


**TEST REPORT No.: (5217)298-0499(A)(Revision 1)**  
**Supersede Technical Report No.: (5217)298-0499(A)(Revision)**

## TEST REPORT

To:	<b>BESTWAY INFLATABLES &amp; MATERIAL CORP</b>	Fax:	86 021 5913 8383
Attn:	MI Huang	Email:	<a href="mailto:mi.huang@bestwaycorp.com">mi.huang@bestwaycorp.com</a>
Address:	No. 3065, Cao An Road, Shanghai, 201812, China		
Cc:	--	Fax/Email:	--
Attn:	--		
Folder No.:	KKD-17OC123HTHS-B-B-A2	Date of Receipt:	2019-12-20
		Test Date(s):	2019-12-23 to 2019-12-31

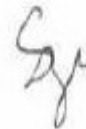
MANUFACTURER OR SUPPLIER NAME:	<b>BESTWAY INFLATABLES &amp; MATERIAL CORP</b>	
MANUFACTURER OR SUPPLIER ADDRESS:	No. 3065, Cao An Road, Shanghai, 201812, China	
PRODUCT:	Rechargeable Underwater Vacuum	
MODEL NO.:	#58487 , 60301	
ADDITIONAL MODEL & MODEL DIFFERENCE:	--	
RATED VOLTAGE:	USB: 5Vd.c. "Rechargeable battery" x 1	
REMARKS:	--	
SAMPLE NO.:	HK171025/009, EHK191218/004	

The submitted sample of the above equipment the tests have been carried out according to the requirements of the following standards:

AS/NZS CISPR 14.1: 2018

**CONCLUSION: The submitted sample was found to COMPLY with the test requirement**

Assistant Manager,  
EMC Department



Name: Sze Tsz Man  
Date: March 20, 2020



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<b>General Information</b>	
Product:	Rechargeable Underwater Vacuum
Model Number:	#58487 , 60301
Data Cable:	--
Power Line Cable:	0.98m non-shielded USB cable
Accessory Device:	--
Additional Product Name:	--
Additional Model Number:	--
Additional Model Information:	Declare the Circuit, PCB layout and Electrical parts of the products are identical to the basic model except the Enclosure and accessories color and with Alternative Construction.
Adaptor:	SUPER
Model:	S-1200R
Input:	230Va.c., 50Hz, 31.8W
Input power line cable:	1.83m non-shielded cable
Output:	3.0-15Vd.c., 1200mA
Output power line cable:	1.01m non-shielded cable
<b>Technical Information</b>	
Rated Voltage:	USB: 5Vd.c. "Rechargeable battery" x 1
Power supply:	230Va.c. 50Hz "Rechargeable battery" x 1
Other information:	--
Disclaimer Note: Technical information stated on this table are provided by client. All tests were conducted base on the technical information provided above.	

**Description of Test modes:**

On mode: with motor  
 Charge mode

**Report Revision & Sample Re-submit History:**

Revision: in addition to the testing result against battery KOK18650-200B1P (under CB-scheme JPTUV-076568) in the original report, updated to include the testing result of battery KOK18650-200B1P (under CB-scheme JPTUV-101943).

Revision 1: update report holder, product photograph and model number

**Remark: -**

For the test results, the EUT had been tested with all conditions. The worst case was showed in test report.



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## Testing Standard

The tests have been carried out according to the requirements of the following standards:

Test Standard	
AS/NZS CISPR 14.1: 2018	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus -- Part 1: Emission

**Remarks: -**

N/A - Not Applicable



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**Test Result Summary**

<b>EMISSION TEST</b>			
<b>Test requirement: AS/NZS CISPR 14.1: 2018</b>			
Test Condition	Test Method	Test Result	
		Pass	Failed
Conducted Emission test, 0.15MHz to 30MHz	CISPR 14-1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Disturbance Power Test, 30MHz to 300MHz	CISPR 14-1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Radiated Emission Test, 30MHz to 1GHz	CISPR 16-2-3	<input checked="" type="checkbox"/>	<input type="checkbox"/>



