

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

FCC PART 15 SUBPART C TEST REPORT

FCC PART 15.247

Compiled by

(position+printed name+signature) .: File administrators Zoey Cao

Supervised by

(position+printed name+signature) .: Project Engineer Amy Wen

Approved by

(position+printed name+signature) .: RF Manager Eric Wang

Date of issue Oct. 18, 2023

Testing Laboratory Name...... Shenzhen CTA Testing Technology Co., Ltd.

Fuhai Street, Bao'an District, Shenzhen, China

CTATESTIN'S

Applicant's name Rocket Drones

260 south tarragona street, Suite 240-B, Pensacola, Florida, 32502,

United States

Test specification....:

Standard..... FCC Part 15.247

TRF Originator Shenzhen CTA Testing Technology Co., Ltd.

Shenzhen CTA Testing Technology Co., Ltd. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen CTA Testing Technology Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen CTA Testing Technology Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Test item description.....: Stage 1 Drone

Trade Mark.....: ROCKET DRONES

Manufacturer: Shenzhen Baida Moxing Co.,Ltd.

Model/Type reference: V1 Frsky

Listed Models N/A

Modulation Type.....: FM

Operation Frequency From 5732~5847MHz

Rating.....: DC 3.8V, 450mAh

Result PASS

Report No.: CTA23101700101 Page 2 of 21

TEST REPORT

Equipment under Test Stage 1 Drone

Model /Type V1 Frsky

Series Model No. N/A

Applicant Rocket Drones

260 south tarragona street, Suite 240-B, Pensacola, Florida, 32502, Address CTA TESTING

United States

Manufacturer Shenzhen Baida Moxing Co.,Ltd.

CTA TESTING B1702A, Block ABCD, Building 3, Phase 1, Tian'an Cloud Park, Address

Gangtou Community, Bantian Street, Longgang District, Shenzhen,

Guangdong, China

TATES!	STING
CTA ^T	ES
Test Result:	PASS

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test CTA TESTING laboratory.

Page 3 of 21 Report No.: CTA23101700101

Contents

	CTATESTING	Conten	ts		
	CTATE	-12/0			
	1 TEST STANDARDS.	TEST IN			4
	2 SUMMARY	(CT)		1E51"	5
		1000000	C.	<u> </u>	
	0.4 Compand Domestic				_
	2.1 General Remarks				
	2.3 Equipment Under Test				
	2.4 Short description of the E				
	2.5 EUT operation mode				
TATE	2.6 Block Diagram of Test Se				
CAL	2.7 Related Submittal(s) / Gra				
į.	2.8 Modifications				
	A TEAT ENVIRONMEN	_			
	3 TEST ENVIRONMEN	<u> </u>	<u></u>		C
					£5\"
	3.1 Address of the test labora	tory			7
	3.2 Test Facility				7
	3.3 Environmental conditions				
	3.4 Test Description				8
	3.5 Statement of the measure				
	3.6 Equipments Used during	the Test			9
	4 TEST CONDITIONS	AND RESULTS	,		1 0
	4.1 AC Power Conducted Emi	ssion			10
	4.2 Radiated Emission	331011	••••••	765	11
	4.3 Maximum Peak Conducte				
	4.4 Power Spectral Density				
	4.5 6dB Bandwidth				
	4.6 Out-of-band Emissions				19
	4.7 Antenna Requirement				20
	STIN				
	5 TEST SETUP PHOTO	S OF THE FIIT			21
	<u>3 1231 3210F FIIOTO</u>	73 OI THE E01			<u>Z I</u>
	6 PHOTOS OF THE EU	<u> Т</u>	<u></u> .		21
			TES!"		
			TATESI	GM CTAT	
) · ·		STILL
				CIP	

Page 4 of 21 Report No.: CTA23101700101

1 TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15.247: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz. ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices KDB558074 D01 v05r02: Guidance for Compliance Measurements on Digital Transmission Systems (DTS), Frequency Hopping Spread Spectrum System(HFSS), and Hybrid System Devices Operating Under CTATE §15.247 of The FCC rules.

