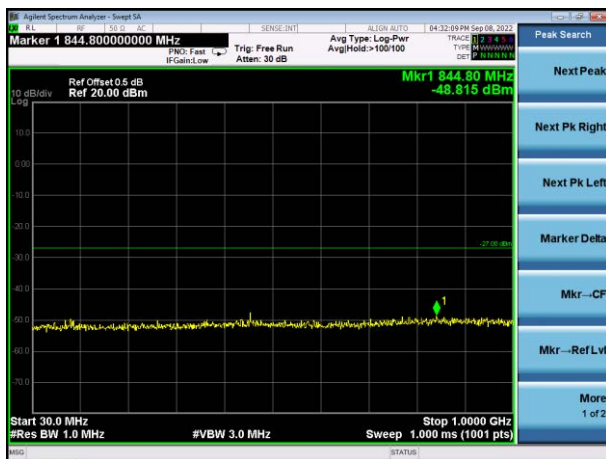


Test Plot

802.11a on channel 165



802.11n20 on channel 149



802.11a on channel 165



802.11n20 on channel 149



802.11a on channel 165

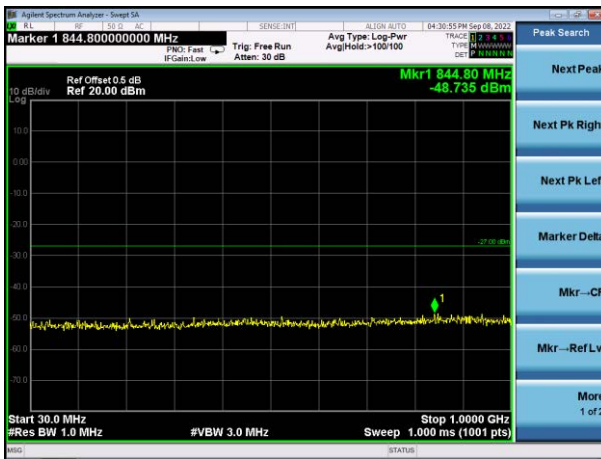


802.11n20 on channel 149



Test Plot

802.11n20 on channel 157



802.11n20 on channel 165



802.11n20 on channel 157



802.11n20 on channel 165



802.11n20 on channel 157

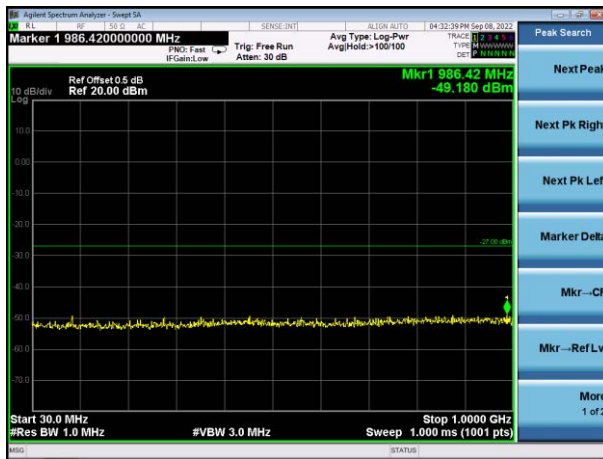


802.11n20 on channel 165



Test Plot

802.11n40 on channel 151



802.11n40 on channel 159



802.11n40 on channel 151



802.11n40 on channel 159



802.11n40 on channel 151

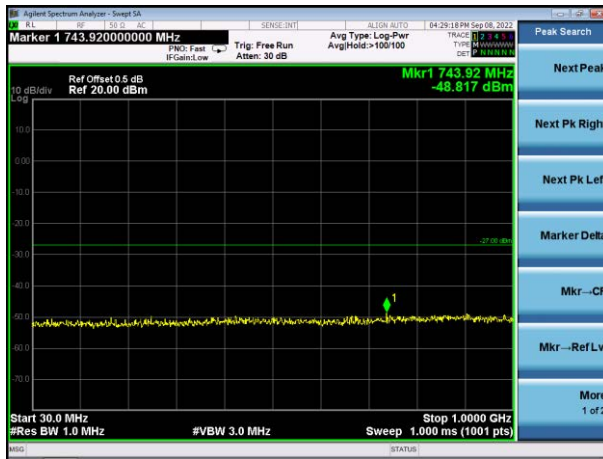


802.11n40 on channel 159

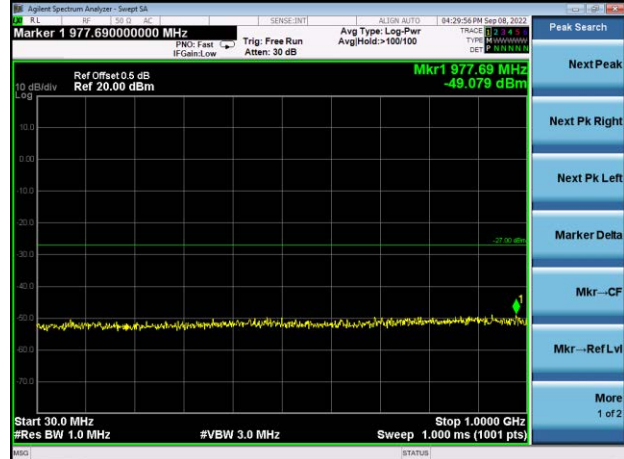


Test Plot

802.11ac20 on channel 149



802.11ac20 on channel 157



802.11ac20 on channel 149



802.11ac20 on channel 157



802.11ac20 on channel 149

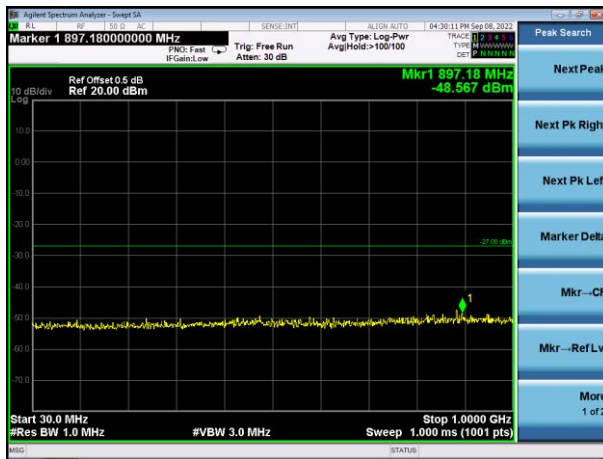


802.11ac20 on channel 157



Test Plot

802.11ac20 on channel 165



802.11ac40 on channel 151



802.11ac20 on channel 165



802.11ac40 on channel 151



802.11ac20 on channel 165

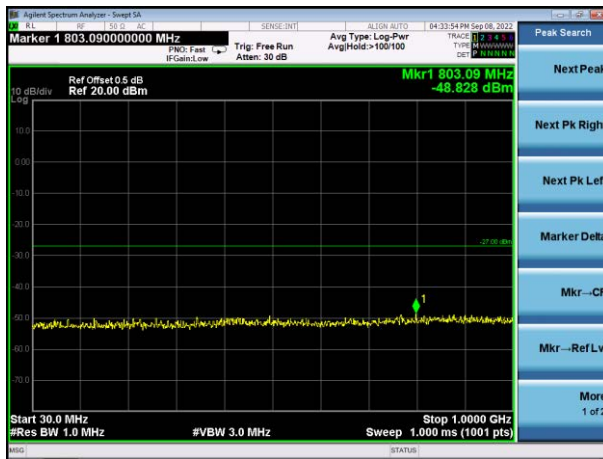


802.11ac40 on channel 151



