

Report No.: FYCR220500016402

Page: 1 of 32

TEST REPORT

Application No.: FYCR2205000164AT

Applicant: Stage10 GmbH

Address of Applicant: Oranienburgerstr. 45 Berlin 10117 Germany

Manufacturer: Stage10 GmbH

Address of Manufacturer: Oranienburgerstr. 45 Berlin 10117 Germany Factory: Shenzhen Wellturn Technology.Co.,Ltd

Address of Factory: A603-604, 6/F, Tower A, Donglian Building, Chuangye Rd, No.23 Baoan

District, Shenzhen, China

Equipment Under Test (EUT):

EUT Name: Remote Spray Trainer 4.0

Model No.: 15729
Trade Mark: PetTec

FCC ID: 2AONQ-RST415729

Standard(s): 47 CFR Part 15, Subpart C 15.231

Date of Receipt: 2022-05-12

Date of Test: 2022-05-14 to 2022-06-30

Date of Issue: 2022-07-04

Test Result: Pass*

Winkey Wang

Winkey Wang

EMC Technical Manager



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^{*} In the configuration tested, the EUT complied with the standards specified above.



Report No.: FYCR220500016402

Page: 2 of 32

Revision Record						
Version	Chapter	Date	Modifier	Remark		
01		2022-07-04		Original		

Authorized for issue by:		
	Tree Than	
	Tree Zhan/Project Engineer	
	WinkeyWang	
	Winkey Wang/Reviewer	



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Report No.: FYCR220500016402

Page: 3 of 32

2 Test Summary

Radio Spectrum Technical Requirement					
Item Standard Method Requirement Result					
Antenna Requirement	47 CFR Part 15, Subpart C 15.231	N/A	47 CFR Part 15, Subpart C 15.203	Pass	

Radio Spectrum Matter Part						
Item	Standard	Method	Requirement	Result		
20dB Bandwidth		ANSI C63.10 (2013) Section 6.9	47 CFR Part 15, Subpart C 15.231(c)	Pass		
Dwell Time (15.231(a))		ANSI C63.10 (2013) Section 7.5	47 CFR Part 15, Subpart C 15.231(a)	Pass		
Duty Cycle	47.0ED Dovt 15	ANSI C63.10:2013	47 CFR Part 15C Section 15.35 (c)	Pass		
Field Strength of the Fundamental Signal (15.231(b))	47 CFR Part 15, Subpart C 15.231	ANSI C63.10 (2013) Section 6.5	47 CFR Part 15, Subpart C 15.231(b)	Pass		
Radiated Emissions below 1GHz		ANSI C63.10 (2013) Section 6.4&6.5	47 CFR Part 15C Section 15.231(b) and 15.209	Pass		
Radiated Emissions above 1GHz		ANSI C63.10 (2013) Section 6.6	47 CFR Part 15C Section 15.231(b) and 15.209	Pass		



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Report No.: FYCR220500016402

Page: 4 of 32

3 Contents

			Page
1	COVE	R PAGE	1
2	TEST	SUMMARY	3
3	CONT	TENTS	4
4		RAL INFORMATION	
		DETAILS OF E.U.T	
		DESCRIPTION OF SUPPORT UNITS	
		MEASUREMENT UNCERTAINTY	
		TEST LOCATION	
		TEST FACILITY	
		DEVIATION FROM STANDARDS	
5	EQUIF	PMENT LIST	8
6	RADIO	O SPECTRUM TECHNICAL REQUIREMENT	12
Ŭ		Antenna Requirement	
	6.1 <i>A</i>	Test Requirement:	
	6.1.2		
_		O SPECTRUM MATTER TEST RESULTS	
7			
		20DB BANDWIDTH	
	7.1.1	E.U.T. Operation	
	7.1.2	Test Mode Description	
	7.1.3 7.1.4	Test Setup Diagram Measurement Procedure and Data	
		DWELL TIME (15.231(A))	
	7.2.1	E.U.T. Operation	
	7.2.2	Test Mode Description	
	7.2.3	Test Setup Diagram	
	7.2.4	Measurement Procedure and Data	
	7.3	Duty Cycle	17
	7.3.1	Measurement Procedure and Data	
		FIELD STRENGTH OF THE FUNDAMENTAL SIGNAL (15.231(B))	
	7.4.1	E.U.T. Operation	
	7.4.2	Test Mode Description	
	7.4.3	Test Setup Diagram	
	7.4.4	Measurement Procedure and Data	
		RADIATED EMISSIONS BELOW 1GHz	
	7.5.1 7.5.2	E.U.T. Operation	
	7.5.2 7.5.3	Test Mode Description Test Setup Diagram	
	7.5.4	Measurement Procedure and Data	
		Radiated Emissions above 1GHz	
	-		



