



FCC CERTIFICATION TEST REPORT

FOR

Applicant : Swiss Tech Acquisition, LLC

Address : 30725 Solon Industrial Parkway Solon, Ohio USA

Equipment under Test : Talking Dog Collar

Model No : 13021R

FCC ID : ORH13021R

Manufacturer : Provide Ltd

Address : 3D,Florida Mansion,9-11 Cleveland Street, Causeway
Bay, Hong Kong

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

Add: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City,
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Report No: DDT-RE120089

Issued Date: Aug.14.2012

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TEST REPORT DECLARE

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Model No : 13021R
FCC ID : ORH13021R
Manufacturer : Provide Ltd
Address : 3D,Florida Mansion,9-11 Cleveland Street, Causeway Bay, Hong Kong

Test Standard Used: FCC Rules and Regulations Part 15 Subpart B: 2010

Test procedure used: ANSI C63.4:2009

We Declare:

The equipment described above is tested by Dongguan Dongdian Testing Service Co., Ltd and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Dongguan Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above FCC standards.

Report No:	DDT-RE120089		
Date of Test:	Aug.10.2012-Aug.10.2012	Date of Report:	Aug.14.2012

Prepared By:



Leo Liu/Engineer



Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

1. Summary of test results

EMISSION		
Description of Test Item	Standard	Results
Conducted Emission Test	FCC Part 15C: 15.207 ANSI C63.10: 2009	N/A
Radiated Emission Test	FCC Part 15B: 15.109 ANSI C63.4: 2009	PASS
N/A is an abbreviation for Not Applicable.		

2. General test information

2.1. Description of EUT

EUT* Name	:	Talking Dog Collar
Model Number	:	13021R
EUT function description	:	Please reference user manual of this device
Power supply	:	DC 3V
Receive frequency	:	315 MHz
Date of Receipt	:	Aug.02.2012
Sample Type	:	Series production

Note: EUT is the ab. of equipment under test.

2.2. Accessories of EUT

Description of Accessories	Manufacturer	Model number or Type	Other
/	/	/	/

2.3. Assistant equipment used for test

Description of Assistant equipment	Manufacturer	Model number or Type	Other
/	/	/	/

2.4. Block diagram of EUT configuration for test



Note: Before test, the duty cycle of each button of EUT was measured, and the maximum duty cycle of button was chosen for all the tests.

2.5. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	21-25℃
Humidity range:	40-75%
Pressure range:	86-106kPa

2.6. Test laboratory

Dongguan Dongdian Testing Service Co., Ltd

Add: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808 Tel: +86-0769-22891499 <http://www.dgddt.com>

FCC Registration Number: 270092 Industry Canada site registration number:10288A-1

2.7. Measurement uncertainty

Test Item	Uncertainty
Uncertainty for Conduction emission test	2.40dB
Uncertainty for Radiation Emission test (150KHz-30MHz)	3.21dB
Uncertainty for Radiation Emission test (30MHz-1GHz)	2.78 dB (Polarize: V)
	3.20 dB (Polarize: H)
Uncertainty for Radiation Emission test (1GHz to 25GHz)	2.08dB(Polarize: V)
	2.56dB (Polarize: H)
Uncertainty for radio frequency	1×10^{-9}
Uncertainty for conducted RF Power	0.65dB

