

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 1 of 42

TEST REPORT

Application No.:	SZCR2405001735AT			
Applicant:	Shantou Helicute Model Aircraft Industrial Co.,Ltd			
Address of Applicant:	Jiangbei Road, Longtian, Guangyi Street, Chenghai District,Chenghai, Shantou City,Guangdong, Shantou, China			
Manufacturer:	Shantou Helicute Model Aircraft Industrial Co.,Ltd			
Address of Manufacturer:	Jiangbei Road, Longtian, Guangyi Street, Chenghai District,Chenghai, Shantou City,Guangdong, Shantou, China			
Factory:	Shantou Helicute Model Aircraft Industrial Co.,Ltd			
Address of Factory:	Jiangbei Road, Longtian, Guangyi Street, Chenghai District,Chenghai, Shantou City,Guangdong, Shantou, China			
Equipment Under Test (EUT):			
EUT Name:	Drone			
Model No.:	Please refer to section 2			
*	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.			
FCC ID:	2AKPP2024HELI2			
Standard(s) :	47 CFR Part 15, Subpart C 15.249			
Date of Receipt:	2024-05-14			
Date of Test:	2024-05-23 to 2024-06-29			
Date of Issue:	2024-07-04			
Test Result:	Pass*			

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

Keny. XM

Keny Xu EMC Laboratory Manager



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 2 of 42

Revision Record						
Version	Version Chapter Date Modifier H					
01		2024-07-04		Original		

Authorized for issue by:			
	Gebin Sun		
	Gebin Sun/Project Engineer	-	
	Eric Fu		
	Eric Fu/Reviewer	-	



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 3 of 42

Test Summary 2

Radio Spectrum Technical Requirement					
Item Standard Method Requirement Re-					
Antenna Requirement	47 CFR Part 15, Subpart C 15.249	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 15.215	Pass		
Field Strength of the Fundamental Signal (15.249(a))		ANSI C63.10 (2013) Section 6.5&6.6	47 CFR Part 15, Subpart C 15.249(a)	Pass		
Restricted Band Around Fundamental Frequency	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.205 & 15.249(d) & 15.209	Pass		
Radiated Emissions Below 1GHz		ANSI C63.10 (2013) Section 6.4&6.5	47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)	Pass		
Radiated Emissions Above 1GHz		ANSI C63.10 (2013) Section 6.6	47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)	Pass		



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 4 of 42

Declaration of EUT Family Grouping:

Model No.: DRC-445, DRC-447, DRCLS16, DRC-250, DRC-251, H850, H850-1, LS233691, LS233852, H848, H05NL, H05NCL, H07NL, H07NCL, H09NL, H09NCL, M801R, M803R, H805, H805W, H806, H806W, H808, H809HW, H809SW, H811C, H811W, H812R, S812, H815HW, H815SC, H815SW, H816H, H816HC, H816HW, H817, H817C, H817W, H817H, H817HC, H817HW, H818H, H818HW, H818HC, H818HP, H818HPC, H818HPW, H819, H819HW, H820H, H820HC, H820HW, H821H, H821HC, H821HW, H822HW, H823, H823W, H823H, H823HW, H802G, H802W, H02G, H01C, H825, H825G, H825W, H826H, H826HW, H826HP, H826HPW, H827H, H827HW, H827S, H827SC, H827SW, H828H, H828HC, H828HW, H829, H830, H831H, H832, H833, H835, H836, H837, H838, H839, H850H, H851, H851SW, H851SPW, H852HW, H852HPW, H853H, H855HW, H856HW, H857HW, H857HPW, H858, H859H, H859HPW, H859HW, H860H, H860HW, H860SW, H860SPW, H861G, H862, H863HW, H865SW, H865SPW, H865SPW-Pro, H866HW, H866HPW, H867, H868, H869SW, H869SPW, H869SPW-Pro, H870SW, H870SPW, H871HW, H872SPW, H873, S90, NH525, 56814, NH530, LS233009, LSB01, LS233837, LS233856, LS233857, LS233854, LS233855, SKU56814, SKU59537, NH425, NH430, S80, S400, S450, S70, S350, S500, DRC445-NOC, DRC445KIT-NOC, DRC447-NOC, DRC447KIT-NOC, DRCLS16, DRC250-NOC, DRC251-NOC, DRC090-BLK, DRC090-SIL, DRCLSX10-NOC, DRCX4-NOC, H875, H896, H872, H878MAX,

H8166 GPS, H876 Max, H877, LSY240-243, SPEEDY83

Only the model H870SPW was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used and internal wiring and functions were identical for the above models, with only difference being of product appearance color, shape, packaging and model No.