Page 5 of 21 Report No.: CTA23101700101

2 SUMMARY

2.1 General Remarks

2.1 General Remarks		
Date of receipt of test sample		Aug. 10, 2023
Testing commenced on		Aug. 10, 2023
Testing concluded on	:	Oct. 10, 2023

2.2 Product Description

TAT	Product Name:	Stage 1 Drone
	Model/Type reference:	V1 Frsky
	Power supply:	DC 3.8V
	testing sample ID:	CTA231017001-1# (Engineer sample), CTA231017001-2# (Normal sample)
	Hardware version:	N/A
	Software version:	N/A
	WIFI:	
	Supported type:	5.8G SRD
	Modulation:	FM ESTING
	Operation frequency:	5732~5847MHz
	Channel number:	23
	Antenna type:	Monopole Antenna
	Antenna gain:	2.26 dBi (Provided by customer)
	TING	
11	ESTING	
		ATESTING

Report No.: CTA23101700101 Page 6 of 21

2.3 Equipment Under Test

Power supply system utilised

Power supply voltage	:	0	230V / 50 Hz	O 120V / 60Hz
Con		0	12 V DC	○ 24 V DC
			Other (specified in blank bel	ow)

DC 3.8V battery

CTATE

2.4 Short description of the Equipment under Test (EUT)

This is a Stage 1 Drone.

For more details, refer to the user's manual of the EUT.

EUT operation mode 2.5

The application provider specific test software(AT command) to control sample in continuous TX and RX (Duty Cycle >98%) for testing meet KDB558074 test requirement.

Twenty three channels are provided to the EUT.

Channel	Freq. (MHz)								
01	5732	06	5760	11	5785	16	5809	21	5843
02	5733	07	5765	12	5790	17	5820	22	5845
03	5740	08	5769	13	5800	18	5825	23	5847
04	5745	09	5771	14	5805	19	5828	/	/
05	5752	10	5780	15	5806	20	5840	/	/

2.6 Block Diagram of Test Setup

EUT

Related Submittal(s) / Grant (s) 2.7

This submittal(s) (test report) is intended for filing to comply with Section 15.247 of the FCC Part 15, Subpart Par CTATESTIN C Rules.

2.8 **Modifications**

No modifications were implemented to meet testing criteria.

Report No.: CTA23101700101 Page 7 of 21

3 TEST ENVIRONMENT

3.1 Address of the test laboratory

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

3.2 Test Facility

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

FCC-Registration No.: 517856 Designation Number: CN1318

Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA-Lab Cert. No.: 6534.01

Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory
Accreditation to perform electromagnetic emission measurement Accreditation to perform electromagnetic emission measurement.

ISED#: 27890 **CAB identifier: CN0127**

Shenzhen CTA Testing Technology Co., Ltd. has been listed by Innovation, Science and Economic Development Canada to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

3.3 Environmental conditions

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

25 ° C
45 %
950-1050mbar

Conducted testing:

Temperature:	25 ° C
STATE	
Humidity:	44 %
Atmospheric pressure:	950-1050mbar

AC Power Conducted Emission

Temperature:	24 ° C
Humidity:	44 %
-ING	
Atmospheric pressure:	950-1050mbar
CTA	CTA TESTING

Report No.: CTA23101700101 Page 8 of 21

3.4 Test Description

	FCC PART 15.247						
	FCC Part 15.207 AC Power Conducted Emission						
	FCC Part 15.247(a)(2)	6dB Bandwidth	PASS				
	FCC Part 15.247(d)	Spurious RF Conducted Emission	PASS				
	FCC Part 15.247(b)	Maximum Peak Conducted Output Power	PASS				
	FCC Part 15.247(e)	Power Spectral Density	PASS				
CTATES	FCC Part 15.109/ 15.205/ 15.209	Radiated Emissions	PASS				
CIL	FCC Part 15.247(d)	Band Edge	PASS				
	FCC Part 15.203/15.247 (b)	Antenna Requirement	PASS				

3.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen CTA Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen CTA Testing Technology Co., Ltd.:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.06 dB	(1)
Radiated Emission	1~18GHz	5.14 dB	(1)
Radiated Emission	18-40GHz	5.38 dB	(1)
Conducted Disturbance	0.15~30MHz	2.14 dB	(1)

⁽¹⁾ This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Page 9 of 21 Report No.: CTA23101700101

