Measurement Results

1-2039/21-01-02_log1_conducted

Test logging

This addendum is electronically signed and valid without handwritten signature.
For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

Document authorized:

Michael Dorongovski
Lab Manager
Radio Communications

CTC advanced GmbH
Untertuerkheimer Strasse 6-10
66117 Saarbruecken / Germany
Phone: +49 681 5 98 - 0
Fax: +49 681 5 98 - 9075
web: ctcadvanced.com
e-mail: mail@ctcadvanced.com

Table of Content

EUT Summary

EUT DEFINITION	
Manufacturer	Signify Netherland B.V.
Type	LRI8135/00
Kind	Outdoor Street Light Controller with Zhaga Bo
Serial Number | Setup Number	DUT3 | 1.0
Version SW | FW | HW	2.9 | 3.3 | 913701057803
Comment 1 | 2	|
Temperature [°C] Min | Nom | Max	-40 | 20 | 70
Voltage [V] Min | Nom | Max @Current Max [A]	115 AC

EUT Common Settings 2G4	
Hopping supported	No
Burst length [ms]	10
Nominal Bandwidth [MHz]	2.4
User Interaction	No

1. FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4

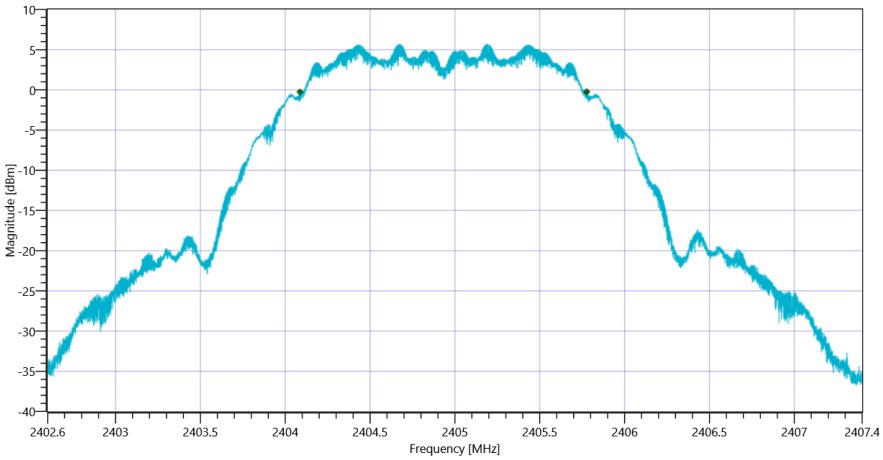
Test References	
TC Start	02.03.2021 14:57:25
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth
TC Version	0.0.1
My Description	FCC 15.247 Maximum Peak Output Power Conducted DTS4 - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

Test at TX 2405 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.80 | 10.8 | 20
Start [MHz] | Stop [MHz]	2402.600 | 2407.400
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE

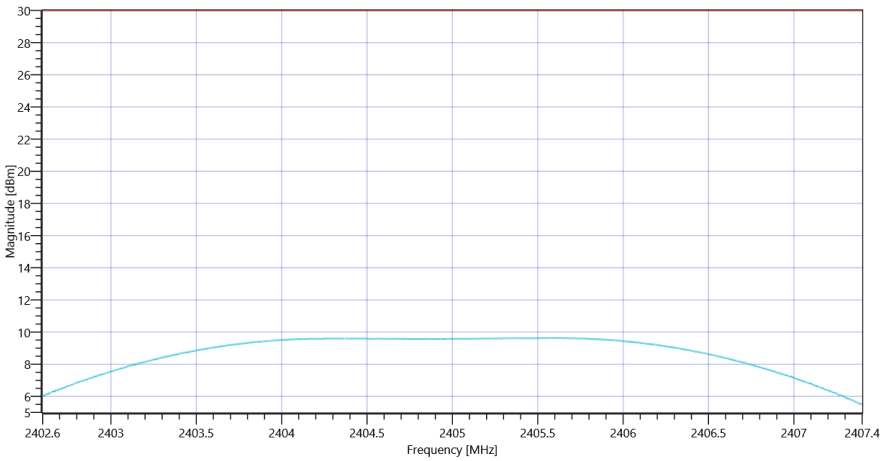
DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	1691	kHz	INFO



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4 DTS BW_02032021_145752.png

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	19.80 | 10.8 | 25
Start [MHz] | Stop [MHz]	2402.600 | 2407.400
RBW [MHz] | VBW [MHz]	3.000000 | 10.000000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 1001 | SWE

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	9.63	dBm	PASS
Peak Power	---	1000	9.183326	mW	PASS
Frequency at Peak	---	---	2405.59	MHz	INFO



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4_02032021_145810.png

TEST FINISHED	
General Verdict	PASS

2. FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4

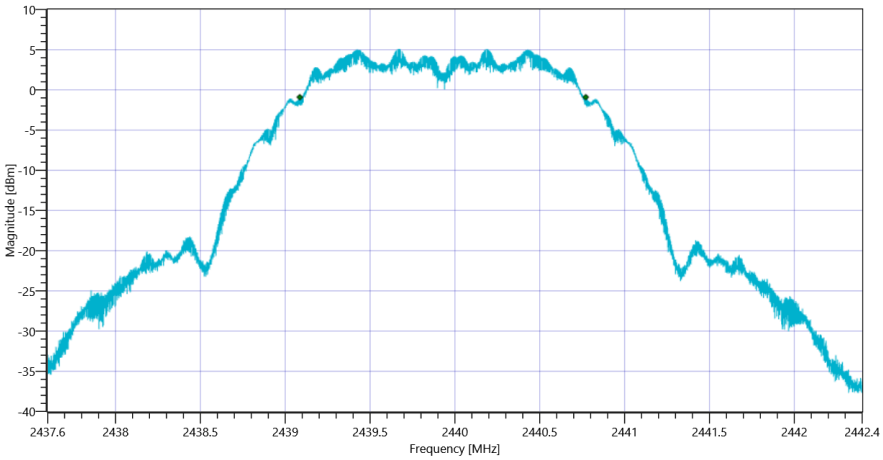
Test References	
TC Start	02.03.2021 15:10:27
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth
TC Version	0.0.1
My Description	FCC 15.247 Maximum Peak Output Power Conducted DTS4 - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

Test at TX 2440 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.20 | 10.8 | 20
Start [MHz] | Stop [MHz]	2437.600 | 2442.400
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE

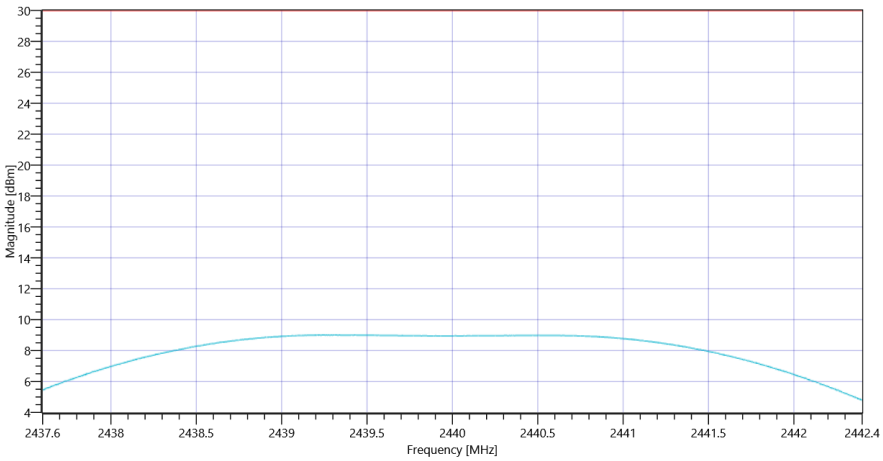
DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	1685	kHz	INFO



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4 DTS BW_02032021_151055.png