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Report No.: FYCR220500016402

Page: 5 of 32

9	EUT C	CONSTRUCTIONAL DETAILS (EUT PHOTOS)	32
8	TEST	SETUP PHOTO	32
	7.6.4	Measurement Procedure and Data	29
		Test Setup Diagram	
		Test Mode Description	
	7.6.1	E.U.T. Operation	28



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Report No.: FYCR220500016402

Page: 6 of 32

4 General Information

4.1 Details of E.U.T.

Power supply:	Lithium Ion Battery: 3.7V 150mAh rechargeable battery which charged by the USB port for receiver
	Lithium Ion Battery: 3.7V 300mAh rechargeable battery which charged by the USB port for transmitter
Cable(s):	USB cable: 80cm unshielded
Operation Frequency	433.92MHz
Channel Numbers:	1
Modulation Type:	OOK
Antenna Type:	Dipole antenna

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
		-	
The EUT has been tested as	an independent unit.		

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	± 7.25 x 10 ⁻⁸
2	Duty cycle	± 0.37%
3	Occupied Bandwidth	± 3%
4	Dwell time	± 0.37%
5	DE Radiated newer	± 4.5dB (Below 1GHz)
5	RF Radiated power	± 4.8dB (Above 1GHz)
6	Padiated Spurious amission toot	± 4.5dB (Below 1GHz)
O	Radiated Spurious emission test	± 4.8dB (Above 1GHz)
7	Temperature test	± 1 ℃
8	Humidity test	± 3%
9	Supply voltages	± 1.5%
10	Time	± 3%



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Report No.: FYCR220500016402

Page: 7 of 32

4.4 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc. Shenzhen branch.

Fuyong lab. Xinlong TechnoPark,Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China

Tel: +86 755 8866 3988 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

A2LA (Certificate No. 6606.01)

Compliance Certification Services (Kunshan) Inc. Shenzhen branch is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6606.01.

• FCC -Designation Number: CN1322

Compliance Certification Services (Kunshan) Inc. Shenzhen branch has been recognized as an accredited testing laboratory.

Designation Number: CN1322. Test Firm Registration Number: 718073

• Innovation, Science and Economic Development Canada

Compliance Certification Services (Kunshan) Inc. Shenzhen branch has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0129.

IC#: 28189.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



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Report No.: FYCR220500016402

Page: 8 of 32

5 Equipment List

20dB Bandwidth						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2021/7/13	2022/7/12	
MXA Signal Analyzer	Agilent	N9020A	SEM004-20	2021/7/13	2022/7/12	
Signal Generator	Agilent	N5173B	SEM006-05	2021/7/13	2022/7/12	
ESG Vector Signal Generator	Agilent	E4438C	SEM006-15	2021/7/13	2022/7/12	
Power Sensor	Erika Fiedler	U2021XA	SEM009-15	2021/7/13	2022/7/12	
Power Sensor	Erika Fiedler	U2021XA	SEM009-16	2021/7/13	2022/7/12	
Wideband Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-08	2021/7/13	2022/7/12	
Programmable DC Source	Chroma	62024P-80-60	SEM011-09	2021/7/13	2022/7/12	
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	2021/7/13	2022/7/12	

Dwell Time (15.231(a))						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2021/7/13	2022/7/12	
MXA Signal Analyzer	Agilent	N9020A	SEM004-20	2021/7/13	2022/7/12	
Signal Generator	Agilent	N5173B	SEM006-05	2021/7/13	2022/7/12	
ESG Vector Signal Generator	Agilent	E4438C	SEM006-15	2021/7/13	2022/7/12	
Power Sensor	Erika Fiedler	U2021XA	SEM009-15	2021/7/13	2022/7/12	
Power Sensor	Erika Fiedler	U2021XA	SEM009-16	2021/7/13	2022/7/12	
Wideband Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-08	2021/7/13	2022/7/12	
Programmable DC Source	Chroma	62024P-80-60	SEM011-09	2021/7/13	2022/7/12	
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	2021/7/13	2022/7/12	