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## Test Laboratory & Test Instruments List

**Hong Kong Productivity Council – Electromagnetic Compatibility Centre**

LG1/F., HKPC Building, 78 Tat Chee Avenue, Kowloon, Hong Kong

### Test Instrument List

#### Radiated Emission

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE DATE
EMI TEST RECEIVER	R&S	ESU40	100190	12-JUN-2019	12-JUN-2020
SEMI-ANECHOIC CHAMBER	FRANKONIA	--	--	23-APR-2019	23-APR-2020
BICONICAL ANTENNA	R&S	HK116	100241	21-MAR-2018	21-MAR-2020
LOG-PERIODIC ANTENNA	R&S	HL223	841516/017	21-MAR-2018	21-MAR-2020
ACTIVE LOOP ANTENNA	EMCO	6502	9107-2651	30-OCT-2019	30-OCT-2021

## BUREAU VERITAS HONG KONG LIMITED, EMC CENTRE

No. 2106-2107, 21/F., Westin Centre, 26 Hung To Road, Kwun Tong, Kowloon, Hong Kong

### Test Instrument List

#### Conducted Emission

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.
EMI TEST RECEIVER	ROHDE & SCHWARZ	ESCI	100379
LISN	ROHDE & SCHWARZ	ENV216	100024

#### Disturbance Power

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.
EMI TEST RECEIVER	ROHDE & SCHWARZ	ESCI	100379
ABSORBING CLAMP	ROHDE & SCHWARZ	MDS-21	830218/018

### Measurement Uncertainty

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz to 30MHz	±2.7dB
Disturbance power	30MHz to 300MHz	±4.3dB
Radiated emissions	30MHz to 200MHz	±5.1dB
	200MHz to 1GHz	±6.2dB

#### Remarks: -

N/A : Not Applicable or Not Available

Measurement uncertainty is calculated in accordance with CISPR 16-4-2.

The statement of compliance is based on a 95% coverage probability for the expanded uncertainty of the measurement result.

Compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

**BUREAU VERITAS HONG KONG LIMITED –**  
**Kowloon Bay Office**  
**1/F Pacific Trade Centre,**  
**2 Kai Hing Road, Kowloon Bay,**  
**Kowloon, HONG KONG**  
 Tel: +852 2331 0888  
 Fax: +852 2331 0889  
 www.cps.bureauveritas.com

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## Test Results

### Emission

#### Conducted Emissions (150kHz to 30MHz)

Test Requirement:	AS/NZS CISPR 14.1
Test Method:	CISPR 14.1
Test Limits:	Table 5, Columns 2 & 3
Test Date(s):	2019-12-23
Temperature:	24.0 °C
Humidity:	54.0 %
Mode of Operation:	Charge mode
Tested Voltage:	230Va.c., 50Hz

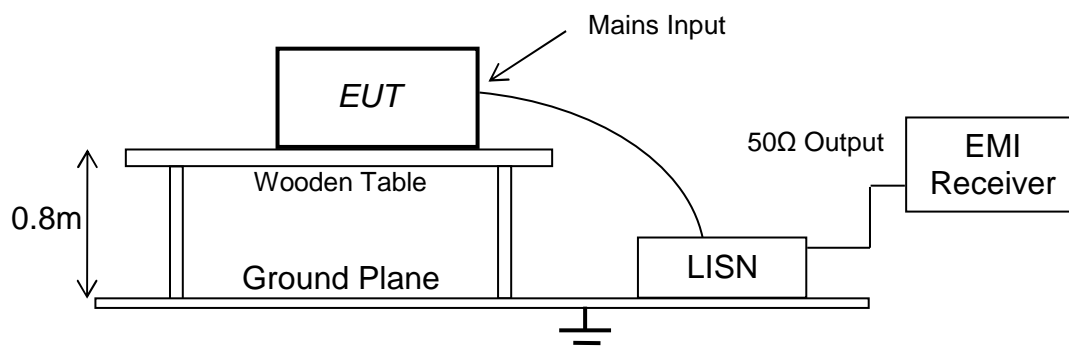
#### Test Method:

Initial measurements were performed in peak and average detection modes on the live & Neutral line, any emissions recorded within 30dB of the relevant limit lines were re-measured using quasi-peak and average detection on the live and neutral lines with the worst case recorded in the table of results.

