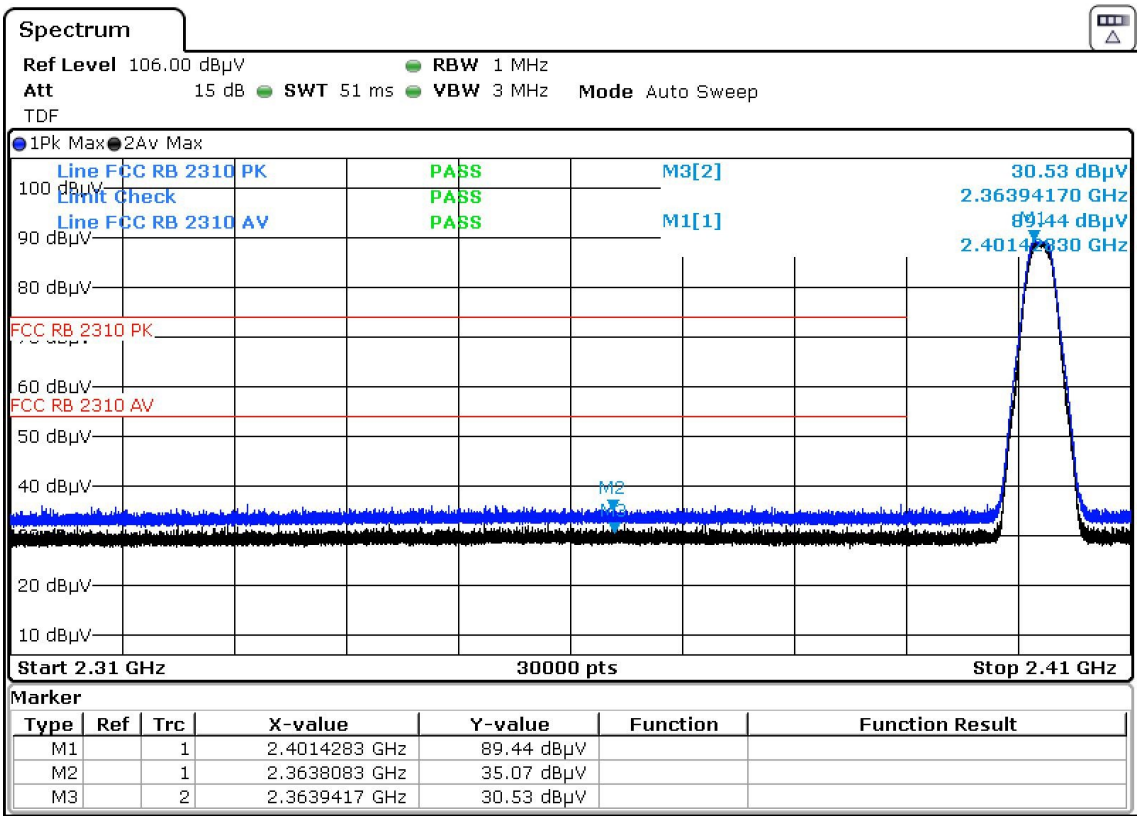
Vertical



Remarks: Y-Value = received value + Correction Factor (Antenna factor + Cable loss - Preamp gain)

No other significant emissions were measured at the frequency range of interest employing the PK and AV detectors.

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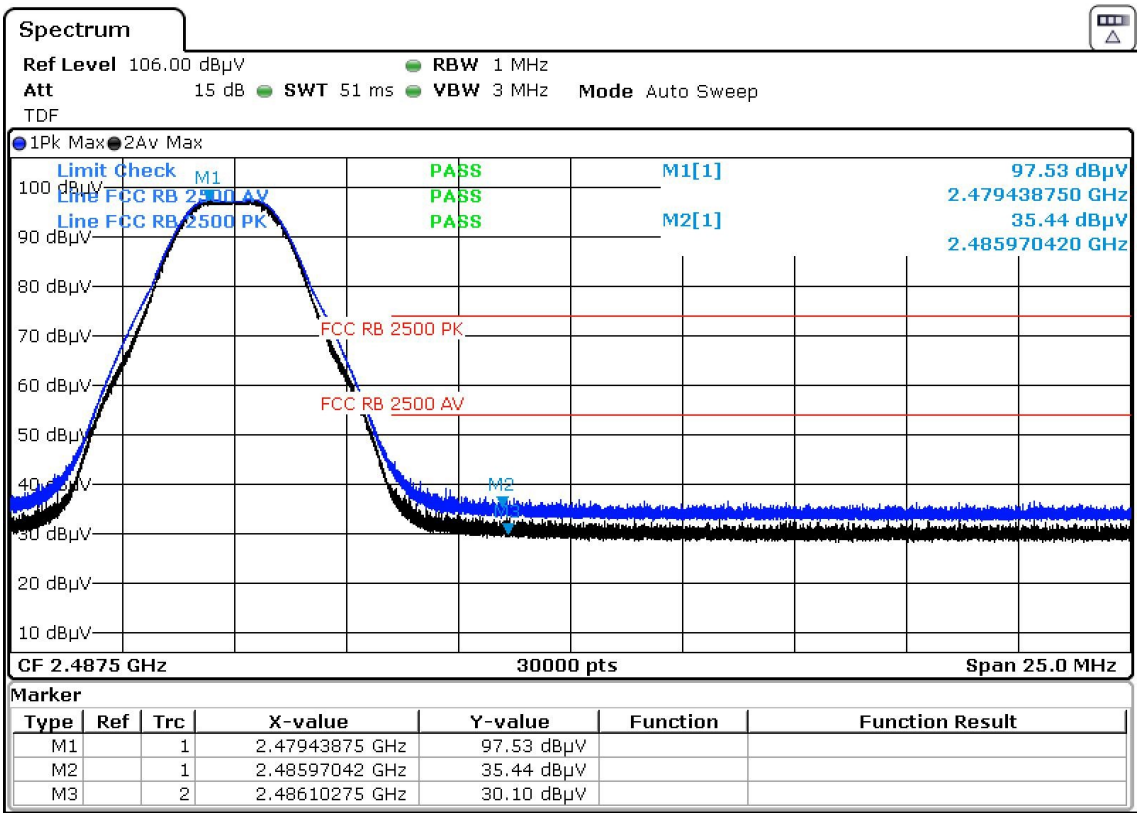
Model	BOND (NLS2A)
Operation Mode	Mode 2 @2480 MHz
Test voltage	---

Results

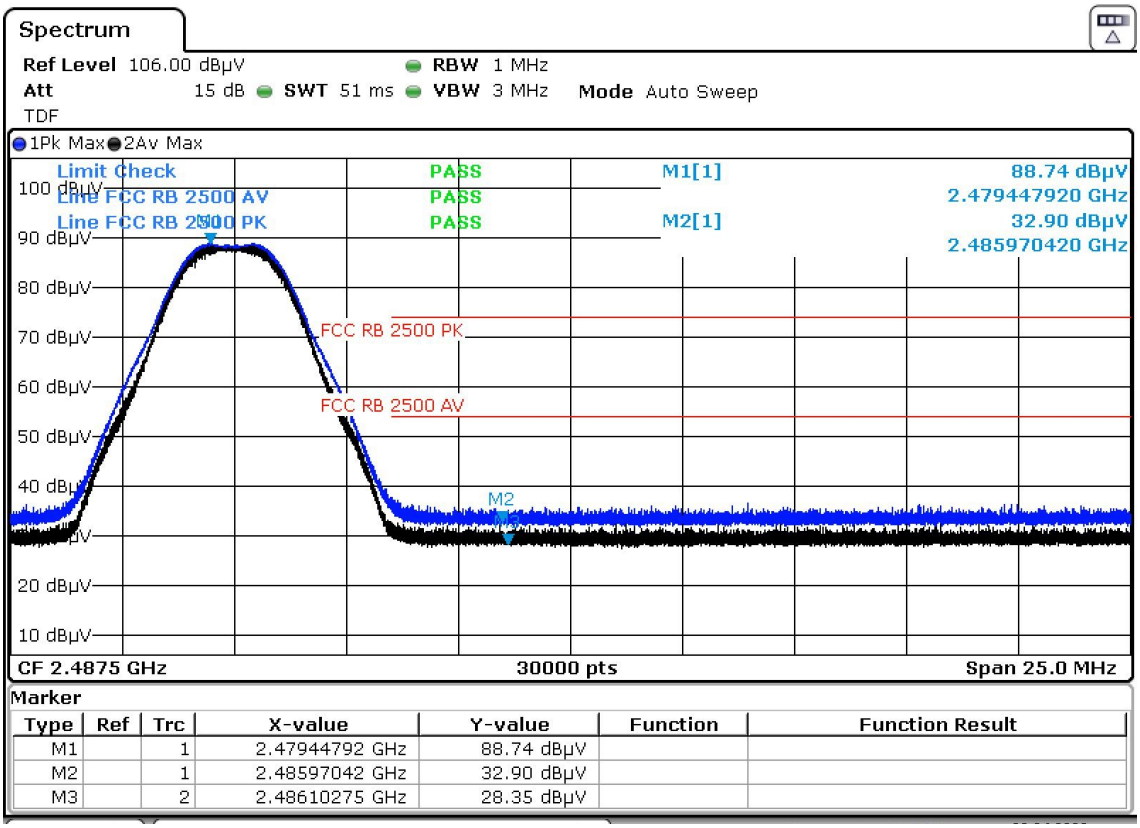
Horizontal



Remarks: Y-Value = received value + Correction Factor (Antenna factor + Cable loss - Preamp gain)

No other significant emissions were measured at the frequency range of interest employing the PK and AV detectors.

Vertical



Remarks: Y-Value = received value + Correction Factor (Antenna factor + Cable loss - Preamp gain)

No other significant emissions were measured at the frequency range of interest employing the PK and AV detectors.

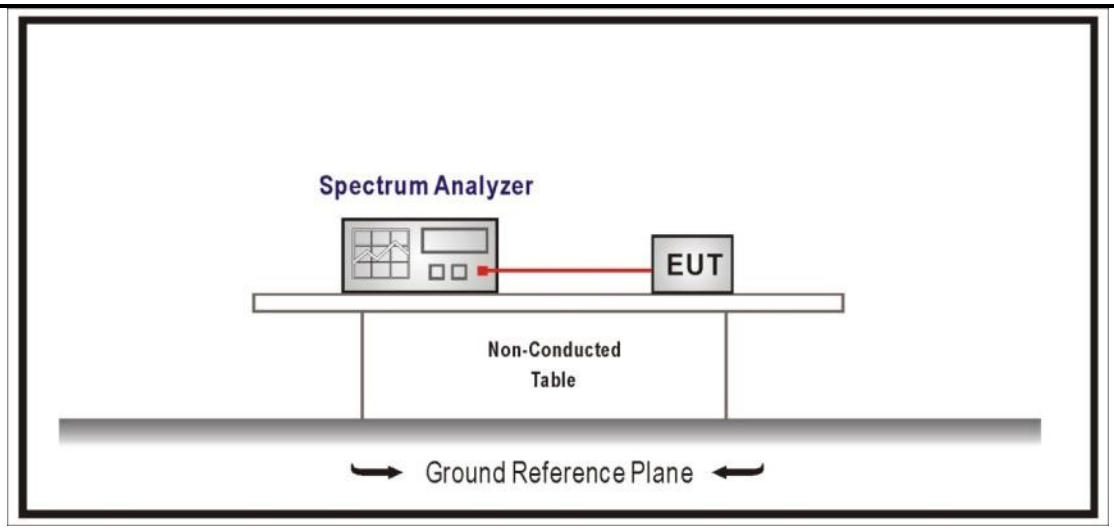
4.4 Band Edge — VERDICT: PASS

Standard	FCC Part 15 Subpart C Paragraph 15.247(d)
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30dBc(Note1)
RF Output power(PK detector)	20dBc(Note2)

Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at by LEast 30 dB relative to the maximum in-band peak PSD by LEvel in 100 kHz (i.e., 30 dBc).

Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at by least 20 dB relative to the maximum in-band peak PSD by level in 100 kHz (i.e., 20 dBc).

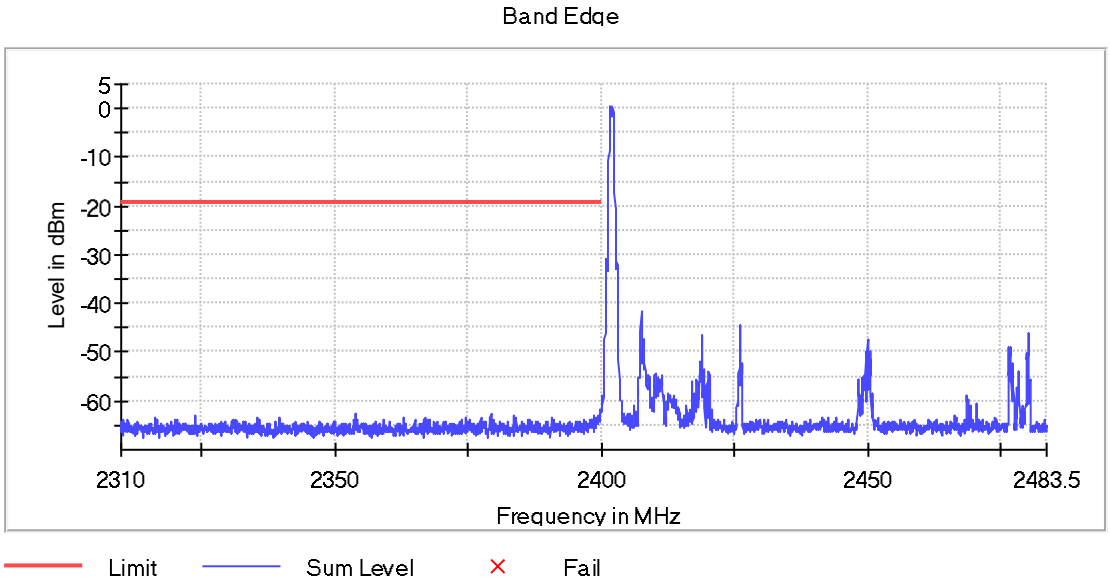
Test Configuration



Performed measurements

Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1, Mode 2	
Remark	---	

Results of mode 1 @2402 MHz



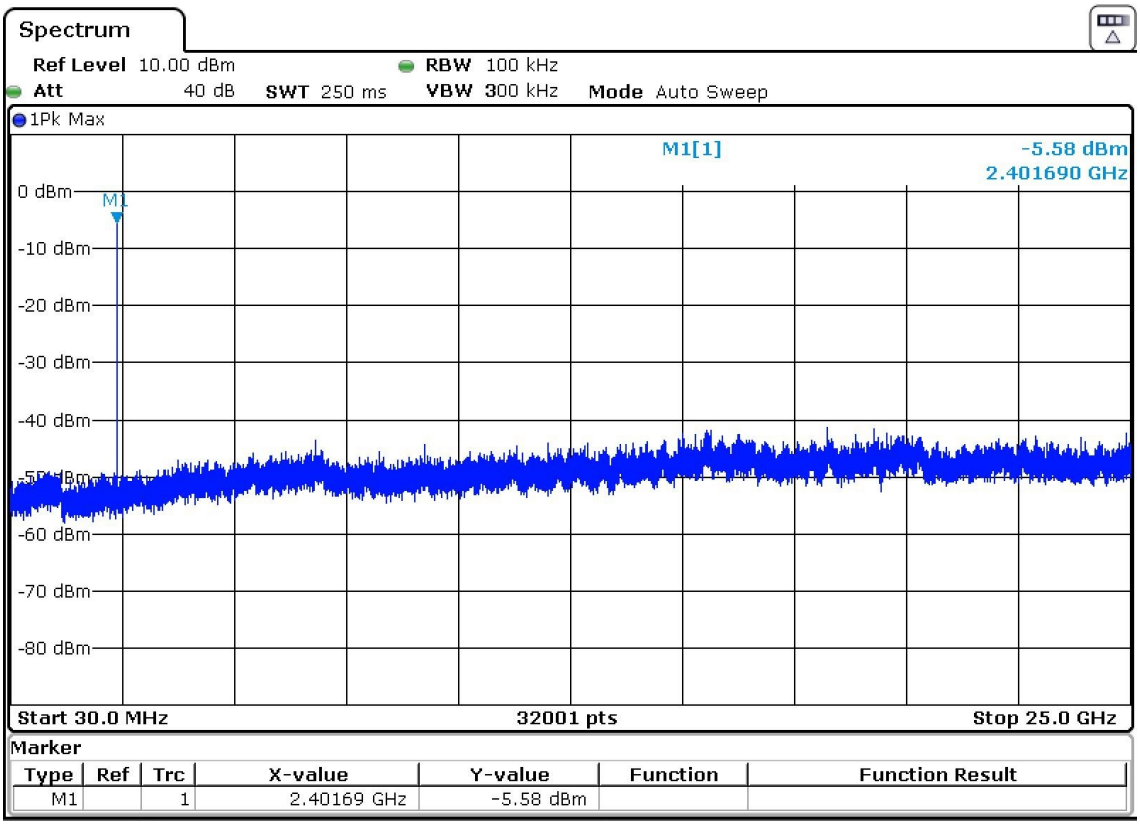
Inband Peak

Frequency (MHz)	Level (dBm)
2402.0000	0,5

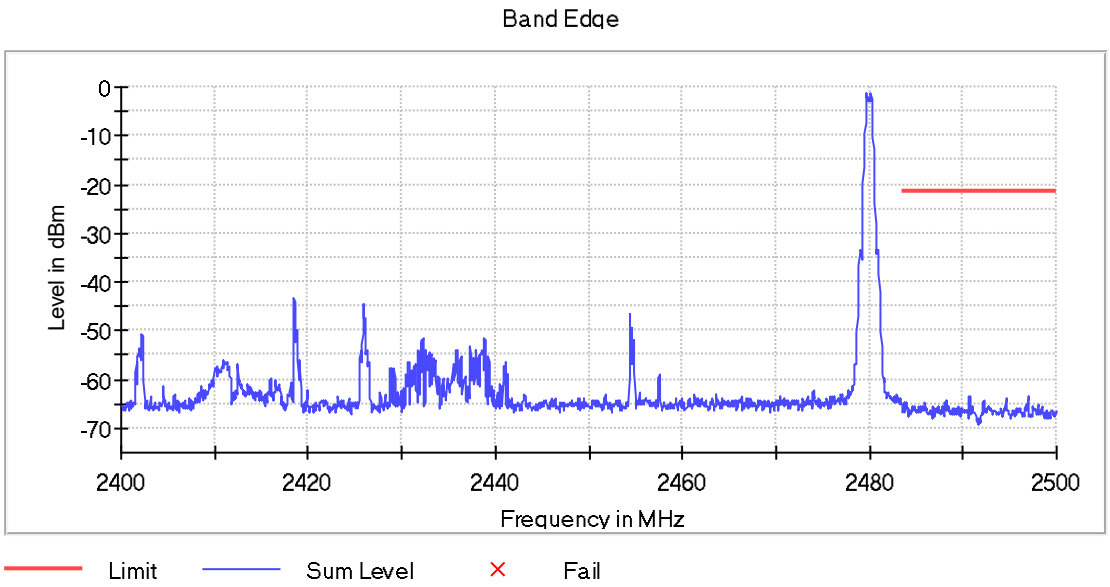
Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.775000	-61.6	42.1	-19.5	PASS
2399.725000	-61.8	42.3	-19.5	PASS
2399.975000	-62.2	42.7	-19.5	PASS
2353.875000	-62.5	43.0	-19.5	PASS
2379.325000	-62.7	43.2	-19.5	PASS
2399.925000	-62.7	43.3	-19.5	PASS
2353.925000	-62.8	43.3	-19.5	PASS
2383.475000	-62.9	43.4	-19.5	PASS
2323.825000	-63.0	43.5	-19.5	PASS
2399.575000	-63.0	43.5	-19.5	PASS
2398.725000	-63.0	43.5	-19.5	PASS
2399.525000	-63.0	43.5	-19.5	PASS
2399.825000	-63.1	43.6	-19.5	PASS
2339.675000	-63.2	43.7	-19.5	PASS
2383.525000	-63.3	43.8	-19.5	PASS

Additional test figure



Results of mode 1 @2480 MHz



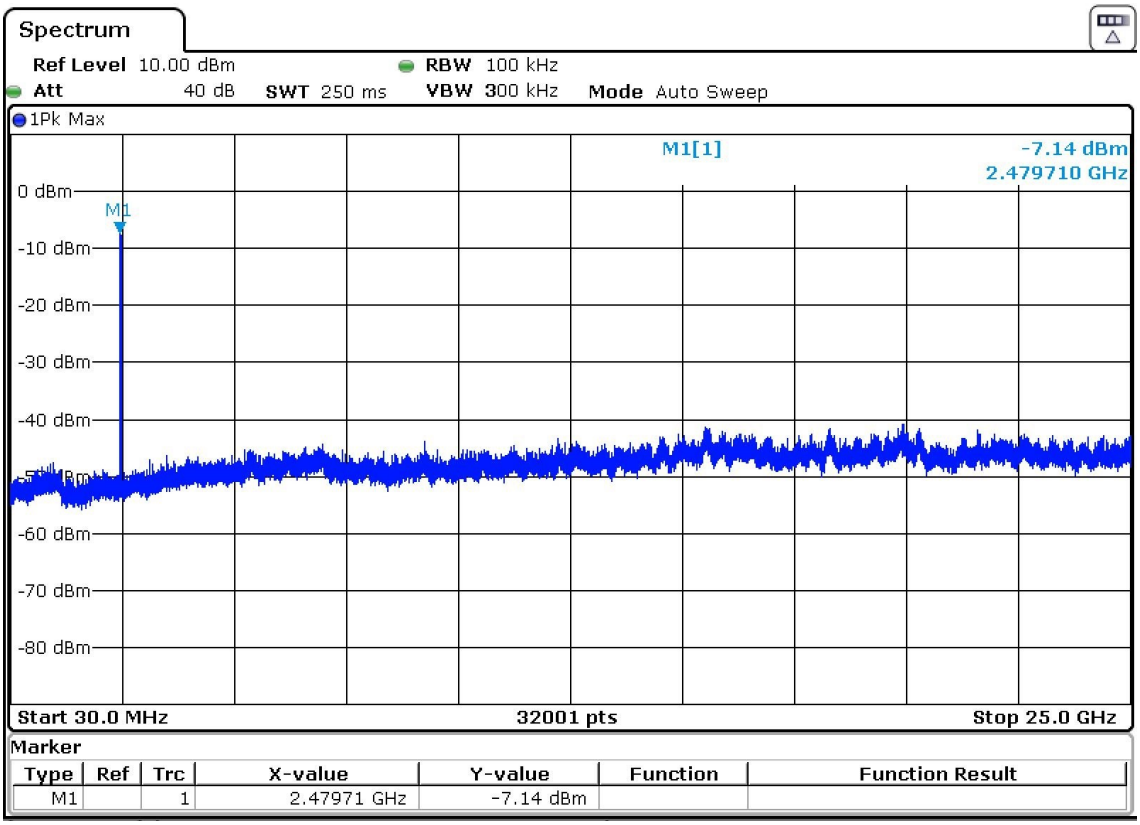
Inband Peak

Frequency (MHz)	Level (dBm)
2480.0000	-1,4

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2496.975000	-63.5	42.1	-21.4	PASS
2490.675000	-63.6	42.2	-21.4	PASS
2490.725000	-63.6	42.2	-21.4	PASS
2494.625000	-63.8	42.4	-21.4	PASS
2496.925000	-63.9	42.5	-21.4	PASS
2494.675000	-64.2	42.8	-21.4	PASS
2488.275000	-64.3	42.9	-21.4	PASS
2494.575000	-64.4	43.0	-21.4	PASS
2492.225000	-64.4	43.0	-21.4	PASS
2492.175000	-64.5	43.1	-21.4	PASS
2488.025000	-64.6	43.2	-21.4	PASS
2488.075000	-64.6	43.2	-21.4	PASS
2483.675000	-64.6	43.2	-21.4	PASS
2488.125000	-64.7	43.3	-21.4	PASS
2483.925000	-64.8	43.4	-21.4	PASS

