TEST REPORT

Report No.....:	**ATA0126090442**
FCC ID.....:	**2BYGU-UBDS**
Applicant.....:	**CHANGCHUNSHIXINSUOSHANGMAOYOUXIANGOGNSI**
Address.....:	R701 B25 Jijiawo Shantytown Ph2A, 1 Huayuan Ring Rd, E Beikaixuan, Kuancheng, Changchun, Jilin, CN
Manufacturer.....:	**CHANGCHUNSHIXINSUOSHANGMAOYOUXIANGOGNSI**
Address.....:	R701 B25 Jijiawo Shantytown Ph2A, 1 Huayuan Ring Rd, E Beikaixuan, Kuancheng, Changchun, Jilin, CN
Product Name.....:	**chameleon ultra**
Trade Mark.....:	N/A
Test Model.....:	Ultra black dropper style
Series Model(s).....:	N/A
Standard.....:	**FCC CFR Title 47 Part 15 Subpart C Section 15.225**
Test procedure.....:	**ANSI C63.10-2020 + Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024**
Date of Receipt.....:	Sep. 20, 2026
Date of Test Date.....:	Sep. 20, 2026~Sep. 22, 2026
Date of issue.....:	Sep. 22, 2026
Test result.....:	**Pass**

Compiled by: (Printed name+signature)	Lily Zheng	
Supervised by: (Printed name+signature)	Travis Young	
Approved by: (Printed name+signature)	Jason chen	

Testing Laboratory Name.....:	**Shenzhen ATA Testing Lab. Inc**
Address.....:	4th Floor, Building 10,No.60 Nanchang Road,Nanchang Community, Xixiang Street, Bao'an District,Shenzhen City, China

This test report may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by ATA. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver. Any objections must be raised to ATA within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit. The test report merely correspond to the test sample.

TABLE OF CONTENTS Page

1. TEST SUMMARY 3

1.1. TEST STANDARDS 3
1.2. REPORT VERSION 3
1.3. TEST DESCRIPTION 4
1.4. TEST FACILITY 5
1.5. MEASUREMENT UNCERTAINTY 6
1.6. ENVIRONMENTAL CONDITIONS 6

2. GENERAL INFORMATION 7

2.1. GENERAL DESCRIPTION OF EUT 7
2.2. DESCRIPTION OF THE TEST MODES 8
2.3. BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED 8
2.4. DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS 9
2.5. MEASUREMENT INSTRUMENTS LIST 10
2.5. TEST SOFTWARE 11

3. TEST ITEM AND RESULTS 12

3.1. ANTENNA REQUIREMENT 12
3.2. CONDUCTED EMISSION 13
3.3. RADIATED EMISSION 16
3.4. FREQUENCY STABILITY 23
3.5. OCCUPIED BANDWIDTH 24

4. EUT TEST PHOTOS 26

5. PHOTOGRAPHS OF EUT CONSTRUCTIONAL 26

1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.225: Operation within the band 13.110-14.010 MHz

.

ANSI C63.10-2020 + Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024: American National Standard for Testing Unlicensed Wireless Devices.

1.2. Report version

Revised No.	Date of issue	Description
01	Sep. 22, 2026	Original

1.3. Test Description

FCC Part 15 Subpart C(15.247)			
Test Item	Standard Section	Result	Remark
	FCC		
Antenna Requirement	15.203	Pass	
Conducted Emission	15.207	Pass	
Radiated Spurious Emission	15.205(a) 15.209 15.225(a/b/c/d)	Pass	
Occupied Bandwidth	15.225 15.215(c)	Pass	
Frequency Tolerance	15.225(e)	Pass	

Note:(1) "N/A" denotes test is not applicable to this device.

1.4. Test Facility

Test Site	**Shenzhen ATA Testing Lab. Inc**
Test Site Location	4th Floor, Building 10,No.60 Nanchang Road,Nanchang Community, Xixiang Street, Bao'an District,Shenzhen City, China
Telephone:	+86 0755-2783-0095
Fax:	+86 0755-2783-0095

The test facility isrecognized,certified, oraccredited by the seorganizations:	A2LA Accreditation Lab Certificate Number: 839205
	FCC Accreditation Lab Designation Number:CN1455
	ISED Accreditation Lab Designation Number:CN0201

1.5. 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 ATA Testing Lab. Inc. 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. Below is the best measurement capability for Shenzhen ATA Testing Lab. Inc.

Test Items	Measurement Uncertainty	U(k=2)
Radiated Emissions 9K-30MHz	±2.70 dB	1.96
Radiated Emissions 30~1000MHz	±5.432 dB	1.96
Radiated Emissions 1~18GHz	±3.88 dB	1.96
Radiated Emissions 18~40GHz	±5.32 dB	1.96
Conducted Emissions 9kHz~150KHz	±3.90 dB	1.96
Conducted Emissions 150Hz~30MHz	±3.52 dB	1.96
Conducted spurious emissions	±1.60 dB	1.96
RF Output Power Conducted	±0.58 dB	1.96
Power Spectral Density Conducted	±1.52 dB	1.96
Occupied Bandwidth	±0.463%	1.96
Humidity uncertainty	±2.0%RH	1.96
Temperature uncertainty	±0.6℃	1.96
Barometric pressure uncertainty	0.5hPa	1.96

