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WIFI 5GHz (RF test) Template: Release April 14th, 2021

TEST REPORT

N°: 172319-764277-D

Version : 02

Subject

Radio spectrum matters
tests according to standards:
47 CFR Part 15.407 (RF Test Only)

Issued to

Technicolor Connected Home USA, LLC
5030 Sugarloaf Parkway, Building 6
Lawrenceville – GA 30044
USA

Apparatus under test

- ↗ Product
- ↗ Trade mark
- ↗ Manufacturer
- ↗ Model under test
- ↗ Serial number
- ↗ FCC ID

IP Set-Top Box
Technicolor
Technicolor
UIW4059MIL
LAB3-V0 nr.030
G95UIW4059

Conclusion

See Test Program chapter

Test date

: April 7, 2021 to May 5, 2021

Test location

Moirans

Test Site

6500A-1 & 6500A-3

Registration Number

197516

Designation Number

FR0008

Sample receipt date

April 7, 2021

Composition of document

187 pages

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01	May 31, 2021	Armand MAHOUNGOU	Creation of the document
02	Erreur ! Source du renvoi introuvable.	Armand MAHOUNGOU	Device internal picture removing

Each new edition of this test report replaces and cancels the previous edition. The control of the old editions of report is under responsibility of client.



SUMMARY

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1. TEST PROGRAM

References

- 47 CFR Part 15.407
- KDB 789033 D02 General U-NII Tests Procedures New Rules v02r01
- KDB 662911 D01 Multiple Transmitter Output v02r01
- ANSI C63.10-2013

Radio requirement:

Clause (47CFR Part 15.407) Test Description	Test result - Comments			
Occupied Bandwidth	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	<input type="checkbox"/> NA	<input type="checkbox"/> NP(1)
26dB Bandwidth	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	<input type="checkbox"/> NA(2)	<input type="checkbox"/> NP(1)
6dB Bandwidth	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	<input type="checkbox"/> NA(3)	<input type="checkbox"/> NP(1)
Duty Cycle	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	<input type="checkbox"/> NA	<input type="checkbox"/> NP(1)
EIRP	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	<input type="checkbox"/> NA	<input type="checkbox"/> NP(1)
Maximum Conducted Output Power	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	<input type="checkbox"/> NA	<input type="checkbox"/> NP(1)
Power Spectral Density	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	<input type="checkbox"/> NA	<input type="checkbox"/> NP(1)
Transmit Power Control	<input type="checkbox"/> PASS	<input type="checkbox"/> FAIL	<input checked="" type="checkbox"/> NA(4)	<input type="checkbox"/> NP(1)
AC Power Line Conducted Emission	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	<input type="checkbox"/> NA(5)	<input type="checkbox"/> NP(1)
Unwanted Emissions & Undesirable Emission	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	<input type="checkbox"/> NA	<input type="checkbox"/> NP(1)
Frequency Stability	<input checked="" type="checkbox"/> PASS	<input type="checkbox"/> FAIL	<input type="checkbox"/> NA	<input type="checkbox"/> NP(1)

This table is a summary of test report, see conclusion of each clause of this test report for detail.

- (1): Limited program
 (2): EUT only operates outside the 5725MHz-5850MHz band
 (3): EUT only operates inside the 5725MHz-5850MHz band
 (4): EIRP below 27dBm or EUT only operates inside 5150MHz-5250MHz or/and 5725MHz-5850MHz bands
 (5): EUT not directly or indirectly connected to the AC Power Public Network

2. EQUIPMENT UNDER TEST: CONFIGURATION (DECLARED BY PROVIDER)

2.1. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES):

Equipment under test (EUT):
Technicolor UIW4059MIL

Serial Number: LAB3-V0 nr.030





Equipment Under Test

Power supply:

Name	Type	Rating	Reference / Sn	Comments
Supply1	<input checked="" type="checkbox"/> AC <input type="checkbox"/> DC <input type="checkbox"/> Battery	120-240V;50-60Hz	-	-

Inputs/outputs - Cable:

Access	Type	Length used (m)	Declared <3m	Shielded	Under test	Comments
1	Mains power supply cable	1.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
2	HDMI cable	1.5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-
3	Ethernet cable	1.5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-

Auxiliary equipment used during test:

Type	Reference	Sn	Comments
Laptop	-	-	Use to set the EUT



L C I E

Equipment information:

Type:	WIFI			
Chipset Ref :	Realtek RTL8822CS			
Frequency band:	<input checked="" type="checkbox"/> 5150MHz-5250MHz	<input checked="" type="checkbox"/> 5250MHz-5350MHz	<input checked="" type="checkbox"/> 5470MHz-5725MHz	
	<input checked="" type="checkbox"/> 5725MHz-5850MHz			
Standard:	<input checked="" type="checkbox"/> 802.11a	<input checked="" type="checkbox"/> 802.11n HT20	<input checked="" type="checkbox"/> 802.11n HT40	
	<input checked="" type="checkbox"/> 802.11ac VHT20	<input checked="" type="checkbox"/> 802.11ac VHT40	<input checked="" type="checkbox"/> 802.11ac VHT80	
	<input type="checkbox"/> 802.11ac VHT160			
Spectrum Modulation:	<input checked="" type="checkbox"/> OFDM			
Channel bandwidth:	<input checked="" type="checkbox"/> 20MHz	<input checked="" type="checkbox"/> 40MHz	<input checked="" type="checkbox"/> 80MHz	<input type="checkbox"/> 160MHz
Antenna Type:	<input checked="" type="checkbox"/> Integral	<input type="checkbox"/> External	<input type="checkbox"/> Dedicated	
Antenna connector:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Temporary for test	
Antenna Requirements §15.203	The transmitter uses an integral antenna with a u.fl connector which is classified as a unique connector			
Transmit chains:	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8
TPC:	<input type="checkbox"/> Yes		<input type="checkbox"/> No	
Receiver chains	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8
Type of equipment:	<input checked="" type="checkbox"/> Stand-alone	<input type="checkbox"/> Plug-in	<input type="checkbox"/> Combined	
Equipment arrangement:	<input checked="" type="checkbox"/> Tabletop	<input type="checkbox"/> Floor-standing	<input type="checkbox"/> Multiple orientations	
Operating temperature range:	Tmin:	<input type="checkbox"/> -20°C	<input type="checkbox"/> 0°C	<input checked="" type="checkbox"/> 5 °C
	Tnom:	20°C		
	Tmax:	<input type="checkbox"/> 35°C	<input type="checkbox"/> 55°C	<input checked="" type="checkbox"/> 45 °C
Type of power source:	<input checked="" type="checkbox"/> AC power supply	<input checked="" type="checkbox"/> DC power supply	<input type="checkbox"/> Battery Battery Type	
Operating voltage range:	Vmin:	<input checked="" type="checkbox"/> 90 V/60Hz	<input checked="" type="checkbox"/> 11,4 VDC	
	Vnom:	<input checked="" type="checkbox"/> 120V/60Hz	<input checked="" type="checkbox"/> 12 VDC	
	Vmax:	<input checked="" type="checkbox"/> 253 V/60Hz	<input checked="" type="checkbox"/> 12,6 VDC	
Mode:	<input type="checkbox"/> Master	<input type="checkbox"/> Slave with radar detection	<input checked="" type="checkbox"/> Slave without radar detection	
	<input type="checkbox"/> Bridge		<input type="checkbox"/> Mesh	
Fixed outdoor P to P/M application:	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No	
System architectures:	<input checked="" type="checkbox"/> IP based		<input type="checkbox"/> Frame based	
User access restriction:	<input checked="" type="checkbox"/> Yes (The manufacturer declares that information regarding the parameters of the detected Radar Waveforms is not available to the end user)		<input type="checkbox"/> No	



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Antenna Characteristic			
Antenna assembly	Gain (dBi)	Frequency Band (MHz)	Impedance(Ω)
1	5.1	5150MHz-5850MHz	50
2	4.7	5150MHz-5850MHz	50
Accumulated	3	5150MHz-5850MHz	50

Accumulated gain calculation		
Formula used for calculation	KDB	Correlated
$10 \log[(10G1 /20 + 10G2 /20 + \dots + 10GN /20)2 /NANT]$ dBi	KDB 662911 D01 v02r01	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No

