

7.2.5. Test Result

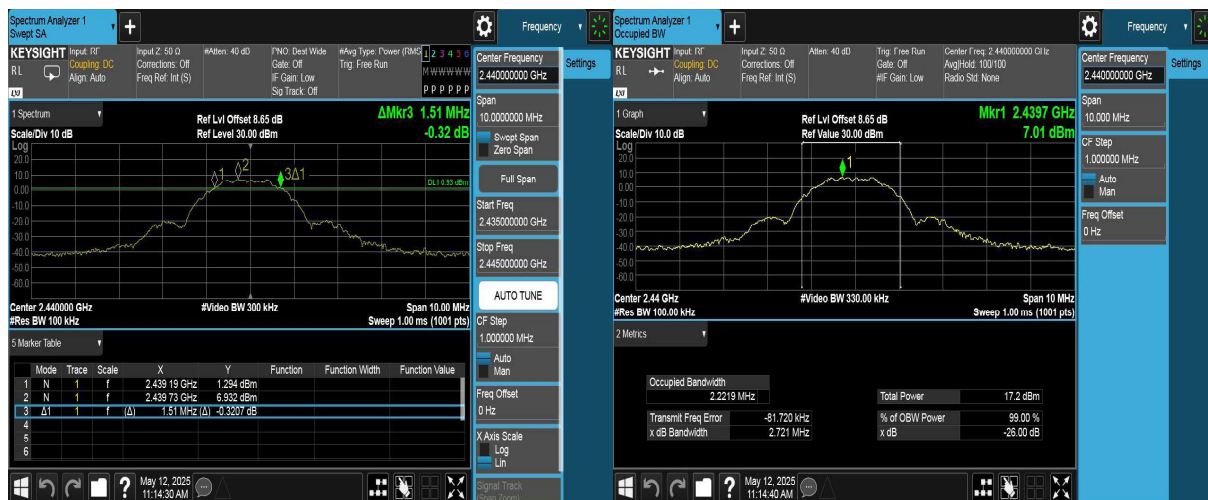
Temperature:	25.1 °C
Relative Humidity:	42 %
ATM Pressure:	101.2 kPa
Test Data:	2025-05-12
Test Engineer:	Stone Zhang

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit [MHz]	99% BW[MHz]	Verdict
Zigbee	Ant1	2405	1.540	2404.220	2405.760	≥0.5	2.2318	PASS
		2440	1.510	2439.190	2440.700	≥0.5	2.2219	PASS
		2475	1.560	2474.170	2475.730	≥0.5	2.2398	PASS
		2480	1.340	2479.230	2480.570	≥0.5	2.2427	PASS

