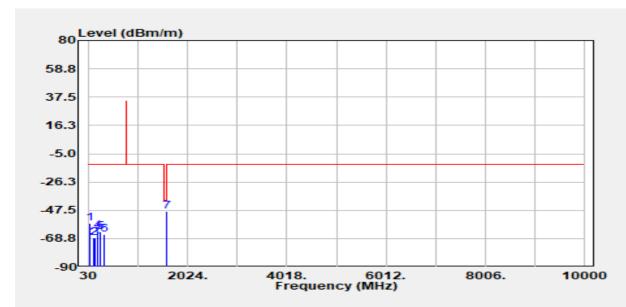
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B14 BPSK **Test Date** :2020-12-15

Test Mode :TX CH High Temp./Humi. :23.8/54

EUT Pol :E2 Plan Antenna Pol. :Horizontal

:797.9 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
62.010	-57.15	-42.64	-14.09	-0.42	-13.00	-44.14
134.760	-68.33	-60.62	-7.10	-0.61	-13.00	-55.32
176.470	-68.35	-63.23	-4.41	-0.71	-13.00	-55.34
230.790	-63.29	-62.44	0.01	-0.86	-13.00	-50.28
272.500	-63.86	-61.99	-0.93	-0.94	-13.00	-50.85
348.160	-65.66	-64.14	-0.40	-1.12	-13.00	-52.65
1595.800	-48.61	-53.04	9.38	-4.95	-40.00	-8.60

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。



Page 68 of 139

NB IOT Band 17

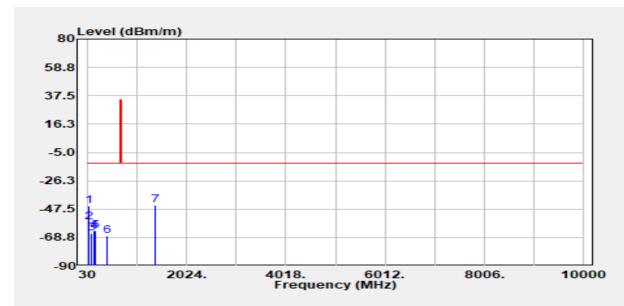
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B17 BPSK Test Date :2020-12-15

Test Mode :TX CH Low Temp./Humi. :23.8/53

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :704.2 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
55.220	-45.24	-29.16	-15.72	-0.36	-13.00	-32.23
67.830	-57.04	-43.69	-12.88	-0.47	-13.00	-44.03
115.360	-65.70	-58.43	-6.67	-0.60	-13.00	-52.69
176.470	-63.61	-58.49	-4.41	-0.71	-13.00	-50.60
205.570	-63.44	-61.85	-0.77	-0.82	-13.00	-50.43
423.820	-67.23	-65.26	-0.75	-1.22	-13.00	-54.22
1408.400	-44.22	-47.50	7.67	-4.39	-13.00	-31.21

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。



:E2 Plan

EUT Pol

Report No.: E2/2020/B0031

Page 69 of 139

:Horizontal

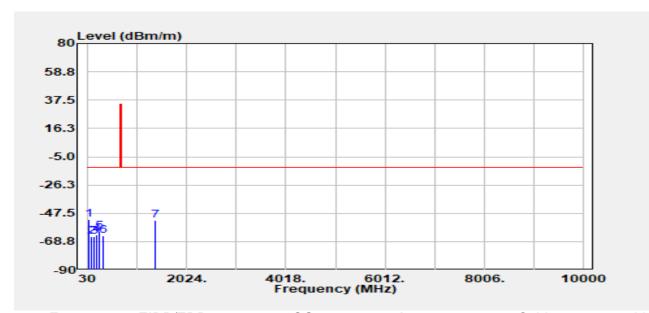
Antenna Pol.

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B17 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Low Temp./Humi. :23.8/53

Test Frequency :704.2 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		Ü
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
62.010	-51.90	-37.39	-14.09	-0.42	-13.00	-38.89
127.970	-64.82	-57.31	-6.90	-0.61	-13.00	-51.81
174.530	-65.10	-59.60	-4.80	-0.70	-13.00	-52.09
232.730	-63.43	-62.38	-0.19	-0.86	-13.00	-50.42
269.590	-61.38	-59.54	-0.89	-0.95	-13.00	-48.37
344.280	-64.62	-62.96	-0.50	-1.16	-13.00	-51.61
1408.400	-52.81	-56.09	7.67	-4.39	-13.00	-39.80

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。



Page 70 of 139

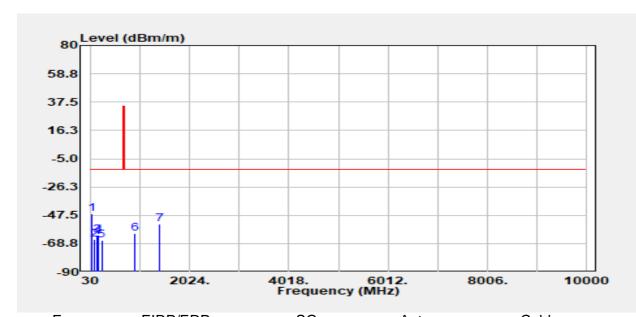
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :2020-12-15 :NB IoT B17 BPSK **Test Date**

Test Mode :TX CH Mid Temp./Humi. :23.8/53

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :710 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
55.220	-46.15	-30.07	-15.72	-0.36	-13.00	-33.14
126.030	-65.86	-58.41	-6.84	-0.61	-13.00	-52.85
180.350	-62.48	-57.99	-3.75	-0.74	-13.00	-49.47
205.570	-62.27	-60.68	-0.77	-0.82	-13.00	-49.26
261.830	-66.38	-64.81	-0.65	-0.92	-13.00	-53.37
935.980	-61.41	-58.23	-1.43	-1.75	-13.00	-48.40
1420.000	-54.36	-57.69	7.76	-4.43	-13.00	-41.35

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。



Page 71 of 139

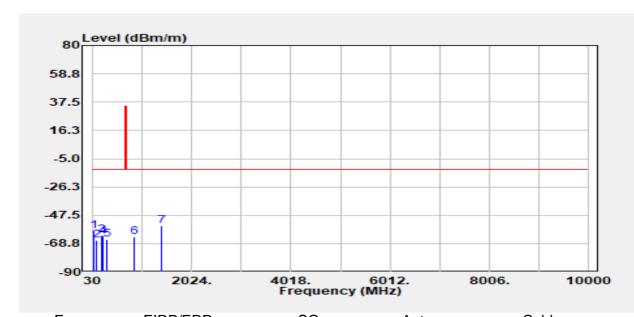
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :2020-12-15 :NB IoT B17 BPSK **Test Date**

Test Mode :TX CH Mid Temp./Humi. :23.8/53

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :710 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.040	-59.30	-44.28	-14.61	-0.41	-13.00	-46.29
128.940	-65.98	-58.44	-6.93	-0.61	-13.00	-52.97
232.730	-62.23	-61.18	-0.19	-0.86	-13.00	-49.22
259.890	-63.04	-61.49	-0.64	-0.91	-13.00	-50.03
336.520	-65.39	-63.52	-0.70	-1.17	-13.00	-52.38
879.720	-63.98	-61.25	-1.06	-1.67	-13.00	-50.97
1420.000	-55.07	-58.40	7.76	-4.43	-13.00	-42.06

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。



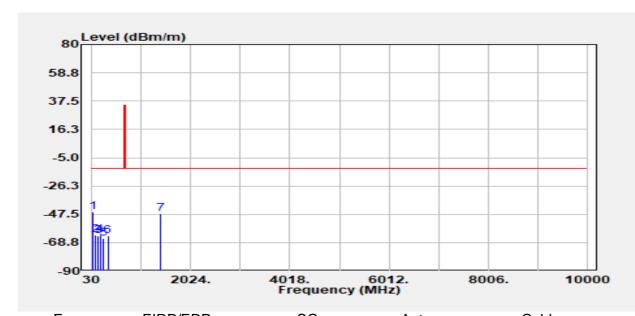
Page 72 of 139

Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B17 BPSK **Test Date** :2020-12-15

Test Mode :TX CH High Temp./Humi. :23.8/53 **EUT Pol** :E2 Plan Antenna Pol. :Vertical

Test Frequency :715.8 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
58.130	-46.05	-30.55	-15.12	-0.38	-13.00	-33.04
117.300	-62.80	-55.44	-6.76	-0.60	-13.00	-49.79
175.500	-63.62	-58.27	-4.65	-0.70	-13.00	-50.61
209.450	-62.93	-61.57	-0.53	-0.83	-13.00	-49.92
285.110	-65.92	-63.95	-1.04	-0.93	-13.00	-52.91
366.590	-63.68	-62.17	-0.52	-0.99	-13.00	-50.67
1431.600	-46.94	-50.32	7.85	-4.47	-13.00	-33.93

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。



Page 73 of 139

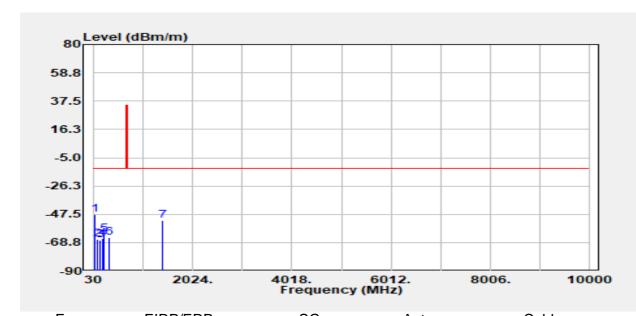
Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B17 BPSK **Test Date** :2020-12-15

Test Mode :TX CH High Temp./Humi. :23.8/53

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :715.8 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
57.160	-47.40	-31.72	-15.30	-0.38	-13.00	-34.39
128.940	-66.28	-58.74	-6.93	-0.61	-13.00	-53.27
174.530	-66.80	-61.30	-4.80	-0.70	-13.00	-53.79
227.880	-65.40	-64.73	0.18	-0.85	-13.00	-52.39
260.860	-62.49	-60.92	-0.65	-0.92	-13.00	-49.48
351.070	-64.98	-63.51	-0.38	-1.09	-13.00	-51.97
1431.600	-52.39	-55.77	7.85	-4.47	-13.00	-39.38

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。



Page 74 of 139

NB IOT Band 25

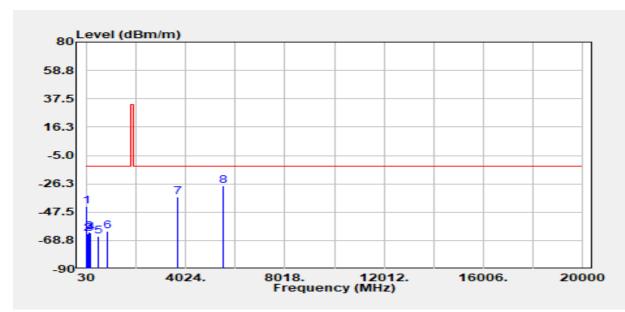
Test Site :966 Chamber C Report Number :E2/2020/B0031

Operation Mode :NB IoT B25 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Low Temp./Humi. :24.1/53

EUT Pol :E2 Plan Antenna Pol. :Vertical

:1850.2 MHz Engineer :Ashton Chiu **Test Frequency**



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		· ·
 MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
57.160	-43.33	-27.65	-15.30	-0.38	-13.00	-30.32
118.270	-63.57	-56.25	-6.71	-0.61	-13.00	-50.56
175.500	-62.23	-56.88	-4.65	-0.70	-13.00	-49.22
203.630	-62.76	-61.09	-0.86	-0.81	-13.00	-49.75
504.330	-65.64	-63.54	-0.76	-1.34	-13.00	-52.63
898.150	-61.79	-58.82	-1.07	-1.90	-13.00	-48.78
3700.400	-35.99	-31.68	12.30	-7.99	-13.00	-22.98
5550.600	-27.86	-23.49	12.86	-8.43	-13.00	-14.85

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 f (886-2) 2298-0488 www.sgs.com.tw



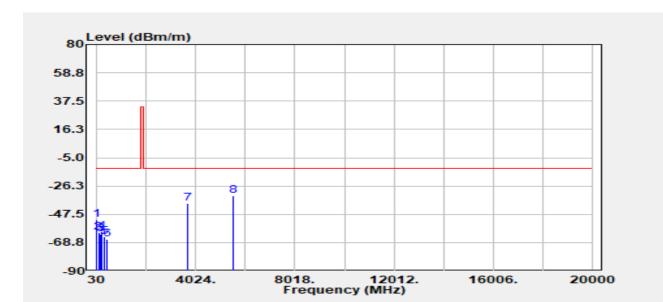
Page 75 of 139

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT B25 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Low Temp./Humi. :24.1/53

EUT Pol :E2 Plan Antenna Pol. :Horizontal **Test Frequency** :1850.2 MHz Engineer :Ashton Chiu



EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	Output Level	Gain	Loss		J
dBm	dBm	dBi/dBd	dB	dBm	dB
-51.45	-36.94	-14.09	-0.42	-13.00	-38.44
-61.15	-53.61	-6.93	-0.61	-13.00	-48.14
-62.66	-62.03	0.22	-0.85	-13.00	-49.65
-60.33	-58.70	-0.71	-0.92	-13.00	-47.32
-64.51	-62.95	-0.43	-1.13	-13.00	-51.50
-66.12	-63.87	-0.68	-1.57	-13.00	-53.11
-39.38	-43.69	12.30	-7.99	-13.00	-26.37
-33.39	-37.82	12.86	-8.43	-13.00	-20.38
	-51.45 -61.15 -62.66 -60.33 -64.51 -66.12 -39.38	Output Level dBm dBm -51.45 -36.94 -61.15 -53.61 -62.66 -62.03 -60.33 -58.70 -64.51 -62.95 -66.12 -63.87 -39.38 -43.69	dBm Output Level dBm Gain dBi/dBd -51.45 -36.94 -14.09 -61.15 -53.61 -6.93 -62.66 -62.03 0.22 -60.33 -58.70 -0.71 -64.51 -62.95 -0.43 -66.12 -63.87 -0.68 -39.38 -43.69 12.30	dBm Output Level dBm Gain dBi/dBd Loss dB -51.45 -36.94 -14.09 -0.42 -61.15 -53.61 -6.93 -0.61 -62.66 -62.03 0.22 -0.85 -60.33 -58.70 -0.71 -0.92 -64.51 -62.95 -0.43 -1.13 -66.12 -63.87 -0.68 -1.57 -39.38 -43.69 12.30 -7.99	dBm Output Level dBm Gain dBi/dBd Loss dB -51.45 -36.94 -14.09 -0.42 -13.00 -61.15 -53.61 -6.93 -0.61 -13.00 -62.66 -62.03 0.22 -0.85 -13.00 -60.33 -58.70 -0.71 -0.92 -13.00 -64.51 -62.95 -0.43 -1.13 -13.00 -66.12 -63.87 -0.68 -1.57 -13.00 -39.38 -43.69 12.30 -7.99 -13.00