Equipments Used during the Test

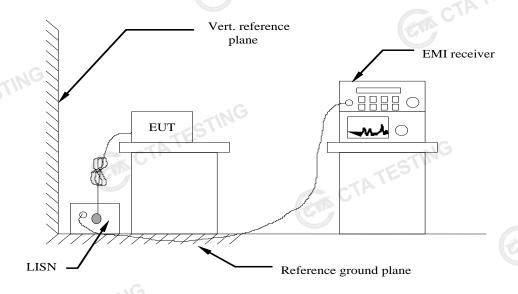
	Test Equipment	Manufacturer	Model No.	Equipment No.	Calibration Date	Calibration Due Date
	LISN	R&S	ENV216	CTA-308	2023/08/02	2024/08/0
	LISN	R&S	ENV216	CTA-314	2023/08/02	2024/08/0
	EMI Test Receiver	R&S	ESPI	CTA-307	2023/08/02	2024/08/0
	EMI Test Receiver	R&S	ESCI	CTA-306	2023/08/02	2024/08/0
l	Spectrum Analyzer	Agilent	N9020A	CTA-301	2023/08/02	2024/08/0
Ī	Spectrum Analyzer	R&S	FSP	CTA-337	2023/08/02	2024/08/0
	Vector Signal generator	Agilent	N5182A	CTA-305	2023/08/02	2024/08/0
	Analog Signal Generator	R&S	SML03	CTA-304	2023/08/02	2024/08/0
	Universal Radio Communication	CMW500	R&S	CTA-302	2023/08/02	2024/08/0
	Temperature and humidity meter	Chigo	ZG-7020	CTA-326	2023/08/02	2024/08/0
-	Ultra-Broadband Antenna	Schwarzbeck	VULB9163	CTA-310	2021/08/07	2024/08/0
	Horn Antenna	Schwarzbeck	BBHA 9120D	CTA-309	2021/08/07	2024/08/0
	Loop Antenna	Zhinan	ZN30900C	CTA-311	2021/08/07	2024/08/0
	Horn Antenna	Beijing Hangwei Dayang	OBH100400	CTA-336	2021/08/07	2024/08/0
	Amplifier	Schwarzbeck	BBV 9745	CTA-312	2023/08/02	2024/08/0
	Amplifier	Taiwan chengyi	EMC051845B	CTA-313	2023/08/02	2024/08/0
	Directional coupler	NARDA	4226-10	CTA-303	2023/08/02	2024/08/0
	High-Pass Filter	XingBo	XBLBQ-GTA18	CTA-402	2023/08/02	2024/08/0
Ī	High-Pass Filter	XingBo	XBLBQ-GTA27	CTA-403	2023/08/02	2024/08/0
-	Automated filter bank	Tonscend	JS0806-F	CTA-404	2023/08/02	2024/08/0
	Power Sensor	Agilent	U2021XA	CTA-405	2023/08/02	2024/08/0
ŀ	Amplifier	Schwarzbeck	BBV9719	CTA-406	2023/08/02	2024/08/0

Report No.: CTA23101700101 Page 10 of 21

4 TEST CONDITIONS AND RESULTS

4.1 AC Power Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

- 1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2013.
- 2 Support equipment, if needed, was placed as per ANSI C63.10-2013
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2013
- 4 The EUT received power from adapter, the adapter received AC120V/60Hz and AC 240V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5 All support equipments received AC power from a second LISN, if any.
- 6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7 Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8 During the above scans, the emissions were maximized by cable manipulation.

AC Power Conducted Emission Limit

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following:

Limit (dBuV)						
Quasi-peak	Average					
66 to 56*	56 to 46*					
56	46					
60	50					
ency.	.6					
	Quasi-peak 66 to 56* 56					

TEST RESULTS

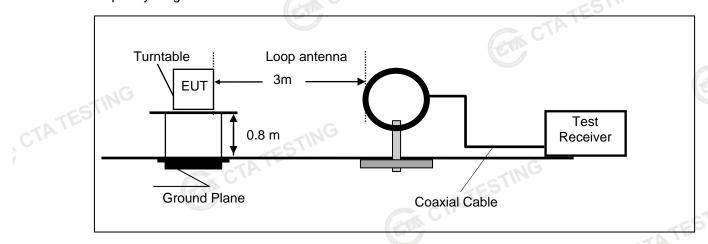
The EUT is powered by the Battery, So this test item is not applicable for the EUT.

