



RED (2014/53/EU)
ETSI EN 300 330 v2.1.1: 2017
TEST REPORT

FOR

Applicant: ID TECH
10721 Walker St. Cypress, CA 90630

Product Name: VP6300

Brand Name: IDTECH

Model No.: IDVV-581821P; IDVV-581801P; IDVV-580821;
IDVV-580801

Model Difference: IDVV-581821P with Security Fence MESH FPCB; with SAM Board
IDVV-581801P with Security Fence MESH FPCB; without SAM Board
IDVV-580821 without Security Fence MESH FPCB; with SAM Board
IDVV-580801 without Security Fence MESH FPCB; without SAM Board

Report Number: E2/2017/A0025

Issue Date: Nov. 21, 2017

Date of Test: Oct. 03, 2017 ~ Nov. 21, 2017

Date of EUT Received: Oct. 03, 2017

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. for compliance with the requirements set forth in the European Standard ETSI EN 300 330 v2.1.1: 2017 under RED 2014/53/EU. The results of testing in this report apply to the product system that was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Prepared By:

Yuri Tsai
Yuri Tsai / Clerk

Approved By:

Jim Chang
Jim Chang / Asst. Manager



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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

Revision History

Report Number	Revision	Description	Issue Date
E2/2017/A0025	Rev.00	Initial creation of document	Nov. 21, 2017

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

TABLE OF CONTENTS

1	DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)	4
2	DESCRIPTION OF TEST MODES AND TEST CONDITION	5
3	GENERAL DESCRIPTION OF APPLIED STANDARDS	6
4	TEST FACILITY	6
5	SUPPORT EQUIPMENT	7
6	MEASUREMENT UNCERTAINTY	8
7	ETSI EN 300 330 SUBCLAUSE 4.3.4 TRANSMITTER H-FIELD REQUIREMENTS	9
8	ETSI EN 300 330 SUBCLAUSE 4.3.1 LIMITED FOR PERMITTED FREQUENCY RANGE.....	15
9	ETSI EN 300 330 SUBCLAUSE 4.3.8 & 4.3.9 TRANSMITTER RADIATED SPURIOUS DOMAIN EMISSION LIMITS	16
10	ETSI EN 300 330 SUBCLAUSE 4.4.3 ADJACENT CHANNEL SELECTIVITY	20
11	ETSI EN 300 330 SUBCLAUSE 4.4.4 RECEIVER BLOCKING OR DESENSITIZATION	21
12	ETSI EN 300 330 SUBCLAUSE 4.2.2.3 RECEIVER SPURIOUS RADIATIONS.....	22
	PHOTOGRAPHS OF SET UP	25
	PHOTOGRAPHS OF EUT	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。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

General:

Product Name:	VP6300
Brand Name:	IDTECH
Model No.:	IDVV-581821P; IDVV-581801P; IDVV-580821; IDVV-580801
Model Difference:	IDVV-581821P with Security Fence MESH FPCB; with SAM Board IDVV-581801P with Security Fence MESH FPCB; without SAM Board IDVV-580821 without Security Fence MESH FPCB; with SAM Board IDVV-580801 without Security Fence MESH FPCB; without SAM Board
Hardware Version:	N/A
Software Version:	N/A
Power Supply:	9Vdc from DC power supply

NFC:

Operating Frequency	13.56MHz
Number of Channels	1
Antenna Type	Loop Antenna
Module Type	ASK
Rated Power	-15.35 dBμA/m @3m
Product Class	TX:Class 1, Refer to ETSI EN 300 330, Section B.2.1 for defined. RX:tagging system, Refer to ETSI EN 300 330, Section 4.4.1 for defined.

The EUT is compliance with NFC Standard.

This report applies for NFC.

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

2 DESCRIPTION OF TEST MODES AND TEST CONDITION

The EUT has been tested under normal test conditions. No Software used to control the EUT for staying in continuous transmitting and receiving mode for testing.

Normal test conditions :

Temperature : + 15°C to 35 °C

Relative humidity: 20 % to 75 %

Mains Voltage

The normal test voltage for equipment to be connected to the mains shall be the nominal mains voltage. For the purpose of the present document, the nominal voltage shall be the declared voltage, or any of the declared voltages, for which the equipment was designed.

The frequency of the test power source corresponding to the ac mains shall be between 49 Hz and 51 Hz.

Regulated lead-acid battery power sources

When the radio equipment is intended for operation from the usual types of regulated lead-acid battery power source of vehicles, the normal test voltage shall be **1.1 times** the normal voltage of the battery (6 vlots, 12 vlots etc)

Other power sources

For operation from other power sources or types of battery (primary or secondary), the normal test voltage shall be that declared by the equipment provider and agreed by the test laboratory. Such values shall be stated in the test report.

Extreme Temperature Ranges:

Category I (General)	-20°C to +55°C
Category II (Portable)	-10°C to +55°C
Category III (Equipment for normal indoor use)	0°C to +35°C

NOTE: The term "Equipment for normal indoor use" is taken to mean the minimum indoor temperature $\geq 5^\circ\text{C}$.

Extreme Test Source Voltages

Mains Voltage

The extreme test voltages for equipment to be connected to an ac mains source shall be the nominal mains voltage $\pm 10\%$.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

Regulated lead-acid battery power sources

When the radio equipment is intended for operation from the usual type of regulated lead-acid battery power sources the extreme test voltages shall be 1,3 and 0,9 multiplied by the nominal voltage of the battery (9V etc.).

Power sources using other types of batteries

a) For the Leclanché or the lithium type of battery:

0,85 multiplied by the nominal voltage of the battery.

b) For the nickel-cadmium type of battery:

0,9 multiplied by the nominal voltage of the battery.

Other power sources

For equipment using other power sources, or capable of being operated from a variety of power sources, the extreme test voltages shall be those agreed between the equipment provider and the test laboratory. This shall be recorded in the test report.

Note: Radiated and Conducted were tested with battery (11.55V) as worst case.

3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT According to the Specifications, it must comply with the requirements of the following standards:

ETSI EN 300 330-1 V2.1.1 (2017) -- Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz;.

4 TEST FACILITY

SGS Taiwan Ltd.

Electronics & Communication Laboratory

No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333

A 11m*6m*6m fully anechoic chamber was used for the radiated spurious emissions test.