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Report No.: FYCR220500016402

Page: 9 of 32

Duty Cycle					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2021/7/13	2022/7/12
EMI Test Receiver(9kHz-3GHz)	Rohde & Schwarz	ESCI	SEM004-01	2021/7/13	2022/7/12
Power Sensor	Erika Fiedler	U2021XA	SEM009-15	2021/7/13	2022/7/12
Power Sensor	Erika Fiedler	U2021XA	SEM009-16	2021/7/13	2022/7/12
Programmable DC Source	Chroma	62024P-80-60	SEM011-09	2021/7/13	2022/7/12
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	2021/7/13	2022/7/12

Field Strength of the Fu	Field Strength of the Fundamental Signal (15.231(b))							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
3m Anechoic Chamber	CRT	N/A	SEM001-13	2021/7/13	2022/7/12			
Trilog-Broadband Antenna	Schwarzbeck	VULB9168	SEM003-33	2021/9/25	2024/9/24			
Biconical Antenna	Schwarzbeck	VUBA9117	SEM003-35	2021/12/26	2024/12/25			
Loop Antenna	ETS-LINDGREN	6502	SEM003-36	2021/9/26	2024/9/25			
MXE EMI receiver	Agilent	N9038A	SEM004-05	2021/7/13	2022/7/12			
Pre-amplifier	HP	8447D	SEM005-02	2021/7/13	2022/7/12			
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2021/7/11	2024/7/10			
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120D	SEM003-32	2021/9/26	2024/9/25			
Double-ridged waveguide horn	ETS-LINDGREN	3117	SEM003-34	2021/9/25	2024/9/24			
Spectrum Analyzer	Rohde & Schwarz	101288	SEM004-08	2021/7/13	2022/7/12			
Low Noise Amplifier CLAVIIO		BDLNA-0118- 352810	SEM005-05	2021/7/13	2022/7/12			
Pre-amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2021/7/13	2022/7/12			
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2021/7/13	2022/7/12			
Pre-amplifier	TST PASS	LNA04080G30	SEM005-27	2022/4/15	2023/4/14			
Pre-amplifier	TST PASS	LNA10180G45	SEM005-28	2022/4/15	2023/4/14			

Radiated Emissions bel	ow 1GHz					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
3m Anechoic Chamber	CRT	N/A	SEM001-13	2021/7/13	2022/7/12	



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Report No.: FYCR220500016402

Page: 10 of 32

Trilog-Broadband Schwarzbeck		VULB9168	SEM003-33	2021/9/25	2024/9/24
Biconical Antenna	Schwarzbeck	VUBA9117	SEM003-35	2021/12/26	2024/12/25
Loop Antenna	ETS-LINDGREN	6502	SEM003-36	2021/9/26	2024/9/25
MXE EMI receiver	Agilent	N9038A	SEM004-05	2021/7/13	2022/7/12
Pre-amplifier	HP	8447D	SEM005-02	2021/7/13	2022/7/12
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2021/7/11	2024/7/10
Broad-Band Horn Antenna	Antenna Schwarzbeck Double-ridged ETS-LINDGREN	BBHA 9120D	SEM003-32	2021/9/26	2024/9/25
Double-ridged waveguide horn		3117	SEM003-34	2021/9/25	2024/9/24
Spectrum Analyzer	pectrum Analyzer Rohde & Schwarz		SEM004-08	2021/7/13	2022/7/12
Low Noise Amplifier	CLAVIIO	BDLNA-0118- 352810	SEM005-05	2021/7/13	2022/7/12
Pre-amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2021/7/13	2022/7/12
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2021/7/13	2022/7/12