The test was performed in accordance with CISPR 14-1.

Location: No. 603, 6/F., Westin Centre, 26 Hung To Road, Kwun Tong, Kowloon, Hong Kong

#### Test Setup: Shielding Room





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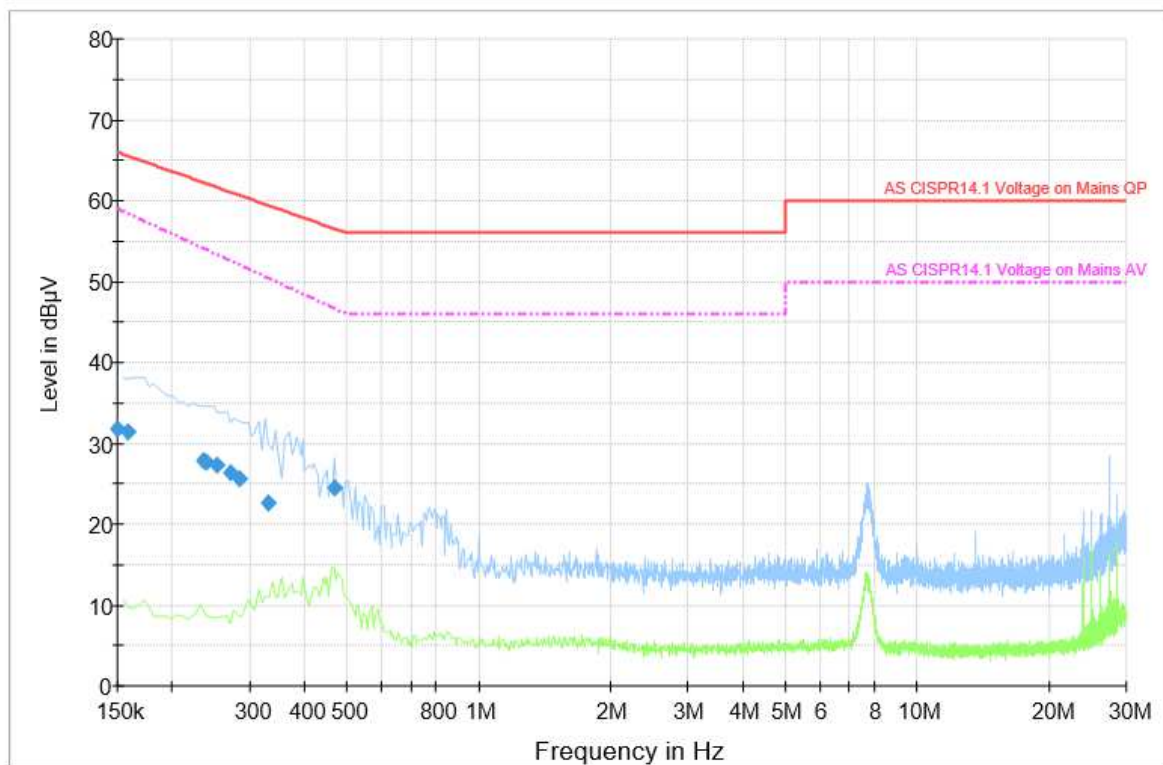
### Measurement Data

**Test Result of (Charge mode): PASS**

### Results and limit lines for Conducted Emission:

Limits for Conducted Emission Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