Report No.: CTA23101700101 Page 11 of 21

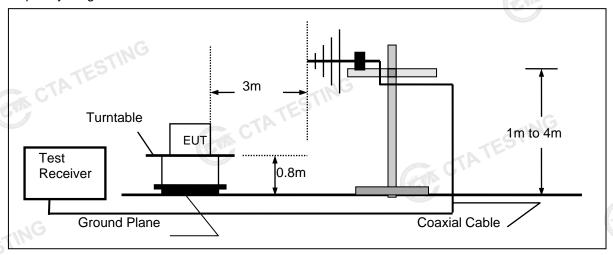
4.2 Radiated Emission

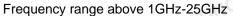
TEST CONFIGURATION

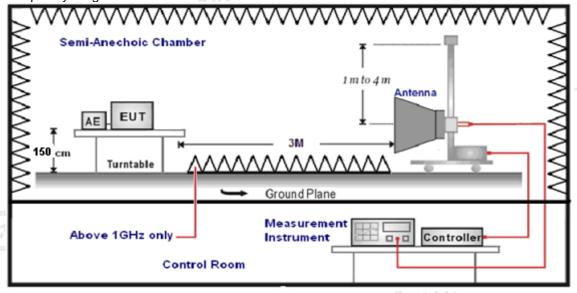
Frequency range 9 kHz - 30MHz



Frequency range 30MHz - 1000MHz







Report No.: CTA23101700101 Page 12 of 21

TEST PROCEDURE

- 1. The EUT was placed on a turn table which is 0.8m above ground plane when testing frequency range 9 kHz -1GHz; the EUT was placed on a turn table which is 1.5m above ground plane when testing frequency range 1GHz - 25GHz.
- Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360° to acquire the highest emissions from EUT.
- And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- Repeat above procedures until all frequency measurements have been completed.
- Radiated emission test frequency band from 9kHz to 25GHz.
- The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance	CAL
9kHz-30MHz	Active Loop Antenna	3	To the state of th
30MHz-1GHz	Ultra-Broadband Antenna	3	
1GHz-18GHz	Double Ridged Horn Antenna	3	
18GHz-25GHz	Horn Anternna	1	

Setting test receiver/spectrum as following table states:

Test Frequency range	Test Receiver/Spectrum Setting	Detector
9kHz-150kHz	RBW=200Hz/VBW=3kHz,Sweep time=Auto	QP
150kHz-30MHz	RBW=9kHz/VBW=100kHz,Sweep time=Auto	QP
30MHz-1GHz	RBW=120kHz/VBW=1000kHz,Sweep time=Auto	QP
1GHz-40GHz	Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto	Peak

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

FS = RA + AF + CL - AG	CTATESTING
Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

Transd=AF +CL-AG

RADIATION LIMIT

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission from intentional radiators at a distance of 3 meters shall not exceed the following table. According to § 15.247(d), in any 100kHz bandwidth outside the frequency band in which the EUT is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of desired power.

The pre-test have done for the EUT in three axes and found the worst emission at position shown in test setup photos.

Frequency (MHz)	Distance	Radiated (dBµV/m)	Radiated (µV/m)
	(Meters)		
0.009-0.49	3	20log(2400/F(kHz))+40log(300/3)	2400/F(kHz)
0.49-1.705	3	20log(24000/F(kHz))+ 40log(30/3)	24000/F(kHz)
1.705-30	3	20log(30)+ 40log(30/3)	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

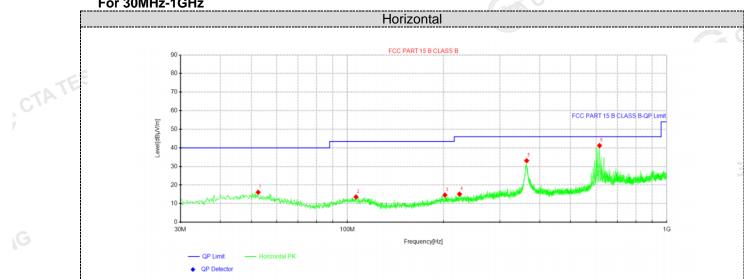
Report No.: CTA23101700101 Page 13 of 21

TEST RESULTS

Remark:

- This test was performed with EUT in X, Y, Z position and the worse case was found when EUT in X
- Lowest/middle/highest channel were measured below 1GHz and recorded worst case at middle channel (5790MHz).
- 3. Radiated emission test from 9 kHz to 10th harmonic of fundamental was verified, and no emission found except system noise floor in 9 kHz to 30MHz and not recorded in this report.