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	19.20 | 10.8 | 25
Start [MHz] | Stop [MHz]	2437.600 | 2442.400
RBW [MHz] | VBW [MHz]	3.000000 | 10.000000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 1001 | SWE

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	9.01	dBm	PASS
Peak Power	---	1000	7.961594	mW	PASS
Frequency at Peak	---	---	2439.242	MHz	INFO



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4_02032021_151113.png

TEST FINISHED	
General Verdict	PASS

3. FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4

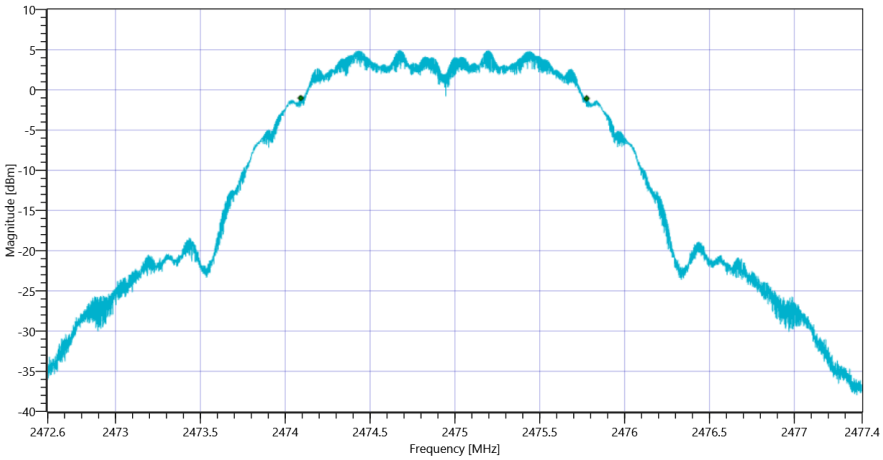
Test References	
TC Start	02.03.2021 15:48:50
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth
TC Version	0.0.1
My Description	FCC 15.247 Maximum Peak Output Power Conducted DTS4 - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

Test at TX 2475 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.05 | 10.84 | 20
Start [MHz] | Stop [MHz]	2472.600 | 2477.400
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE

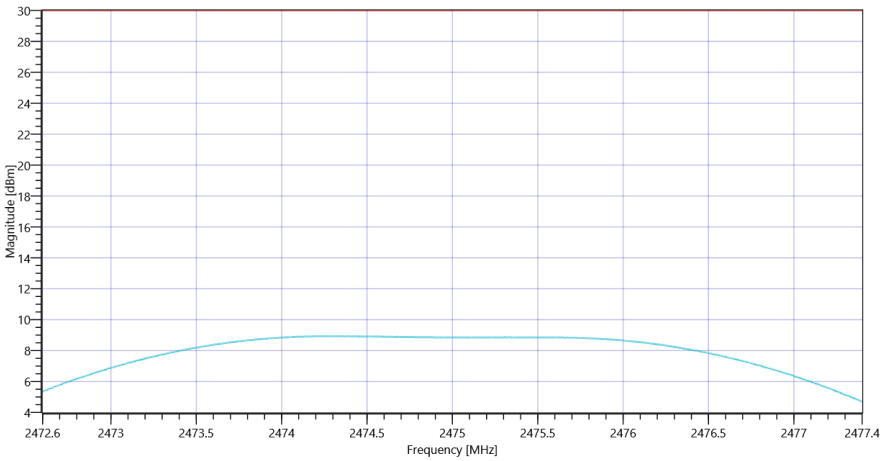
DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	1685	kHz	INFO



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4 DTS BW_02032021_154919.png

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	19.05 | 10.84 | 25
Start [MHz] | Stop [MHz]	2472.600 | 2477.400
RBW [MHz] | VBW [MHz]	3.000000 | 10.000000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 1001 | SWE

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	8.93	dBm	PASS
Peak Power	---	1000	7.816278	mW	PASS
Frequency at Peak	---	---	2474.266	MHz	INFO



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4_02032021_154937.png

TEST FINISHED	
General Verdict	PASS

4. FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4

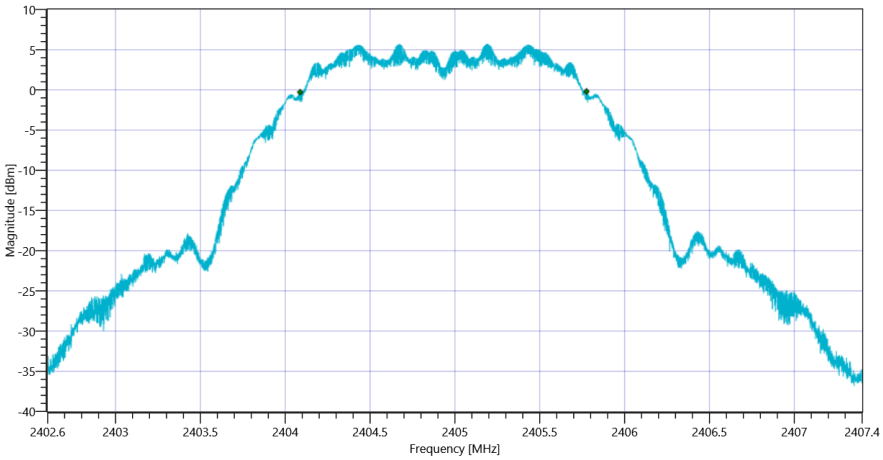
Test References	
TC Start	02.03.2021 14:58:15
Ambit Temp [°C] | Humidity [rel%]	23.5 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6DB DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

Test at TX 2405 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.82 | 10.8 | 20
Start [MHz] | Stop [MHz]	2402.600 | 2407.400
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	1688	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4_02032021_145843.png

TEST FINISHED	
General Verdict	PASS

5. FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4

Test References	
TC Start	02.03.2021 15:11:18
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6DB DTS - Generic 2G4
Add. Information	

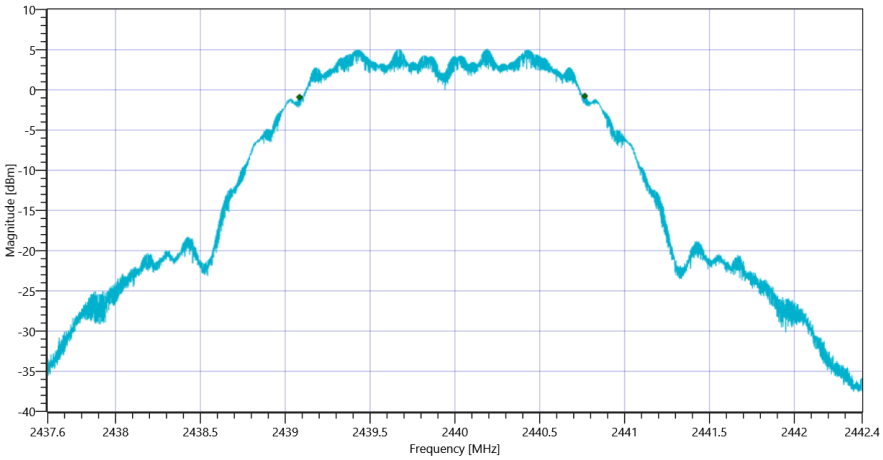
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

Test at TX 2440 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.22 | 10.8 | 20
Start [MHz] | Stop [MHz]	2437.600 | 2442.400
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	1681	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4_02032021_151146.png

TEST FINISHED	
General Verdict	PASS

6. FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4

Test References	
TC Start	02.03.2021 15:49:43
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6DB DTS - Generic 2G4
Add. Information	