Hardware information		
Software (if applicable):	V. :	UIW4059MIL_HSW 0.7



L C I E

CHANNEL PLAN		
802.11a / 802.11n HT20/ 802.11ac VHT20		
Channel	Frequency (MHz)	Available Channel
C1=36	5180	<input checked="" type="checkbox"/>
C2=40	5200	<input checked="" type="checkbox"/>
44	5220	<input checked="" type="checkbox"/>
C3=48	5240	<input checked="" type="checkbox"/>
C4=52	5260	<input checked="" type="checkbox"/>
56	5280	<input checked="" type="checkbox"/>
C5=60	5300	<input checked="" type="checkbox"/>
C6=64	5320	<input checked="" type="checkbox"/>
C7=100	5500	<input checked="" type="checkbox"/>
104	5520	<input checked="" type="checkbox"/>
108	5540	<input checked="" type="checkbox"/>
112	5560	<input checked="" type="checkbox"/>
C8=116	5580	<input checked="" type="checkbox"/>
120	5600	<input checked="" type="checkbox"/>
124	5620	<input checked="" type="checkbox"/>
128	5640	<input checked="" type="checkbox"/>
132	5660	<input checked="" type="checkbox"/>
136	5680	<input checked="" type="checkbox"/>
C9=140	5700	<input checked="" type="checkbox"/>
C10=144	5720	<input checked="" type="checkbox"/>
C11=149	5745	<input checked="" type="checkbox"/>
153	5765	<input checked="" type="checkbox"/>
C12=157	5785	<input checked="" type="checkbox"/>
161	5805	<input checked="" type="checkbox"/>
C13=165	5825	<input checked="" type="checkbox"/>



L C I E

CHANNEL PLAN		
802.11n HT40/ 802.11ac VHT40		
Channel	Frequency (MHz)	Available Channel
C14=36+40	5190	<input checked="" type="checkbox"/>
C15=44+48	5230	<input checked="" type="checkbox"/>
C16=52+56	5270	<input checked="" type="checkbox"/>
C17=60+64	5310	<input checked="" type="checkbox"/>
C18=100+104	5510	<input checked="" type="checkbox"/>
C19=108+112	5550	<input checked="" type="checkbox"/>
116+120	5590	<input checked="" type="checkbox"/>
124+128	5630	<input checked="" type="checkbox"/>
C20=132+136	5670	<input checked="" type="checkbox"/>
C21=140+144	5710	<input checked="" type="checkbox"/>
C22=149+153	5755	<input checked="" type="checkbox"/>
C23=157+161	5795	<input checked="" type="checkbox"/>

CHANNEL PLAN		
802.11ac VHT80		
Channel	Frequency (MHz)	Available Channel
C24=36+40+44+48	5210	<input checked="" type="checkbox"/>
C25=52+56+60+64	5290	<input checked="" type="checkbox"/>
C26=100+104+108+112	5530	<input checked="" type="checkbox"/>
C27=116+120+124+128	5610	<input checked="" type="checkbox"/>
C28=132+136+140+144	5690	<input checked="" type="checkbox"/>
C29=149+153+157+161	5775	<input checked="" type="checkbox"/>

No DFS Channel
DFS Channel
Weather DFS Channel (Not Authorised for RSS-247)



L C I E

DATA RATE		
802.11a		
Data Rate (Mbps)	Modulation Type	Modulation Worst Case
6	BPSK	<input checked="" type="checkbox"/>
9	BPSK	<input type="checkbox"/>
12	QPSK	<input type="checkbox"/>
18	QPSK	<input type="checkbox"/>
24	16-QAM	<input type="checkbox"/>
36	16-QAM	<input type="checkbox"/>
48	64-QAM	<input type="checkbox"/>
54	64-QAM	<input type="checkbox"/>



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DATA RATE										
802.11n HT20										
Available for EUT	MCS Index	Spatial streams	Modulation				Data Rate (Mbps)		Worst Case Modulation	
							(GI = 800ns)	(GI = 400ns)		
☑	0	1	BPSK				6.5	7.2	<input type="checkbox"/>	
	1	1	QPSK				13	14.4	<input type="checkbox"/>	
	2	1	QPSK				19.5	21.7	<input type="checkbox"/>	
	3	1	16-QAM				26	28.9	<input type="checkbox"/>	
	4	1	16-QAM				39	43.3	<input type="checkbox"/>	
	5	1	64-QAM				52	57.8	<input type="checkbox"/>	
	6	1	64-QAM				58.5	65	<input type="checkbox"/>	
☑	7	1	64-QAM				65	72.2	<input type="checkbox"/>	
	8	2	BPSK				13	14.4	<input checked="" type="checkbox"/>	
	9	2	QPSK				26	28.9	<input type="checkbox"/>	
	10	2	QPSK				39	43.3	<input type="checkbox"/>	
	11	2	16-QAM				52	57.8	<input type="checkbox"/>	
	12	2	16-QAM				78	86.7	<input type="checkbox"/>	
	13	2	64-QAM				104	115.6	<input type="checkbox"/>	
☑	14	2	64-QAM				117	130.3	<input type="checkbox"/>	
	15	2	64-QAM				130	144.4	<input type="checkbox"/>	
	16	3	BPSK				19.5	21.7	<input type="checkbox"/>	
	17	3	QPSK				39	43.3	<input type="checkbox"/>	
	18	3	QPSK				58.5	65	<input type="checkbox"/>	
	19	3	16-QAM				78	86.7	<input type="checkbox"/>	
	20	3	16-QAM				117	130	<input type="checkbox"/>	
☐	21	3	64-QAM				156	173.3	<input type="checkbox"/>	
	22	3	64-QAM				175.5	195	<input type="checkbox"/>	
	23	3	64-QAM				195	216.7	<input type="checkbox"/>	
	24	4	BPSK				26	28.9	<input type="checkbox"/>	
	25	4	QPSK				52	57.8	<input type="checkbox"/>	
	26	4	QPSK				78	86.7	<input type="checkbox"/>	
	27	4	16-QAM				104	115.6	<input type="checkbox"/>	
☐	28	4	16-QAM				156	173.3	<input type="checkbox"/>	
	29	4	64-QAM				208	231.1	<input type="checkbox"/>	
	30	4	64-QAM				234	260	<input type="checkbox"/>	
	31	4	64-QAM				260	288.9	<input type="checkbox"/>	
	32	1	BPSK	-	-	-	-	-	<input type="checkbox"/>	
	☐	33	2	16-QAM	QPSK	-	-	39	43.3	<input type="checkbox"/>
		34	2	64-QAM	QPSK	-	-	52	57.8	<input type="checkbox"/>
35		2	64-QAM	16-QAM	-	-	65	72.2	<input type="checkbox"/>	
36		2	16-QAM	QPSK	-	-	58.5	65	<input type="checkbox"/>	
37		2	64-QAM	QPSK	-	-	78	86.7	<input type="checkbox"/>	
38		2	64-QAM	16-QAM	-	-	97.5	108.3	<input type="checkbox"/>	
39		3	16-QAM	QPSK	QPSK	-	52	57.8	<input type="checkbox"/>	
☐	40	3	16-QAM	16-QAM	QPSK	-	65	72.2	<input type="checkbox"/>	
	41	3	64-QAM	QPSK	QPSK	-	65	72.2	<input type="checkbox"/>	
	42	3	64-QAM	16-QAM	QPSK	-	78	86.7	<input type="checkbox"/>	
	43	3	64-QAM	16-QAM	16-QAM	-	91	101.1	<input type="checkbox"/>	
	44	3	64-QAM	64-QAM	QPSK	-	91	101.1	<input type="checkbox"/>	
	45	3	64-QAM	64-QAM	16-QAM	-	104	115.6	<input type="checkbox"/>	
	46	3	16-QAM	QPSK	QPSK	-	78	86.7	<input type="checkbox"/>	
	47	3	16-QAM	16-QAM	QPSK	-	97.5	108.3	<input type="checkbox"/>	
	48	3	64-QAM	QPSK	QPSK	-	97.5	108.3	<input type="checkbox"/>	
	49	3	64-QAM	16-QAM	QPSK	-	117	130	<input type="checkbox"/>	
	50	3	64-QAM	16-QAM	16-QAM	-	136.5	151.7	<input type="checkbox"/>	
	51	3	64-QAM	64-QAM	QPSK	-	136.5	151.7	<input type="checkbox"/>	
	52	3	64-QAM	64-QAM	16-QAM	-	156	173.3	<input type="checkbox"/>	
☐	53	4	16-QAM	QPSK	QPSK	QPSK	65	72.2	<input type="checkbox"/>	
	54	4	16-QAM	16-QAM	QPSK	QPSK	78	86.7	<input type="checkbox"/>	
	55	4	16-QAM	16-QAM	16-QAM	QPSK	91	101.1	<input type="checkbox"/>	
	56	4	64-QAM	QPSK	QPSK	QPSK	78	86.7	<input type="checkbox"/>	
	57	4	64-QAM	16-QAM	QPSK	QPSK	91	101.1	<input type="checkbox"/>	
	58	4	64-QAM	16-QAM	16-QAM	QPSK	104	115.6	<input type="checkbox"/>	
	59	4	64-QAM	16-QAM	16-QAM	16-QAM	117	130	<input type="checkbox"/>	
	60	4	64-QAM	QPSK	QPSK	QPSK	104	115.6	<input type="checkbox"/>	
	61	4	64-QAM	16-QAM	16-QAM	QPSK	117	130	<input type="checkbox"/>	
	62	4	64-QAM	16-QAM	16-QAM	16-QAM	130	144.4	<input type="checkbox"/>	
	63	4	64-QAM	64-QAM	64-QAM	QPSK	130	144.4	<input type="checkbox"/>	
	64	4	64-QAM	64-QAM	64-QAM	16-QAM	143	158.9	<input type="checkbox"/>	
	65	4	16-QAM	QPSK	QPSK	QPSK	97.5	108.3	<input type="checkbox"/>	
	66	4	16-QAM	16-QAM	QPSK	QPSK	117	130	<input type="checkbox"/>	
	67	4	16-QAM	16-QAM	16-QAM	QPSK	136.5	151.7	<input type="checkbox"/>	
	68	4	64-QAM	QPSK	QPSK	QPSK	117	130	<input type="checkbox"/>	
	69	4	64-QAM	16-QAM	QPSK	QPSK	136.5	151.7	<input type="checkbox"/>	
	70	4	64-QAM	16-QAM	16-QAM	QPSK	156	173.3	<input type="checkbox"/>	
	71	4	64-QAM	16-QAM	16-QAM	16-QAM	175.5	195	<input type="checkbox"/>	
	72	4	64-QAM	64-QAM	QPSK	QPSK	156	173.3	<input type="checkbox"/>	
	73	4	64-QAM	64-QAM	16-QAM	QPSK	175.5	195	<input type="checkbox"/>	
	74	4	64-QAM	64-QAM	16-QAM	16-QAM	195	216.7	<input type="checkbox"/>	
	75	4	64-QAM	64-QAM	64-QAM	QPSK	195	216.7	<input type="checkbox"/>	
	76	4	64-QAM	64-QAM	64-QAM	16-QAM	214.5	238.3	<input type="checkbox"/>	



