Measurement Results

1-9907/19-01-05_Annex_MR_A_1

Test logging

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Table of Content

IUT Summary

IUT DEFINITION	
Manufacturer	m&h Inprocess Messtechnik GmbH
Type	RWR95.51
Serial No.	1001
Setup No.	NI
SW Version	NI
HW Version	NI
Comment 1	NI
Comment 2	NI

IUT Common Settings	
Tlow [°C]	5
Tmid [°C]	20
Thigh [°C]	50
Vlow [V]	12
Vmid [V]	24
Vhigh [V]	30
Imax [A]	1
Auto Control enabled Power Supply | Climatic Box	No | No
Antenna Gain [dBi]	0
Additional Path Loss [dB]	0.7

IUT Common Settings 2G4 Init Values from IUT file	
Hopping supported	No
Frequency low [MHz]	2405
Frequency mid [MHz]	2440
Frequency high [MHz]	2480
Burst length [ms]	10
Nominal Bandwidth [MHz]	2.6
User Interaction	No

1. Common2G4 Peak Output Power conducted 3MHz_3MHz ~ Generic 2G4

Test References	
TC Start	17.07.2019 15:28:41
System Version	1.0.0.16
Test Specification	None
Test Method	
Class / TC Version / TC ID	TC_VM_Common2G4_Peak_Output_Power_Conducted_3MHz_3MHz_V01 Version: 0.0.1 | TCID_Common2G4_1
My Description	Peak Output Power conducted 3MHz/3MHz - Generic 2G4
Add. Information	

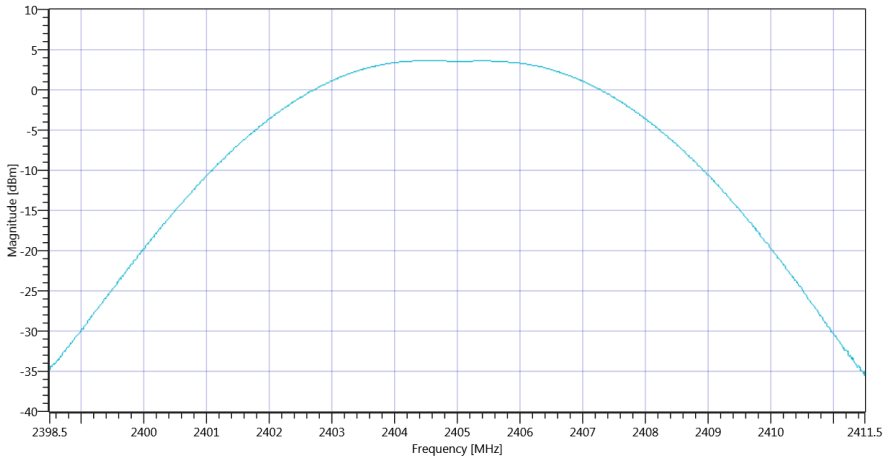
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2405 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	13.48
Ref. Lev. offs [dB]	10.51
Input Attenuation [dB]	20
Freq. Start [MHz]	2398.500
Freq. Stop [MHz]	2411.500
Resolution BW. [MHz]	3.000000
Video BW. [MHz]	3.000000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_Common2G4_Peak_Output_Power_Conducted_3MHz_3MHz_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	3.64	dBm	Information
Peak Power	---	1000	2.312065	mW	Information
Frequency at Peak	---	---	2404.558	MHz	Information



Plot_Common2G4 Peak Output Power conducted 3MHz_3MHz ~ Generic 2G4_17072019_152905.png

TEST FINISHED		
General Verdict	17.07.2019 15:29:05 / RT: 24 s	PASS

2. Common2G4 Peak Output Power conducted 3MHz_3MHz ~ Generic 2G4

Test References	
TC Start	17.07.2019 15:29:28
System Version	1.0.0.16
Test Specification	None
Test Method	
Class / TC Version / TC ID	TC_VM_Common2G4_Peak_Output_Power_Conducted_3MHz_3MHz_V01 Version: 0.0.1 | TCID_Common2G4_1
My Description	Peak Output Power conducted 3MHz/3MHz - Generic 2G4
Add. Information	

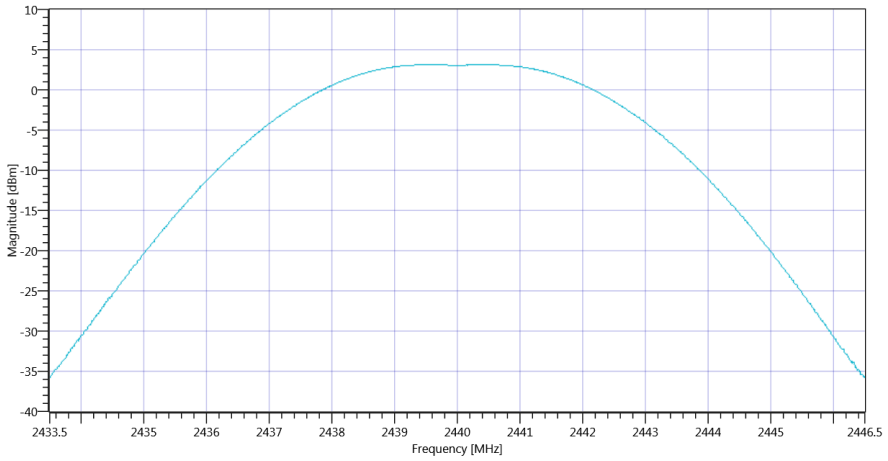
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2440 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	13.11
Ref. Lev. offs [dB]	10.6
Input Attenuation [dB]	20
Freq. Start [MHz]	2433.500
Freq. Stop [MHz]	2446.500
Resolution BW. [MHz]	3.000000
Video BW. [MHz]	3.000000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_Common2G4_Peak_Output_Power_Conducted_3MHz_3MHz_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	3.15	dBm	Information
Peak Power	---	1000	2.06538	mW	Information
Frequency at Peak	---	---	2440.403	MHz	Information



Plot_Common2G4 Peak Output Power conducted 3MHz_3MHz ~ Generic 2G4_17072019_152952.png

TEST FINISHED		
General Verdict	17.07.2019 15:29:52 / RT: 23 s	PASS

3. Common2G4 Peak Output Power conducted 3MHz_3MHz ~ Generic 2G4

Test References	
TC Start	17.07.2019 15:30:14
System Version	1.0.0.16
Test Specification	None
Test Method	
Class / TC Version / TC ID	TC_VM_Common2G4_Peak_Output_Power_Conducted_3MHz_3MHz_V01 Version: 0.0.1 | TCID_Common2G4_1
My Description	Peak Output Power conducted 3MHz/3MHz - Generic 2G4
Add. Information	

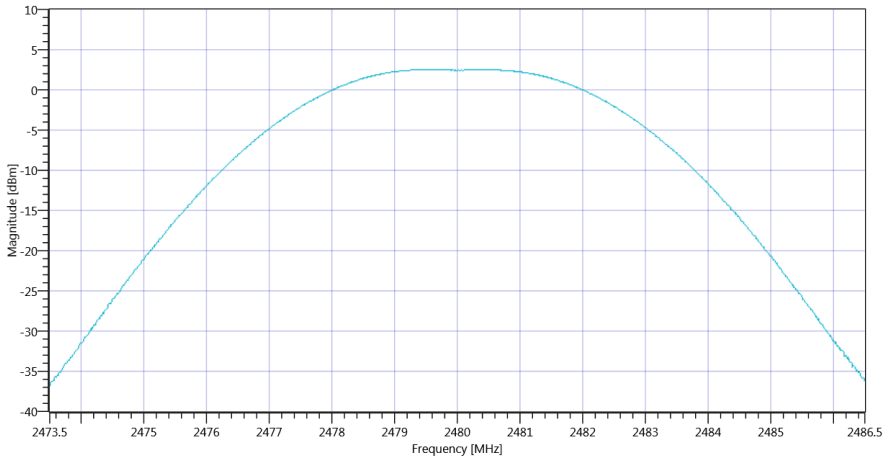
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2480 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	12.33
Ref. Lev. offs [dB]	10.65
Input Attenuation [dB]	20
Freq. Start [MHz]	2473.500
Freq. Stop [MHz]	2486.500
Resolution BW. [MHz]	3.000000
Video BW. [MHz]	3.000000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_Common2G4_Peak_Output_Power_Conducted_3MHz_3MHz_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	2.53	dBm	Information
Peak Power	---	1000	1.790606	mW	Information
Frequency at Peak	---	---	2479.584	MHz	Information