Additional test figure



Results of mode 2 @2402 MHz

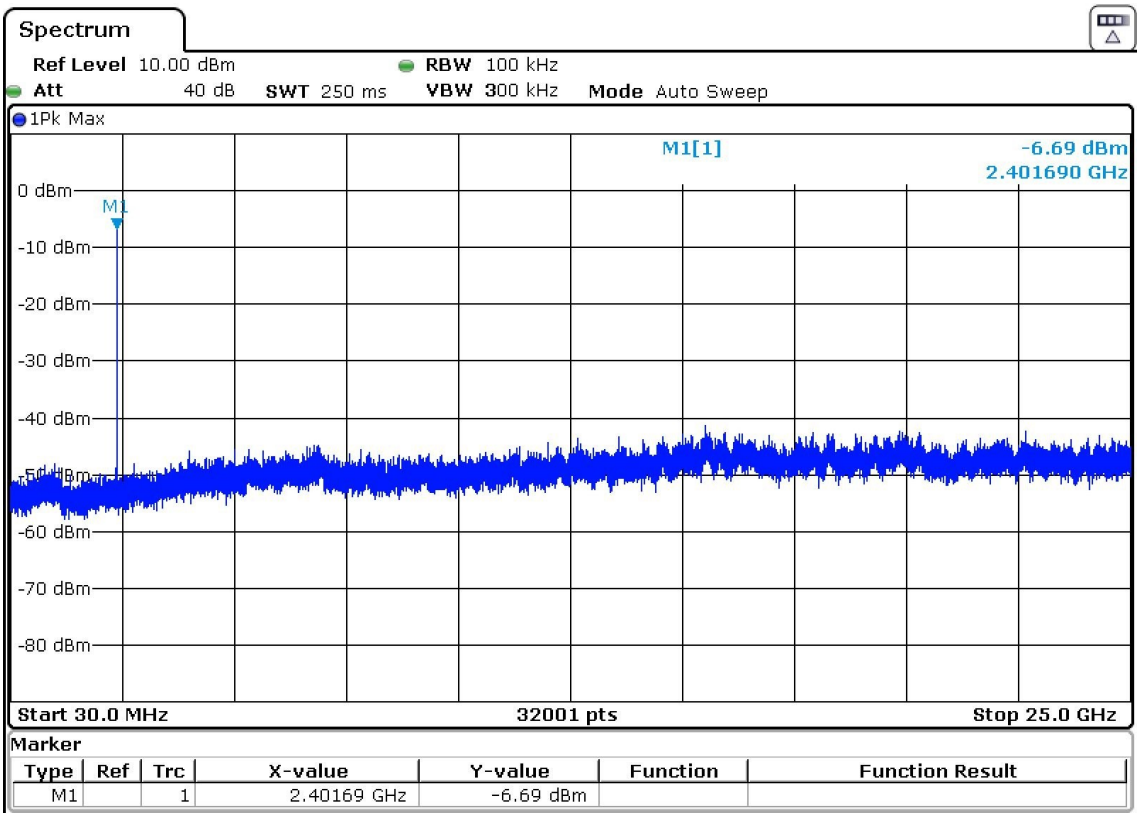
Inband Peak

Frequency (MHz)	Level (dBm)
2402.0000	-0,4

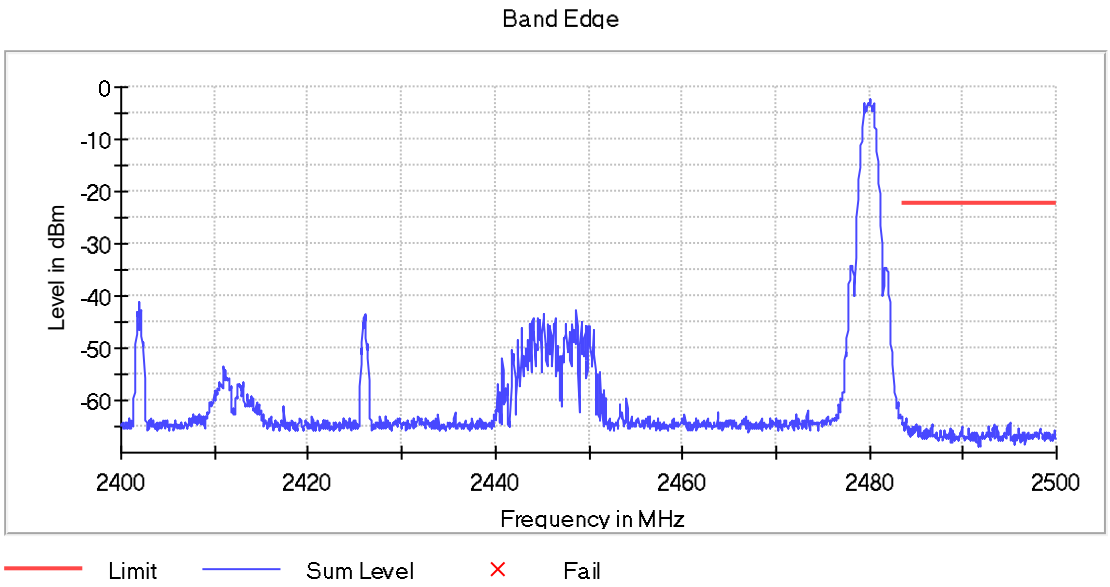
Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.975000	-33.2	12.8	-20.4	PASS
2399.925000	-34.1	13.6	-20.4	PASS
2399.875000	-35.1	14.7	-20.4	PASS
2399.825000	-36.4	16.0	-20.4	PASS
2399.775000	-37.8	17.4	-20.4	PASS
2399.725000	-39.8	19.4	-20.4	PASS
2399.675000	-43.0	22.5	-20.4	PASS
2399.625000	-44.3	23.9	-20.4	PASS
2399.575000	-46.2	25.8	-20.4	PASS
2338.975000	-48.6	28.2	-20.4	PASS
2399.425000	-49.0	28.6	-20.4	PASS
2399.525000	-49.3	28.8	-20.4	PASS
2399.475000	-49.4	29.0	-20.4	PASS
2338.925000	-49.6	29.2	-20.4	PASS
2338.825000	-50.2	29.8	-20.4	PASS

Additional test figure



Results of mode 1 @2480 MHz



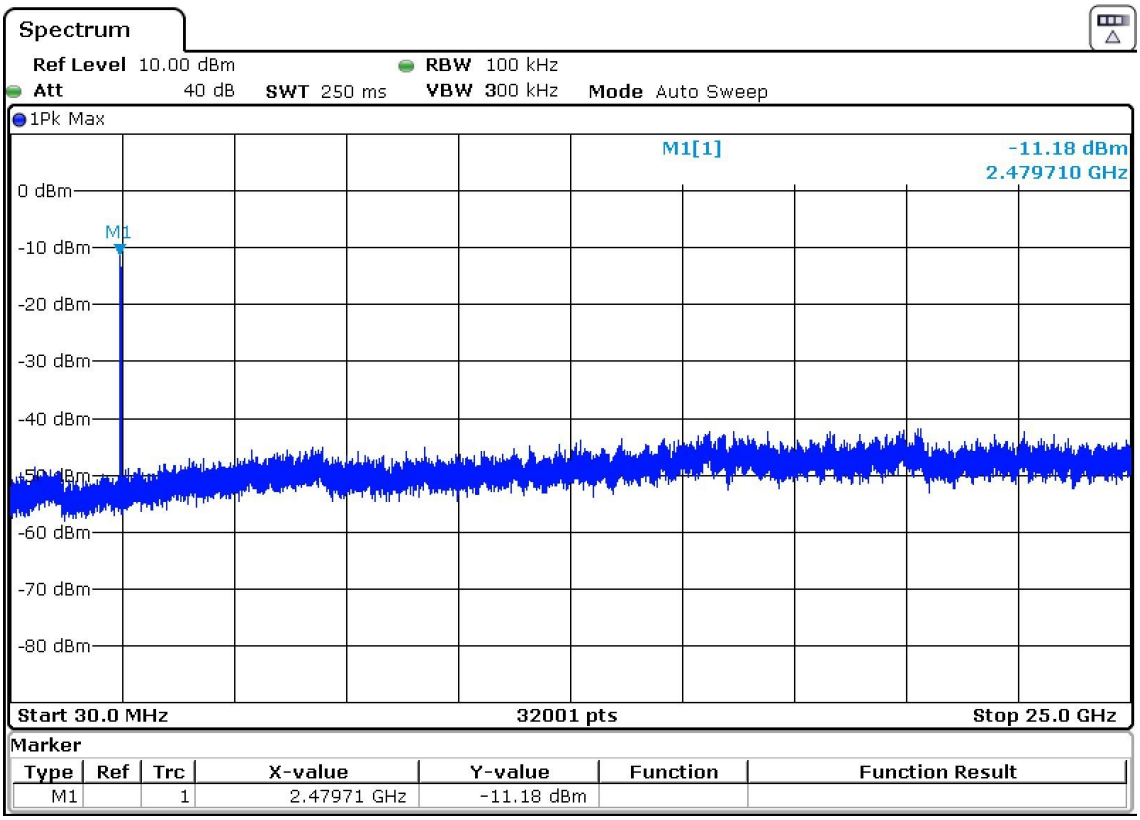
Inband Peak

Frequency (MHz)	Level (dBm)
2480.0000	-2,4

Measurements

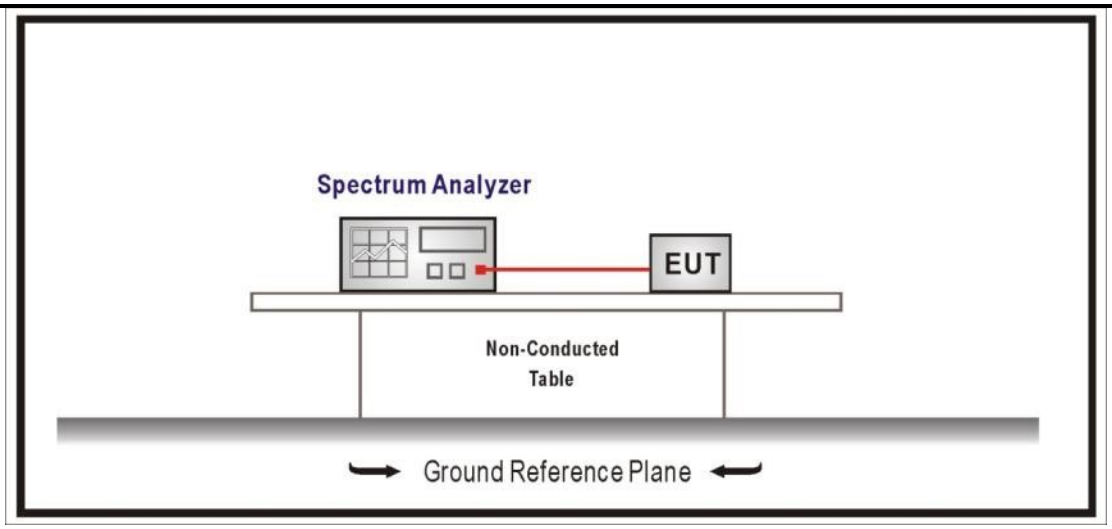
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2483.975000	-63.6	41.2	-22.4	PASS
2483.925000	-63.8	41.4	-22.4	PASS
2494.975000	-64.1	41.7	-22.4	PASS
2483.575000	-64.2	41.7	-22.4	PASS
2483.875000	-64.2	41.7	-22.4	PASS
2483.825000	-64.3	41.8	-22.4	PASS
2484.975000	-64.4	42.0	-22.4	PASS
2495.025000	-64.4	42.0	-22.4	PASS
2493.325000	-64.6	42.2	-22.4	PASS
2485.025000	-64.7	42.2	-22.4	PASS
2494.775000	-64.7	42.2	-22.4	PASS
2483.525000	-64.7	42.3	-22.4	PASS
2493.275000	-64.7	42.3	-22.4	PASS
2486.675000	-64.8	42.3	-22.4	PASS
2486.625000	-64.8	42.4	-22.4	PASS

