

**STAR SYSTEMS INTERNATIONAL LIMITED**

Application  
For  
Certification

**FCC ID: 2AA7KDORADOWF**

**RFID data collector**

**Model: Dorado**  
**Brand Name: Star Systems International**

902.75-927.25MHz Transceiver

Report No.: 131018006SZN-005

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 15, Subpart C for Intentional Radiator, mention 47 CFR [10-1-12]

Prepared and Checked by:

Approved by:

Sign on file

Sen Lv  
Project Engineer

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Andy  
Project Engineer  
Date: January 29, 2014

- The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
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- The evaluation data of the report will be kept for 3 years from the date of issuance.

TRF No.: FCC 15C\_TX\_b

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# INTERTEK TESTING SERVICES

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## MEASUREMENT/TECHNICAL REPORT

STAR SYSTEMS INTERNATIONAL LIMITED  
Model: Dorado

FCC ID: 2AA7KDORADOWF

This report concerns (check one):      Original Grant       Class II Change

Equipment Type: DXT - Part 15 Low Power Transceiver, Rx Verified

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?      Yes       No

If yes, defer until: \_\_\_\_\_  
date

Company Name agrees to notify the Commission by: \_\_\_\_\_  
date  
of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37?      Yes       No

If no, assumed Part 15, Subpart C for intentional radiator – the new 47 CFR [10-1-12 Edition] provision.

Report prepared by:

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### List of attached file

Exhibit type	File Description	Filename
Test Report	Test Report	report.pdf
Test Setup Photo	Radiated Emission	radiated photos.pdf
Test Setup Photo	Conducted Emission	conducted photos.pdf
Test Report	20dB BW Plot	bw.pdf
External Photo	External Photo	external photos.pdf
Internal Photo	Internal Photo	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
Operation Description	Technical Description	descri.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf
Cover Letter	Confidentiality Letter	request.pdf
Cover Letter	Letter of Agency	agency.pdf
Cover Letter	Certification Agreement	agreement.pdf

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**INTERTEK TESTING SERVICES**

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**EXHIBIT 1**

**GENERAL DESCRIPTION**

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TRF No.: FCC 15C\_TX\_b  
FCC ID: 2AA7KDORADOWF  
Report No.: 131018006SZN-005

# INTERTEK TESTING SERVICES

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## 1.0 General Description

### 1.1 Product Description

The equipment under test (EUT) is a RFID data collector, it is able to read ID cards through 902.75-927.25MHz and transmit data through WiFi function operating at 2412-2462MHz. The EUT was powered by a 3.7 VDC Li-ion rechargeable battery which is charged by USB Power Adapter with AC 120V, 60Hz. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

Modulation Type: DSB-ASK

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

### 1.2 Related Submittal(s) Grants

1. This is an application for certification of the RFID function operation at 902.75-927.25MHz.
2. WIFI Function: Refer to report 131018006SZN-004
3. Transfer data function: this function has been completed in DoC.

### 1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2009). Radiated emission measurement was performed in Semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

### 1.4 Test Facility

The Semi-anechoic chamber and shielding room used to collect the radiated data and conducted data are **Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch** and located at 6F, D Block, Huahan Building, Langshan Road, Nanshan District, Shenzhen, P. R. China. This test facility and site measurement data have been fully placed on file with the FCC (Registration Number: 242492).

**EXHIBIT 2**

**SYSTEM TEST CONFIGURATION**

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### 2.0 **System Test Configuration**

#### 2.1 Justification

The system was configured for testing in a typical operation (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (2009).

The EUT was powered by a 3.7 VDC fully charged Li-ion rechargeable battery which is charged by USB Power Adapter with AC 120V input, 60Hz input during the test.

For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Exhibit 3.

The rear of unit shall be flushed with the rear of the table.

The equipment under test (EUT) was configured for testing in a typical operation (as a customer would normally use it). The EUT was placed on a turn table, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

#### 2.2 EUT Exercising Software

The EUT engineering mode (provided by client) used during testing as similar to a typical use.