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

5 SUPPORT EQUIPMENT

Fig. 5-1 Configuration of Tested System (Radiated Emission)



Table 5-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Data Cable	Power Cord
1.	NFC Test Software	N/A	N/A	N/A	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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

6 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been calculated in accordance with ETSI TR 100 028 [i.14]

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

This lab's measurement uncertainty ULab, is low than 5.13: Maximum measurement uncertainty of ETSI EN 300 330, therefore compliance is deemed to occur if no measured disturbance exceeds the disturbance limit.

Parameter	Uncertainty Criterion	Measurement Uncertainty
RF frequency	$\pm 1 \times 10^{-7}$	$\pm 2.13 \times 10^{-8}$
RF Output Power, conducted	± 1 dB	± 0.84 dB
RF Output Power, Radiated	± 6 dB	± 4.74 dB
Temperature	$\pm 1^{\circ}\text{C}$	$\pm 0.65^{\circ}\text{C}$
Humidity	$\pm 5\%$	$\pm 4.6\%$

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

7 ETSI EN 300 330 SUBCLAUSE 4.3.4 TRANSMITTER H-FIELD REQUIREMENTS

In the case of a transmitter with an integral or dedicated antenna, the radiated H-field is defined in the direction of maximum field strength under specified conditions of measurement.

7.1 Limit:

Table 2: H-field limits at 10 m

Frequency range (MHz)	H-field strength limit (H_f) dB μ A/m at 10 m or specified in mW e.r.p.
$0,009 \leq f < 0,090$	72 descending 3 dB/oct above 0,03 MHz or according to note 1 (see note 5)
$0,09 \leq f < 0,119$	42
$0,119 \leq f < 0,135$	66 descending 3 dB/oct above 0,119 MHz or according to note 1 (see notes 3 and 5)
$0,135 \leq f < 0,140$	42
$0,140 \leq f < 0,1485$	37,7
$0,1485 \leq f < 30$	-5 (see note 4)
$0,315 \leq f < 0,600$	-5
$3,155 \leq f < 3,400$	13,5
4,234	9 (see note 9)
4,516	7
$7,400 \leq f < 8,800$	9
$10,2 \leq f < 11,00$	9
$12,5 \leq f \leq 20$	-7
$6,765 \leq f \leq 6,795$	42 (see notes 3 and 7)
$26,957 \leq f \leq 27,283$	42 (see note 3)
$13,410 \leq f \leq 13,553, 13,567 \leq f \leq 13,710$	9 (see note 6)
$13,110 \leq f \leq 13,410, 13,710 \leq f \leq 14,010$	-3,5 (see note 6)
$12,660 \leq f \leq 13,110, 14,010 \leq f \leq 14,460$	-10 (see note 6)
$11,810 \leq f \leq 12,660, 14,460 \leq f \leq 15,310$	-16 (see note 6)
$13,460 \leq f \leq 13,553, 13,567 \leq f \leq 13,660$	27 (see note 6)
$13,360 \leq f \leq 13,460, 13,660 \leq f \leq 13,760$	Linear transition from 27 to -3,5 (see note 6)
$13,110 \leq f \leq 13,360, 13,760 \leq f \leq 14,010$	-3,5 (see note 6)
$12,660 \leq f \leq 13,110, 14,010 \leq f \leq 14,460$	-5 (see note 6)
$13,553 \leq f \leq 13,567$	42 (see note 3) or 60 (see notes 2 and 3)
27,095	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。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

Frequency range (MHz)	H-field strength limit (H_f) dB μ A/m at 10 m or specified in mW e.r.p.
26,995, 27,045, 27,095, 27,145, 27,195 (see note 8)	100 mW
<p>NOTE 1: For the frequency ranges 9 kHz to 135 kHz, the following additional restrictions apply to limits above 42 dBμA/m:</p> <ul style="list-style-type: none"> - for loop coil antennas with an area $\geq 0,16$ m² this table and table B.1 with the antenna limitations apply; - for loop coil antennas with an area between 0,05 m² and 0,16 m² table B.1 applies with a correction factor. The limit is: table value + 10 \times log (area/0,16 m²); - for loop coil antennas with an area < 0,05 m² the limit is 10 dB below table B.1. <p>NOTE 2: For RFID (incl. NFC) and EAS applications only.</p> <p>NOTE 3: Spectrum mask limit, see annex I.</p> <p>NOTE 4: For further information see annex G.</p> <p>NOTE 5: Limit is 42 dBμA/m for the following spot frequencies: 60 kHz \pm 250 Hz, 66,6 kHz \pm 750 Hz, 75 kHz \pm 250 Hz, 77,5 kHz \pm 250 Hz, and 129,1 kHz \pm 500 Hz.</p> <p>NOTE 6: Only in conjunction with spectrum mask, see annex I.</p> <p>NOTE 7: The frequency range 6,765 MHz - 6,795 MHz is not a harmonised ISM frequency band according article 5.138 of the ITU Radio Regulations [i.13].</p> <p>NOTE 8: Center frequencies for channelized systems by using ≤ 10 kHz bandwidth.</p> <p>NOTE 9: The limit is valid in the range 984 kHz - 7 484 kHz for Transmitting only on receipt of a Balise/Eurobalise tele-powering signal from a train.</p>	