Additional test figure



4.5 Duty cycle	VERDICT: PASS

Test Configuration



Performed measurements

Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1, Mode 2	
Remark	---	

Results

Test Mode	Tx On (ms)	Tx On + Tx Off (ms)	Duty Cycle
Mode 1	---	---	100%

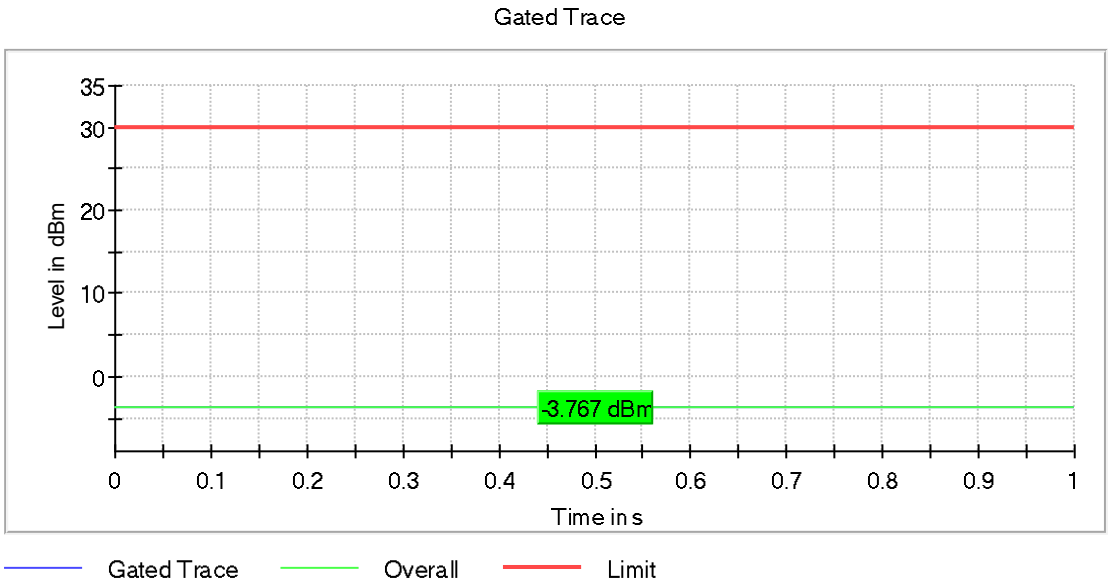
Note 1: T means the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control Level for the tested mode of operation.

Note 2: According to KDB 558074, when test for Radiated Emission Band Edge and Radiated Emission, for average detector set: VBW ≥ 1/T will be used.

Test Mode	Tx On (ms)	Tx On + Tx Off (ms)	Duty Cycle
Mode 2	---	---	100%

Note 1: T means the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control Level for the tested mode of operation.

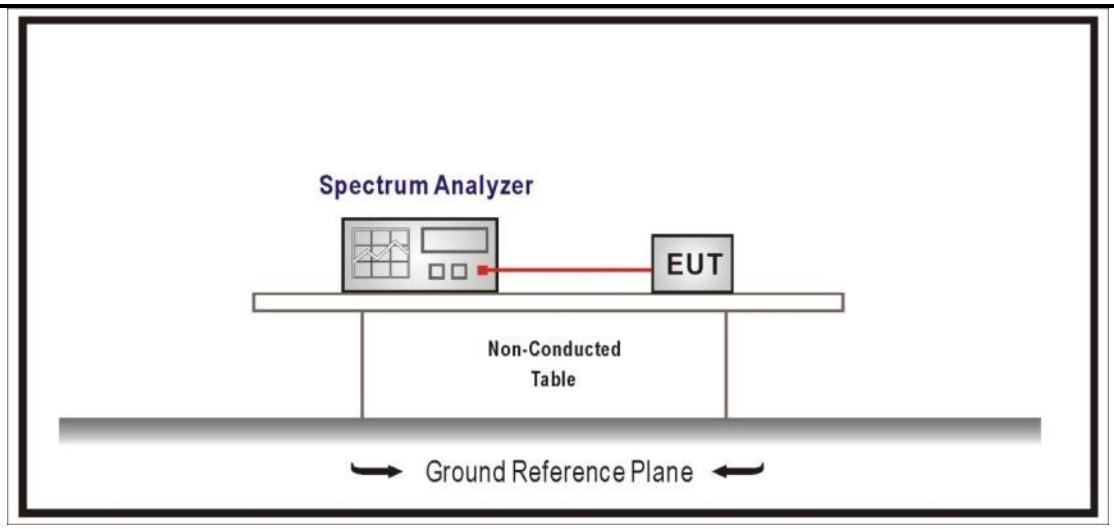
Note 2: According to KDB 558074, when test for Radiated Emission Band Edge and Radiated Emission, for average detector set: VBW ≥ 1/T will be used.



4.6 DTS Bandwidth	VERDICT: PASS

Standard	FCC Part 15 Subpart C Paragraph 15.247 (a)(2)
Systems using digital modulation techniques operate in the 2400-2483.5 MHz .The minimum 6 dB bandwidth shall be at by least 500 kHz	

Test Configuration



Performed measurements

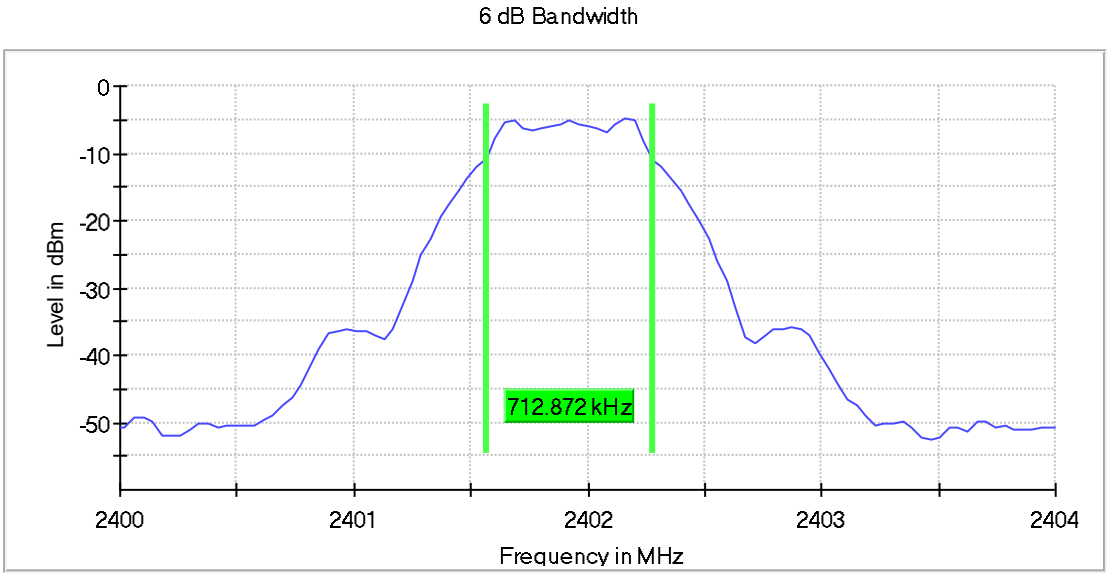
Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1, Mode 2	
Remark	---	

Results

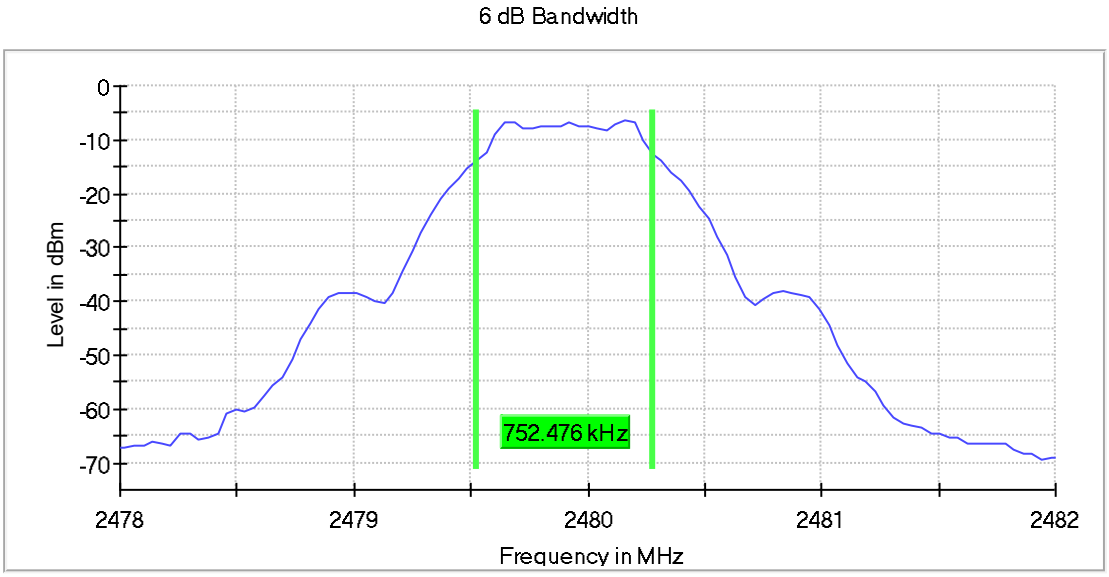
Mode	CH.	Test Freq. (MHz)	6dB Occupied Bandwidth (kHz)	Limit (kHz)	Result
1	37	2402	712,87	>500	Pass
	39	2480	752,47	>500	Pass

6dB Occupied Bandwidth

Mode 1 / CH37 (2402MHz)



Mode 1 / CH39 (2480MHz)