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。



Page 76 of 139

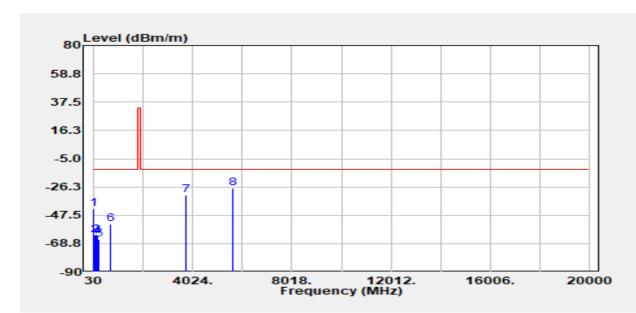
Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B25 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Mid Temp./Humi. :24.1/53

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :1882.5 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		J
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
55.220	-42.63	-26.55	-15.72	-0.36	-13.00	-29.62
122.150	-62.39	-54.88	-6.90	-0.61	-13.00	-49.38
174.530	-62.37	-56.87	-4.80	-0.70	-13.00	-49.36
207.510	-62.87	-61.40	-0.65	-0.82	-13.00	-49.86
262.800	-65.88	-64.30	-0.66	-0.92	-13.00	-52.87
747.800	-54.20	-50.98	-1.52	-1.70	-13.00	-41.19
3765.000	-32.43	-36.74	12.30	-7.99	-13.00	-19.42
5647.500	-27.34	-32.00	12.90	-8.24	-13.00	-14.33

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。



Page 77 of 139

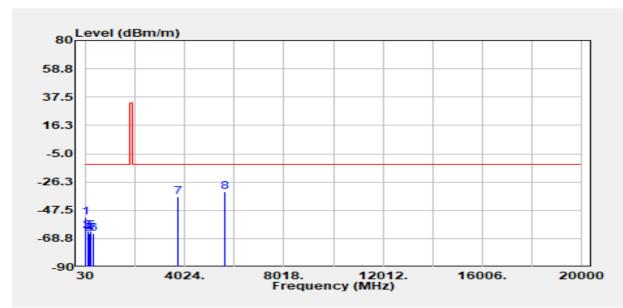
Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B25 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Mid Temp./Humi. :24.1/53

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :1882.5 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
62.010	-52.58	-38.07	-14.09	-0.42	-13.00	-39.57
127.970	-63.13	-55.62	-6.90	-0.61	-13.00	-50.12
176.470	-65.20	-60.08	-4.41	-0.71	-13.00	-52.19
224.000	-64.87	-64.27	0.24	-0.84	-13.00	-51.86
265.710	-63.28	-61.63	-0.71	-0.94	-13.00	-50.27
348.160	-65.20	-63.68	-0.40	-1.12	-13.00	-52.19
3765.000	-37.71	-42.26	12.40	-7.85	-13.00	-24.70
5647.500	-33.51	-37.61	13.00	-8.90	-13.00	-20.50

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。



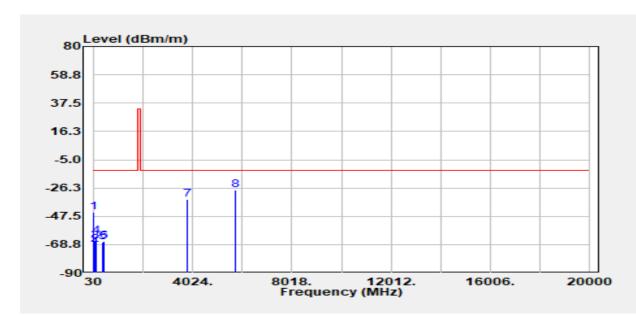
Page 78 of 139

Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B25 BPSK **Test Date** :2020-12-15

Test Mode :TX CH High Temp./Humi. :24.1/53 **EUT Pol** :E2 Plan Antenna Pol. :Vertical

:1914.8 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
55.220	-44.75	-28.67	-15.72	-0.36	-13.00	-31.74
89.170	-69.02	-62.79	-5.75	-0.48	-13.00	-56.01
122.150	-65.96	-58.45	-6.90	-0.61	-13.00	-52.95
176.470	-62.73	-57.61	-4.41	-0.71	-13.00	-49.72
427.700	-67.22	-65.22	-0.82	-1.18	-13.00	-54.21
489.780	-66.20	-63.96	-0.64	-1.60	-13.00	-53.19
3829.600	-34.92	-38.37	12.36	-8.91	-13.00	-21.91
5744.400	-27.55	-31.16	12.80	-9.19	-13.00	-14.54

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。



Page 79 of 139

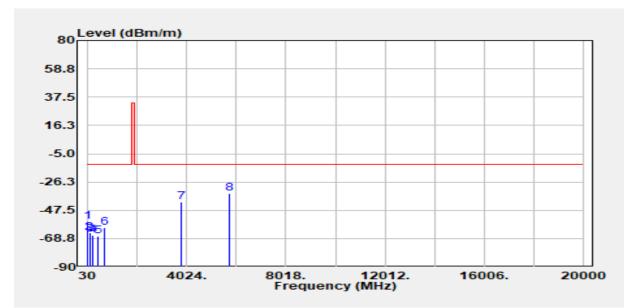
Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B25 BPSK **Test Date** :2020-12-15

Test Mode :TX CH High Temp./Humi. :24.1/53

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :1914.8 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.040	-56.28	-41.26	-14.61	-0.41	-13.00	-43.27
128.940	-64.03	-56.49	-6.93	-0.61	-13.00	-51.02
175.500	-65.38	-60.03	-4.65	-0.70	-13.00	-52.37
266.680	-65.94	-64.24	-0.76	-0.94	-13.00	-52.93
480.080	-66.73	-64.46	-0.82	-1.45	-13.00	-53.72
747.800	-60.61	-57.39	-1.52	-1.70	-13.00	-47.60
3829.600	-41.15	-44.60	12.36	-8.91	-13.00	-28.14
5744.400	-34.71	-38.32	12.80	-9.19	-13.00	-21.70

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。



Page 80 of 139

NB IOT Band 26

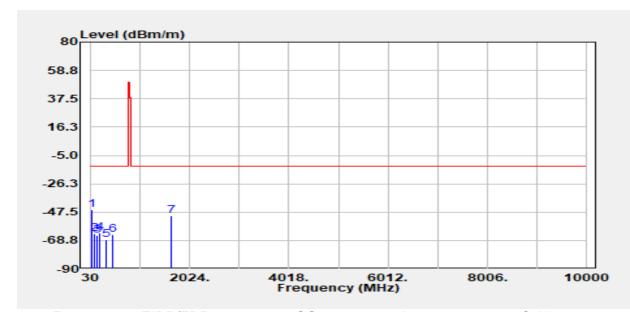
Test Site :966 Chamber C Report Number :E2/2020/B0031

Operation Mode :NB IoT B26 QPSK **Test Date** :2020-12-15

Test Mode :TX CH Low Temp./Humi. :24.4/52

EUT Pol :E2 Plan Antenna Pol. :Vertical

:824.2 MHz Engineer :Ashton Chiu **Test Frequency**



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		J
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
56.190	-45.66	-29.68	-15.61	-0.37	-13.00	-32.65
118.270	-63.99	-56.67	-6.71	-0.61	-13.00	-50.98
175.500	-65.20	-59.85	-4.65	-0.70	-13.00	-52.19
222.060	-63.21	-62.51	0.13	-0.83	-13.00	-50.20
359.800	-68.05	-66.55	-0.51	-0.99	-13.00	-55.04
488.810	-64.66	-62.42	-0.66	-1.58	-13.00	-51.65
1648.400	-49.95	-54.20	9.50	-5.25	-13.00	-36.94

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

t (886-2) 2299-3279

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 f (886-2) 2298-0488 www.sgs.com.tw



Page 81 of 139

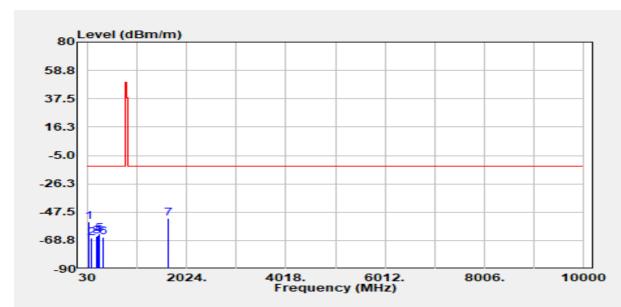
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B26 QPSK **Test Date** :2020-12-15

Test Mode :TX CH Low Temp./Humi. :24.4/52

EUT Pol :E2 Plan Antenna Pol. :Horizontal

:824.2 MHz Engineer :Ashton Chiu **Test Frequency**



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
62.010	-54.82	-40.31	-14.09	-0.42	-13.00	-41.81
123.120	-67.11	-59.67	-6.83	-0.61	-13.00	-54.10
232.730	-65.53	-64.48	-0.19	-0.86	-13.00	-52.52
256.980	-65.14	-63.47	-0.74	-0.93	-13.00	-52.13
268.620	-63.98	-62.18	-0.85	-0.95	-13.00	-50.97
344.280	-65.96	-64.30	-0.50	-1.16	-13.00	-52.95
1648.400	-52.15	-56.40	9.50	-5.25	-13.00	-39.14

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。



Page 82 of 139

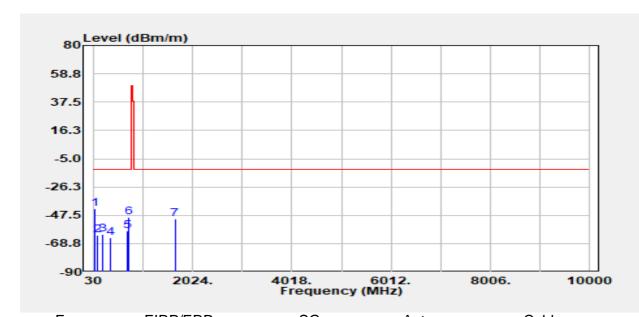
Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :2020-12-15 :NB IoT B26 QPSK **Test Date**

Test Mode :TX CH Mid Temp./Humi. :24.4/52

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :836.5 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
56.190	-42.76	-26.78	-15.61	-0.37	-13.00	-29.75
115.360	-62.10	-54.83	-6.67	-0.60	-13.00	-49.09
224.970	-61.91	-61.37	0.30	-0.84	-13.00	-48.90
373.380	-64.43	-62.80	-0.57	-1.06	-13.00	-51.42
711.910	-59.48	-56.86	-1.09	-1.53	-13.00	-46.47
740.040	-48.77	-45.55	-1.36	-1.86	-13.00	-35.76
1673.000	-50.25	-54.58	9.55	-5.22	-13.00	-37.24

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。



Page 83 of 139

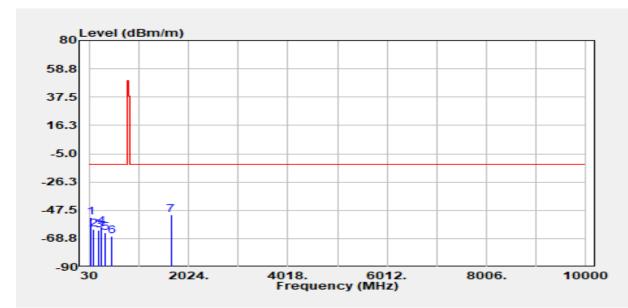
Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B26 QPSK **Test Date** :2020-12-15

Test Mode :TX CH Mid Temp./Humi. :24.4/52

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :836.5 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
62.010	-52.79	-38.28	-14.09	-0.42	-13.00	-39.78
128.940	-61.66	-54.12	-6.93	-0.61	-13.00	-48.65
230.790	-62.53	-61.68	0.01	-0.86	-13.00	-49.52
268.620	-60.11	-58.31	-0.85	-0.95	-13.00	-47.10
345.250	-64.52	-62.90	-0.47	-1.15	-13.00	-51.51
476.200	-66.71	-64.48	-0.81	-1.42	-13.00	-53.70
1673.000	-51.04	-55.37	9.55	-5.22	-13.00	-38.03

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。



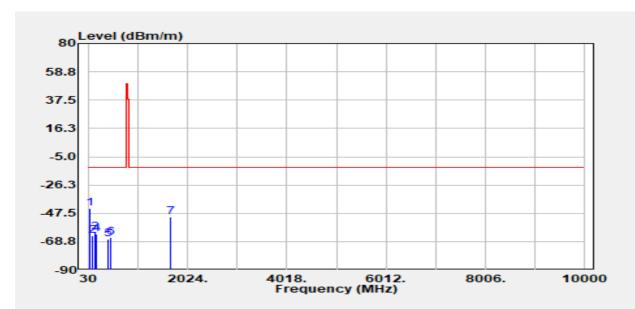
Page 84 of 139

Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT B26 QPSK **Test Date** :2020-12-15

Test Mode :TX CH High Temp./Humi. :24.4/52 **EUT Pol** :E2 Plan Antenna Pol. :Vertical

Test Frequency :848.8 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
55.220	-43.87	-27.79	-15.72	-0.36	-13.00	-30.86
112.450	-64.15	-56.98	-6.57	-0.60	-13.00	-51.14
175.500	-61.89	-56.54	-4.65	-0.70	-13.00	-48.88
198.780	-63.22	-61.33	-1.09	-0.80	-13.00	-50.21
437.400	-66.94	-64.85	-0.97	-1.12	-13.00	-53.93
486.870	-65.73	-63.48	-0.70	-1.55	-13.00	-52.72
1697.600	-50.50	-54.92	9.60	-5.18	-13.00	-37.49

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。



Page 85 of 139

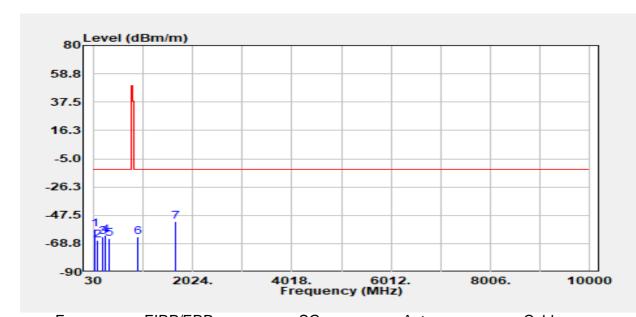
Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :2020-12-15 :NB IoT B26 QPSK **Test Date**