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DATA RATE										
802.11n HT40										
Available for EUT	MCS Index	Spatial streams	Modulation				Data Rate (Mbps)		Worst Case Modulation	
							(GI = 800ns)	(GI = 400ns)		
☑	0	1	BPSK				13	15	<input type="checkbox"/>	
	1	1	QPSK				27	30	<input type="checkbox"/>	
	2	1	QPSK				40.5	45	<input type="checkbox"/>	
	3	1	16-QAM				54	60	<input type="checkbox"/>	
	4	1	16-QAM				81	90	<input type="checkbox"/>	
	5	1	64-QAM				108	120	<input type="checkbox"/>	
	6	1	64-QAM				121.5	135	<input type="checkbox"/>	
☑	7	1	64-QAM				135	150	<input type="checkbox"/>	
	8	2	BPSK				27	30	<input checked="" type="checkbox"/>	
	9	2	QPSK				54	60	<input type="checkbox"/>	
	10	2	QPSK				81	90	<input type="checkbox"/>	
	11	2	16-QAM				108	120	<input type="checkbox"/>	
	12	2	16-QAM				162	180	<input type="checkbox"/>	
	13	2	64-QAM				216	240	<input type="checkbox"/>	
☑	14	2	64-QAM				243	270	<input type="checkbox"/>	
	15	2	64-QAM				270	300	<input type="checkbox"/>	
	16	3	BPSK				40.5	45	<input type="checkbox"/>	
	17	3	QPSK				81	90	<input type="checkbox"/>	
	18	3	QPSK				121.5	135	<input type="checkbox"/>	
	19	3	16-QAM				162	180	<input type="checkbox"/>	
	20	3	16-QAM				243	270	<input type="checkbox"/>	
☐	21	3	64-QAM				324	360	<input type="checkbox"/>	
	22	3	64-QAM				364.5	405	<input type="checkbox"/>	
	23	3	64-QAM				405	450	<input type="checkbox"/>	
	24	4	BPSK				54	60	<input type="checkbox"/>	
	25	4	QPSK				108	120	<input type="checkbox"/>	
	26	4	QPSK				162	180	<input type="checkbox"/>	
	27	4	16-QAM				216	240	<input type="checkbox"/>	
☐	28	4	16-QAM				324	360	<input type="checkbox"/>	
	29	4	64-QAM				432	480	<input type="checkbox"/>	
	30	4	64-QAM				486	540	<input type="checkbox"/>	
	31	4	64-QAM				540	600	<input type="checkbox"/>	
	32	1	BPSK	-	-	-	6.0	6.7	<input type="checkbox"/>	
	☐	33	2	16-QAM	QPSK	-	-	81	90.0	<input type="checkbox"/>
		34	2	64-QAM	QPSK	-	-	108	120	<input type="checkbox"/>
35		2	64-QAM	16-QAM	-	-	135	150	<input type="checkbox"/>	
36		2	16-QAM	QPSK	-	-	121.5	135	<input type="checkbox"/>	
37		2	64-QAM	QPSK	-	-	162	180	<input type="checkbox"/>	
38		2	64-QAM	16-QAM	-	-	202.5	225	<input type="checkbox"/>	
39		3	16-QAM	QPSK	QPSK	-	108	120	<input type="checkbox"/>	
☐	40	3	16-QAM	16-QAM	QPSK	-	135	150	<input type="checkbox"/>	
	41	3	64-QAM	QPSK	QPSK	-	135	150	<input type="checkbox"/>	
	42	3	64-QAM	16-QAM	QPSK	-	162	180	<input type="checkbox"/>	
	43	3	64-QAM	16-QAM	16-QAM	-	189	210	<input type="checkbox"/>	
	44	3	64-QAM	64-QAM	QPSK	-	189	210	<input type="checkbox"/>	
	45	3	64-QAM	64-QAM	16-QAM	-	216	240	<input type="checkbox"/>	
	46	3	16-QAM	QPSK	QPSK	-	162	180	<input type="checkbox"/>	
	47	3	16-QAM	16-QAM	QPSK	-	202.5	225	<input type="checkbox"/>	
	48	3	64-QAM	QPSK	QPSK	-	202.5	225	<input type="checkbox"/>	
	49	3	64-QAM	16-QAM	QPSK	-	243	270	<input type="checkbox"/>	
	50	3	64-QAM	16-QAM	16-QAM	-	283.5	315	<input type="checkbox"/>	
	51	3	64-QAM	64-QAM	QPSK	-	283.5	315	<input type="checkbox"/>	
	52	3	64-QAM	64-QAM	16-QAM	-	324	360	<input type="checkbox"/>	
	☐	53	4	16-QAM	QPSK	QPSK	QPSK	135	150	<input type="checkbox"/>
54		4	16-QAM	16-QAM	QPSK	QPSK	162	180	<input type="checkbox"/>	
55		4	16-QAM	16-QAM	16-QAM	QPSK	189	210	<input type="checkbox"/>	
56		4	64-QAM	QPSK	QPSK	QPSK	162	180	<input type="checkbox"/>	
57		4	64-QAM	16-QAM	QPSK	QPSK	189	210	<input type="checkbox"/>	
58		4	64-QAM	16-QAM	16-QAM	QPSK	216	240	<input type="checkbox"/>	
59		4	64-QAM	16-QAM	16-QAM	16-QAM	243	270	<input type="checkbox"/>	
60		4	64-QAM	QPSK	QPSK	QPSK	216	240	<input type="checkbox"/>	
61		4	64-QAM	16-QAM	16-QAM	QPSK	243	270	<input type="checkbox"/>	
62		4	64-QAM	16-QAM	16-QAM	16-QAM	270	300	<input type="checkbox"/>	
63		4	64-QAM	64-QAM	64-QAM	QPSK	270	300	<input type="checkbox"/>	
64		4	64-QAM	64-QAM	64-QAM	16-QAM	297	330	<input type="checkbox"/>	
65		4	16-QAM	QPSK	QPSK	QPSK	202.5	225	<input type="checkbox"/>	
66		4	16-QAM	16-QAM	QPSK	QPSK	243	270	<input type="checkbox"/>	
67		4	16-QAM	16-QAM	16-QAM	QPSK	283.5	315	<input type="checkbox"/>	
68		4	64-QAM	QPSK	QPSK	QPSK	243	270	<input type="checkbox"/>	
69		4	64-QAM	16-QAM	QPSK	QPSK	283.5	315	<input type="checkbox"/>	
70		4	64-QAM	16-QAM	16-QAM	QPSK	324	360	<input type="checkbox"/>	
71		4	64-QAM	16-QAM	16-QAM	16-QAM	364.5	405	<input type="checkbox"/>	
72		4	64-QAM	64-QAM	QPSK	QPSK	324	360	<input type="checkbox"/>	
73		4	64-QAM	64-QAM	16-QAM	QPSK	364.5	405	<input type="checkbox"/>	
74		4	64-QAM	64-QAM	16-QAM	16-QAM	405	450	<input type="checkbox"/>	
75		4	64-QAM	64-QAM	64-QAM	QPSK	405	450	<input type="checkbox"/>	
76		4	64-QAM	64-QAM	64-QAM	16-QAM	445.5	495	<input type="checkbox"/>	