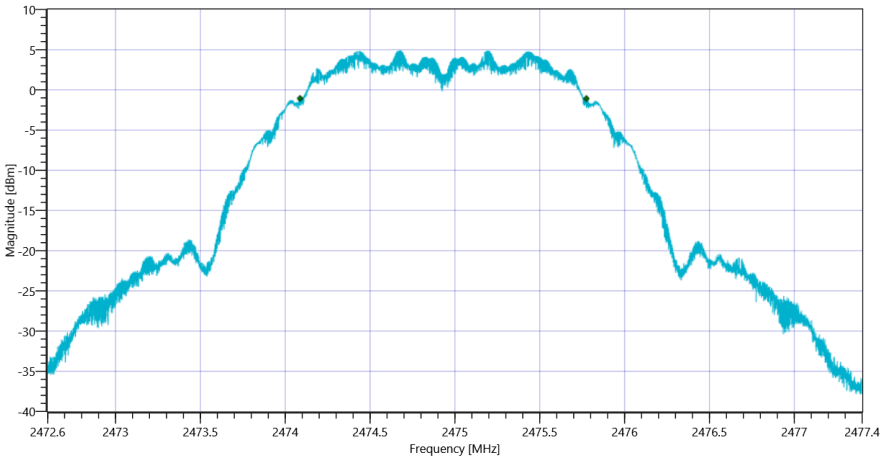
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

Test at TX 2475 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.01 | 10.84 | 20
Start [MHz] | Stop [MHz]	2472.600 | 2477.400
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	1687	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4_02032021_155012.png

TEST FINISHED	
General Verdict	PASS

7. FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4

Test References	
TC Start	02.03.2021 14:58:48
Ambit Temp [°C] | Humidity [rel%]	23.5 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
TC Version	0.0.1
My Description	FCC 15.247 Peak Power Spectral Density DTS - Generic 2G4
Add. Information	

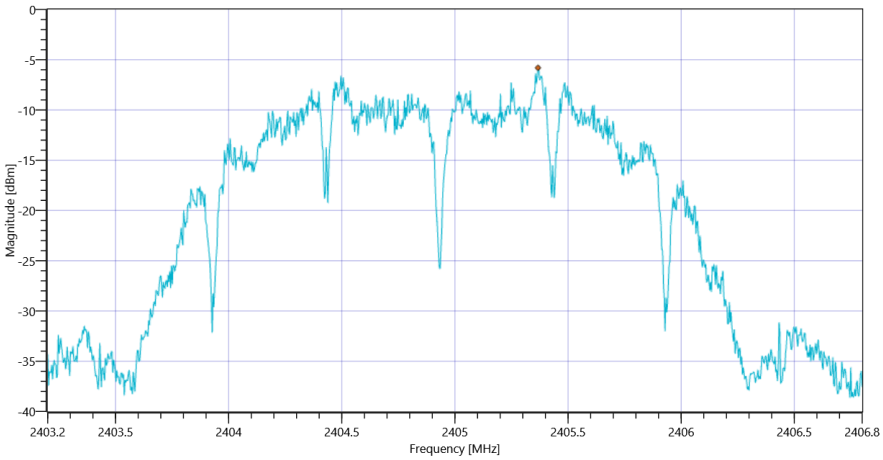
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

Test at TX 2405 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.79 | 10.8 | 20
Start [MHz] | Stop [MHz]	2403.200 | 2406.800
RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	1000 | 20 | 1001 | SWE

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-5.8	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4_02032021_145925.png

TEST FINISHED	
General Verdict	PASS

8. FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4

Test References	
TC Start	02.03.2021 15:11:51
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
TC Version	0.0.1
My Description	FCC 15.247 Peak Power Spectral Density DTS - Generic 2G4
Add. Information	

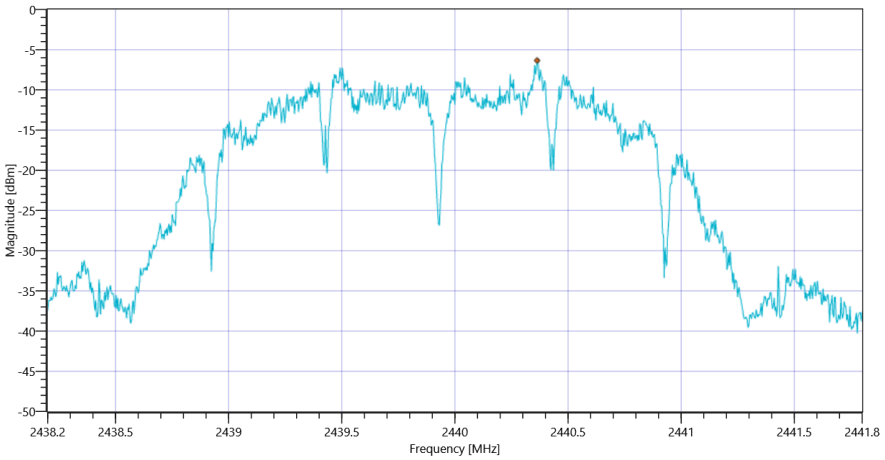
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

Test at TX 2440 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.20 | 10.8 | 20
Start [MHz] | Stop [MHz]	2438.200 | 2441.800
RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	1000 | 20 | 1001 | SWE

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-6.34	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4_02032021_151229.png

TEST FINISHED	
General Verdict	PASS

9. FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4

Test References	
TC Start	02.03.2021 15:50:17
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
TC Version	0.0.1
My Description	FCC 15.247 Peak Power Spectral Density DTS - Generic 2G4
Add. Information	

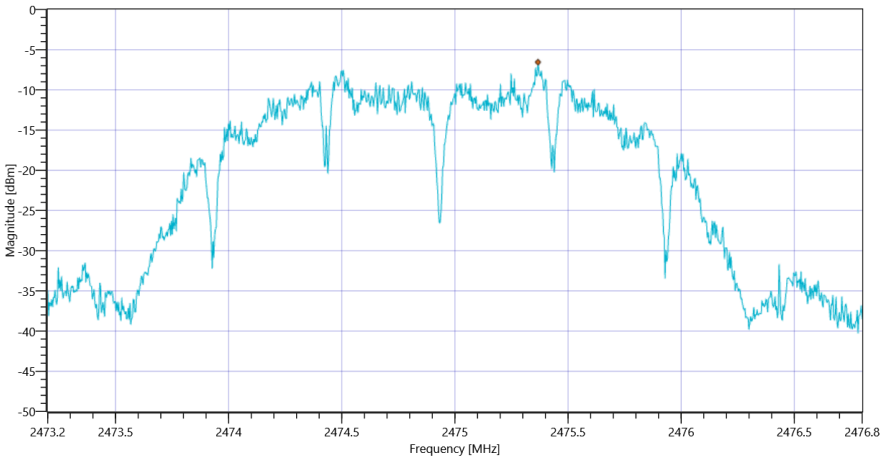
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

Test at TX 2475 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.00 | 10.84 | 20
Start [MHz] | Stop [MHz]	2473.200 | 2476.800
RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	1000 | 20 | 1001 | SWE

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-6.55	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4_02032021_155055.png

TEST FINISHED	
General Verdict	PASS

10. FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4

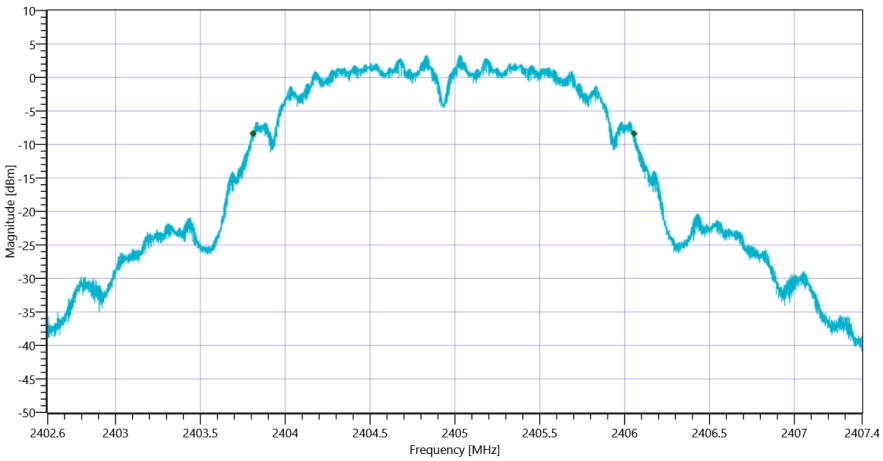
Test References	
TC Start	02.03.2021 14:59:30
Ambit Temp [°C] | Humidity [rel%]	23.5 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20DB DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