AS CISPR14.1 Voltage



**BUREAU VERITAS HONG KONG LIMITED –  
Kowloon Bay Office  
1/F Pacific Trade Centre,  
2 Kai Hing Road, Kowloon Bay,  
Kowloon, HONG KONG**  
Tel: +852 2331 0888  
Fax: +852 2331 0889  
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**Disturbance Power (30MHz to 300MHz)**

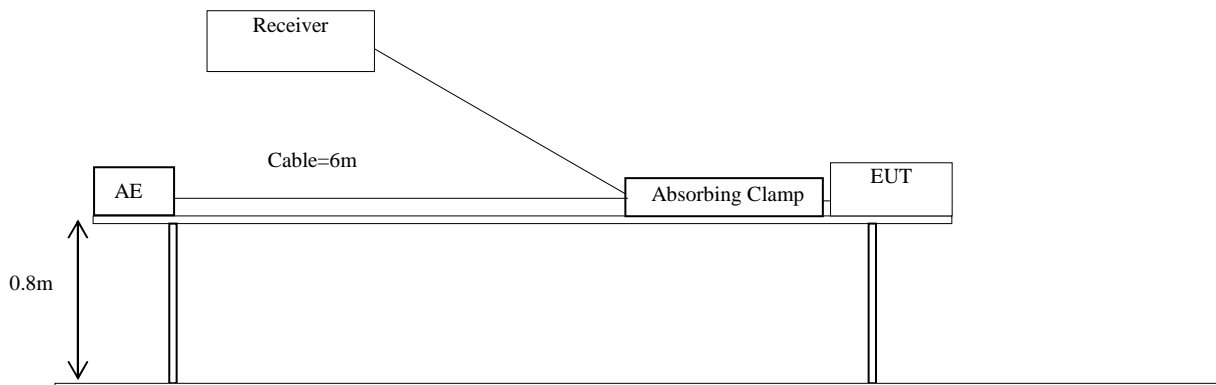
Test Requirement: AS/NZS CISPR 14.1  
Test Method: CISPR 14.1  
Test Limits: Table 7, Columns 2 & 3  
Test Date(s): 2010-12-30  
Temperature: 24.0 °C  
Humidity: 60.0 %  
Mode of Operation: Charge mode  
Tested Voltage: 230Va.c., 50Hz

**Test Method:**

The test was performed in accordance with CISPR 14-1

Location: No. 603, 6/F., Westin Centre, 26 Hung To Road, Kwun Tong, Kowloon, Hong Kong