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DATA RATE: 802.11ac VHT20							
Available for EUT	MCS Index	Nbr of spatial streams	Modulation (Stream 1/2/3/4)	Coding rate	GI = 800ns	GI = 400ns	Worst Case Modulation
☑	0	1	BPSK	1/2	6,5	7,2	<input type="checkbox"/>
	1	1	QPSK	1/2	13	14,4	<input type="checkbox"/>
	2	1	QPSK	3/4	19,5	21,7	<input type="checkbox"/>
	3	1	16-QAM	1/2	26	28,9	<input type="checkbox"/>
	4	1	16-QAM	3/4	39	43,3	<input type="checkbox"/>
	5	1	64-QAM	2/3	52	57,8	<input type="checkbox"/>
	6	1	64-QAM	3/4	58,5	65	<input type="checkbox"/>
	7	1	64-QAM	5/6	65	72,2	<input type="checkbox"/>
	8	1	256-QAM	3/4	78	86,7	<input type="checkbox"/>
☑	9	1	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
	10	2	BPSK	1/2	13	14,4	<input checked="" type="checkbox"/>
	11	2	QPSK	1/2	26	28,8	<input type="checkbox"/>
	12	2	QPSK	3/4	39	43,4	<input type="checkbox"/>
	13	2	16-QAM	1/2	52	57,8	<input type="checkbox"/>
	14	2	16-QAM	3/4	78	86,6	<input type="checkbox"/>
	15	2	64-QAM	2/3	104	115,6	<input type="checkbox"/>
	16	2	64-QAM	3/4	117	130	<input type="checkbox"/>
	17	2	64-QAM	5/6	130	144,4	<input type="checkbox"/>
☐	18	2	256-QAM	3/4	156	173,4	<input type="checkbox"/>
	19	2	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
	20	3	BPSK	1/2	19,5	21,6	<input type="checkbox"/>
	21	3	QPSK	1/2	39	43,2	<input type="checkbox"/>
	22	3	QPSK	3/4	58,5	65,1	<input type="checkbox"/>
	23	3	16-QAM	1/2	78	86,7	<input type="checkbox"/>
	24	3	16-QAM	3/4	117	129,9	<input type="checkbox"/>
	25	3	64-QAM	2/3	156	173,4	<input type="checkbox"/>
	26	3	64-QAM	3/4	175,5	195	<input type="checkbox"/>
☐	27	3	64-QAM	5/6	195	216,6	<input type="checkbox"/>
	28	3	256-QAM	3/4	234	260,1	<input type="checkbox"/>
	29	3	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
	30	4	BPSK	1/2	26	28,8	<input type="checkbox"/>
	31	4	QPSK	1/2	52	57,6	<input type="checkbox"/>
	32	4	QPSK	3/4	78	86,8	<input type="checkbox"/>
	33	4	16-QAM	1/2	104	115,6	<input type="checkbox"/>
	34	4	16-QAM	3/4	156	173,2	<input type="checkbox"/>
	35	4	64-QAM	2/3	208	231,2	<input type="checkbox"/>
☐	36	4	64-QAM	3/4	234	260	<input type="checkbox"/>
	37	4	64-QAM	5/6	260	288,8	<input type="checkbox"/>
	38	4	256-QAM	3/4	312	346,8	<input type="checkbox"/>
	39	4	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
	40	5	BPSK	1/2	32,5	36	<input type="checkbox"/>
	41	5	QPSK	1/2	65	72	<input type="checkbox"/>
	42	5	QPSK	3/4	97,5	108,5	<input type="checkbox"/>
	43	5	16-QAM	1/2	130	144,5	<input type="checkbox"/>
	44	5	16-QAM	3/4	195	216,5	<input type="checkbox"/>
☐	45	5	64-QAM	2/3	260	289	<input type="checkbox"/>
	46	5	64-QAM	3/4	292,5	325	<input type="checkbox"/>
	47	5	64-QAM	5/6	325	361	<input type="checkbox"/>
	48	5	256-QAM	3/4	390	433,5	<input type="checkbox"/>
	49	5	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
	50	6	BPSK	1/2	39	43,2	<input type="checkbox"/>
	51	6	QPSK	1/2	78	86,4	<input type="checkbox"/>
	52	6	QPSK	3/4	117	130,2	<input type="checkbox"/>
	53	6	16-QAM	1/2	156	173,4	<input type="checkbox"/>
☐	54	6	16-QAM	3/4	234	259,8	<input type="checkbox"/>
	55	6	64-QAM	2/3	312	346,8	<input type="checkbox"/>
	56	6	64-QAM	3/4	351	390	<input type="checkbox"/>
	57	6	64-QAM	5/6	390	433,2	<input type="checkbox"/>
	58	6	256-QAM	3/4	468	520,2	<input type="checkbox"/>
	59	6	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
	60	7	BPSK	1/2	45,5	50,4	<input type="checkbox"/>
	61	7	QPSK	1/2	91	100,8	<input type="checkbox"/>
	62	7	QPSK	3/4	136,5	151,9	<input type="checkbox"/>
☐	63	7	16-QAM	1/2	182	202,3	<input type="checkbox"/>
	64	7	16-QAM	3/4	273	303,1	<input type="checkbox"/>
	65	7	64-QAM	2/3	364	404,6	<input type="checkbox"/>
	66	7	64-QAM	3/4	409,5	455	<input type="checkbox"/>
	67	7	64-QAM	5/6	455	505,4	<input type="checkbox"/>
	68	7	256-QAM	3/4	546	606,9	<input type="checkbox"/>
	69	7	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
	70	8	BPSK	1/2	52	57,6	<input type="checkbox"/>
	71	8	QPSK	1/2	104	115,2	<input type="checkbox"/>
☐	72	8	QPSK	3/4	156	173,6	<input type="checkbox"/>
	73	8	16-QAM	1/2	208	231,2	<input type="checkbox"/>
	74	8	16-QAM	3/4	312	346,4	<input type="checkbox"/>
	75	8	64-QAM	2/3	416	462,4	<input type="checkbox"/>
	76	8	64-QAM	3/4	468	520	<input type="checkbox"/>
	77	8	64-QAM	5/6	520	577,6	<input type="checkbox"/>
	78	8	256-QAM	3/4	624	693,6	<input type="checkbox"/>
	79	8	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>