Note (1): This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

1.6. Environmental conditions

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

Temperature:	15~35°C
Relative Humidity:	30~60 %
Air Pressure:	950~1050hba

2. GENERAL INFORMATION

2.1. General Description of EUT

Product Name:	chameleon ultra
Trade Mark:	N/A
Test Model:	Ultra black dropper style
Series Model(s):	N/A
Model Difference:	N/A
Power Source:	Rating Voltag: DC 5V⎓ 1A
Battery	DC 3.7V 100mAh
Hardware version:	V1.0
Software version:	V1.0
Modulation type:	GFSK
Operation frequency:	13.56MHz
Channel number:	1
Antenna type:	PCB Antenna
Antenna gain:	0dBi
Note:(1)All antenna information is provided by the manufacturer, test laboratory will not be responsible if any error. (2) The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity. (3) “N/A” Indicates inapplicability	

2.2. DESCRIPTION OF THE TEST MODES

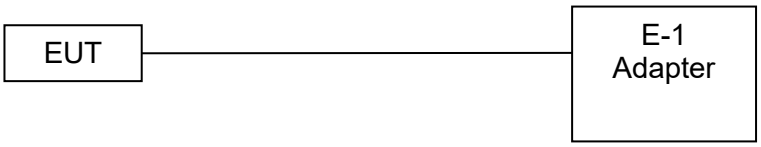
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters.

Channel	Frequency (MHz)
01	**13.56**

2.3. BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test

Conducted Emission Test



RF Conducted Test

2.4. DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested asan independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configurationduringthetests.

Item	Equipment	Mfr/Brand	Mode/Type	Note
E-1	Adapter	ShenzhenBeiShi DaElectronics Co.,Ltd	K01	Test Use

Item	Equipment	Mfr/Brand	Length	Note

Note：(1) For detachable type I/O cable should be specified the length in cm in Length a column.

(2)"YES" means"with core";"NO means "without core".

2.5. Measurement Instruments List

Radiation emission							
Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	ATA-E-001	966 chamber	CRT	9*6*6M	CRTNDCR966	2025-03-21	2028-03-20
2	ATA-E-011	AC Power Source	XINOUHUA	APW-1300N	202504292663	2026-05-07	2027-05-06
3	ATA-E-013	DC Power Source	XINOUHUA	ADC250-32D	202504292667	2026-05-07	2027-05-06
4	ATA-E-033	Receiver	R&S	ESPI7	100092	2026-05-07	2027-05-06
5	ATA-E-034	Broadband antenna	Schwarzbeck	VULB9168	01839	2025-07-17	2027-07-17
6	ATA-E-035	High Frequency Horn Antenna	Schwarzbeck	BBHA 9120D	03169	2025-07-17	2027-07-17
7	ATA-E-038	Cable	Times	0-18GHz	/	2026-05-07	2027-05-06
8	ATA-E-040	6dB attenuator	Zhengchang Liubo	6dB	/	2026-05-07	2027-05-06
9	ATA-E-039	Cable	Times	0-1GHz	/	2026-05-07	2027-05-06
10	ATA-E-041	Preamplifier	COM MV	DLNA8-1-18G-2705	10241234	2026-05-07	2027-05-06
11	ATA-E-042	Preamplifier	COM MV	DLNA8-0.009-1000-1034	5252881	2026-05-07	2027-05-06
12	ATA-E-044	Filter	MWRFTest	ZHPF6-C3000-18000-3129	08252098	2026-05-07	2027-05-06
13	ATA-E-045	Filter	MWRFTest	ZHPF6-C6500-18000-175	08252097	2026-05-07	2027-05-06
14	ATA-E-046	Filter	MWRFTest	ZBSF6-C2400-2483.5-543	08252096	2026-05-07	2027-05-06
15	ATA-E-047	Filter	MWRFTest	ZBSF6-C5100-5900-5713	08252095	2026-05-07	2027-05-06
16	ATA-E-051	Spectrum Analyzer	R&S	FSV40-N	101779	2026-05-07	2027-05-06
17	ATA-E-052	Cable	HELPLIGHT	2.92J/2.92J 10M	/	2026-01-19	2027-01-18
18	ATA-E-054	Cable	HELPLIGHT	2.92J/2.92J 0.8M	/	2026-01-19	2027-01-18
19	ATA-E-059	Antenna Tower	CRT	AT-1	/	/	/
20	ATA-E-005	Temperature and humidity meter	deli	LE502-WH	/	2026-05-07	2027-05-06
21	ATA-E-064	Barometer	Qingping	CGP23W	/	2026-01-28	2027-01-27
22	ATA-E-048	Loop Antenna	ZHINA	ZN30900C	21104CCUTSE019	2026-05-07	2027-05-06
23	ATA-E-049	Horn Antenna	ECHO MICrowave.,Ltd.	OBH100400	12221225	2026-05-07	2027-05-06
24	ATA-E-051	Spectrum Analyzer	R&S	FSV40-N	101779	2026-05-07	2027-05-06

Conduction emission							
Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	ATA-E-032	EMI TEST RECEIVER	Schwarzbeck	ESCI3	1009300	2026-05-07	2027-05-06
2	ATA-E-037	Pulse Limiter	Schwarzbeck	VTSD 9561 F-N	/	2026-05-07	2027-05-06
3	ATA-E-069	Conductive test cable	Schwarzbeck	2.5m	N/A	2026-01-28	2027-01-27
4	ATA-E-036	Artificial Mains Network	Schwarzbeck	NSLK 8127	01169	2026-05-07	2027-05-06
5	ATA-E-072	Three-Line V-Network	ZHINAN	2N33770A	13003	2026-01-26	2027-01-27
6	ATA-E-009	Temperature and humidity meter	deli	LE502-WH	/	2026-05-07	2027-05-06
7	ATA-E-010	Barometer	Qingping	CGP23W	/	2026-05-07	2027-05-06

RF Conducted Test							
Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	ATA-E-029	Spectrum Analyzer	Keysight	N9020A	MY50530404	2026-05-07	2027-05-06
2	ATA-E-030	MXG Analog Signal Generator	Agilent	N5181A	MY47420598	2026-05-07	2027-05-06
3	ATA-E-031	WIDEBAND RADIO COMMUNICATION TESTER	R&S	CMW500	161163	2026-05-07	2027-05-06
4	ATA-E-043	Radio Control Unit	MWRFTest	MW100-RFCB	MW250428ATA-55	2026-05-07	2027-05-06

Note:
1)The Cal. Interval was one year The darkroom calibration cycle is three years
2)The cable loss has calculated in test result which connection between each test instruments.