Plot_Common2G4 Peak Output Power conducted 3MHz_3MHz ~ Generic 2G4_17072019_153037.png

TEST FINISHED		
General Verdict	17.07.2019 15:30:37 / RT: 23 s	PASS

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

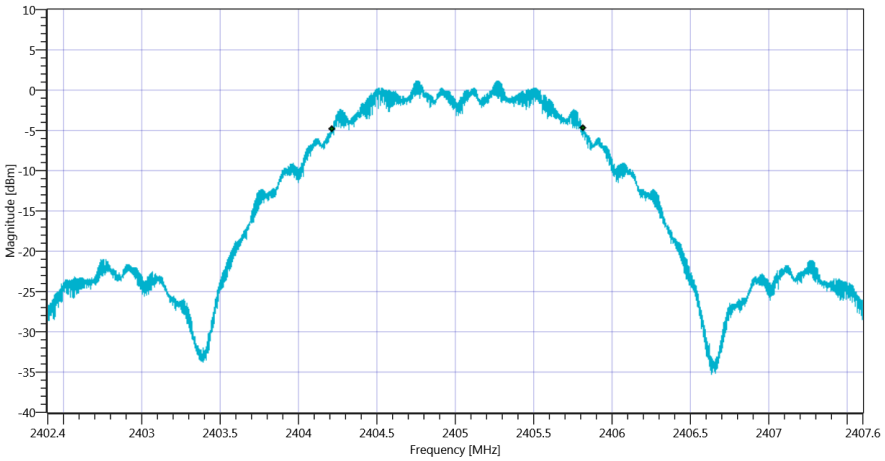
Test References	
TC Start	15.07.2019 10:19:21
System Version	1.0.0.16
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth
Class / TC Version / TC ID	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_DTS_V01 Version: 0.0.1 | TCID_FCC15247_3
My 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	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2405 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	9.38
Ref. Lev. offs [dB]	10.51
Input Attenuation [dB]	15
Freq. Start [MHz]	2402.400
Freq. Stop [MHz]	2407.600
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	50
Sweep Points/Section	10001
Sweep Count	200
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	1602	kHz	Information

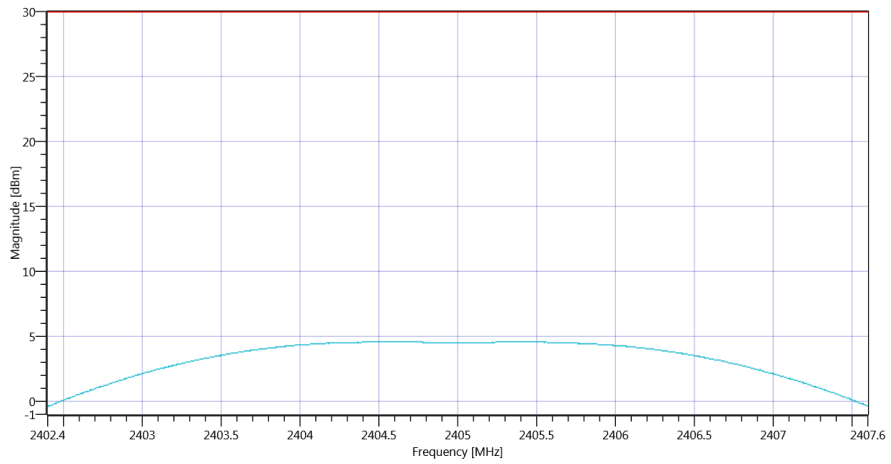


Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4 DTS BW _15072019_101946.png

READ SA SETTINGS:	
Ref. Level [dBm]	14.38
Ref. Lev. offs [dB]	10.51
Input Attenuation [dB]	20
Freq. Start [MHz]	2402.400
Freq. Stop [MHz]	2407.600
Resolution BW. [MHz]	3.000000
Video BW. [MHz]	10.000000
Detector	POS
Sweep Time [ms]	50
Sweep Points/Section	1001
Sweep Count	200
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_DTS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	4.57	dBm	PASS
Peak Power	---	1000	2.864178	mW	PASS

Frequency at Peak	---	---	2404.621	MHz	Information



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4_15072019_102000.png

TEST FINISHED		
General Verdict	15.07.2019 10:20:00 / RT: 39 s	PASS

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

Test References	
TC Start	15.07.2019 10:20:04
System Version	1.0.0.16
Test Specification	FCC Part 15.247
Test Method	99
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1 | TCID_FCC15247_1
My Description	FCC 15.247 Bandwidth 6dB DTS - Generic 2G4
Add. Information	

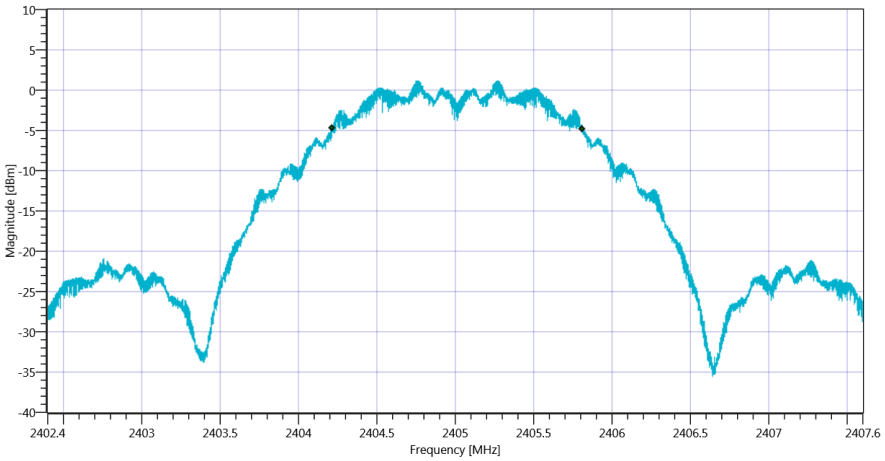
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2405 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	9.39
Ref. Lev. offs [dB]	10.51
Input Attenuation [dB]	15
Freq. Start [MHz]	2402.400
Freq. Stop [MHz]	2407.600
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	50
Sweep Points/Section	10001
Sweep Count	200
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	1596	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4_15072019_102028.png

TEST FINISHED		
General Verdict	15.07.2019 10:20:28 / RT: 24 s	PASS

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

Test References	
TC Start	15.07.2019 10:20:32
System Version	1.0.0.16
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
Class / TC Version / TC ID	TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1 | TCID_FCC15247_6
My Description	FCC 15.247 Peak Power Spectral Density DTS - Generic 2G4
Add. Information	