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 5 of 42

3 Contents

		Page
1	Cover Page	1
2	2 Test Summary	
	-	
3	B Contents	
4	General Information	7
	4.1 Details of E.U.T.	7
	4.2 Description of Support Units	7
	4.3 Measurement Uncertainty	
	4.4 Test Location	
	4.5 Test Facility	
	4.6 Deviation from Standards	
	4.7 Abnormalities from Standard Conditions	
5	5 Equipment List	9
6	Radio Spectrum Technical Requirement	11
U		
	6.1 Antenna Requirement 6.1.1 Test Requirement:	
	6.1.1 Test Requirement:	
7	•	
	7.1 20dB Bandwidth	
	7.1.1 E.U.T. Operation	
	7.1.2 Test Mode Description	
	7.1.3 Test Setup Diagram	
	7.1.4 Measurement Procedure and Data	
	7.2 Field Strength of the Fundamental Signal (15.249(a))7.2.1 E.U.T. Operation	
	7.2.1 E.O.T. Operation	
	7.2.3 Test Setup Diagram	
	7.2.4 Measurement Procedure and Data	
	7.3 Restricted Band Around Fundamental Frequency	
	7.3.1 E.U.T. Operation	
	7.3.2 Test Mode Description	23
	7.3.3 Test Setup Diagram	
	7.3.4 Measurement Procedure and Data	
	7.4 Radiated Emissions Below 1GHz	
	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	
	7.5 Radiated Emissions Above 1GHz7.5.1 E.U.T. Operation	



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9

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01	Rev. A/1	Report No.: SZCR240500173503		
		Page:	6 of 42	
7.5.2	Test Mode Description			.34
7.5.3	Test Setup Diagram			.34
7.5.4	Measurement Procedure and Data			.35
8 Test Se	etup Photo			.42

EUT Constructional Details (EUT Photos)......42



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 7 of 42

General Information 4

Details of E.U.T. 4.1

Power supply:	Rechargeable battery DC7.6V,1950mAh for Drone
Cable(s):	Type-C USB cable:40cm unshielded
Operation Frequency:	2440MHz to 2471MHz
Modulation Type:	GFSK
Number of Channels:	32
Channel spacing:	1MHz
Sample Type:	Portable production
Antenna Type:	IPEX Antenna
Antenna Gain:	1.97dBi

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
RF cable	supplied by SGS	N/A(cable loss:0.6dB)	REF. No.SEL000089

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Field Strength of the Fundamental Signal (15.249(a))	± 4.5dB (Below 1GHz);± 4.8dB (Above 1GHz)
Restricted Band Around Fundamental Frequency	± 6.0dB (Below 1GHz);± 4.6dB (Above 1GHz)
Radiated Emissions Below 1GHz	\pm 6.0dB for 3m; \pm 5.0dB for 10m
Radiated Emissions Above 1GHz	± 4.6dB (1GHz-18GHz);± 4.8dB (18MHz-40GHz)
20dB Bandwidth	± 3%
Remark:	·

The Ulab (lab Uncertainty) is less than Ucispr/ETSI (CISPR/ETSI Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 8 of 42

4.4 Test Location

All tests were performed at: SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch No. 1 Workshop, M-10. Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057. Tel: +86 755 2601 2053 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. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

FCC – Designation Number: CN1336

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 9 of 42

5 **Equipment List**

Field Strength of the Fundamental Signal (15.249(a))					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
3m Fully-Anechoic Chamber	AUDIX	N/A	SEM001-02	2024-05-11	2027-05-10
Signal Analyzer	Rohde & Schwarz	FSV40	SEM008-04	2024-03-15	2025-03-14
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2023-07-23	2025-07-22
Microwave system amplifier	Agilent	83017A	SEM005-25	2023-09-19	2024-09-18
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2023-07-07	2024-07-06

Restricted Band Around Fundamental Frequency					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
3m Fully-Anechoic Chamber	AUDIX	N/A	SEM001-02	2024-05-11	2027-05-10
Signal Analyzer	Rohde & Schwarz	FSV40	SEM008-04	2024-03-15	2025-03-14
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2023-07-23	2025-07-22
Microwave system amplifier	Agilent	83017A	SEM005-25	2023-09-19	2024-09-18
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2023-07-07	2024-07-06
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2022-08-10	2024-08-09
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2024-03-15	2025-03-14

Radiated Emissions Below 1GHz					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Loop Antenna	ETS-Lindgren	6502	SEM003-08	2023-11-20	2025-11-19
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2023-06-19	2026-06-18
MXE EMI Receiver	Agilent Technologies	N9038A	SEM004-15	2023-10-19	2024-10-18
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-01	2023-09-16	2025-09-15
Pre-Amplifier	Agilent Technologies	8447D	SEM005-01	2024-03-14	2025-03-13
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2023-07-07	2024-07-06



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 10 of 42

Radiated Emissions Above 1GHz					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
3m Fully-Anechoic Chamber	AUDIX	N/A	SEM001-02	2024-05-11	2027-05-10
Signal Analyzer	Rohde & Schwarz	FSV40	SEM008-04	2024-03-15	2025-03-14
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2023-07-23	2025-07-22
Microwave system amplifier	Agilent	83017A	SEM005-25	2023-09-19	2024-09-18
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2023-07-07	2024-07-06

RF Conducted Test					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
DC Power Supply	Chroma	62012P-80-60	SEM011-11	2023-10-19	2024-10-18
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-19	2024-03-14	2025-03-13
Measurement Software	TST PASS	TST PASS V2.0	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2023-07-07	2024-07-06
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	2024-03-27	2025-03-26
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2024-03-19	2025-03-18

General used equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	deli	8838	SEM002-32	2023-07-28	2024-07-27
Humidity/ Temperature Indicator	deli	8838	SEM002-33	2023-07-28	2024-07-27
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2024-03-18	2025-03-17



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 11 of 42

Radio Spectrum Technical Requirement 6

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 1.97dBi.