Test Graphs



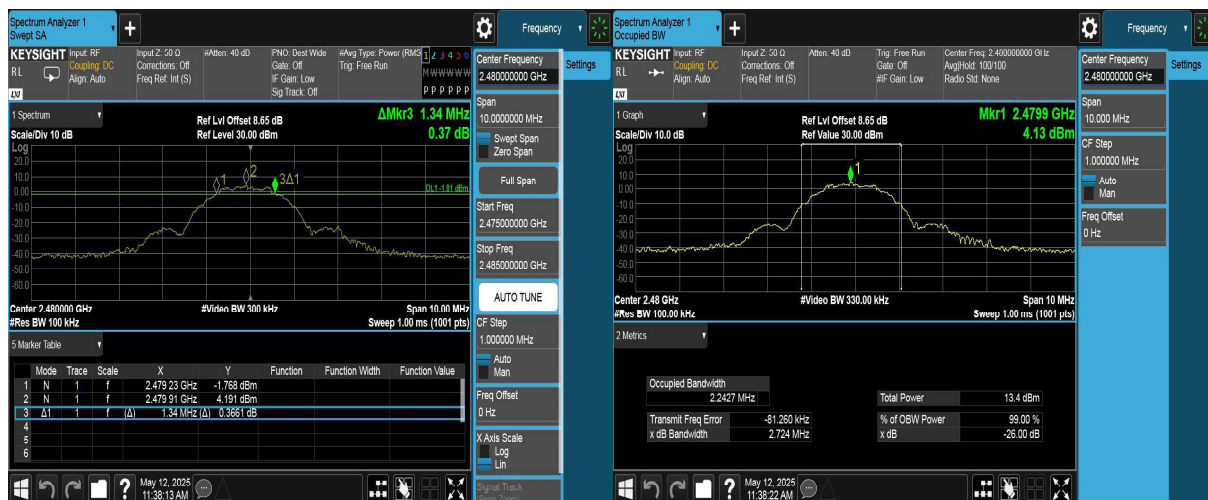
Zigbee_Ant1_2440



Zigbee_Ant1_2475



Zigbee_Ant1_2480



7.3. Output Power Measurement

7.3.1. Test Limit

The maximum permissible conducted output power is 1 Watt (30dBm). And for antenna gain greater than 6dBi the limit shall reduce by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.3.2. Test Procedure Used

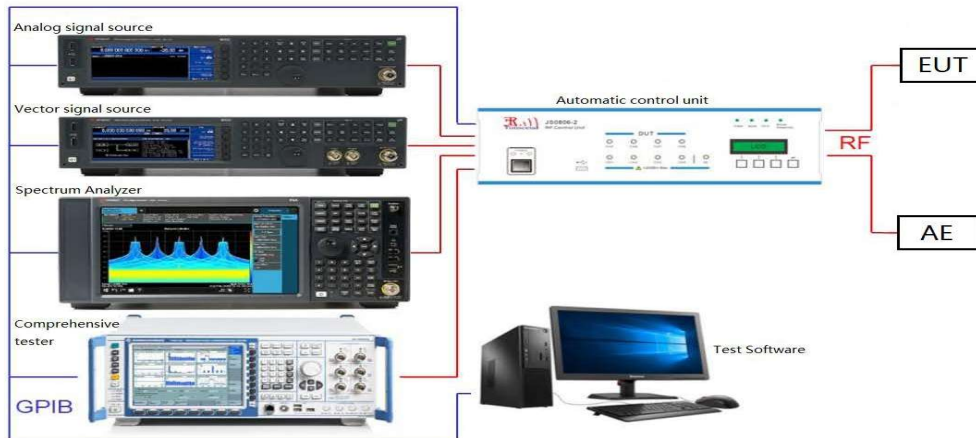
ANSI C63.10-2013 – Section 11.9.1.1

KDB 558074 D01 v05r02 – Section 8.3.1.2

7.3.3. Test Setting

- 1.Set the RBW $\geq$ DTS bandwidth.
- 2.Set the VBW $\geq$ $[3 \times \text{RBW}]$.
- 3.Set the span $\geq$ $[3 \times \text{RBW}]$.
- 4.Detector = peak.
- 5.Sweep time = auto couple.
- 6.Trace mode = max hold.
- 7.Allow trace to fully stabilize.
8. Use peak marker function to determine the peak amplitude level.

7.3.4. Test Setup



7.3.5. Test Result

Temperature:	25.1 °C
Relative Humidity:	42 %
ATM Pressure:	101.2 kPa
Test Data:	2025-05-12
Test Engineer:	Stone Zhang

Test Mode	Antenna	Frequency (MHz)	Result [dBm]	Limit [dBm]	Verdict
Zigbee	Ant1	2405	11.21	≤30	PASS
		2440	10.77	≤30	PASS
		2475	10.21	≤30	PASS
		2480	6.94	≤30	PASS

Test Graphs

Zigbee_Ant1_2405



Zigbee_Ant1_2440



Zigbee_Ant1_2475



Zigbee_Ant1_2480



7.4. Power Spectral Density Measurement

7.4.1. Test Limit

The maximum permissible power spectral density is 8dBm in any 3 kHz band. And for antenna gain greater than 6dBi the limit shall reduce by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.4.2. Test Procedure Used