Test Mode :TX CH High Temp./Humi. :24.4/52

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :848.8 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
62.980	-57.86	-43.49	-13.95	-0.42	-13.00	-44.85
128.940	-66.04	-58.50	-6.93	-0.61	-13.00	-53.03
232.730	-63.77	-62.72	-0.19	-0.86	-13.00	-50.76
268.620	-62.15	-60.35	-0.85	-0.95	-13.00	-49.14
348.160	-65.01	-63.49	-0.40	-1.12	-13.00	-52.00
927.250	-64.01	-60.87	-1.40	-1.74	-13.00	-51.00
1697.600	-52.21	-56.63	9.60	-5.18	-13.00	-39.20

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。



Page 86 of 139

NB IOT Band 26 (Part 90s)

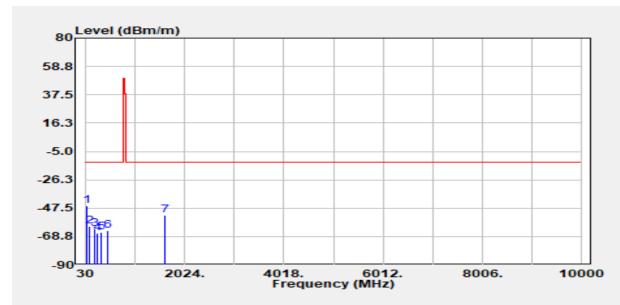
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT Part 90 B26 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Low Temp./Humi. :24.7/52

EUT Pol :E2 Plan Antenna Pol. :Vertical

:814.2 MHz Engineer :Ashton Chiu **Test Frequency**



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
56.190	-45.67	-29.69	-15.61	-0.37	-13.00	-32.66
129.910	-61.35	-53.69	-7.05	-0.61	-13.00	-48.34
211.390	-63.02	-61.75	-0.44	-0.83	-13.00	-50.01
281.230	-66.57	-64.56	-1.09	-0.92	-13.00	-53.56
358.830	-65.68	-64.19	-0.49	-1.00	-13.00	-52.67
489.780	-64.08	-61.84	-0.64	-1.60	-13.00	-51.07
1628.400	-52.77	-57.10	9.46	-5.13	-13.00	-39.76

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 f (886-2) 2298-0488



:E2 Plan

EUT Pol

Report No.: E2/2020/B0031

Page 87 of 139

:Horizontal

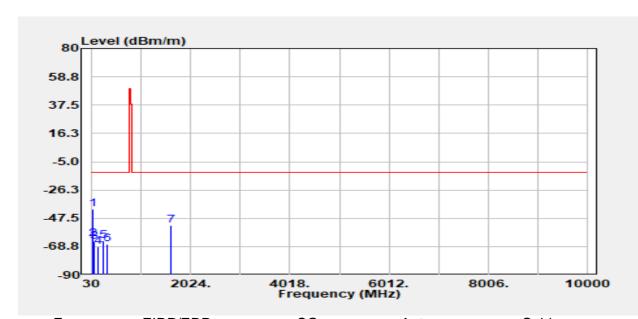
Antenna Pol.

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT Part 90 B26 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Low Temp./Humi. :24.7/52

Test Frequency :814.2 MHz Engineer :Ashton Chiu



EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	Output Level	Gain	Loss		_
dBm	dBm	dBi/dBd	dB	dBm	dB
-40.86	-24.78	-15.72	-0.36	-13.00	-27.85
-63.26	-51.23	-11.55	-0.48	-13.00	-50.25
-65.12	-59.25	-5.37	-0.50	-13.00	-52.11
-69.00	-64.74	-3.51	-0.75	-13.00	-55.99
-64.30	-62.65	-0.71	-0.94	-13.00	-51.29
-66.60	-65.08	-0.40	-1.12	-13.00	-53.59
-52.80	-57.13	9.46	-5.13	-13.00	-39.79
	-40.86 -63.26 -65.12 -69.00 -64.30 -66.60	Output Level dBm -40.86 -63.26 -65.12 -69.00 -64.74 -64.30 -62.65 -66.60 Output Level dBm -24.78 -59.25 -69.25 -69.25 -69.00 -64.74 -64.30 -62.65	Output Level Gain dBm dBi/dBd -40.86 -24.78 -15.72 -63.26 -51.23 -11.55 -65.12 -59.25 -5.37 -69.00 -64.74 -3.51 -64.30 -62.65 -0.71 -66.60 -65.08 -0.40	dBm Output Level dBm Gain dBi/dBd Loss dB -40.86 -24.78 -15.72 -0.36 -63.26 -51.23 -11.55 -0.48 -65.12 -59.25 -5.37 -0.50 -69.00 -64.74 -3.51 -0.75 -64.30 -62.65 -0.71 -0.94 -66.60 -65.08 -0.40 -1.12	dBm Output Level dBm Gain dBi/dBd Loss dBm -40.86 -24.78 -15.72 -0.36 -13.00 -63.26 -51.23 -11.55 -0.48 -13.00 -65.12 -59.25 -5.37 -0.50 -13.00 -69.00 -64.74 -3.51 -0.75 -13.00 -64.30 -62.65 -0.71 -0.94 -13.00 -66.60 -65.08 -0.40 -1.12 -13.00

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。



Page 88 of 139

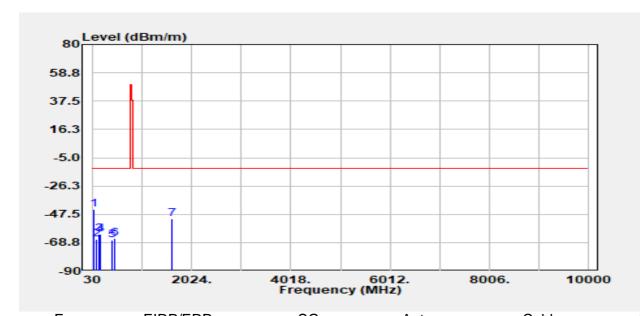
Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :2020-12-15 :NB IoT Part 90 B26 BPSK **Test Date**

Test Mode :TX CH Mid Temp./Humi. :24.7/52

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :819 MHz Engineer :Ashton Chiu



	Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
_	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
	56.190	-43.72	-27.74	-15.61	-0.37	-13.00	-30.71
	118.270	-66.21	-58.89	-6.71	-0.61	-13.00	-53.20
	176.470	-62.29	-57.17	-4.41	-0.71	-13.00	-49.28
	202.660	-62.30	-60.59	-0.90	-0.81	-13.00	-49.29
	426.730	-66.86	-64.87	-0.80	-1.19	-13.00	-53.85
	490.750	-65.93	-63.68	-0.66	-1.59	-13.00	-52.92
	1638.000	-50.61	-54.90	9.48	-5.19	-13.00	-37.60

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。



Page 89 of 139

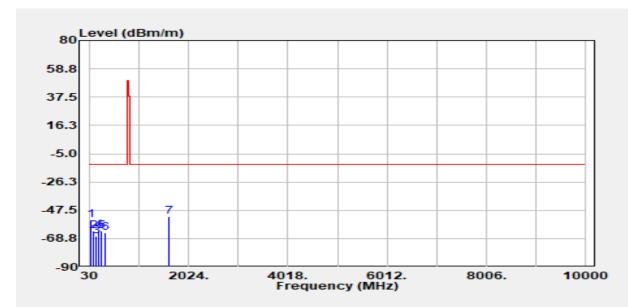
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :NB IoT Part 90 B26 BPSK **Test Date** :2020-12-15

Test Mode :TX CH Mid Temp./Humi. :24.7/52

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :819 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
62.010	-55.03	-40.52	-14.09	-0.42	-13.00	-42.02
128.940	-63.33	-55.79	-6.93	-0.61	-13.00	-50.32
175.500	-66.64	-61.29	-4.65	-0.70	-13.00	-53.63
229.820	-62.39	-61.63	0.10	-0.86	-13.00	-49.38
266.680	-63.01	-61.31	-0.76	-0.94	-13.00	-50.00
342.340	-64.54	-62.81	-0.55	-1.18	-13.00	-51.53
1638.000	-52.41	-56.70	9.48	-5.19	-13.00	-39.40

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。



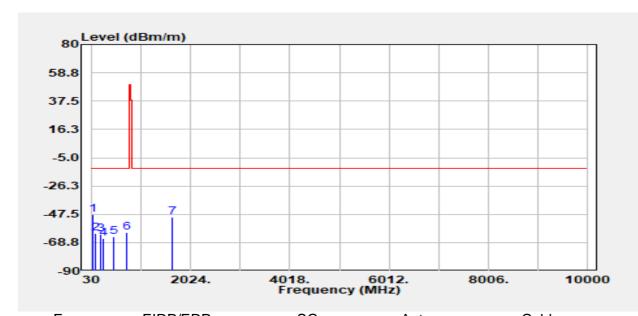
Page 90 of 139

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :2020-12-15 :NB IoT Part 90 B26 BPSK **Test Date**

Test Mode :TX CH High Temp./Humi. :24.7/52 **EUT Pol** :E2 Plan Antenna Pol. :Vertical

Test Frequency :823.8 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
56.190	-47.59	-31.61	-15.61	-0.37	-13.00	-34.58
116.330	-61.54	-54.31	-6.63	-0.60	-13.00	-48.53
211.390	-62.17	-60.90	-0.44	-0.83	-13.00	-49.16
273.470	-65.33	-63.45	-0.94	-0.94	-13.00	-52.32
490.750	-64.18	-61.93	-0.66	-1.59	-13.00	-51.17
741.010	-61.07	-57.84	-1.39	-1.84	-13.00	-48.06
1647.600	-49.82	-54.07	9.50	-5.25	-13.00	-36.81

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。



Page 91 of 139

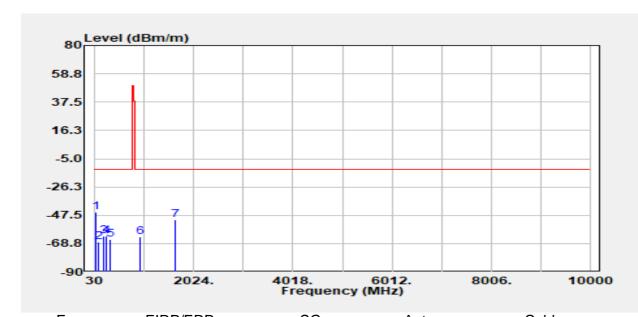
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :NB IoT Part 90 B26 BPSK Test Date :2020-12-15

Test Mode :TX CH High Temp./Humi. :24.7/52

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :823.8 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
57.160	-44.96	-29.28	-15.30	-0.38	-13.00	-31.95
122.150	-67.67	-60.16	-6.90	-0.61	-13.00	-54.66
224.000	-62.97	-62.37	0.24	-0.84	-13.00	-49.96
266.680	-62.92	-61.22	-0.76	-0.94	-13.00	-49.91
344.280	-65.77	-64.11	-0.50	-1.16	-13.00	-52.76
944.710	-63.80	-60.60	-1.43	-1.77	-13.00	-50.79
1647.600	-51.17	-55.42	9.50	-5.25	-13.00	-38.16

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。



Page 92 of 139

Cat M1 Band 2

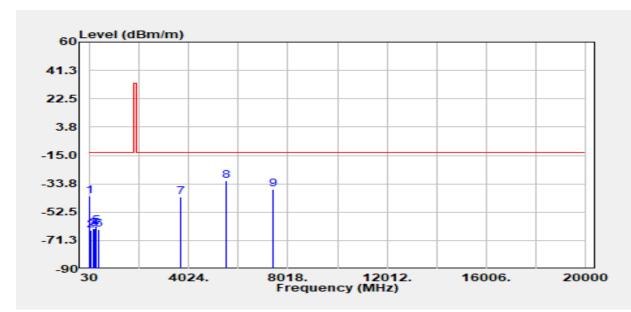
Test Site :966 Chamber C Report Number :E2/2020/B0031

Operation Mode :M1 B2 QPSK **Test Date** :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :21.5/68

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :1851.04 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		· ·
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
59.100	-41.72	-26.51	-14.82	-0.39	-13.00	-28.71
108.570	-64.28	-57.42	-6.28	-0.58	-13.00	-51.27
197.810	-63.45	-61.43	-1.22	-0.80	-13.00	-50.44
263.770	-63.32	-61.72	-0.67	-0.93	-13.00	-50.31
314.210	-61.64	-59.60	-0.98	-1.06	-13.00	-48.63
429.640	-64.12	-62.10	-0.86	-1.16	-13.00	-51.11
3702.080	-42.69	-46.95	12.29	-8.03	-13.00	-29.68
5553.120	-31.58	-36.24	12.90	-8.24	-13.00	-18.57
7404.160	-37.49	-37.69	11.00	-10.80	-13.00	-24.48
		-37.69		-10.80	-13.00	-24.48

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。



Page 93 of 139

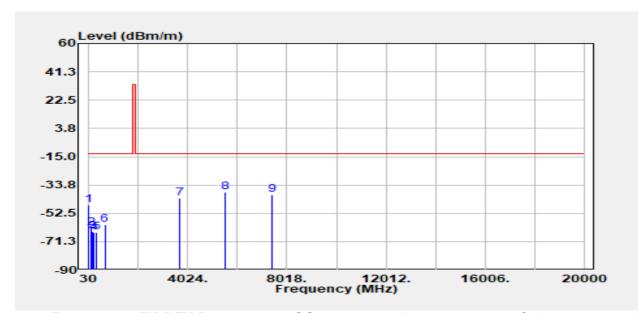
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 B2 QPSK **Test Date** :2020-12-16

:TX CH Mid Test Mode Temp./Humi. :21.5/68

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :1851.04 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
59.100	-47.15	-31.94	-14.82	-0.39	-13.00	-34.14
144.460	-62.26	-54.58	-7.04	-0.64	-13.00	-49.25
227.880	-64.34	-63.67	0.18	-0.85	-13.00	-51.33
276.380	-64.95	-63.03	-0.99	-0.93	-13.00	-51.94
345.250	-64.95	-63.33	-0.47	-1.15	-13.00	-51.94
704.150	-60.22	-57.78	-1.07	-1.37	-13.00	-47.21
3702.080	-42.54	-46.80	12.29	-8.03	-13.00	-29.53
5553.120	-38.36	-43.02	12.90	-8.24	-13.00	-25.35
7404.160	-40.41	-40.61	11.00	-10.80	-13.00	-27.40