Test Plot

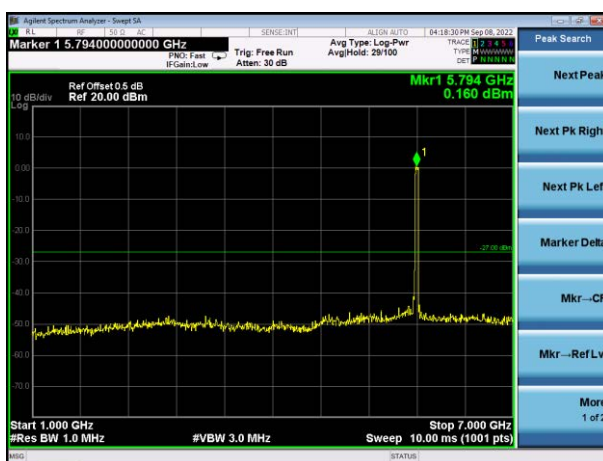
802.11ac40 on channel 159



802.11ac80 on channel 155



802.11 ac40 on channel 159



802.11ac80 on channel 155



802.11 ac40 on channel 159

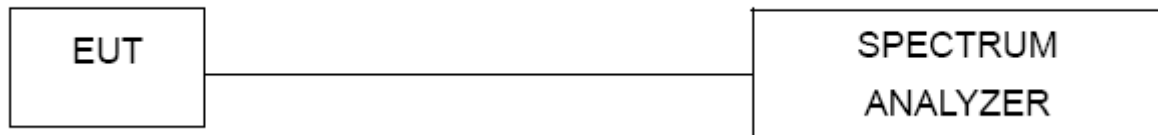


802.11ac80 on channel 155



13. Frequency Stability Measurement

13.1 Block Diagram Of Test Setup



13.2 Limit

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification).

13.3 Test procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. f_c is declaring of channel frequency. Then the frequency error formula is $(f_c - f)/f_c \times 10^6$ ppm and he limit is less than ± 20 ppm (IEEE 802.11n specification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature is $-20^\circ\text{C} \sim 70^\circ\text{C}$.

13.4 Test Result

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	TX (5.8G) Mode Frequency U-NII-3 (5745-5825MHz)		

Voltage vs. Frequency Stabilit

TEST CONDITIONS				Reference Frequency : 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5745.01083	5745	0.01083	1.8855
		V max (V)	138.00	5745.00100	5745	0.00100	0.1747
		V min (V)	102.00	5745.00684	5745	0.00684	1.1914
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