2.5. Test Software

Software name	Model	Version
Conducted emission Measurement Software	EZ-EMC	FARAD-3A1.1+
Radiated emission Measurement Software	EZ-EMC	FARAD-3A1.1+
Bluetooth and WIFI Test System	MWRF8310	2.0.0.0

3. TEST ITEM AND RESULTS

3.1. Antenna requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C 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.

Antenna Information

The maximum gain of antenna was 0dBi. Antenna type: PCB Antenna

Note: The antenna gain is provided by the customer , if the data provided by the customer is not accurate, SHENZHEN ATA TESTING LAB. INC. does not assume any responsibility.

3.2. Conducted Emission

Limit

Conducted Emission Test Limit

Frequency	Maximum RF Line Voltage (dBμV)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

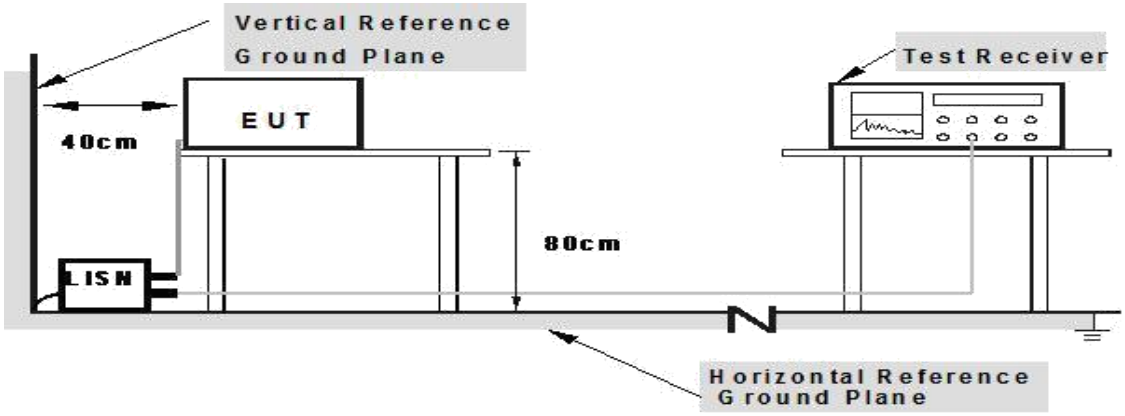
Notes:

(1) *Decreasing linearly with logarithm of the frequency.

(2) The lower limit shall apply at the transition frequencies.

(3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

Test Configuration



Test Procedure

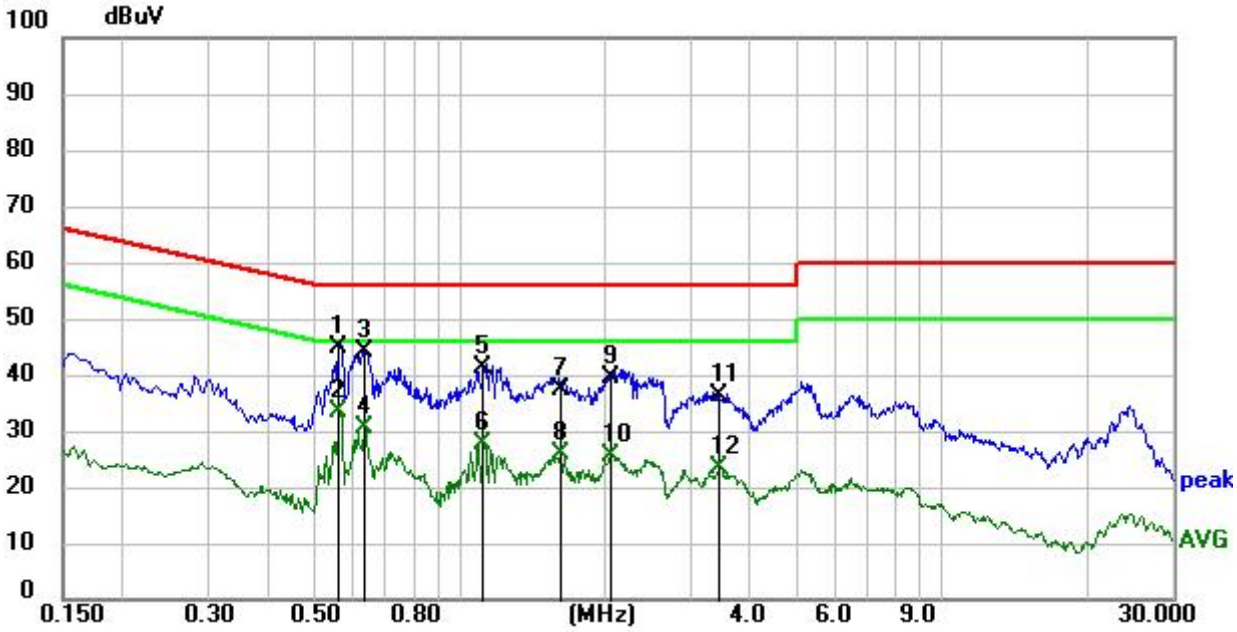
1. The EUT was setup according to ANSI C63.10-2020 + Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024 requirements.
2. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50ohm /50uH coupling impedance for the measuring equipment.
   The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
3. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
4. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
5. Conducted Emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
6. During the above scans, the emissions were maximized by cable manipulation.