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DATA RATE: 802.11ac VHT40							
Available for EUT	MCS Index	Nbr of spatial streams	Modulation (Stream 1/2/3/4)	Coding rate	GI = 800ns	GI = 400ns	Worst Case Modulation
☑	0	1	BPSK	1/2	13,5	15	<input type="checkbox"/>
	1	1	QPSK	1/2	27	30	<input type="checkbox"/>
	2	1	QPSK	3/4	40,5	45	<input type="checkbox"/>
	3	1	16-QAM	1/2	54	60	<input type="checkbox"/>
	4	1	16-QAM	3/4	81	90	<input type="checkbox"/>
	5	1	64-QAM	2/3	108	120	<input type="checkbox"/>
	6	1	64-QAM	3/4	121,5	135	<input type="checkbox"/>
	7	1	64-QAM	5/6	135	150	<input type="checkbox"/>
	8	1	256-QAM	3/4	162	180	<input type="checkbox"/>
☑	9	1	256-QAM	5/6	180	200	<input type="checkbox"/>
	10	2	BPSK	1/2	27	30	<input checked="" type="checkbox"/>
	11	2	QPSK	1/2	54	60	<input type="checkbox"/>
	12	2	QPSK	3/4	81	90	<input type="checkbox"/>
	13	2	16-QAM	1/2	108	120	<input type="checkbox"/>
	14	2	16-QAM	3/4	162	180	<input type="checkbox"/>
	15	2	64-QAM	2/3	216	240	<input type="checkbox"/>
	16	2	64-QAM	3/4	243	270	<input type="checkbox"/>
	17	2	64-QAM	5/6	270	300	<input type="checkbox"/>
☐	18	2	256-QAM	3/4	324	360	<input type="checkbox"/>
	19	2	256-QAM	5/6	360	400	<input type="checkbox"/>
	20	3	BPSK	1/2	40,5	45	<input type="checkbox"/>
	21	3	QPSK	1/2	81	90	<input type="checkbox"/>
	22	3	QPSK	3/4	121,5	135	<input type="checkbox"/>
	23	3	16-QAM	1/2	162	180	<input type="checkbox"/>
	24	3	16-QAM	3/4	243	270	<input type="checkbox"/>
	25	3	64-QAM	2/3	324	360	<input type="checkbox"/>
	26	3	64-QAM	3/4	364,5	405	<input type="checkbox"/>
☐	27	3	64-QAM	5/6	405	450	<input type="checkbox"/>
	28	3	256-QAM	3/4	486	540	<input type="checkbox"/>
	29	3	256-QAM	5/6	540	600	<input type="checkbox"/>
	30	4	BPSK	1/2	54	60	<input type="checkbox"/>
	31	4	QPSK	1/2	108	120	<input type="checkbox"/>
	32	4	QPSK	3/4	162	180	<input type="checkbox"/>
	33	4	16-QAM	1/2	216	240	<input type="checkbox"/>
	34	4	16-QAM	3/4	324	360	<input type="checkbox"/>
	35	4	64-QAM	2/3	432	480	<input type="checkbox"/>
☐	36	4	64-QAM	3/4	486	540	<input type="checkbox"/>
	37	4	64-QAM	5/6	540	600	<input type="checkbox"/>
	38	4	256-QAM	3/4	648	720	<input type="checkbox"/>
	39	4	256-QAM	5/6	720	800	<input type="checkbox"/>
	40	5	BPSK	1/2	67,5	75	<input type="checkbox"/>
	41	5	QPSK	1/2	135	150	<input type="checkbox"/>
	42	5	QPSK	3/4	202,5	225	<input type="checkbox"/>
	43	5	16-QAM	1/2	270	300	<input type="checkbox"/>
	44	5	16-QAM	3/4	405	450	<input type="checkbox"/>
☐	45	5	64-QAM	2/3	540	600	<input type="checkbox"/>
	46	5	64-QAM	3/4	607,5	675	<input type="checkbox"/>
	47	5	64-QAM	5/6	675	750	<input type="checkbox"/>
	48	5	256-QAM	3/4	810	900	<input type="checkbox"/>
	49	5	256-QAM	5/6	900	1000	<input type="checkbox"/>
	50	6	BPSK	1/2	81	90	<input type="checkbox"/>
	51	6	QPSK	1/2	162	180	<input type="checkbox"/>
	52	6	QPSK	3/4	243	270	<input type="checkbox"/>
	53	6	16-QAM	1/2	324	360	<input type="checkbox"/>
☐	54	6	16-QAM	3/4	486	540	<input type="checkbox"/>
	55	6	64-QAM	2/3	648	720	<input type="checkbox"/>
	56	6	64-QAM	3/4	729	810	<input type="checkbox"/>
	57	6	64-QAM	5/6	810	900	<input type="checkbox"/>
	58	6	256-QAM	3/4	972	1080	<input type="checkbox"/>
	59	6	256-QAM	5/6	1080	1200	<input type="checkbox"/>
	60	7	BPSK	1/2	94,5	105	<input type="checkbox"/>
	61	7	QPSK	1/2	189	210	<input type="checkbox"/>
	62	7	QPSK	3/4	283,5	315	<input type="checkbox"/>
☐	63	7	16-QAM	1/2	378	420	<input type="checkbox"/>
	64	7	16-QAM	3/4	567	630	<input type="checkbox"/>
	65	7	64-QAM	2/3	756	840	<input type="checkbox"/>
	66	7	64-QAM	3/4	850,5	945	<input type="checkbox"/>
	67	7	64-QAM	5/6	945	1050	<input type="checkbox"/>
	68	7	256-QAM	3/4	1134	1260	<input type="checkbox"/>
	69	7	256-QAM	5/6	1260	1400	<input type="checkbox"/>
	70	8	BPSK	1/2	108	120	<input type="checkbox"/>
	71	8	QPSK	1/2	216	240	<input type="checkbox"/>
☐	72	8	QPSK	3/4	324	360	<input type="checkbox"/>
	73	8	16-QAM	1/2	432	480	<input type="checkbox"/>
	74	8	16-QAM	3/4	648	720	<input type="checkbox"/>
	75	8	64-QAM	2/3	864	960	<input type="checkbox"/>
	76	8	64-QAM	3/4	972	1080	<input type="checkbox"/>
	77	8	64-QAM	5/6	1080	1200	<input type="checkbox"/>
	78	8	256-QAM	3/4	1296	1440	<input type="checkbox"/>
	79	8	256-QAM	5/6	1440	1600	<input type="checkbox"/>



