

MAY CHEONG TOY PRODUCTS FTY LTD

# TEST REPORT

**SCOPE OF WORK**

RAIDO FREQUENCY AND EMC TESTING-82330(19181/82331)

**REPORT NUMBER**

SZHH01429620-001S2

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## RADIO COMMUNICATIONS AND EMC TESTING REPORT

MAY CHEONG TOY PRODUCTS FTY LTD

82330(19181/82331)

Additional Models:

82332//82333/82334/82335/82336/82337/82338/82339/82340/82341/82342/  
82343/82344/82410/82411/82412/82413/82414/82415/82416/82417/82418/  
82419/82420/82421/82422/82423/82424/82425/82426/82427/82428/82429/  
82430/82350/82351/82352/82353/82354/82355/82356/82357/82358/82359/  
82360/82361/82362/82363/82180/82181/82182/82184/82185/82186

1:24 RC Premium assorted (1:24 RC Premium 2018 MB G-Class)

Additional Names: 1:24 RC Premium Lamborghini Terzo Millennio, 1:24 RC Premium Bugatti Divo, 1:24 RC Premium Ferrari SF90 Stradale, R/C Work Machines UNIMOG U430 (19CM), R/C Work Machines MACK Granite Refuse Truck (19CM)

Test Report: SZHH01429620-001S2

Remark: This report base on the previous report with report No. SZHH01429620-001S1 dated 17 March 2020. Only update model number and name, don't test after engineer evaluate.

Test Engineer :	Terry Tang Senior Engineer	Sign On File
Report Approved By :	Jimmy Wen Assistant Manager	
Date :	8 February 2021	

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## RADIO PERFORMANCE MEASUREMENTS RESULT SUMMARY

Requirements	ETSI EN 300 440		Compliance
	Technical requirements	Test Specification	
	Clause Number		
Equivalent Isotropically Radiated Power (EIRP)	4.2.2	4.2.2.3	Complied
Permitted Range of Operating Frequencies	4.2.3	4.2.3.3	Complied
Unwanted emissions in the spurious domain	4.2.4	4.2.4.3	Complied
Blocking or desensitization	4.3.4	4.3.4.3	Complied
Spurious radiation	4.3.5	4.3.5.3	Complied
When determining the test conclusion, the Measurement Uncertainty of test has been considered.			

**EMC COMPLIANCE MEASUREMENTS  
RESULT SUMMARY**

	ETSI EN 301 489-3	ETSI EN 301 489-1	<b>Compliance</b>
	<b>Clause Number</b>		
EMC Emission	7.1	8.2	Complied
Electrostatic Discharge	7.2	9.3	Complied
Radio Frequency Electromagnetic Field (80MHz-6GHz)	7.2	9.2	Complied

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

## EQUIPMENT UNDER TEST (EUT) INFORMATION

Applicant:	MAY CHEONG TOY PRODUCTS FTY LTD UNIT 901-2, 9/F., EAST OCEAN CENTRE, 98 GRANVILLE ROAD, TSIMSHATSUI EAST, KOWLOON, HONG KONG
Description of EUT:	1:24 RC Premium assorted (1:24 RC Premium 2018 MB G-Class)
Type Number (s):	Model: 82330(19181/82331)
Brand Name(s):	N/A
Serial Number (s):	Not Labelled
Equipment Received:	2 January 2020
Test Date (s):	2 January 2020 to 15 January 2020
Modulation:	GFSK
Categories of Receiver :	Category 3
Test Site and Location:	Intertek Testing Services Shenzhen Ltd. (CNAS L0327) 1F/2F, Building B, QiaoAn Scientific Technology Park, Shangkeng Community, Guanhu Subdistrict, Longhua District, Shenzhen, P.R. China.
Test Specification (s):	ETSI EN 300 440 V2.1.1 (2017-03)  ETSI EN 301 489-1 V2.2.3 (2019-11)  ETSI EN 301 489-3 V2.1.1 (2019-03)

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## **EXHIBIT 1**

### **GENERAL DESCRIPTION**

## 1 INTRODUCTION

Intertek Testing Services Shenzhen Limited (address: 1F/2F, Building B, QiaoAn Scientific Technology Park, ShangKeng Community, GuanHu Subdistrict, LongHua District, ShenZhen. P.R. China, 518110) has tested the MAY CHEONG TOY PRODUCTS FTY LTD 82330(19181/82331) 1:24 RC Premium assorted (1:24 RC Premium 2018 MB G-Class). The sample was tested to the relevant performance specification published by the European Telecommunications Standards Institute. This report contains the results of these tests and is submitted MAY CHEONG TOY PRODUCTS FTY LTD as the final test results.

The equipment under test (EUT) is a 1:24 RC Premium assorted (1:24 RC Premium 2018 MB G-Class) operating at 2.4G Band. The Controller Unit is intended to operate from DC 3.0V (2 x 1.5V AAA batteries). The Car Unit is powered by DC 3.2V (1 x 3.2V Rechargeable battery). For more detail information pls. refer to the user manual.

The Additional Models: 82332//82333/82334/82335/82336/82337/82338/82339/82340/82341/82342/82343/82344/82410/82411/82412/82413/82414/82415/82416/82417/82418/82419/82420/82421/82422/82423/82424/82425/82426/82427/82428/82429/82430/82350/82351/82352/82353/82354/82355/82356/82357/82358/82359/82360/82361/82362/82363/82180/82181/82182/82184/82185/82186 are the same as the Model: 82330(19181/82331) in hardware aspect except the different appearance. The difference in model number serves as marketing strategy.

The production units are required to conform to the initial sample as received when the units are placed on the market.



## 2 TEST SPECIFICATION

### 2.1 RELEVANT PERFORMANCE SPECIFICATION

The relevant performance specifications for 82330(19181/82331) 1:24 RC Premium assorted (1:24 RC Premium 2018 MB G-Class) are the harmonised standard is ETSI EN 300 440 V2.1.1 (2017-03) and the technical standards are ETSI EN 301 489-3 V2.1.1 (2019-03) and ETSI EN 301 489-1 V2.2.3 (2019-11)

The tests performed are those required to demonstrate compliance with the technical specifications and the essential requirements of Article 3.1(b) and 3.2 of the Radio Equipment Directive (2014/53/EU) - RED for regulatory purposes.

### 2.2 TEST ENVIRONMENT

The tests were performed in the Radio communications and Electromagnetic Compatibility Test Facility at Intertek Testing Services Shenzhen Ltd. (CNAS L0327). The sample was subjected to the ambient conditions in the laboratory and indoor test site except during tests at extremes of temperatures and the Radiated Emissions Tests. The temperature and relative humidity recorded during the period of each test are given in the results.

### 2.3 CONFIGURATION OF TEST SAMPLE

The test samples consisted of one transmitter (Controller Unit) and one receiver ( Car Unit).

### 2.4 TEST POWER SOURCES

The Controller Unit is intended to operate from DC 3.0V (2 x 1.5V AAA batteries). The Car Unit is powered by DC 3.2V (1 x 3.2V Rechargeable battery). The test power source voltages declared by the manufacturer were:

	<u>Controller Unit</u>
Nominal test voltage	DC 3.0V
Lower extreme test voltage	DC 2.55V
Upper extreme test voltage	DC 3.0V
	<u>Car Unit</u>
Nominal test voltage	DC 3.2V

**2.5 TEST FREQUENCIES**

The sample supplied operated nominally at 2410 - 2475MHz for transmitter and the channel list with 1MHz channel Spacing. The tests were carried out on channel Low, Medium and High of the alignment range.

**2.6 GENERAL REQUIREMENTS****2.6.1 MODULATION**

1. Modulation is used with GFSK technique.
2. Manufacturer's declared operating temperature: -20°C to +55°C.

**2.6.2 ANTENNA**

The antenna used in transmitter is permanent Integrate antenna.

**2.7 MEASUREMENT UNCERTAINTY**

All measurement uncertainties stated in this report are estimated to a 95% confidence level.

**2.8 SUPPORT EQUIPMENT – RADIO PERFORMANCE MEASUREMENTS**

N/A

**2.9 SUPPORT EQUIPMENT – EMC COMPLIANCE MEASUREMENTS**

N/A

**2.10 PERFORMANCE CRITERIA****2.10.1 PERFORMANCE CRITERIA FOR CONTINUOUS PHENOMENA (CT & CR)**

At the conclusion of the test the EUT shall operated as intended with no loss of user control functions or stored data, the communication link shall have been maintained during the test.