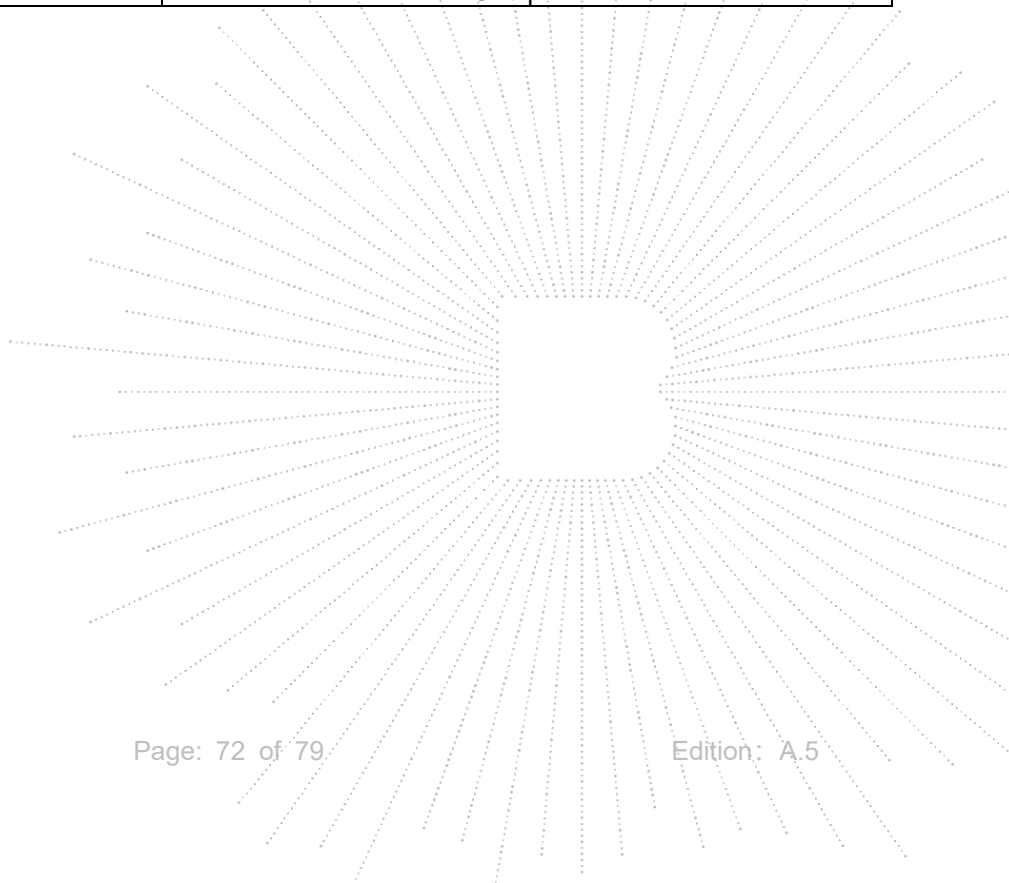
TEST CONDITIONS				Reference Frequency : 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5745.01016	5745	0.01016	1.7680
		T (°C)	-10	5745.01001	5745	0.01001	1.7431
		T (°C)	0	5745.00368	5745	0.00368	0.6400
		T (°C)	10	5745.00072	5745	0.00072	0.1248
		T (°C)	20	5745.00591	5745	0.00591	1.0282
		T (°C)	30	5745.00126	5745	0.00126	0.2193
		T (°C)	40	5745.00002	5745	0.00002	0.0027
		T (°C)	50	5745.00837	5745	0.00837	1.4574
		T (°C)	60	5745.00182	5745	0.00182	0.3166
		T (°C)	70	5745.00256	5745	0.00256	0.4459
Limits				5725-5850 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency : 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5785.00250	5785	0.00250	0.4317
		V max (V)	138.00	5785.01212	5785	0.01212	2.0953
		V min (V)	102.00	5785.00908	5785	0.00908	1.5702
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency : 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5785.00425	5785	0.00425	0.7338
		T (°C)	-10	5785.00954	5785	0.00954	1.6495
		T (°C)	0	5785.01052	5785	0.01052	1.8186
		T (°C)	10	5785.00394	5785	0.00394	0.6812
		T (°C)	20	5785.00829	5785	0.00829	1.4323
		T (°C)	30	5785.01051	5785	0.01051	1.8163
		T (°C)	40	5785.00281	5785	0.00281	0.4855
		T (°C)	50	5785.00960	5785	0.00960	1.6592
		T (°C)	60	5785.00615	5785	0.00615	1.0624
		T (°C)	70	5785.00529	5785	0.00529	0.9139
Limits				5725-5850 MHz			
Result				Complies			