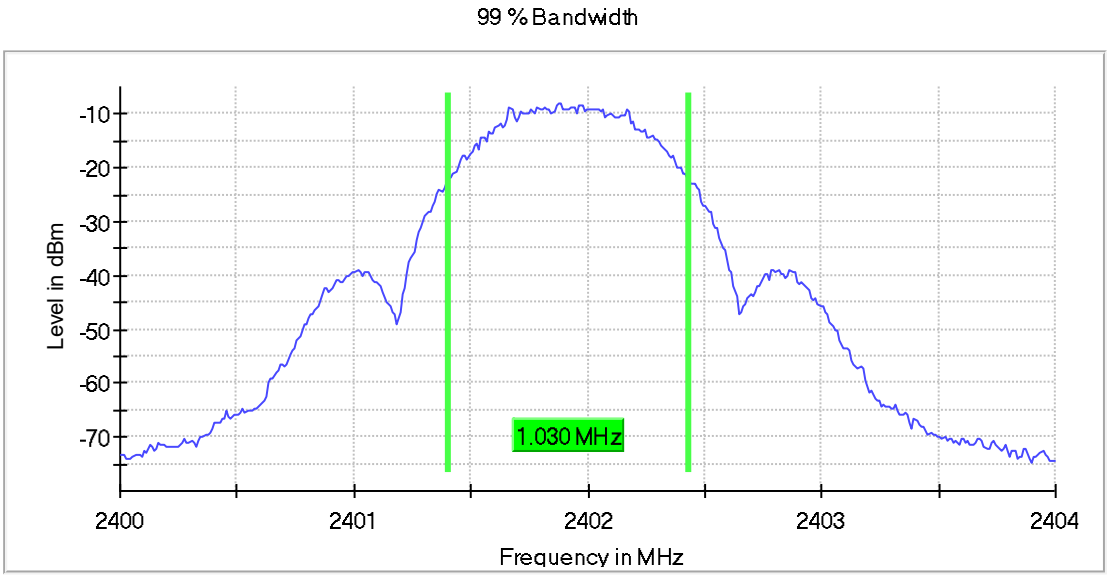


Supplementary information: RBW=100 kHz, VBW=300 kHz

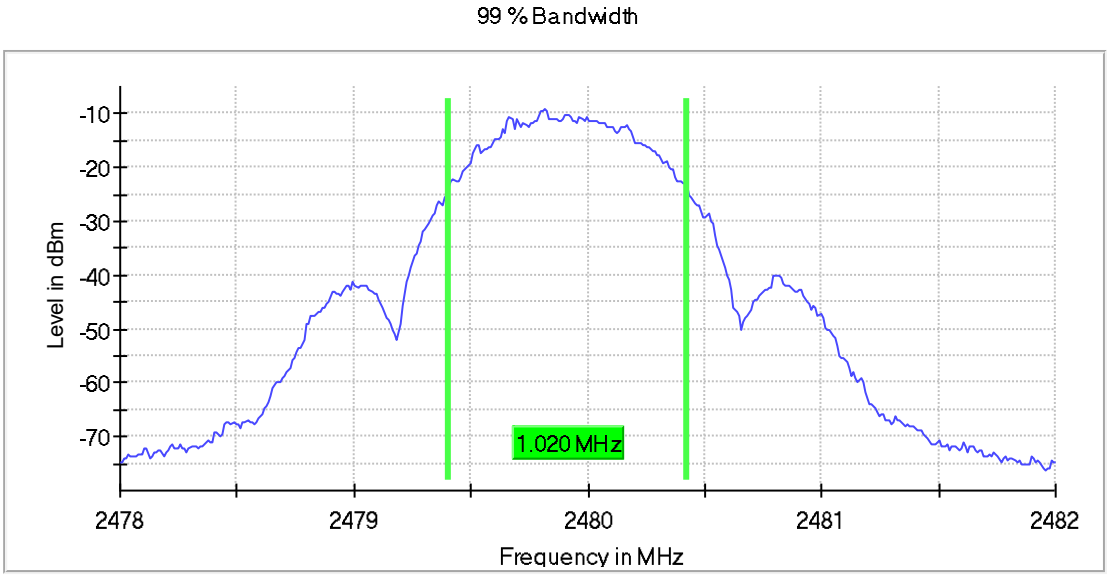
Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
1	37	2402	1.03	Within frequency range	Pass
	39	2480	1.02	Within frequency range	Pass

99% Occupied Bandwidth

Mode 1 / CH37 (2402 MHz)



Mode 1 / CH39 (2480 MHz)



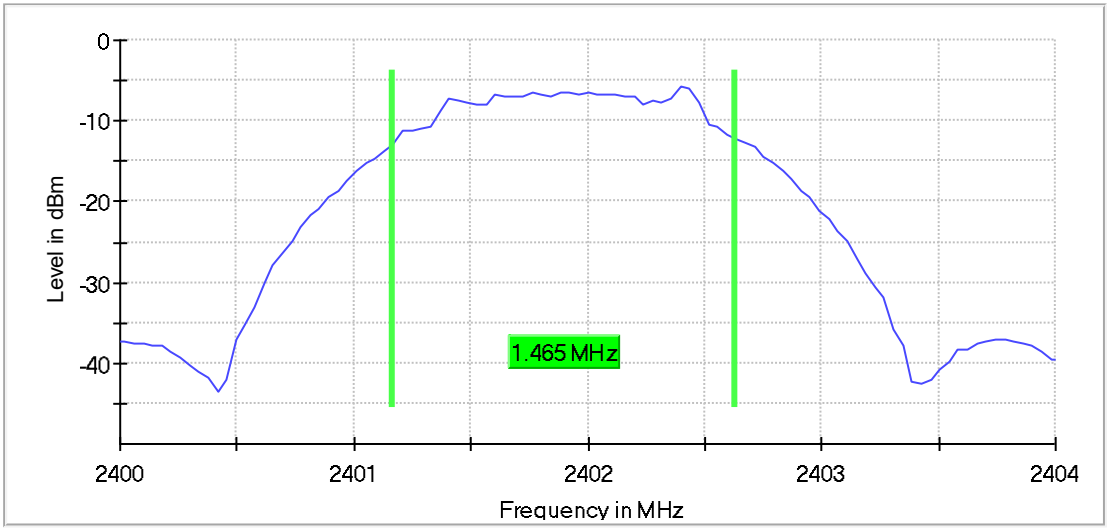
Supplementary information: RBW=30 kHz, VBW=100 kHz

Mode	CH.	Test Freq. (MHz)	6dB Occupied Bandwidth (kHz)	Limit (kHz)	Result
2	37	2402	1465,34	>500	Pass
	39	2480	1465,34	>500	Pass

6dB Occupied Bandwidth

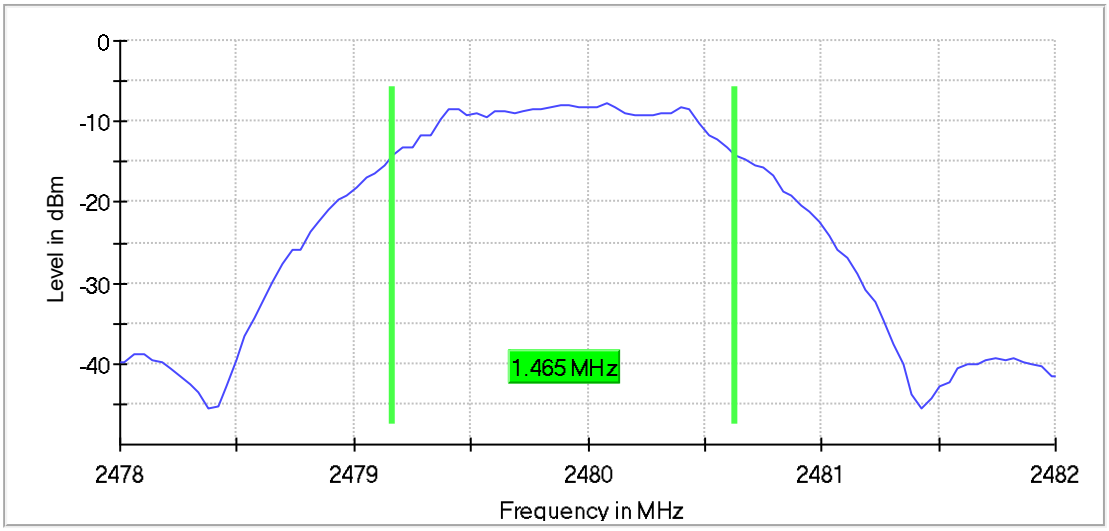
Mode 2 / CH37 (2402MHz)

6 dB Bandwidth



Mode 1 / CH39 (2480MHz)

6 dB Bandwidth

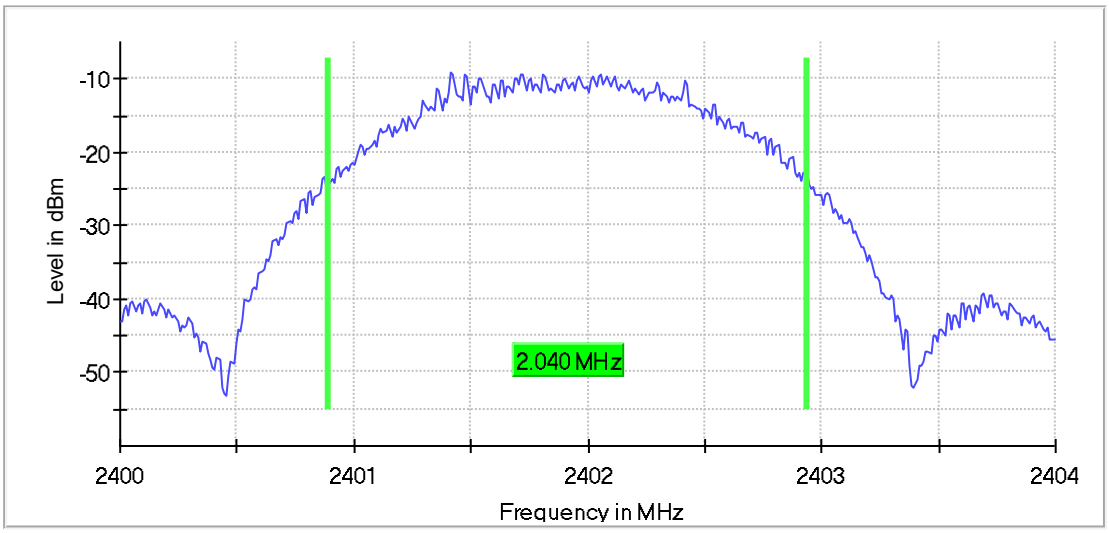


Supplementary information: RBW=100 kHz, VBW=300 kHz

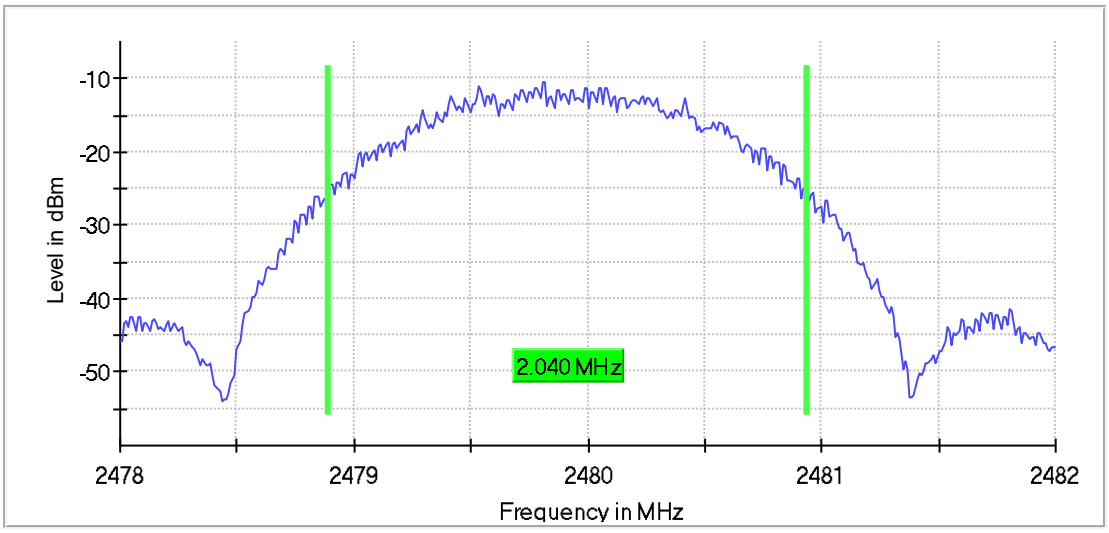
Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2	37	2402	2,040	Within frequency range	Pass
	39	2480	2,040	Within frequency range	Pass