Test Mode:

Please refer to the clause 2.2.

Test Results

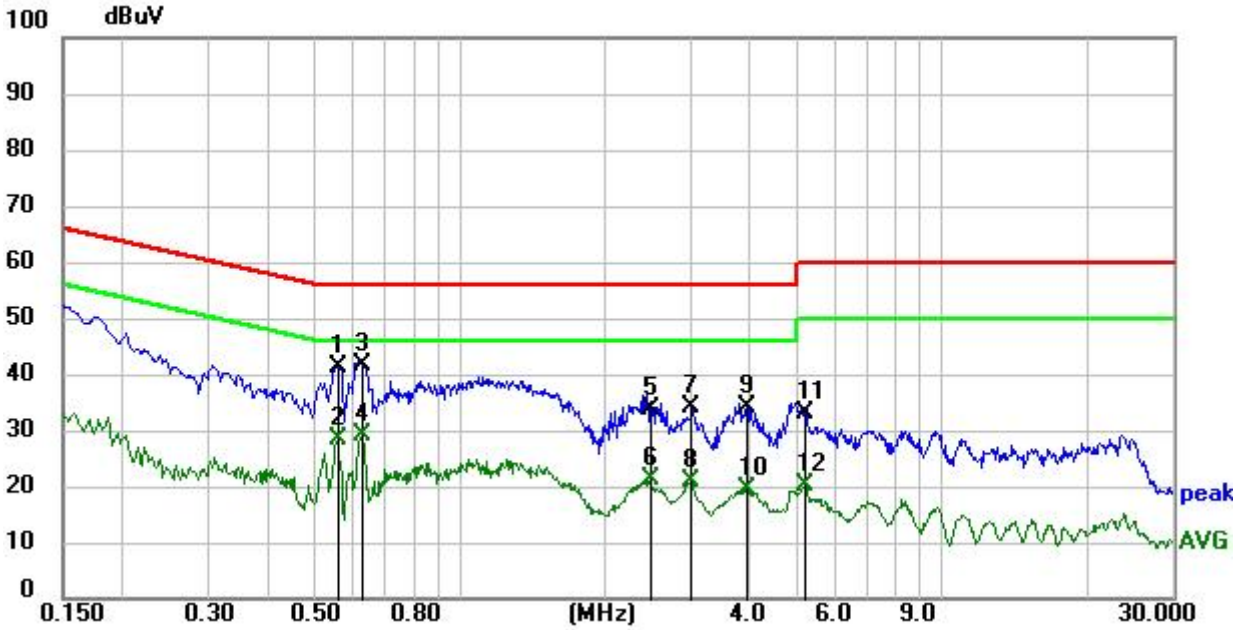
EUT:	chameleon ultra	Model Name:	Ultra black dropper style
Pressure:	1010 hPa	Phase:	L
Temperature	24.8℃	Humidity	52.1%
Test Mode:	Charging+TX	Test Voltage:	DC 5V from USB Port AC 120V/60Hz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.5620	34.62	10.14	44.76	56.00	-11.24	QP
2	0.5620	23.43	10.14	33.57	46.00	-12.43	AVG
3	0.6340	34.02	10.15	44.17	56.00	-11.83	QP
4	0.6340	20.21	10.15	30.36	46.00	-15.64	AVG
5*	1.1220	31.08	10.14	41.22	56.00	-14.78	QP
6	1.1220	17.37	10.14	27.51	46.00	-18.49	AVG
7	1.6180	27.21	10.17	37.38	56.00	-18.62	QP
8	1.6180	15.55	10.17	25.72	46.00	-20.28	AVG
9	2.0460	29.22	10.19	39.41	56.00	-16.59	QP
10	2.0460	15.52	10.19	25.71	46.00	-20.29	AVG
11	3.4460	25.93	10.21	36.14	56.00	-19.86	QP
12	3.4460	13.29	10.21	23.50	46.00	-22.50	AVG

Remark: 1. All readings are Quasi-Peak and Average values
2.Margin = Result (Result =Reading+Factor)-Limit
3. Factor=LISN factor+Cable loss+Limiter (10dB)

EUT:	chameleon ultra	Model Name:	Ultra black dropper style
Pressure:	1010 hPa	Phase:	N
Temperature	24.8℃	Humidity	52.1%
Test Mode:	Charging+TX	Test Voltage:	DC 5V from USB Port AC 120V/60Hz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.5580	31.19	10.14	41.33	56.00	-14.67	QP
2	0.5580	18.08	10.14	28.22	46.00	-17.78	AVG
3	0.6260	31.40	10.15	41.55	56.00	-14.45	QP
4	0.6260	19.05	10.15	29.20	46.00	-16.80	AVG
5*	2.4739	23.50	10.19	33.69	56.00	-22.31	QP
6	2.4739	10.92	10.19	21.11	46.00	-24.89	AVG
7	3.0220	23.79	10.21	34.00	56.00	-22.00	QP
8	3.0220	10.75	10.21	20.96	46.00	-25.04	AVG
9	3.9420	23.73	10.22	33.95	56.00	-22.05	QP
10	3.9420	9.15	10.22	19.37	46.00	-26.63	AVG
11	5.1940	22.68	10.21	32.89	60.00	-27.11	QP
12	5.1940	10.11	10.21	20.32	50.00	-29.68	AVG

Remark: 1. All readings are Quasi-Peak and Average values
2.Margin = Result (Result =Reading+Factor)-Limit
3. Factor=LISN factor+Cable loss+Limiter (10dB)

3.3. Radiated Emission

Limit

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequencies (MHz)	Field Strength (micorvolts/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

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Start Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

Note:

1. For Above 1000 MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

2. For Above 1000 MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (Peak).

(a)The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters, equal to 124dBuV/m at 3 meters. .

1. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter waveform on the spectrum analyzer.
2. Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band excluding restricted frequency bands) are attenuated by at least the minimum requirements specified (at least 20 dB

relative to the maximum in-band peak PSD level in 100 kHz). Report the three highest emissions relative to the limit.

(b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters, equal to 90.5dBuV/m at 3 meters.

(c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters, equal to 80.5dBuV/m at 3 meters.. (d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented. The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz

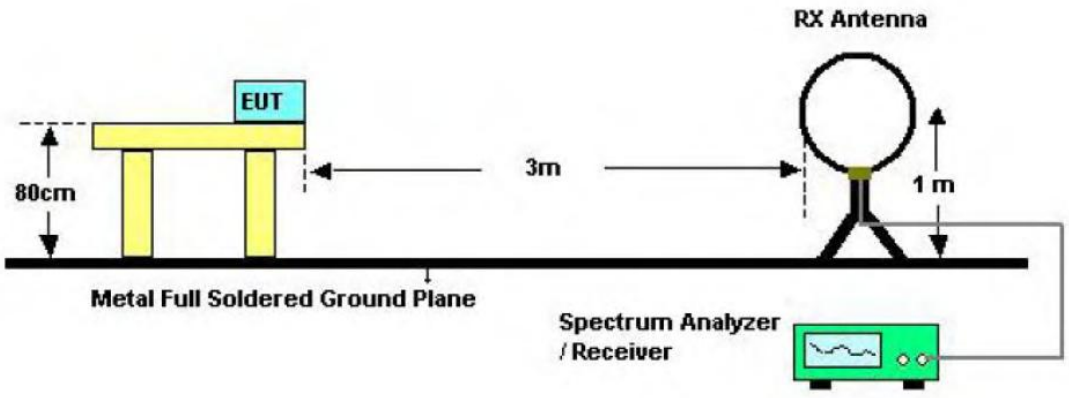
VBW ≥ RBW

Sweep = auto

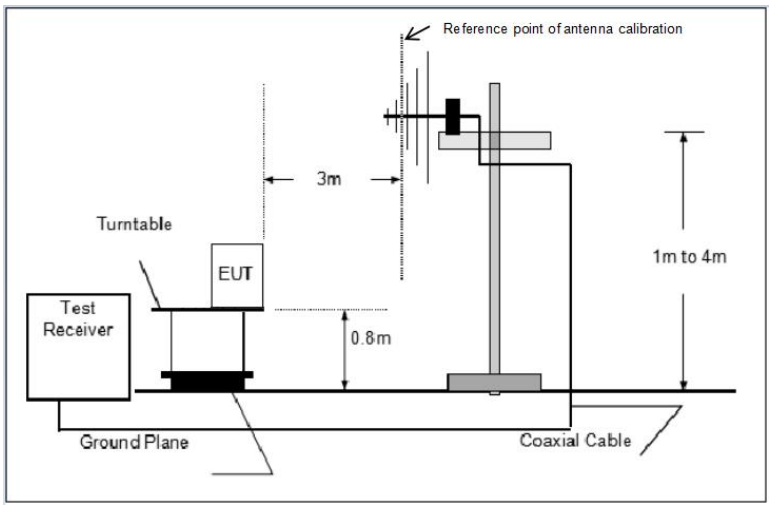