#### 2.3 Special Accessories

One shielded USB cable with a ferrite core is used.

#### 2.4 Equipment Modification

Any modifications installed previous to testing by STAR SYSTEMS INTERNATIONAL LIMITED will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd Kejiyuan Branch.

#### 2.5 Measurement Uncertainty

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

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### 2.6 Support Equipment List and Description

Description	Manufacturer	Model No.
110cm shielded USB Cable with a ferrite core	Shenzhen Zoko Industry Development Co.,Ltd	N/A
USB Power Adapter	Juxing Electronic (Huizhou) Co.,Ltd.	JXAS0050500100VU, Input: AC 100-240V; 50/60Hz Output: DC 5V; 1000mA

**EXHIBIT 3**

**EMISSION RESULTS**

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### 3.0 Emission Results

Data is included worst-case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

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### 3.1 Radiated Test Results

A sample calculation, configuration photographs and data tables of the emissions are included.

#### 3.1.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

$$FS = RA + AF + CF - AG + PD$$

Where

FS = Field Strength in dB $\mu$ V/m

RA = Receiver Amplitude (including preamplifier) in dB $\mu$ V

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in dB

AG = Amplifier Gain in dB

PD = Pulse Desensitization in dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

$$FS = RA + AF + CF - AG + PD$$

Assume a receiver reading of 62.0 dB $\mu$ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB. The net field strength for comparison to the appropriate emission limit is 42 dB $\mu$ V/m. This value in dB $\mu$ V/m was converted to its corresponding level in  $\mu$ V/m.

$$RA = 62.0 \text{ dB}\mu\text{V}$$

$$AF = 7.4 \text{ dB}$$

$$CF = 1.6 \text{ dB}$$

$$AG = 29.0 \text{ dB}$$

$$PD = 0 \text{ dB}$$

$$FS = 62 + 7.4 + 1.6 - 29 + 0 = 42 \text{ dB}\mu\text{V/m}$$

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm } [(42 \text{ dB}\mu\text{V/m})/20] = 125.9 \mu\text{V/m}$$

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### 3.1.2 Radiated Emission Configuration Photograph

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos. pdf.

### 3.1.3 Radiated Emissions

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Worst Case Radiated Emission  
at  
901.9 MHz

Judgement: Passed by 1.5 dB

### ***TEST PERSONNEL:***

*Sign on file*

Sen Lv, Project Engineer  
*Typed/Printed Name*

December 3, 2013  
*Date*

# INTERTEK TESTING SERVICES

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Applicant: STAR SYSTEMS INTERNATIONAL LIMITED

Model: Dorado

Sample: 1/1

Worst Case Operating Mode: Transmit with charging

Table 1

## Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Horizontal	30.000	25.0	20.0	17.1	22.1	40.0	-17.9
Horizontal	203.145	35.7	20.0	9.9	25.6	43.5	-17.9
Horizontal	259.405	32.6	20.0	13.8	26.4	46.0	-19.6
Horizontal	901.900	41.5	20.0	23.0	44.5	46.0	-1.5
Horizontal	928.100	39.9	20.0	23.0	42.9	46.0	-3.1
Vertical	41.155	24.9	20.0	9.8	14.7	40.0	-25.3
Vertical	86.260	28.1	20.0	6.8	14.9	40.0	-25.1
Vertical	518.395	22.1	20.0	16.3	18.4	46.0	-27.6
Vertical	901.900	41.3	20.0	23.0	44.3	46.0	-1.7
Vertical	928.100	40.9	20.0	23.0	43.9	46.0	-2.1

NOTES: 1. Quasi-Peak detector is used except for others stated.

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. All emissions are below the QP limit.

## INTERTEK TESTING SERVICES

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### 3.1.4 Transmitter Spurious Emissions (Radiated)

Worst Case Radiated Emission  
at  
3709.0 MHz

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos. pdf.