99% Occupied Bandwidth

Mode 2 / CH37 (2402 MHz)



Mode 2 / CH39 (2480 MHz)

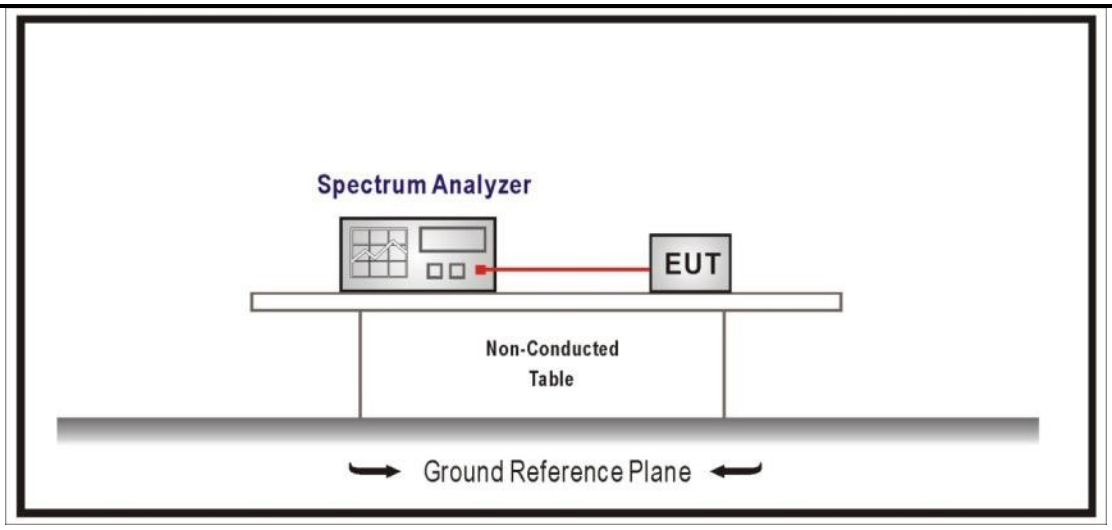


Supplementary information: RBW=30 kHz, VBW=100 kHz

4.7	Fundamental emission output power	VERDICT: PASS

Standard			FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
☒	GTX ＜6dBi		Pout≤30dBm
☐	GTX ＞6dBi		
	☐	Non-Fix point-point	Pout≤30-(GTX -6)
	☐	Fix point-point	Pout≤30-[(GTX-6)]/3
	☐	Point-to-multipoint	Pout≤30-(GTX-6)
	☐	Overlap Beams	Pout≤30-[(GTX-6)]/3
	☐	Aggregate power transmitted simultaneously on all beams	Pout≤30-[(GTX-6)]/3
	☐	singby LE directional beam	Pout≤30-[(GTX-6)]/3+8dB
Note 1 : GTX directional gain of transmitting antennas. Note 2 : Pout is maximum peak conducted output power .			

Test Configuration



Performed measurements

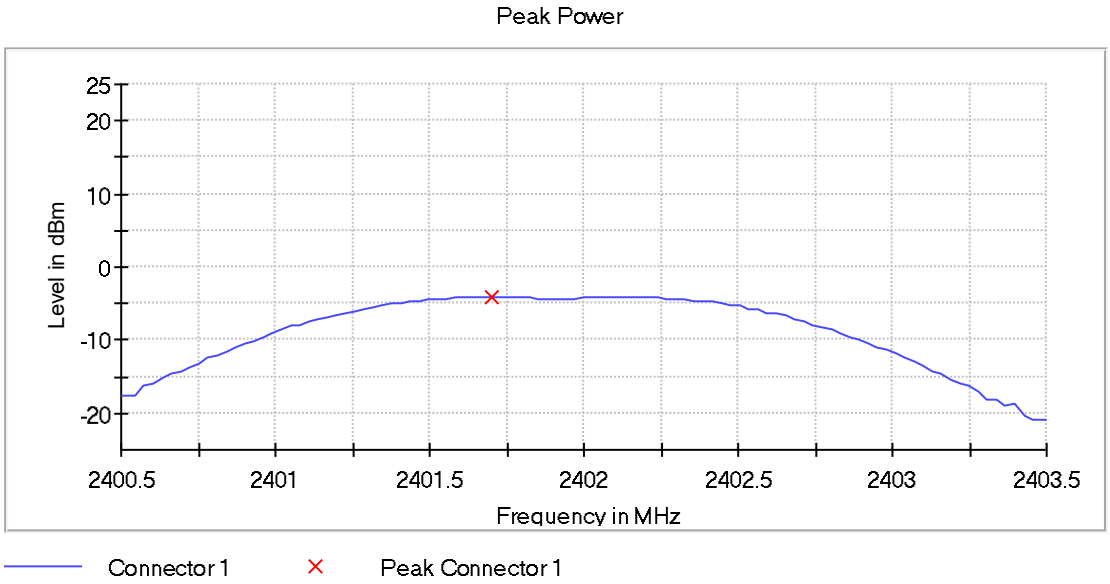
Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1, Mode 2	
Remark	RBW=2 MHz, VBW=10 MHz	

Results

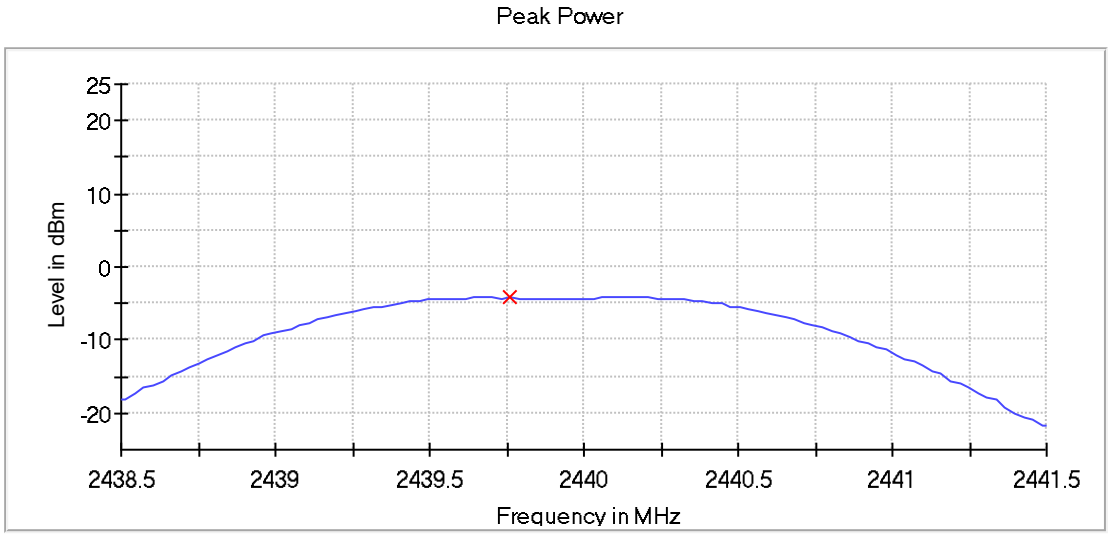
Mode	Channel	Test Frequency (MHz)	Conducted Power Output (dBm)	EIRP (dBm)	Limit (dBm)	Result
Mode 1	37	2402	-4,1	0,9	≤30	Pass
	17	2440	-4,2	0,8	≤30	Pass
	39	2480	-5,7	-0,7	≤30	Pass
Mode 2	37	2402	-3,8	1,2	≤30	Pass
	17	2440	-3,9	1,1	≤30	Pass
	39	2480	-5,4	-0,4	≤30	Pass