Antenna location: Refer to internal photos



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 12 of 42

Radio Spectrum Matter Test Results 7

7.1 20dB Bandwidth

Test Requirement	47 CFR Part 15, Subpart C 15.215
Test Method:	ANSI C63.10 (2013) Section 6.9

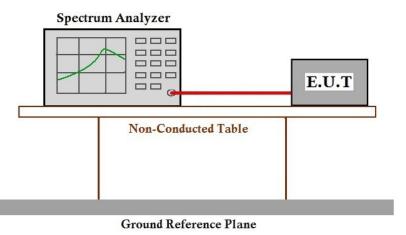
7.1.1 E.U.T. Operation

Operating Enviro	onment:				
Temperature:	24.5 °C	Humidity:	42.6 % RH	Atmospheric Pressure: 1020	mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode_Keep the EUT(Drone) in transmitting with modulation mode.

7.1.3 Test Setup Diagram



7.1.4 Measurement Procedure and Data

Test channel	20dB bandwidth (MHz)	Results		
Lowest	1.541	Pass		
Middle	1.193	Pass		
Highest	1.074	Pass		



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Report No.: SZCR240500173503 Page: 13 of 42







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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 14 of 42





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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 15 of 42

7.2 Field Strength of the Fundamental Signal (15.249(a))

Test Requirement	47 CFR Part 15, Subpart C 15.249(a)
Test Method:	ANSI C63.10 (2013) Section 6.5&6.6
Measurement Distance:	3m

Limit:

Fundamental frequency(MHz)	Field strength of fundamental(millivolts/meter)	Field strength of harmonics(microvolts/meter)
902-928	50	500
2400-2483.5	50	500
5725-5875	50	500
24000-24250	250	2500

Remark: 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.

For fundamental frequency in "902-928MHz", the field strength of fundamental is based on Quasi-Peak.

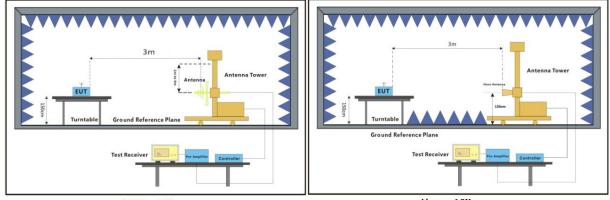
7.2.1 E.U.T. Operation

Operating Enviro	nment:				
Temperature:	22.3 °C	Humidity:	51.1 % RH	Atmospheric Pressure: 1020 r	mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode_Keep the EUT(Drone) in transmitting with modulation mode.

7.2.3 Test Setup Diagram



30MHz-1GHz

Above 1GHz



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 16 of 42

7.2.4 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. 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 or 10 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.

a. 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.Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j.Repeat above procedures until all frequencies measured was complete.

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) 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. So, only the above measurement data were shown in the report



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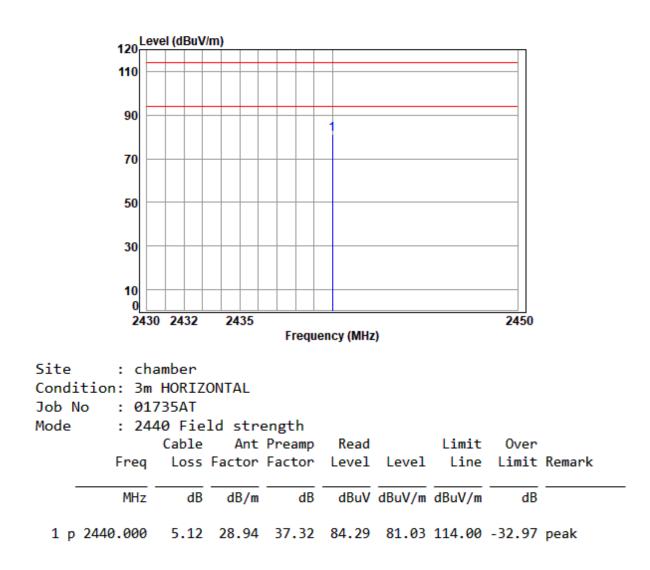
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 17 of 42

Test Mode: 04; Polarity: Horizontal; Modulation:GFSK; Channel:Low





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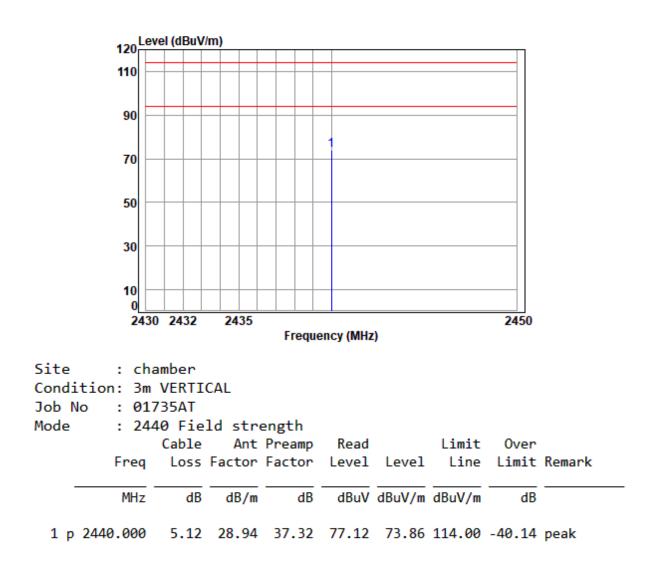
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 18 of 42

