

Test Report

Report No. : MTi251114011-0103E1
Date of issue : 2026-01-09
Applicant : Pelegon LLC
Product : Bed Alarm System
Model(s) : BAS1
FCC ID : 2BTSR-BAS1

Shenzhen Microtest Co., Ltd.

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Test Result Certification		
Applicant	Pelegon LLC	
Applicant Address	200 Continental Drive, Suite 401, Newark, Delaware 19713, USA	
Manufacturer	Dongguan Zhongman Industrial Co., Ltd	
Manufacturer Address	No. 6 South Second Lane, MinXin Road, DaLing Villager, DaLingShan Town, Dongguan City, Guangdong Province, China 523820	
Factory	Dongguan Zhongman Industrial Co., Ltd	
Factory Address	No. 6 South Second Lane, MinXin Road, DaLing Villager, DaLingShan Town, Dongguan City, Guangdong Province, China 523820	
Product description		
Product name	Bed Alarm System	
Trademark	Pelegon	
Model name	BAS1	
Series Model(s)	N/A	
Standards	47 CFR Part 15.231	
Test Method	ANSI C63.10-2020	
Testing Information		
Date of test	2025-12-01 to 2026-01-09	
Test result	Pass	
Prepared by:	Letter Lan	<i>Letter Lan.</i>
Reviewed by:	David Lee	<i>David. Lee</i>
Approved by:	Lewis Lian	<i>Lewis Lian</i>

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1 General Description

1.1 Description of the EUT

Product name:	Bed Alarm System
Model name:	BAS1
Series Model(s):	N/A
Model difference:	N/A
Electrical rating:	Input: 3V
Accessories:	N/A
Hardware version:	780A-V6,780B-V6
Software version:	780-V1
Test sample(s) number:	MTi251114011-01-R001
RF specification	
Operating frequency range:	433.92MHz
Channel number:	1
Modulation type:	ASK
Antenna(s) type:	line
Antenna(s) gain:	-2.17dBi

1.2 Description of test modes

No.	Emission test modes
Mode1	TX

1.2.1 Operation channel list

Channel	Frequency (MHz)
1	433.92

Test Channel List

Operation Band: 1

Bandwidth (MHz)	Lowest Channel (LCH) (MHz)	Middle Channel (MCH) (MHz)	Highest Channel (HCH) (MHz)
433	/	433.92	/

Note: The test software provided by manufacturer is used to control EUT for working in engineering mode, that enables selectable channel, and capable of continuous transmitting mode.

Test Software: key

For power setting, refer to below table.

Mode	433.92MHz
ASK	DEF

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1.3 Environmental Conditions

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

Temperature:	15°C ~ 35°C
Humidity:	20% RH ~ 75% RH
Atmospheric pressure:	98 kPa ~ 101 kPa

1.4 Description of support units

Support equipment list

Description	Model	Serial No.	Manufacturer
/	/	/	/

Support cable list

Description	Length (m)	From	To
/	/	/	/

1.5 Measurement uncertainty

Measurement	Uncertainty
Occupied channel bandwidth	±3 %
Time	±1 %
Radiated spurious emissions (30MHz~1GHz)	±4.7dB
Radiated spurious emissions (9kHz~30MHz)	±4.3dB
Radiated spurious emissions (above 1GHz)	±5.3dB
Temperature	±1 °C
Humidity	± 5 %
Time	± 1 %

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

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2 Summary of Test Result

No.	Item	Standard	Requirement	Result
1	20dB Bandwidth	47 CFR Part 15.231	47 CFR 15.231(c)	Pass
2	Transmit time.	47 CFR Part 15.231	47 CFR 15.231(a)(1) & (a)(2)	Pass
3	Duty Cycle	47 CFR Part 15.231	/	Pass
4	Field Strength of The Fundamental Signal	47 CFR Part 15.231	47 CFR 15.231(b)	Pass
5	Radiated Emission (below 1GHz)	47 CFR Part 15.231	47 CFR 15.231	Pass
6	Radiated Emission (above 1GHz)	47 CFR Part 15.231	47 CFR 15.231	Pass

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3 Test Facilities and accreditations

3.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No.7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573
IC Registration No.:	21760
CABID:	CN0093

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4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
Dwell Time Duty Cycle 20dB Bandwidth						
1	Wideband Radio Communication Tester	Rohde&schwarz	CMW500	149155	2025-03-18	2026-03-17
2	ESG Series Analog Ssignal Generator	Agilent	E4421B	GB40051240	2025-03-14	2026-03-13
3	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2025-03-14	2026-03-13
4	Synthesized Sweeper	Agilent	83752A	3610A01957	2025-03-14	2026-03-13
5	MXA Signal Analyzer	Agilent	N9020A	MY50143483	2025-03-14	2026-03-13
6	RF Control Unit	Tonscend	JS0806-1	19D8060152	2025-03-18	2026-03-17
7	Band Reject Filter Group	Tonscend	JS0806-F	19D8060160	2025-03-14	2026-03-13
8	ESG Vector Signal Generator	Agilent	N5182A	MY50143762	2025-03-14	2026-03-13
9	DC Power Supply	Agilent	E3632A	MY40027695	2025-03-18	2026-03-17
10	RF Test System	Tonscend	JS1120-3 Test System Ver. V3.5.39	/	/	/
Field Strength of The Fundamental Signal						
1	EMI Test Receiver	Rohde&schwarz	ESC17	101166	2025-03-14	2026-03-13
2	TRILOG Broadband Antenna	schwarabeck	VULB 9163	9163-1338	2025-05-23	2027-05-22
3	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00066	2024-03-23	2026-03-22
4	Amplifier	Hewlett-Packard	8447F	3113A06184	2025-03-18	2026-03-17
5	EMI Measurement Software	Farad	EZ-EMC Ver.EMEC-3A1	/	/	/
Radiated Emission (below 1GHz)						
1	EMI Test Receiver	Rohde&schwarz	ESC17	101166	2025-03-14	2026-03-13
2	TRILOG Broadband Antenna	schwarabeck	VULB 9163	9163-1338	2025-05-23	2027-05-22
3	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00066	2024-03-23	2026-03-22
4	Amplifier	Hewlett-Packard	8447F	3113A06184	2025-03-18	2026-03-17
5	EMI Measurement Software	Farad	EZ-EMC Ver.EMEC-	/	/	/