**Test Setup: Shielding Room**







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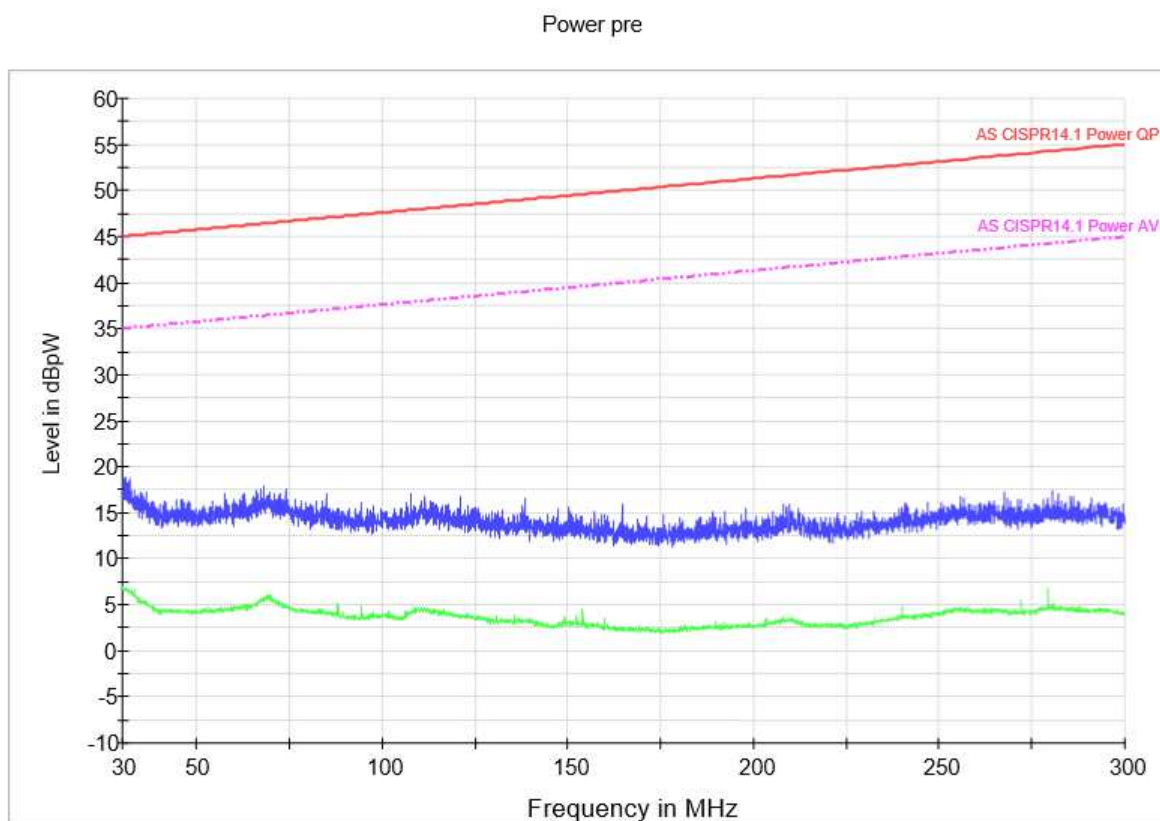
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### Measurement Data

**Test Result of (Charge mode): PASS**

### Results and limit lines for Disturbance Power: AC Cable

Limits for Disturbance Power Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.





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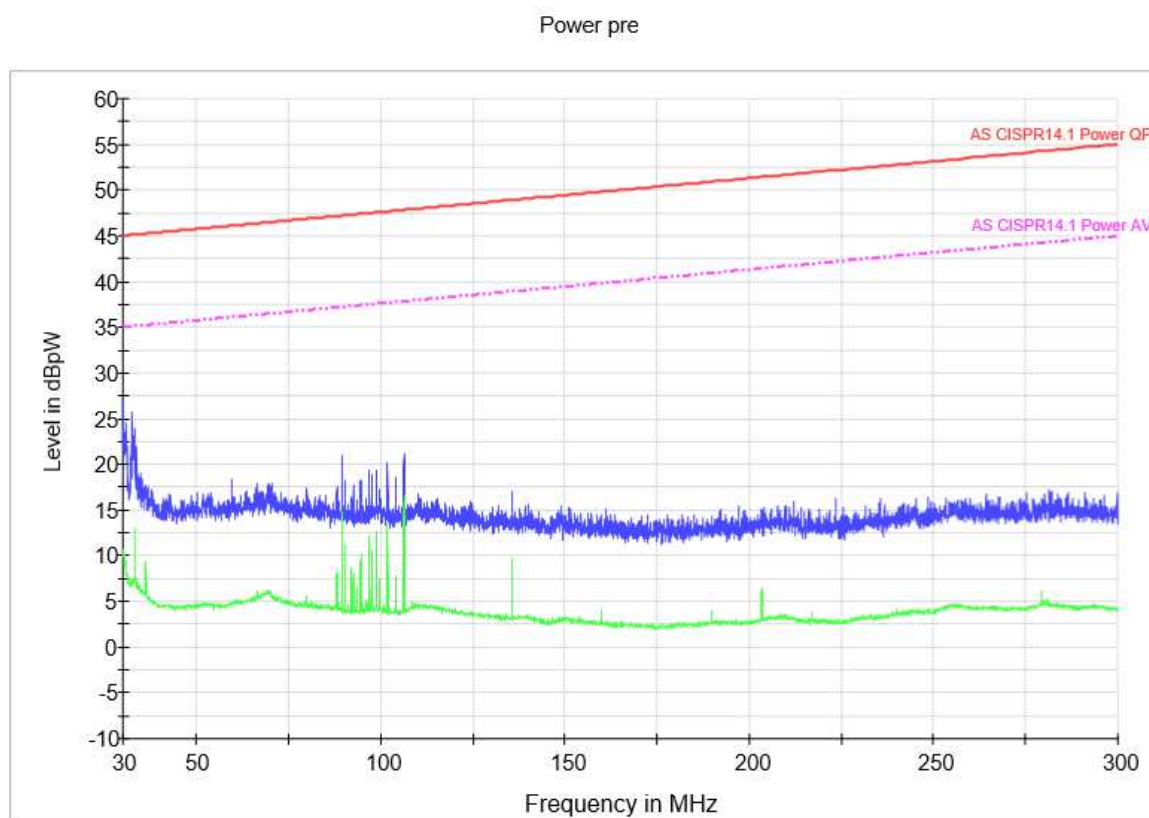
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### Measurement Data