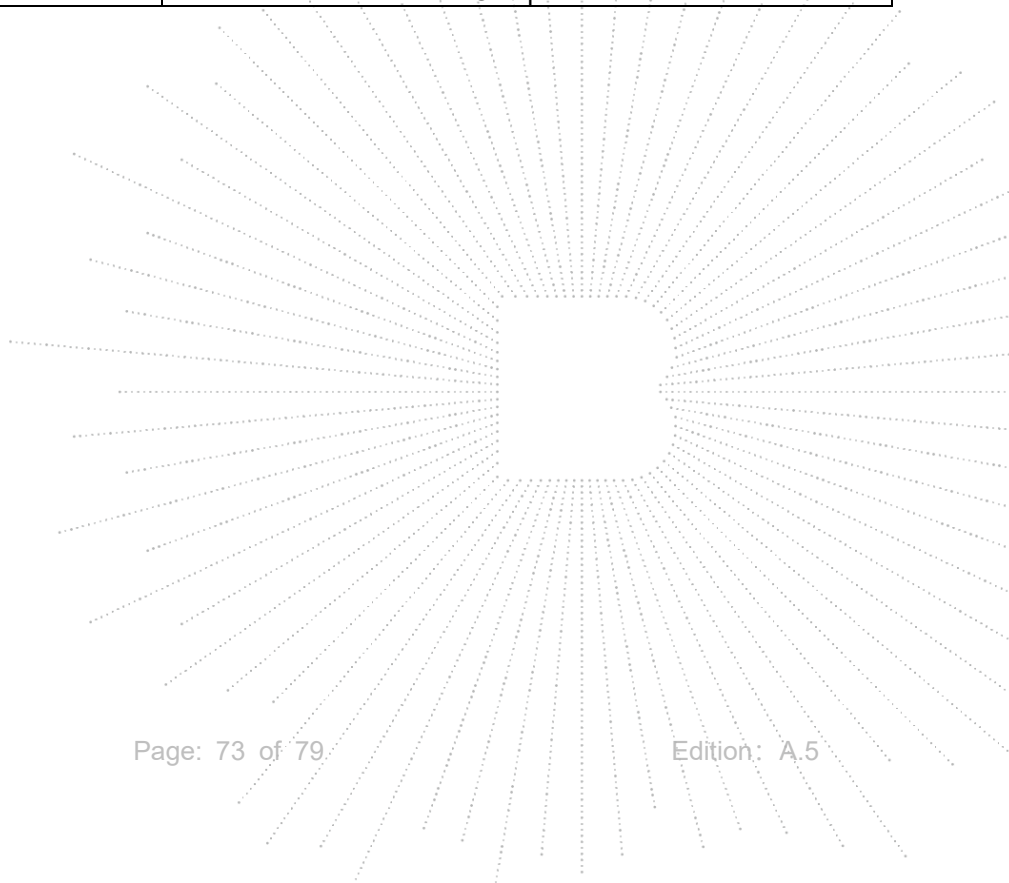


Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency : 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5825.00169	5825	0.00169	0.2900
		V max (V)	138.00	5825.00533	5825	0.00533	0.9150
		V min (V)	102.00	5825.00443	5825	0.00443	0.7600
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency : 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5825.00918	5825	0.00918	1.5758
		T (°C)	-10	5825.01109	5825	0.01109	1.9044
		T (°C)	0	5825.00329	5825	0.00329	0.5655