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No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
			3A1			
Radiated Emission (above 1GHz)						
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2025-03-14	2026-03-13
2	Double Ridged Broadband Horn Antenna	schwarabeck	BBHA 9120 D	2278	2025-05-27	2027-05-26
3	Amplifier	Agilent	8449B	3008A01120	2025-03-18	2026-03-17
4	MXA signal analyzer	Agilent	N9020A	MY54440859	2025-03-14	2026-03-13
5	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2025-03-14	2026-03-13
6	Horn antenna	Schwarzbeck	BBHA 9170	00987	2025-05-27	2027-05-26
7	Pre-amplifier	Space-Dtronics	EVLAN18 40G	210405001	2025-03-19	2026-03-18
8	EMI Measurement Software	Farad	EZ-EMC Ver.EMEC-3A1	/	/	/

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5 Radio Spectrum Matter Test Results (RF)

5.1 20dB Bandwidth

Test Requirement:	47 CFR 15.231(c)
Test Limit:	The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.
Test Method:	ANSI C63.10-2020, section 6.9.2
Procedure:	a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW. b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement. c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (OBW/RBW)]$ below the reference level. Specific guidance is given in 4.1.5.2. d) Steps a) through c) might require iteration to adjust within the specified tolerances. e) The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target “-xx dB down” requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value. f) Set detection mode to peak and trace mode to max hold. g) Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value). h) Determine the “-xx dB down amplitude” using $[(\text{reference value}) - xx]$. Alternatively, this calculation may be made by using the marker-delta function of the instrument. i) If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j).

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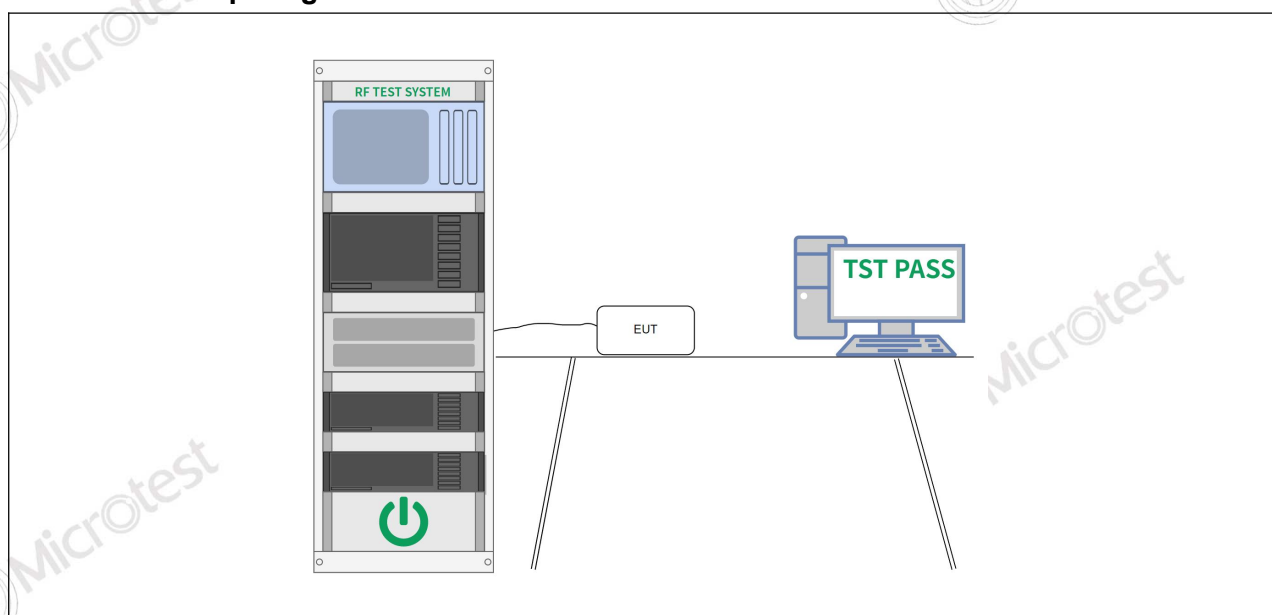
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	j) Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “íxx dB down amplitude” determined in step h). If a marker is below this “-xx dB down amplitude” value, then it shall be as close as possible to this value. The occupied bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the “íxx dB down amplitude” determined in step h). Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth. k) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).
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5.1.1 E.U.T. Operation:

Operating Environment:					
Temperature:	24.6 °C	Humidity:	48 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

5.1.2 Test Setup Diagram:



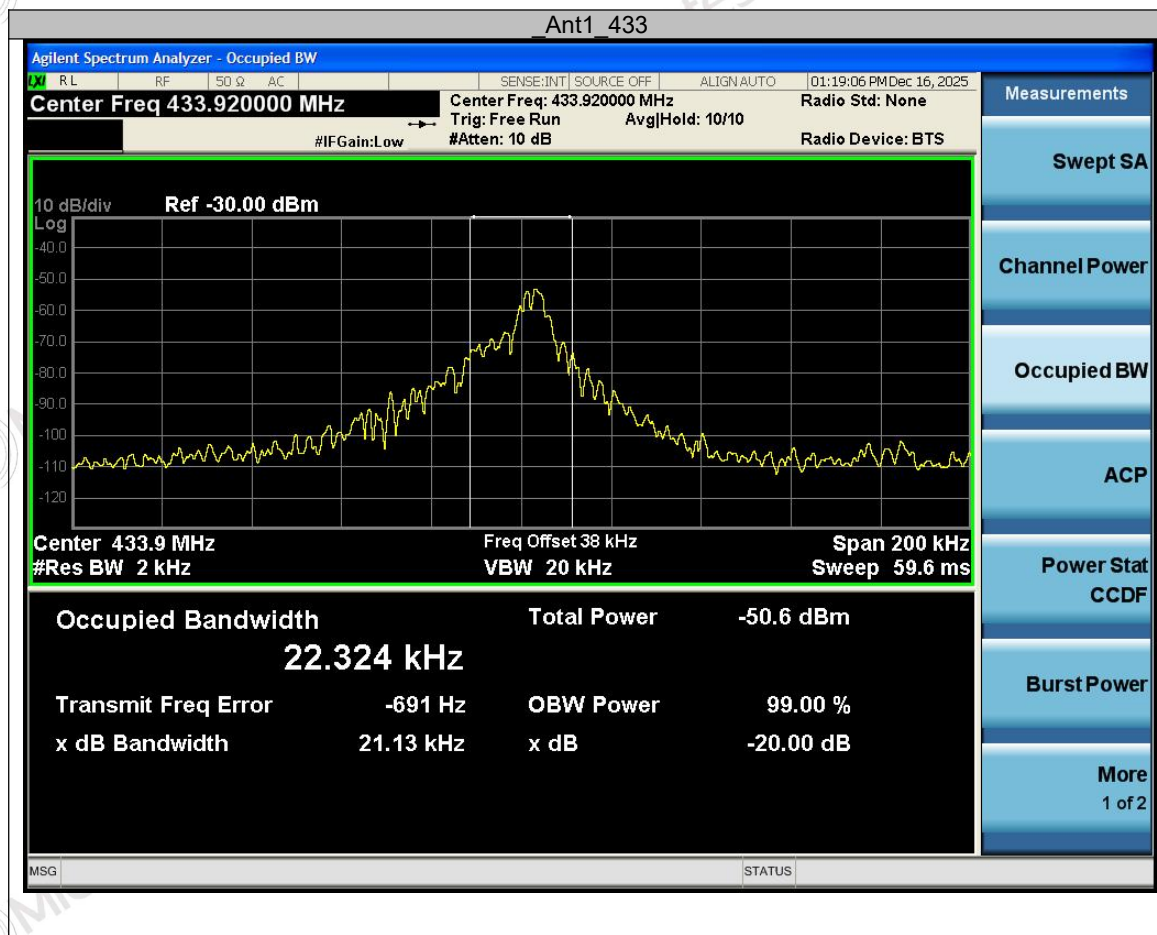
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5.1.3 Test Data:

Test Mode	Antenna	Frequency [MHz]	20db EBW [MHz]	Limit [MHz]	Verdict
/	Ant1	433.92	0.021	1.08	PASS

Test Graphs



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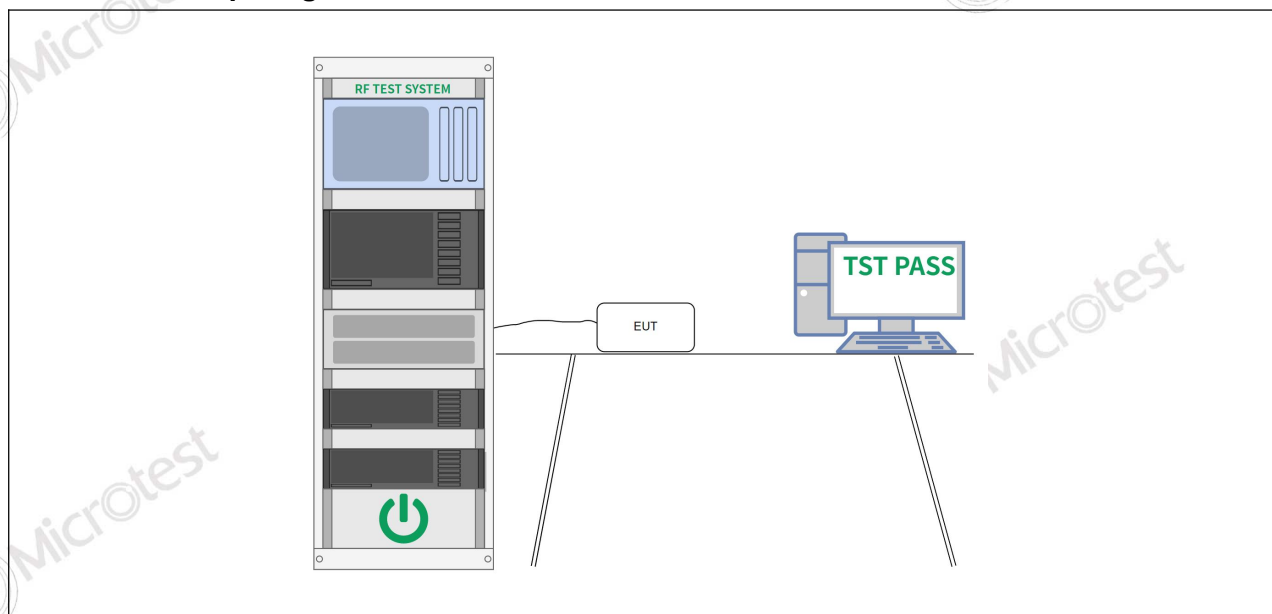
5.2 Transmit time

Test Requirement:	47 CFR 15.231(a)
Test Limit:	(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released. (2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.
Test Method:	ANSI C63.10-2020, Section 7.4
Procedure:	For evaluation of periodic operation characteristics, the following procedure may be used: a) Trigger the spectrum analyzer sweep on the RF waveform of the unlicensed wireless device. b) Set the spectrum analyzer sweep time greater than the specified time for periodic operation. c) Manually activate and deactivate the unlicensed wireless device and confirm that it ceases transmission within the specified time of deactivation. d) Document the test results. e) Verify and document that periodic transmissions at regular predetermined intervals do not exist, except where regulatory requirements allow polling or supervision transmissions, including data, to determine system integrity. Compliance is addressed by an attestation supported by the equipment theory of operation.

5.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	24.6 °C	Humidity:	48 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