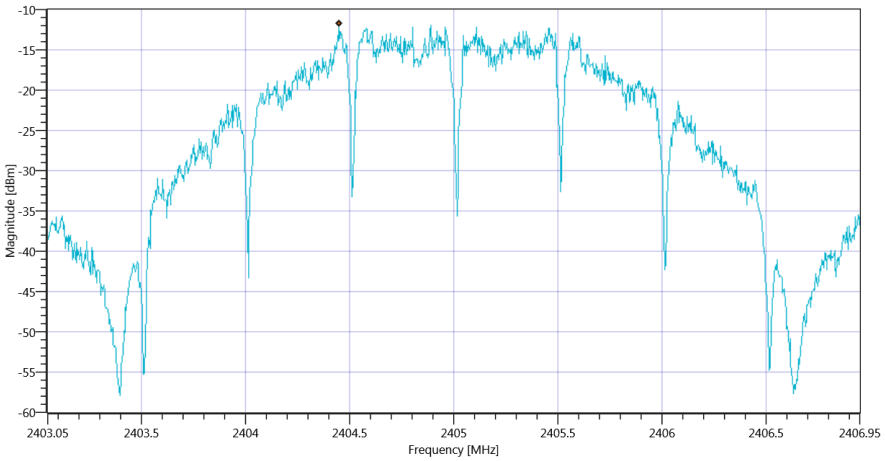
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2405 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	9.40
Ref. Lev. offs [dB]	10.51
Input Attenuation [dB]	15
Freq. Start [MHz]	2403.050
Freq. Stop [MHz]	2406.950
Resolution BW. [MHz]	0.003000
Video BW. [MHz]	0.010000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	20
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-11.8	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4_15072019_102105.png

TEST FINISHED		
General Verdict	15.07.2019 10:21:05 / RT: 33 s	PASS

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

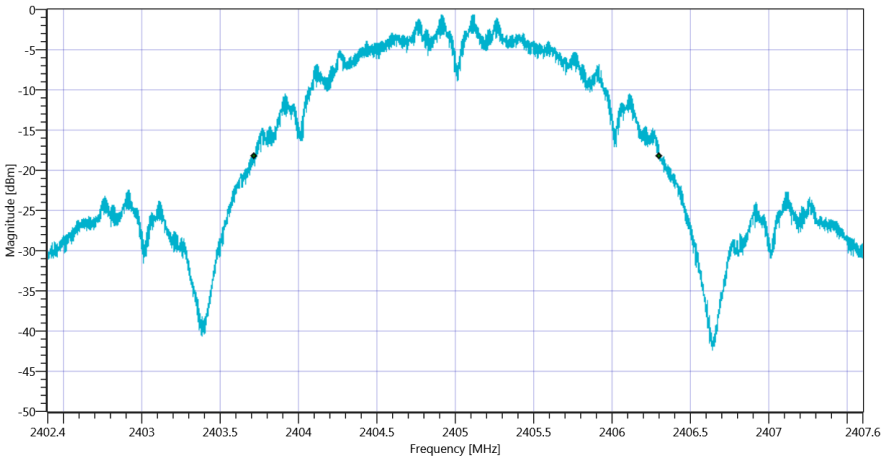
Test References	
TC Start	15.07.2019 10:21:09
System Version	1.0.0.16
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2 | TCID_FCC15247_2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

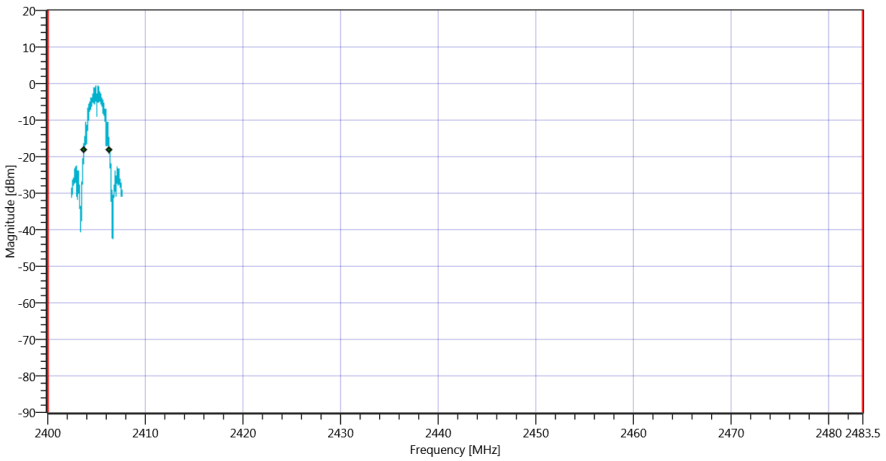
Test at TX 2405 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	9.40
Ref. Lev. offs [dB]	10.51
Input Attenuation [dB]	15
Freq. Start [MHz]	2402.400
Freq. Stop [MHz]	2407.600
Resolution BW. [MHz]	0.050000
Video BW. [MHz]	0.200000
Detector	POS
Sweep Time [ms]	50
Sweep Points/Section	10001
Sweep Count	200
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	2586	kHz	Information
T1 99%	2400.000000	---	2403.7157	MHz	PASS
T2 99%	---	2483.500000	2406.3019	MHz	PASS

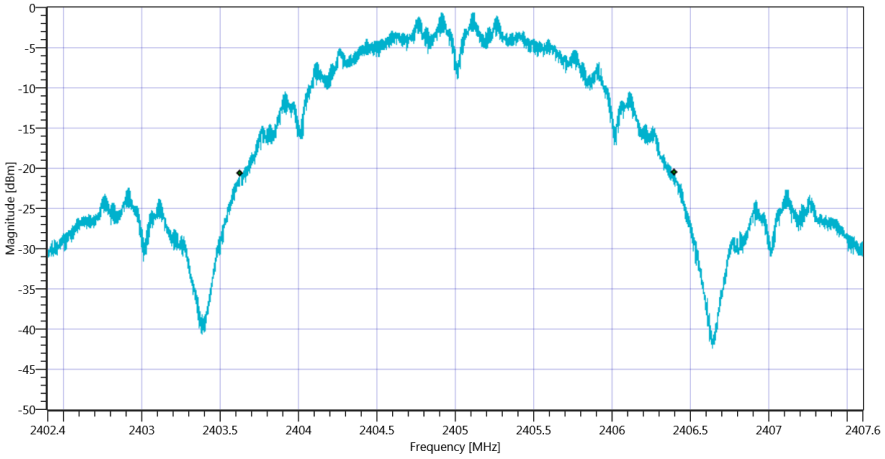


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT_15072019_102133.png

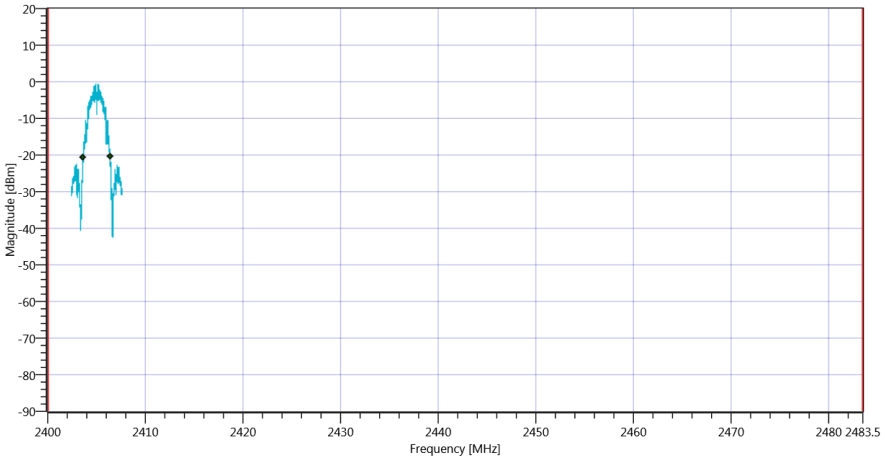


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_15072019_102136.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	**Lower Limit**	**Upper Limit**	**Measured**	**Unit**	**Verdict**
Bandwidth 20dB	---	---	2771	kHz	Information
T1 20dB	2400.000000	---	2403.6293	MHz	PASS
T2 20dB	---	2483.500000	2406.3998	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB_15072019_102140.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_15072019_102143.png

TEST FINISHED		
General Verdict	15.07.2019 10:21:43 / RT: 34 s	PASS

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

Test References	
TC Start	15.07.2019 10:21:47
System Version	1.0.0.16
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.
Class / TC Version / TC ID	TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1 | TCID_FCC15247_8
My Description	FCC 15.247 TX Emissions Conducted DTS - Generic 2G4
Add. Information	