For 30MHz-1GHz

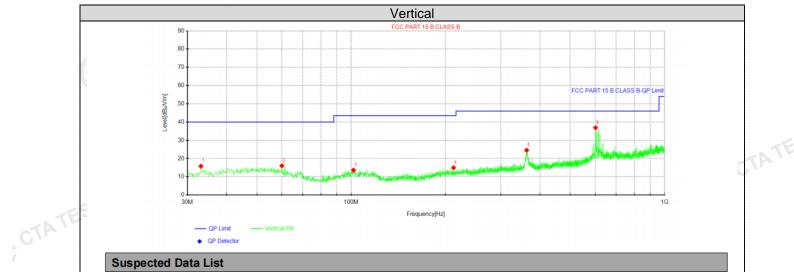


	Suspe	uspected Data List													
5	NO	Freq.	Freq. Reading		Factor	Limit	Margin	Height	Angle	Dolority					
	NO.	[MHz]	[dBµV]	[dBµV/m]	[dB/m]	[dBµV/m]	[dB]	[cm]	[°]	Polarity					
	1	52.5525	27.78	16.09	-11.69	40.00	23.91	100	27	Horizontal					
	2	106.387	27.10	13.60	-13.50	43.50	29.90	100	0	Horizontal					
	3	202.053	27.85	14.60	-13.25	43.50	28.90	100	282	Horizontal					
	4	224.363	28.14	15.13	-13.01	46.00	30.87	100	0	Horizontal					
	5	364.043	44.02	33.10	-10.92	46.00	12.90	100	0	Horizontal					
	6	615.637	46.51	41.23	-5.28	46.00	4.77	100	247	Horizontal					

Note:1).Level ($dB\mu V/m$)= Reading ($dB\mu V$)+ Factor (dB/m)

- 2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) Pre Amplifier gain (dB)
- 3). Margin(dB) = Limit (dB μ V/m) Level (dB μ V/m) CTA TESTING

Report No.: CTA23101700101 Page 14 of 21



Suspected Data List												
NO.	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Dolorita			
	[MHz]	[dBµV]	[dBµV/m]	[dB/m]	[dBµV/m]	[dB]	[cm]	[°]	Polarity			
1	33.1525	29.96	15.76	-14.20	40.00	24.24	100	148	Vertical			
2	60.07	29.25	16.01	-13.24	40.00	23.99	100	358	Vertical			
3	101.658	27.02	13.65	-13.37	43.50	29.85	100	360	Vertical			
4	212.117	28.14	14.93	-13.21	43.50	28.57	100	148	Vertical			
5	362.952	35.44	24.51	-10.93	46.00	21.49	100	90	Vertical			
6	602.057	42.13	36.87	-5.26	46.00	9.13	100	359	Vertical			

Note:1).Level ($dB\mu V/m$)= Reading ($dB\mu V$)+ Factor (dB/m)

- 2).Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) Pre Amplifier gain (dB) CTA TESTING
- 3). Margin(dB) = Limit (dB μ V/m) Level (dB μ V/m)

Report No.: CTA23101700101 Page 15 of 21

For 1GHz to 25GHz and Band Edges (Radiated) Test

Channel	(MHz)	Level	Mode	Pol	(dBuV/m)	(dB)	Value	Factor	Factor	amplifier	Factor
		(dBuV/m)					(dBuV)	(dB/m)	(dB)	(dB)	(dB/m)
Low	5725	47.07	PK	٧	68.2	21.13	49.82	33.43	6.04	42.22	-2.75
(5732MHz)	11464	51.76	PK	V	68.2	16.44	47.25	39.02	10.92	45.43	4.51
			4-2-4	5				- <	ES-111		
Mid	11580	53.11	PK	V	68.2	15.09	48.6628	38.93	10.96	45.44	4.45
(5790MHz)								-			
Hig	5850	47.88	PK	V	68.2	20.32	50.1437	33.87	6.17	42.3	-2.26
(5847MHz)	11694	50.45	PK	V	68.2	17.75	45.8982	38.82	11.17	45.44	4.55
TING											