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

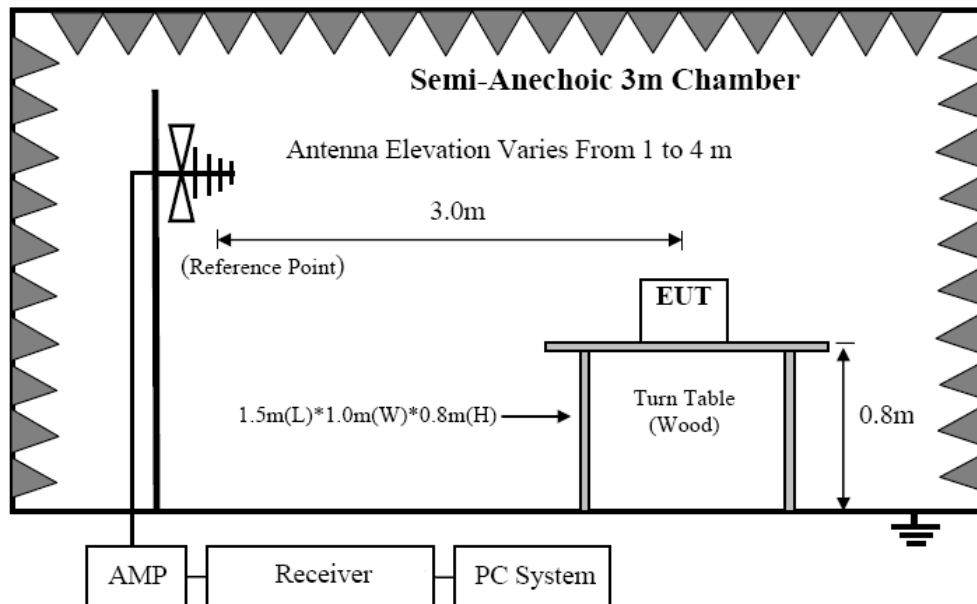
3. Radiated emission

3.1. Test equipment

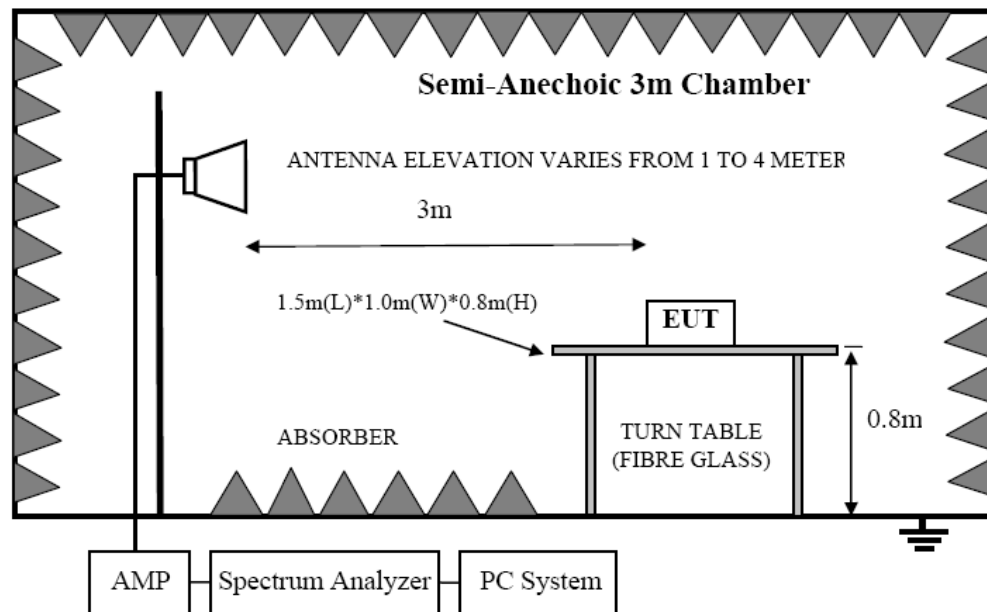
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	EMI Test Receiver	R&S	ESU8	100316	2011/11/23	1Y
2	Spectrum analyzer	R&S	FSU	1166.1660.26	2011/11/23	1Y
3	loop antenna	Chase	HLA6120	20129	2010/11/09	2 Y
4	Trilog Broadband Antenna	Schwarzbeck	VULB9163	9163-462	2010/11/09	2 Y
5	Double Ridged Horn Antenna	R&S	HF907	100276	2011/01/16	2 Y
6	Pre-Amplifier	R&S	SCU-01	10049	2011/11/23	1Y
7	Pre-amplifier	A.H.	PAM0-0118	360	2011-12-20	1Y
8	RF Cable	R&S	R01	10403	2011/11/23	1Y
9	RF Cable	R&S	R02	10512	2011/11/23	1Y

3.2. Block diagram of test setup

In 3m Anechoic Chamber Test Setup Diagram for below 1GHz



In 3m Anechoic Chamber Test Setup Diagram for frequency above 1GHz



Note: For harmonic emissions test a appropriate high pass filter was inserted in the input port of AMP.

3.3. Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

3.4. Test Procedure

- (1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber.
- (2) Setup EUT and assistant system according clause 2.4 and 3.2
- (3) Test antenna was located 3m from the EUT on an adjustable mast. Below pre-scan procedure was first performed in order to find prominent radiated emissions.
 - (a) Change work frequency or channel of device if practicable.
 - (b) Change modulation type of device if practicable.
 - (c) Change power supply range from 85% to 115% of the rated supply voltage.
 - (d) Adjust the EUT's antenna length and position is practicable.