Radiated Emissions abo	Radiated Emissions above 1GHz							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
3m Anechoic Chamber	CRT	N/A	SEM001-13	2021/7/13	2022/7/12			
Trilog-Broadband Antenna	Schwarzbeck	VULB9168	SEM003-33	2021/9/25	2024/9/24			
Biconical Antenna	Schwarzbeck	VUBA9117	SEM003-35	2021/12/26	2024/12/25			
Loop Antenna	ETS-LINDGREN	6502	SEM003-36	2021/9/26	2024/9/25			
MXE EMI receiver	Agilent	N9038A	SEM004-05	2021/7/13	2022/7/12			
Pre-amplifier	HP	8447D	SEM005-02	2021/7/13	2022/7/12			
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2021/7/11	2024/7/10			
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120D	SEM003-32	2021/9/26	2024/9/25			
Double-ridged waveguide horn ETS-LINDGREN		3117	SEM003-34	2021/9/25	2024/9/24			
Spectrum Analyzer	Rohde & Schwarz	101288	SEM004-08	2021/7/13	2022/7/12			
Low Noise Amplifier CLAVIIO		BDLNA-0118- 352810	SEM005-05	2021/7/13	2022/7/12			
Pre-amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2021/7/13	2022/7/12			
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2021/7/13	2022/7/12			
Pre-amplifier	TST PASS	LNA04080G30	SEM005-27	2022/4/15	2023/4/14			



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Report No.: FYCR220500016402

Page: 11 of 32

Pre-amplifier	TST PASS	LNA10180G45	SEM005-28	2022/4/15	2023/4/14
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General used equipment						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Humidity/ Temperature Indicator	Mingle	TH607	SEM002-22	2021-07-13	2022-07-12	
Humidity/ Temperature Indicator	Mingle	TH607	SEM002-23	2021-07-13	2022-07-12	
Barometer	DUMAI	DYM3	SEM002-24	2021-07-13	2022-07-12	



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Report No.: FYCR220500016402

Page: 12 of 32

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

6.1.2 Conclusion

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 1.1dBi.

Antenna location: Refer to Internal photos



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Report No.: FYCR220500016402

Page: 13 of 32

7 Radio Spectrum Matter Test Results

7.1 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.231(c)
Test Method: ANSI C63.10 (2013) Section 6.9

Limit:

Frequency range(MHz)	Limit		
70-900	No wider than 0.25% of the center frequency		
Above 900	No wider than 0.5% of the center frequency		

Remark: For this device, the limit is 433.95MHz*0.25%=1.0848MHz

7.1.1 E.U.T. Operation

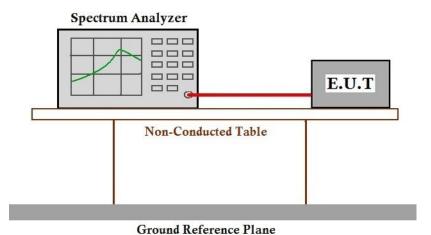
Operating Environment:

Temperature: 23.3 °C Humidity: 56.7 % RH Atmospheric Pressure: 1020 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting mode

7.1.3 Test Setup Diagram





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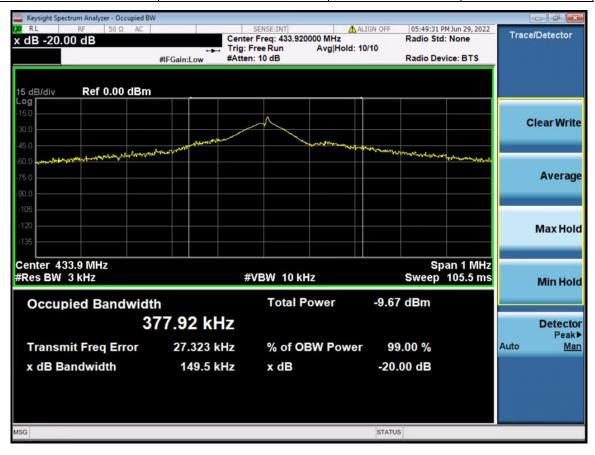


Report No.: FYCR220500016402

Page: 14 of 32

7.1.4 Measurement Procedure and Data

Test Channel	Bandwidth	Limit	Verdict
433.92MHz	149.5kHz	1.0848MHz	PASS





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Report No.: FYCR220500016402

Page: 15 of 32

7.2 Dwell Time (15.231(a))

Test Requirement 47 CFR Part 15, Subpart C 15.231(a)