Where the EUT is transmitter, tests shall be repeated with the EUT in standby mode to ensure that any unintentional transmission does not occur.

**2.10.2 PERFORMANCE CRITERIA FOR TRANSIENT PHENOMENA (TT & TR)**

At the conclusion of each exposure the EUT shall operated with no user noticeable loss of communication link.

Where the EUT is transmitter, tests shall be repeated with the EUT in standby mode to ensure that any unintentional transmission does not occur.

**EXHIBIT 2**

**TEST RESULT  
OF  
RADIO PERFORMANCE MEASUREMENTS**

### 3 EQUIVALENT ISOTROPICALLY RADIATED POWER (EIRP) AND SPURIOUS EMISSIONS

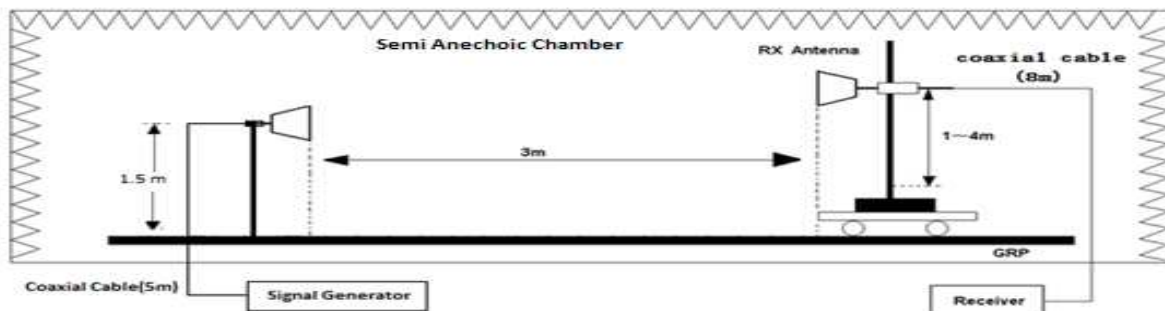
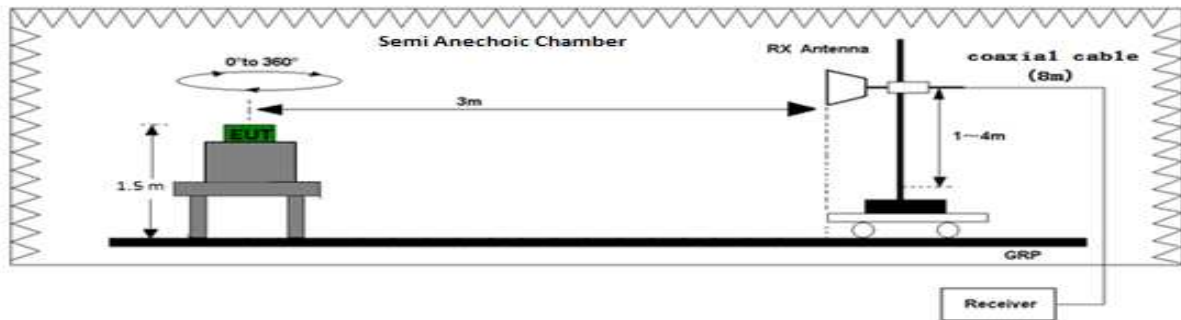
#### 3.1 TEST METHOD AND SUMMARY

	Equivalent Isotropically Radiated Power (EIRP)	Unwanted emissions in the spurious domain	Spurious radiations
Basic Standard :	ETSI EN 300 440 V2.1.1 (2017-03)		
Clause :	4.2.2	4.2.4	4.3.5
Application :	Transmitter with an Integral or Dedicated Antenna	All Transmitters	All Receivers

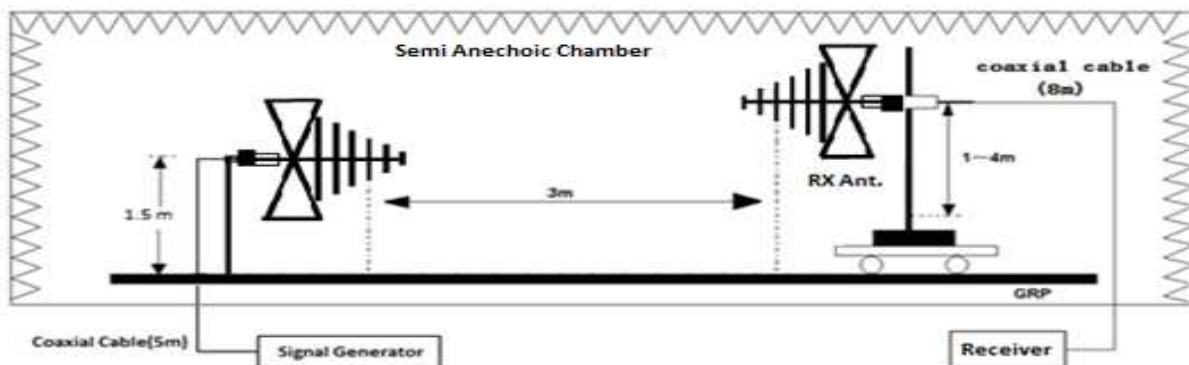
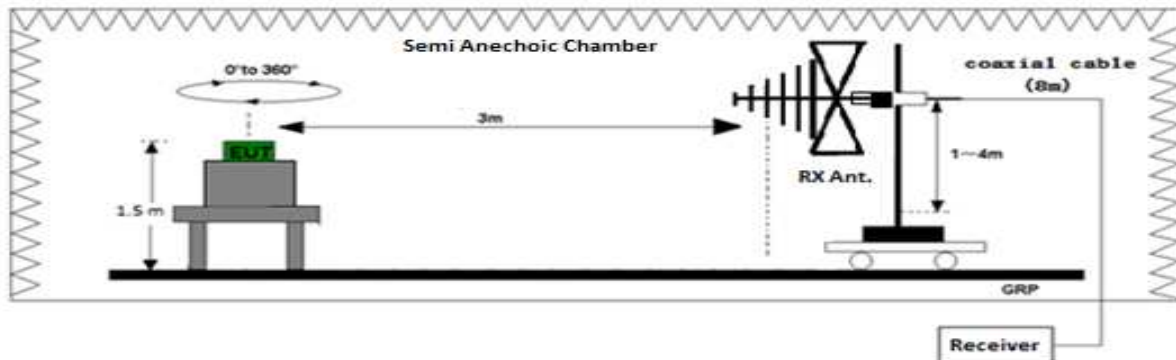
#### 3.2 EQUIPMENT LIST

Equip No.	Description	Manufacturer	Model No.	Cal. Date	Due Date
SZ061-12	BiConiLog Antenna	ETS	3142E	14-Sep-18	14-Sep-20
SZ016-12	Temperature & Humidity Chamber	Terchy	MHK-120NK	17-Jan-19	17-Jan-20
SZ185-01	EMI Receiver	R&S	ESCI	24-Dec-19	24-Dec-20
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	15-Dec-18	15-Dec-20
SZ056-03	Spectrum Analyzer	R&S	FSP30	28-May-19	28-May-20
SZ006-12	AC Power Source	APC	AFC-11005G	13-Aug-19	13-Feb-20
SZ062-12	RF Cable	RADIALL	RG 213U	14-Aug-19	14-Feb-20
SZ062-13	RF Cable	Habia	0.026-26.5GHz	14-Aug-19	14-Feb-20

### 3.3 Test Setup



Test set-up of radiated disturbance (above 1GHz)



Test set-up of radiated disturbance (30MHz-1GHz)

### 3.4 TEST RESULT - EQUIVALENT ISOTROPICALLY RADIATED POWER (EIRP)

Ambient Test Conditions: Temperature 25°C; Humidity 50%

(Controller Unit)