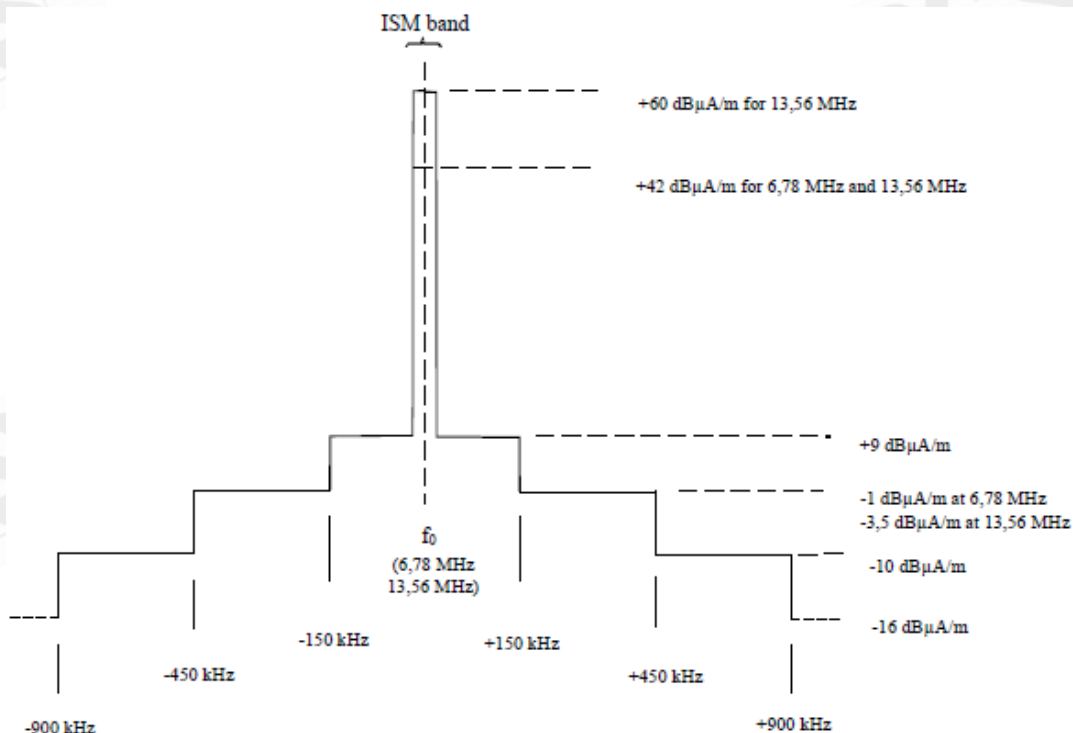


Figure I.2: Spectrum mask limit for RFIDs and EAS in the 6,78 MHz and 13,56 MHz range

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

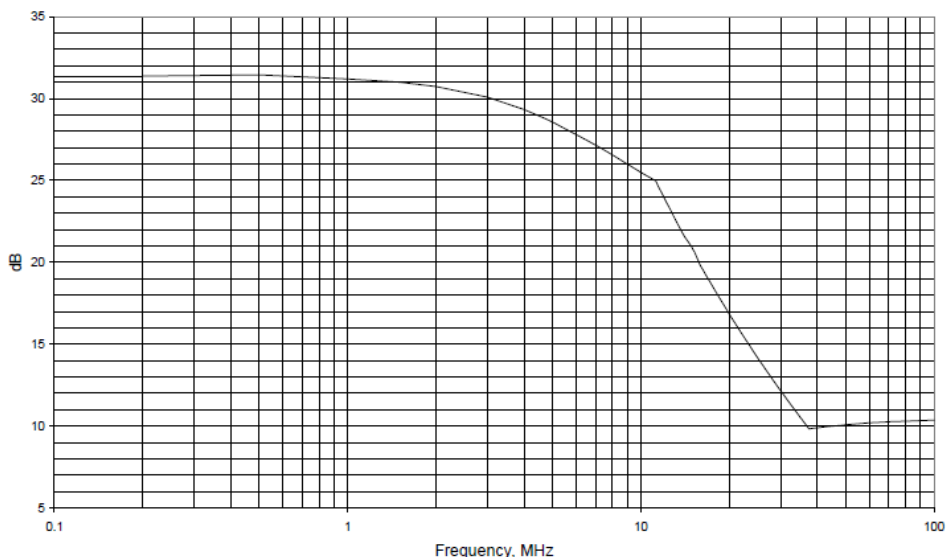
www.tw.sgs.com

Member of SGS Group

$$H_{3m} = H_{10m} + C_3$$

H10m is the H-field limit in dB μ A/m at 10 m distance according to the present document; and C3 is a conversion factor in dB determined from figure as below:

Correction factor, C₃, for limits at 3 m distance, dB



MAIN & Mask limit 10m to 3m:

$$60 \text{ dB}\mu\text{A/m} + 25 = 85 \text{ dB}\mu\text{A/m}$$

$$9 \text{ dB}\mu\text{A/m} + 25 = 34 \text{ dB}\mu\text{A/m}$$

$$-3.5 \text{ dB}\mu\text{A/m} + 25 = 21.5 \text{ dB}\mu\text{A/m}$$

$$-10 \text{ dB}\mu\text{A/m} + 25 = 15 \text{ dB}\mu\text{A/m}$$

$$-16 \text{ dB}\mu\text{A/m} + 25 = 9 \text{ dB}\mu\text{A/m}$$

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

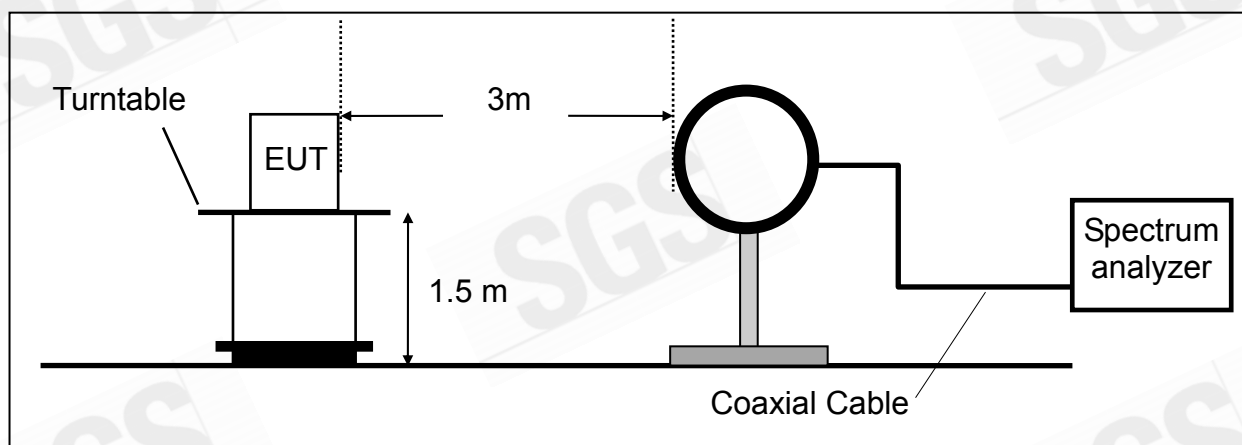
www.tw.sgs.com

Member of SGS Group

7.2 Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	R&S	FSV 40	101059	12/07/2016	12/06/2017
Loop Antenna	ETS-Lindgren	6502	00143303	12/23/2016	12/22/2017
Broadband Antenna	TESEQ	CBL 6112D	35243	11/06/2017	11/05/2018
Pre Amplifier	EMC Instruments	EMC330	980163	12/12/2016	12/11/2017
Coaxial Cable	Huber+Suhner	RG 214/U SUCCOFLEX 104	1166Rx 9K-1G	12/12/2016	12/11/2017
Attenuator	WOKEN	218FS-10	RF33	12/12/2016	12/11/2017
DC Power Supply	DHA	DPP-3003	9411005787	05/15/2017	05/14/2018
Controller	MF	MF-7802	N/A	N.C.R.	N.C.R.
Antenna Master	MF	N/A	N/A	N.C.R.	N.C.R.
Turn Table	MF	N/A	N/A	N.C.R.	N.C.R.
Test Software	World-Pallas	Dr. E	V 3.0 Lite	N.C.R.	N.C.R.

7.3 Test Setup:



7.4 Test Procedure:

See subclause 6.2.4 of ETSI EN 300 330 V2.1.1

7.5 Measurement Result: Refer to next page for the details.

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

7.5.1 ETSI EN 300 330 Measurement Result:

Main

Operation Mode :	NFC	Test Date :	2017/11/13						
Fundamental Frequency :	13.56 MHz	Temp. / Humi. :	22.9 deg_C / 64 RH						
Operation Band :	MAIN	Test Engineer :	Aken						
EUT Pol. :	E2	Measurement Antenna Pol. :	Vertical						

Freq.	Note	Detector Mode	Spectrum Reading Level	3m to 10m Factor	Factor	Actual FS	Limit @10m	Margin
MHz	F/H/E/S	PK/QP/AV	dBμA	dB	dB	dBμA/m	dBμA/m	dB
13.56	F	Peak	-30.58	25.50	40.73	-15.35	60	-75.35

Operation Mode :	NFC	Test Date :	2017/11/13						
Fundamental Frequency :	13.56 MHz	Temp. / Humi. :	22.9 deg_C / 64 RH						
Operation Band :	MAIN	Test Engineer :	Penny						
EUT Pol. :	E2	Measurement Antenna Pol. :	Horizontal						

Freq.	Note	Detector Mode	Spectrum Reading Level	3m to 10m Factor	Factor	Actual FS	Limit @10m	Margin
MHz	F/H/E/S	PK/QP/AV	dBμA	dB	dB	dBμA/m	dBμA/m	dB
13.56	F	Peak	-30.65	25.50	40.73	-15.42	60	-75.42

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。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

Mask

Operation Mode : NFC Test Date : 2017/11/13
 Fundamental Frequency : 13.56 MHz Temp. / Humi. : 22.9 deg_C / 64 RH
 Operation Band : MASK Test Engineer : Penny
 EUT Pol. : E2 Measurement Antenna Pol. : Vertical

Freq. MHz	Note F/H/E/S	Detector Mode PK/QP/AV	Spectrum Reading Level dBμA	3m to 10m Factor dB	Factor dB	Actual FS dBμA/m	Limit @10m dBμA/m	Margin dB
12.87	S	Peak	-49.12	25.50	40.69	-33.93	-10	-23.93
13.21	S	Peak	-51.29	25.50	40.71	-36.08	-3.5	-32.58
13.55	S	Peak	-39.37	25.50	40.73	-24.14	9	-33.14
13.57	S	Peak	-38.52	25.50	40.73	-23.29	9	-32.29
13.78	S	Peak	-52.97	25.50	40.75	-37.72	-3.5	-34.22
14.07	S	Peak	-53.41	25.50	40.76	-38.15	-10	-28.15

Operation Mode : NFC Test Date : 2017/11/13
 Fundamental Frequency : 13.56 MHz Temp. / Humi. : 22.9 deg_C / 64 RH
 Operation Band : MASK Test Engineer : Aken
 EUT Pol. : E2 Measurement Antenna Pol. : Horizontal

Freq. MHz	Note F/H/E/S	Detector Mode PK/QP/AV	Spectrum Reading Level dBμA	3m to 10m Factor dB	Factor dB	Actual FS dBμA/m	Limit @10m dBμA/m	Margin dB
12.91	S	Peak	-52.46	25.50	40.70	-37.26	-10	-27.26
13.12	S	Peak	-54.34	25.50	40.70	-39.14	-3.5	-35.64
13.55	S	Peak	-39.84	25.50	40.73	-24.61	9	-33.61
13.57	S	Peak	-38.72	25.50	40.73	-23.49	9	-32.49
13.99	S	Peak	-55.09	25.50	40.76	-39.83	-3.5	-36.33
14.02	S	Peak	-54.59	25.50	40.76	-39.33	-10	-29.33

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

8 ETSI EN 300 330 SUBCLAUSE 4.3.1 LIMITED FOR PERMITTED FREQUENCY RANGE

The permitted range of operating frequencies is the frequency range over which the equipment is authorized to operate.

8.1 Limit:

The permitted range of operating frequencies for intentional emissions shall be entirely within the frequency bands in EN 300 330 v2.1.1 table 1.

8.2 Measurement Equipment Used:

Refer to section 6.2 of present report

8.3 Test Setup:

Refer to section 6.3 of present report

8.4 Test Procedure:

See subclause 6.2.3 of ETSI EN 300 330 V 2.1.1.

8.5 Measurement Result:

Alternatively, the recorded results from the H-field measurement described in ETSI EN 300 330 V 2.1.1 clause 6.2.4 may be used, hence please see section 7.5.1 mask test in this report for measurement result.

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

9 ETSI EN 300 330 SUBCLAUSE 4.3.8 & 4.3.9 TRANSMITTER RADIATED SPURIOUS DOMAIN EMISSION LIMITS

This requirement applies to all transmitters.

9.1 Limit:

For Frequency <30MHz

The radiated field strength of the spurious domain emissions below 30 MHz shall not exceed the generated H-field dB μ A/m at 10 m given in table 5.