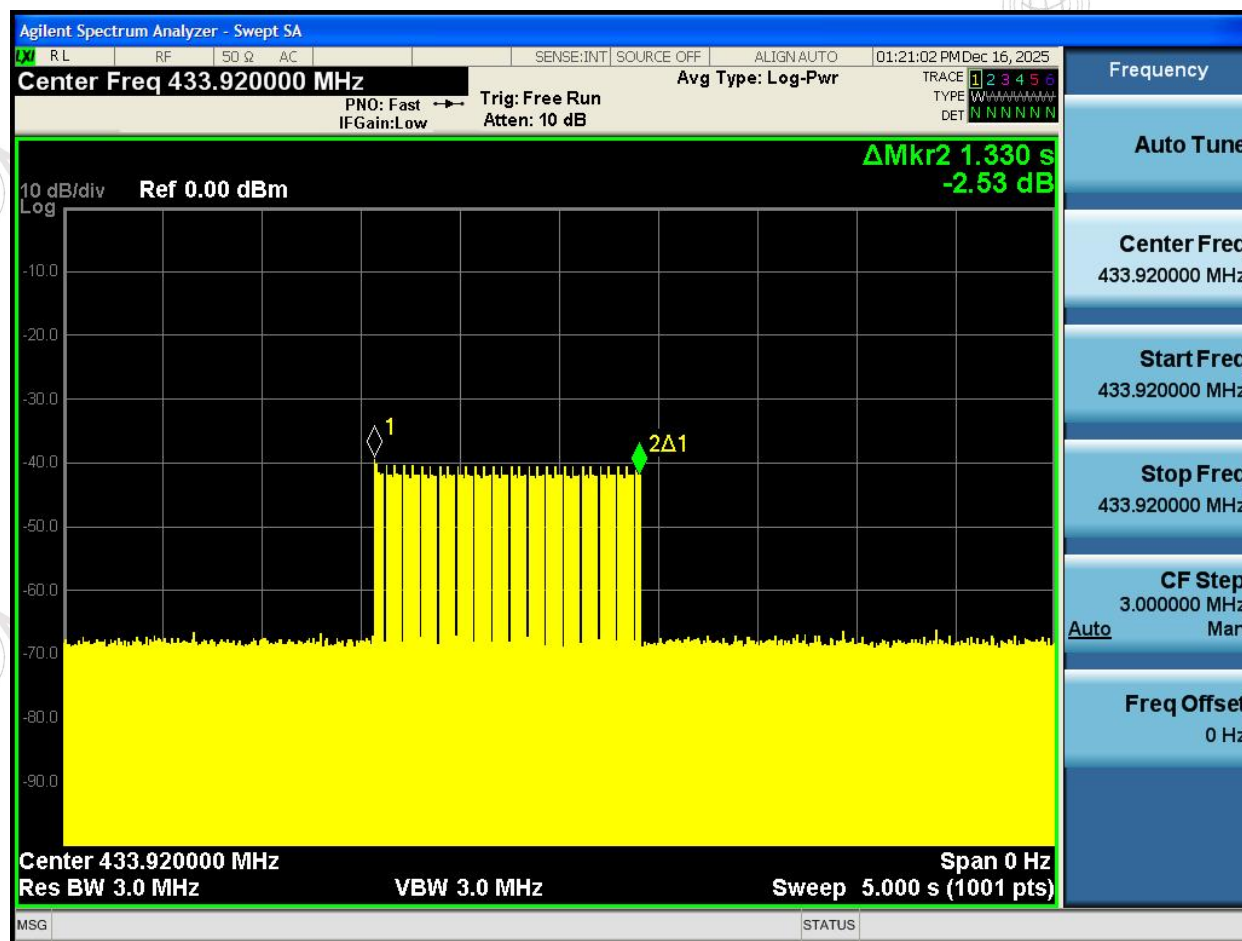
5.2.2 Test Setup Diagram:



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5.2.3 Test Data:



Result: Pass, the EUT had automatically deactivated transmission within 5 seconds.

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5.3 Duty Cycle

Test Requirement:	Only for report use
Test Limit:	No limit, only for Report Use.
Test Method:	ANSI C63.10-2020, Section 7.5
Procedure:	a) Adjust and configure any EUT switches, controls, or input data streams to ensure that the EUT is transmitting or encoded to obtain the “worst-case” pulse ON time. b) Couple the final radio frequency output signal to the input of a spectrum analyzer. This may be performed by a radiated, direct connection (i.e., conducted) or by a “near-field” coupling method. The signal received shall be of sufficient level to trigger adequately the spectrum analyzer sweep display. NOTE—If the bandwidth of the pulse is greater than the RBW of the spectrum analyzer, then a similar measurement may be performed using a wideband digital storage oscilloscope (DSO). c) Adjust the center frequency of the spectrum analyzer to the center of the RF signal. d) Set the spectrum analyzer for ZERO SPAN. e) Adjust the SWEEP TIME to obtain at least a 100 ms period of time on the horizontal display axis of the spectrum analyzer. f) If the pulse train is periodic (i.e., consists of a series of pulses that repeat in a characteristic pattern over a constant time period), and the period (T) is less than or equal to 100 ms, then: 1) Set the TRIGGER on the spectrum analyzer to capture at least one period of the pulse train, including any blanking intervals. 2) Determine the total maximum pulse “ON time” (t_{ON}) over one period of the pulse train. An example of a periodic pulse train and the associated period is shown in Figure 14. If the pulse train contains pulses of different widths, then t_{ON} is determined by summing the duration of all of the pulses within the pulse train [i.e., $t_{ON} = \Sigma(t_1 + t_2 + \dots t_n)$]. 3) The duty cycle is then determined by dividing the total maximum “ON time” by the period of the pulse train (t_{ON}/T). g) If the pulse train is nonperiodic or is periodic with a period that exceeds 100 ms, or as an alternative to step f), then: 1) Set the TRIGGER on the spectrum analyzer to capture the greatest amount of pulse “ON time” over 100 ms. 2) Find the 100 ms period that contains the maximum “on time”; this may require summing the duration of multiple pulses as described in step f2). 3) Determine the duty cycle by dividing the total maximum “ON time” by 100 ms ($t_{ON}/100\text{ ms}$).

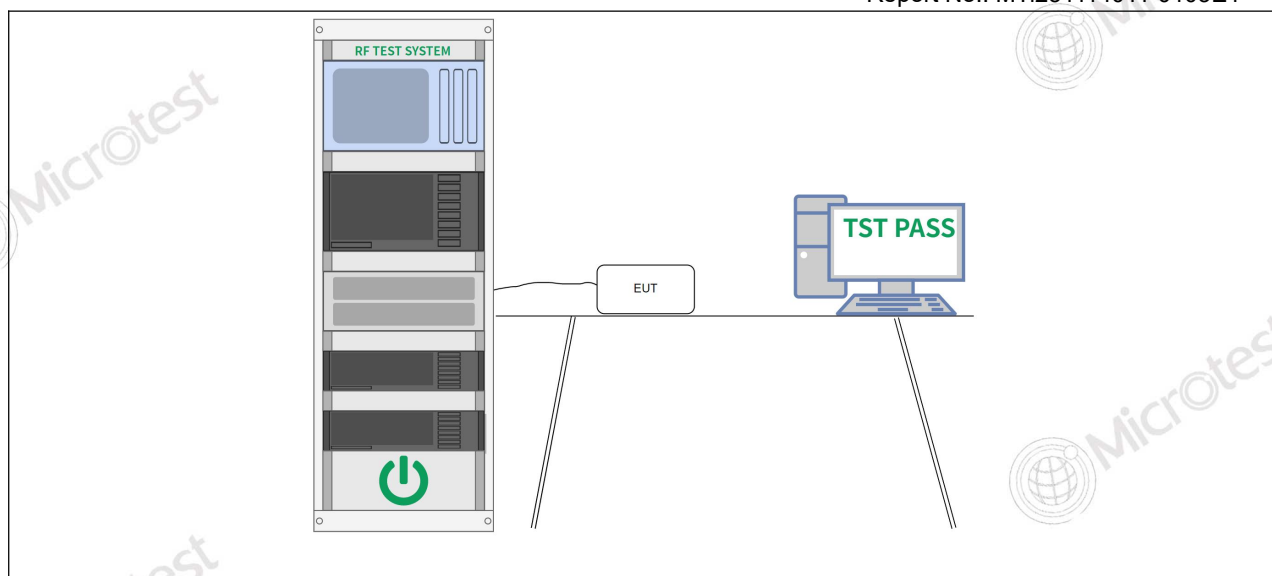
5.3.1 E.U.T. Operation:

Operating Environment:					
Temperature:	24.6 °C	Humidity:	48 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

5.3.2 Test Setup Diagram:

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5.3.3 Test Data:

Test Mode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Factor
/	Ant1	433.92	11.9	44.80	26.56	-11.51

Notes:

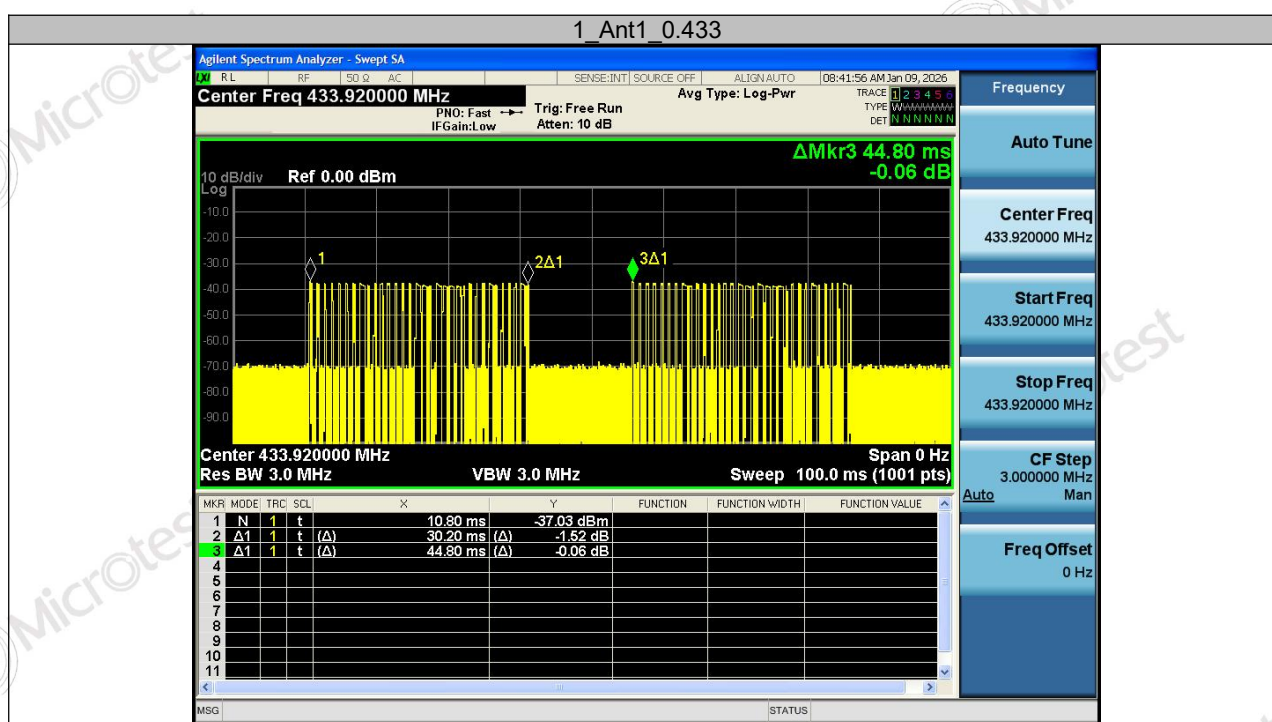
Duty Cycle [%] = Transmission Duration [ms] / Transmission Period [ms] * 100

Factor = 20 * log (Duty Cycle)

TransmissionDuration[ms]=2_Ant1_0.43392(0.28*14+0.63*9+0.21*11)

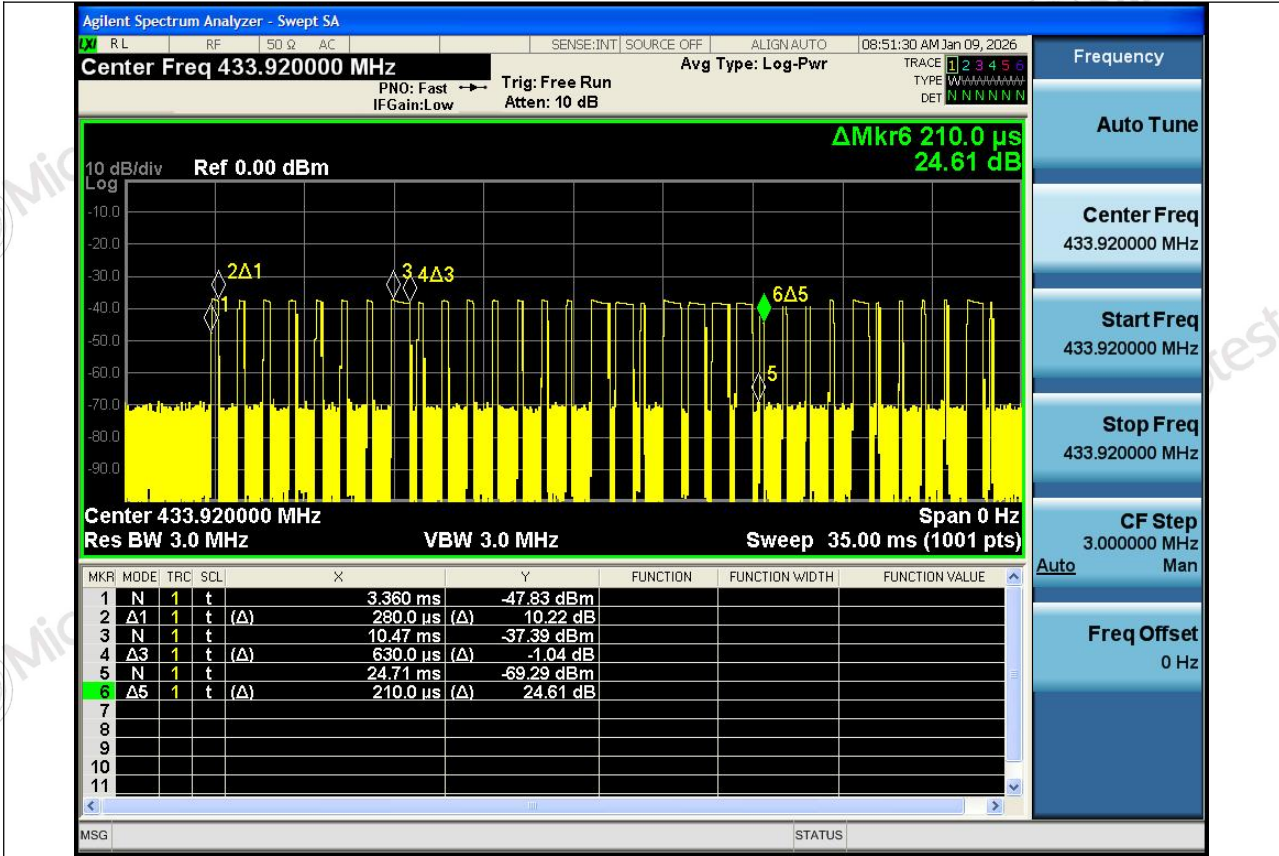
=3.92+5.67+2.31=11.9ms

Test Graphs



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5.4 Field Strength of The Fundamental Signal