Test Conditions			Power (mW)	Power (dBm)	Limit (dBm)	Margin (dB)	
Temperature(°C) Humidity(%)	Voltage	CH					
Ambient	<input type="checkbox"/> VDC <sub>nom</sub> DC 3.0V	2410.000	1.660	2.2	10.0	-7.8	
T <sub>min</sub> -20°C H <sub>min</sub> 0%	<input type="checkbox"/> VDC <sub>max</sub> DC 3.0V		1.585	2.0	10.0	-8.0	
	<input type="checkbox"/> VDC <sub>min</sub> DC 2.55V		1.549	1.9	10.0	-8.1	
T <sub>max</sub> 55°C H <sub>max</sub> 50%	<input type="checkbox"/> VDC <sub>max</sub> DC 3.0V		1.622	2.1	10.0	-7.9	
	<input type="checkbox"/> VDC <sub>min</sub> DC 2.55V		1.479	1.7	10.0	-8.3	
Ambient	<input type="checkbox"/> VDC <sub>nom</sub> DC 3.0V		2443.000	1.585	2.0	10.0	-8.0
T <sub>min</sub> -20°C H <sub>min</sub> 0%	<input type="checkbox"/> VDC <sub>max</sub> DC 3.0V			1.549	1.9	10.0	-8.1
	<input type="checkbox"/> VDC <sub>min</sub> DC 2.55V			1.479	1.7	10.0	-8.3
T <sub>max</sub> 55°C H <sub>max</sub> 50%	<input type="checkbox"/> VDC <sub>max</sub> DC 3.0V	1.318		1.2	10.0	-8.8	
	<input type="checkbox"/> VDC <sub>min</sub> DC 2.55V	1.514		1.8	10.0	-8.2	
Ambient	<input type="checkbox"/> VDC <sub>nom</sub> DC 3.0V	2475.000		2.399	3.8	10.0	-6.2
T <sub>min</sub> -20°C H <sub>min</sub> 0%	<input type="checkbox"/> VDC <sub>max</sub> DC 3.0V			2.042	3.1	10.0	-6.9
	<input type="checkbox"/> VDC <sub>min</sub> DC 2.55V			1.778	2.5	10.0	-7.5
T <sub>max</sub> 55°C H <sub>max</sub> 50%	<input type="checkbox"/> VDC <sub>max</sub> DC 3.0V		1.995	3.0	10.0	-7.0	
	<input type="checkbox"/> VDC <sub>min</sub> DC 2.55V		1.950	2.9	10.0	-7.1	

Notes:

1. Negative sign (-) in the margin column signify levels below the limit.
2. 10 dBm corresponds to 10 mW.
3. Measurement Uncertainty : ±4.8dB.

**3.5 RESULTS OF TRANSMITTER TESTS - SPURIOUS EMISSIONS**

**3.5.1 CONDUCTED**

Not applicable. Equipment has integral antenna.

**3.5.2 RADIATED**

**3.5.2.1 SPURIOUS EMISSIONS - OPERATING**

Test Conditions: Temperature 25°C; Humidity 50%

**(Controller Unit)**

Channel: Low			
Frequency (MHz)	Measured Power (dBm)	Limit (dBm)	Margin (dB)
4820.000	-45.1	-30.0	-15.1

Channel: Medium			
Frequency (MHz)	Measured Power (dBm)	Limit (dBm)	Margin (dB)
4886.000	-45.2	-30.0	-15.2

Channel: High			
Frequency (MHz)	Measured Power (dBm)	Limit (dBm)	Margin (dB)
4950.000	-45.0	-30.0	-15.0

Notes:

1. Negative sign (-) in the margin column signify levels below the limit.
2. Other emissions found were at least 10 dB below the limit.
3. -30 dBm corresponds to 1  $\mu$ W.
4. Measurement Uncertainty:  $\pm$ 4.8dB.

**3.5.2.2 SPURIOUS EMISSIONS - STANDBY**

There were no emissions found above system measuring level (at least 10 dB below the limit).

**3.6 RESULTS OF RECEIVER TESTS - SPURIOUS EMISSIONS**

**3.6.1 CONDUCTED**

Not applicable. Equipment has integral antenna.

**3.6.2 RADIATED**

**3.6.2.1 SPURIOUS EMISSIONS - OPERATING**

There were no emissions found above system measuring level (at least 10 dB below the limit).

**3.6.2.2 SPURIOUS EMISSIONS - STANDBY**

There were no emissions found above system measuring level (at least 10 dB below the limit).



## 4 PERMITTED RANGE OF OPERATING FREQUENCIES

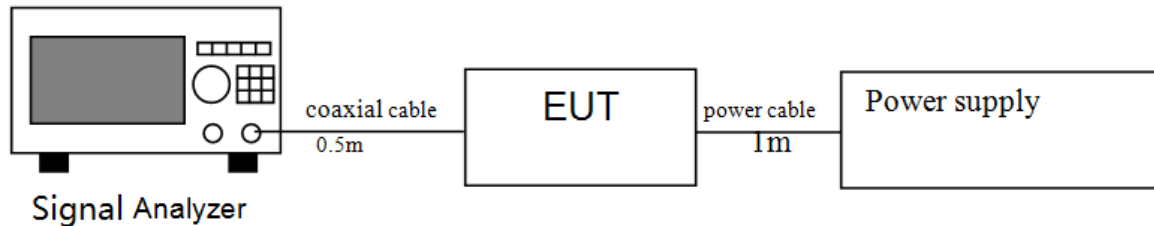
### 4.1 TEST METHOD AND SUMMARY

Basic Standard :	ETSI EN 300 440 V2.1.1 (2017-03)
Clause :	4.2.3
Application :	All Transmitters

### 4.2 EQUIPMENT LIST

Equip No.	Description	Manufacturer	Model No.	Cal. Date	Due Date
SZ056-03	Spectrum Analyzer	R&S	FSP30	28-May-19	28-May-20
SZ016-12	Temperature & Humidity Chamber	Terchy	MHK-120NK	17-Jan-19	17-Jan-20
SZ006-12	AC Power Source	APC	AFC-11005G	13-Aug-19	13-Feb-20
SZ062-16	RF cable	HUBER+SUHN ER	CBL2-BN-1m	30-Oct-19	30-Oct-20

### 4.3 Test Setup



### 4.4 TEST RESULT - DC TEST VOLTAGE

(Controller Unit)

Test Conditions			Frequency Range (GHz)	
Temperature (°C) Humidity (%)	Voltage	CH	F <sub>L</sub>	F <sub>H</sub>
Ambient	<input type="checkbox"/> VDC <sub>nom</sub> DC 3.0V	Low, High	2.409425	2.475875
T <sub>min</sub> -20°C H <sub>min</sub> 0%	<input type="checkbox"/> VDC <sub>max</sub> DC 3.0V		2.409450	2.475803
	<input type="checkbox"/> VDC <sub>min</sub> DC 2.55V		2.409413	2.475861
T <sub>max</sub> 55°C H <sub>max</sub> 50%	<input type="checkbox"/> VDC <sub>max</sub> DC 3.0V		2.409396	2.475863
	<input type="checkbox"/> VDC <sub>min</sub> DC 2.55V		2.409422	2.475882
Measurement Uncertainty			± 240Hz	

**4.5 BAND EDGE WORSE RESULT****(Controller Unit)**

		<b>Frequency (GHz)</b>	<b>Within Assigned Frequency Band</b>
Lowest $F_L$	$F_{LB}$	2.409396	Complied
Highest $F_H$	$F_{HB}$	2.475882	Complied

where

$F_{LB}$       Lowest frequency at appropriate spurious emission level  
 $F_{HB}$       Highest frequency at appropriate spurious emission level

The permitted range of modulation bandwidth must be within the limits of the assigned frequency band 2.4-2.4835 GHz.