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。



Page 94 of 139

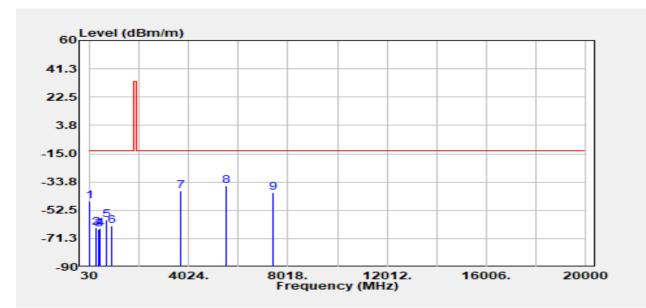
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B2 16QAM **Test Date** :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :21.5/64

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :1851.04 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		•
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
59.100	-46.66	-31.45	-14.82	-0.39	-13.00	-33.65
298.690	-64.09	-62.05	-1.01	-1.03	-13.00	-51.08
432.550	-65.37	-63.31	-0.92	-1.14	-13.00	-52.36
489.780	-64.40	-62.16	-0.64	-1.60	-13.00	-51.39
741.010	-58.94	-55.71	-1.39	-1.84	-13.00	-45.93
940.830	-62.63	-59.40	-1.47	-1.76	-13.00	-49.62
3702.080	-39.90	-44.16	12.29	-8.03	-13.00	-26.89
5549.680	-36.24	-40.90	12.90	-8.24	-13.00	-23.23
7404.160	-41.00	-41.20	11.00	-10.80	-13.00	-27.99

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。



Page 95 of 139

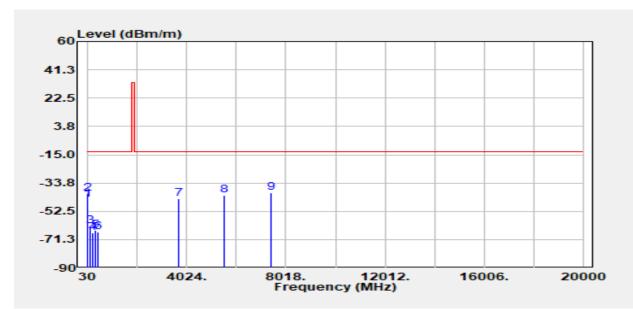
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 B2 16QAM Test Date :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :21.4/60

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :1851.04 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-44.54	-25.32	-18.97	-0.25	-13.00	-31.53
59.100	-40.83	-25.62	-14.82	-0.39	-13.00	-27.82
143.490	-62.52	-54.84	-7.05	-0.63	-13.00	-49.51
252.130	-66.86	-65.12	-0.79	-0.95	-13.00	-53.85
348.160	-65.35	-63.83	-0.40	-1.12	-13.00	-52.34
474.260	-66.18	-63.96	-0.82	-1.40	-13.00	-53.17
3702.080	-44.15	-48.41	12.29	-8.03	-13.00	-31.14
5553.120	-41.63	-46.29	12.90	-8.24	-13.00	-28.62
7404.160	-40.07	-40.27	11.00	-10.80	-13.00	-27.06

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。



Page 96 of 139

Cat M1 Band 4

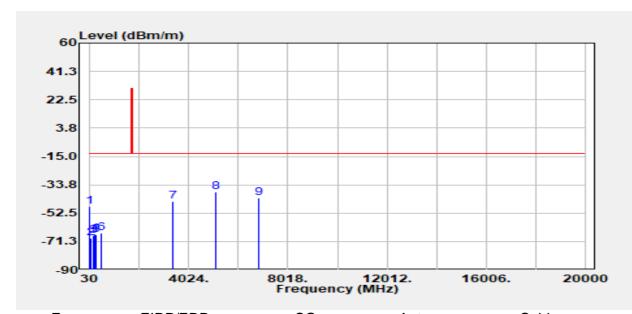
Test Site :966 Chamber C Report Number :E2/2020/B0031

Operation Mode :M1 B4 QPSK **Test Date** :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :21.4/63

EUT Pol :E2 Plan Antenna Pol. :Vertical

Engineer :Ashton Chiu **Test Frequency** :1711.04 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
59.100	-47.87	-32.66	-14.82	-0.39	-13.00	-34.86
89.170	-68.87	-62.64	-5.75	-0.48	-13.00	-55.86
196.840	-67.15	-65.11	-1.24	-0.80	-13.00	-54.14
263.770	-66.10	-64.50	-0.67	-0.93	-13.00	-53.09
328.760	-66.77	-64.86	-0.80	-1.11	-13.00	-53.76
501.420	-65.89	-63.79	-0.69	-1.41	-13.00	-52.88
3422.080	-44.44	-48.94	12.56	-8.06	-13.00	-31.43
5133.120	-38.73	-42.09	12.10	-8.74	-13.00	-25.72
6844.160	-42.62	-45.07	12.02	-9.57	-13.00	-29.61

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。



Page 97 of 139

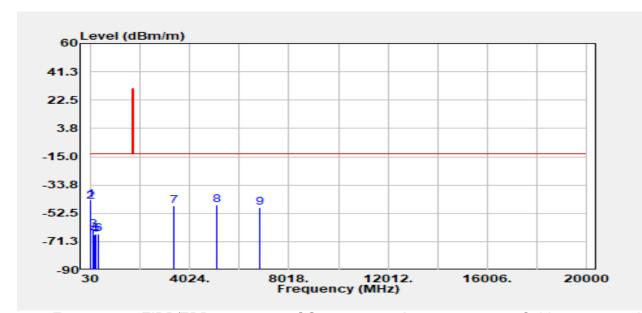
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 B4 QPSK **Test Date** :2020-12-16

:TX CH Mid Test Mode Temp./Humi. :21.4/63

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :1711.04 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		•
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-43.79	-24.57	-18.97	-0.25	-13.00	-30.78
59.100	-44.51	-29.30	-14.82	-0.39	-13.00	-31.50
156.100	-63.24	-56.01	-6.57	-0.66	-13.00	-50.23
196.840	-66.75	-64.71	-1.24	-0.80	-13.00	-53.74
263.770	-66.08	-64.48	-0.67	-0.93	-13.00	-53.07
347.190	-66.28	-64.72	-0.43	-1.13	-13.00	-53.27
3422.080	-47.71	-52.11	12.55	-8.15	-13.00	-34.70
5133.120	-46.85	-49.95	12.10	-9.00	-13.00	-33.84
6844.160	-48.42	-50.74	11.93	-9.61	-13.00	-35.41

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。



Page 98 of 139

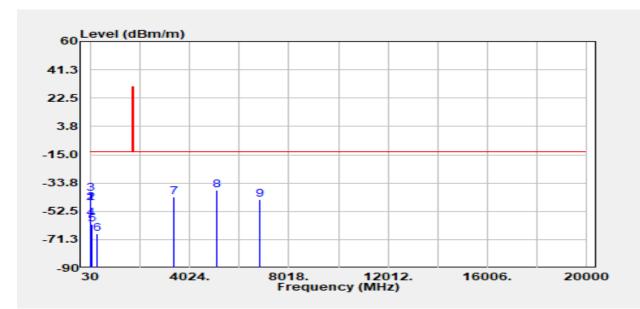
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B4 16QAM **Test Date** :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :21.4/60

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :1711.04 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		•
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.850	-46.82	-27.30	-19.27	-0.25	-13.00	-33.81
45.520	-46.96	-28.79	-17.88	-0.29	-13.00	-33.95
59.100	-40.77	-25.56	-14.82	-0.39	-13.00	-27.76
71.710	-57.07	-45.04	-11.55	-0.48	-13.00	-44.06
79.470	-61.19	-52.09	-8.64	-0.46	-13.00	-48.18
306.450	-67.27	-65.26	-0.97	-1.04	-13.00	-54.26
3422.080	-43.21	-47.61	12.55	-8.15	-13.00	-30.20
5133.120	-38.75	-41.85	12.10	-9.00	-13.00	-25.74
6844.160	-44.59	-47.04	12.02	-9.57	-13.00	-31.58

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。



Page 99 of 139

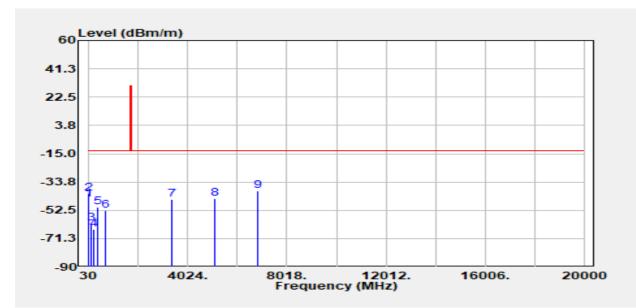
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B4 16QAM **Test Date** :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :21.4/60

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :1711.04 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-45.44	-26.22	-18.97	-0.25	-13.00	-32.43
59.100	-41.29	-26.08	-14.82	-0.39	-13.00	-28.28
143.490	-61.23	-53.55	-7.05	-0.63	-13.00	-48.22
252.130	-64.99	-63.25	-0.79	-0.95	-13.00	-51.98
420.910	-50.13	-48.18	-0.70	-1.25	-13.00	-37.12
737.130	-52.44	-49.27	-1.27	-1.90	-13.00	-39.43
3422.080	-45.17	-49.57	12.55	-8.15	-13.00	-32.16
5133.120	-44.85	-48.21	12.10	-8.74	-13.00	-31.84
6844.160	-39.45	-41.90	12.02	-9.57	-13.00	-26.44

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。



Page 100 of 139

Cat M1 Band 5

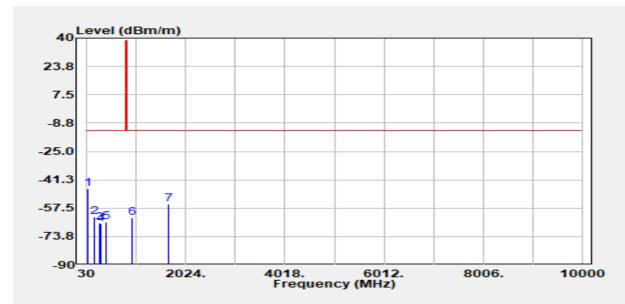
Test Site :966 Chamber C Report Number :E2/2020/B0031

Operation Mode :M1 B5 16QAM **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.3/66

EUT Pol :E2 Plan Antenna Pol. :Vertical

:836.86 MHz Engineer :Ashton Chiu **Test Frequency**



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	['] dBm	dBi/dBd	dB	dBm	dB
59.100	-46.21	-31.00	-14.82	-0.39	-13.00	-33.20
197.810	-62.64	-60.62	-1.22	-0.80	-13.00	-49.63
306.450	-65.98	-63.97	-0.97	-1.04	-13.00	-52.97
326.820	-66.40	-64.45	-0.85	-1.10	-13.00	-53.39
422.850	-65.71	-63.75	-0.73	-1.23	-13.00	-52.70
943.740	-62.78	-59.57	-1.44	-1.77	-13.00	-49.77
1673.720	-55.03	-59.36	9.55	-5.22	-13.00	-42.02

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。



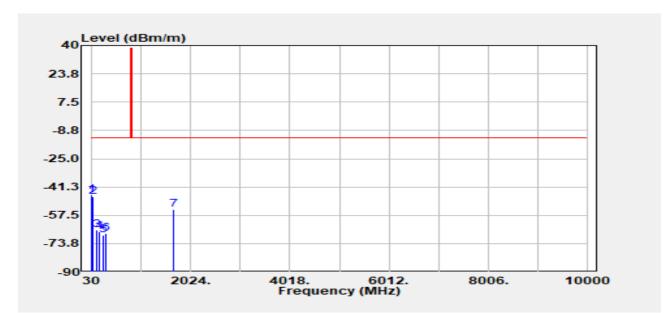
Page 101 of 139

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode Test Date :2020-12-14 :M1 B5 16QAM

Test Mode :TX CH Mid Temp./Humi. :21.3/66

EUT Pol :E2 Plan Antenna Pol. :Horizontal **Test Frequency** :836.86 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.850	-45.95	-26.43	-19.27	-0.25	-13.00	-32.94
60.070	-46.86	-31.69	-14.77	-0.40	-13.00	-33.85
143.490	-65.87	-58.19	-7.05	-0.63	-13.00	-52.86
196.840	-67.05	-65.01	-1.24	-0.80	-13.00	-54.04
263.770	-69.15	-67.55	-0.67	-0.93	-13.00	-56.14
324.880	-67.88	-65.89	-0.90	-1.09	-13.00	-54.87
1673.720	-54.16	-58.49	9.55	-5.22	-13.00	-41.15

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。



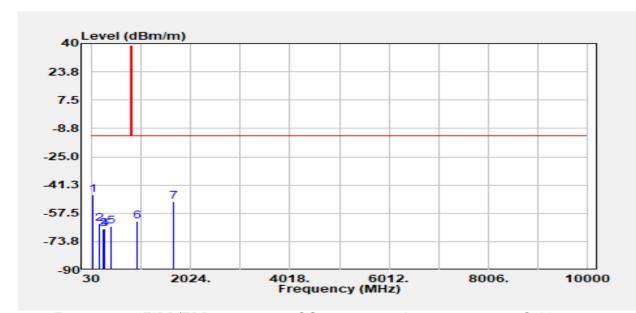
Page 102 of 139

Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B5 QPAK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.3/66 **EUT Pol** :E2 Plan Antenna Pol. :Vertical

Test Frequency :836.86 MHz Engineer :Ashton Chiu



	Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	•		Output Level	Gain	Loss		•
	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
-							
	59.100	-46.68	-31.47	-14.82	-0.39	-13.00	-33.67
	197.810	-63.34	-61.32	-1.22	-0.80	-13.00	-50.33
	262.800	-66.58	-65.00	-0.66	-0.92	-13.00	-53.57
	306.450	-66.30	-64.29	-0.97	-1.04	-13.00	-53.29
	427.700	-65.15	-63.15	-0.82	-1.18	-13.00	-52.14
	944.710	-61.89	-58.69	-1.43	-1.77	-13.00	-48.88
	1673.720	-50.58	-54.91	9.55	-5.22	-13.00	-37.57

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。



Page 103 of 139

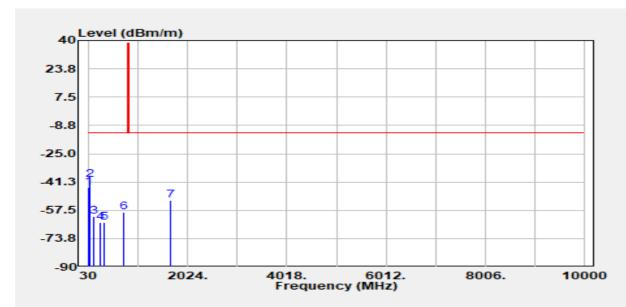
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B5 QPAK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.3/66