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 2.7 dB

### **TEST PERSONNEL:**

*Sign on file*

Sen Lv, Project Engineer  
*Typed/Printed Name*

December 3, 2013

*Date*

## INTERTEK TESTING SERVICES

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Applicant: STAR SYSTEMS INTERNATIONAL LIMITED

Model: Dorado

Sample: 1/1

Worst Case Operating Mode: Transmit with charging

Table 2

### Radiated Emissions (902.75MHz)

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB $\mu$ V/m)	Quasi-Peak Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Horizontal	902.750	91.7	36.9	23.0	77.8	94.0	-16.2

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB $\mu$ V/m)	Peak Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Horizontal	1805.500	59.6	36.7	29.8	52.7	74.0	-21.3
Horizontal	2708.200	49.6	36.7	31.1	44.0	74.0	-30.0
Horizontal	3611.000	56.8	36.5	31.9	52.2	74.0	-21.8

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB $\mu$ V/m)	Average Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Horizontal	1805.500	54.1	36.7	29.8	47.2	54.0	-6.8
Horizontal	2708.200	37.0	36.7	31.1	31.4	54.0	-22.6
Horizontal	3611.000	47.7	36.5	31.9	43.1	54.0	-10.9

Notes:

1. Quasi-peak is used for fundamental field strength, Peak detector is used for spurious emission with RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.

## INTERTEK TESTING SERVICES

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Applicant: STAR SYSTEMS INTERNATIONAL LIMITED

Model: Dorado

Sample: 1/1

Worst Case Operating Mode: Transmit with charging

Table 3  
**Radiated Emissions**  
(914.75MHz)

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB $\mu$ V/m)	Quasi-Peak Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Horizontal	914.750	92.4	36.9	23.0	78.5	94.0	-15.5

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB $\mu$ V/m)	Peak Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Horizontal	1829.500	61.3	36.7	29.8	54.4	74.0	-19.6
Horizontal	2744.250	49.5	36.7	31.1	43.9	74.0	-30.1
Horizontal	3659.000	57.3	36.5	31.9	52.7	74.0	-21.3

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB $\mu$ V/m)	Average Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Horizontal	1829.500	52.8	36.7	29.8	45.9	54.0	-8.1
Horizontal	2744.250	37.2	36.7	31.1	31.6	54.0	-22.4
Horizontal	3659.000	47.7	36.5	31.9	43.1	54.0	-10.9

Notes:

1. Quasi-peak is used for fundamental field strength, Peak detector is used for spurious emission with RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.

## INTERTEK TESTING SERVICES

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Applicant: STAR SYSTEMS INTERNATIONAL LIMITED

Model: Dorado

Sample: 1/1

Worst Case Operating Mode: Transmit with charging

Table 4  
**Radiated Emissions**  
(927.25MHz)

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB $\mu$ V/m)	Quasi-Peak Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Horizontal	927.250	91.8	36.9	23.0	77.9	94.0	-16.1

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB $\mu$ V/m)	Peak Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Horizontal	1854.500	56.7	36.7	29.8	49.8	74.0	-24.2
Horizontal	2481.750	49.2	36.7	31.1	43.6	74.0	-30.4
Horizontal	3709.000	65.0	36.5	31.9	60.4	74.0	-13.6

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB $\mu$ V/m)	Average Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Horizontal	1854.500	47.9	36.7	29.8	41.0	54.0	-13.0
Horizontal	2481.750	36.4	36.7	31.1	30.8	54.0	-23.2
Horizontal	3709.000	55.9	36.5	31.9	51.3	54.0	-2.7

Notes:

1. Quasi-peak is used for fundamental field strength, Peak detector is used for spurious emission with RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.

## INTERTEK TESTING SERVICES

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### 3.2 Conducted Emission at Mains Terminal

#### 3.2.1 Conducted Emissions Configuration Photograph

For electronic filing, the worst case conducted emission configuration photograph is saved with filename: conducted photos.pdf.