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DATA RATE: 802.11ac VHT80							
Available for EUT	MCS Index	Nbr of spatial streams	Modulation (Stream 1/2/3/4)	Coding rate	GI = 800ns	GI = 400ns	Worst Case Modulation
☑	0	1	BPSK	1/2	29.3	32.5	<input type="checkbox"/>
	1	1	QPSK	1/2	58.5	65	<input type="checkbox"/>
	2	1	QPSK	3/4	87.8	97.5	<input type="checkbox"/>
	3	1	16-QAM	1/2	117	130	<input type="checkbox"/>
	4	1	16-QAM	3/4	175.5	195	<input type="checkbox"/>
	5	1	64-QAM	2/3	234	260	<input type="checkbox"/>
	6	1	64-QAM	3/4	263.3	292.5	<input type="checkbox"/>
	7	1	64-QAM	5/6	292.5	325	<input type="checkbox"/>
	8	1	256-QAM	3/4	351	390	<input type="checkbox"/>
☑	9	1	256-QAM	5/6	390	433.3	<input type="checkbox"/>
	10	2	BPSK	1/2	58.6	65	<input checked="" type="checkbox"/>
	11	2	QPSK	1/2	117	130	<input type="checkbox"/>
	12	2	QPSK	3/4	175.6	195	<input type="checkbox"/>
	13	2	16-QAM	1/2	234	260	<input type="checkbox"/>
	14	2	16-QAM	3/4	351	390	<input type="checkbox"/>
	15	2	64-QAM	2/3	468	520	<input type="checkbox"/>
	16	2	64-QAM	3/4	526.6	585	<input type="checkbox"/>
	17	2	64-QAM	5/6	585	650	<input type="checkbox"/>
☐	18	2	256-QAM	3/4	702	780	<input type="checkbox"/>
	19	2	256-QAM	5/6	780	866.6	<input type="checkbox"/>
	20	3	BPSK	1/2	87.9	97.5	<input type="checkbox"/>
	21	3	QPSK	1/2	175.5	195	<input type="checkbox"/>
	22	3	QPSK	3/4	263.4	292.5	<input type="checkbox"/>
	23	3	16-QAM	1/2	351	390	<input type="checkbox"/>
	24	3	16-QAM	3/4	526.5	585	<input type="checkbox"/>
	25	3	64-QAM	2/3	702	780	<input type="checkbox"/>
	26	3	64-QAM	3/4	789.9	877.5	<input type="checkbox"/>
☐	27	3	64-QAM	5/6	877.5	975	<input type="checkbox"/>
	28	3	256-QAM	3/4	1053	1170	<input type="checkbox"/>
	29	3	256-QAM	5/6	1170	1299.9	<input type="checkbox"/>
	30	4	BPSK	1/2	117.2	130	<input type="checkbox"/>
	31	4	QPSK	1/2	234	260	<input type="checkbox"/>
	32	4	QPSK	3/4	351.2	390	<input type="checkbox"/>
	33	4	16-QAM	1/2	468	520	<input type="checkbox"/>
	34	4	16-QAM	3/4	702	780	<input type="checkbox"/>
	35	4	64-QAM	2/3	936	1040	<input type="checkbox"/>
☐	36	4	64-QAM	3/4	1053.2	1170	<input type="checkbox"/>
	37	4	64-QAM	5/6	1170	1300	<input type="checkbox"/>
	38	4	256-QAM	3/4	1404	1560	<input type="checkbox"/>
	39	4	256-QAM	5/6	1560	1733.2	<input type="checkbox"/>
	40	5	BPSK	1/2	146.5	162.5	<input type="checkbox"/>
	41	5	QPSK	1/2	292.5	325	<input type="checkbox"/>
	42	5	QPSK	3/4	439	487.5	<input type="checkbox"/>
	43	5	16-QAM	1/2	585	650	<input type="checkbox"/>
	44	5	16-QAM	3/4	877.5	975	<input type="checkbox"/>
☐	45	5	64-QAM	2/3	1170	1300	<input type="checkbox"/>
	46	5	64-QAM	3/4	1316.5	1462.5	<input type="checkbox"/>
	47	5	64-QAM	5/6	1462.5	1625	<input type="checkbox"/>
	48	5	256-QAM	3/4	1755	1950	<input type="checkbox"/>
	49	5	256-QAM	5/6	1950	2166.5	<input type="checkbox"/>
	50	6	BPSK	1/2	175.8	195	<input type="checkbox"/>
	51	6	QPSK	1/2	351	390	<input type="checkbox"/>
	52	6	QPSK	3/4	526.8	585	<input type="checkbox"/>
	53	6	16-QAM	1/2	702	780	<input type="checkbox"/>
☐	54	6	16-QAM	3/4	1053	1170	<input type="checkbox"/>
	55	6	64-QAM	2/3	1404	1560	<input type="checkbox"/>
	56	6	64-QAM	3/4	1579.8	1755	<input type="checkbox"/>
	57	6	64-QAM	5/6	1755	1950	<input type="checkbox"/>
	58	6	256-QAM	3/4	2106	2340	<input type="checkbox"/>
	59	6	256-QAM	5/6	2340	2599.8	<input type="checkbox"/>
	60	7	BPSK	1/2	205.1	227.5	<input type="checkbox"/>
	61	7	QPSK	1/2	409.5	455	<input type="checkbox"/>
	62	7	QPSK	3/4	614.6	682.5	<input type="checkbox"/>
☐	63	7	16-QAM	1/2	819	910	<input type="checkbox"/>
	64	7	16-QAM	3/4	1228.5	1365	<input type="checkbox"/>
	65	7	64-QAM	2/3	1638	1820	<input type="checkbox"/>
	66	7	64-QAM	3/4	1843.1	2047.5	<input type="checkbox"/>
	67	7	64-QAM	5/6	2047.5	2275	<input type="checkbox"/>
	68	7	256-QAM	3/4	2457	2730	<input type="checkbox"/>
	69	7	256-QAM	5/6	2730	3033.1	<input type="checkbox"/>
	70	8	BPSK	1/2	234.4	260	<input type="checkbox"/>
	71	8	QPSK	1/2	468	520	<input type="checkbox"/>
☐	72	8	QPSK	3/4	702.4	780	<input type="checkbox"/>
	73	8	16-QAM	1/2	936	1040	<input type="checkbox"/>
	74	8	16-QAM	3/4	1404	1560	<input type="checkbox"/>
	75	8	64-QAM	2/3	1872	2080	<input type="checkbox"/>
	76	8	64-QAM	3/4	2106.4	2340	<input type="checkbox"/>
	77	8	64-QAM	5/6	2340	2600	<input type="checkbox"/>
	78	8	256-QAM	3/4	2808	3120	<input type="checkbox"/>
	79	8	256-QAM	5/6	3120	3466.4	<input type="checkbox"/>

2.2. RUNNING MODE

Test mode	Description of test mode
Test mode 1	Permanent emission with modulation on a fixed channel in the data rate that produced the highest power

Test	Running mode
Occupied Bandwidth	<input checked="" type="checkbox"/> Test mode 1 (1) <input type="checkbox"/> Alternative test mode()
26dB Bandwidth	<input checked="" type="checkbox"/> Test mode 1 (1) <input type="checkbox"/> Alternative test mode()
6dB Bandwidth	<input checked="" type="checkbox"/> Test mode 1 (1) <input type="checkbox"/> Alternative test mode()
Duty Cycle	<input checked="" type="checkbox"/> Test mode 1 (1) <input type="checkbox"/> Alternative test mode()
EIRP	<input checked="" type="checkbox"/> Test mode 1 (1) <input type="checkbox"/> Alternative test mode()
Maximum Conducted Output Power	<input checked="" type="checkbox"/> Test mode 1 (1) <input type="checkbox"/> Alternative test mode()
Power Spectral Density	<input checked="" type="checkbox"/> Test mode 1 (1) <input type="checkbox"/> Alternative test mode()
AC Power Line Conducted Emission	<input checked="" type="checkbox"/> Test mode 1 (1) <input type="checkbox"/> Alternative test mode()
Unwanted Emissions & Undesirable Emission	<input checked="" type="checkbox"/> Test mode 1 (1) <input type="checkbox"/> Alternative test mode()
Frequency Stability	<input checked="" type="checkbox"/> Test mode 1 (1) <input type="checkbox"/> Alternative test mode()

- (1) Following commands with the specific test software "teraterm" are used to set the product:
- a. – See document "LCIE_Radio tests_UZW4059MIL_v0.4.docx" and "MIL_Script for radio certification_v0.3.xlsx" (provided by customer) for the command used during test.