## 5 BLOCING OR DESENSITIZATION

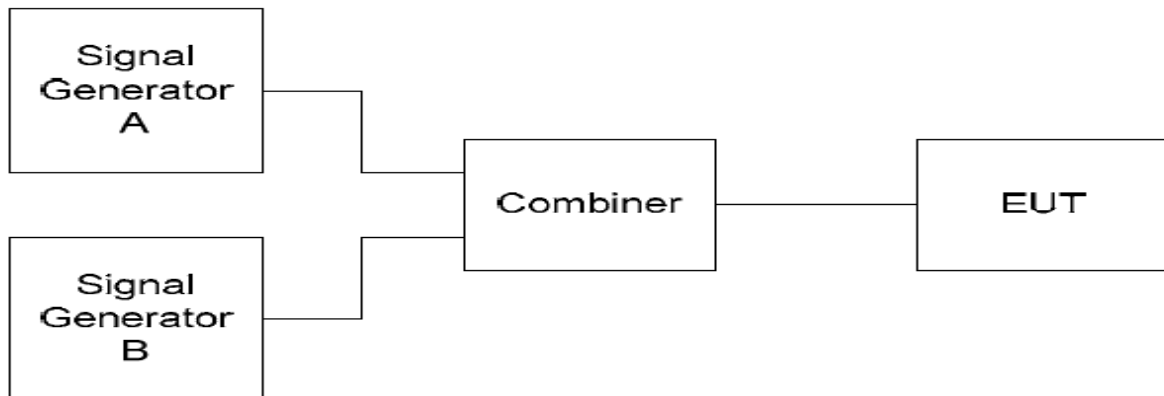
### 5.1 TEST METHOD AND SUMMARY

Basic Standard :	ETSI EN 300 440 V2.1.1 (2017-03)
Clause :	4.3.4
Test method	Conducted measurements

### 5.2 EQUIPMENT LIST

Equip No.	Description	Manufacturer	Model No.	Cal. Date	Due Date
SZ056-07	Signal Analyzer	R&S	FSV40	29-Oct-19	29-Oct-20
SZ180-13	MXG Vector Signal Generator	Keysight	N5182B	29-Oct-19	29-Oct-20
SZ180-15	Signal Generator	R&S	SMB100A	29-Oct-19	29-Oct-20
SZ070-21	Combiner	Mini-Circuits	ZN2PD-63-S+	28-May-19	28-May-20
SZ070-04	Directional Coupler	Agilent	86205A	24-Dec-19	24-Dec-20
SZ070-18	Attenuator	Agilent	8494B	24-Dec-19	24-Dec-20
SZ070-19	Attenuator	Agilent	8495B	24-Dec-19	24-Dec-20
SZ068-03	RF Shielding Cover	Changruixing	50x50x60cm	20-Aug-19	20-Feb-20

### 5.3 Test Setup



## 5.4 TEST RESULT - DC TEST VOLTAGE

The minimum level of Wanted signal from companion device (dBm) ( $P_{min}+3dB$ )	Blocking signal frequency (MHz)		Blocking signal power (dBm)	Limit (-45 dBm + k)	Result
-46.0+3	±10*BW	Lower: 2398.5	-30.0	-53.1	Pass
-46.0+3		Upper: 2421.6	-30.0	-53.1	Pass
-46.0+3	±20*BW	Lower: 2387.5	-22.0	-53.1	Pass
-46.0+3		Upper: 2432.6	-22.0	-53.1	Pass
-46.0+3	±50*BW	Lower: 2354.5	-18.0	-53.1	Pass
-46.0+3		Upper: 2465.6	-19.0	-53.1	Pass

- Notes:
1. When adjusts the level for the wanted signal at the input of the UUT to -46.0dBm, the UUT still gives sufficient response. And when below the level -46.0dBm, the UUT couldn't give sufficient response.
  2. The receive channel bandwidth (BW) is 1.1MHz, which is declared by manufacturer.
  3. The nominal frequency of the receiver f during test is 2410MHz.
  4. The correction factor  $k = -20\log f - 10\log BW$ . Where f is the frequency in GHz and BW is the channel bandwidth in MHz. As the f is 2410MHz and BW is 1.1MHz, the correction factor k is -8.1dB.

**EXHIBIT 3**

**TEST RESULT  
OF  
EMC COMPLIANCE MEASUREMENTS**

## 6 EMC EMISSION TEST

### 6.1 TEST METHOD AND SUMMARY

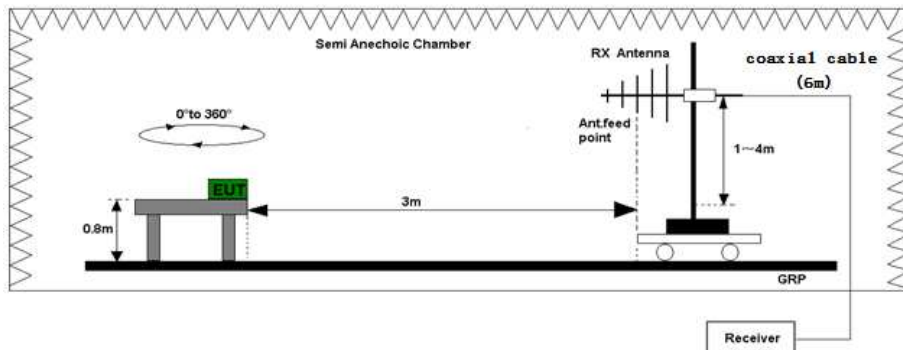
Basic Standard :	EN55032: 2015
Test :	Radiated Emission
Classification :	Class B
Port :	Enclosure Port of Ancillary Equipment

### 6.2 RADIATED EMISSION TEST

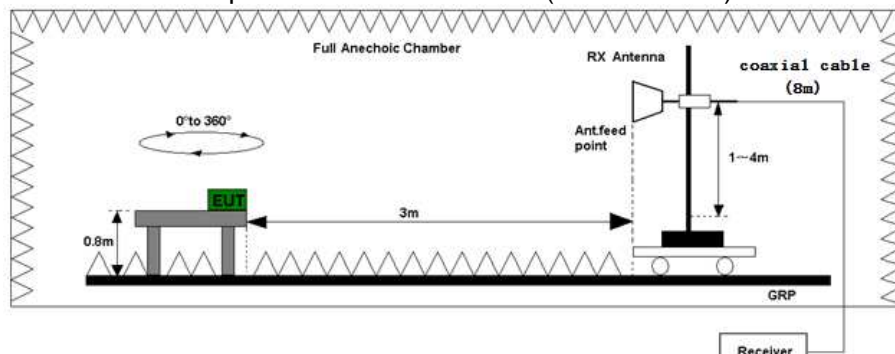
#### 6.2.1 TEST EQUIPMENT

Equip No.	Description	Manufacturer	Model No.	Cal. Date	Due Date
SZ185-01	EMI Receiver	R & S	ESCI	24-Dec-19	24-Dec-20
SZ061-12	Biconilog Antenna	ETS	3142E	14-Sep-18	14-Sep-20
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	15-Dec-18	15-Dec-20
SZ062-12	RF Cable	RADIALL	RG 213U	14-Aug-19	14-Feb-20
SZ062-13	RF Cable	Habia	0.026-26.5GHz	14-Aug-19	14-Feb-20

#### 6.2.2 TEST SETUP



Test set-up of radiated disturbance (30MHz-1GHz)

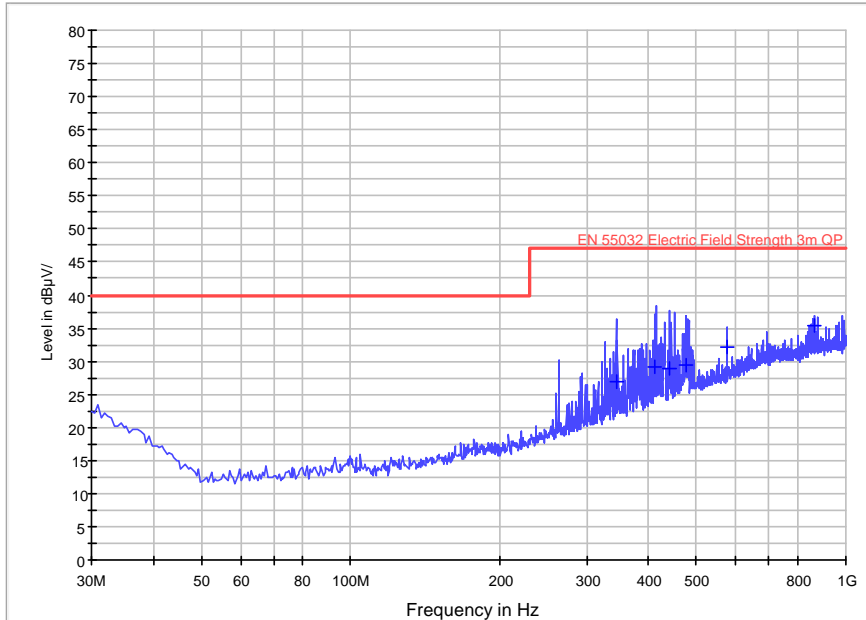


Test set-up of radiated disturbance (above 1GHz)