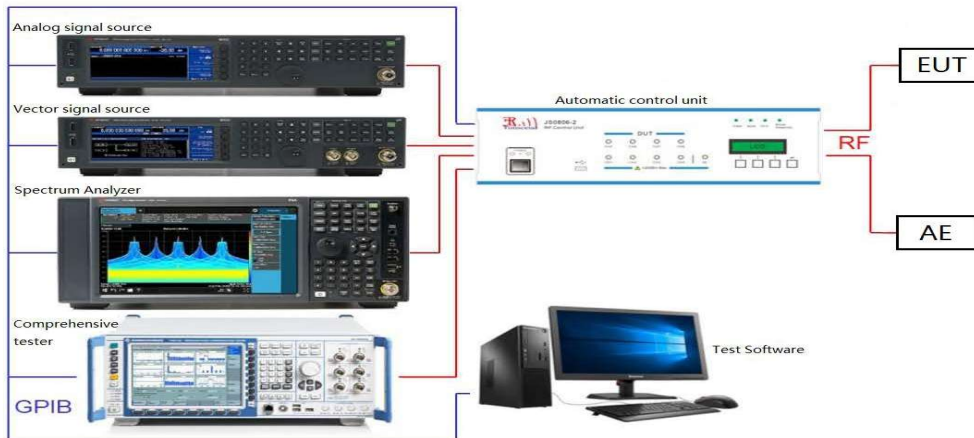
KDB 558074 D01 v05r02 - Section 8.4

ANSI C63.10 – Section 11.10.2

7.4.3. Test Setting

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq [3 \times \text{RBW}]$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.

7.4.4. Test Setup



7.4.5. Test Result

Temperature:	25.1 °C
Relative Humidity:	42 %
ATM Pressure:	101.2 kPa
Test Data:	2025-05-12
Test Engineer:	Stone Zhang

Test Mode	Antenna	Frequency (MHz)	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
Zigbee	Ant1	2405	-3.51	≤8.00	PASS
		2440	-3.74	≤8.00	PASS
		2475	-4.11	≤8.00	PASS
		2480	-7.47	≤8.00	PASS

Test Graphs

Zigbee_Ant1_2405



Zigbee_Ant1_2440



Zigbee_Ant1_2475



Zigbee_Ant1_2480



7.5. Conducted Band Edge and Out-of-Band Emissions

7.5.1. Test Limit

The limit for out-of-band spurious emissions at the band edge is 20dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100 kHz bandwidth per the PSD procedure.

7.5.2. Test Procedure Used

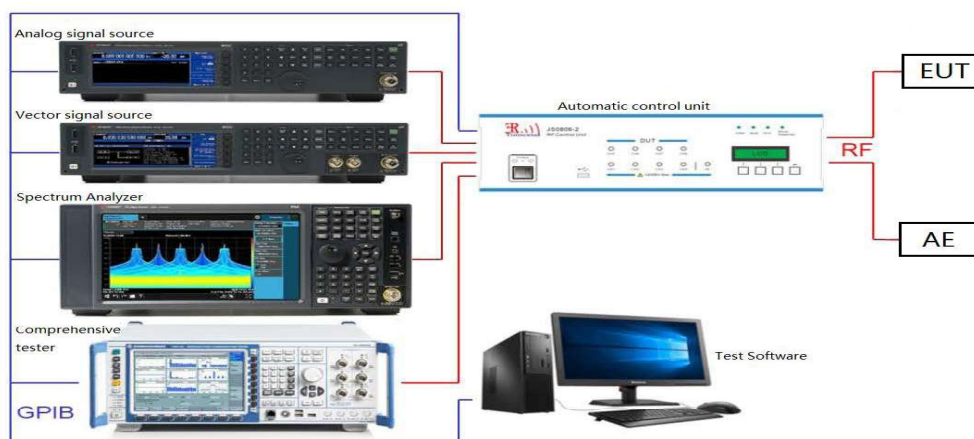
KDB 558074 D01 v05r02 - Section 8.5 & Section 8.6

ANSI C63.10 – Section 11.11&11.12

7.5.3. Test Setting

- (a) Set the center frequency and span to encompass frequency range to be measured
- (b) RBW = 100kHz
- (c) VBW = 300kHz
- (d) Detector = Peak
- (e) Trace mode = max hold
- (f) Sweep time = auto couple
- (g) The trace was allowed to stabilize

7.5.4. Test Setup



7.5.5. Test Result

Temperature:	25.1 °C
Relative Humidity:	42 %
ATM Pressure:	101.2 kPa
Test Data:	2025-05-12
Test Engineer:	Stone Zhang

Band edge

Test Mode	Antenna	ChName	Frequency (MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
Zigbee	Ant1	Low	2405	6.87	-42.85	≤-13.13	PASS
		High	2475	5.98	-48.03	≤-14.02	PASS
			2480	3.67	-39.89	≤-16.33	PASS