#### 3.2.2 Conducted Emissions

Worst Case -Conducted Configuration  
At

0.906 MHz

Judgement: Passed by 18.2 dB margin

### ***TEST PERSONNEL:***

*Sign on file*

Sen, Project Engineer  
*Typed/Printed Name*

November 29, 2013  
*Date*

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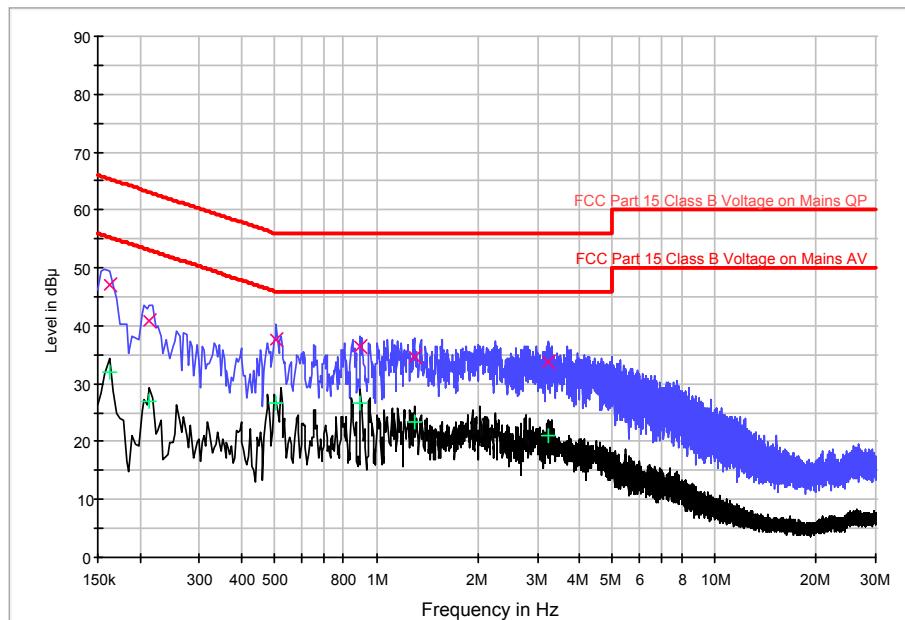
Applicant: STAR SYSTEMS INTERNATIONAL LIMITED

Model: Dorado

Sample: 1/1

Worst Case Operating Mode: Transmit with charging

## Conducted Emission Test - FCC



### Result Table QP

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.162000	47.0	L1	9.8	18.4	65.4
0.214000	41.0	L1	9.7	22.0	63.0
0.506000	37.7	L1	9.7	18.3	56.0
0.898000	36.5	L1	9.8	19.5	56.0
1.298000	34.6	L1	9.8	21.4	56.0
3.246000	33.8	L1	9.8	22.2	56.0

### Result Table AV

Frequency (MHz)	Average (dB $\mu$ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.162000	32.0	L1	9.8	23.4	55.4
0.214000	27.0	L1	9.7	26.0	53.0
0.506000	26.5	L1	9.7	19.5	46.0
0.898000	26.6	L1	9.8	19.4	46.0
1.298000	23.4	L1	9.8	22.6	46.0
3.246000	20.9	L1	9.8	25.1	46.0