(e) Rotated EUT through three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions

(4) Spectrum frequency from 9 KHz to 4GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission was detected from 9 KHz to 30MHz, the final test was performed with frequency range from 30MHz to 4GHz.

(5) For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4 2009 on Radiated Emission test.

(6) For emissions from 30MHz to 1GHz, Quasi-Peak values were measured with EMI Receiver and the bandwidth of Receiver is 120 KHz.

(7) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1MHz, VBW is set at 3MHz for Peak measure;

(8) The duty cycle factor was used to calculate Average Level as below formula:

$$\text{Average level} = \text{PK Level} - \text{duty cycle factor}$$

3.5. Test result

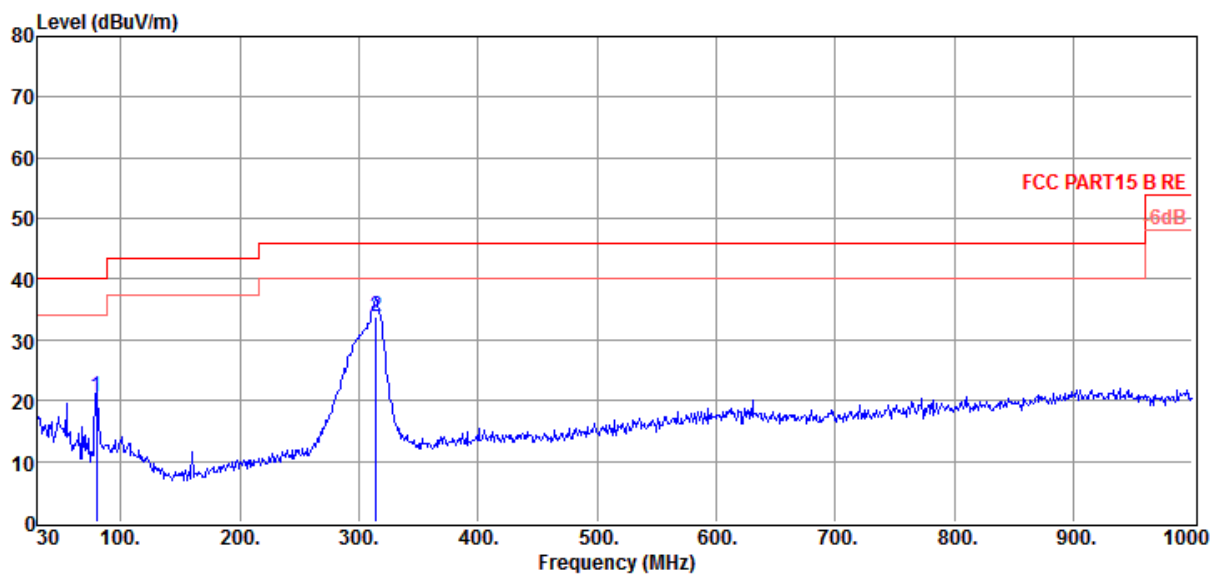
PASS. (See below detailed test result)

The frequency range from 9 KHz to 4000MHz was investigated. When PK measured levels comply with average limit, then the average levels were deemed to comply with average limit.

Radiated Emission Test Result

Test Site : DDT 3m Chamber **E:\2012 Report Data\s\Swiss.EM6**
Test Date : 08-13-2012 **Tested By** : Leo
EUT : Talking Dog Collar **Model Number** : 13021R
Power Supply : DC 3V **Test Mode** : Rx Mode
Condition : Temp:24.5°C,Humi:55% **Antenna/Distance** : VULB 9163/3m/HORIZONTAL
Memo :

Data : 12



Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	79.47	49.19	8.54	38.03	1.05	20.75	40.00	-19.25	QP	VERTICAL
2	314.21	60.75	13.28	42.40	2.25	33.88	46.00	-12.12	QP	VERTICAL