		T (°C)	10	5825.00782	5825	0.00782	1.3418
		T (°C)	20	5825.00038	5825	0.00038	0.0647
		T (°C)	30	5825.00244	5825	0.00244	0.4188
		T (°C)	40	5825.00219	5825	0.00219	0.3766
		T (°C)	50	5825.01072	5825	0.01072	1.8396
		T (°C)	60	5825.00135	5825	0.00135	0.2313
		T (°C)	70	5825.00171	5825	0.00171	0.2927
Limits				5725-5850 MHz			
Result				Complies			



14. Antenna Requirement

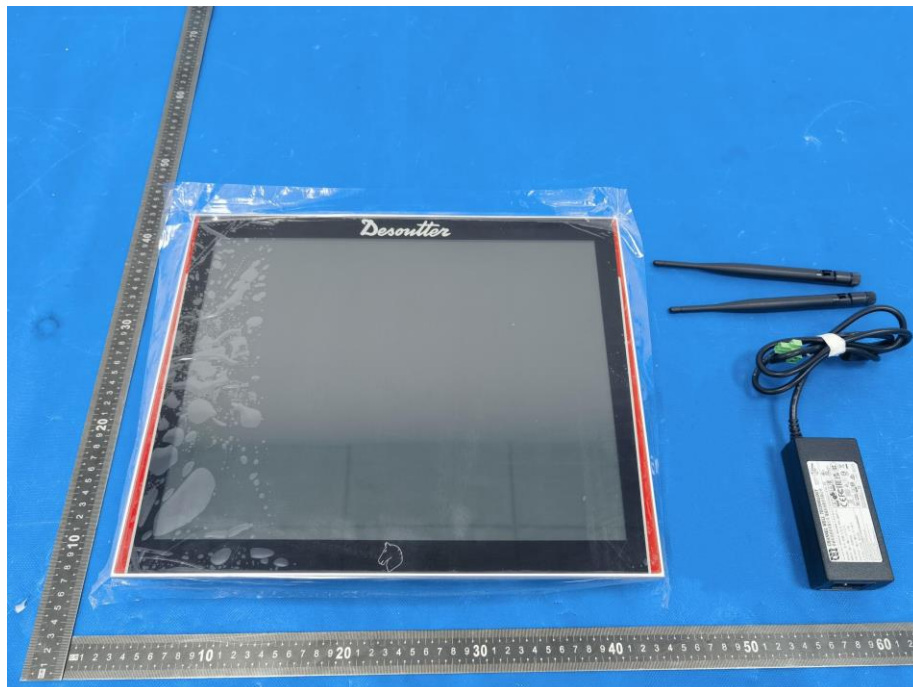
14.1 Limit

15.203 requirement: For intentional device, according to 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.