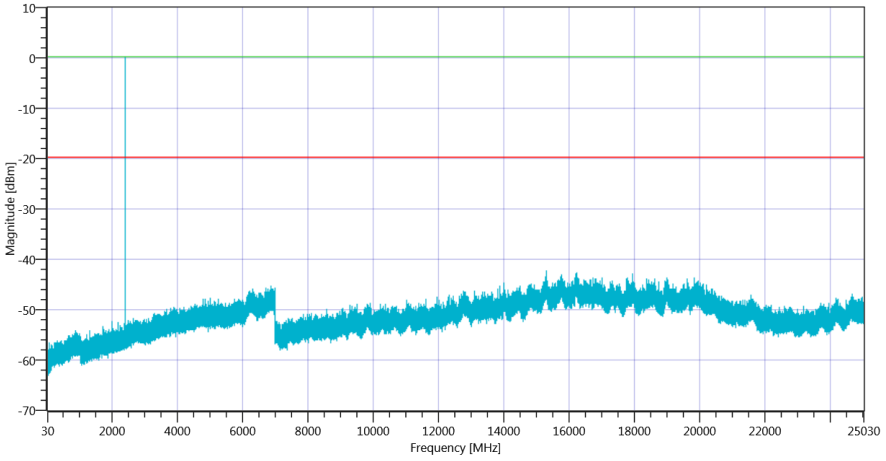
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2405 MHz

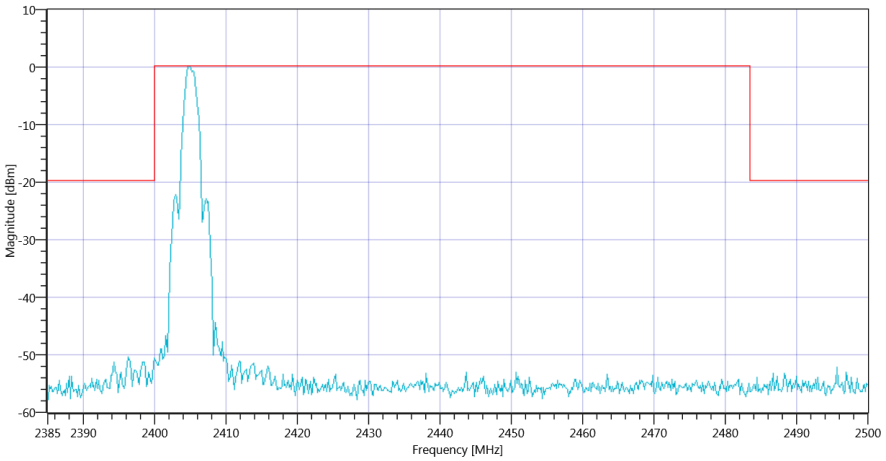
READ SA SETTINGS:	
Ref. Level [dBm]	9.68
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	500
Sweep Points/Section	3001
Sweep Count	8
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2405.00 MHz	---	---	0.23	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4 2405_15072019_102633.png



Plot_FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4 2405_15072019_102635.png

TEST FINISHED		
General Verdict	15.07.2019 10:26:36 / RT: 288 s	PASS

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

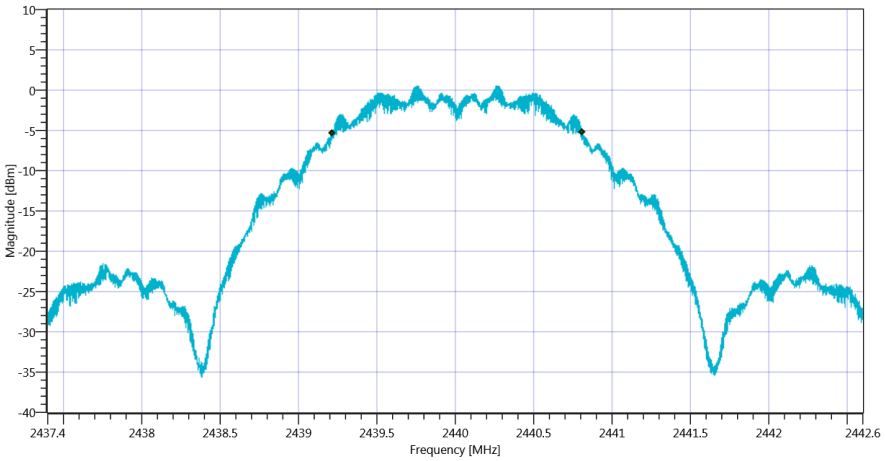
Test References	
TC Start	15.07.2019 11:08:23
System Version	1.0.0.16
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth
Class / TC Version / TC ID	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_DTS_V01 Version: 0.0.1 | TCID_FCC15247_3
My 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	mid
Voltage	mid
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2440 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	9.01
Ref. Lev. offs [dB]	10.6
Input Attenuation [dB]	15
Freq. Start [MHz]	2437.400
Freq. Stop [MHz]	2442.600
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	50
Sweep Points/Section	10001
Sweep Count	200
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	1598	kHz	Information

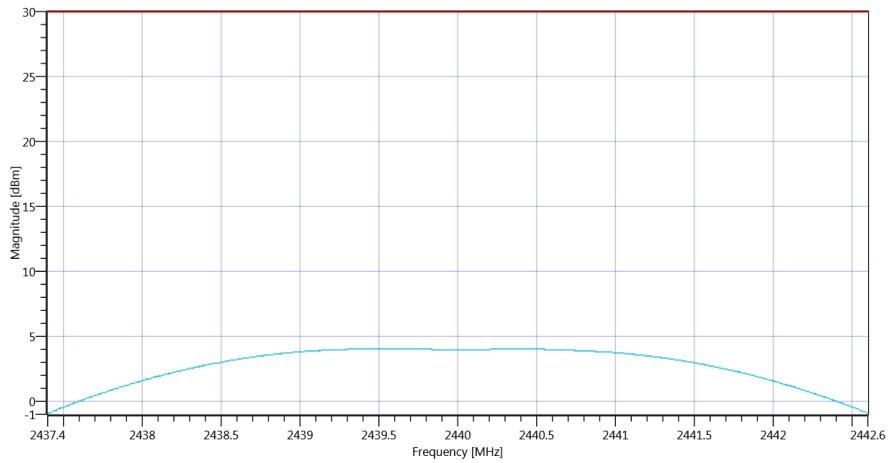


Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4 DTS BW _15072019_110847.png

READ SA SETTINGS:	
Ref. Level [dBm]	14.01
Ref. Lev. offs [dB]	10.6
Input Attenuation [dB]	20
Freq. Start [MHz]	2437.400
Freq. Stop [MHz]	2442.600
Resolution BW. [MHz]	3.000000
Video BW. [MHz]	10.000000
Detector	POS
Sweep Time [ms]	50
Sweep Points/Section	1001
Sweep Count	200
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_DTS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	4.05	dBm	PASS
Peak Power	---	1000	2.540973	mW	PASS

Frequency at Peak	---	---	2439.595	MHz	Information



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4_15072019_110902.png

TEST FINISHED		
General Verdict	15.07.2019 11:09:02 / RT: 38 s	PASS

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

Test References	
TC Start	15.07.2019 11:09:06
System Version	1.0.0.16
Test Specification	FCC Part 15.247
Test Method	99
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1 | TCID_FCC15247_1
My Description	FCC 15.247 Bandwidth 6dB DTS - Generic 2G4
Add. Information	