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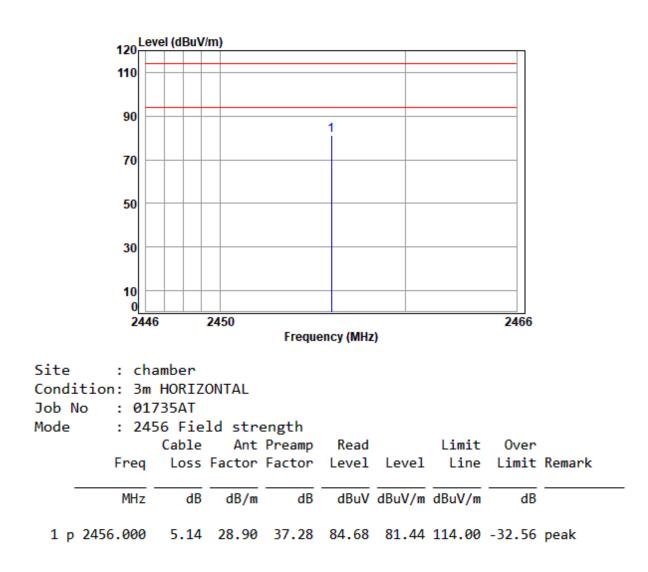
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 19 of 42

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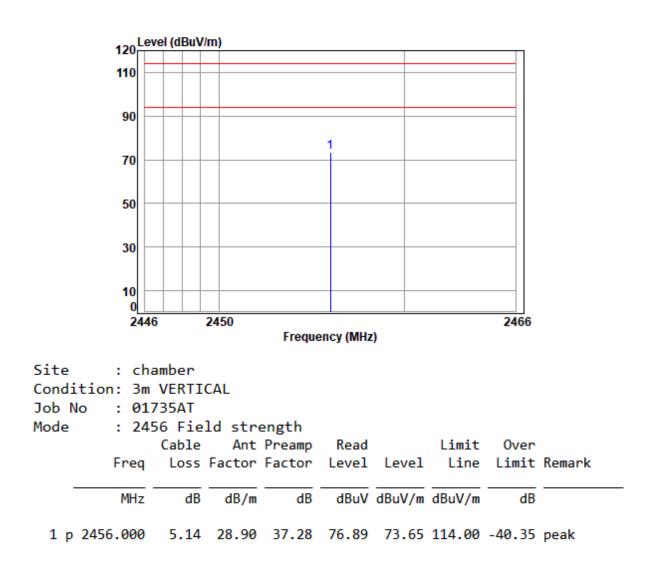
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Report No.: SZCR240500173503 Page: 20 of 42

Test Mode: 04; Polarity: Vertical; Modulation:GFSK; Channel:middle





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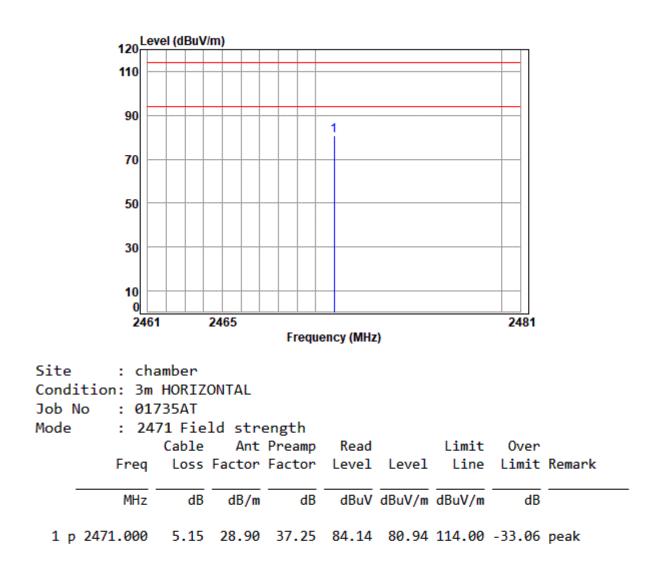
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 21 of 42

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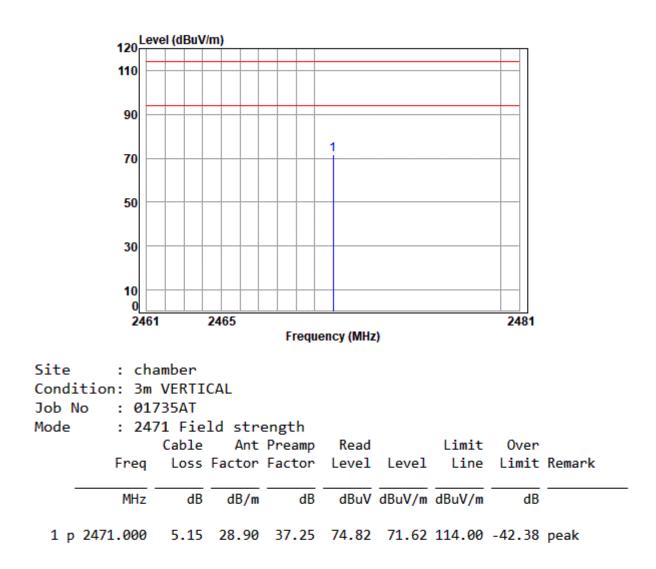
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 22 of 42

Test Mode: 04; Polarity: Vertical; Modulation:GFSK; Channel:High





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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 23 of 42

7.3 Restricted Band Around Fundamental Frequency

47 CFR Part 15, Subpart C 15.205 & 15.249(d) & 15.209 **Test Requirement** Test Method: ANSI C63.10 (2013) Section 6.10.5 Measurement Distance: 3m

Limit:

Frequency	Limit (dBuV/m@3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
Above 1GHz	74.0	Peak Value

Emission radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209.whichever is the lesser attenuation.