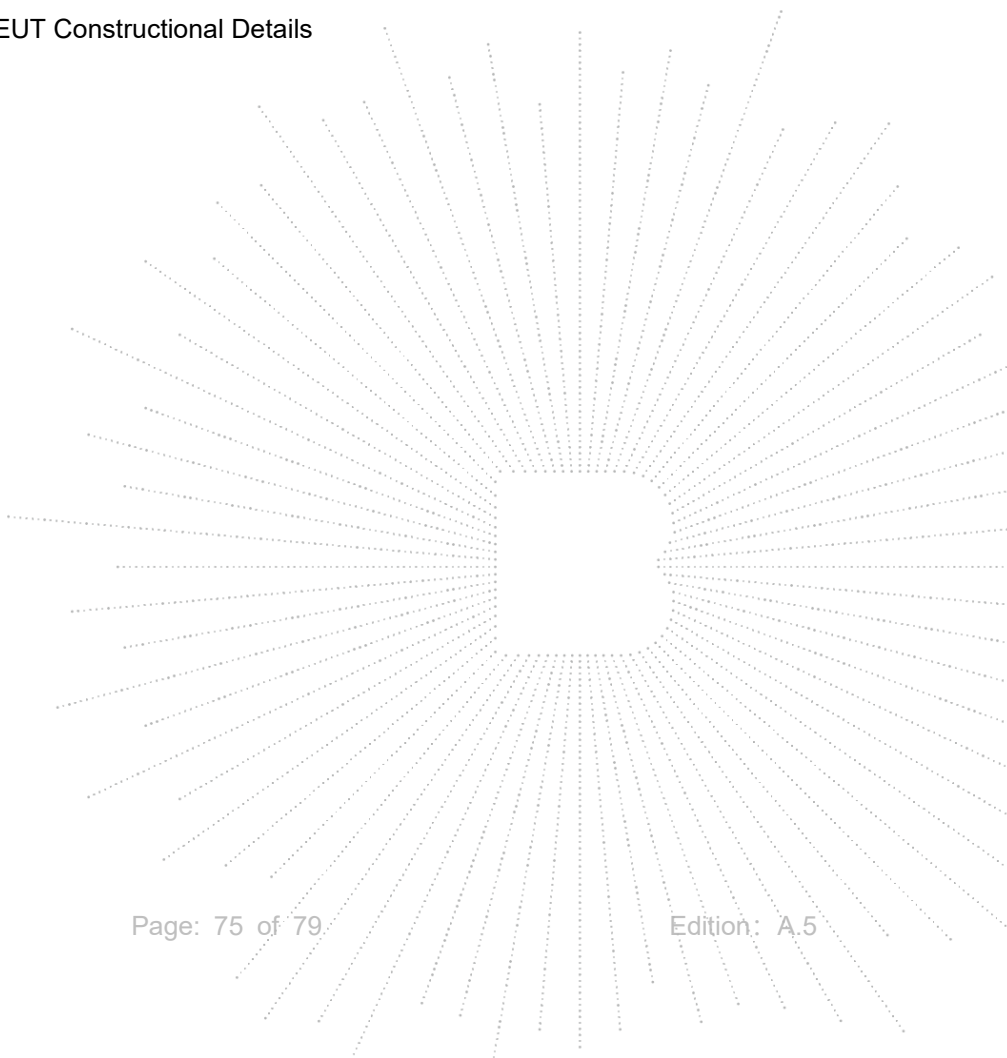
14.2 Test Antenna

The EUT antenna is External antenna. It comply with the standard requirement.