Table 5

State	Frequency 9 kHz \leq f < 10 MHz	Frequency 10 MHz \leq f < 30 MHz
Operating	27 dB μ A/m at 9 kHz descending 3 dB/oct	-3,5 dB μ A/m
Standby	5,5 dB μ A/m at 9 kHz descending 3 dB/oct	-25 dB μ A/m

For Frequency \geq 30MHz (ERP)

Table 6

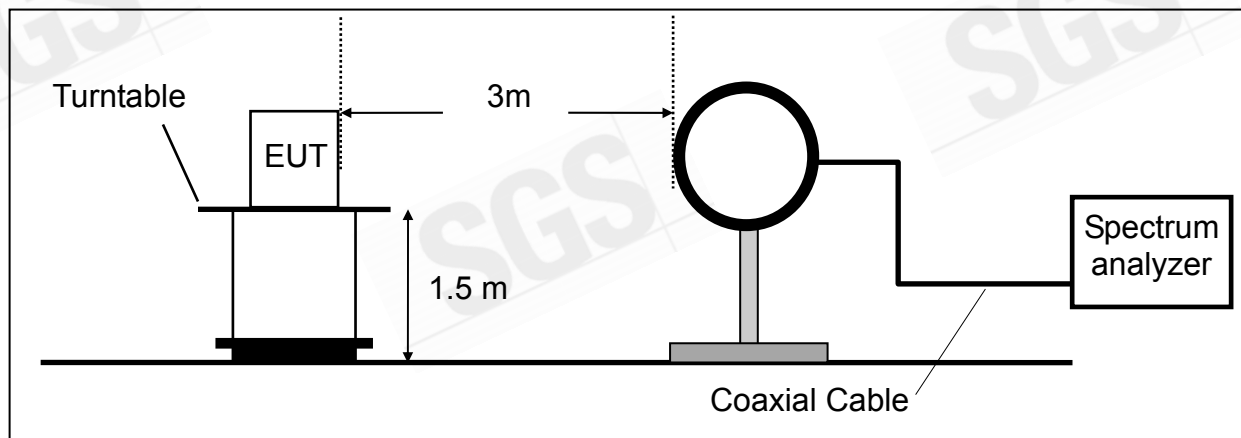
State	47 MHz to 74 MHz 87,5 MHz to 118 MHz 174 MHz to 230 MHz 470 MHz to 790 MHz	Other frequencies between 30 MHz to 1 000 MHz
Operating	4 nW	250 nW
Standby	2 nW	2 nW

9.2 Measurement Equipment Used:

Refer to section 6.2 of present report

9.3 Test Setup:

9.4 Field Strength Measurement below 30MHz

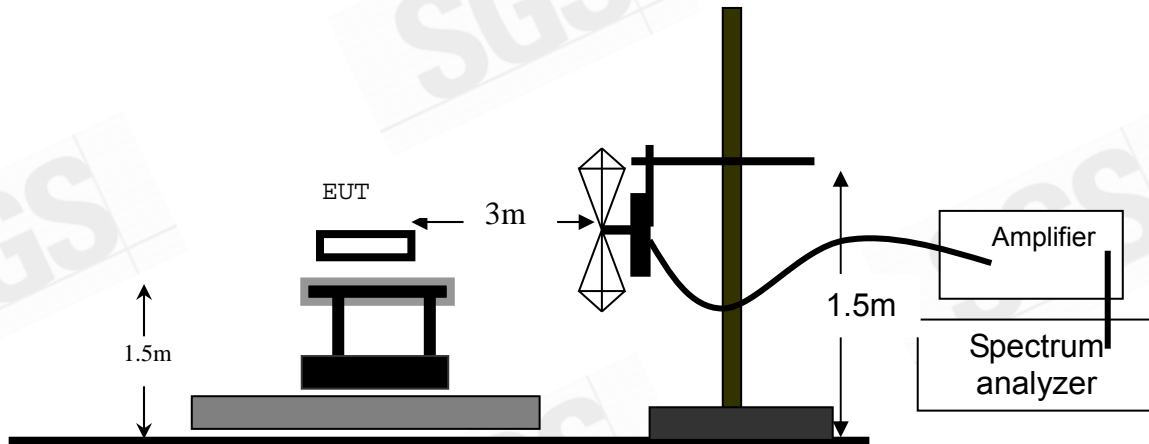


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

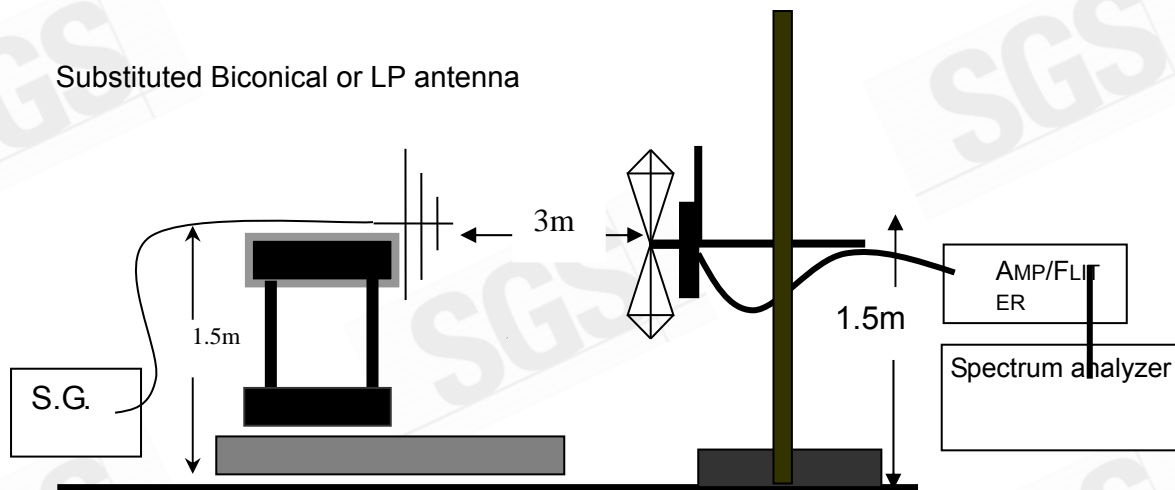
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

9.4.1 Step 1. Field Strength Measurement above 30MHz



9.4.2 Step 2. Substitution Measurement Frequency Between 30MHz to 1GHz



9.5 Test Procedure:

For ETSI EN 300 330: See subclause 6.2.8 and 6.2.9 of ETSI EN 300 330 V2.1.1.