**Test Result of (Charge mode): PASS**

### Results and limit lines for Disturbance Power: DC Cable

Limits for Disturbance Power Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.



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**Radiated Emissions (30MHz to 1GHz)**

Test Requirement: AS/NZS CISPR 14.1  
 Test Method: CISPR 16-2-3  
 Test Limits: Table 9  
 Test Date(s): 2019-12-24  
 Temperature: 28.0 °C  
 Humidity: 46.0 %  
 Mode of Operation: On mode  
 Tested Voltage: "Rechargeable battery" x 1

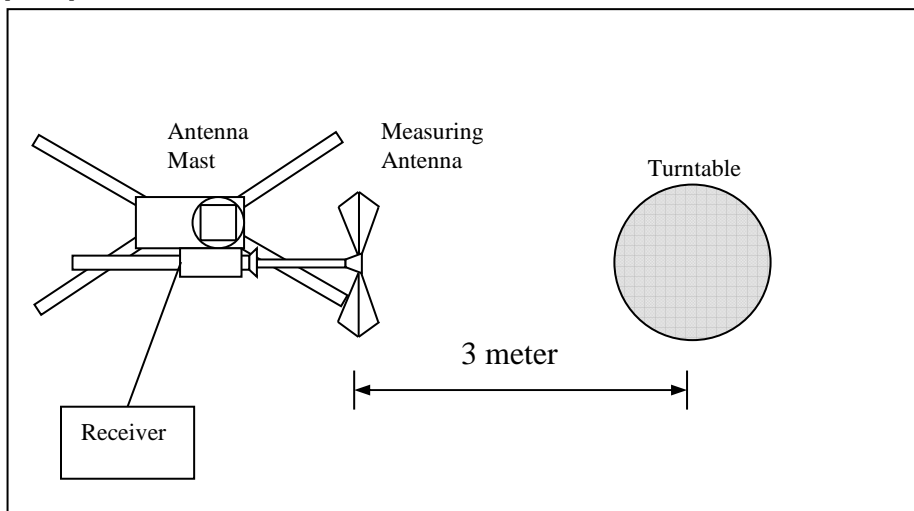
**Test Method:**

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

Radiated emissions measurements are investigated and taken pursuant to the procedures of CISPR 22.

Location: The Roof, Westin Centre, 26 Hung To Road, Kwun Tong, Kowloon, Hong Kong

**Test Setup: Open Area Test Site**





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**Measurement Data**

**Test Result of (On mode): PASS**

**Detection mode: Quasi-Peak**

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
336.00	H	22.4	47.0	-24.6
825.60	H	27.9	47.0	-19.1
925.40	H	28.0	47.0	-19.0
262.31	V	29.7	47.0	-17.3
580.99	V	25.7	47.0	-21.3
833.00	V	29.1	47.0	-17.9

Note: Margin = Field Strength - Limit

**\*\*\*\*\* End of Test Report \*\*\*\*\***