Test figure

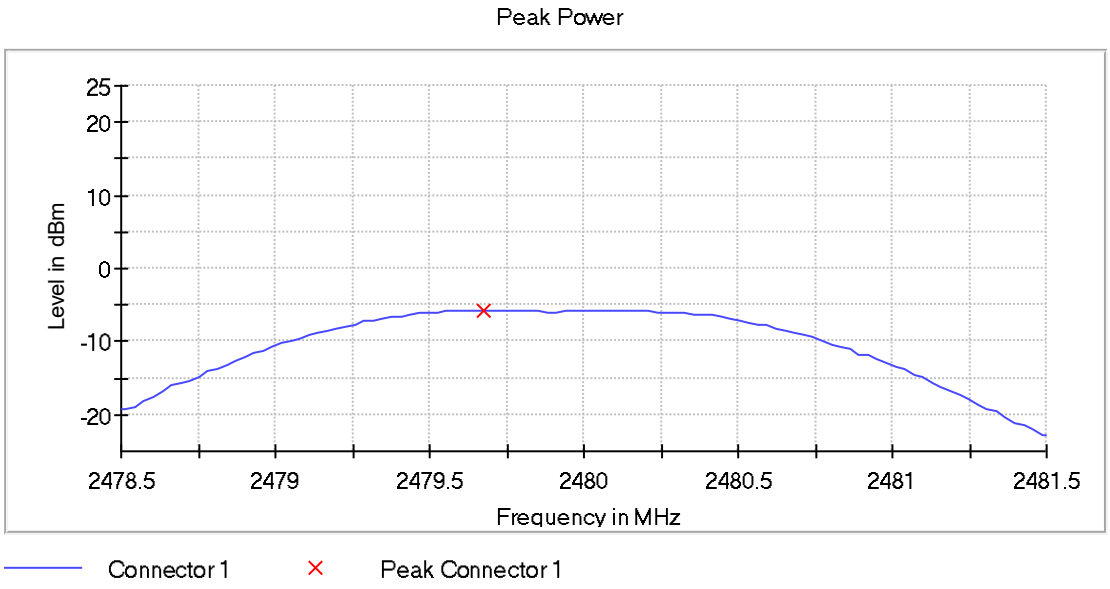
Mode 1, Channel 37



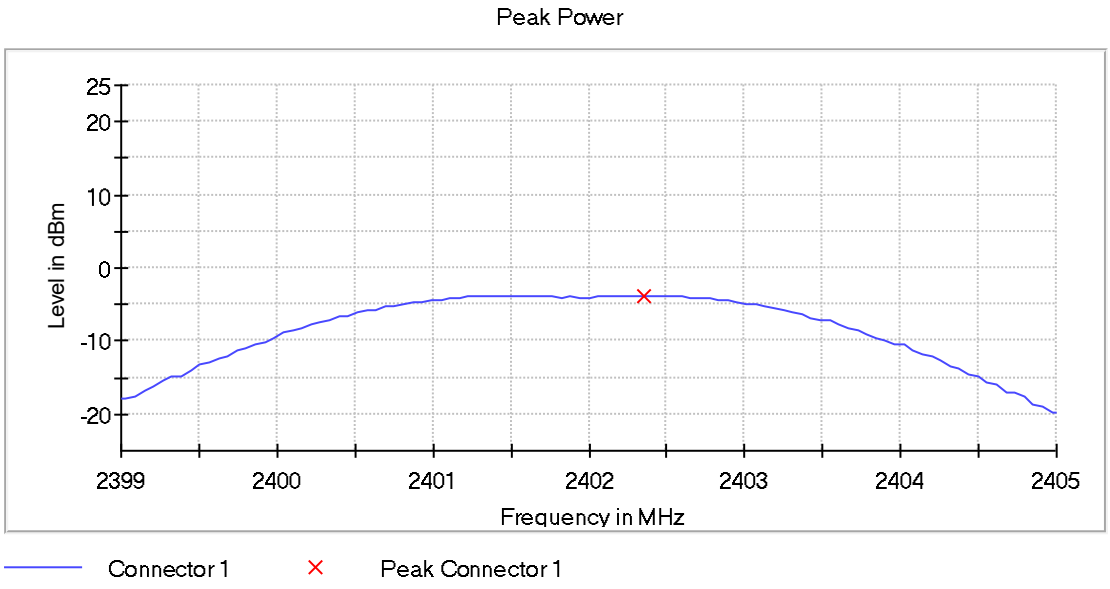
Mode 1, Channel 17



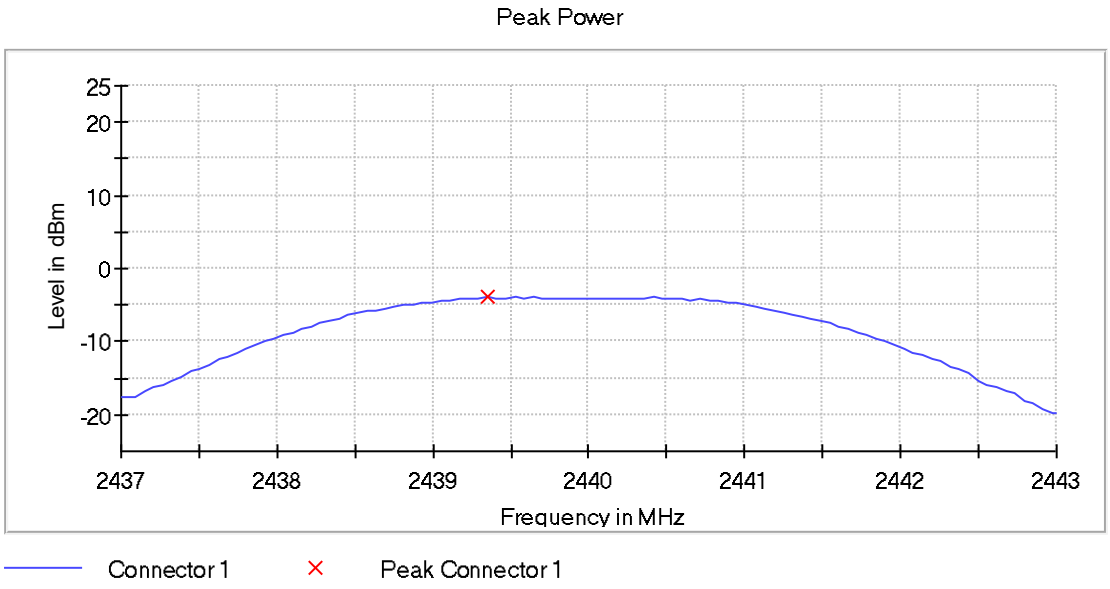
Mode 1, Channel 39



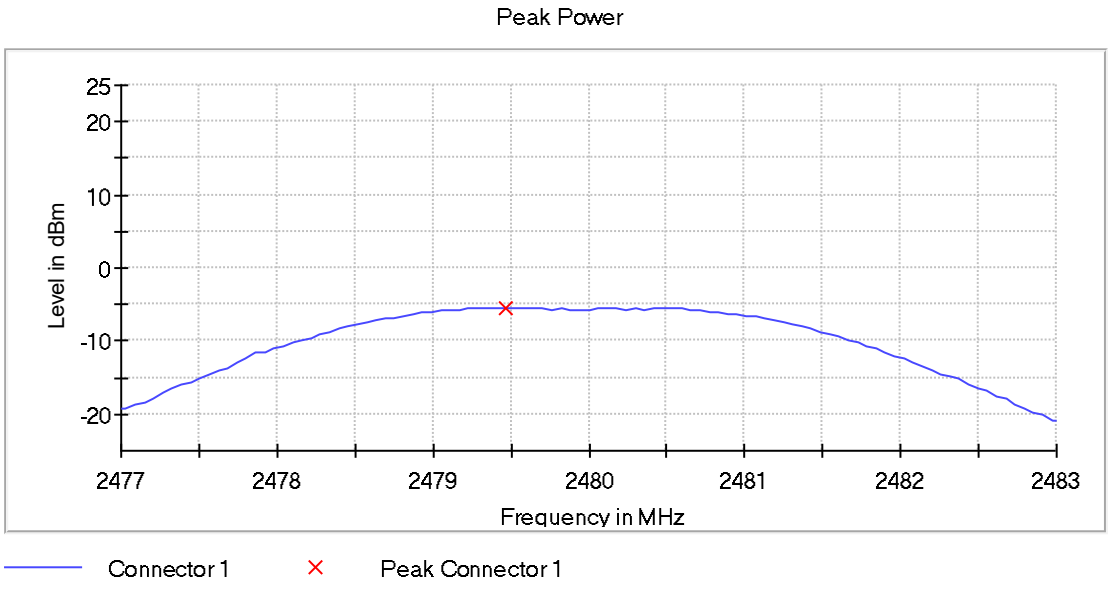
Mode 2, Channel 37



Mode 2, Channel 17



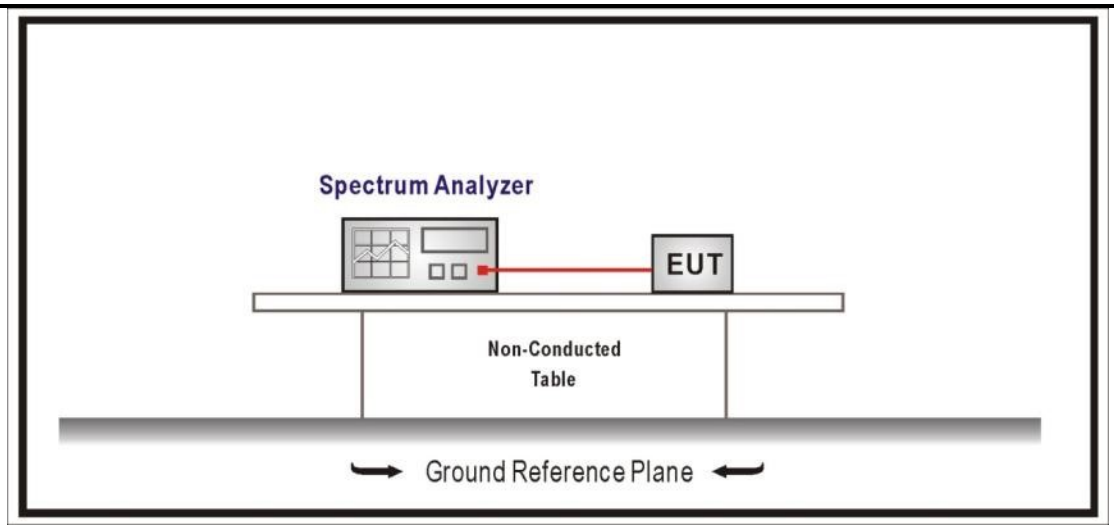
Mode 2, Channel 39



4.8 Power Density	VERDICT: PASS

Standard	FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
Power Spectral Density≤8dBm/3kHz	

Test Configuration



Performed measurements

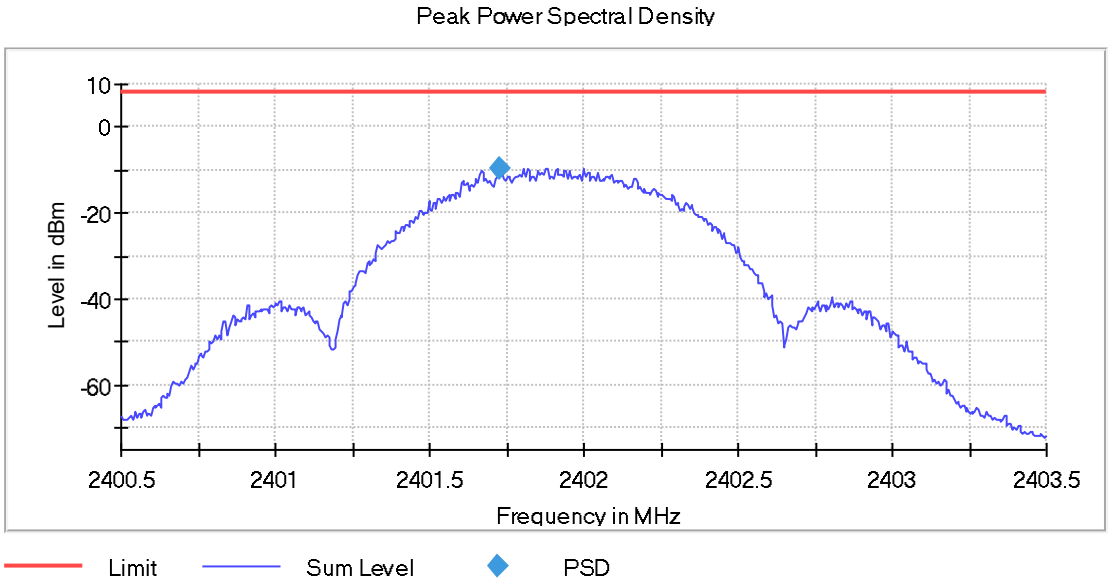
Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1, Mode 2	
Remark	RBW=10 kHz, VBW=30 kHz	

Results

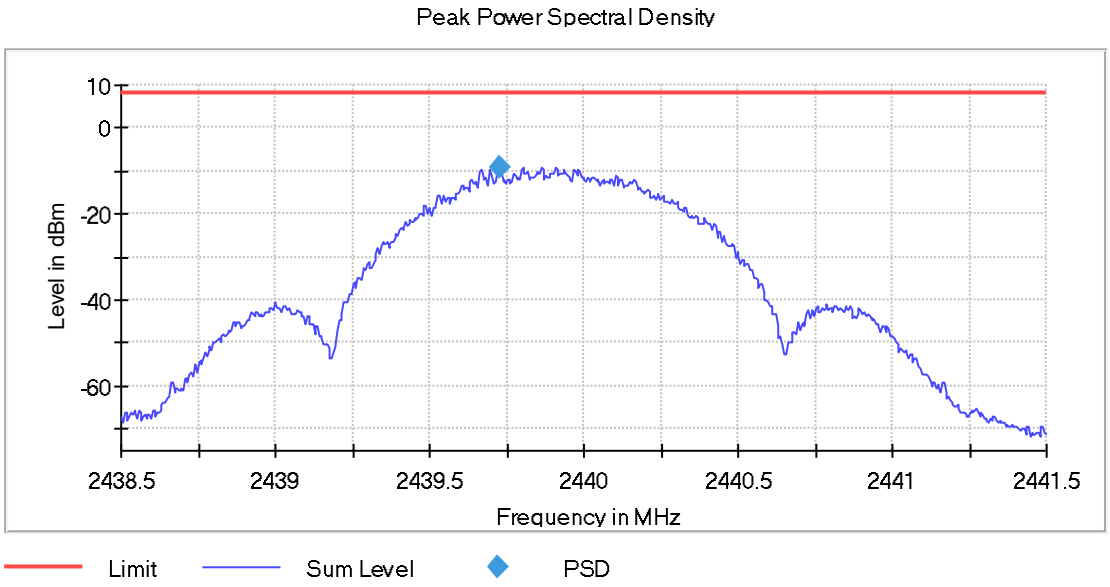
Mode	Channel	Test Frequency (MHz)	Power Output (dBm)	Limit (dBm/3kHz)	Result
Mode 1	37	2402	-9,637	≤8	Pass
	17	2440	-8,934	≤8	Pass
	39	2480	-10,852	≤8	Pass
Mode 2	37	2402	-10,278	≤8	Pass
	17	2440	-10,465	≤8	Pass
	39	2480	-11,950	≤8	Pass