Detector function = peak

Trace = max hold

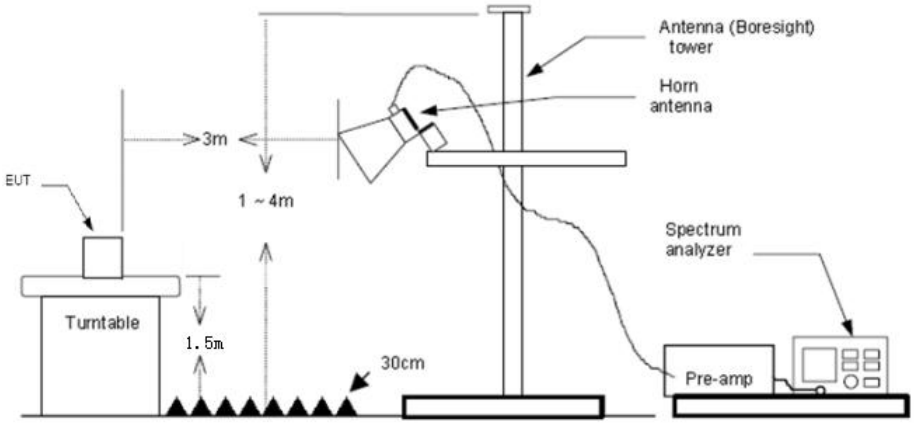
Test Setup



Test



Below 1000MHz Test Setup



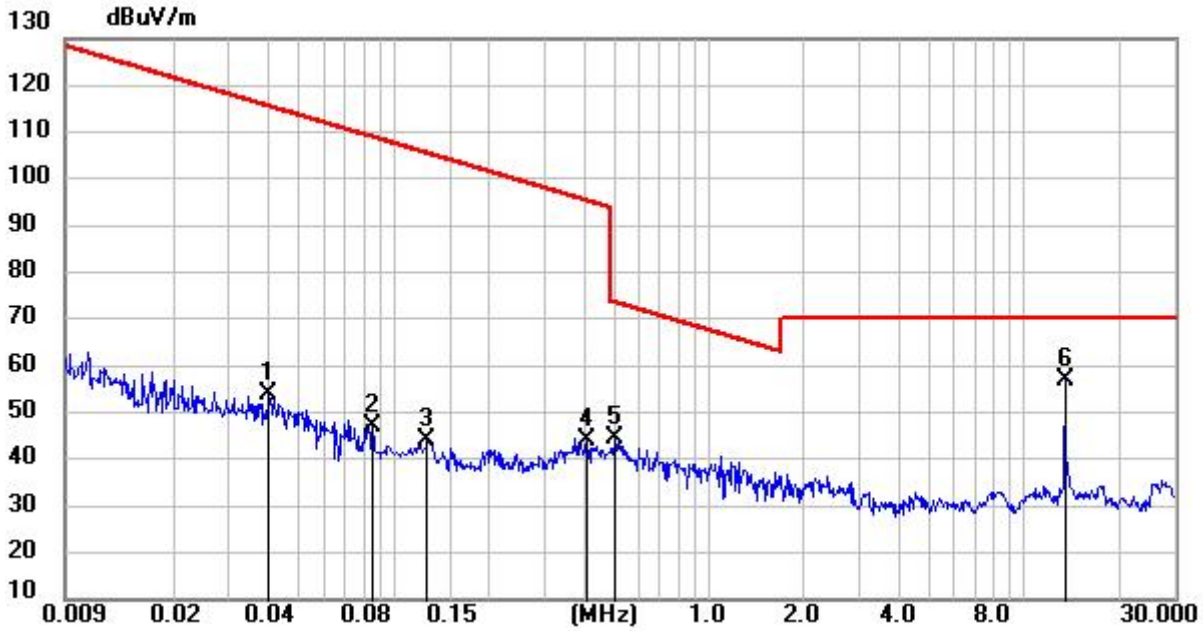
Above 1GHz Test Setup

Test Mode

Please refer to the clause 2.2.

Test Result

EUT:	chameleon ultra	Model Name:	Ultra black dropper style
Pressure:	1010 hPa	Phase:	Coaxial
Temperature	24.8℃	Humidity	52.1%
Test Mode:	TX-NFC 13.56MHz (Worst Case)	Test Voltage:	DC 3.7V from Battery

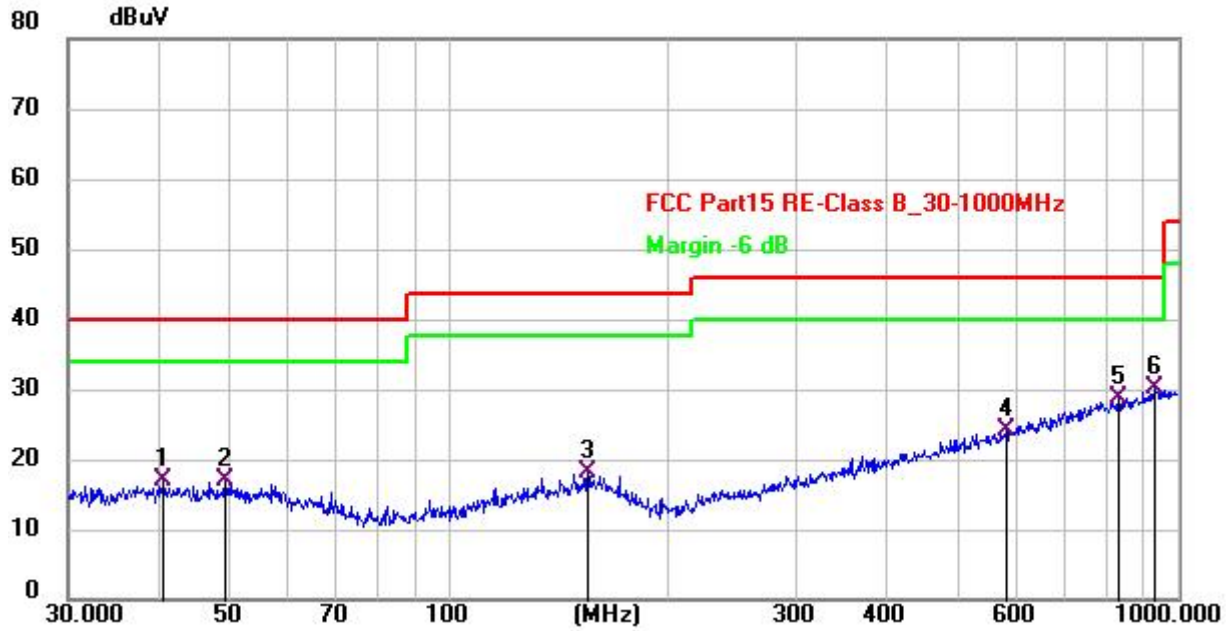


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0403	42.35	11.72	54.07	115.50	-61.43	QP
2	0.0850	36.44	10.80	47.24	109.02	-61.78	QP
3	0.1259	33.80	10.41	44.21	105.60	-61.39	QP
4	0.4061	33.58	10.56	44.14	95.43	-51.29	QP
5	0.5020	33.92	10.65	44.57	73.59	-29.02	QP
6*	13.5677	46.79	10.26	57.05	70.00	-12.95	QP