7.3.1 E.U.T. Operation

Operating Environ	ment:					
Temperature:	22.2 °C	Humidity:	50.7 % RH	Atmospheric Pressure:	1020	mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode_Keep the EUT(Drone) in transmitting with modulation mode.



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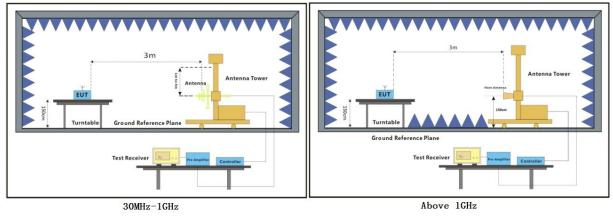
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 24 of 42

7.3.3 Test Setup Diagram





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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 25 of 42

7.3.4 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. 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 or 10 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. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

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) 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. So, only the above measurement data were shown in the report



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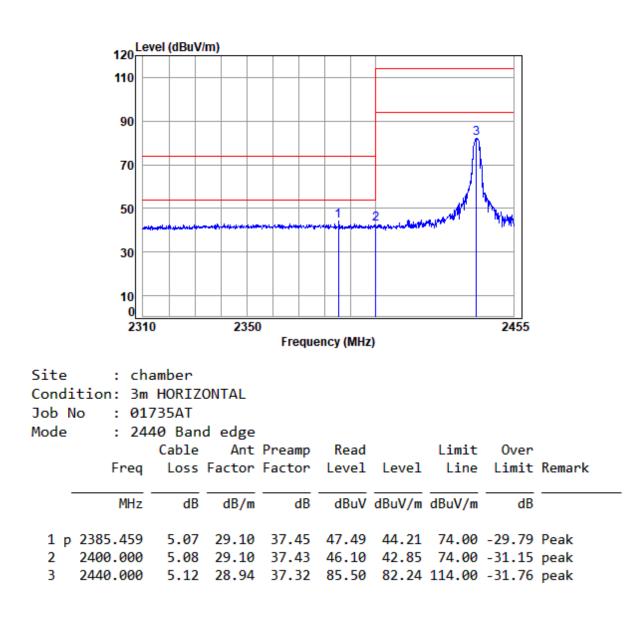
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 26 of 42

Test Mode: 04: Polarity: Horizontal: Modulation:GFSK: Channel:Low





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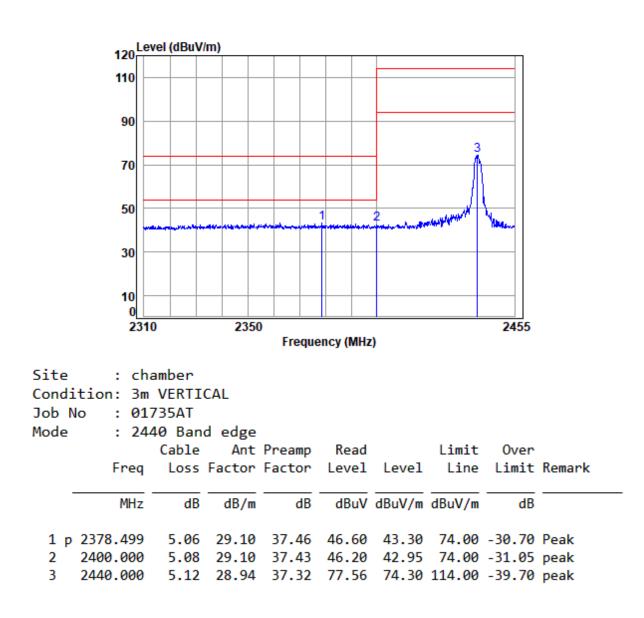
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 27 of 42

Test Mode: 04; Polarity: Vertical; Modulation:GFSK; Channel:Low





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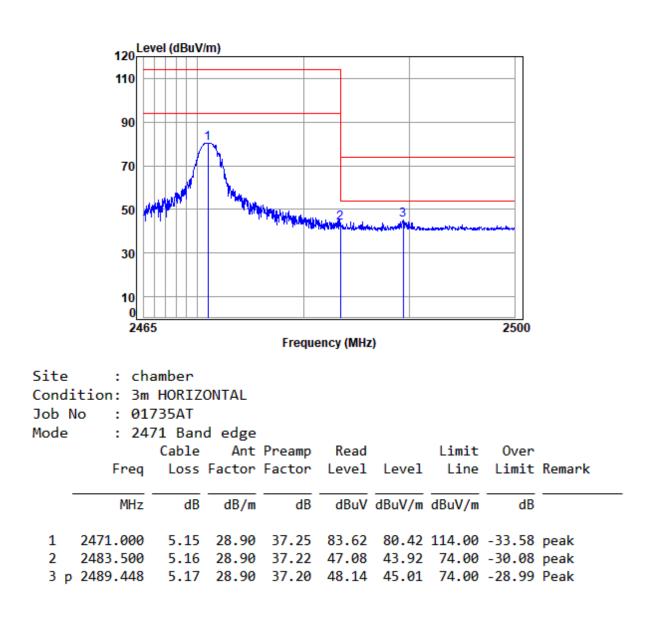
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 28 of 42