15. EUT Photographs



Appendix-Photographs Of EUT Constructional Details

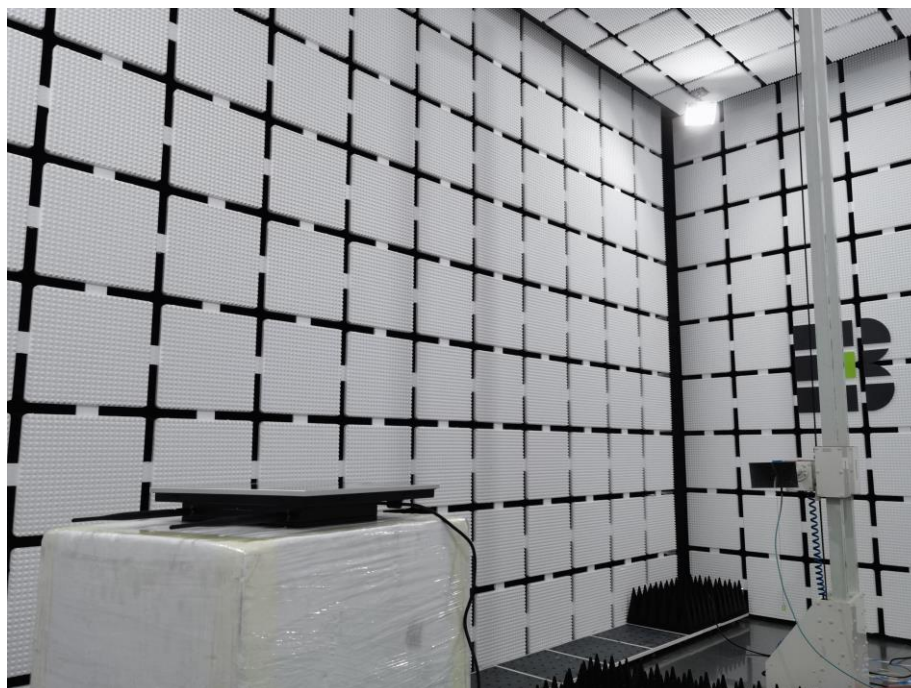
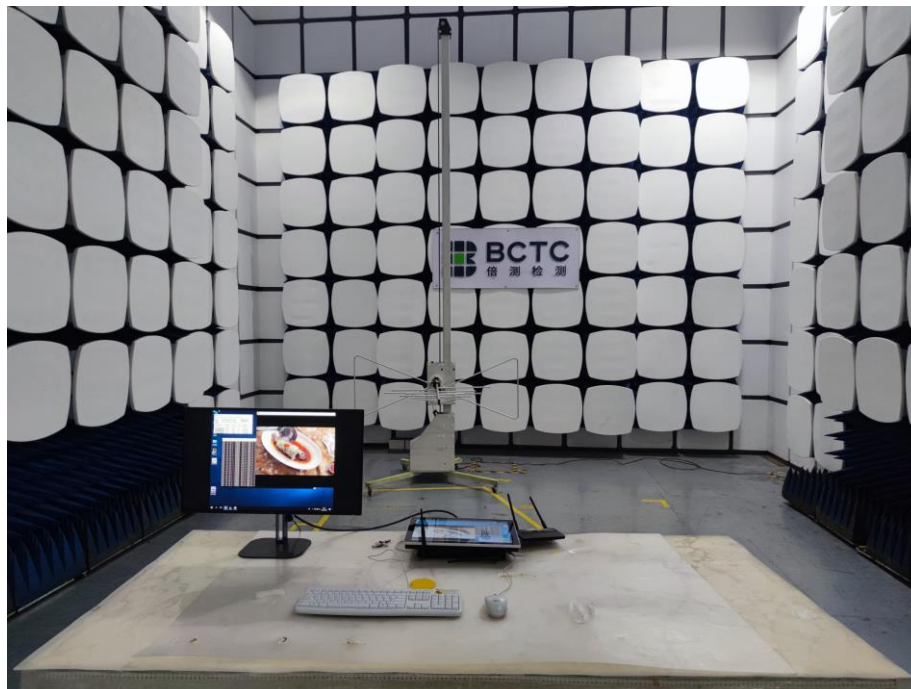