Test Requirement:	47 CFR 15.231(a)&(b)																							
Test Limit:	<table><tr><th>Fundamental frequency (MHz)</th><th>Field strength of fundamental (microvolts/meter)</th><th>Field strength of spurious emission (microvolts/meter)</th></tr><tr><td>40.66-40.70</td><td>2,250</td><td>225</td></tr><tr><td>70-130</td><td>1,250</td><td>125</td></tr><tr><td>130-174</td><td>¹1,250 to 3,750</td><td>¹1,25 to 3,75</td></tr><tr><td>174-260</td><td>3,750</td><td>3,75</td></tr><tr><td>260-470</td><td>¹3,750 to 12, 500</td><td>¹3,75 to 12, 50</td></tr><tr><td>Above 470</td><td>12, 500</td><td>1250</td></tr></table>	Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emission (microvolts/meter)	40.66-40.70	2,250	225	70-130	1,250	125	130-174	¹ 1,250 to 3,750	¹ 1,25 to 3,75	174-260	3,750	3,75	260-470	¹ 3,750 to 12, 500	¹ 3,75 to 12, 50	Above 470	12, 500	1250		
Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emission (microvolts/meter)																						
40.66-40.70	2,250	225																						
70-130	1,250	125																						
130-174	¹ 1,250 to 3,750	¹ 1,25 to 3,75																						
174-260	3,750	3,75																						
260-470	¹ 3,750 to 12, 500	¹ 3,75 to 12, 50																						
Above 470	12, 500	1250																						
	¹ Linear interpolations.																							
Test Method:	ANSI C63.10-2020, Section 6.5																							
Procedure:	Below 1GHz: 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. 3. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.																							

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	Above 1GHz: - 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. - The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. - 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. - 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. - The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. - 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. - Test the EUT in the lowest channel, the middle channel, the Highest channel. - 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. - Repeat above procedures until all frequencies measured was complete. Remark: - Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor - 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. - 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. - The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
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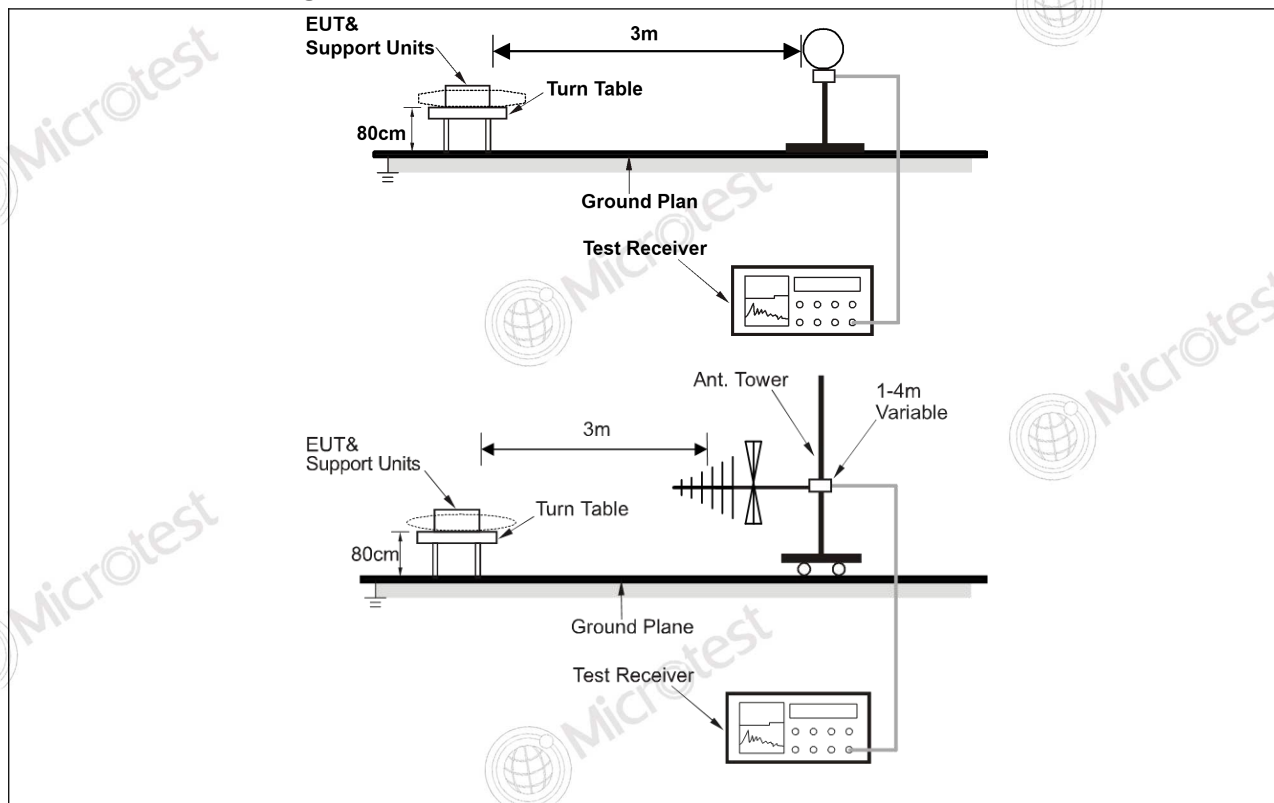
5.4.1 E.U.T. Operation:

Operating Environment:					
Temperature:	27.6 °C	Humidity:	20.4 %	Atmospheric Pressure:	99.8 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

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5.4.2 Test Setup Diagram:



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5.4.3 Test Data:

Freq(MHz)	Horizontal	Peak Level(dBuV/m)	Duty Factor(dB)	AVG Level(dBuV/m)	Limit(dBuV/m)
433.92	Horizontal	77.03	-11.51	65.52	80.82