	(00 11 1111 12)		00.10		•	00		.0.000_	00.02		.0	1.00
	TING											
TE	9.				C							
CTATL	Tested	Frequency	Emission	Detector	ANT	Limit	Margin	Raw	Antenna	Cable	Pre	Correction
7	Channel	(MHz)	Level	Mode	Pol	(dBuV/m)	(dB)	Value	Factor	Factor	amplifier	Factor
			(dBuV/m)					(dBuV)	(dB/m)	(dB)	(dB)	(dB/m)
	Low	5725	46.05	PK	Н	68.2	22.15	48.80	33.43	6.04	42.22	-2.75
	(5732MHz)	11464	50.46	PK	Н	68.2	17.74	45.95	39.02	10.92	45.43	4.51
						15						<u></u>
	Mid	11580	51.11	PK	Н	68.2	17.09	46.66	38.93	10.96	45.44	4.45
\G	(5790MHz)									The state of the s		
	Hig	5850	47.27	PK	Н	68.2	20.93	49.53	33.87	6.17	42.3	-2.26
	(5847MHz)	11694	50.12	PK	Н	68.2	18.08	45.57	38.82	11.17	45.44	4.55
		15-5\\										

Note:

- 1) Emission level (dBuV/m) = Meter Reading+ antenna Factor+ cable loss- preamp factor.
- Margin value = Limits-Emission level.
- 3) -- Mean the PK detector measured value is below average limit.
- 4) The other emission levels were very low against the limit.
- 5) RBW1MHz VBW/3MHz Peak detector is for PK value; RBW 1MHz VBW10Hz Peak detector is for AV CTATESTING

Report No.: CTA23101700101 Page 16 of 21

4.3 **Maximum Peak Conducted Output Power**

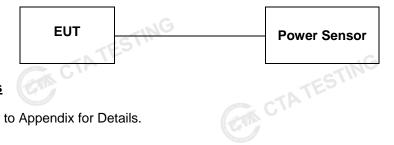
Limit

The Maximum Peak Output Power Measurement is 30dBm.

Test Procedure

ATESTING CTATE Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power sensor.

Test Configuration



Test Results

Please Refer to Appendix for Details.

Page 17 of 21 Report No.: CTA23101700101

Power Spectral Density

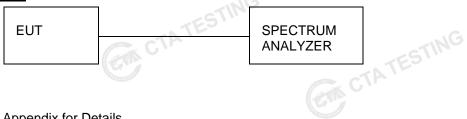
Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Test Procedure

- 1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
- 2. Set the RBW ≥ 3 kHz.
- Set the VBW ≥ 3× RBW.
- CTA TESTING 4. Set the span to 1.5 times the DTS channel bandwidth.
- Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level.
- 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.
- 11. The resulting peak PSD level must be 8dBm.

Test Configuration



Test Results

Please Refer to Appendix for Details.

Report No.: CTA23101700101 Page 18 of 21

4.5 6dB Bandwidth

Limit

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz

Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 kHz RBW and 300 kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

Test Configuration



Test Results

Please Refer to Appendix for Details.

Page 19 of 21 Report No.: CTA23101700101

Out-of-band Emissions

Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF con-ducted or a radiated measurement, pro-vided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter com-plies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

Test Procedure

Connect the transmitter output to spectrum analyzer using a low loss RF cable, and set the spectrum analyzer to RBW=100 kHz, VBW= 300 kHz, peak detector, and max hold. Measurements utilizing these setting are made of the in-band reference level, bandedge and out-of-band emissions.

Test Configuration



Test Results

CTA TESTING Please Refer to Appendix for Details.

Report No.: CTA23101700101 Page 20 of 21

4.7 Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203:

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

FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1) (I):

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted CTA TESTING output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

Test Result:

The maximum gain of antenna was 2.26 dBi.

Remark: The antenna gain is provided by the customer, if the data provided by the customer is not accurate, Shenzhen CTA Testing Technology Co., Ltd. does not assume any responsibility. CTATESTING

Report No.: CTA23101700101 Page 21 of 21

Test Setup Photos of the EUT 5

Please refer to separated files Appendix I -- Test Setup Photograph

Photos of the EUT 6

Please refer to separated files Appendix II -- External Photograph

Please refer to separated files Appendix III -- Internal Photograph

****************** End of Report ************** CTA TESTING