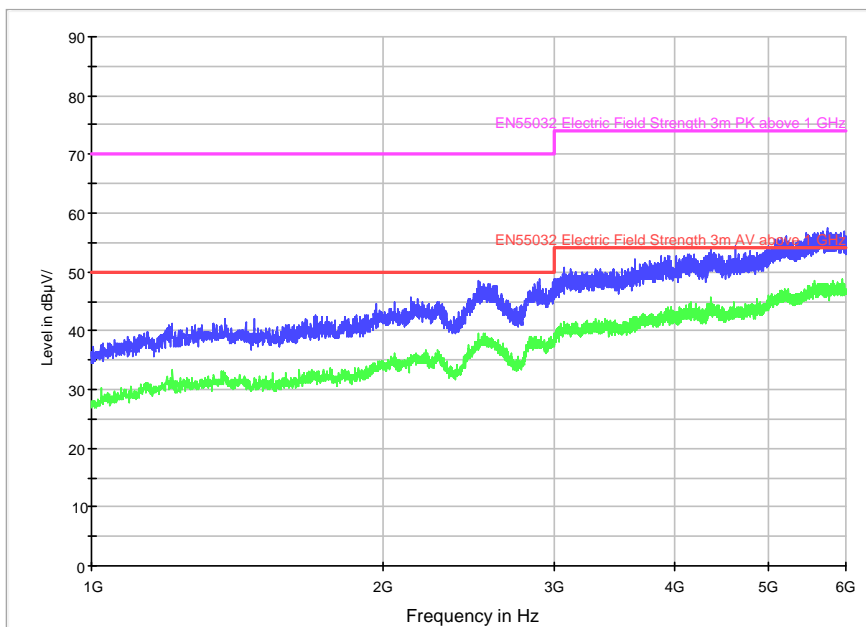
## 6.2.3 TEST RESULT

Worst-case Operating Mode: Running (Motor)

### Horizontal



Electric Field Strength 1-6G



## Limit and Margin

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBμV/m)
343.795000	26.9	1000.0	120.000	H	18.1	20.1	47.0
412.665000	29.1	1000.0	120.000	H	20.1	17.9	47.0
440.310000	28.8	1000.0	120.000	H	20.9	18.2	47.0
477.170000	29.5	1000.0	120.000	H	21.9	17.5	47.0
577.565000	32.2	1000.0	120.000	H	23.9	14.8	47.0
862.745000	35.3	1000.0	120.000	H	27.5	11.7	47.0

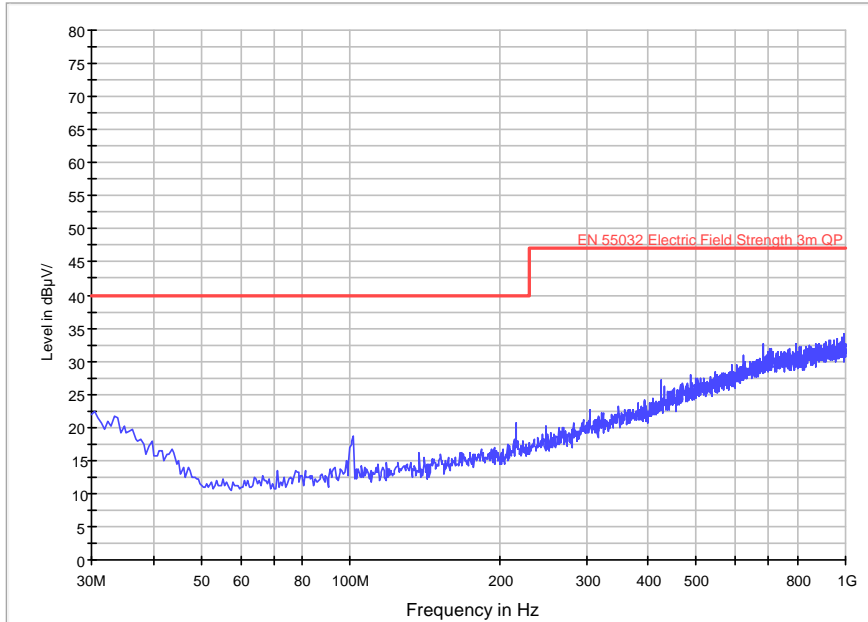
No emissions significantly above equipment noise floor.

### Remark:

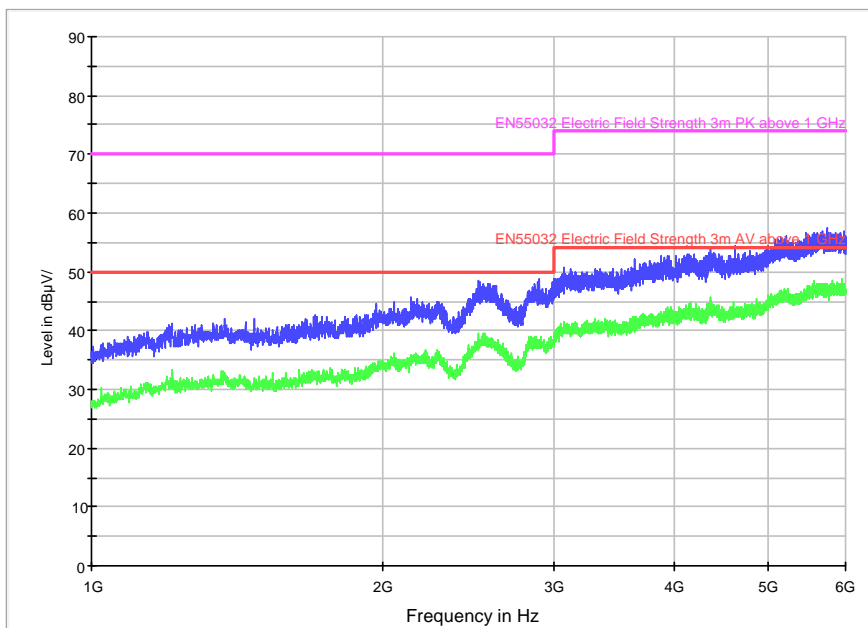
1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. QuasiPeak (dBμV/m) = Corr. (dB/m) + Read Level (dBμV)
3. Margin (dB) = Limit QP(dBμV/m) – QP(dBμV/m)
4. The emissions were very low against the limit in the frequency range 1 GHz ~ 6GHz.



## Vertical



Electric Field Strength 1-6G



## Limit and Margin

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBμV/m)
//	//	//	//	//	//	//	//

No emissions significantly above equipment noise floor.

### Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. QuasiPeak (dBμV/m) = Corr. (dB/m) + Read Level (dBμV)
3. Margin (dB) = Limit QP(dBμV/m) – QP(dBμV/m)
4. The emissions were very low against the limit in the frequency range 1 GHz ~ 6GHz.

### Notes:

1. Quasi-Peak Detector used up to 1G, Peak and Average Detector used above 1G
2. Frequency range scanned: 30 MHz to 6000 MHz
3. Only emissions significantly above equipment noise floor are reported
4. Measurement Uncertainty: ±4.8dB.

## 6.2.4 MEASUREMENT UNCERTAINTY

Measurement Uncertainties: ± 4.8dB. The measured result is above the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to state compliance based on the 95% level of confidence. However, the result indicates that compliance is more probable than non-compliance with the specification limit.