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :836.86 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-44.14	-24.92	-18.97	-0.25	-13.00	-31.13
59.100	-40.05	-24.84	-14.82	-0.39	-13.00	-27.04
155.130	-61.16	-53.79	-6.71	-0.66	-13.00	-48.15
264.740	-64.67	-63.06	-0.68	-0.93	-13.00	-51.66
351.070	-64.66	-63.19	-0.38	-1.09	-13.00	-51.65
737.130	-58.61	-55.44	-1.27	-1.90	-13.00	-45.60
1673.720	-51.86	-56.19	9.55	-5.22	-13.00	-38.85

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。



Page 104 of 139

Cat M1 Band 12

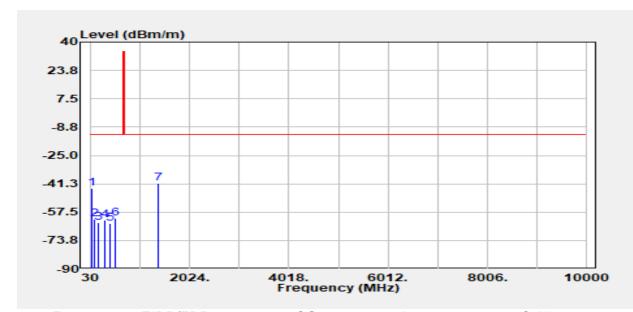
Test Site :966 Chamber C Report Number :E2/2020/B0031

Operation Mode :M1 B12 QPAK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.1/64

EUT Pol :E2 Plan Antenna Pol. :Vertical

:699.79 MHz Engineer :Ashton Chiu **Test Frequency**



EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	Output Level	Gain	Loss		· ·
dBm	dBm	dBi/dBd	dB	dBm	dB
-43.67	-28.46	-14.82	-0.39	-13.00	-30.66
-61.61	-54.55	-6.47	-0.59	-13.00	-48.60
-63.41	-61.37	-1.24	-0.80	-13.00	-50.40
-61.81	-59.76	-0.99	-1.06	-13.00	-48.80
-64.22	-62.25	-0.75	-1.22	-13.00	-51.21
-61.09	-59.21	-0.85	-1.03	-13.00	-48.08
-40.91	-44.15	7.60	-4.36	-13.00	-27.90
	-43.67 -61.61 -63.41 -61.81 -64.22 -61.09	Output Level dBm -43.67 -28.46 -61.61 -54.55 -63.41 -61.37 -61.81 -59.76 -64.22 -62.25 -61.09 -59.21	Output Level Gain dBm dBi/dBd -43.67 -28.46 -14.82 -61.61 -54.55 -6.47 -63.41 -61.37 -1.24 -61.81 -59.76 -0.99 -64.22 -62.25 -0.75 -61.09 -59.21 -0.85	dBm Output Level dBm Gain dBi/dBd Loss dB -43.67 -28.46 -14.82 -0.39 -61.61 -54.55 -6.47 -0.59 -63.41 -61.37 -1.24 -0.80 -61.81 -59.76 -0.99 -1.06 -64.22 -62.25 -0.75 -1.22 -61.09 -59.21 -0.85 -1.03	dBm Output Level dBm Gain dBi/dBd Loss dBm -43.67 -28.46 -14.82 -0.39 -13.00 -61.61 -54.55 -6.47 -0.59 -13.00 -63.41 -61.37 -1.24 -0.80 -13.00 -61.81 -59.76 -0.99 -1.06 -13.00 -64.22 -62.25 -0.75 -1.22 -13.00 -61.09 -59.21 -0.85 -1.03 -13.00

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 f (886-2) 2298-0488 t (886-2) 2299-3279



Page 105 of 139

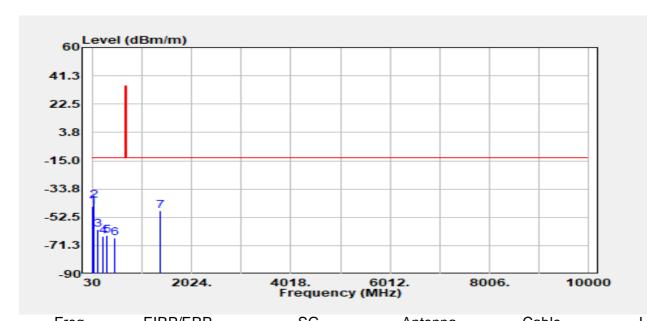
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 B12 QPSK **Test Date** :2020-12-16

:TX CH Mid Test Mode Temp./Humi. :22.3/62

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :699.79 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.850	-45.43	-25.91	-19.27	-0.25	-13.00	-32.42
60.070	-41.10	-25.93	-14.77	-0.40	-13.00	-28.09
156.100	-60.50	-53.27	-6.57	-0.66	-13.00	-47.49
252.130	-65.26	-63.52	-0.79	-0.95	-13.00	-52.25
331.670	-64.63	-62.74	-0.76	-1.13	-13.00	-51.62
474.260	-66.13	-63.91	-0.82	-1.40	-13.00	-53.12
1399.580	-47.87	-51.11	7.60	-4.36	-13.00	-34.86

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。



Page 106 of 139

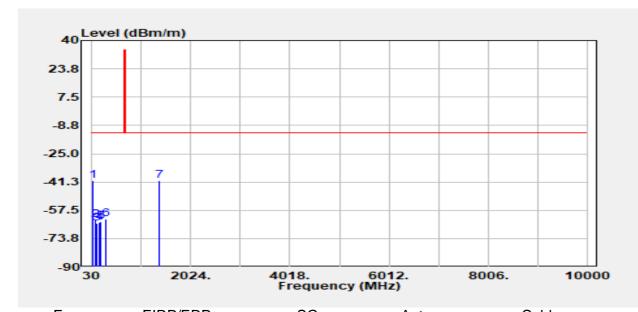
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B12 16QAM **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.1/65

EUT Pol :E2 Plan Antenna Pol. :Vertical

:699.79 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
59.100	-40.70	-25.49	-14.82	-0.39	-13.00	-27.69
109.540	-63.07	-56.02	-6.46	-0.59	-13.00	-50.06
156.100	-64.86	-57.63	-6.57	-0.66	-13.00	-51.85
196.840	-64.30	-62.26	-1.24	-0.80	-13.00	-51.29
226.910	-63.78	-63.15	0.22	-0.85	-13.00	-50.77
323.910	-62.43	-60.41	-0.93	-1.09	-13.00	-49.42
1399.580	-40.61	-43.85	7.60	-4.36	-13.00	-27.60

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。



Page 107 of 139

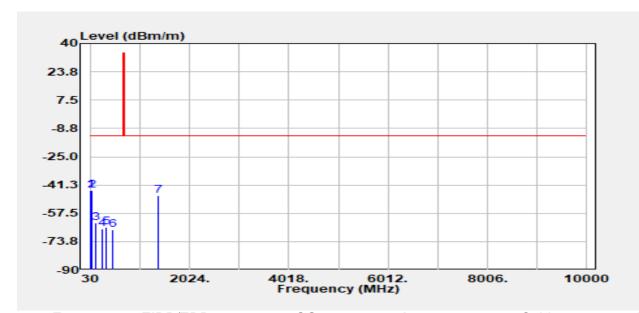
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B12 16QAM **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.1/65

EUT Pol :E2 Plan Antenna Pol. :Horizontal

:699.79 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		•
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-44.26	-25.04	-18.97	-0.25	-13.00	-31.25
60.070	-44.47	-29.30	-14.77	-0.40	-13.00	-31.46
156.100	-62.90	-55.67	-6.57	-0.66	-13.00	-49.89
263.770	-66.64	-65.04	-0.67	-0.93	-13.00	-53.63
345.250	-65.33	-63.71	-0.47	-1.15	-13.00	-52.32
474.260	-66.77	-64.55	-0.82	-1.40	-13.00	-53.76
1399.580	-47.36	-50.60	7.60	-4.36	-13.00	-34.35

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。



Page 108 of 139

Cat M1 Band 13

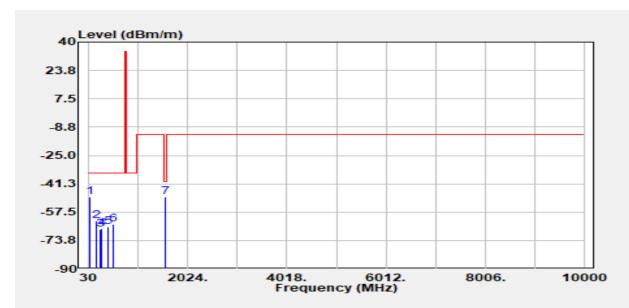
Test Site :966 Chamber C Report Number :E2/2020/B0031

Operation Mode :M1 B13 QPSK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.1/65

EUT Pol :E2 Plan Antenna Pol. :Vertical

:785.96 MHz Engineer :Ashton Chiu **Test Frequency**



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
59.100	-48.69	-33.48	-14.82	-0.39	-35.00	-13.68
197.810	-62.44	-60.42	-1.22	-0.80	-35.00	-27.43
263.770	-67.65	-66.05	-0.67	-0.93	-35.00	-32.64
309.360	-66.94	-64.90	-1.00	-1.04	-35.00	-31.93
427.700	-65.90	-63.90	-0.82	-1.18	-35.00	-30.89
526.640	-64.31	-62.43	-0.84	-1.04	-35.00	-29.30
1571.920	-49.00	-53.36	9.23	-4.87	-40.00	-8.99

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 t (886-2) 2299-3279

f (886-2) 2298-0488 www.sgs.com.tw



Page 109 of 139

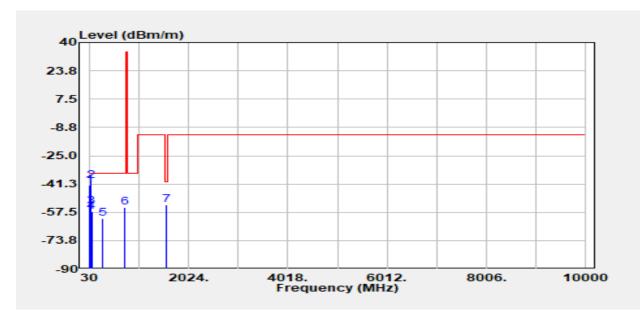
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 B13 QPSK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.1/65

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :785.96 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		J
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
30.970	-42.05	-21.88	-19.92	-0.25	-35.00	-7.04
60.070	-39.23	-24.06	-14.77	-0.40	-35.00	-4.22
71.710	-54.36	-42.33	-11.55	-0.48	-35.00	-19.35
79.470	-57.32	-48.22	-8.64	-0.46	-35.00	-22.31
310.330	-61.13	-59.08	-1.01	-1.04	-35.00	-26.12
744.890	-54.61	-51.35	-1.50	-1.76	-35.00	-19.60
1571.920	-53.43	-57.79	9.23	-4.87	-40.00	-13.42

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。



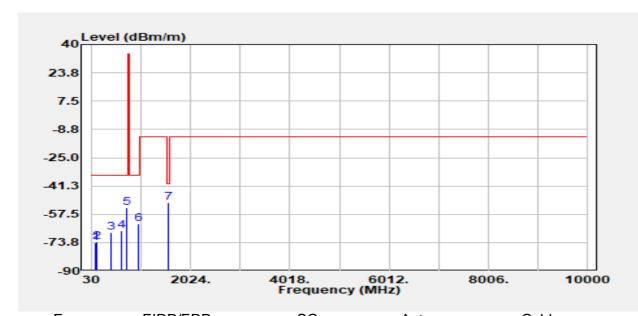
Page 110 of 139

Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B13 16QAM **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.3/67 **EUT Pol** :E2 Plan Antenna Pol. :Vertical

Test Frequency :785.96 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
118.270	-73.60	-66.28	-6.71	-0.61	-35.00	-38.59
146.400	-73.53	-65.97	-6.91	-0.65	-35.00	-38.52
424.790	-67.88	-65.90	-0.77	-1.21	-35.00	-32.87
636.250	-66.92	-63.93	-1.29	-1.70	-35.00	-31.91
746.830	-53.60	-50.37	-1.51	-1.72	-35.00	-18.59
976.720	-62.99	-59.83	-1.31	-1.85	-35.00	-27.98
1571.920	-50.72	-55.08	9.23	-4.87	-40.00	-10.71

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。



Page 111 of 139

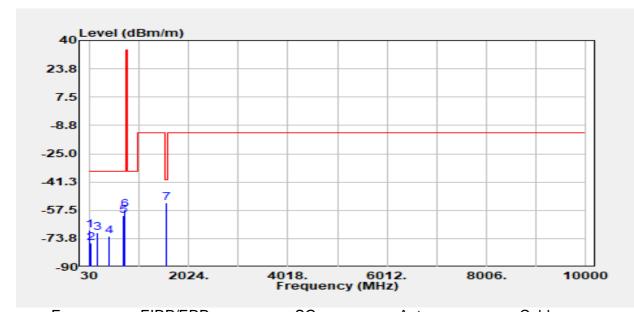
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B13 16QAM **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.3/67

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :785.96 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
 MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
05.000	00.00	40.04	40.07	0.05	05.00	00.00
35.820	-68.83	-49.61	-18.97	-0.25	-35.00	-33.82
78.500	-76.13	-66.78	-8.89	-0.46	-35.00	-41.12
197.810	-70.24	-68.22	-1.22	-0.80	-35.00	-35.23
424.790	-72.22	-70.24	-0.77	-1.21	-35.00	-37.21
729.370	-60.73	-57.59	-1.16	-1.98	-35.00	-25.72
747.800	-57.32	-54.10	-1.52	-1.70	-35.00	-22.31
1571.920	-53.14	-57.50	9.23	-4.87	-40.00	-13.13

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。



Page 112 of 139

Cat M1 Band 13 (763-775MHz)

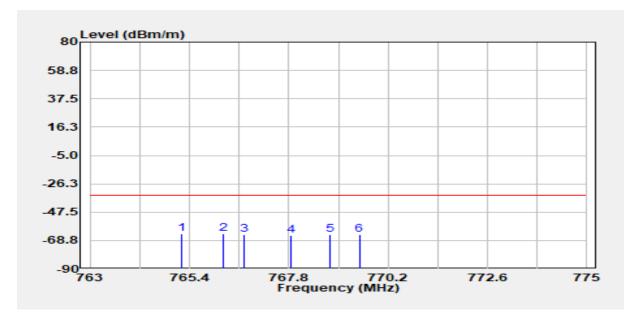
Report Number :E2/2020/B0031 **Test Site** :966 Chamber C

Operation Mode :M1 B13 QPSK **Test Date** :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :22.7/59