Power Target used during test :

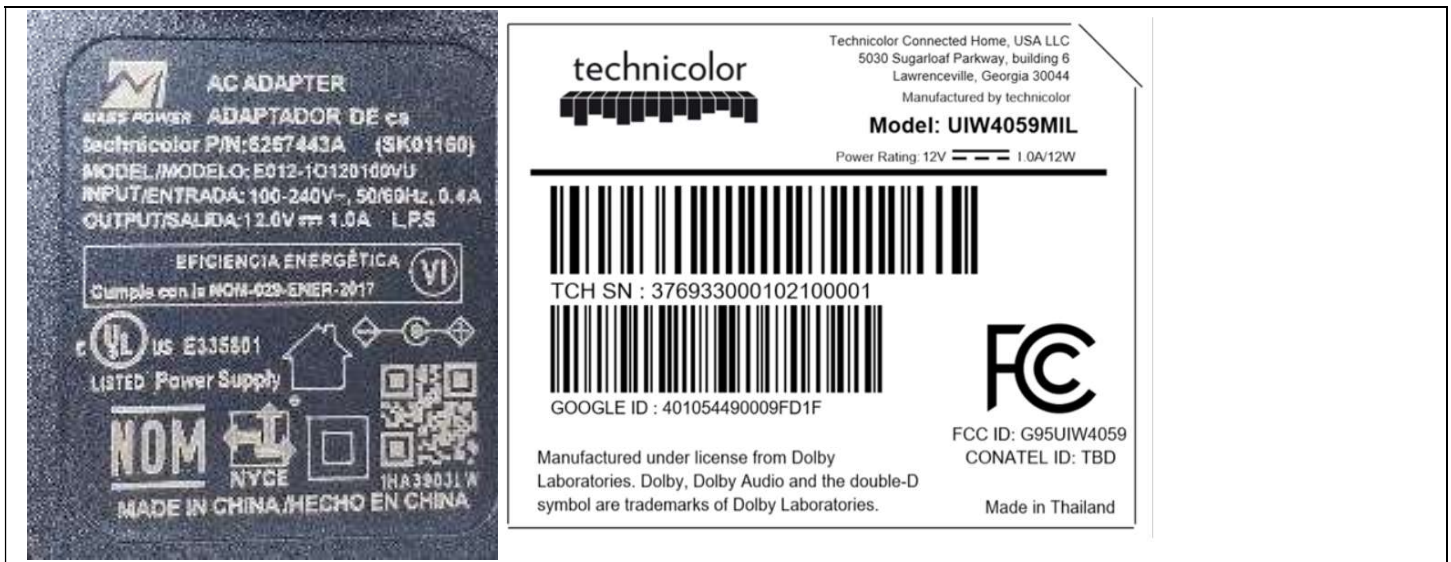
Mode A		
Modulation 6M / 20M		
Channel	Tx1 target	Tx2 target
C1	81	84
C2	81	84
C3	81	84
C4	81	84
C5	81	84
C6	81	84
C7	81	84
C8	81	84
C9	81	84
C10	81	84
C11	81	84
C12	81	84
C13	81	84

Mode nHT20		
Modulation HTMCS8 / 20M		
Channel	Tx1 target	Tx2 target
C1	81	84
C2	81	84
C3	81	84
C4	81	84
C5	81	84
C6	81	84
C7	81	84
C8	81	84
C9	81	84
C10	81	84
C11	81	84
C12	81	84
C13	81	84

Mode nHT40		
Modulation HTMCS8 / 40M		
Channel	Tx1 target	Tx2 target
C14	75	78
C15	81	84
C16	81	84
C17	77	80
C18	75	78
C19	81	84
C20	81	84
C21	77	80
C22	77	80
C23	81	84

Mode VHT80		
Modulation VHT1MCS0 / 80M		
Channel	Tx1 target	Tx2 target
C24	73	76
C25	73	76
C26	73	76
C27	81	84
C28	77	80
C29	77	80

2.3. EQUIPMENT LABELLING



2.4. EQUIPMENT MODIFICATION

None Modification:



2.5. FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follow:

$$FS = RA + AF + CF - AG$$

Where

- FS = Field Strength
- RA = Receiver Amplitude
- AF = Antenna Factor
- CF = Cable Factor
- AG = Amplifier Gain

Assume a receiver reading of 52.5dB μ V is obtained. The antenna factor of 7.4 and a cable factor of 1.1 are added. The amplifier gain of 29dB is subtracted, giving a field strength of 32 dB μ V/m.

$$FS = 52.5 + 7.4 + 1.1 - 29 = 32 \text{ dB}\mu\text{V/m}$$

The 32 dB μ V/m value can be mathematically converted to its corresponding level in μ V/m.

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm } [(32\text{dB}\mu\text{V/m})/20] = 39.8 \mu\text{V/m.}$$

2.6. CALIBRATION DATE

The calibration intervals are extended at 12+2 months. This extended interval is based on the fact that there is sufficient calibration data to statistically establish a trend or based on experience of use of the test equipment to assure good measurement results for a longer period.

3. OCCUPIED BANDWIDTH

3.1. TEST CONDITIONS

Test performed by : Armand MAHOUNGOU
Date of test : April 21, 2021
Ambient temperature : 26°C
Relative humidity : 47%

3.2. TEST SETUP

- The Equipment Under Test is installed:

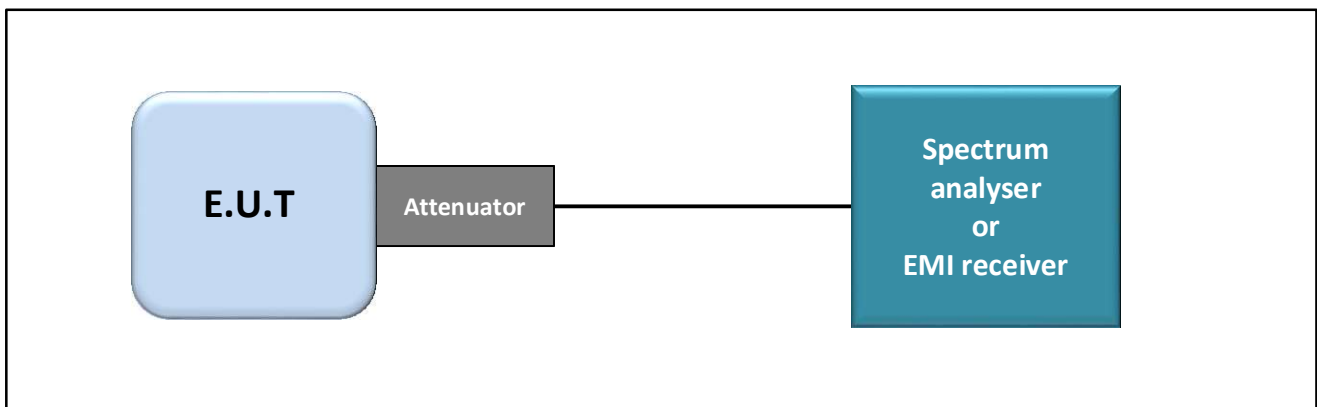
- On a table
- In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:

- Conducted Method
- Radiated Method

- Test Procedure:

- KDB 789033 D02 General UNII Test Procedures New Rules v02r01 § D



Test set up of Occupied Bandwidth



Photograph for Occupied bandwidth

3.3. LIMIT

None

3.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
EMI receiver	ROHDE & SCHWARZ	ESR7	A2642026	2019/07	2021/07
Cable + Attenuateur 20dB	PASTERNAK	PE350-150CM	A5329973	2020/09	2021/09
Multimeter	KEITHLEY	2000	A1242090	2019/05	2021/05
Power supply	KIKUSUI	PCR500M	A7040079	See Multimeter	See Multimeter
Load 50 ohms	TELEGARTNER	-	A7150103	2019/04	2021/04
Load 50 ohms	TELEGARTNER	-	A7150104	2019/04	2021/04

Note: In our quality system, the test equipment calibration due is more & less 2 months



L C I E

3.5. RESULTS

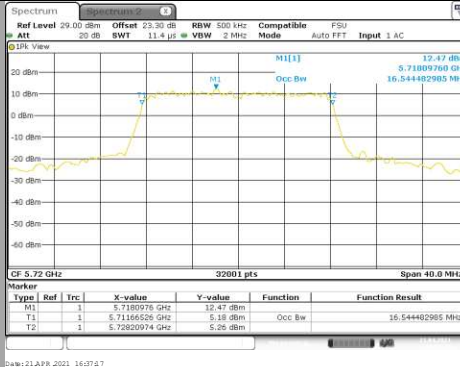




L C I E

802.11a

C10



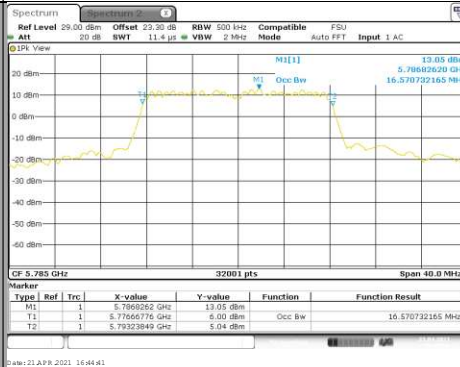
Date: 21.APR.2021 16:37:57

C11



Date: 21.APR.2021 16:38:53

C12



Date: 21.APR.2021 16:44:41

C13



Date: 21.APR.2021 16:45:04

Channel	Occupied Channel Bandwidth (MHz)
C1	16.656
C2	16.622
C3	16.642
C4	16.561
C5	16.564
C6	16.494
C7	16.549
C8	16.562
C9	16.526
C10	16.545
C11	16.577
C12	16.571
C13	16.562