Test Mode: 04; Polarity: Horizontal; Modulation:GFSK; Channel:High





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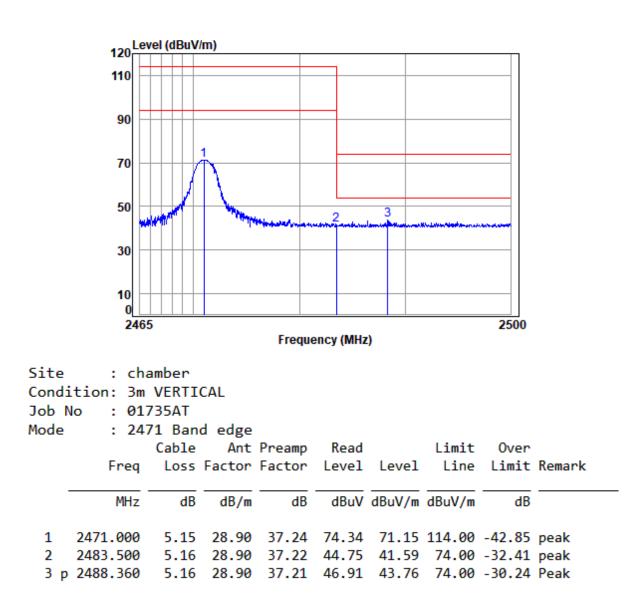
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 29 of 42

Test Mode: 04; Polarity: Vertical; Modulation:GFSK; Channel:High





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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 30 of 42

7.4 Radiated Emissions Below 1GHz

Test Requirement	47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)
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
960-1000	500	3

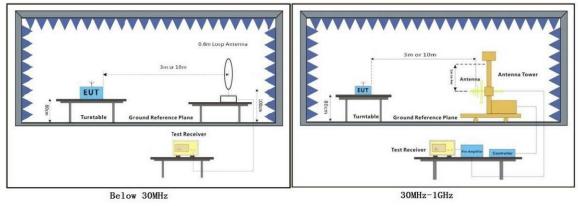
7.4.1 E.U.T. Operation

Operating Enviro	onment:				
Temperature:	23.5 °C	Humidity:	47.5 % RH	Atmospheric Pressure: 1020 mba	ar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode_Keep the EUT(Drone) in transmitting with modulation mode.

7.4.3 Test Setup Diagram





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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 31 of 42

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. 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 quasi-peak method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Scan from 9kHz to 30MHz, 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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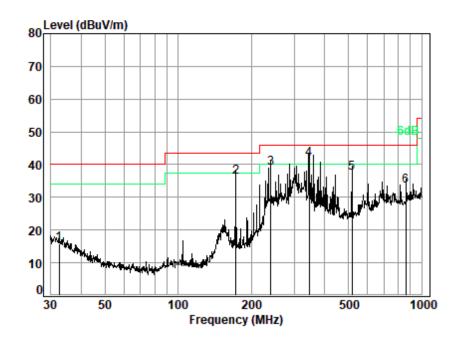
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Report No.: SZCR240500173503 32 of 42 Page:

Test Mode: 04; Polarity: Horizontal



Site :	chamber
Condition:	3m HORIZONTAL
Job No. :	01735AT
Test Mode:	04

		Ant	Cable	Preamp	Read		Limit	0ver	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
_									
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	32.41	20.11	0.67	27.79	22.91	15.90	40.00	-24.10	QP
2	172.60	13.57	1.58	27.29	48.41	36.27	43.50	-7.23	QP
3	239.99	17.07	1.91	27.00	47.00	38.98	46.00	-7.02	QP
4 q	345.60	19.58	2.34	26.94	46.66	41.64	46.00	-4.36	QP
5	517.25	23.31	2.95	27.63	38.84	37.47	46.00	-8.53	Q P
6									-
									-



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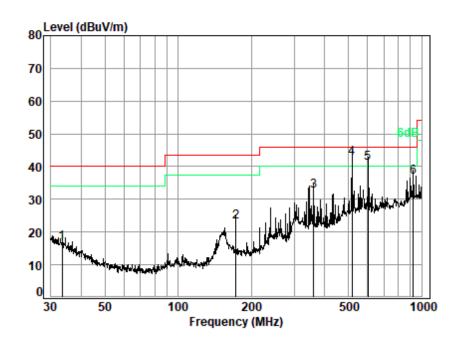
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 33 of 42