Emission Level= Read Level+ Correct Factor

Results of Radiated Emissions (30MHz~ 1000MHz)

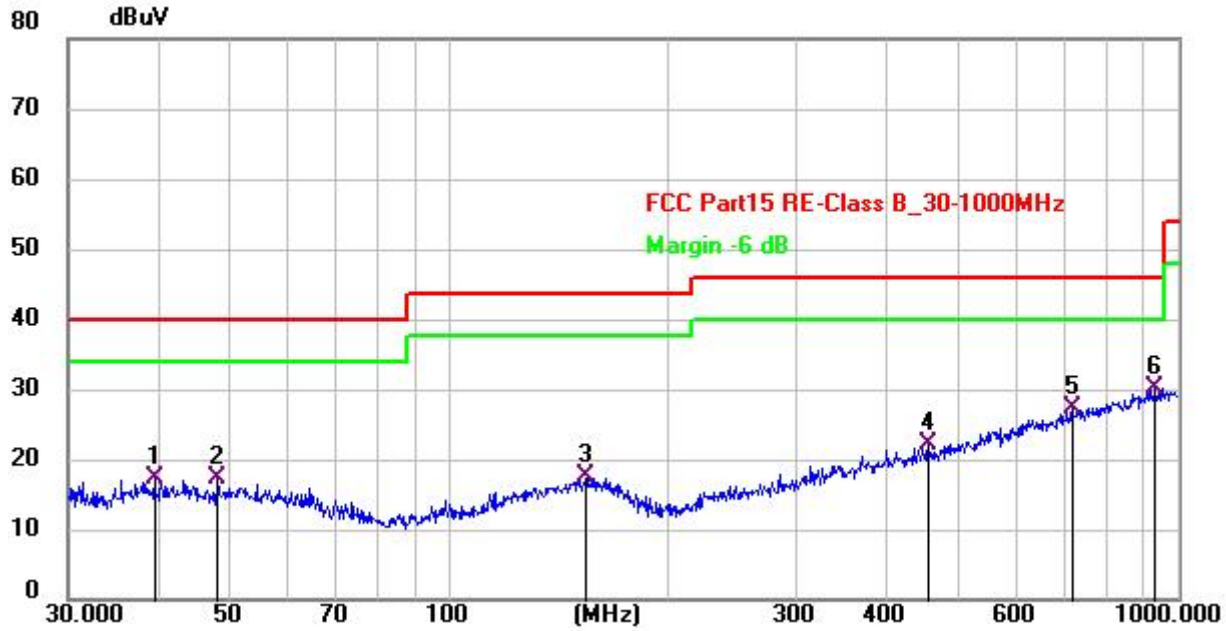
EUT:	chameleon ultra	Model Name:	Ultra black dropper style
Pressure:	1010 hPa	Phase:	Horizontal
Temperature	24.8℃	Humidity	52.1%
Test Mode:	TX-NFC 13.56MHz (Worst Case)	Test Voltage:	DC 3.7V from Battery



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	40.5591	29.49	-12.63	16.86	40.00	-23.14	QP
2	49.1865	30.08	-13.07	17.01	40.00	-22.99	QP
3	155.3643	29.70	-11.50	18.20	43.50	-25.30	QP
4	580.7026	29.11	-5.04	24.07	46.00	-21.93	QP
5	827.4934	29.65	-1.00	28.65	46.00	-17.35	QP
6*	932.2715	29.68	0.40	30.08	46.00	-15.92	QP

Emission Level= Read Level+ Correct Factor

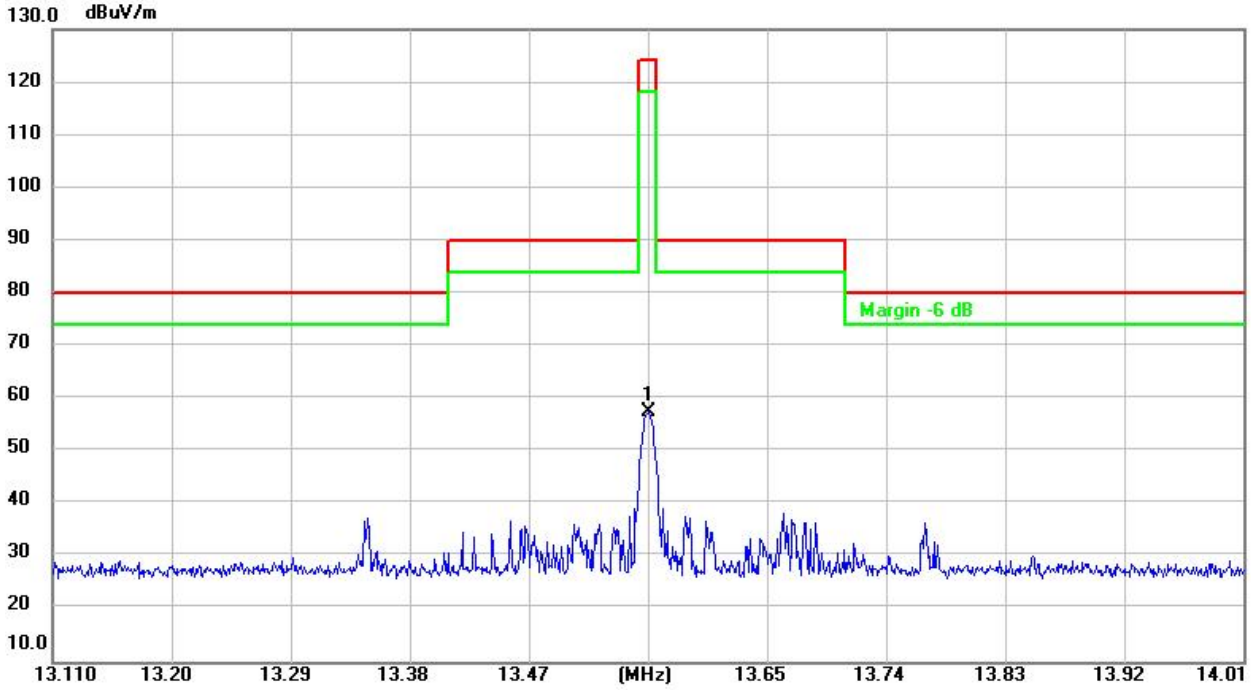
EUT:	chameleon ultra	Model Name:	Ultra black dropper style
Pressure:	1010 hPa	Phase:	Vertical
Temperature	24.8℃	Humidity	52.1%
Test Mode:	TX-NFC 13.56MHz (Worst Case)	Test Voltage:	DC 3.7V from Battery