Test Method: N/A

Limit:

Device type	Limit		
Manually operated transmitter	The switch automatically deactivate the transmitter within not more than 5 seconds of being released		
Automatically actived transmitter	Cease transmission within 5 seconds after activation		
Periodic transmissions to determine system integrity of transmitters used in security or safety applications	The total transmission time does not exceed 2 seconds per hour		

7.2.1 E.U.T. Operation

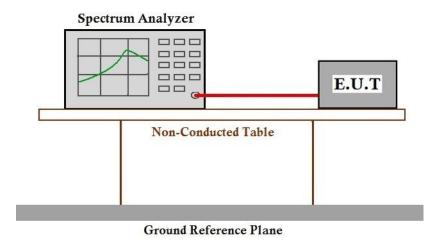
Operating Environment:

Temperature: 23.7 °C Humidity: 56.2 % RH Atmospheric Pressure: 1020 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description			
Final test	00	TX mode_Keep the EUT in transmitting mode			

7.2.3 Test Setup Diagram





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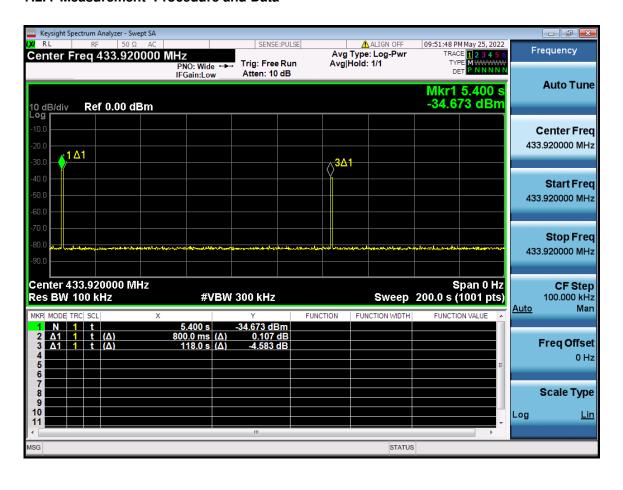
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Page: 16 of 32

7.2.4 Measurement Procedure and Data





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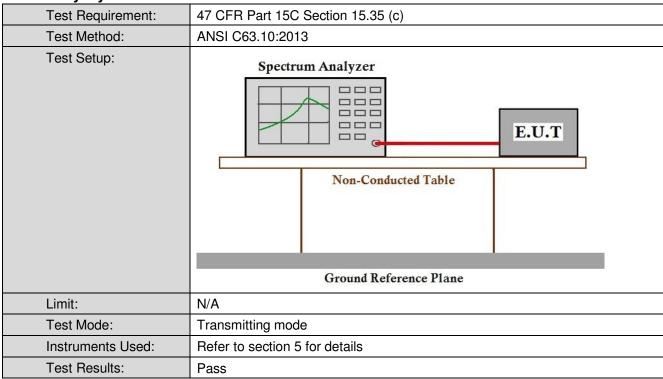
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Report No.: FYCR220500016402

Page: 17 of 32

7.3 Duty Cycle



7.3.1 Measurement Procedure and Data

Ton(ms)	T(ms)	Duty cycle(%)	Limit	Results
0.205	0.810	25.31	N/A	Pass



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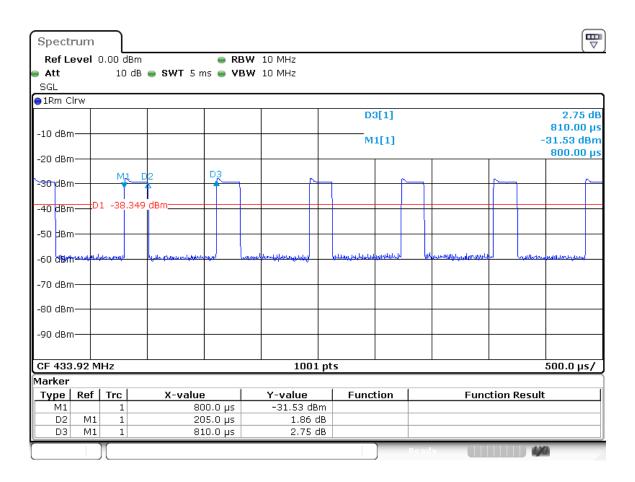
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Report No.: FYCR220500016402