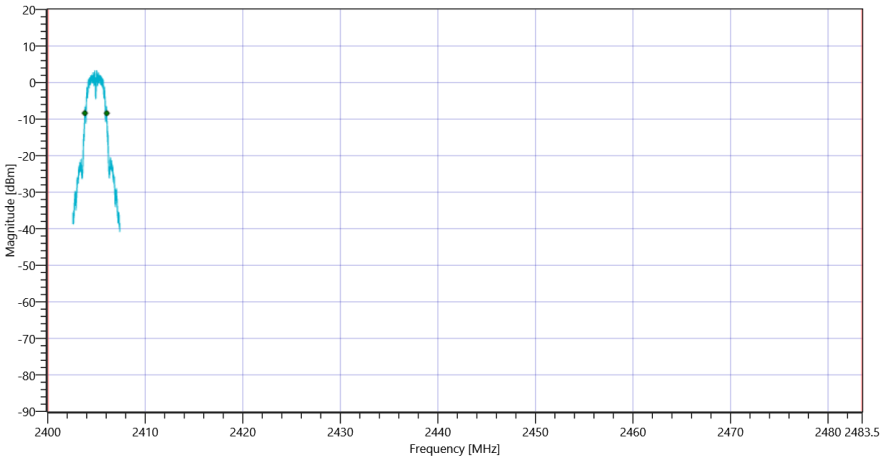
Test at TX 2405 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.77 | 10.8 | 20
Start [MHz] | Stop [MHz]	2402.600 | 2407.400
RBW [MHz] | VBW [MHz]	0.050000 | 0.200000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	2246.655	kHz	INFO
T1 99%	2400.000000	---	2403.8097	MHz	PASS
T2 99%	---	2483.500000	2406.0564	MHz	PASS

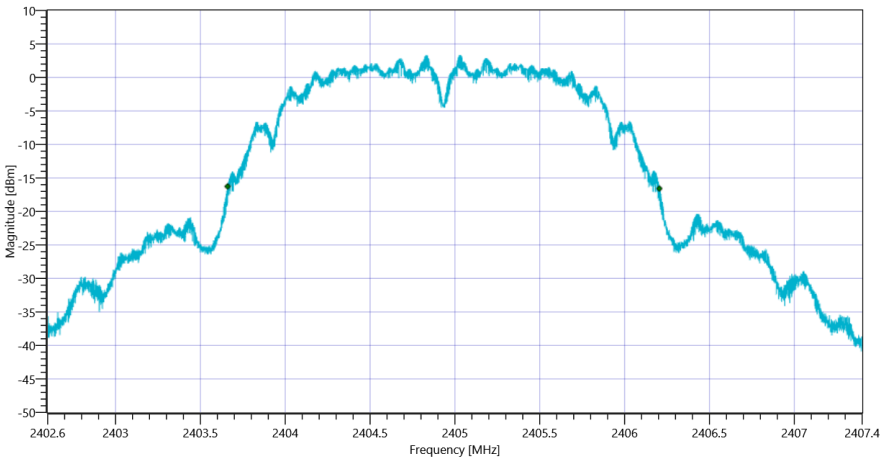


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT_02032021_145959.png

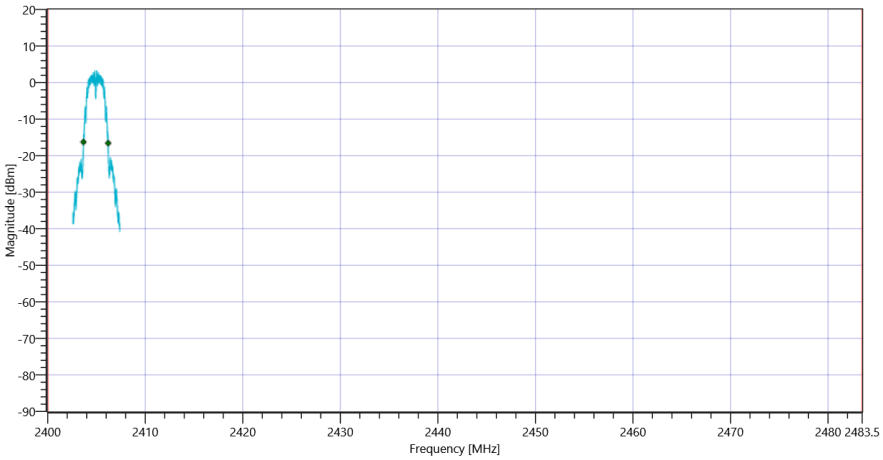


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_02032021_150005.png

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	2544	kHz	INFO
T1 20DB	2400.000000	---	2403.6603	MHz	PASS
T2 20dB	---	2483.500000	2406.2048	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB_02032021_150012.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_02032021_150018.png

TEST FINISHED	
General Verdict	PASS

11. FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4

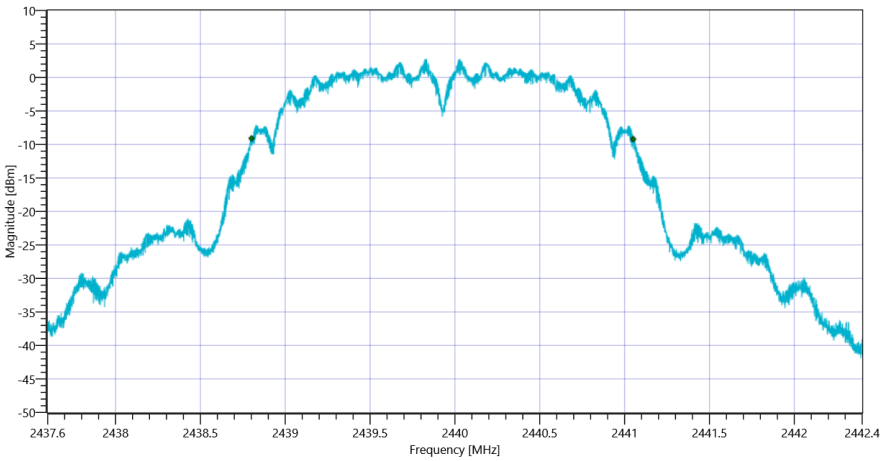
Test References	
TC Start	02.03.2021 15:12:34
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20DB DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

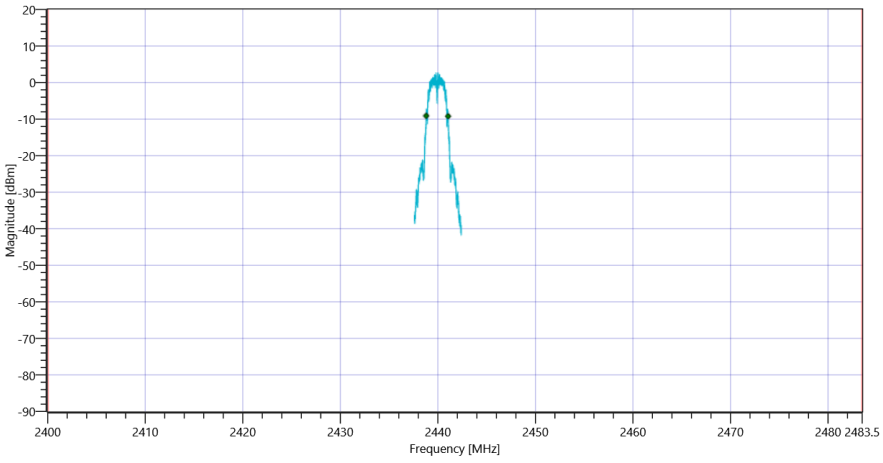
Test at TX 2440 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.21 | 10.8 | 20
Start [MHz] | Stop [MHz]	2437.600 | 2442.400
RBW [MHz] | VBW [MHz]	0.050000 | 0.200000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	2249.535	kHz	INFO
T1 99%	2400.000000	---	2438.8011	MHz	PASS
T2 99%	---	2483.500000	2441.0506	MHz	PASS