9.6 Measurement Result:

Refer to next page for the details.

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

9.6.1 Measurement Result: Radiated Field Strength (<30MHz)

Operation Mode : NFC Test Date : 2017/11/13
 Fundamental Frequency : 13.56 MHz Temp. / Humi. : 22.9 deg_C / 64 RH
 Operation Band : Tx Test Engineer : Penny
 EUT Pol. : E2 Measurement Antenna Pol. : Vertical

Freq.	Note	Detector Mode	Spectrum Reading Level	3m to 10m Factor	Factor	Actual FS	Limit @10m	Margin
MHz	F/H/E/S	PK/QP/AV	dBμA	dB	dB	dBμA/m	dBμA/m	dB
11.54	S	Peak	-59.39	17.00	40.61	-35.78	-3.5	-32.28
15.62	S	Peak	-54.74	17.00	40.85	-30.89	-3.5	-27.39
19.78	S	Peak	-60.52	17.00	41.12	-36.40	-3.5	-32.90
24.44	S	Peak	-64.24	14.00	42.31	-35.93	-3.5	-32.43
25.74	S	Peak	-67.86	14.00	42.66	-39.20	-3.5	-35.70
27.12	H	Peak	-74.27	12.00	43.03	-43.24	-3.5	-39.74
28.96	S	Peak	-70.76	12.00	43.51	-39.25	-3.5	-35.75

Operation Mode : NFC Test Date : 2017/11/13
 Fundamental Frequency : 13.56 MHz Temp. / Humi. : 22.9 deg_C / 64 RH
 Operation Band : Tx Test Engineer : Penny
 EUT Pol. : E2 Measurement Antenna Pol. : Horizontal

Freq.	Note	Detector Mode	Spectrum Reading Level	3m to 10m Factor	Factor	Actual FS	Limit @10m	Margin
MHz	F/H/E/S	PK/QP/AV	dBμA	dB	dB	dBμA/m	dBμA/m	dB
11.98	S	Peak	-52.83	17.00	40.64	-29.19	-3.5	-25.69
15.28	S	Peak	-54.81	17.00	40.84	-30.97	-3.5	-27.47
19.76	S	Peak	-60.58	17.00	41.12	-36.46	-3.5	-32.96
23.14	S	Peak	-67.44	15.00	41.97	-40.47	-3.5	-36.97
25.26	S	Peak	-67.37	14.00	42.54	-38.83	-3.5	-35.33
27.12	H	Peak	-73.69	12.00	43.03	-42.66	-3.5	-39.16
28.94	S	Peak	-69.98	12.00	43.51	-38.47	-3.5	-34.97

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。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

9.6.2 Measurement Result: Radiated Field Strength ($\geq 30\text{MHz}$)

Operation Mode : NFC Test Date : 2017/11/13
 Fundamental Frequency : 13.56 MHz Temp. / Humi. : 22.9 deg_C / 64 RH
 Operation Band : Tx Test Engineer : Penny
 EUT Pol. : E2 Measurement Antenna Pol. : Vertical

Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level	Gain	Loss	@3m	dB
67.83	S	-56.33	-49.75	-5.42	-1.16	-54	-2.33
175.50	S	-62.76	-61.13	0.17	-1.80	-54	-8.76
284.14	S	-57.95	-55.95	0.36	-2.36	-36	-21.95
555.74	S	-73.56	-71.23	1.16	-3.49	-54	-19.56
688.63	S	-78.33	-76.96	2.17	-3.54	-54	-24.33
933.07	S	-75.43	-73.91	2.74	-4.26	-36	-39.43

Operation Mode : NFC Test Date : 2017/11/13
 Fundamental Frequency : 13.56 MHz Temp. / Humi. : 22.9 deg_C / 64 RH
 Operation Band : Tx Test Engineer : Penny
 EUT Pol. : E2 Measurement Antenna Pol. : Horizontal

Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level	Gain	Loss	@3m	dB
67.83	S	-59.34	-52.76	-5.42	-1.16	-54	-5.34
256.98	S	-61.39	-58.66	-0.49	-2.24	-36	-25.39
450.01	S	-71.30	-68.78	0.47	-2.99	-36	-35.30
582.90	S	-66.65	-64.73	1.35	-3.27	-54	-12.65
746.83	S	-59.50	-58.11	2.50	-3.89	-54	-5.50
963.14	S	-69.53	-67.95	2.78	-4.36	-36	-33.53

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

10 ETSI EN 300 330 SUBCLAUSE 4.4.3 ADJACENT CHANNEL SELECTIVITY

Only for channelized systems in the 27 MHz range, see table 7, clause 4.4.1.

This measurement is only required where a frequency plan with standard channel spacing is consistently used, for example at 27 MHz.

This measurement shall not be performed if: a) the transmitter cannot be switched off and the spacing between the transmit and the receiver frequency is less than ten times the declared receiver 3 dB bandwidth; or b) the transmitter and receiver are operating at the same frequency and the transmitter cannot be switched off as the carrier is used as receiver injection signal (e.g. for homodyne systems).

In the case where a) and/or b) above applies, this shall be stated in the test report.

This requirement does not apply for tagging systems (e.g. RF identification, anti-theft, access control, location systems).

The receiver selectivity applies only to channelized systems.

10.1 Limit:

Technology	Channel spacing ≤ 25 kHz	Channel spacing > 25 kHz
System in the 27MHz range	60 dB	70 dB

10.2 Measurement Equipment Used:

Refer to section 7.2 of present report.

10.3 Test Setup:

Refer to section 7.3 of present report.

10.4 Test Procedure:

See subclause 6.3.2 of ETSI EN 300 330 V2.1.1

10.5 Measurement Result:

N/A, this is not a system in the 27MHz range.

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

11 ETSI EN 300 330 SUBCLAUSE 4.4.4 RECEIVER BLOCKING OR DESENSITIZATION

Receiver blocking or desensitization is only applicable for channelized systems where channel definitions are used.

See also note 1 within table 7 in clause 4.4.1.