EUT Pol Antenna Pol. :E2 Plan :Vertical

Test Frequency :785.96 MHz Engineer :Ashton Chiu



EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	Output Level	Gain	Loss		
dBm	dBm	dBi/dBd	dB	dBm	dB
-63.43	-60.55	-1.47	-1.41	-35.00	-28.42
-64.00	-61.12	-1.48	-1.40	-35.00	-28.99
-64.10	-61.22	-1.48	-1.40	-35.00	-29.09
-65.09	-62.22	-1.49	-1.38	-35.00	-30.08
-64.51	-61.64	-1.50	-1.37	-35.00	-29.50
-64.17	-61.29	-1.51	-1.37	-35.00	-29.16
	-63.43 -64.00 -64.10 -65.09 -64.51	Output Level dBm dBm -63.43 -60.55 -64.00 -61.12 -64.10 -61.22 -65.09 -62.22 -64.51 -61.64	Output Level Gain dBm dBi/dBd -63.43 -60.55 -1.47 -64.00 -61.12 -1.48 -64.10 -61.22 -1.48 -65.09 -62.22 -1.49 -64.51 -61.64 -1.50	dBm Output Level dBm Gain dBi/dBd Loss dB -63.43 -60.55 -1.47 -1.41 -64.00 -61.12 -1.48 -1.40 -64.10 -61.22 -1.48 -1.40 -65.09 -62.22 -1.49 -1.38 -64.51 -61.64 -1.50 -1.37	dBm Output Level dBm Gain dBi/dBd Loss dB -63.43 -60.55 -1.47 -1.41 -35.00 -64.00 -61.12 -1.48 -1.40 -35.00 -64.10 -61.22 -1.48 -1.40 -35.00 -65.09 -62.22 -1.49 -1.38 -35.00 -64.51 -61.64 -1.50 -1.37 -35.00

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 https://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 f (886-2) 2298-0488 www.sgs.com.tw



Page 113 of 139

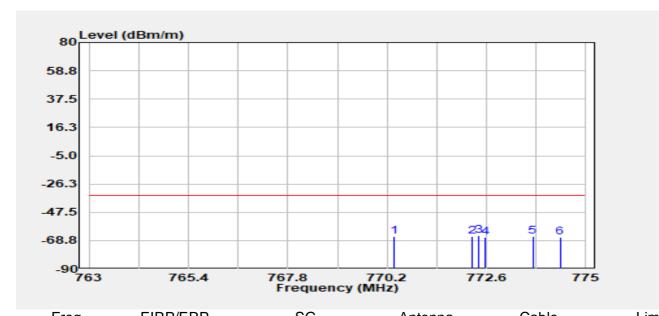
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 B13 QPSK Test Date :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :22.7/59

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :785.96 MHz Engineer :Ashton Chiu



⊦req.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
770.380	-65.65	-62.78	-1.51	-1.36	-35.00	-30.64
772.252	-65.38	-62.48	-1.53	-1.37	-35.00	-30.37
772.408	-65.20	-62.30	-1.53	-1.37	-35.00	-30.19
772.576	-65.97	-63.07	-1.53	-1.37	-35.00	-30.96
773.716	-65.86	-62.95	-1.54	-1.37	-35.00	-30.85
774.376	-65.98	-63.06	-1.55	-1.37	-35.00	-30.97

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。



Page 114 of 139

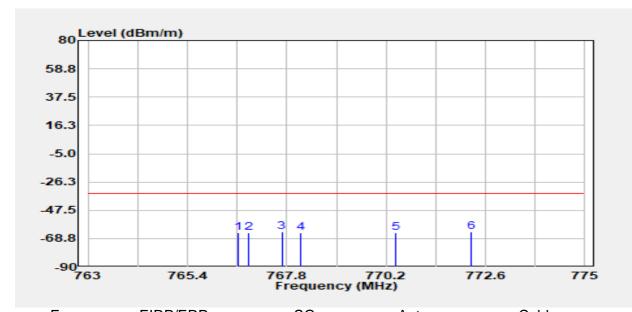
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :2020-12-16 :M1 B13 16QAM **Test Date**

Test Mode :TX CH Mid Temp./Humi. :22.7/59

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :785.96 MHz Engineer :Ashton Chiu



	Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
_	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
	766.636	-64.45	-61.57	-1.48	-1.40	-35.00	-29.44
	766.888	-64.40	-61.52	-1.49	-1.39	-35.00	-29.39
	767.680	-63.95	-61.07	-1.49	-1.39	-35.00	-28.94
	768.124	-64.18	-61.30	-1.50	-1.38	-35.00	-29.17
	770.416	-64.23	-61.36	-1.51	-1.36	-35.00	-29.22
	772.240	-63.53	-60.63	-1.53	-1.37	-35.00	-28.52

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

t (886-2) 2299-3279

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 f (886-2) 2298-0488 www.sgs.com.tw



Page 115 of 139

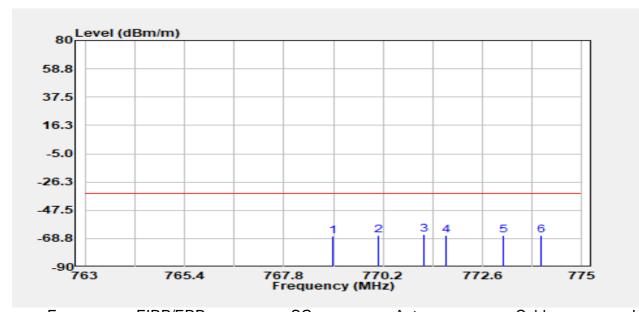
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :2020-12-16 :M1 B13 16QAM **Test Date**

Test Mode :TX CH Mid Temp./Humi. :22.7/59

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :785.96 MHz Engineer :Ashton Chiu



	Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
_							
	768.988	-66.73	-63.86	-1.50	-1.37	-35.00	-31.72
	770.080	-66.20	-63.33	-1.51	-1.36	-35.00	-31.19
	771.196	-65.44	-62.56	-1.52	-1.36	-35.00	-30.43
	771.712	-66.12	-63.23	-1.52	-1.37	-35.00	-31.11
	773.092	-66.54	-63.64	-1.53	-1.37	-35.00	-31.53
	774.028	-66.14	-63.23	-1.54	-1.37	-35.00	-31.13

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。



Page 116 of 139

Cat M1 Band 13 (793-805MHz)

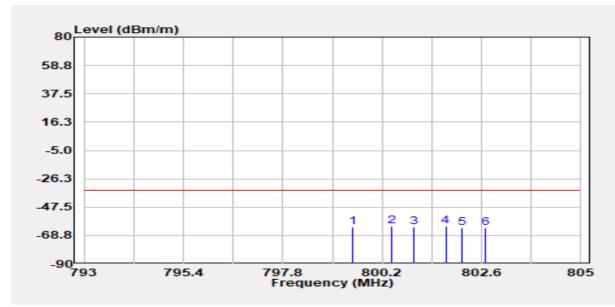
Report Number :E2/2020/B0031 **Test Site** :966 Chamber C

Operation Mode :M1 B13 QPSK **Test Date** :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :22.7/59

EUT Pol Antenna Pol. :E2 Plan :Vertical

Test Frequency :785.96 MHz Engineer :Ashton Chiu



EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	Output Level	Gain	Loss		•
dBm	dBm	dBi/dBd	dB	dBm	dB
-62.38	-59.45	-1.31	-1.62	-35.00	-27.37
-61.99	-59.08	-1.27	-1.64	-35.00	-26.98
-62.64	-59.73	-1.27	-1.64	-35.00	-27.63
-61.79	-58.88	-1.26	-1.65	-35.00	-26.78
-62.96	-60.05	-1.25	-1.66	-35.00	-27.95
-62.85	-59.93	-1.25	-1.67	-35.00	-27.84
	-62.38 -61.99 -62.64 -61.79 -62.96	Output Level dBm dBm -62.38 -59.45 -61.99 -59.08 -62.64 -59.73 -61.79 -58.88 -62.96 -60.05	Output Level Gain dBm dBi/dBd -62.38 -59.45 -1.31 -61.99 -59.08 -1.27 -62.64 -59.73 -1.27 -61.79 -58.88 -1.26 -62.96 -60.05 -1.25	dBm Output Level dBm Gain dBi/dBd Loss dB -62.38 -59.45 -1.31 -1.62 -61.99 -59.08 -1.27 -1.64 -62.64 -59.73 -1.27 -1.64 -61.79 -58.88 -1.26 -1.65 -62.96 -60.05 -1.25 -1.66	dBm Output Level dBm Gain dBi/dBd Loss dB -62.38 -59.45 -1.31 -1.62 -35.00 -61.99 -59.08 -1.27 -1.64 -35.00 -62.64 -59.73 -1.27 -1.64 -35.00 -61.79 -58.88 -1.26 -1.65 -35.00 -62.96 -60.05 -1.25 -1.66 -35.00

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 https://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 f (886-2) 2298-0488 www.sgs.com.tw

t (886-2) 2299-3279



Page 117 of 139

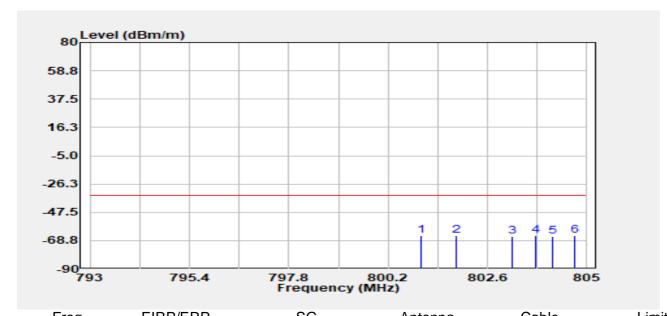
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 B13 QPSK **Test Date** :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :22.7/59

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :785.96 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
800.992	-64.80	-61.89	-1.27	-1.64	-35.00	-29.79
801.844	-64.76	-61.85	-1.26	-1.65	-35.00	-29.75
803.200	-65.49	-62.58	-1.24	-1.67	-35.00	-30.48
803.752	-64.84	-61.93	-1.23	-1.68	-35.00	-29.83
804.172	-65.42	-62.51	-1.23	-1.68	-35.00	-30.41
804.700	-64.99	-62.08	-1.22	-1.69	-35.00	-29.98

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。



Page 118 of 139

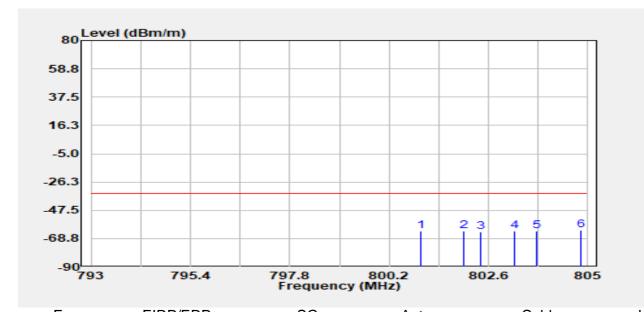
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :2020-12-16 :M1 B13 16QAM **Test Date**

Test Mode :TX CH Mid Temp./Humi. :22.7/59

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :785.96 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
800.980	-63.05	-60.14	-1.27	-1.64	-35.00	-28.04
801.988	-62.79	-59.87	-1.26	-1.66	-35.00	-27.78
802.408	-63.39	-60.48	-1.25	-1.66	-35.00	-28.38
803.224	-63.00	-60.09	-1.24	-1.67	-35.00	-27.99
803.752	-62.90	-59.99	-1.23	-1.68	-35.00	-27.89
804.844	-62.29	-59.38	-1.22	-1.69	-35.00	-27.28

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。



Page 119 of 139

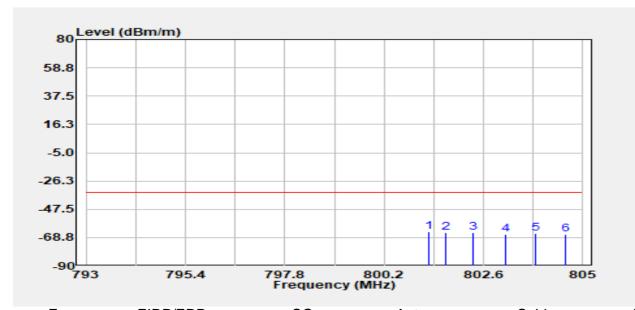
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :2020-12-16 :M1 B13 16QAM **Test Date**

Test Mode :TX CH Mid Temp./Humi. :22.7/59

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :785.96 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
801.268	-64.17	-61.26	-1.26	-1.65	-35.00	-29.16
801.688	-65.05	-62.14	-1.26	-1.65	-35.00	-30.04
802.336	-65.27	-62.36	-1.25	-1.66	-35.00	-30.26
803.140	-65.94	-63.03	-1.24	-1.67	-35.00	-30.93
803.860	-65.35	-62.44	-1.23	-1.68	-35.00	-30.34
804.592	-65.96	-63.05	-1.22	-1.69	-35.00	-30.95

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。



Page 120 of 139

Cat M1 Band 14

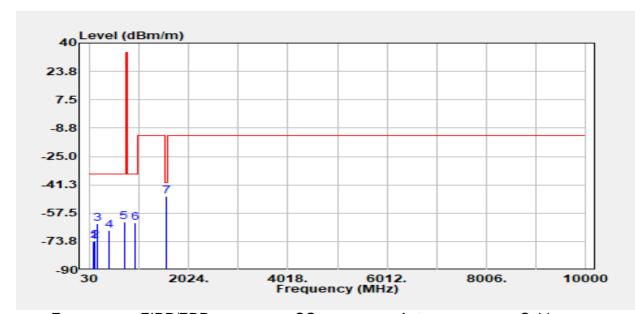
Test Site :966 Chamber C Report Number :E2/2020/B0031

Operation Mode :M1 B14 QPSK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.3/66

EUT Pol :E2 Plan Antenna Pol. :Vertical

:789.25 MHz Engineer :Ashton Chiu **Test Frequency**



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		· ·
MHz	dBm	['] dBm	dBi/dBd	dB	dBm	dB
117.300	-73.74	-66.38	-6.76	-0.60	-35.00	-38.73
139.610	-73.52	-65.87	-7.04	-0.61	-35.00	-38.51
196.840	-63.57	-61.53	-1.24	-0.80	-35.00	-28.56
423.820	-67.43	-65.46	-0.75	-1.22	-35.00	-32.42
732.280	-62.64	-59.49	-1.19	-1.96	-35.00	-27.63
950.530	-63.12	-59.96	-1.38	-1.78	-35.00	-28.11
1578.500	-47.68	-52.06	9.27	-4.89	-40.00	-7.67

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 f (886-2) 2298-0488



:E2 Plan

EUT Pol

Report No.: E2/2020/B0031

Page 121 of 139

:Horizontal

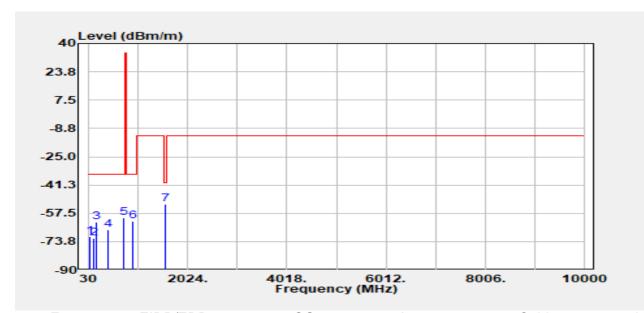
Antenna Pol.