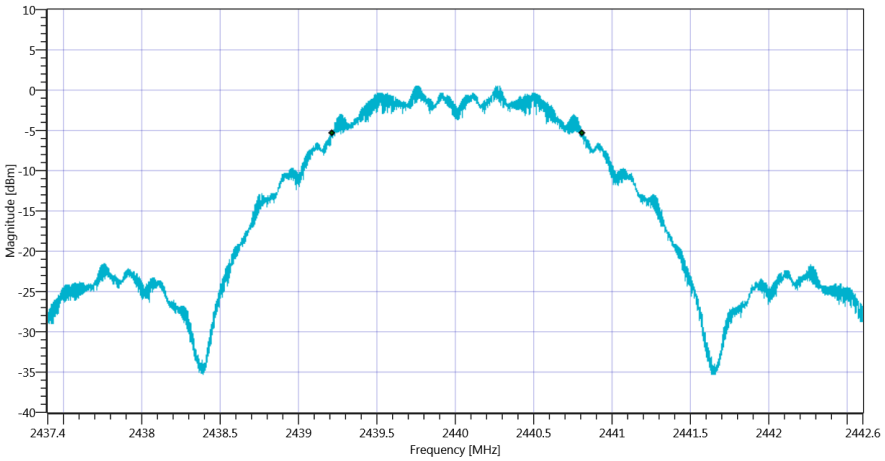
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2440 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	9.02
Ref. Lev. offs [dB]	10.6
Input Attenuation [dB]	15
Freq. Start [MHz]	2437.400
Freq. Stop [MHz]	2442.600
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	50
Sweep Points/Section	10001
Sweep Count	200
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	1599	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4_15072019_110930.png

TEST FINISHED		
General Verdict	15.07.2019 11:09:30 / RT: 24 s	PASS

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

Test References	
TC Start	15.07.2019 11:09:34
System Version	1.0.0.16
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
Class / TC Version / TC ID	TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1 | TCID_FCC15247_6
My Description	FCC 15.247 Peak Power Spectral Density DTS - Generic 2G4
Add. Information	

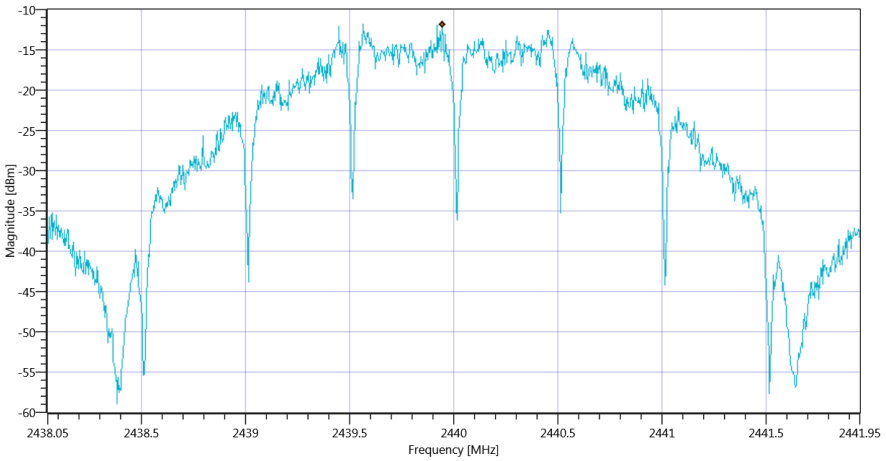
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2440 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	9.03
Ref. Lev. offs [dB]	10.6
Input Attenuation [dB]	15
Freq. Start [MHz]	2438.050
Freq. Stop [MHz]	2441.950
Resolution BW. [MHz]	0.003000
Video BW. [MHz]	0.010000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	20
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-11.85	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4_15072019_111007.png

TEST FINISHED		
General Verdict	15.07.2019 11:10:07 / RT: 33 s	PASS

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

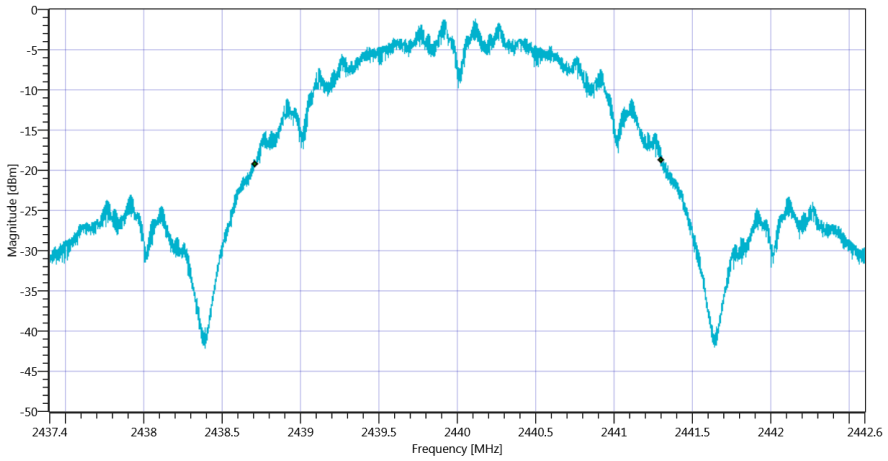
Test References	
TC Start	15.07.2019 11:10:11
System Version	1.0.0.16
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2 | TCID_FCC15247_2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

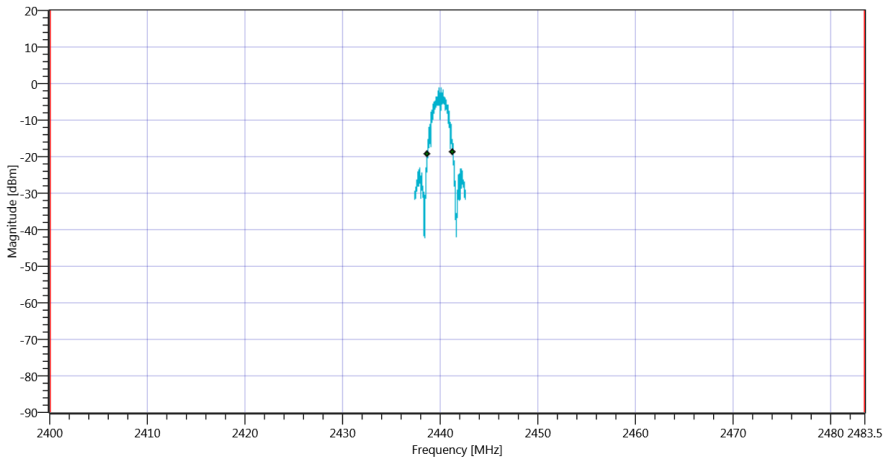
Test at TX 2440 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	9.02
Ref. Lev. offs [dB]	10.6
Input Attenuation [dB]	15
Freq. Start [MHz]	2437.400
Freq. Stop [MHz]	2442.600
Resolution BW. [MHz]	0.050000
Video BW. [MHz]	0.200000
Detector	POS
Sweep Time [ms]	50
Sweep Points/Section	10001
Sweep Count	200
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	2587	kHz	Information
T1 99%	2400.000000	---	2438.7142	MHz	PASS
T2 99%	---	2483.500000	2441.3009	MHz	PASS