Conducted Spurious Emission

Test Mode	Antenna	Frequency (MHz)	Frequency Range [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
Zigbee	Ant1	2405	Reference	6.95	6.95	---	PASS
			30~1000	6.95	-61.56	≤-13.05	PASS
			1000~26500	6.95	-37.8	≤-13.05	PASS
		2440	Reference	6.59	6.59	---	PASS
			30~1000	6.59	-60.38	≤-13.41	PASS
			1000~26500	6.59	-39.03	≤-13.41	PASS
		2475	Reference	5.93	5.93	---	PASS
			30~1000	5.93	-61.69	≤-14.07	PASS
			1000~26500	5.93	-43.23	≤-14.07	PASS
		2480	Reference	3.69	3.69	---	PASS
			30~1000	3.69	-61.2	≤-16.31	PASS
			1000~26500	3.69	-42.78	≤-16.31	PASS

Test Graphs of Band Edge

Zigbee_Ant1_Low_2405



Zigbee_Ant1_High_2475



Zigbee_Ant1_High_2480

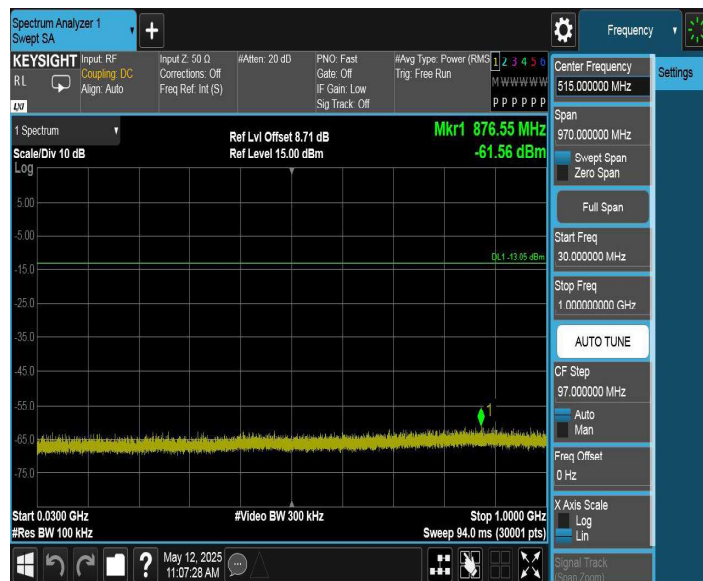


Test Graphs of Out-of-Band Emissions

Zigbee_Ant1_2405_0~Reference



Zigbee_Ant1_2405_30~1000



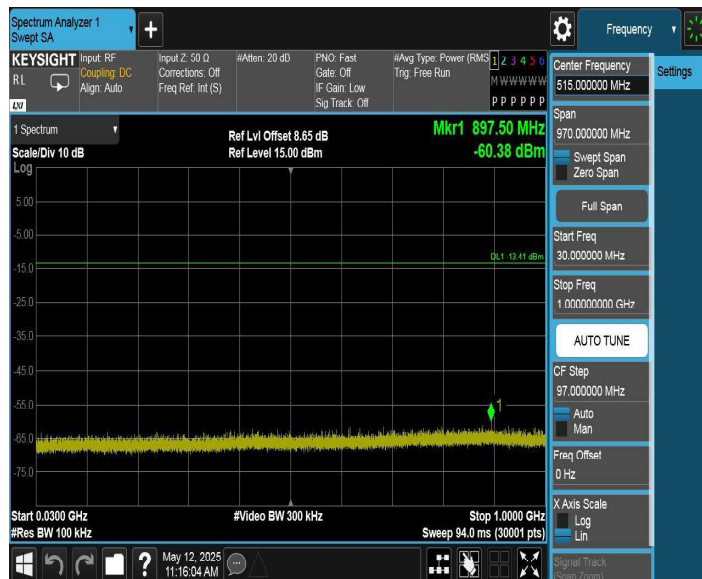
Zigbee_Ant1_2405_1000~26500



Zigbee_Ant1_2440_0~Reference



Zigbee_Ant1_2440_30~1000



Zigbee_Ant1_2440_1000~26500



Zigbee_Ant1_2475_0~Reference



Zigbee_Ant1_2475_30~1000