Test Mode: 04; Polarity: Vertical



Site :	chamber
Condition:	3m VERTICAL
Job No. :	01735AT
Test Mode:	04

		Ant	Cable	Preamp	Read		Limit	0ver	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
_									
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	33.44	19.68	0.68	27.78	24.19	16.77	40.00	-23.23	QP
2	172.60	13.57	1.58	27.29	35.27	23.13	43.50	-20.37	QP
3	360.45	20.23	2.40	27.00	36.96	32.59	46.00	-13.41	QP
4 q	517.25	23.31	2.95	27.63	43.84	42.47	46.00	-3.53	QP
5	603.54	24.47	3.22	27.96	41.23	40.96	46.00	-5.04	QP
6	925.76	28.18	4.16	26.58	31.11	36.87	46.00	-9.13	QP
									-



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 34 of 42

7.5 Radiated Emissions Above 1GHz

Test Requirement	47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)
Test Method:	ANSI C63.10 (2013) Section 6.6
Measurement Distance:	3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
Above 1000	500	3

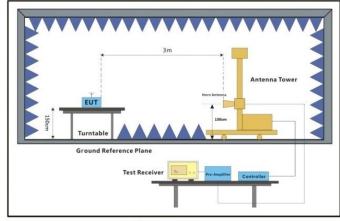
7.5.1 E.U.T. Operation

Operating Enviro	iment:			
Temperature:	22.2 °C	Humidity:	50.7 % RH	Atmospheric Pressure: 1020 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode_Keep the EUT(Drone) in transmitting with modulation mode.

7.5.3 Test Setup Diagram



Above 1GHz



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 35 of 42 Page:

7.5.4 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 (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 or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Scan from 18GHz to 40GHz, the disturbance above 18GHz 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.

3. As shown in this section, 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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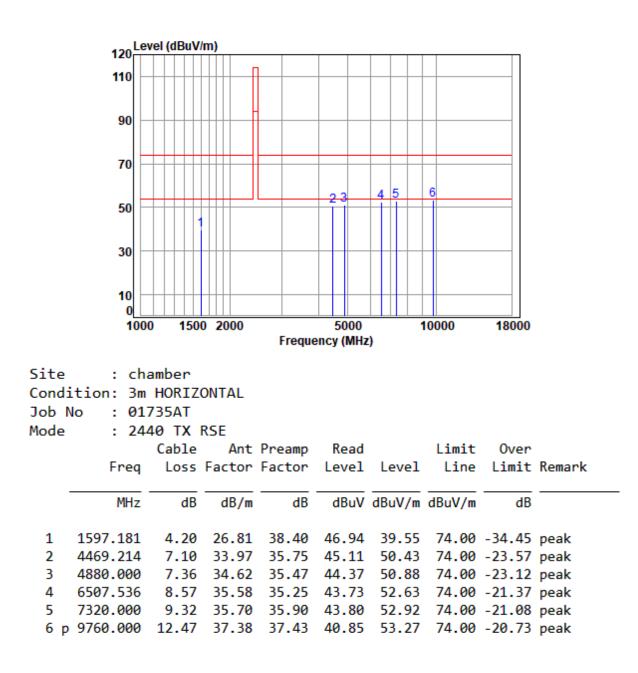
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 36 of 42

Test Mode: 04: Polarity: Horizontal: Modulation:GFSK: Channel:Low





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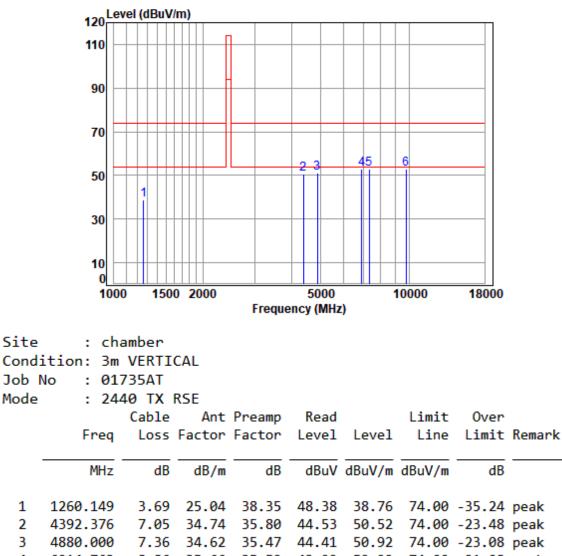
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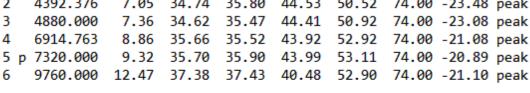


SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 37 of 42

Test Mode: 04; Polarity: Vertical; Modulation:GFSK; Channel:Low







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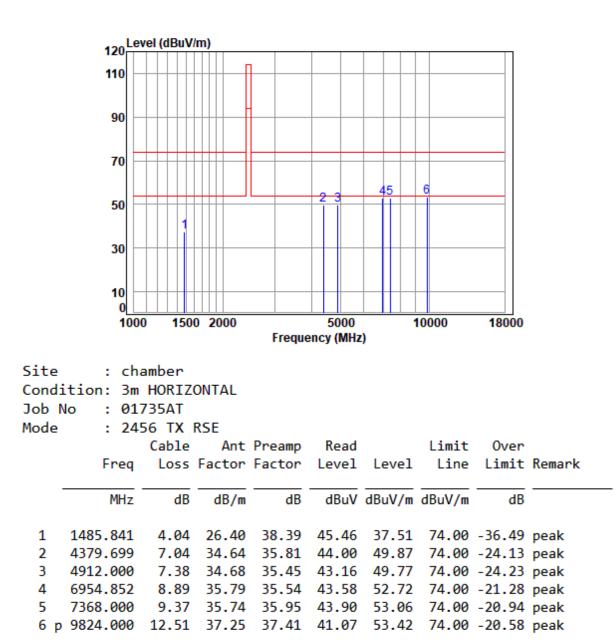
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 38 of 42