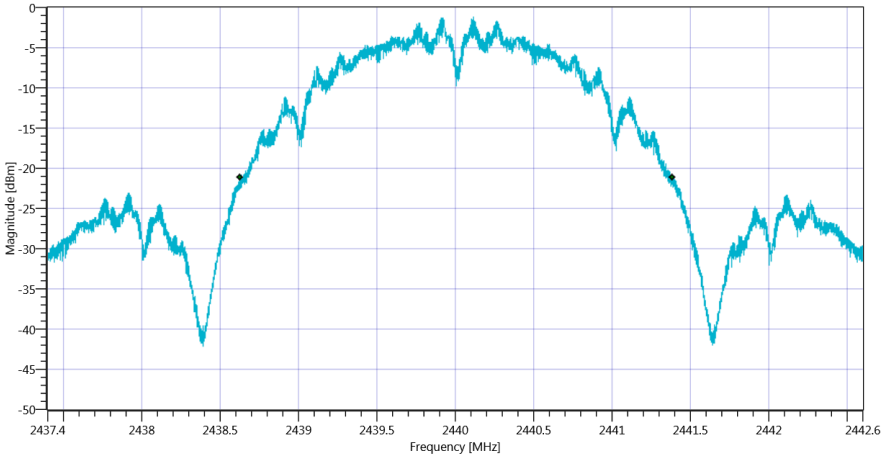


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT_15072019_111035.png

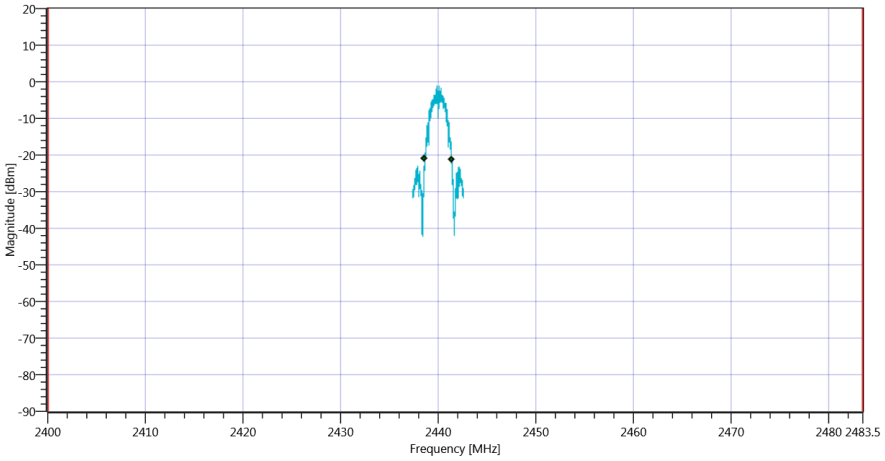


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_15072019_111038.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	2758	kHz	Information
T1 20dB	2400.000000	---	2438.6288	MHz	PASS
T2 20dB	---	2483.500000	2441.3863	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB_15072019_111042.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_15072019_111045.png

TEST FINISHED		
General Verdict	15.07.2019 11:10:46 / RT: 34 s	PASS

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

Test References	
TC Start	15.07.2019 11:10:49
System Version	1.0.0.16
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.
Class / TC Version / TC ID	TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1 | TCID_FCC15247_8
My Description	FCC 15.247 TX Emissions Conducted DTS - Generic 2G4
Add. Information	

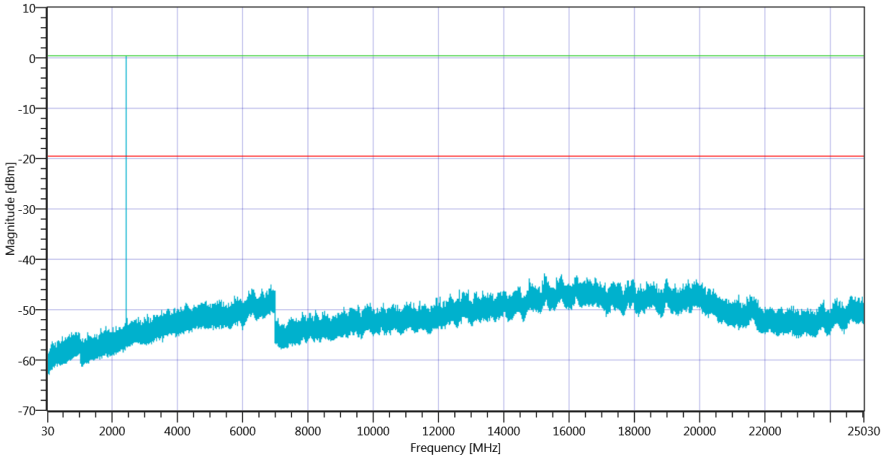
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	False | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2440 MHz

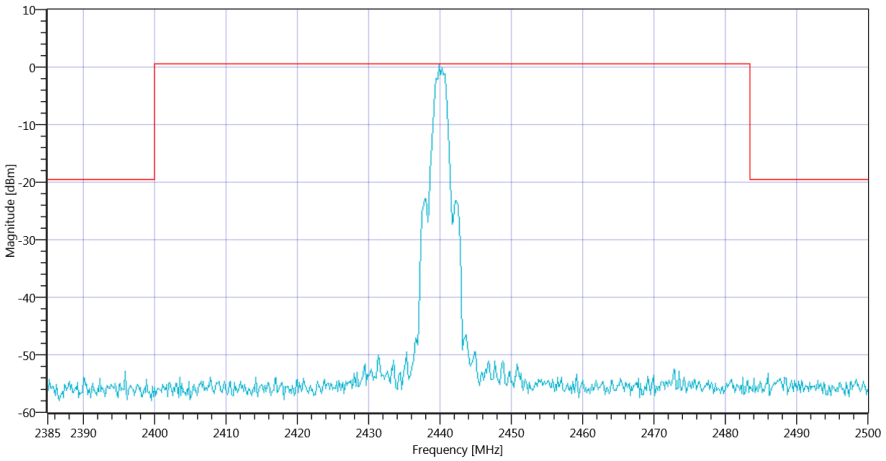
READ SA SETTINGS:	
Ref. Level [dBm]	9.23
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	500
Sweep Points/Section	3001
Sweep Count	8
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2439.83 MHz	---	---	0.53	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4 2440_15072019_111534.png



Plot_FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4 2440_15072019_111536.png

TEST FINISHED		
General Verdict	15.07.2019 11:15:37 / RT: 287 s	PASS

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

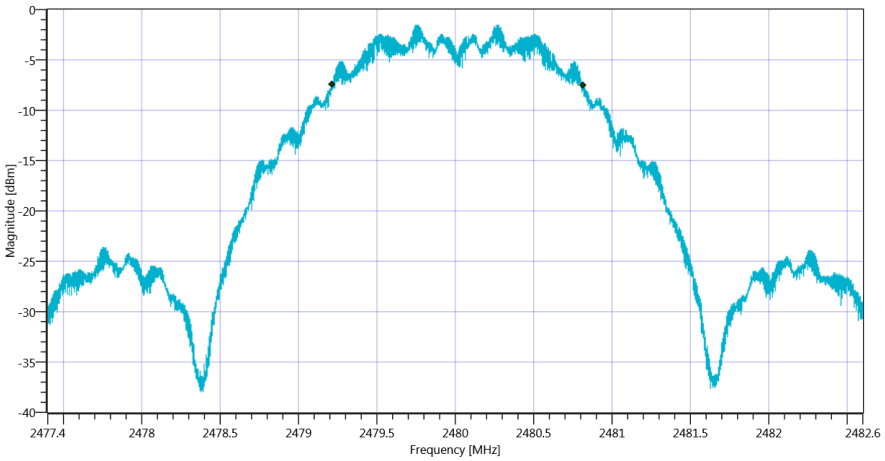
Test References	
TC Start	15.07.2019 11:57:24
System Version	1.0.0.16
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth
Class / TC Version / TC ID	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_DTS_V01 Version: 0.0.1 | TCID_FCC15247_3
My 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	mid
Voltage	mid
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2480 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	6.74
Ref. Lev. offs [dB]	10.65
Input Attenuation [dB]	15
Freq. Start [MHz]	2477.400
Freq. Stop [MHz]	2482.600
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	50
Sweep Points/Section	10001
Sweep Count	200
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	1603	kHz	Information