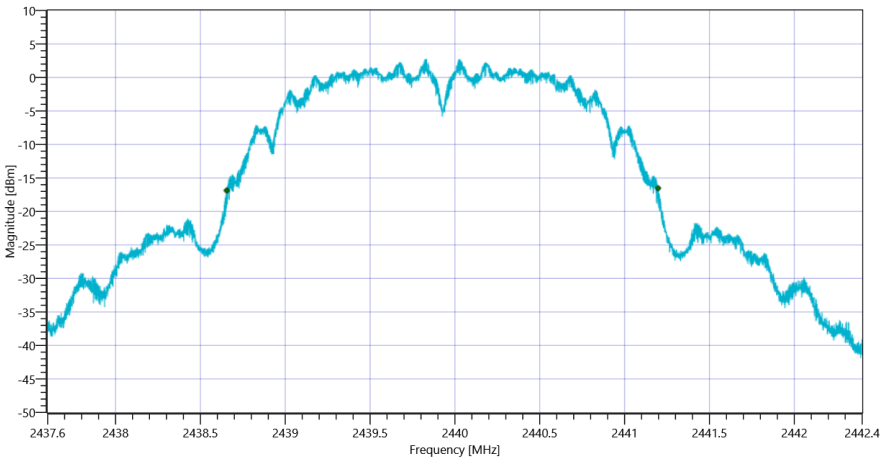


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT_02032021_151303.png

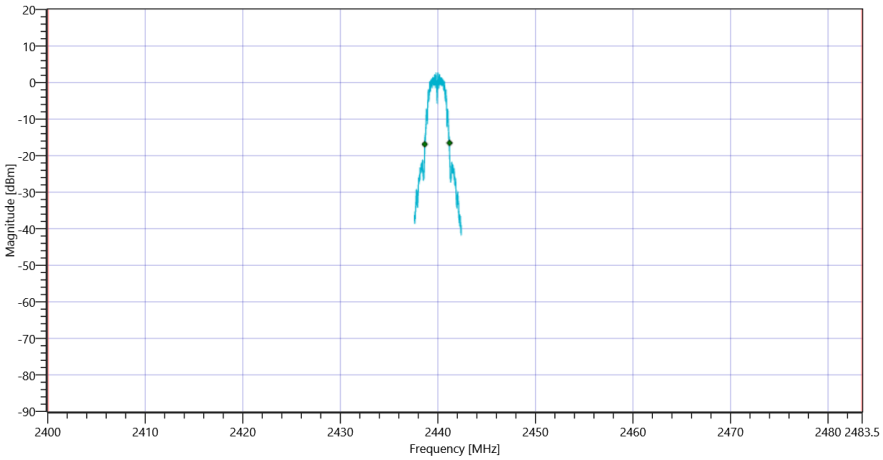


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_02032021_151309.png

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	2543	kHz	INFO
T1 20DB	2400.000000	---	2438.6550	MHz	PASS
T2 20dB	---	2483.500000	2441.1976	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB_02032021_151316.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_02032021_151322.png

TEST FINISHED	
General Verdict	PASS

12. FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4

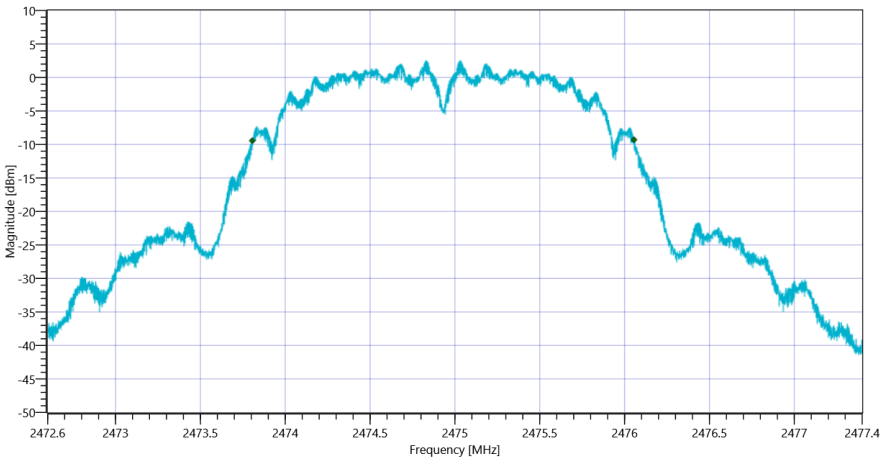
Test References	
TC Start	02.03.2021 15:51:00
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20DB DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

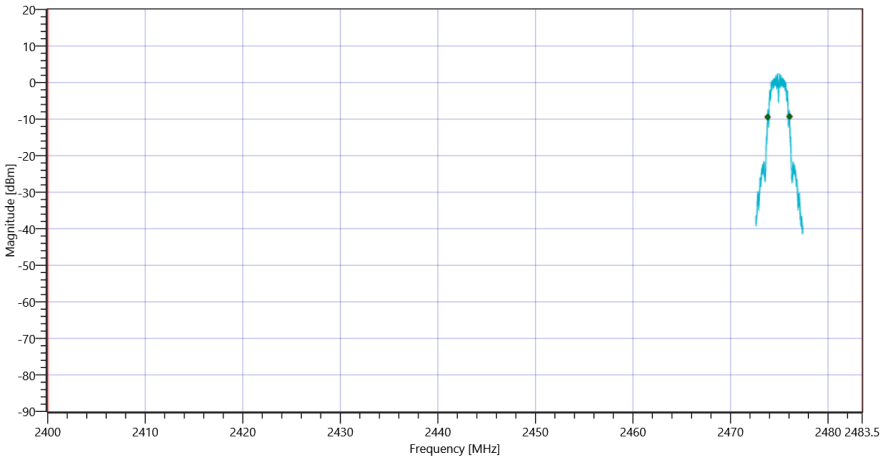
Test at TX 2475 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	13.99 | 10.84 | 20
Start [MHz] | Stop [MHz]	2472.600 | 2477.400
RBW [MHz] | VBW [MHz]	0.050000 | 0.200000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	2249.055	kHz	INFO
T1 99%	2400.000000	---	2473.8059	MHz	PASS
T2 99%	---	2483.500000	2476.0549	MHz	PASS