TRF No.: FCC 15C\_TX\_b  
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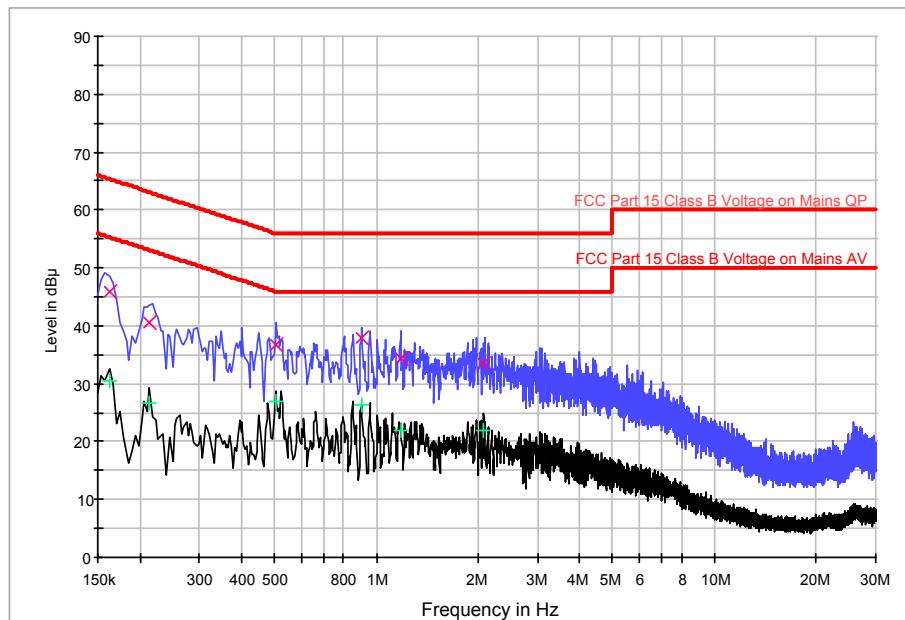
Applicant: STAR SYSTEMS INTERNATIONAL LIMITED

Model: Dorado

Sample: 1/1

Worst Case Operating Mode: Transmit with charging

## Conducted Emission Test - FCC



### Result Table QP

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.162000	45.9	N	10.2	19.5	65.4
0.214000	40.5	N	10.2	22.5	63.0
0.502000	36.8	N	10.2	19.2	56.0
0.906000	37.8	N	10.3	18.2	56.0
1.182000	34.3	N	10.3	21.7	56.0
2.082000	33.4	N	10.4	22.6	56.0

### Result Table AV

Frequency (MHz)	Average (dB $\mu$ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.162000	30.4	N	10.2	25.0	55.4
0.214000	26.5	N	10.2	26.5	53.0
0.502000	26.9	N	10.2	19.1	46.0
0.906000	26.5	N	10.3	19.5	46.0
1.182000	21.8	N	10.3	24.2	46.0
2.082000	22.0	N	10.4	24.0	46.0

TRF No.: FCC 15C\_TX\_b  
FCC ID: 2AA7KDORADOWF  
Report No.: 131018006SZN-005

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**EXHIBIT 4**

**EQUIPMENT PHOTOGRAPHS**

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TRF No.: FCC 15C\_TX\_b  
FCC ID: 2AA7KDORADOWF  
Report No.: 131018006SZN-005

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### 4.0 Equipment Photographs

For electronic filing, the photographs of the tested EUT are saved with filename: external photos.pdf & internal photos.pdf.

# **INTERTEK TESTING SERVICES**

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## **EXHIBIT 5**

### **PRODUCT LABELLING**

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TRF No.: FCC 15C\_TX\_b  
FCC ID: 2AA7KDORADOWF  
Report No.: 131018006SZN-005

## INTERTEK TESTING SERVICES

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### 5.0 Product Labelling

For electronic filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

# **INTERTEK TESTING SERVICES**

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## **EXHIBIT 6**

### **TECHNICAL SPECIFICATIONS**

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TRF No.: FCC 15C\_TX\_b  
FCC ID: 2AA7KDORADOWF  
Report No.: 131018006SZN-005

## INTERTEK TESTING SERVICES

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### 6.0 Technical Specifications

For electronic filing, the block diagram and schematics of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

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## **INTERTEK TESTING SERVICES**

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### **EXHIBIT 7**

### **INSTRUCTION MANUAL**

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TRF No.: FCC 15C\_TX\_b  
FCC ID: 2AA7KDORADOWF  
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## INTERTEK TESTING SERVICES

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### 7.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

## **INTERTEK TESTING SERVICES**

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### **EXHIBIT 8**

#### **MISCELLANEOUS INFORMATION**

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## INTERTEK TESTING SERVICES

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### 8.0 Miscellaneous Information

This miscellaneous information includes details of the measured bandedge, the test procedure and calculation of factor such as pulse desensitization.