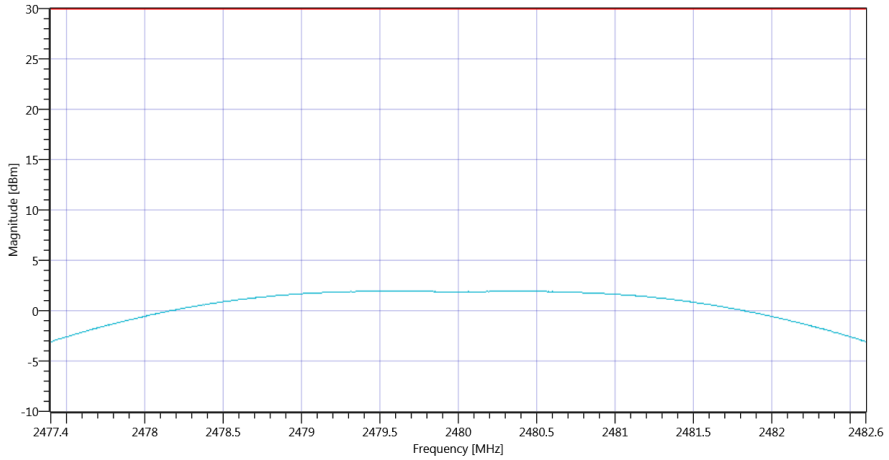


Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4 DTS BW _15072019_115748.png

READ SA SETTINGS:	
Ref. Level [dBm]	11.74
Ref. Lev. offs [dB]	10.65
Input Attenuation [dB]	20
Freq. Start [MHz]	2477.400
Freq. Stop [MHz]	2482.600
Resolution BW. [MHz]	3.000000
Video BW. [MHz]	10.000000
Detector	POS
Sweep Time [ms]	50
Sweep Points/Section	1001
Sweep Count	200
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_DTS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	1.96	dBm	PASS
Peak Power	---	1000	1.570363	mW	PASS

Frequency at Peak	---	---	2479.631	MHz	Information



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4_15072019_115802.png

TEST FINISHED		
General Verdict	15.07.2019 11:58:02 / RT: 38 s	PASS

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

Test References	
TC Start	15.07.2019 11:58:06
System Version	1.0.0.16
Test Specification	FCC Part 15.247
Test Method	99
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1 | TCID_FCC15247_1
My Description	FCC 15.247 Bandwidth 6dB DTS - Generic 2G4
Add. Information	

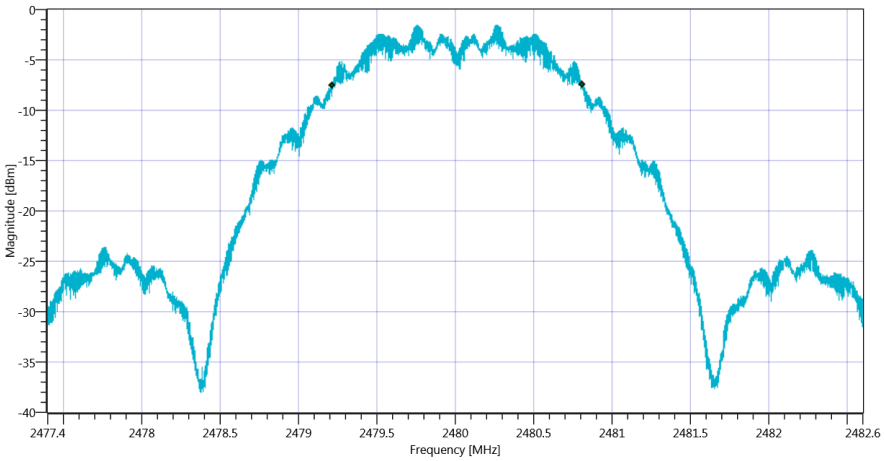
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2480 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	6.75
Ref. Lev. offs [dB]	10.65
Input Attenuation [dB]	15
Freq. Start [MHz]	2477.400
Freq. Stop [MHz]	2482.600
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	50
Sweep Points/Section	10001
Sweep Count	200
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	1601	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4_15072019_115830.png

TEST FINISHED		
General Verdict	15.07.2019 11:58:30 / RT: 23 s	PASS

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

Test References	
TC Start	15.07.2019 11:58:34
System Version	1.0.0.16
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
Class / TC Version / TC ID	TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1 | TCID_FCC15247_6
My Description	FCC 15.247 Peak Power Spectral Density DTS - Generic 2G4
Add. Information	

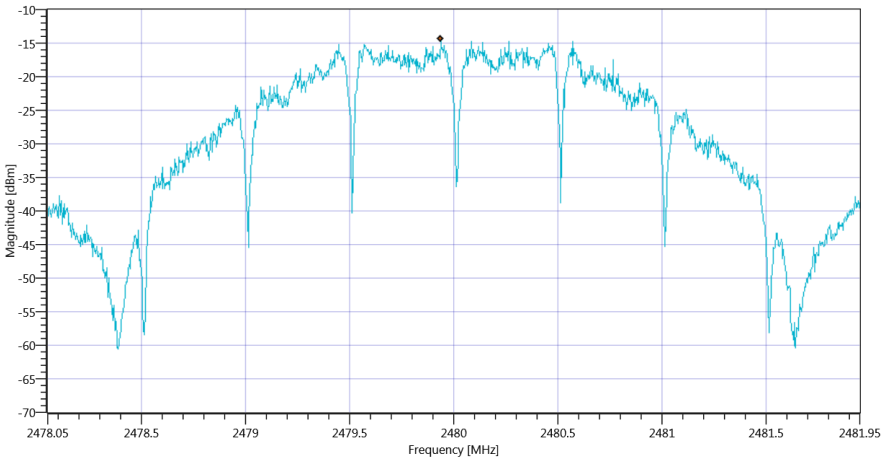
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2480 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	6.74
Ref. Lev. offs [dB]	10.65
Input Attenuation [dB]	15
Freq. Start [MHz]	2478.050
Freq. Stop [MHz]	2481.950
Resolution BW. [MHz]	0.003000
Video BW. [MHz]	0.010000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	20
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-14.4	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4_15072019_115907.png

TEST FINISHED		
General Verdict	15.07.2019 11:59:07 / RT: 33 s	PASS

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

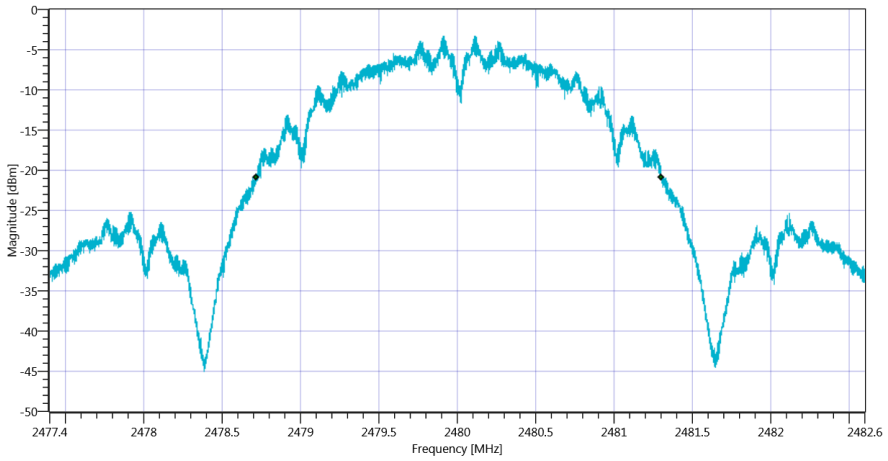
Test References	
TC Start	15.07.2019 11:59:11
System Version	1.0.0.16
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2 | TCID_FCC15247_2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