Page: 19 of 32

7.4 Field Strength of the Fundamental Signal (15.231(b))

Test Requirement 47 CFR Part 15, Subpart C 15.231(b)
Test Method: ANSI C63.10 (2013) Section 6.5

Measurement Distance: 3m

Limit:

Fundamental frequency(MHz)	Field strength of fundamental(microvolts/meter)	Field strength of spurious emissions(microvolts/meter)			
40.66-40.70	2250	225			
70-130	1250	125			
130-174	1250 to 3750	125 to 375			
174-260	3750	375			
260-470	3750 to 12500	375 to 1250			
Above 470	12500	1250			

Remark: the emission limit is based on measurement instrumentation employing an average detector at a distance of 3 meters. The frequencies above 1000MHz are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 20.1 °C Humidity: 45.1 % RH Atmospheric Pressure: 1020 mbar

7.4.2 Test Mode Description

		501.pt.011
Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode Keep the EUT in transmitting mode



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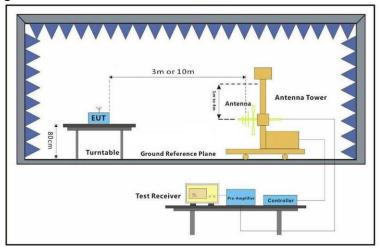
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Report No.: FYCR220500016402

Page: 20 of 32

7.4.3 Test Setup Diagram



7.4.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor



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Report No.: FYCR220500016402

Page: 21 of 32

Average value:	Average value:						
	Average value=Peak value + PDCF						
Calculate Formula:	PDCF=20 log(Duty cycle)= 20 log[25.31%]=-11.93dB						
	Duty cycle= T on time / T period						
Test data:	Ton time =0.205ms						
	T period =0.810ms						



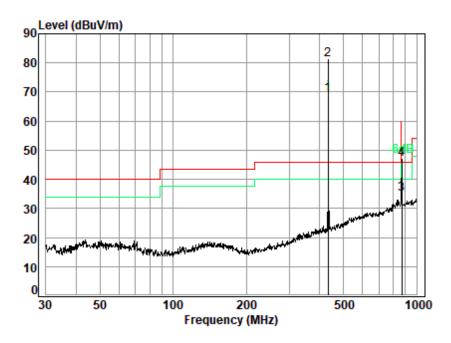
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Report No.: FYCR220500016402

Page: 22 of 32

Test Mode: 00; Polarity: Horizontal



Site : chamber

Condition: 3m HORIZONTAL

Job No : 00164AT

Mode : 00

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	433.9200	1.52	21.37	25.67	72.02	69.24	80.83	-11.59	Average
2	433.9200	1.52	21.37	25.67	83.95	81.17	100.83	-19.66	Peak
3	867.8400	2.71	27.60	25.59	30.13	34.85	60.83	-25.98	Average
4	867.8400	2.71	27.60	25.59	42.06	46.78	80.83	-34.05	Peak



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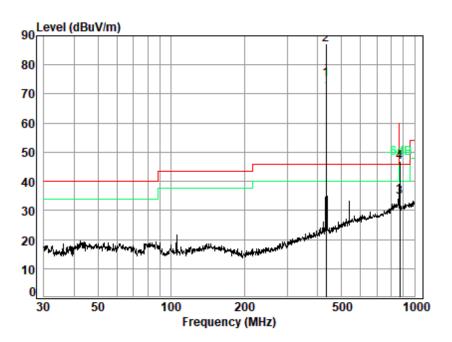
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Report No.: FYCR220500016402

Page: 23 of 32

Test Mode: 00; Polarity: Vertical



Site : chamber Condition: 3m VERTICAL Job No : 00164AT

Mode: 00

1 2 3

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
									Average
4:	33.9200	1.52	21.37	25.67	89.77	86.99	100.83	-13.84	Peak
86	67.8400	2.71	27.60	25.59	29.90	34.62	60.83	-26.21	Average
86	67.8400	2.71	27.60	25.59	41.83	46.55	80.83	-34.28	Peak