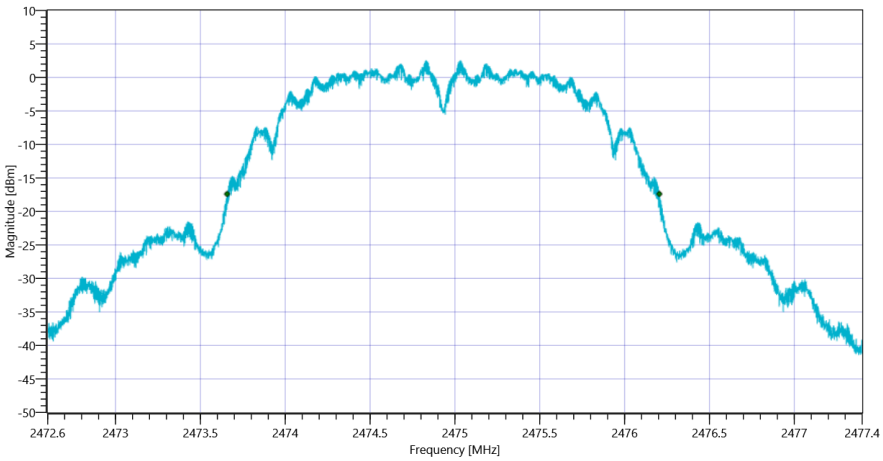


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT_02032021_155130.png

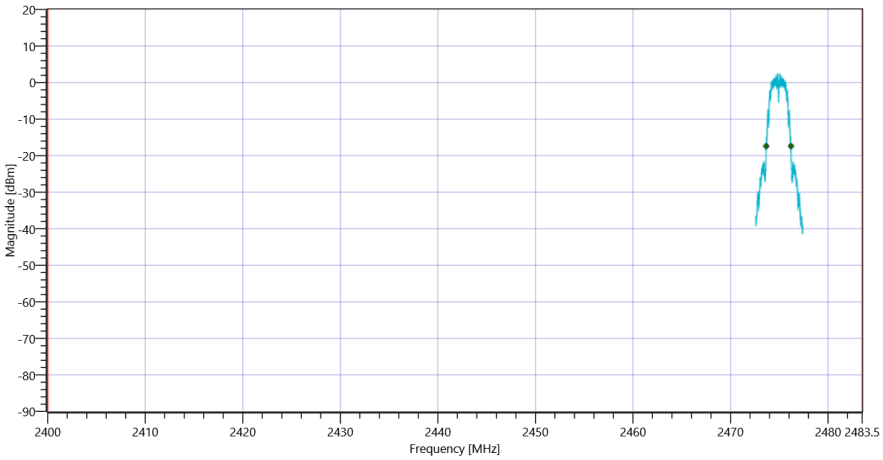


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_02032021_155137.png

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	2548	kHz	INFO
T1 20DB	2400.000000	---	2473.6570	MHz	PASS
T2 20dB	---	2483.500000	2476.2048	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB_02032021_155144.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_02032021_155150.png

TEST FINISHED	
General Verdict	PASS

13. FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4

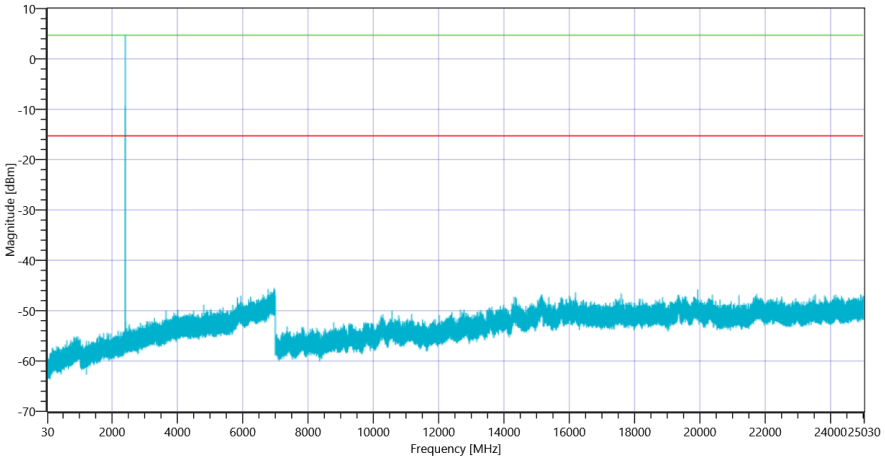
Test References	
TC Start	02.03.2021 15:00:23
Ambit Temp [°C] | Humidity [rel%]	23.5 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable.
TC Version	0.0.1
My Description	FCC 15.247 TX Emissions Conducted DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

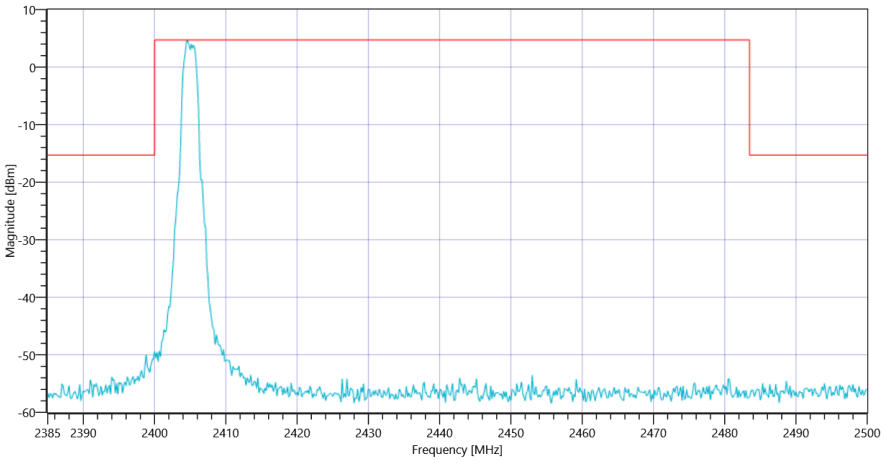
Test at TX 2405 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	9.76 | 0 | 25
Start [MHz] | Stop [MHz]	24530.000 | 25030.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	500 | 8 | 3001 | SWE

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2404.50 MHz	---	---	4.72	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 6965.167 MHz	0	---	30.26	dB	INFO



Plot_FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4 2405_02032021_150555.png



Plot_FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4 2405_02032021_150600.png

TEST FINISHED	
General Verdict	PASS

14. FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4

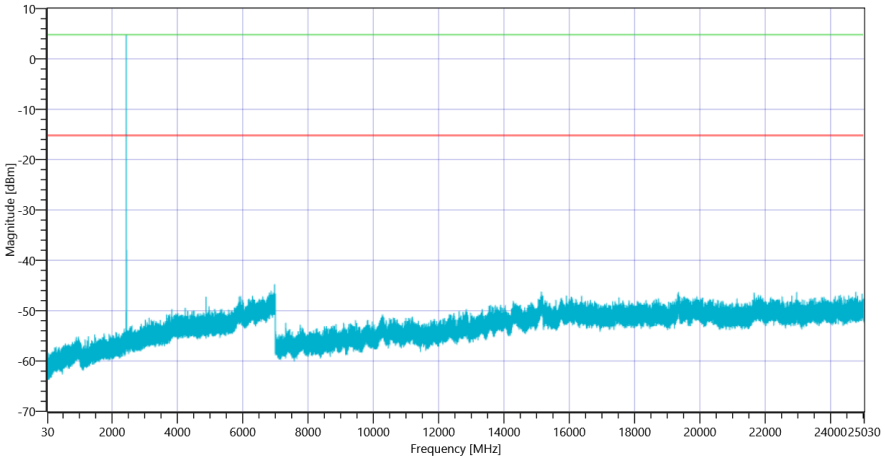
Test References	
TC Start	02.03.2021 15:13:28
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable.
TC Version	0.0.1
My Description	FCC 15.247 TX Emissions Conducted DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

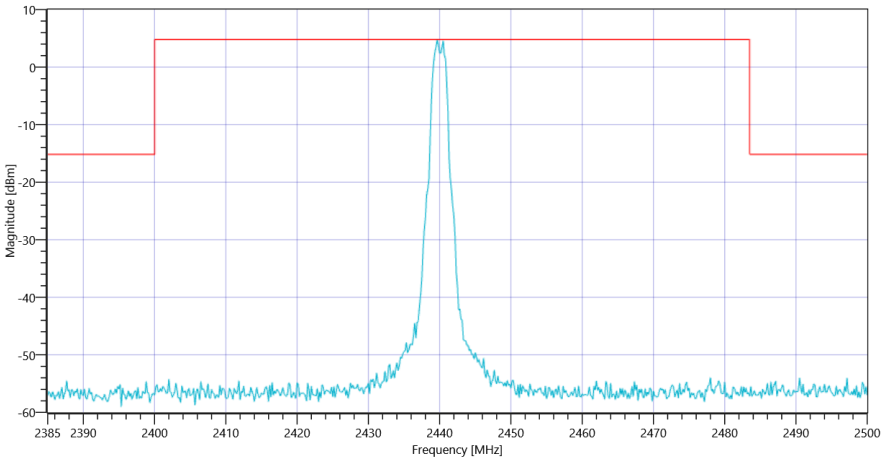
Test at TX 2440 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	9.19 | 0 | 25
Start [MHz] | Stop [MHz]	24530.000 | 25030.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	500 | 8 | 3001 | SWE