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 B14 QPSK **Test Date** :2020-12-14

:TX CH Mid Test Mode Temp./Humi. :21.3/66

Test Frequency :789.25 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		· ·
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
62.980	-70.72	-56.35	-13.95	-0.42	-35.00	-35.71
140.580	-71.87	-64.27	-6.99	-0.61	-35.00	-36.86
196.840	-62.49	-60.45	-1.24	-0.80	-35.00	-27.48
425.760	-67.11	-65.12	-0.79	-1.20	-35.00	-32.10
737.130	-60.06	-56.89	-1.27	-1.90	-35.00	-25.05
935.010	-62.03	-58.86	-1.42	-1.75	-35.00	-27.02
1578.500	-52.26	-56.64	9.27	-4.89	-40.00	-12.25
425.760 737.130 935.010	-67.11 -60.06 -62.03	-65.12 -56.89 -58.86	-0.79 -1.27 -1.42	-1.20 -1.90 -1.75	-35.00 -35.00 -35.00	-32.10 -25.05 -27.02

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。



Page 122 of 139

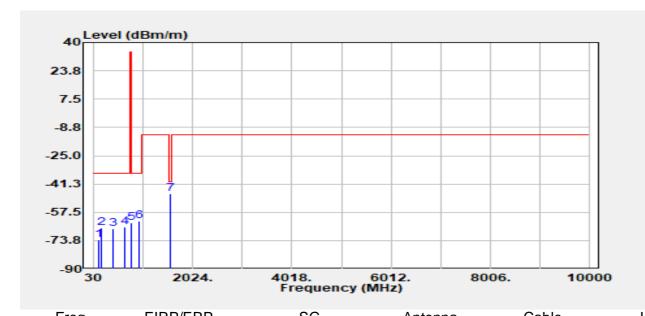
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B14 16QAM **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.3/66

EUT Pol :E2 Plan Antenna Pol. :Vertical

:789.25 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
144.460	-73.39	-65.71	-7.04	-0.64	-35.00	-38.38
196.840	-66.32	-64.28	-1.24	-0.80	-35.00	-31.31
430.610	-67.14	-65.10	-0.88	-1.16	-35.00	-32.13
671.170	-65.91	-63.26	-1.00	-1.65	-35.00	-30.90
795.330	-63.48	-60.40	-1.51	-1.57	-35.00	-28.47
944.710	-62.51	-59.31	-1.43	-1.77	-35.00	-27.50
1578.500	-46.85	-51.23	9.27	-4.89	-40.00	-6.84

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。



Page 123 of 139

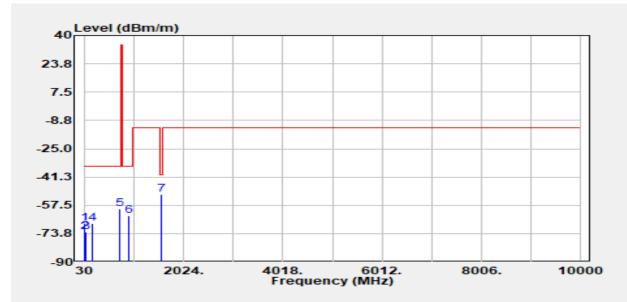
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B14 16QAM **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.3/66

EUT Pol :E2 Plan Antenna Pol. :Horizontal

:789.25 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-67.82	-48.60	-18.97	-0.25	-35.00	-32.81
51.340	-72.96	-56.03	-16.60	-0.33	-35.00	-37.95
62.010	-73.04	-58.53	-14.09	-0.42	-35.00	-38.03
196.840	-67.77	-65.73	-1.24	-0.80	-35.00	-32.76
740.040	-59.75	-56.53	-1.36	-1.86	-35.00	-24.74
936.950	-63.50	-60.31	-1.44	-1.75	-35.00	-28.49
1578.500	-51.08	-55.46	9.27	-4.89	-40.00	-11.07

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。



Page 124 of 139

Cat M1 Band 17

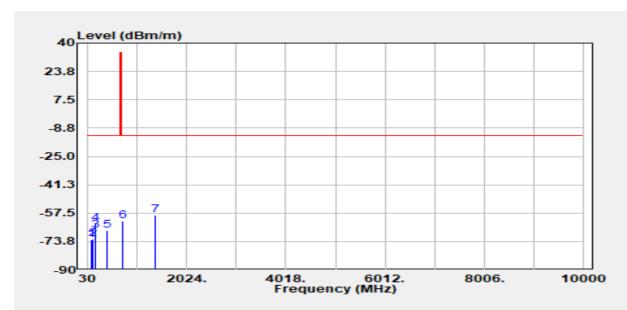
Test Site :966 Chamber C Report Number :E2/2020/B0031

Operation Mode :M1 B17 QPSK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.2/64

EUT Pol :E2 Plan Antenna Pol. :Vertical

:705.17 MHz Engineer :Ashton Chiu **Test Frequency**



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
116.330	-72.69	-65.46	-6.63	-0.60	-13.00	-59.68
142.520	-72.53	-64.89	-7.01	-0.63	-13.00	-59.52
190.050	-67.66	-64.80	-2.05	-0.81	-13.00	-54.65
197.810	-63.70	-61.68	-1.22	-0.80	-13.00	-50.69
428.670	-67.64	-65.63	-0.84	-1.17	-13.00	-54.63
737.130	-61.81	-58.64	-1.27	-1.90	-13.00	-48.80
1410.340	-58.38	-61.66	7.68	-4.40	-13.00	-45.37

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 f (886-2) 2298-0488 www.sgs.com.tw



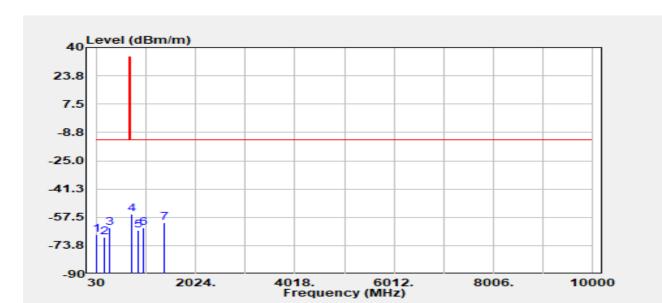
Page 125 of 139

Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 B17 QPSK **Test Date** :2020-12-14

:TX CH Mid Test Mode Temp./Humi. :21.2/64

EUT Pol :E2 Plan Antenna Pol. :Horizontal **Test Frequency** :705.17 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		Ü
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
33.880	-67.53	-47.97	-19.31	-0.25	-13.00	-54.52
197.810	-68.91	-66.89	-1.22	-0.80	-13.00	-55.90
301.600	-63.41	-61.39	-0.98	-1.04	-13.00	-50.40
745.860	-55.74	-52.49	-1.51	-1.74	-13.00	-42.73
882.630	-65.08	-62.33	-1.02	-1.73	-13.00	-52.07
983.510	-63.64	-60.58	-1.18	-1.88	-13.00	-50.63
1410.340	-60.67	-63.95	7.68	-4.40	-13.00	-47.66

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。



Page 126 of 139

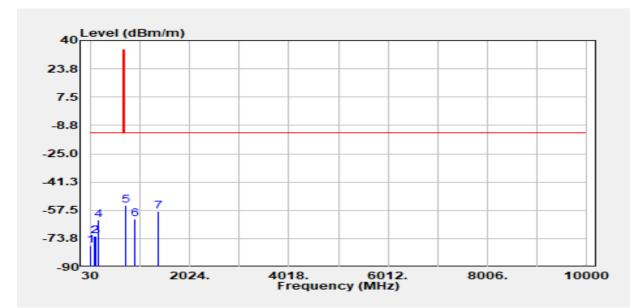
Report Number Test Site :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B17 16QAM **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.2/64

EUT Pol :E2 Plan Antenna Pol. :Vertical

:705.17 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
52.310	-77.72	-60.98	-16.40	-0.34	-13.00	-64.71
120.210	-72.25	-64.82	-6.82	-0.61	-13.00	-59.24
141.550	-72.41	-64.81	-6.98	-0.62	-13.00	-59.40
196.840	-63.02	-60.98	-1.24	-0.80	-13.00	-50.01
746.830	-54.85	-51.62	-1.51	-1.72	-13.00	-41.84
933.070	-62.53	-59.39	-1.40	-1.74	-13.00	-49.52
1410.340	-58.00	-61.28	7.68	-4.40	-13.00	-44.99

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。



Page 127 of 139

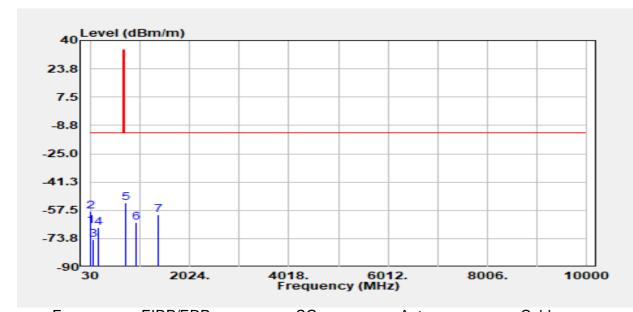
Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B17 16QAM **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.2/64

EUT Pol :E2 Plan Antenna Pol. :Horizontal

:705.17 MHz **Test Frequency** Engineer :Ashton Chiu



	Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
_	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
	00.700	00.50	47.05	40.07	0.00	40.00	50.57
	36.790	-66.58	-47.35	-18.97	-0.26	-13.00	-53.57
	49.400	-58.21	-40.85	-17.05	-0.31	-13.00	-45.20
	89.170	-74.37	-68.14	-5.75	-0.48	-13.00	-61.36
	196.840	-67.47	-65.43	-1.24	-0.80	-13.00	-54.46
	746.830	-53.22	-49.99	-1.51	-1.72	-13.00	-40.21
	945.680	-64.37	-61.18	-1.42	-1.77	-13.00	-51.36
	1410.340	-60.27	-63.55	7.68	-4.40	-13.00	-47.26

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。



Page 128 of 139

Cat M1 Band 25

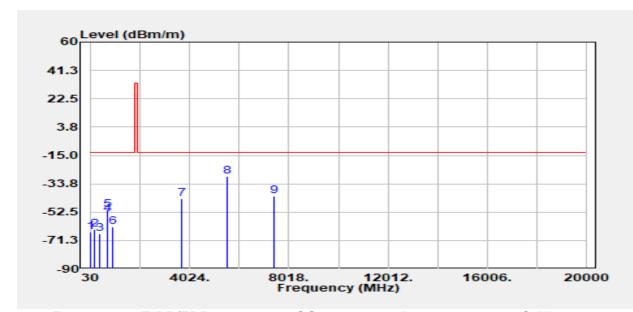
Test Site :966 Chamber C Report Number :E2/2020/B0031

Operation Mode :M1 B25 QPSK **Test Date** :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :21.4/60

EUT Pol :E2 Plan Antenna Pol. :Vertical

:1850.8 MHz Engineer :Ashton Chiu **Test Frequency**



	Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	•		Output Level	Gain	Loss		· ·
_	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
	63.950	-65.57	-51.22	-13.92	-0.43	-13.00	-52.56
	197.810	-64.13	-62.11	-1.22	-0.80	-13.00	-51.12
	420.910	-66.82	-64.87	-0.70	-1.25	-13.00	-53.81
	731.310	-53.83	-50.68	-1.18	-1.97	-13.00	-40.82
	743.920	-51.02	-47.77	-1.47	-1.78	-13.00	-38.01
	949.560	-62.43	-59.26	-1.39	-1.78	-13.00	-49.42
	3701.600	-43.51	-47.77	12.29	-8.03	-13.00	-30.50
	5552.400	-29.00	-33.66	12.90	-8.24	-13.00	-15.99
	7403.200	-41.78	-41.98	11.00	-10.80	-13.00	-28.77

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 f (886-2) 2298-0488 www.sgs.com.tw



Page 129 of 139

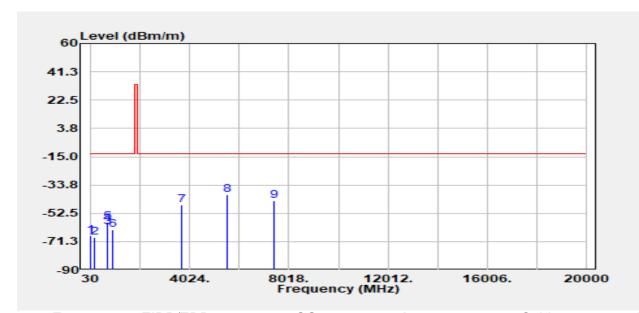
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 B25 QPSK Test Date :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :21.4/60

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency : 1850.8 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.850	-67.22	-47.70	-19.27	-0.25	-13.00	-54.21
197.810	-68.69	-66.67	-1.22	-0.80	-13.00	-55.68
730.340	-61.92	-58.76	-1.17	-1.99	-13.00	-48.91
740.040	-59.58	-56.36	-1.36	-1.86	-13.00	-46.57
745.860	-58.36	-55.11	-1.51	-1.74	-13.00	-45.35
948.590	-63.65	-60.47	-1.40	-1.78	-13.00	-50.64
3701.600	-47.22	-51.48	12.29	-8.03	-13.00	-34.21
5552.400	-40.28	-44.92	12.90	-8.26	-13.00	-27.27
7403.200	-44.29	-44.49	10.99	-10.79	-13.00	-31.28

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。



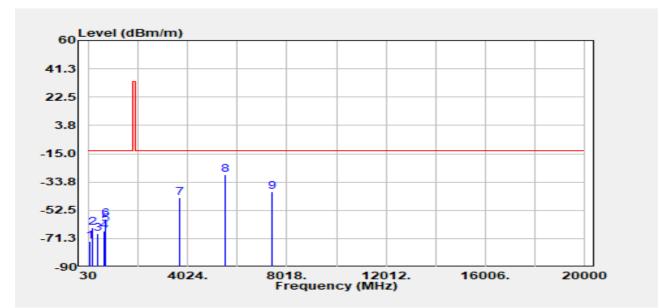
Page 130 of 139

Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B25 16QAM **Test Date** :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :21.5/62 **EUT Pol** :E2 Plan Antenna Pol. :Vertical