Note1: Duty Factor = $20 * \log(\text{Duty Cycle})$

Note2: AVG Level= PEAK Level+ Duty Factor(-11.51dB)

Freq(MHz)	Polarization	Peak Level(dBuV/m)	Duty Factor(dB)	AVG Level(dBuV/m)	Limit(dBuV/m)
433.92	Vertical	74.03	-11.51	62.52	80.82

Note1: Duty Factor = $20 * \log(\text{Duty Cycle})$

Note2: AVG Level= PEAK Level+ Duty Factor(-11.51dB)

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5.5 Radiated Emission (below 1GHz)

Test Requirement:	47 CFR 15.231(a)&(b)		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
	** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.		
Test Method:	ANSI C63.10-2020, Section 6.5		
Procedure:	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		

TEST REPORT

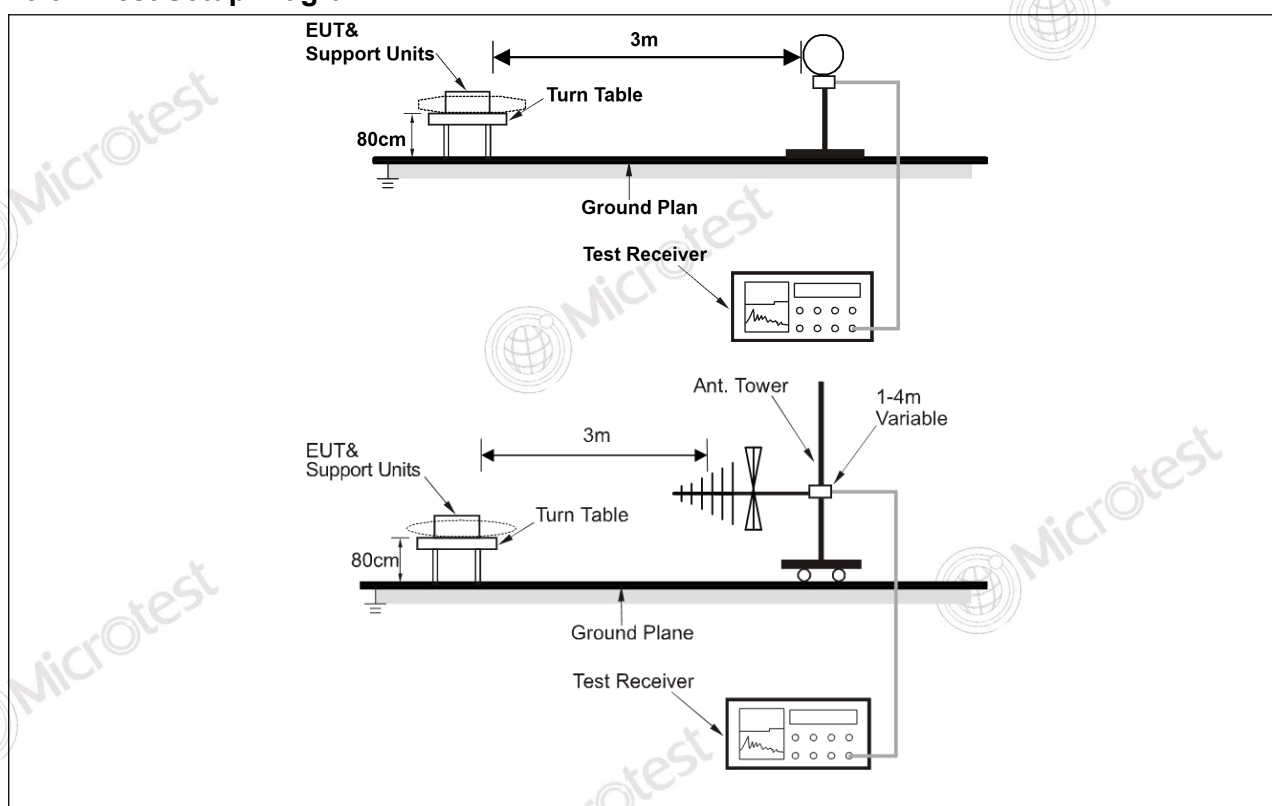
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	testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
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5.5.1 E.U.T. Operation:

Operating Environment:					
Temperature:	25 °C	Humidity:	61 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

5.5.2 Test Setup Diagram:

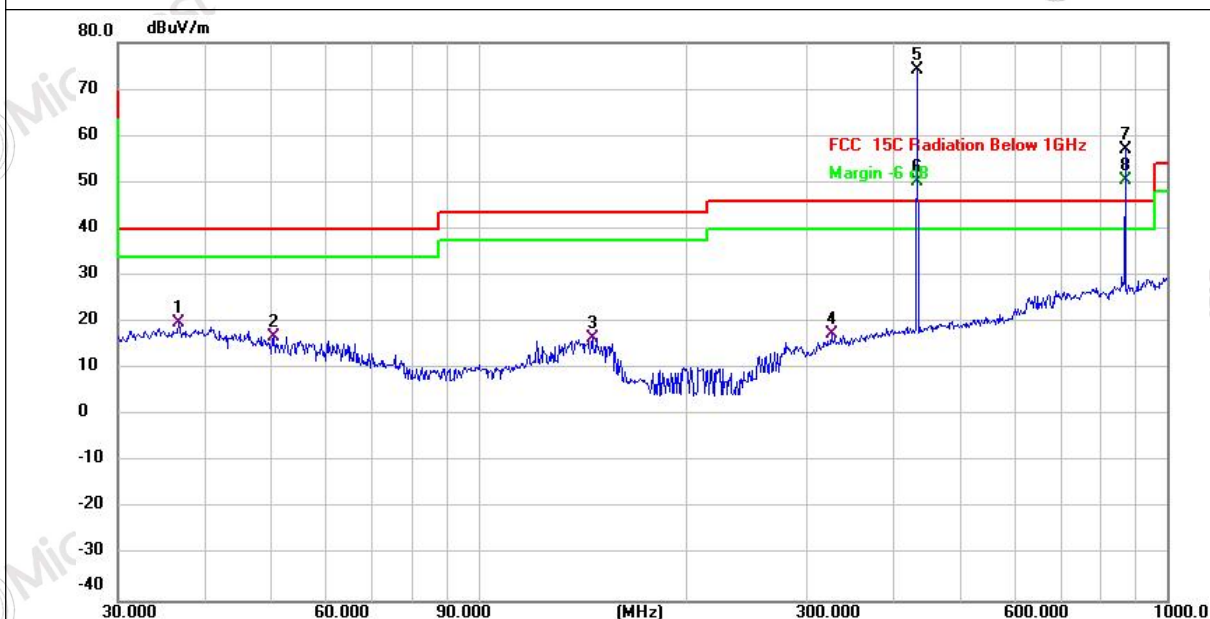


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5.5.3 Test Data:

Mode1 / Polarization: Horizontal / CH: M



Polar	Frequency	Reading Level	Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	
H	36.7661	28.62	-7.83	20.79	40.00	-19.21	QP
H	46.3402	27.67	-7.71	19.96	40.00	-20.04	QP
H	148.4410	27.57	-7.10	20.47	43.50	-23.03	QP
H	279.0436	27.52	-6.98	20.54	46.00	-25.46	QP
H	433.9200	80.78	-3.75	77.03	100.82	-23.79	peak
H	867.8400	56.70	3.50	60.20	80.82	-20.62	peak

Freq(MHz)	Polarization	Peak Level(dBuV/m)	Duty Factor(dB)	AVG Level(dBuV/m)	Limit(dBuV/m)
433.9200	Horizontal	77.03	-11.51	65.52	80.82
867.8400	Horizontal	60.20	-11.51	48.69	60.82

Note1: Duty Factor = 20 * log (Duty Cycle)

Note2: AVG Level= PEAK Level+ Duty Factor(-11.51dB)

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Mode1 / Polarization: Vertical / CH: M



Polar	Frequency	Reading Level	Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	
V	36.7661	27.62	-7.83	19.79	40.00	-20.21	QP
V	50.5859	24.86	-7.94	16.92	40.00	-23.08	QP
V	146.3734	23.80	-7.32	16.48	43.50	-27.02	QP
V	325.5957	23.34	-6.03	17.31	46.00	-28.69	QP
V	434.0649	77.78	-3.75	74.03	100.82	-26.79	peak
V	869.1300	53.67	3.53	57.20	80.82	-23.62	peak

Freq(MHz)	Polarization	Peak Level(dBuV/m)	Duty Factor(dB)	AVG Level(dBuV/m)	Limit(dBuV/m)
433.9200	Horizontal	74.03	-11.51	62.52	80.82
867.8400	Horizontal	57.20	-11.51	45.69	60.82

Note1: Duty Factor = 20 * log (Duty Cycle)

Note2: AVG Level= PEAK Level+ Duty Factor(-11.51dB)

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5.6 Radiated Emission (above 1GHz)

Test Requirement:	47 CFR 15.231(a)&(b)		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
	** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.		
Test Method:	ANSI C63.10-2020, Section 6.6		
Procedure:	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		

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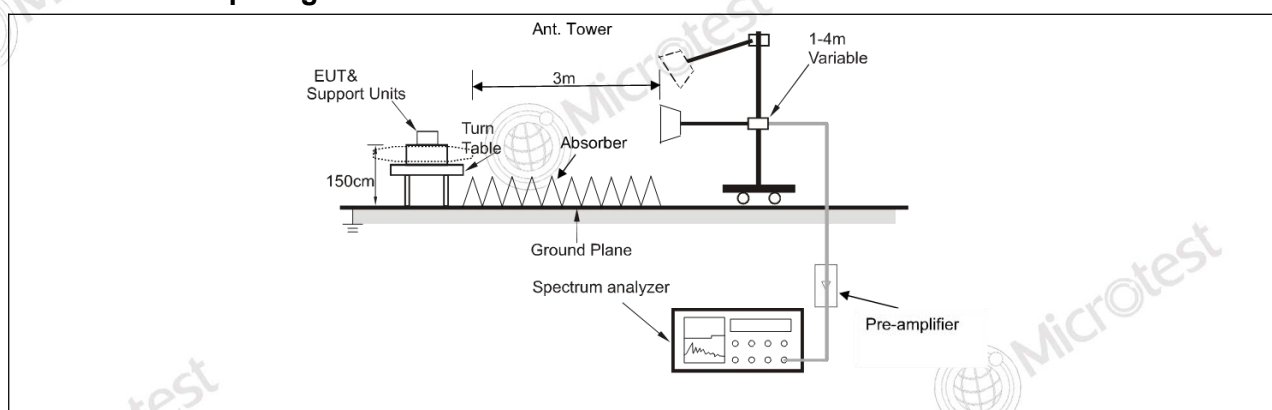
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	when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. As shown in this section, for frequencies above 1GHz, the field 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. 4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
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5.6.1 E.U.T. Operation:

Operating Environment:					
Temperature:	29.3 °C	Humidity:	44.8 %	Atmospheric Pressure:	99.8 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

5.6.2 Test Setup Diagram:



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5.6.3 Test Data:

Polar	Frequency	Reading Level	Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	
H	1301.760	54.42	-7.60	46.82	74.00	-27.18	peak
H	1735.680	51.09	-7.48	43.61	74.00	-30.39	peak
H	2169.600	46.85	-4.69	42.16	74.00	-31.84	peak

Freq(MHz)	Polarization	Peak Level(dBuV/m)	Duty Factor(dB)	AVG Level(dBuV/m)	Limit(dBuV/m)
1301.760	Horizontal	46.82	-11.51	35.31	54.00
1735.680	Horizontal	43.61	-11.51	32.1	54.00
2169.600	Horizontal	42.16	-11.51	30.65	54.00

Polar	Frequency	Reading Level	Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	
V	1301.760	56.24	-7.60	48.64	74.00	-25.36	peak
V	1735.680	49.15	-7.48	41.67	74.00	-32.33	peak
V	2169.600	47.84	-4.69	43.15	74.00	-30.85	peak

Freq(MHz)	Polarization	Peak Level(dBuV/m)	Duty Factor(dB)	AVG Level(dBuV/m)	Limit(dBuV/m)
1301.760	Horizontal	56.24	-11.51	44.73	54.00
1735.680	Horizontal	49.15	-11.51	37.64	54.00
2169.600	Horizontal	47.84	-11.51	36.33	54.00

Note1: Duty Factor = 20 * log (Duty Cycle)

Note2: AVG Level= PEAK Level+ Duty Factor(-11.51dB)

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Photographs of the test setup

Refer to Appendix - Test Setup Photos

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Photographs of the EUT

Refer to Appendix - EUT Photos

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Statement

1. This report is invalid without the seal and signature of the laboratory.
2. The test results of this report are only responsible for the samples submitted. Client shall be responsible for representativeness of the sample and authenticity of the material.
3. The report shall not be partially reproduced without the written consent of the Laboratory.
4. This report is invalid if transferred, altered or tampered with in any form without authorization.
5. The observations or tests with special mark fall outside the scope of accreditation, and are only used for purpose of commission, research, training, internal quality control etc.
6. Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

***** END OF REPORT *****