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Report No.: FYCR220500016402

Page: 24 of 32

7.5 Radiated Emissions below 1GHz

Test Requirement 47 CFR Part 15C Section 15.231(b) and 15.209

Test Method: ANSI C63.10 (2013) Section 6.4&6.5

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 20.1 °C Humidity: 45.1 % RH Atmospheric Pressure: 1020 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting mode



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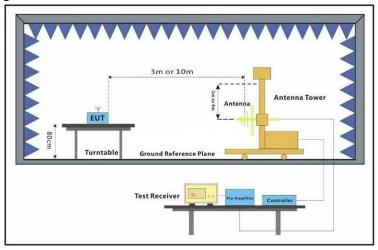
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Report No.: FYCR220500016402

Page: 25 of 32

7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- g. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.

Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Final Test Level =Receiver Reading + Antenna Factor + Cable Factor Preamplifier Factor
- 2) Scan from 9kHz to 1GHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.



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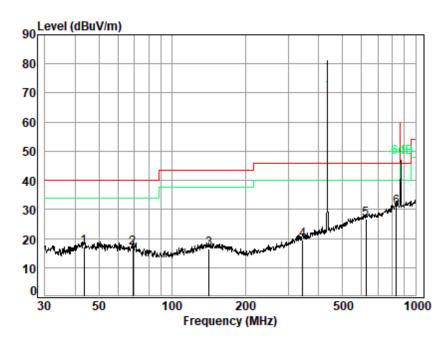
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Page: 26 of 32

Test Mode: 00; Polarity: Horizontal



Site : chamber

Condition: 3m HORIZONTAL

Job No : 00164AT

Mode : 00

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	43.5057	0.21	17.27	24.93	24.49	17.04	40.00	-22.96	QP
2	68.8721	0.28	16.18	24.83	25.15	16.78	40.00	-23.22	QP
3	141.8262	0.90	17.44	25.53	23.78	16.59	43.50	-26.91	QP
4	343.1800	1.44	19.80	25.63	23.85	19.46	46.00	-26.54	QP
5	625.0781	2.09	24.78	25.70	25.36	26.53	46.00	-19.47	QP
6	833.3171	2.87	27.76	25.65	25.95	30.93	46.00	-15.07	OP



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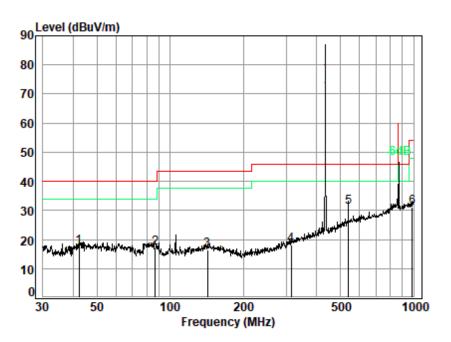
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Report No.: FYCR220500016402

Page: 27 of 32

Test Mode: 00; Polarity: Vertical



Site : chamber Condition: 3m VERTICAL Job No : 00164AT

Mode : 00

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	42.3022	0.20	17 10	24 03	2/ 01	17 26	10 00	22 64	OB
1	42.3022	0.20	17.10	24.93	24.91	17.50	40.00	-22.04	٧P
2	86.8068	0.60	13.66	25.06	28.03	17.23	40.00	-22.77	QP
3	142.3244	0.90	17.44	25.53	23.76	16.57	43.50	-26.93	QP
4	314.3765	1.16	18.99	25.61	23.55	18.09	46.00	-27.91	QP
5	539.4775	1.72	23.69	25.70	31.41	31.12	46.00	-14.88	QP
6	989.5355	2.52	29.32	25.41	24.68	31.11	54.00	-22.89	OP



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Report No.: FYCR220500016402

Page: 28 of 32

7.6 Radiated Emissions above 1GHz

Test Requirement 47 CFR Part 15C Section 15.231(b) and 15.209

Test Method: ANSI C63.10 (2013) Section 6.6

Measurement Distance: 3m

7.6.1 E.U.T. Operation

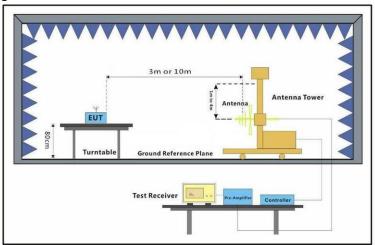
Operating Environment:

Temperature: 22.5 °C Humidity: 60.3 % RH Atmospheric Pressure: 1020 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting mode

7.6.3 Test Setup Diagram





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Report No.: FYCR220500016402

Page: 29 of 32

7.6.4 Measurement Procedure and Data

- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- g. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report. Remark:
- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Final Test Level =Receiver Reading + Antenna Factor + Cable Factor Preamplifier Factor
- 2) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.