11.1 Limit:

The blocking ratio, for any frequency within the specified ranges, shall not be less than the values given in **table 10**, except at frequencies on which spurious responses are found. The limit value is determined by a reference limit (Ref) multiplied by a correction factor depending of the appropriate receiver category.

Table 10: Receiver blocking or desensitization limits

Generator B frequency offset, $ f_A - f_B $, either by a) or b) whichever is greater (see note 3)			Limit (dB)
a) per clause 7.4, indent a)		b) per clause 7.4, indent b)	
$f_A < 500$ kHz	$f_A \geq 500$ kHz	value of N_B , see below	
± 100 kHz	± 500 kHz	2	Reference Limit $\times 1/2$ (see note 2)
± 200 kHz	± 1 MHz	4	Reference Limit $\times 2/3$ (see note 2)
± 300 kHz	± 2 MHz	8	Reference Limit $\times 5/6$ (see note 2)
± 500 kHz	± 5 MHz	20	Reference Limit (see note 1)

NOTE 1: Reference limit (Ref) = 30 dB at 9 kHz increasing with 10 dB/decade to 65,2 dB at 30 MHz.
NOTE 2: The limit is a fractional dB value of the reference limit.
NOTE 3: Generator B frequencies below 9 kHz are not specified.

11.2 Measurement Equipment Used:

Refer to section 7.2 of present report.

11.3 Test Setup:

Refer to section 7.3 of present report.

11.4 Test Procedure:

See subclause 6.3.3 of ETSI EN 300 330-1 V1.8.1.

11.5 Measurement Result:

N/A, this is a tagging system.

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

12 ETSI EN 300 330 SUBCLAUSE 4.2.2.3 RECEIVER SPURIOUS RADIATIONS

These requirements does not apply to receivers used in combination with permanently co-located transmitters continuously transmitting. In these cases the receivers will be tested together with the transmitter in operating mode (see clause 4.3.3).

12.1 Limit:

The spurious components below 30 MHz shall not exceed the generated H-field dB A/m values at 10 m according to table 8.

Table 8: Receiver spurious radiation limits

Frequency $9 \text{ kHz} \leq f < 10 \text{ MHz}$	Frequency $10 \text{ MHz} \leq f < 30 \text{ MHz}$
5,5 dB μ A/m at 9 kHz descending 3 dB/oct	-25 dB μ A/m

The spurious components above 30 MHz measured values shall not exceed 2 nW.

12.2 Measurement Equipment Used:

Refer to section 7.2 of present report.

12.3 Test Setup:

Refer to section 7.3 of present report.

12.4 Test Procedure:

See subclause 6.3.1 of ETSI EN 300 330 V 2.1.1.

12.5 Measurement Result:

Refer to next page for the details

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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

10MHz-30MHz

Operation Mode : NFC Test Date : 2017/11/13
 Fundamental Frequency : 13.56 MHz Temp. / Humi. : 22.9 deg_C / 64 RH
 Operation Band : Rx Test Engineer : Penny
 EUT Pol. : E2 Measurement Antenna Pol. : Vertical

Freq.	Note	Detector Mode	Spectrum Reading Level	3m to 10m Factor	Factor	Actual FS	Limit @10m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµA	dB	dB	dBµA/m	dBµA/m	dB
12.68	S	Peak	-53.86	17.00	40.68	-30.18	-25	-5.18
15.62	S	Peak	-54.57	17.00	40.85	-30.72	-25	-5.72
19.82	S	Peak	-60.59	17.00	41.12	-36.47	-25	-11.47
24.04	S	Peak	-65.69	14.00	42.21	-37.48	-25	-12.48
25.64	S	Peak	-67.19	14.00	42.63	-38.56	-25	-13.56
27.12	H	Peak	-74.28	12.00	43.03	-43.25	-25	-18.25
28.74	S	Peak	-70.98	12.00	43.46	-39.52	-25	-14.52

Operation Mode : NFC Test Date : 2017/11/13
 Fundamental Frequency : 13.56 MHz Temp. / Humi. : 22.9 deg_C / 64 RH
 Operation Band : Rx Test Engineer : Penny
 EUT Pol. : H Measurement Antenna Pol. : Horizontal

Freq.	Note	Detector Mode	Spectrum Reading Level	3m to 10m Factor	Factor	Actual FS	Limit @10m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµA	dB	dB	dBµA/m	dBµA/m	dB
11.92	S	Peak	-55.06	17.00	40.64	-31.42	-25	-6.42
15.62	S	Peak	-54.48	17.00	40.85	-30.63	-25	-5.63
19.76	S	Peak	-60.53	17.00	41.12	-36.41	-25	-11.41
23.74	S	Peak	-67.26	15.00	42.13	-40.13	-25	-15.13
25.64	S	Peak	-67.75	14.00	42.63	-39.12	-25	-14.12
27.12	H	Peak	-72.52	12.00	43.03	-41.49	-25	-16.49
28.94	S	Peak	-71.05	12.00	43.51	-39.54	-25	-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。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

30MHz-1GHz

Operation Mode : NFC Test Date : 2017/11/13
 Fundamental Frequency : 13.56 MHz Temp. / Humi. : 22.9 deg_C / 64 RH
 Operation Band : Rx Test Engineer : Penny
 EUT Pol. : E2 Measurement Antenna Pol. : Vertical

Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level	Gain	Loss	@3m	dB
			dBm	dBm	dB	dBm/m	
121.18	S	-67.00	-59.46	-6.02	-1.52	-57	-10.00
256.98	S	-62.52	-59.79	-0.49	-2.24	-57	-5.52
375.32	S	-71.60	-69.30	0.37	-2.67	-57	-14.60
569.32	S	-76.87	-74.73	1.25	-3.39	-57	-19.87
800.18	S	-77.48	-75.82	2.47	-4.13	-57	-20.48
972.84	S	-77.25	-75.75	2.79	-4.29	-57	-20.25

Operation Mode : NFC Test Date : 2017/11/13
 Fundamental Frequency : 13.56 MHz Temp. / Humi. : 22.9 deg_C / 64 RH
 Operation Band : Rx Test Engineer : Penny
 EUT Pol. : E2 Measurement Antenna Pol. : Horizontal