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2439.67 MHz	---	---	4.81	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 6975 MHz	0	---	29.59	dB	INFO



Plot_FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4 2440_02032021_151859.png



Plot_FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4 2440_02032021_151904.png

TEST FINISHED	
General Verdict	PASS

15. FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4

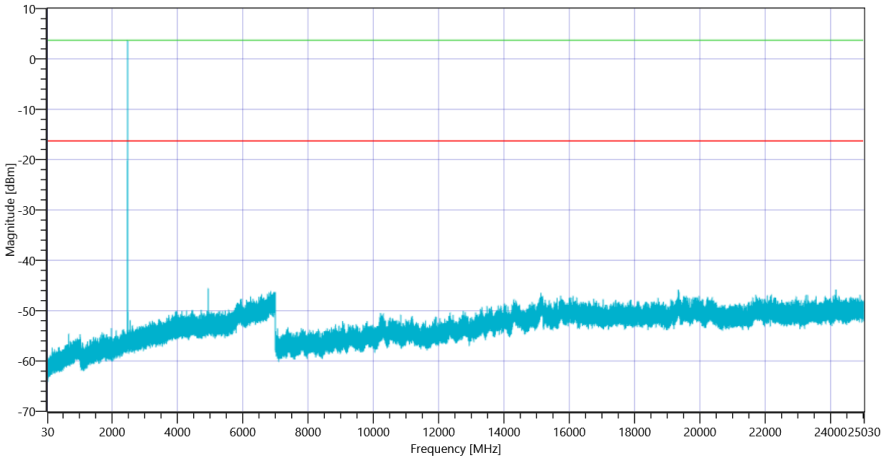
Test References	
TC Start	02.03.2021 15:51:55
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable.
TC Version	0.0.1
My Description	FCC 15.247 TX Emissions Conducted DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

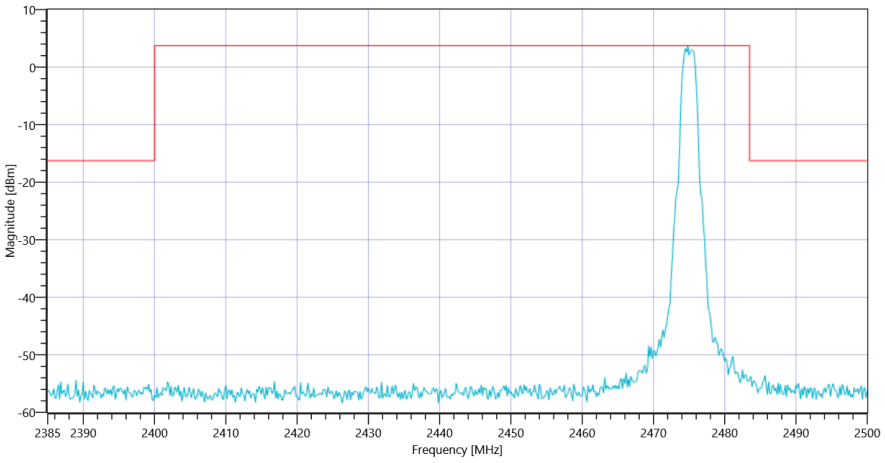
Test at TX 2475 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	8.97 | 0 | 25
Start [MHz] | Stop [MHz]	24530.000 | 25030.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	500 | 8 | 3001 | SWE

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2474.83 MHz	---	---	3.72	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 4950.833 MHz	0	---	29.26	dB	INFO



Plot_FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4 2475_02032021_155726.png



Plot_FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4 2475_02032021_155731.png

TEST FINISHED	
General Verdict	PASS

16. FCC Part 15.247 Restricted Band Edge Conducted Peak DTS Video Avg (cond) ~ Generic 2G4

Test References	
TC Start	02.03.2021 15:06:06
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.2 Peak Detection
TC Version	0.0.1
My Description	FCC 15.247 Restricted Band Edge Conducted Peak DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

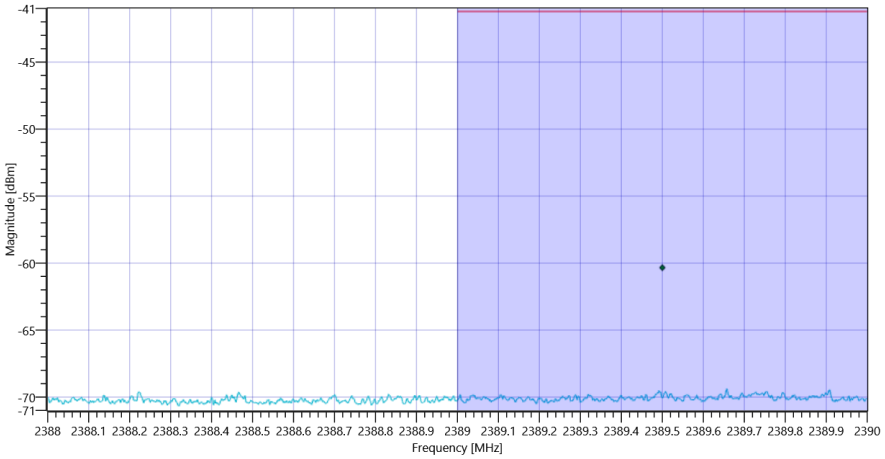
Test at TX 2405 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.77 | 10.8 | 20
Start [MHz] | Stop [MHz]	2388.000 | 2390.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.000500
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	31 | 300 | 1001 | SWE

Antenna Gain	
Considered Antenna Gain: [dBi]:	0

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Band Power	---	-41.23	-60.34	dBm	INCON



Plot_FCC Part 15.247 Restricted Band Edge Conducted Peak DTS Video Avg (cond) ~ Generic 2G4_02032021_150635.png

TEST FINISHED	
General Verdict	INCON

17. FCC Part 15.247 Restricted Band Edge Conducted Peak DTS Video Avg (cond) ~ Generic 2G4

Test References	
TC Start	02.03.2021 15:57:38
Ambit Temp [°C] | Humidity [rel%]	23.3 | 24
System Version	2.0.0.3
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.2 Peak Detection
TC Version	0.0.1
My Description	FCC 15.247 Restricted Band Edge Conducted Peak DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

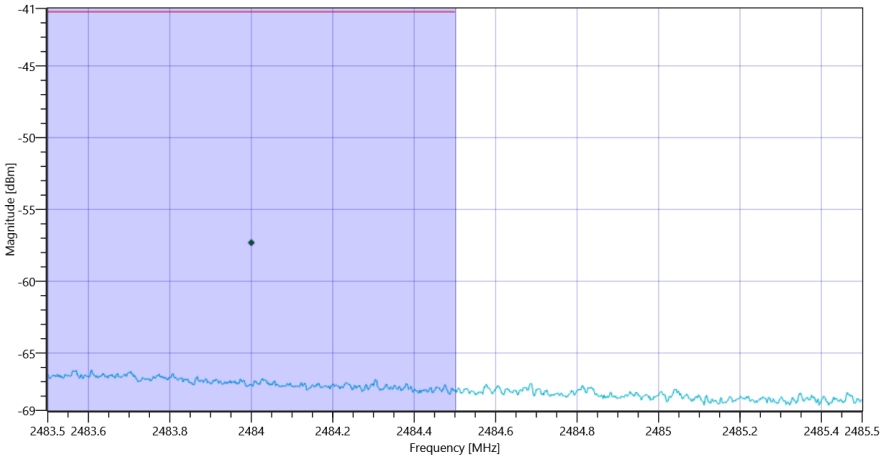
Test at TX 2475 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	13.94 | 10.84 | 20
Start [MHz] | Stop [MHz]	2483.500 | 2485.500
RBW [MHz] | VBW [MHz]	0.100000 | 0.000500
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	31 | 300 | 1001 | SWE