Test Frequency : 1850.8 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		•
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
114.390	-73.28	-66.03	-6.65	-0.60	-13.00	-60.27
196.840	-63.81	-61.77	-1.24	-0.80	-13.00	-50.80
421.880	-67.82	-65.87	-0.71	-1.24	-13.00	-54.81
674.080	-66.28	-63.73	-0.96	-1.59	-13.00	-53.27
730.340	-61.63	-58.47	-1.17	-1.99	-13.00	-48.62
746.830	-58.44	-55.21	-1.51	-1.72	-13.00	-45.43
3701.600	-44.37	-48.63	12.29	-8.03	-13.00	-31.36
5552.400	-29.11	-33.77	12.90	-8.24	-13.00	-16.10
7403.200	-39.97	-40.17	11.00	-10.80	-13.00	-26.96

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。



Page 131 of 139

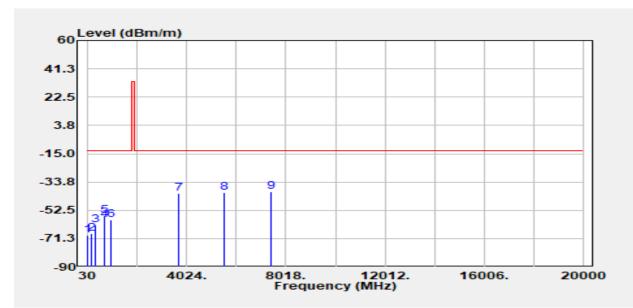
Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B25 16QAM **Test Date** :2020-12-16

Test Mode :TX CH Mid Temp./Humi. :21.5/62

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency : 1850.8 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-68.90	-49.68	-18.97	-0.25	-13.00	-55.89
196.840	-68.08	-66.04	-1.24	-0.80	-13.00	-55.07
377.260	-62.52	-60.85	-0.55	-1.12	-13.00	-49.51
730.340	-59.01	-55.85	-1.17	-1.99	-13.00	-46.00
744.890	-56.00	-52.74	-1.50	-1.76	-13.00	-42.99
1000.000	-58.88	-54.12	-1.04	-3.72	-13.00	-45.87
3701.600	-41.27	-45.53	12.29	-8.03	-13.00	-28.26
5552.400	-40.99	-45.65	12.90	-8.24	-13.00	-27.98
7403.200	-40.04	-40.24	11.00	-10.80	-13.00	-27.03

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。



Page 132 of 139

Cat M1 Band 26

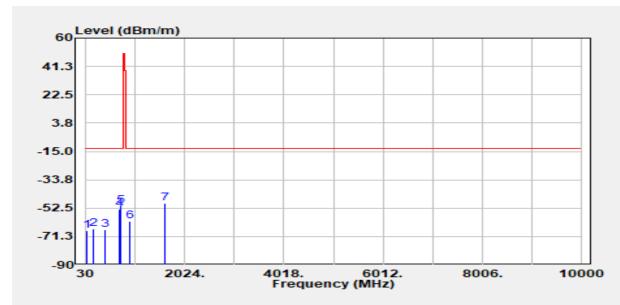
Test Site :966 Chamber C Report Number :E2/2020/B0031

Operation Mode :M1 B26 QPSK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.4/67

EUT Pol :E2 Plan Antenna Pol. :Vertical

:814.79 MHz Engineer :Ashton Chiu **Test Frequency**



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
65.890	-67.51	-53.96	-13.10	-0.45	-13.00	-54.50
197.810	-65.97	-63.95	-1.22	-0.80	-13.00	-52.96
424.790	-66.76	-64.78	-0.77	-1.21	-13.00	-53.75
730.340	-52.94	-49.78	-1.17	-1.99	-13.00	-39.93
744.890	-51.07	-47.81	-1.50	-1.76	-13.00	-38.06
934.040	-60.98	-57.83	-1.41	-1.74	-13.00	-47.97
1629.580	-49.28	-53.60	9.46	-5.14	-13.00	-36.27

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 f (886-2) 2298-0488 www.sgs.com.tw



Page 133 of 139

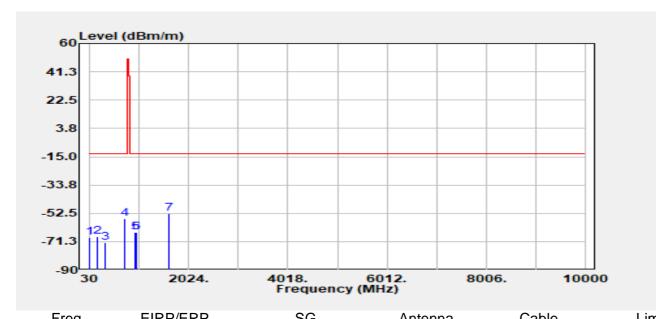
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 B26 QPSK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.4/67

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :814.79 MHz Engineer :Ashton Chiu



	Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
-							
	36.790	-68.41	-49.18	-18.97	-0.26	-13.00	-55.40
	196.840	-67.89	-65.85	-1.24	-0.80	-13.00	-54.88
	348.160	-71.70	-70.18	-0.40	-1.12	-13.00	-58.69
	733.250	-55.94	-52.79	-1.20	-1.95	-13.00	-42.93
	945.680	-65.18	-61.99	-1.42	-1.77	-13.00	-52.17
	980.600	-64.82	-61.74	-1.21	-1.87	-13.00	-51.81
	1629.580	-52.48	-56.80	9.46	-5.14	-13.00	-39.47

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。



Page 134 of 139

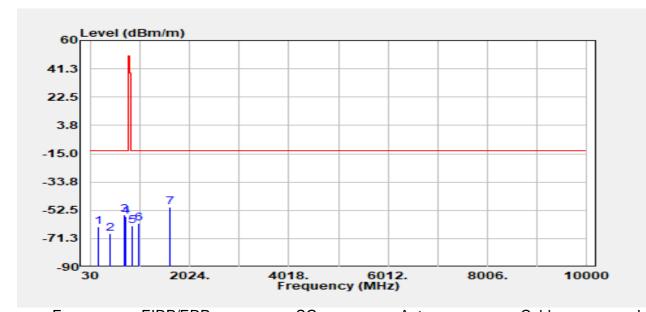
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 B26 16QAM Test Date :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.4/67

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :814.79 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
196.840	-63.12	-61.08	-1.24	-0.80	-13.00	-50.11
422.850	-67.78	-65.82	-0.73	-1.23	-13.00	-54.77
730.340	-55.28	-52.12	-1.17	-1.99	-13.00	-42.27
744.890	-56.60	-53.34	-1.50	-1.76	-13.00	-43.59
884.570	-62.87	-60.10	-1.00	-1.77	-13.00	-49.86
1000.000	-61.35	-56.59	-1.04	-3.72	-13.00	-48.34
1629.580	-50.41	-54.73	9.46	-5.14	-13.00	-37.40

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。



Page 135 of 139

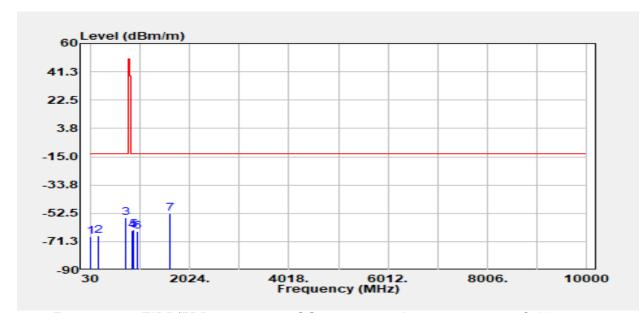
Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :M1 B26 16QAM **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.4/67

EUT Pol :E2 Plan Antenna Pol. :Horizontal

:814.79 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		•
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-67.98	-48.76	-18.97	-0.25	-13.00	-54.97
196.840	-67.42	-65.38	-1.24	-0.80	-13.00	-54.41
745.860	-55.63	-52.38	-1.51	-1.74	-13.00	-42.62
885.540	-63.78	-60.98	-1.01	-1.79	-13.00	-50.77
911.730	-63.31	-60.18	-1.28	-1.85	-13.00	-50.30
981.570	-64.48	-61.40	-1.20	-1.88	-13.00	-51.47
1629.580	-52.38	-56.70	9.46	-5.14	-13.00	-39.37

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。



Page 136 of 139

Cat M1 Band 26 (Part 90s)

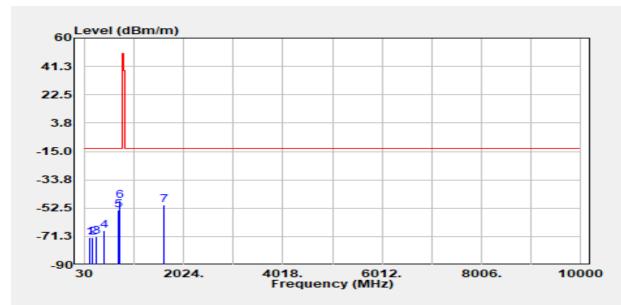
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 Part 90 B26 QPSK **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.4/67

EUT Pol Antenna Pol. :E2 Plan :Vertical

:814.7 MHz Engineer :Ashton Chiu **Test Frequency**



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
138.640	-71.83	-64.15	-7.07	-0.61	-13.00	-58.82
197.810	-71.88	-69.86	-1.22	-0.80	-13.00	-58.87
262.800	-71.24	-69.66	-0.66	-0.92	-13.00	-58.23
426.730	-67.33	-65.34	-0.80	-1.19	-13.00	-54.32
730.340	-53.68	-50.52	-1.17	-1.99	-13.00	-40.67
746.830	-47.80	-44.57	-1.51	-1.72	-13.00	-34.79
1629.400	-50.34	-54.66	9.46	-5.14	-13.00	-37.33

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 f (886-2) 2298-0488 www.sgs.com.tw



Page 137 of 139

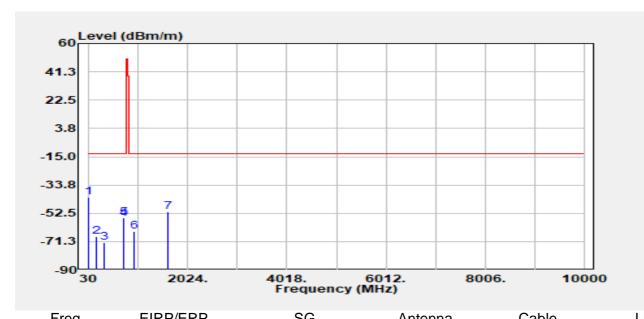
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 Part 90 B26 QPSK **Test Date** :2020-12-14

:TX CH Mid Test Mode Temp./Humi. :21.4/67

EUT Pol :E2 Plan Antenna Pol. :Horizontal

Test Frequency :814.7 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-42.15	-22.93	-18.97	-0.25	-13.00	-29.14
197.810	-68.10	-66.08	-1.22	-0.80	-13.00	-55.09
362.710	-72.13	-70.64	-0.50	-0.99	-13.00	-59.12
740.040	-56.15	-52.93	-1.36	-1.86	-13.00	-43.14
746.830	-55.37	-52.14	-1.51	-1.72	-13.00	-42.36
942.770	-64.49	-61.27	-1.45	-1.77	-13.00	-51.48
1629.400	-51.67	-55.99	9.46	-5.14	-13.00	-38.66

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。



Page 138 of 139

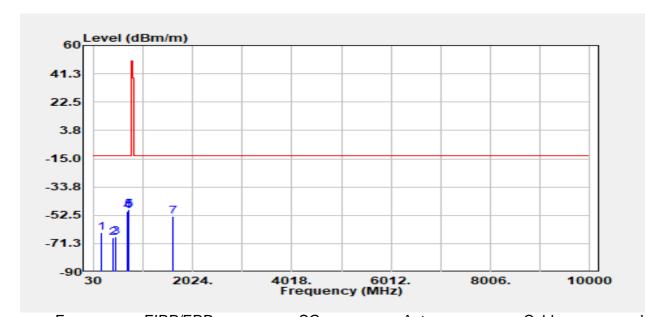
Report Number :E2/2020/B0031 Test Site :966 Chamber C

Operation Mode :M1 Part 90 B26 16QAM Test Date :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.4/67

EUT Pol :E2 Plan Antenna Pol. :Vertical

Test Frequency :814.7 MHz Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
196.840	-63.84	-61.80	-1.24	-0.80	-13.00	-50.83
424.790	-67.22	-65.24	-0.77	-1.21	-13.00	-54.21
489.780	-66.58	-64.34	-0.64	-1.60	-13.00	-53.57
730.340	-50.02	-46.86	-1.17	-1.99	-13.00	-37.01
737.130	-48.81	-45.64	-1.27	-1.90	-13.00	-35.80
746.830	-49.08	-45.85	-1.51	-1.72	-13.00	-36.07
1629.400	-52.97	-57.29	9.46	-5.14	-13.00	-39.96

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。



Page 139 of 139

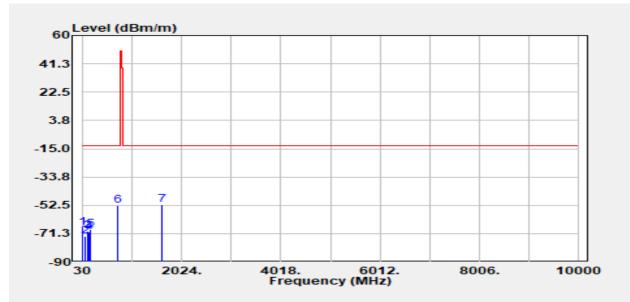
Report Number **Test Site** :966 Chamber C :E2/2020/B0031

Operation Mode :M1 Part 90 B26 16QAM **Test Date** :2020-12-14

Test Mode :TX CH Mid Temp./Humi. :21.4/67

EUT Pol :E2 Plan Antenna Pol. :Horizontal

:814.7 MHz **Test Frequency** Engineer :Ashton Chiu



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.850	-67.54	-48.02	-19.27	-0.25	-13.00	-54.53
97.900	-73.07	-66.92	-5.62	-0.53	-13.00	-60.06
134.760	-69.84	-62.13	-7.10	-0.61	-13.00	-56.83
173.560	-70.39	-64.76	-4.94	-0.69	-13.00	-57.38
196.840	-68.73	-66.69	-1.24	-0.80	-13.00	-55.72
746.830	-52.49	-49.26	-1.51	-1.72	-13.00	-39.48
1629.400	-51.95	-56.27	9.46	-5.14	-13.00	-38.94

~ 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。