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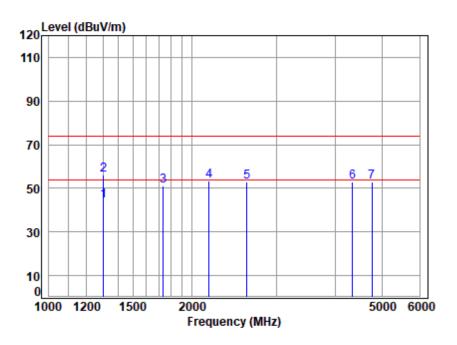
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Report No.: FYCR220500016402

Page: 30 of 32

Test Mode: 00; Polarity: Horizontal



Site : chamber

Condition: 3m HORIZONTAL

Job No : 00164AT

Mode : 00

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1301.332	3.37	24.25	46.49	63.26	44.39	54.00	-9.61	Average
2	1301.332	3.37	24.25	46.49	75.19	56.32	74.00	-17.68	Peak
3	1736.483	4.27	25.08	46.36	68.33	51.32	74.00	-22.68	Peak
4	2168.510	4.89	26.64	46.40	68.19	53.32	74.00	-20.68	Peak
5	2603.351	5.26	27.67	46.63	66.71	53.01	74.00	-20.99	Peak
6	4338.163	7.48	29.98	46.24	61.61	52.83	74.00	-21.17	Peak
7	4770.324	7.93	30.86	46.75	60.89	52.93	74.00	-21.07	Peak



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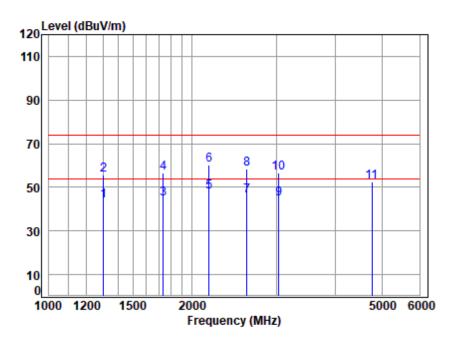
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Report No.: FYCR220500016402

Page: 31 of 32

Test Mode: 00; Polarity: Vertical



Site : chamber Condition: 3m VERTICAL Job No : 00164AT

Mode : 00

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1301.332	3.37	24.25	46.49	62.79	43.92	54.00	-10.08	Average
2	1301.332	3.37	24.25	46.49	74.72	55.85	74.00	-18.15	Peak
3	1736.483	4.27	25.08	46.36	61.53	44.52	54.00	-9.48	Average
4	1736.483	4.27	25.08	46.36	73.46	56.45	74.00	-17.55	Peak
5	2168.510	4.89	26.64	46.40	63.00	48.13	54.00	-5.87	Average
6	2168.510	4.89	26.64	46.40	74.93	60.06	74.00	-13.94	Peak
7	2603.351	5.26	27.67	46.63	59.98	46.28	54.00	-7.72	Average
8	2603.351	5.26	27.67	46.63	71.91	58.21	74.00	-15.79	Peak
9	3037.063	5.82	28.61	46.76	57.15	44.82	54.00	-9.18	Average
10	3037.063	5.82	28.61	46.76	69.08	56.75	74.00	-17.25	Peak
11	4770.324	7.93	30.86	46.75	60.39	52.43	74.00	-21.57	Peak



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Report No.: FYCR220500016402

Page: 32 of 32

8 Test Setup Photo

Refer to Appendix - Test Setup Photo for FYCR2205000164AT

9 EUT Constructional Details (EUT Photos)

Refer to Appendix - External and Internal Photos for FYCR2205000164AT

- End of the Report -



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