## 7 ELECTROSTATIC DISCHARGE

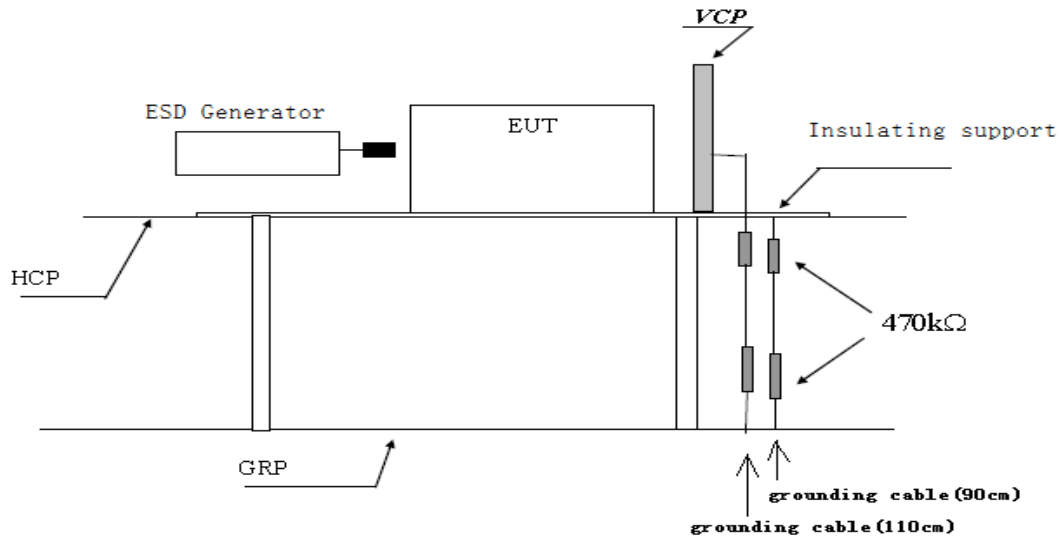
### 7.1 TEST METHOD AND SUMMARY

Basic Standard :		EN 61000-4-2: 2009
Port :		Enclosure
Required Performance Criterion :		TT & TR
Level :		± 2.0, ± 4.0, ±8.0 kV (Air Discharge) ± 2.0, ±4.0 kV (Contact Discharge) ± 2.0, ±4.0 kV (Indirect Contact Discharge)
No. of Discharge(s) :		Minimum of 10 Discharges per Each Polarity
Time Between Each Discharge :		1 second
Test Mode :		TX : Stand-by and Transmission Modes, Power off RX : Stand-by and Operating (Motor), Power off
Test Setup :		Table-top
Temperature :		23.0°C
Relative Humidity :		55.0%
Test of Post-installation :		N/A
Test Point	Air Discharge:	All insulated enclosure and seams
		All the points where contact discharge cannot be applied
	Contact:	All conductive surfaces of the EUT
	HCP:	All sides of the EUT
	VCP:	Four faces of the EUT

### 7.2 TEST EQUIPMENT

Equipment No.	Equipment	Manufacturer	Model No.	Cal. Date	Due Date
SZ189-03	ESD Simulator	Teseq	NSG 435	15-Nov-19	15-Nov-20

## 7.3 TEST SETUP



Test set-up of electrostatic discharge

**7.4 TEST RESULT****7.4.1 TEST RESULT**

<b>Discharge Type</b>	<b>Applied Voltage</b>	<b>Result</b> <b>(Pursuant to ETSI EN 301 489-3 Criterion TT &amp; TR)</b>
Contact Discharge	$\pm 2.0, \pm 4\text{kV}$	Complied
Air Discharge	$\pm 2, \pm 4, \pm 8\text{kV}$	Complied
Indirect HCP Discharge	$\pm 2.0, \pm 4\text{kV}$	Complied
Indirect VCP Discharge	$\pm 2.0, \pm 4\text{kV}$	Complied

**7.4.2 ADDITIONAL RESULT INFORMATION**

No observable change.

## 8 RADIO FREQUENCY ELECTROMAGNETIC FIELD

### 8.1 TEST METHOD AND SUMMARY

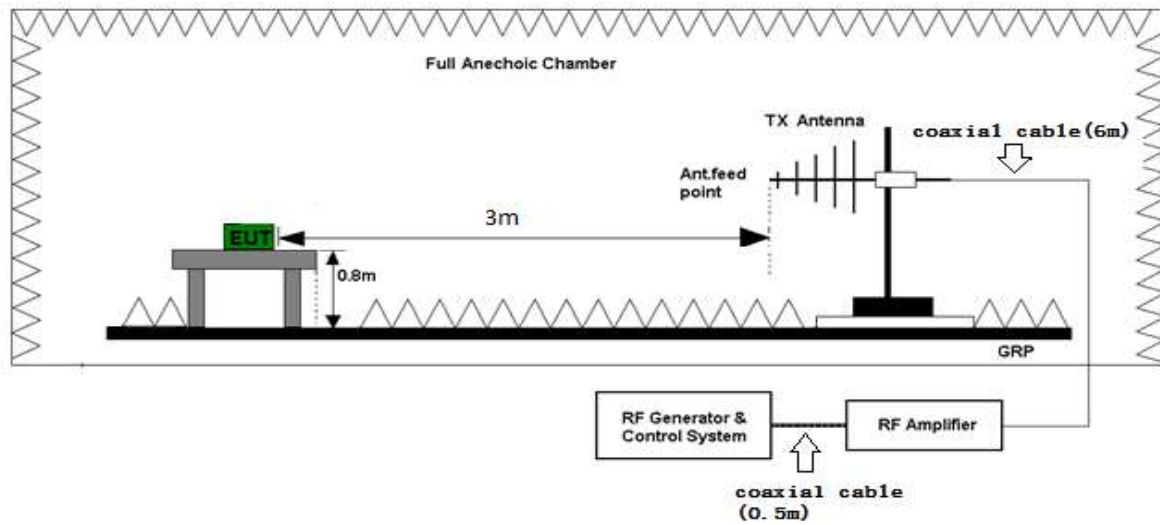
Basic Standard :	EN 61000-4-3: 2006 + A1: 2008 + A2: 2010
Port :	Enclosure
Required Performance Criterion :	CT & CR
Level :	3.0 V/m (rms)
Test Modulation :	1kHz, 80% AM
Frequency :	80 MHz to 6000 MHz
Dwell Time :	1s
Frequency Step :	10%
Temperature :	25.3°C
Relative Humidity :	47.7%
Test Facility :	Full Anechoic Chamber
Antenna Polarization :	Horizontal and Vertical
Type of Antenna :	Broadband Antenna
Test Distance :	3m
Test Mode :	TX : Stand-by and Transmission Modes, Power off RX : Stand-by and Operating (Motor), Power off
Test Setup :	Table-top

### 8.2 TEST EQUIPMENT

Equipment No.	Equipment	Manufacturer	Model No.	Cal. Date	Due Date
SZ061-03	BiConiLog Antenna	ETS	3142C	24-May-2019	24-May-2020
SZ180-01	Signal Generator	R&S	SML03	28-May-2019	28-May-2020
SZ181-01	Amplifier	PRANA	AP32 MT215	15-Jan-2019	15-Jan-2020
SZ181-06	Power Amplifier	INTERTEK HK	ZKL-1R5+	28-May-2019	28-May-2020
SZ182-01	RF Power Meter	BOONTON	4232A	15-Jan-2019	15-Jan-2020
SZ188-02	Anechoic Chamber	ETS	RFD-F/A-100	15-Dec-2018	15-Dec-2020
SZ190-07	RF Amplifier	Milmega	AS0860-75/45	15-Jan-2019	15-Jan-2020
SZ180-15	Signal Generator	R&S	SMB100A	29-Oct-2019	29-Oct-2020
SZ061-16	Stacked double log.-Per. Antenna	SCHWARZBECK	STLP 9149	9-Nov-2019	9-Nov-2021

\* The Equipment would be verified together with the test system before testing.

### 8.3 TEST SETUP



Test set-up of Immunity to Radiated Electric Fields

### 8.4 TEST RESULT

#### 8.4.1 TEST RESULT

Frequency (MHz)	Exposed Side	Result (Pursuant to ETSI EN 301 489-3 Criterion CT & CR)
80 to 6000	Front	Complied
80 to 6000	Left	Complied
80 to 6000	Rear	Complied
80 to 6000	Right	Complied

#### 8.4.2 ADDITIONAL RESULT INFORMATION

No observable change.