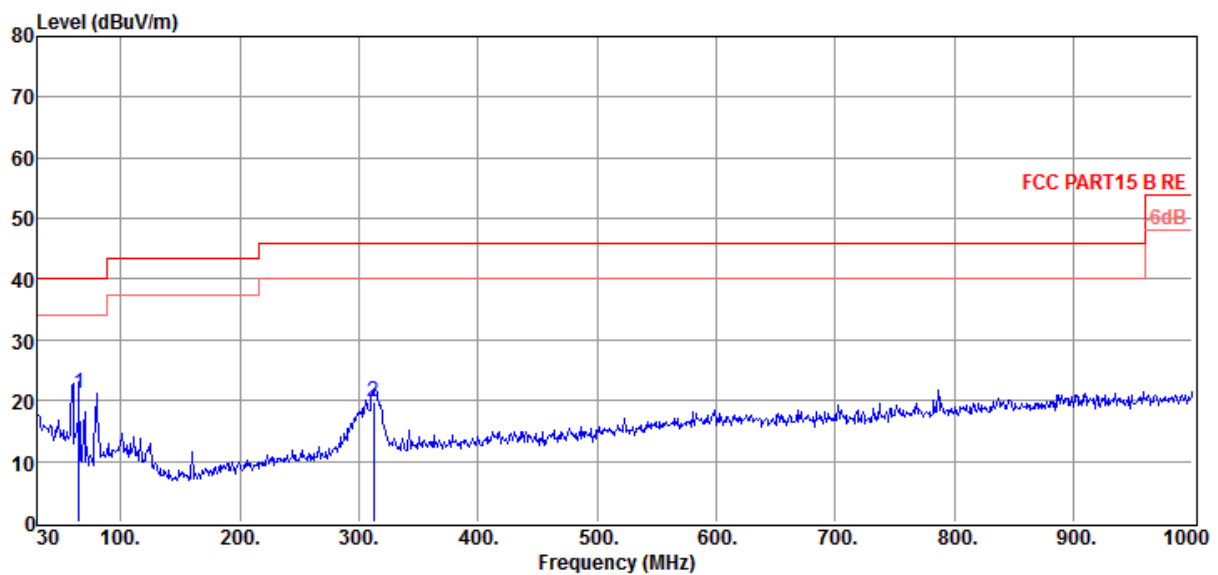
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor

2. If Peak Result comply with QP limit,QP Result is deemed to comply with QP limit

Radiated Emission Test Result

Test Site : DDT 3m Chamber **E:\2012 Report Data\s\Swiss.EM6**
Test Date : 08-13-2012 **Tested By** : Leo
EUT : Talking Dog Collar **Model Number** : 13021R
Power Supply : DC 3V **Test Mode** : Rx Mode
Condition : Temp:24.5°C,Humi:55% **Antenna/Distance** : VULB 9163/3m/VERTICAL
Memo :

Data : 13



Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	64.92	47.32	10.71	38.03	1.05	21.05	40.00	-18.95	QP	VERTICAL
2	312.27	46.79	13.22	42.40	2.25	19.86	46.00	-26.14	QP	VERTICAL

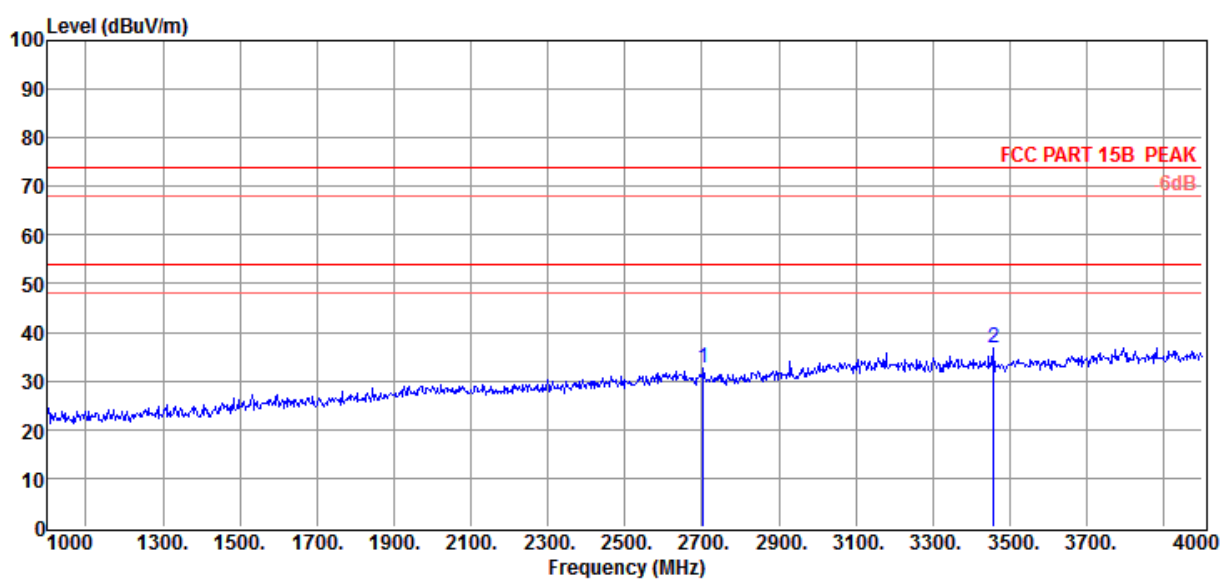
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor

2. If Peak Result comply with QP limit,QP Result is deemed to comply with QP limit

Radiated Emission Test Result

Test Site	: DDT 3m Chamber	E:\2012 Report Data\s\Swiss.EM6
Test Date	: 08-13-2012	Tested By : Leo
EUT	: Talking Dog Collar	Model Number : 13021R
Power Supply	: DC 3V	Test Mode : Rx Mode
Condition	: Temp:24.5°C,Humi:55%	Antenna/Distance : HF907 SN100276/3m/HORIZONTAL
Memo	:	

Data : 16



Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2704.00	39.69	29.71	43.44	6.82	32.78	74.00	-41.22	Peak	HORIZONTAL
2	3457.00	40.94	31.96	43.96	7.84	36.78	74.00	-37.22	Peak	HORIZONTAL

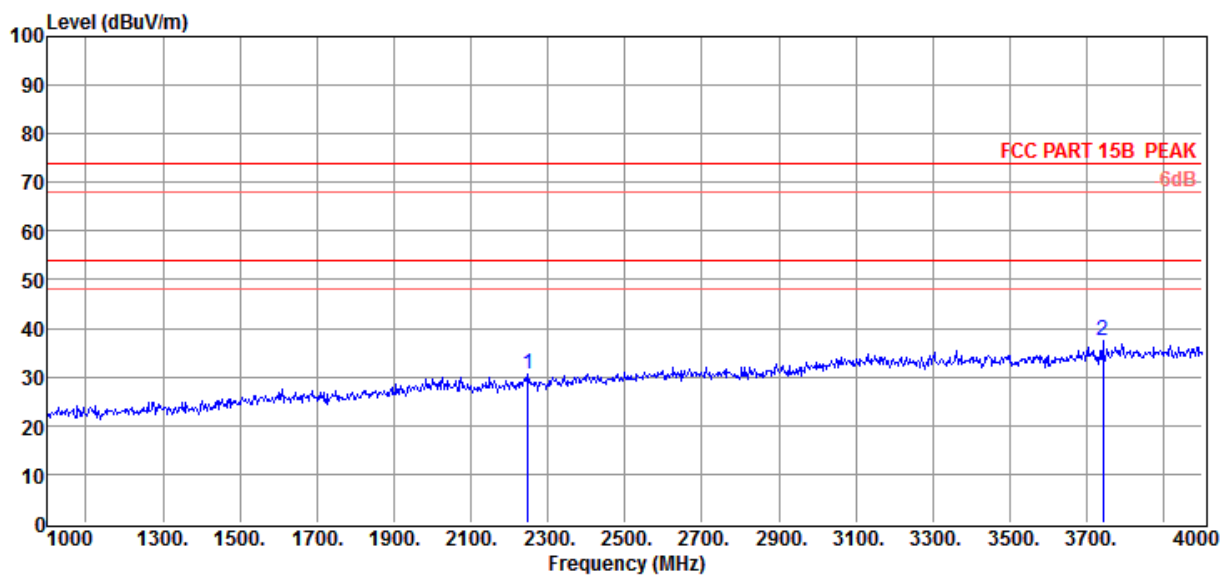
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor

2. If Peak Result comply with Average limit, Average Result is deemed to comply with Average limit

Radiated Emission Test Result

Test Site : DDT 3m Chamber **E:\2012 Report Data\s\Swiss.EM6**
Test Date : 08-13-2012 **Tested By** : Leo
EUT : Talking Dog Collar **Model Number** : 13021R
Power Supply : DC 3V **Test Mode** : Rx Mode
Condition : Temp:24.5°C,Humi:55% **Antenna/Distance** : HF907 SN100276/3m/VERTICAL
Memo :

Data : 17



Item (Mark)	Freq (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2248.00	39.37	28.30	43.45	6.23	30.45	74.00	-43.55	Peak	VERTICAL
2	3742.00	40.61	32.57	44.00	8.16	37.34	74.00	-36.66	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor

2. If Peak Result comply with Average limit, Average Result is deemed to comply with Average limit