16. EUT Test Setup Photographs

Conducted emissions

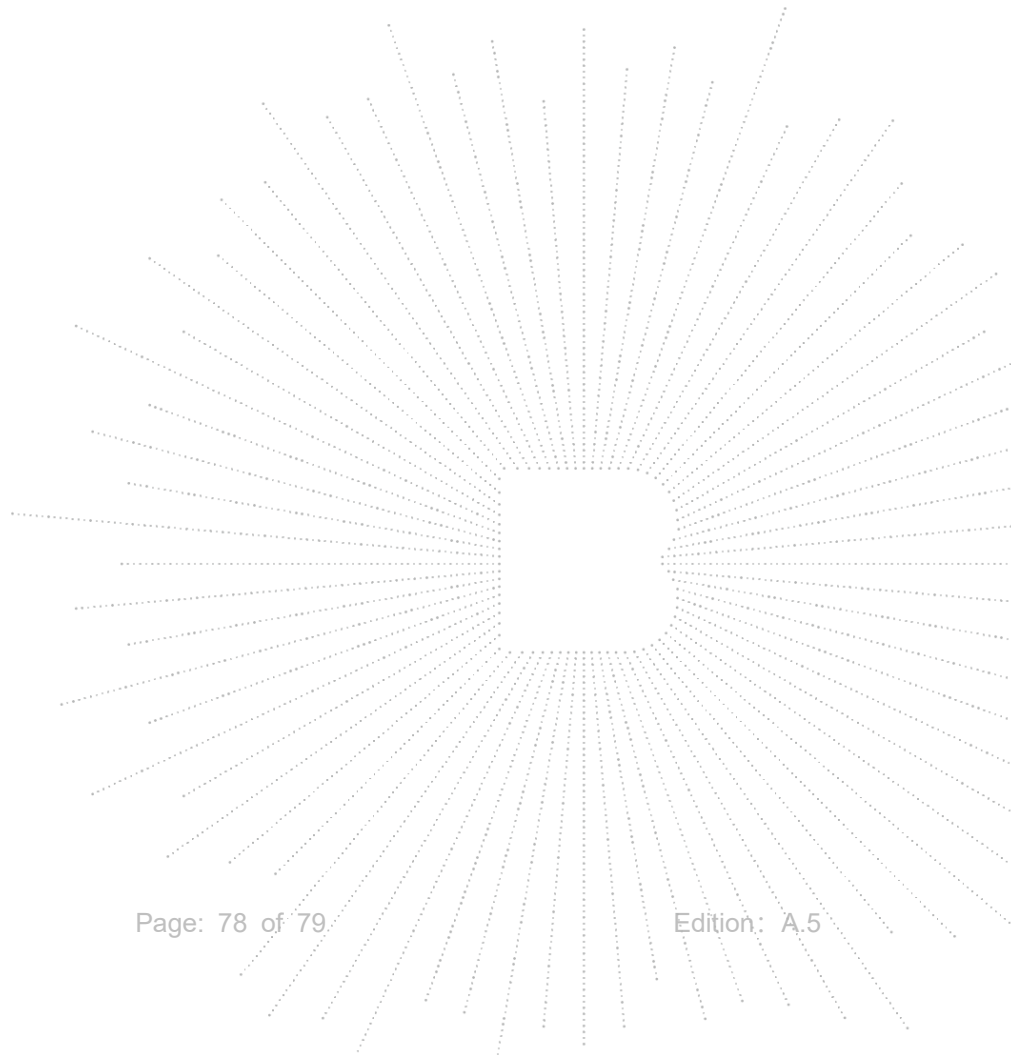


Radiated Measurement Photos



Difference Statement

The product is only different in appearance with or without logo and color, and the rest are the same. The internal structure, circuit board design, PCB layout design, key components and materials used are completely the same.



STATEMENT

1. The equipment lists are traceable to the national reference standards.
2. The test report can not be partially copied unless prior written approval is issued from our lab.
3. The test report is invalid without the "special seal for inspection and testing".
4. The test report is invalid without the signature of the approver.
5. The test process and test result is only related to the Unit Under Test.
6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.
7. The test report without CMA mark is only used for scientific research, teaching, enterprise product development and internal quality control purposes.
8. The quality system of our laboratory is in accordance with ISO/IEC17025.
9. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:

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P.C.: 518103

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E-Mail: bctc@bctc-lab.com.cn

***** END *****