Test Mode: 04; Polarity: Horizontal; Modulation:GFSK; Channel:middle





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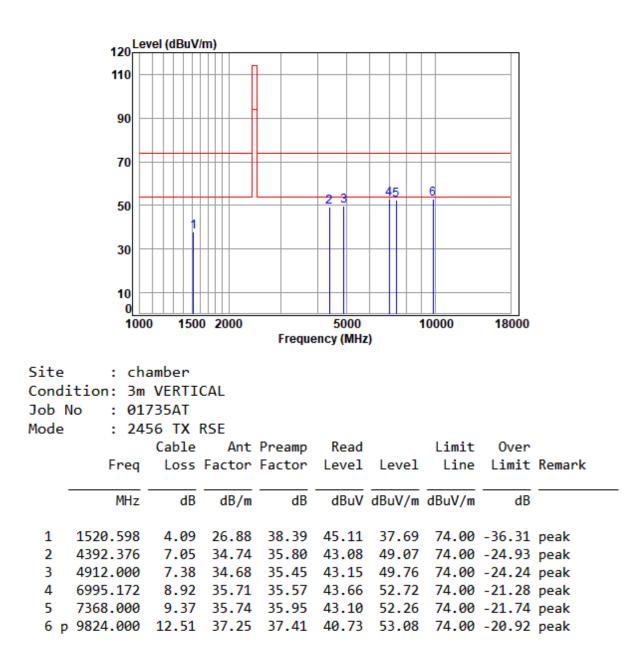
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 39 of 42

Test Mode: 04; Polarity: Vertical; Modulation:GFSK; Channel:middle





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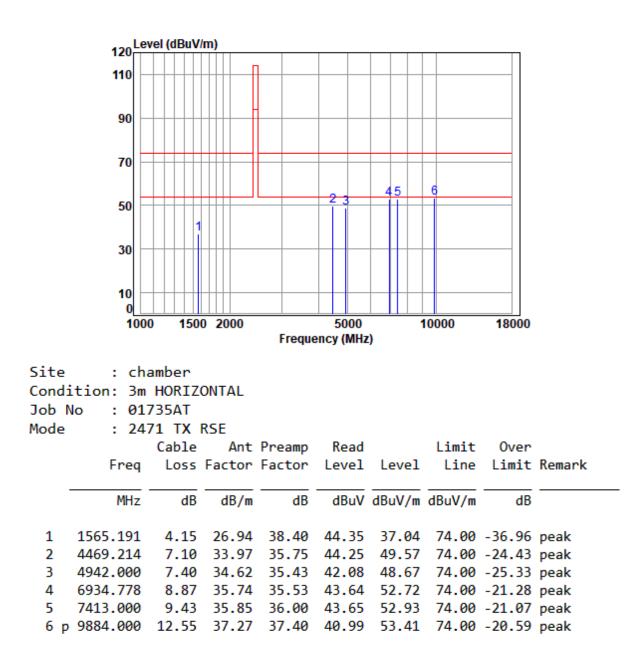
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 40 of 42

Test Mode: 04; Polarity: Horizontal; Modulation:GFSK; Channel:High





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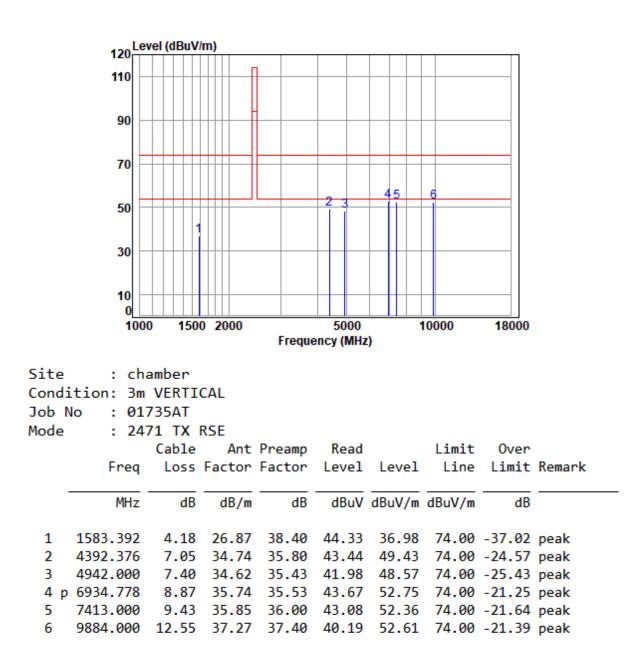
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 41 of 42

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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240500173503 Page: 42 of 42

8 **Test Setup Photo**

Refer to Appendix - Test Setup Photo for SZCR2405001735AT

EUT Constructional Details (EUT Photos) 9

Refer to Appendix - External and Internal Photos for SZCR2405001735AT

- End of the Report -



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