## **EXHIBIT 4**

### **PHOTOS OF EUT**



## 9. EUT PHOTOS

External Photo



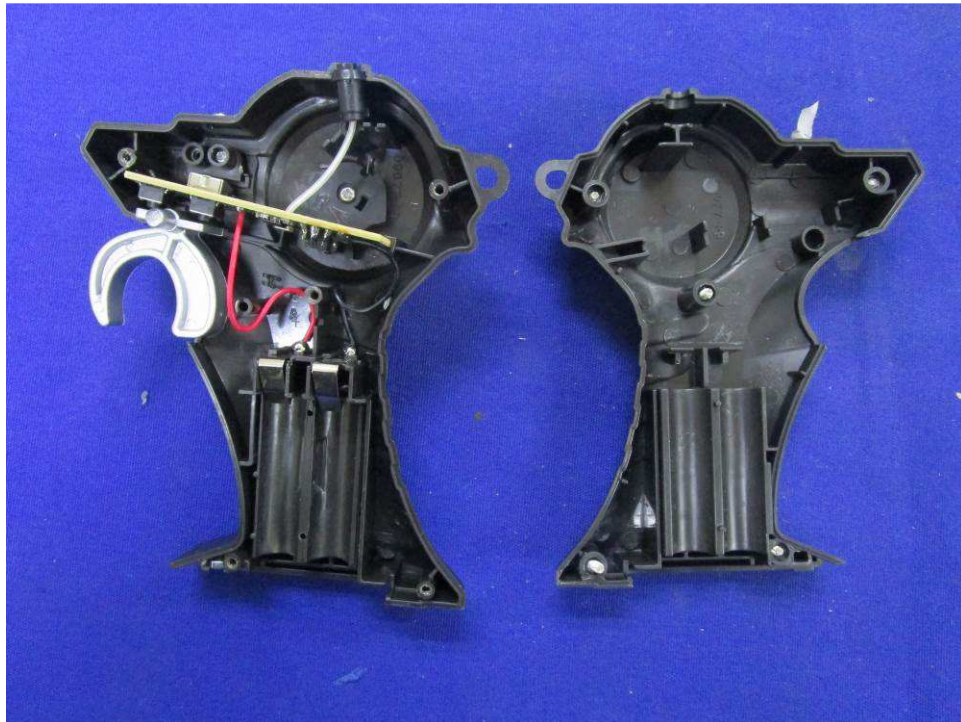
External Photo



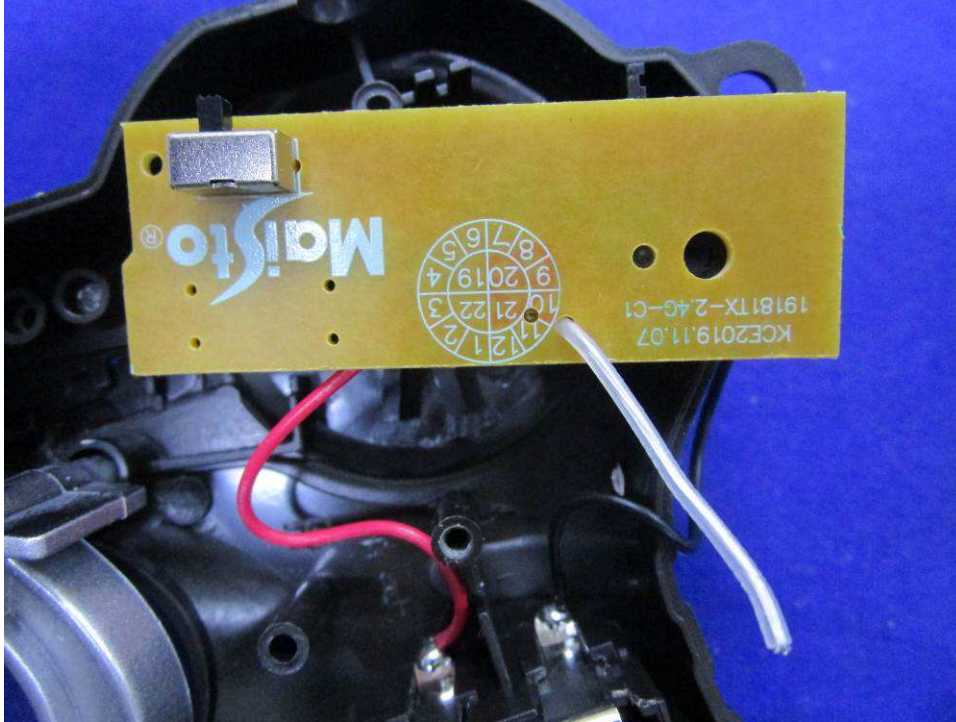
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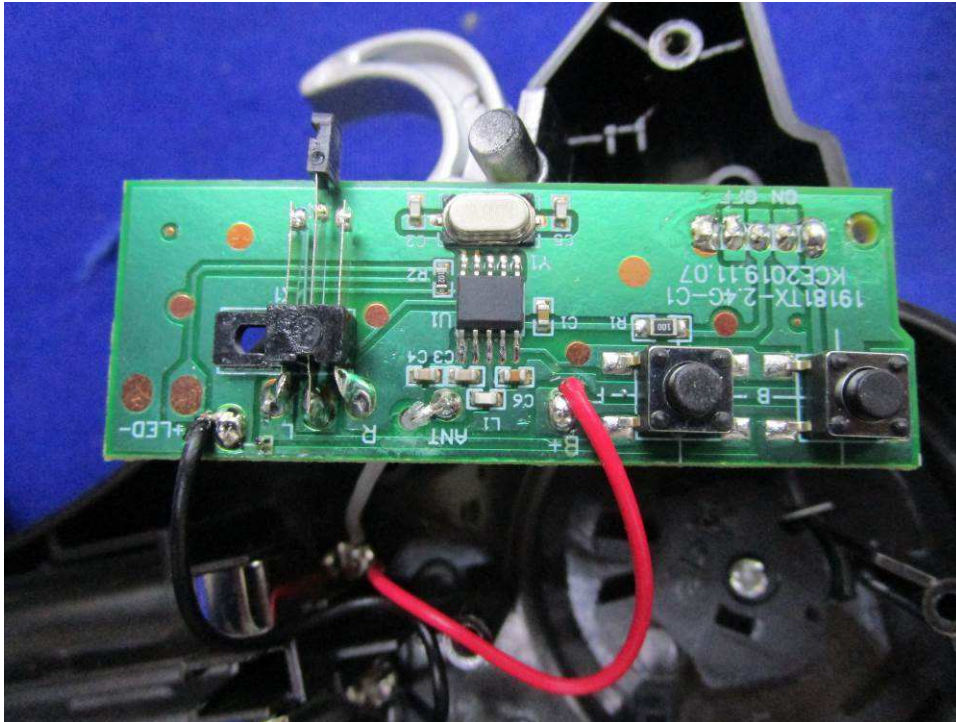
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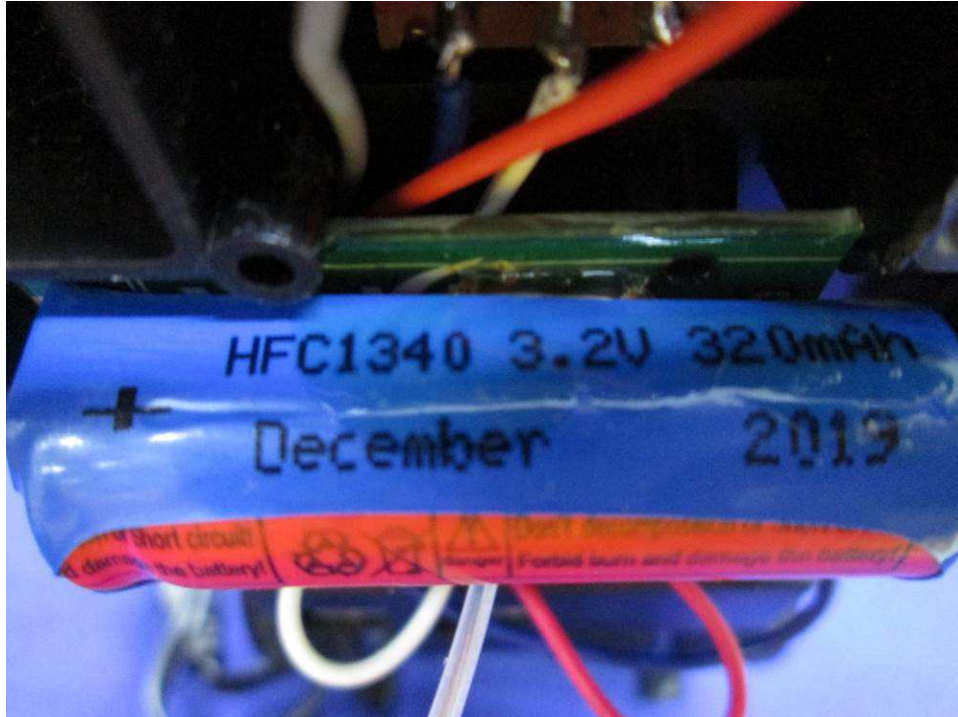
Internal Photo