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### 8.1 20dB BW Plot

Pursuant to FCC part 15 Section 15.215(c), the 20dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over expected variations in temperature and supply voltage were considered.

Figure 8.1 Bandwidth

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### **8.2 Discussion of Pulse Desensitization**

Pulse desensitivity is not applicable for this device.

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### 8.3 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services in the measurements of transmitters operating under Part 15, Subpart C rules.

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.4 - 2009.

The transmitting equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately one meter in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjust through all three orthogonal axes to obtain maximum emission levels. The antenna height and polarization are varied during the testing to search for maximum signal levels.

Detector function for radiated emissions is in peak mode. Average readings, when required, are taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings.

The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or 40 GHz, whichever is lower.

Detector function for conducted emissions is in QP & AV mode and IFBW setting is 9 kHz from the frequency band 150 kHz to 30MHz.

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### 8.3 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements are made as described in ANSI C63.4 - 2009.

The IF bandwidth used for measurement of radiated signal strength was 10 kHz for emission below 30 MHz and 120 kHz for emission from 30 MHz to 1000 MHz. Where pulsed transmissions of short enough pulse duration warrant, a greater bandwidth is selected according to the recommendations of Hewlett Packard Application Note 150-2. Above 1000 MHz, a resolution bandwidth of 1 MHz is used.

Transmitter measurements are normally conducted at a measurement distance of three meters. However, to assure low enough noise floor in the restricted bands and above 1 GHz, signals are acquired at a distance of one meter or less. All measurements are extrapolated to three meters using inverse scaling, but those measurements taken at a closer distance are so marked.

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**EXHIBIT 9**

**CONFIDENTIALITY REQUEST**

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TRF No.: FCC 15C\_TX\_b  
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## INTERTEK TESTING SERVICES

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### 9.0 Confidentiality Request

For electronic filing, the confidentiality request of the tested EUT is saved with filename: request.pdf.

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**INTERTEK TESTING SERVICES**

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**EXHIBIT 10**

**TEST EQUIPMENT LIST**

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## INTERTEK TESTING SERVICES

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### **10.0 Test Equipment List**

<b>Equipment No.</b>	<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Cal. Date</b>	<b>Due Date</b>
SZ061-03	BiConiLog Antenna	ETS	3142C	00066460	20-Jul-13	20-Jan-14
SZ185-01	EMI Receiver	R&S	ESCI	100547	20-Jul-13	20-Jan-14
SZ061-08	Horn Antenna	ETS	3115	00092346	17-Oct-13	17-Apr-14
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	17-Oct-13	17-Apr-14
SZ056-03	Spectrum Analyzer	R&S	FSP 30	101148	20-Jul-13	20-Jan-14
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	18-Oct-13	18-Apr-14
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	18-Oct-13	18-Apr-14
SZ062-02	RF Cable	RADIALL	RG 213U	--	20-Jul-13	20-Jan-14
SZ062-06	RF Cable	RADIALL	0.04-26.5GHz	--	17-Oct-13	17-Apr-14
SZ062-12	RF Cable	RADIALL	0.04-26.5GHz	--	17-Oct-13	17-Apr-14
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	18-Oct-13	18-Apr-14
SZ187-01	Two-Line V-Network	R&S	ENV216	100072	18-Oct-13	18-Apr-14
SZ187-02	Two-Line V-Network	R&S	ENV216	100073	18-Oct-13	18-Apr-14
SZ188-03	Shielding Room	ETS	RFD-100	4100	18-Oct-13	18-Apr-14