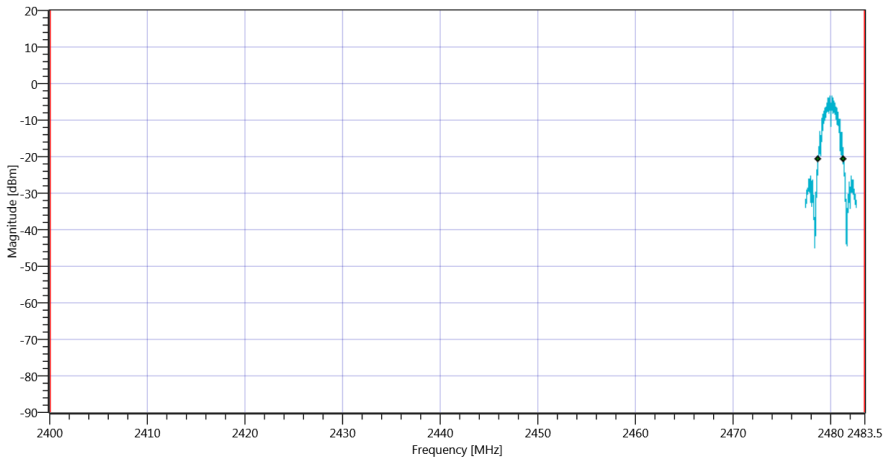
Test at TX 2480 MHz

READ SA SETTINGS:	
Ref. Level [dBm]	6.75
Ref. Lev. offs [dB]	10.65
Input Attenuation [dB]	15
Freq. Start [MHz]	2477.400
Freq. Stop [MHz]	2482.600
Resolution BW. [MHz]	0.050000
Video BW. [MHz]	0.200000
Detector	POS
Sweep Time [ms]	50
Sweep Points/Section	10001
Sweep Count	200
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	2586	kHz	Information
T1 99%	2400.000000	---	2478.7152	MHz	PASS
T2 99%	---	2483.500000	2481.3014	MHz	PASS

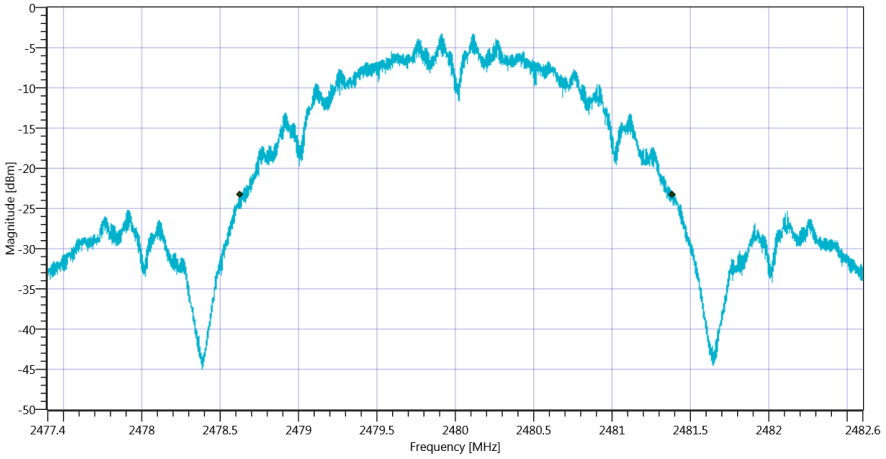


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT_15072019_115935.png

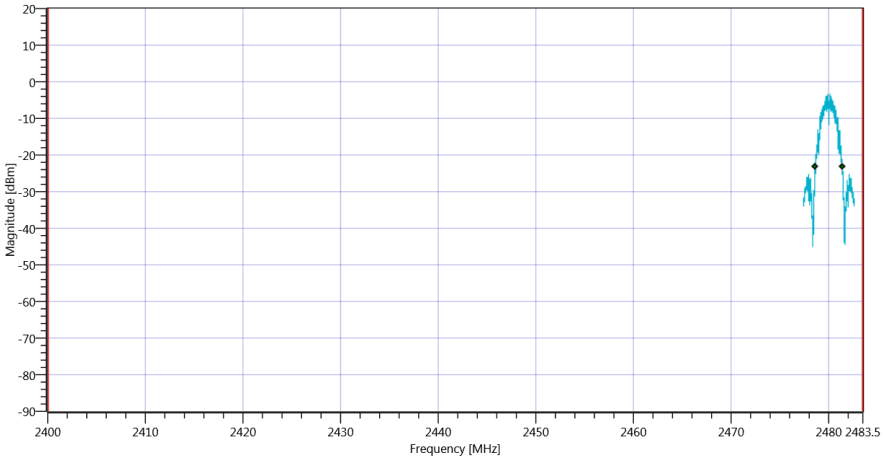


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_15072019_115938.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	2756	kHz	Information
T1 20dB	2400.000000	---	2478.6293	MHz	PASS
T2 20dB	---	2483.500000	2481.3853	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB_15072019_115942.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_15072019_115945.png

TEST FINISHED		
General Verdict	15.07.2019 11:59:46 / RT: 34 s	PASS

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

Test References	
TC Start	15.07.2019 11:59:49
System Version	1.0.0.16
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.
Class / TC Version / TC ID	TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1 | TCID_FCC15247_8
My Description	FCC 15.247 TX Emissions Conducted DTS - Generic 2G4
Add. Information	

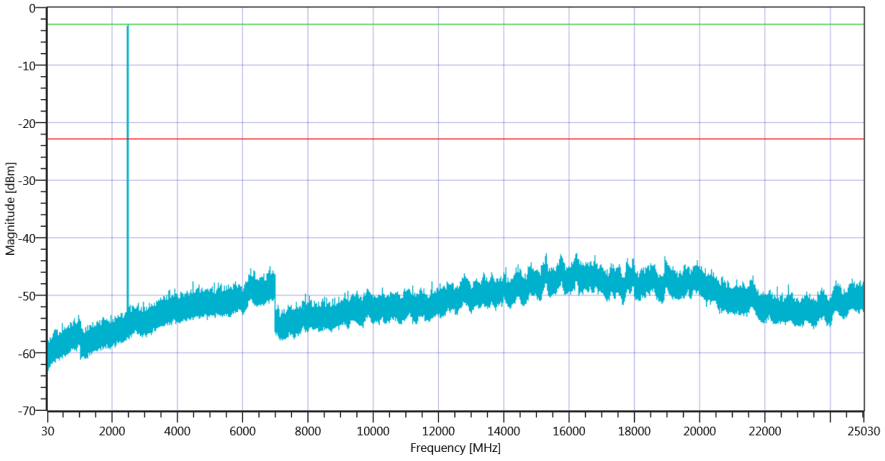
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False | Freq [MHz] 2405
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02 | SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40

Test at TX 2480 MHz

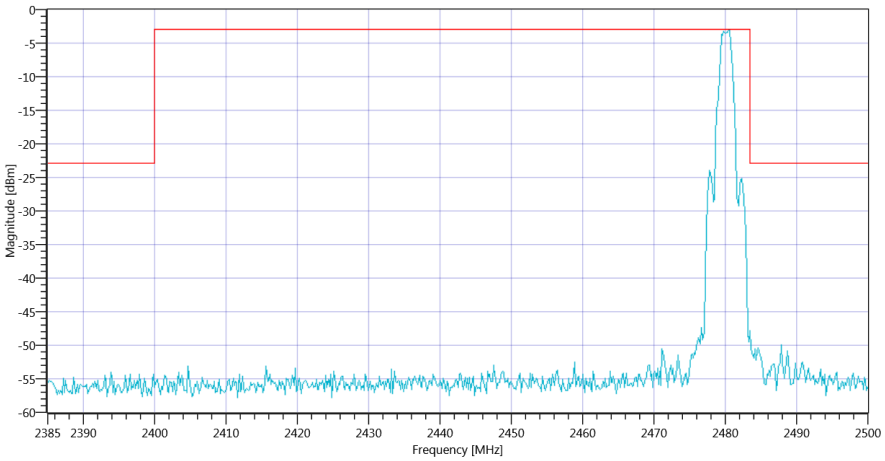
READ SA SETTINGS:	
Ref. Level [dBm]	7.22
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	500
Sweep Points/Section	3001
Sweep Count	8
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2480.50 MHz	---	---	-2.91	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4 2480_15072019_120434.png



Plot_FCC Part 15.247 TX Spurious Conduced ~ Generic 2G4 2480_15072019_120436.png

TEST FINISHED		
General Verdict	15.07.2019 12:04:37 / RT: 287 s	PASS

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