Freq.	Note	EIRP	SG Output	Antenna	Cable	Limit	Margin
MHz	F/H/E/S	dBm	Level	Gain	Loss	@3m	dB
			dBm	dBm	dB	dBm/m	
67.83	S	-59.33	-52.75	-5.42	-1.16	-57	-2.33
175.50	S	-62.28	-60.65	0.17	-1.80	-57	-5.28
528.58	S	-72.05	-69.69	0.98	-3.34	-57	-15.05
675.05	S	-71.18	-69.57	1.99	-3.60	-57	-14.18
827.34	S	-67.28	-65.58	2.49	-4.19	-57	-10.28
963.14	S	-70.09	-68.51	2.78	-4.36	-57	-13.09

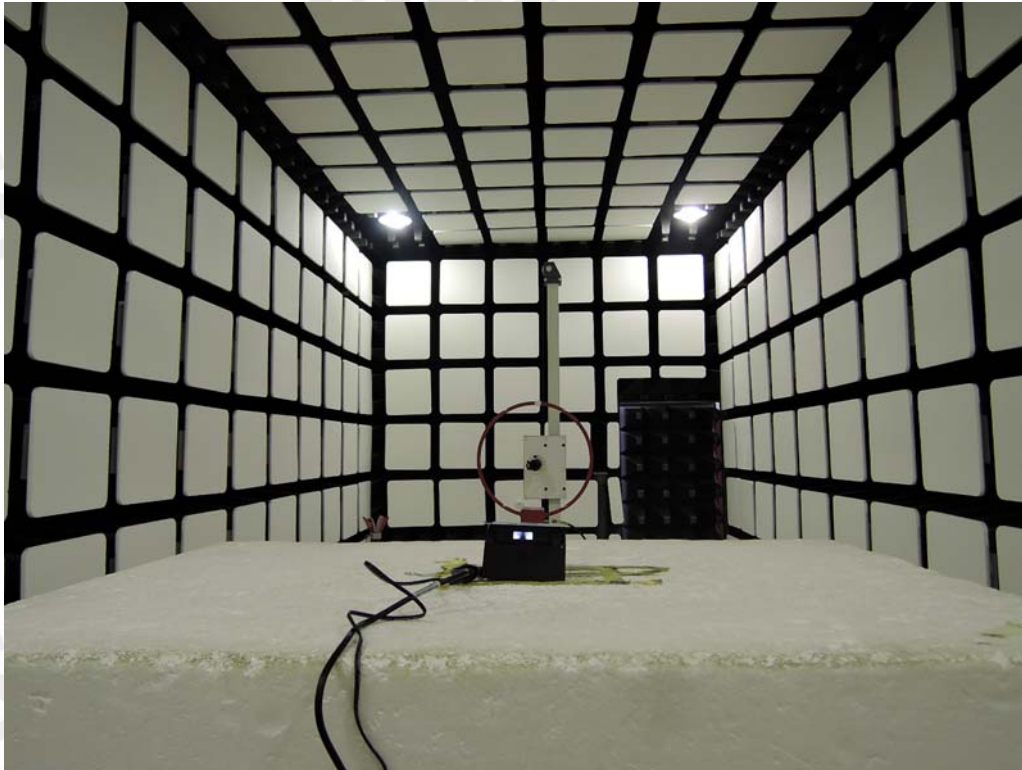
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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。

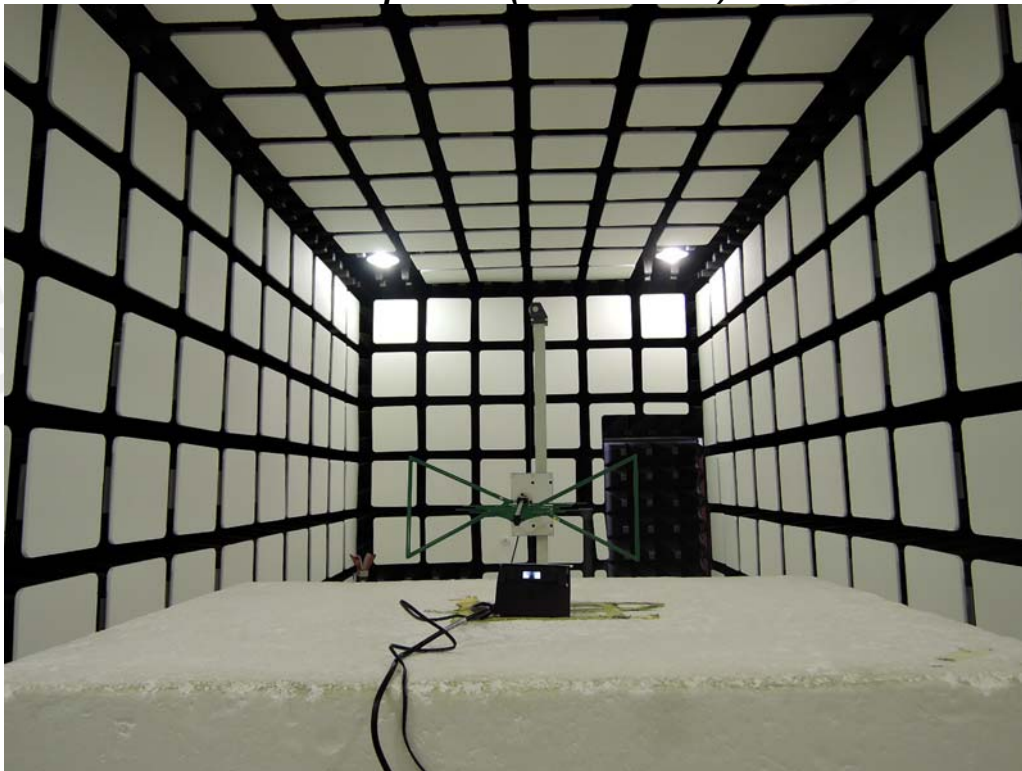
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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.

PHOTOGRAPHS OF SET UP

Radiated Emission Set up Photos (Below 30MHz)



Set up Photo (30MHz~1GHz)



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 www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group

Radiated Emission Set up Photos (Front View)**PHOTOGRAPHS OF EUT**

Please refer to the attached file (EUT Photo)

- End of Report -

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. 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,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

www.tw.sgs.com

Member of SGS Group