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	39.4371	30.05	-12.65	17.40	40.00	-22.60	QP
2	48.1625	30.29	-12.99	17.30	40.00	-22.70	QP
3	154.8204	29.07	-11.51	17.56	43.50	-25.94	QP
4	454.3100	29.74	-7.59	22.15	46.00	-23.85	QP
5	716.6820	29.93	-2.51	27.42	46.00	-18.58	QP
6*	932.2715	29.68	0.40	30.08	46.00	-15.92	QP

Emission Level= Read Level+ Correct Factor

EUT:	chameleon ultra	Model Name:	Ultra black dropper style
Pressure:	1010 hPa	Phase:	Vertical
Temperature	24.8℃	Humidity	52.1%
Test Mode:	TX-NFC 13.56MHz (Worst Case)	Test Voltage:	DC 3.7V from Battery



No.	Frequency (MHz)	Reading (dB uV)	Factor (dB/ m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1*	13.5600	38.37	20.80	59.17	124.00	-64.83

Emission Level= Read Level+ Correct Factor

3.4. Frequency stability

Limit

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of –20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

Test Procedure

Setup the EUT as show in the block diagram above.

Set Spectrum Analyzer

Centre Frequency= Fundamental Frequency

RBW=100 kHz, VBW= 300 kHz

Span= 0 Hz

Sweep Time= 5 Seconds.

Setup the EUT as normal operation and press Transmitter button

Release the button, use Delta Mark function to test the time.

Test Results

Voltage (Vdc)	Temp. (℃)	Frequency (MHz)	Deviation (%)	Limit (%)
12	-20	13.560347	0.0026%	+/-0.01%
12	-10	13.560410	0.0030%	
12	0	13.560353	0.0026%	
12	10	13.560355	0.0026%	
12	20	13.560446	0.0033%	
12	30	13.560381	0.0028%	
12	40	13.560413	0.0030%	
12	50	13.560439	0.0032%	
10.2	20	13.560402	0.0030%	
13.8	20	13.560423	0.0031%	

3.5. Occupied Bandwidth

Limit

Operation within the band 13.110 MHz to 14.010 MHz

Test Procedure

Use the following spectrum analyzer settings:

a) Span: Set the span to 2 to 5 times the estimated bandwidth of the EUT signal. Center the span on the nominal center frequency of the EUT channel.

b) Resolution Bandwidth (RBW): Set RBW between 1 % and 5 % of the estimated occupied bandwidth. If this range cannot be achieved, document the actual RBW used and provide technical justification. c) Video Bandwidth (VBW): Set VBW ≥ 3 × RBW.

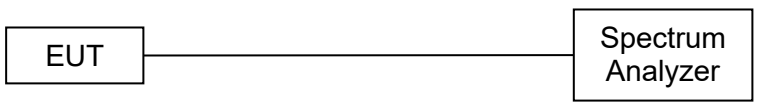
d) Reference level and mixer linearity: Adjust the reference level to avoid mixer compression. The peak signal level shall be sufficiently below the reference level to prevent compression; as a guideline, the peak signal should be at least 10 $\log_{10}$ (OBW/RBW) below the reference level.

e) Dynamic range: Ensure the measurement system noise floor, at the selected RBW, is at least 10 dB below the target down-from-peak level. For example, for-20 dB bandwidth measurement, noise floor shall be ≥30 dB below the signal peak. f) Detector and trace mode: Set detector to peak; set trace mode to max-hold. Use auto-coupled sweep time. Allow the trace to fully stabilize before taking measurements.

The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth and 99% occupied bandwidth of the emission.

Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measurement bandwidth will always follow the RBW. The RBW is set to 1KHz to perform the occupied bandwidth test.

Test Setup



Test Results

Frequency (MHz)	20dB emission bandwidth (Hz)
13.56	2693

EUT:	chameleon ultra	Model Name:	Ultra black dropper style
Pressure:	1010 hPa	Temperature	24.8℃
Humidity	52.1%	Test Mode:	TX
Test Voltage:	DC 5V from USB Port AC 120V/60Hz		

Test Graphs:

4. EUT TEST PHOTOS

Note: Refer to the attached test photos

5. PHOTOGRAPHS OF EUT CONSTRUCTIONAL

Note: Refer to the attached exterior and interior photos

**********THE END**********