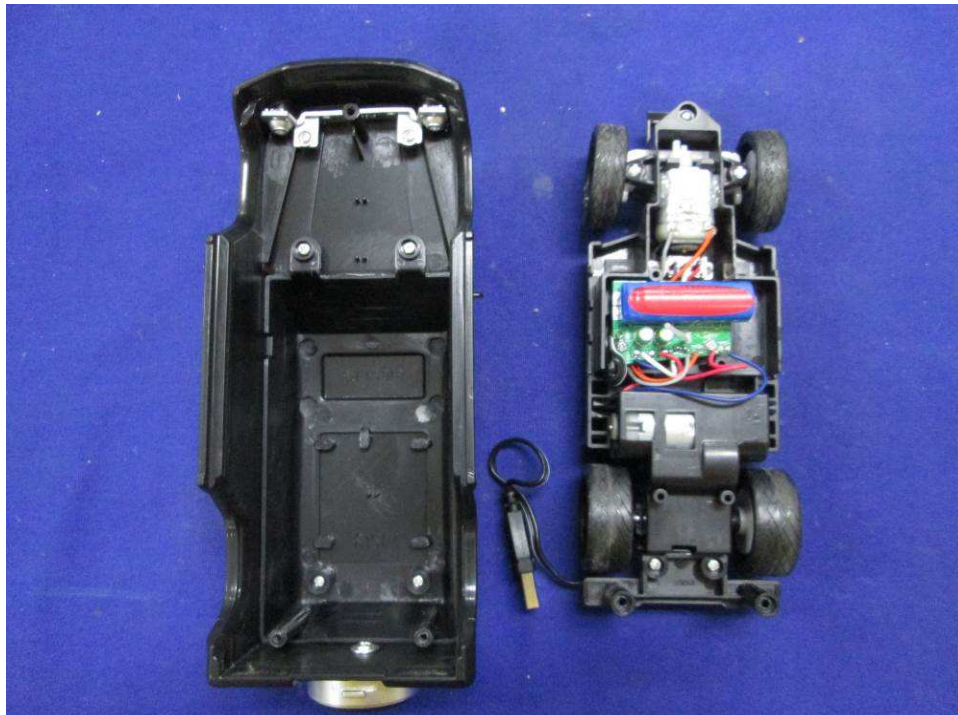
Internal Photo



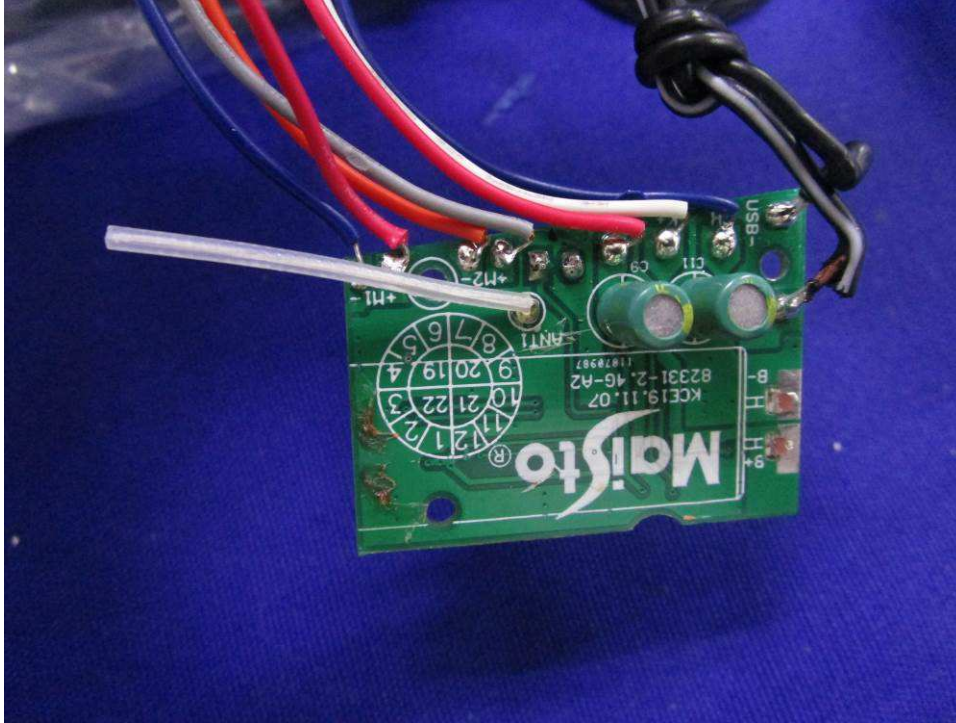
Internal Photo



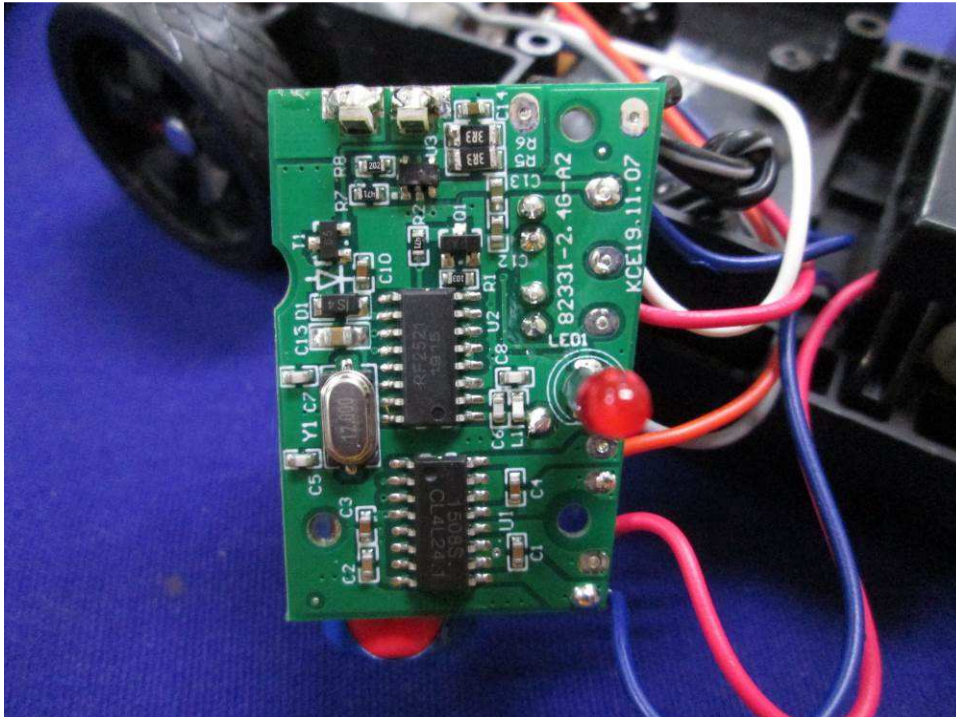
Internal Photo



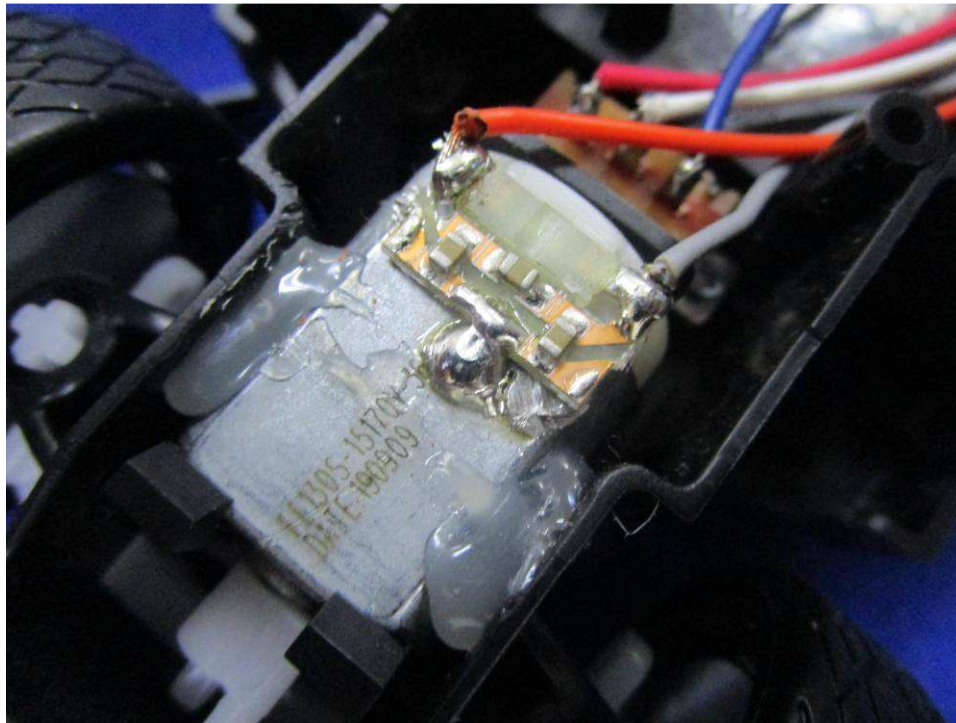
Internal Photo



Internal Photo



Internal Photo



--END --