Test figure

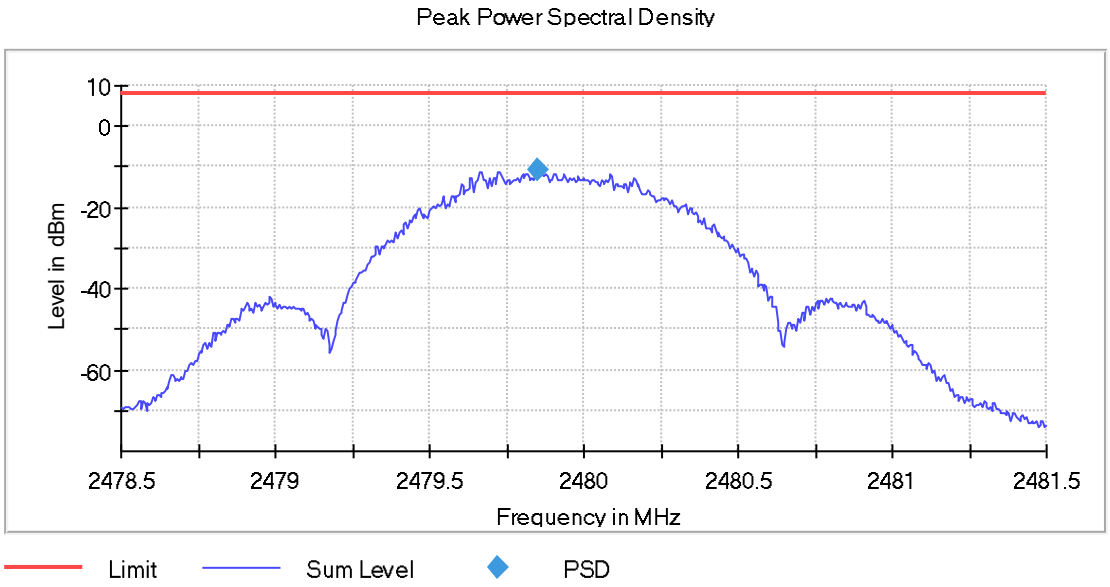
Mode 1, Channel 37



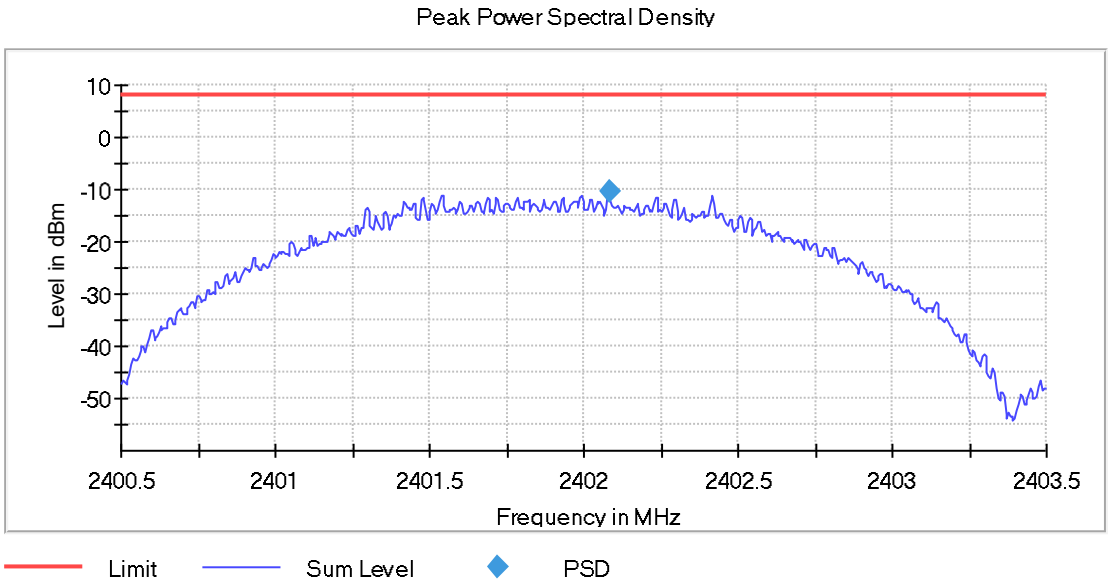
Mode 1, Channel 17



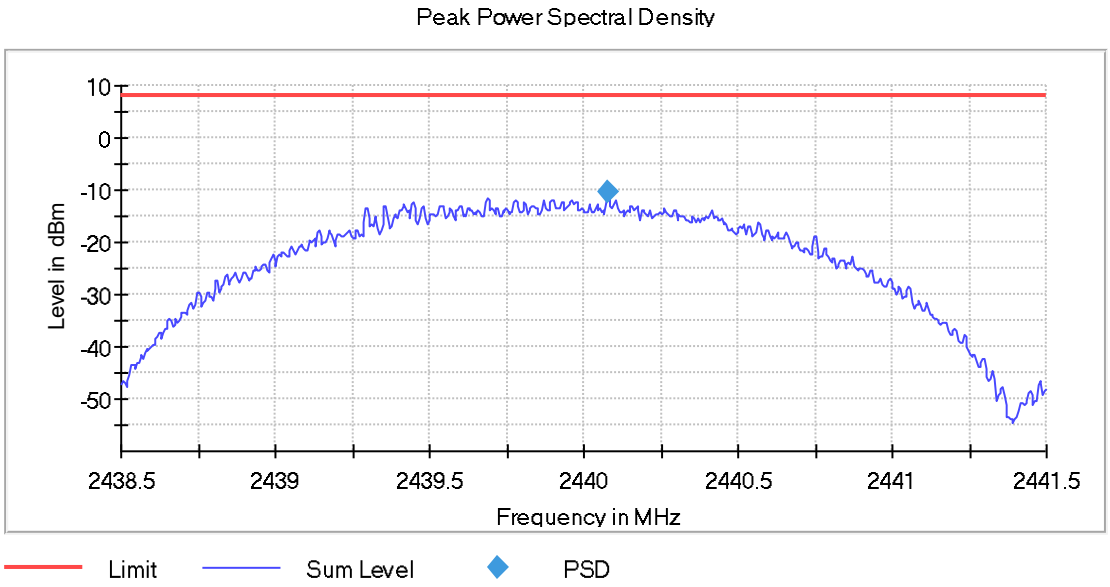
Mode 1, Channel 39



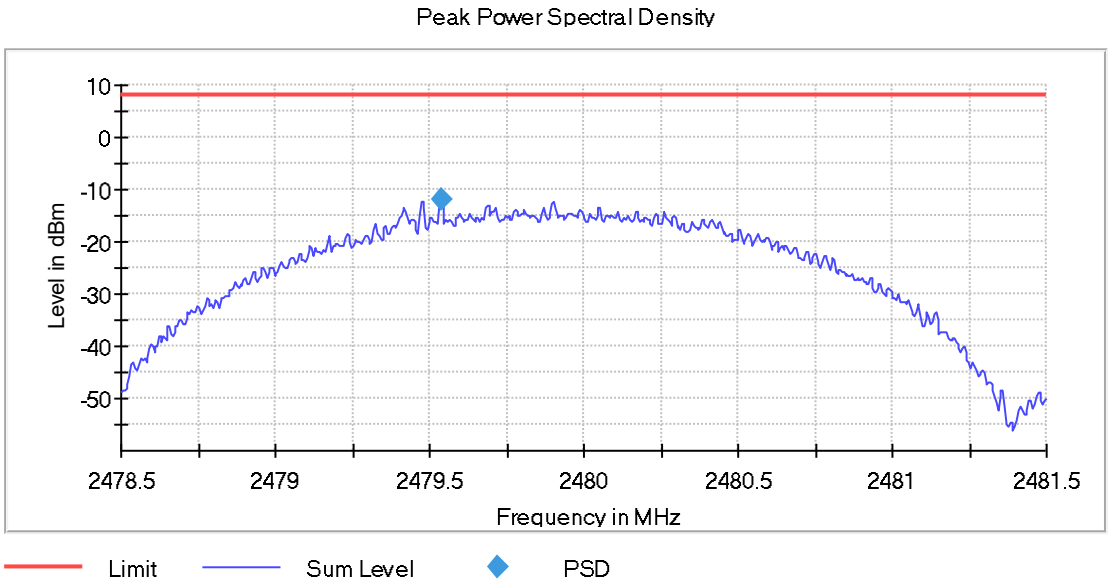
Mode 2, Channel 37



Mode 2, Channel 17



Mode 2, Channel 39



5 IDENTIFICATION OF THE EQUIPMENT UNDER TEST

The photographs show the tested device.

Refer to document 4902195_Internal photos and 4902195_External photos

ANNEX 1 – MEASUREMENT UNCERTAINTY

Test Item	Uncertainty
Occupied Channel Bandwidth	±0,7%
RF Output power, conducted	±0,6dB
Power Spectral Density, Conducted	±0,6dB
Unwanted Emissions, Conducted	±0.7dB
Spurious (30-1000MHz)	±4,4dB
Spurious (1-12,75GHz)	±4,4dB

ANNEX 2 - USED EQUIPMENT

Emissions in non-restricted frequency bands/ Emissions in restricted frequency bands

Item	Instrumentation	Manufacturer	Model No.	Serial No.	DEKRA No.	Cal. Due date
1	EMI receiver	R&S	ESCI	101206	G/L858	2023/07/07
2	Antenna (30MHz-3GHz)	SCHWARZBECK	VULB9163	506	G/L864	2023/10/23
3	Chamber	ETS	/	/	G/L856	2024/06/10
4	Antenna (1GHz-18GHz)	R&S	HF907	102306	G/L1236	2024/02/21
5	Horn antenna preamplifier	Schwarzbeek	SCU-18	102234	G/L1236-1	2024/02/21
6	Spectrum analyzer	R&S	FSV	SN101012	G/L1235	2024/01/09
7	HF antenna (18 – 26.5 GHz)	ETS	3160-09	00164643	G/L1237	2024/01/15
8	High frequency antenna preamplifier (18 – 26.5 GHz)	Schwarzbeck	SCU-26	1879064	G/L1237-1	2024/01/09
9	Broadband horn antenna (15 – 40 GHz)	Schwarzbeck	BBHA9170	00908	GZ1901	2024/04/15
11	Annular magnetic field antenna	TESEQ	HLA6121	540045	GZ1905	2024/05/03

Duty cycle/Band Edge/Fundamental emission output power/DTS Bandwidth/Power Spectral Density

Item	Instrumentation	Manufacturer	Model	Serial no.	DEKRA No.	Cal Due date
1	Spectrum analyzer	R&S	FSV	SN101012	G/L1235	2024/01/09
2	Chamber	ETS	/	/	G/L856	2024/06/10
3	OSP	R&S	OSP 150	101907	GZ1894	2024/02/22
4	Test software	R&S	EMC32	Version 11.40.00		

ANNEX 3 - TEST PHOTOS

Refer to document 4902195_Test setup.

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