Antenna Gain	
Considered Antenna Gain: [dBi]:	0

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Band Power	---	-41.23	-57.31	dBm	INCON



Plot_FCC Part 15.247 Restricted Band Edge Conducted Peak DTS Video Avg (cond) ~ Generic 2G4_02032021_155807.png

TEST FINISHED	
General Verdict	INCON

18. Common2G4 Peak OP 3MHz/3MHz ~ Generic 2G4

Test References	
TC Start	02.03.2021 14:56:52
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	None
Test Method	
TC Version	0.0.1
My Description	Peak Output Power conducted 3MHz/3MHz - Generic 2G4
Add. Information	

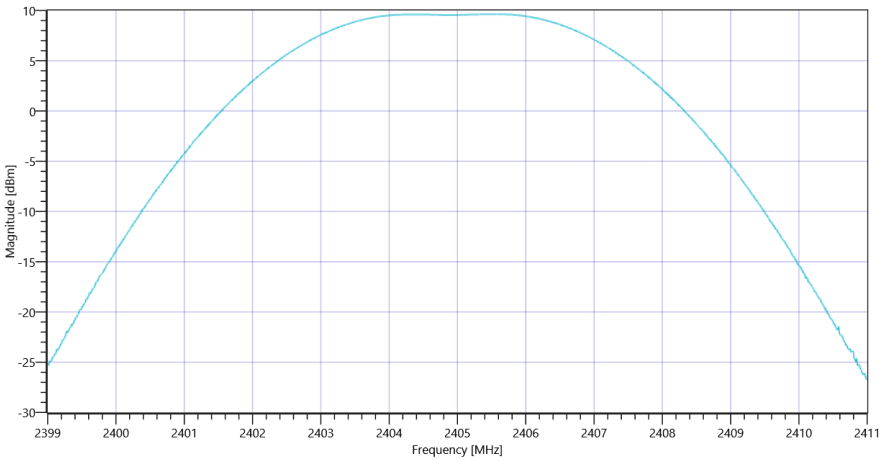
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

Test at TX 2405 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	19.79 | 10.8 | 25
Start [MHz] | Stop [MHz]	2399.000 | 2411.000
RBW [MHz] | VBW [MHz]	3.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	1000 | 10 | 1001 | SWE

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	---	9.63	dBm	Info
Peak Power	---	---	9.183326	mW	Info
Frequency at Peak	---	---	2405.599	MHz	Info



Plot_Common2G4 Peak OP 3MHz-3MHz ~ Generic 2G4_02032021_145719.png

TEST FINISHED	
General Verdict	PASS

19. Common2G4 Peak OP 3MHz/3MHz ~ Generic 2G4

Test References	
TC Start	02.03.2021 15:09:55
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	None
Test Method	
TC Version	0.0.1
My Description	Peak Output Power conducted 3MHz/3MHz - Generic 2G4
Add. Information	

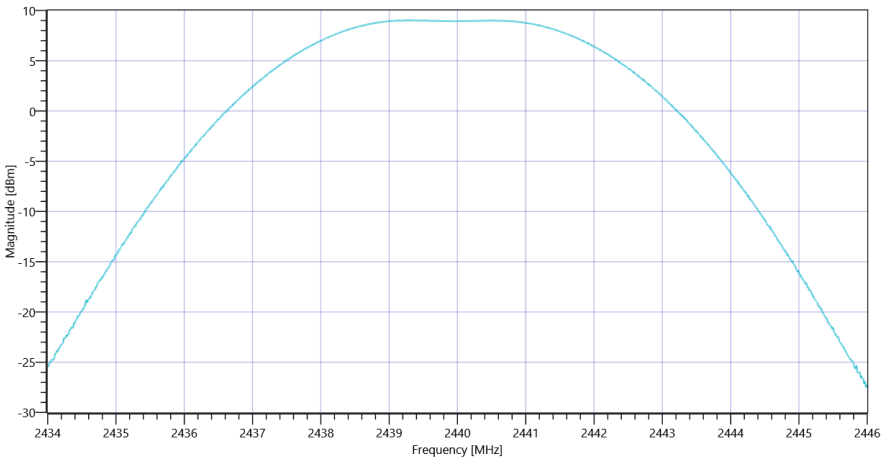
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

Test at TX 2440 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	19.20 | 10.8 | 25
Start [MHz] | Stop [MHz]	2434.000 | 2446.000
RBW [MHz] | VBW [MHz]	3.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	1000 | 10 | 1001 | SWE

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	---	9.01	dBm	Info
Peak Power	---	---	7.961594	mW	Info
Frequency at Peak	---	---	2439.245	MHz	Info



Plot_Common2G4 Peak OP 3MHz-3MHz ~ Generic 2G4_02032021_151022.png

TEST FINISHED	
General Verdict	PASS

20. Common2G4 Peak OP 3MHz/3MHz ~ Generic 2G4

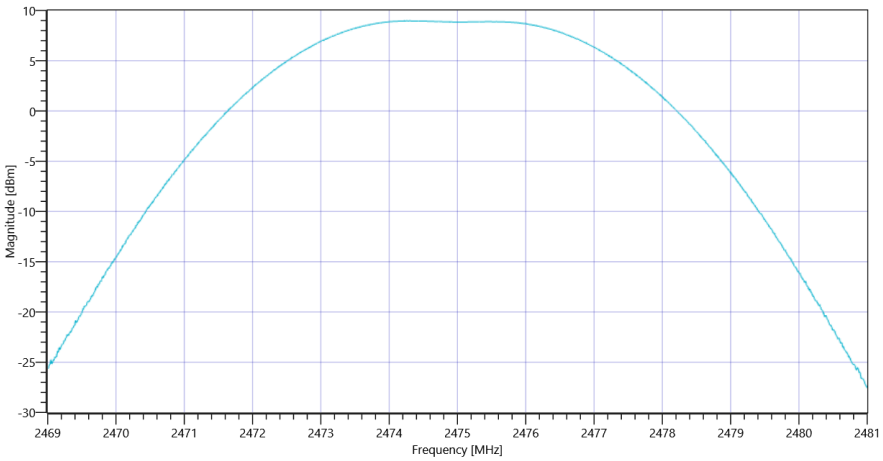
Test References	
TC Start	02.03.2021 15:48:17
Ambit Temp [°C] | Humidity [rel%]	23.4 | 24
System Version	2.0.0.3
Test Specification	None
Test Method	
TC Version	0.0.1
My Description	Peak Output Power conducted 3MHz/3MHz - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2475
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.171 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70

Test at TX 2475 MHz

READ SA SETTINGS:	
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	19.06 | 10.84 | 25
Start [MHz] | Stop [MHz]	2469.000 | 2481.000
RBW [MHz] | VBW [MHz]	3.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	1000 | 10 | 1001 | SWE

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	---	8.96	dBm	Info
Peak Power	---	---	7.870458	mW	Info
Frequency at Peak	---	---	2474.269	MHz	Info



Plot_Common2G4 Peak OP 3MHz-3MHz ~ Generic 2G4_02032021_154845.png

TEST FINISHED	
General Verdict	PASS

- END OF DOCUMENT -