LCIE

802.11n HT20/ac VHT20

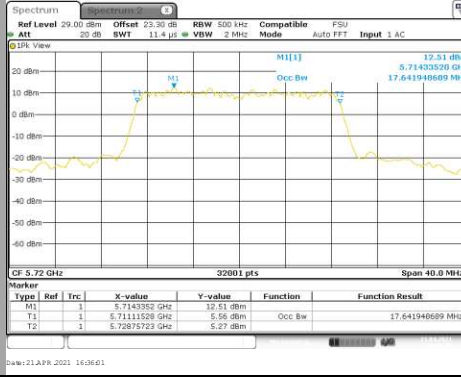




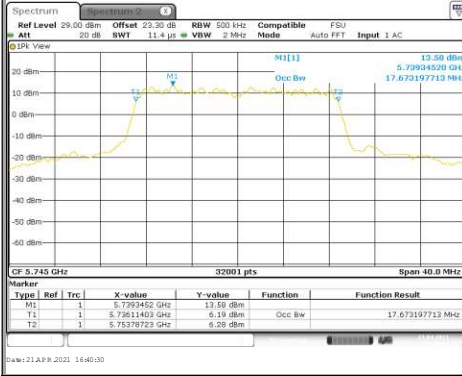
L C I E

802.11n HT20/ac VHT20

C10



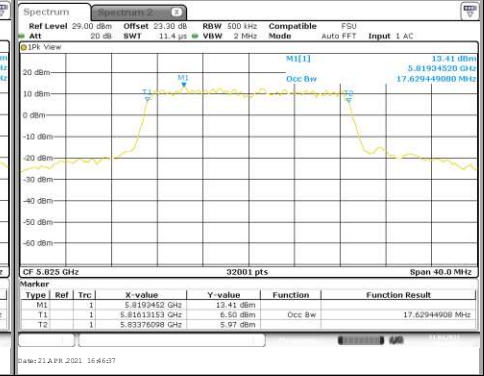
C11



C12



C13



Channel	Occupied Channel Bandwidth (MHz)
C1	17.692
C2	17.724
C3	17.724
C4	17.697
C5	17.656
C6	17.652
C7	17.634
C8	17.619
C9	17.647
C10	17.642
C11	17.673
C12	17.653
C13	17.629

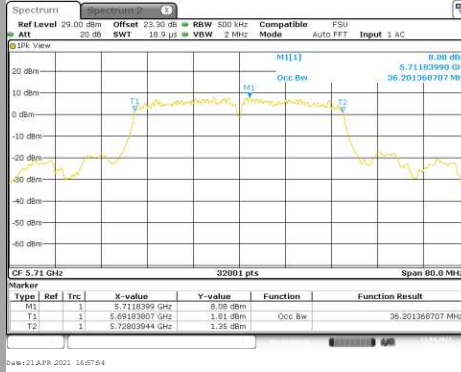
802.11n HT40/ac VHT40



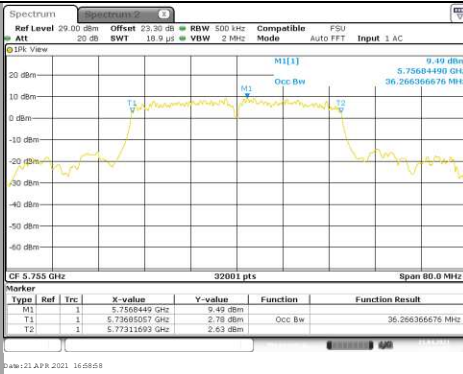


L C I E

802.11n HT40/ac VHT40
C21



C22



C23



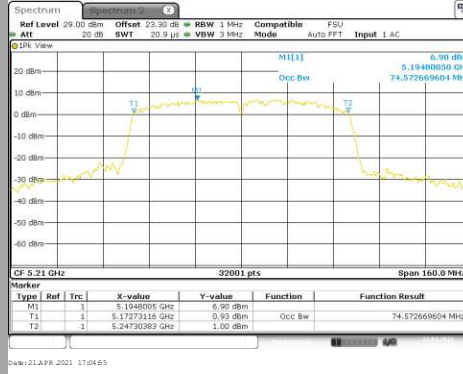
Channel	Occupied Channel Bandwidth (MHz)
C14	36.234
C15	36.379
C16	36.286
C17	36.234
C18	36.146
C19	36.324
C20	36.296
C21	36.201
C22	36.266
C23	36.324



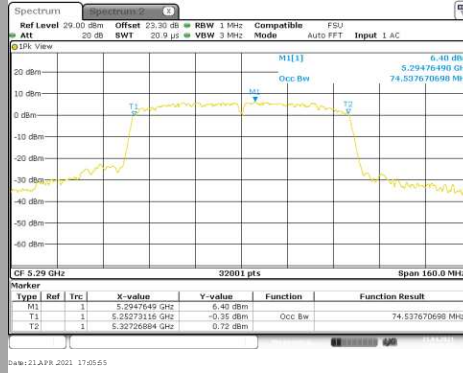
L C I E

802.11ac VHT80

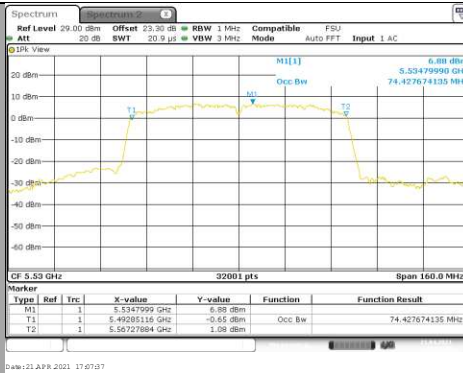
C24



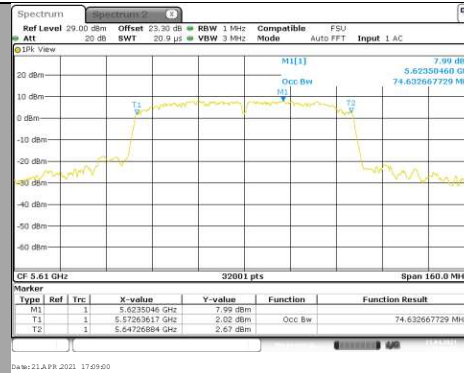
C25



C26



C27





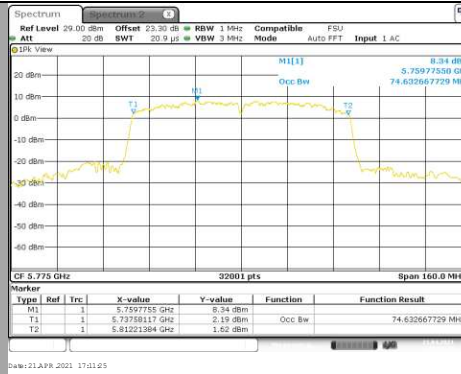
L C I E

802.11ac VHT80

C28



C29



Channel	Occupied Channel Bandwidth (MHz)
C24	74.573
C25	74.538
C26	74.428
C27	74.633
C28	74.598
C29	74.633

3.6. CONCLUSION

Occupied Channel Bandwidth measurement performed on the sample of the product **Technicolor UIW4059MIL**, SN: **LAB3-V0 nr.030**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.407** limits.

4. CARRIER FREQUENCIES

4.1. TEST CONDITIONS

Test performed by : Julien Palard
Date of test : April 28, 2021
Ambient temperature : 23 °C
Relative humidity : 39 %

4.2. TEST SETUP

- The Equipment under Test is installed:

- In the climatic chamber
- On a table
- In an anechoic chamber

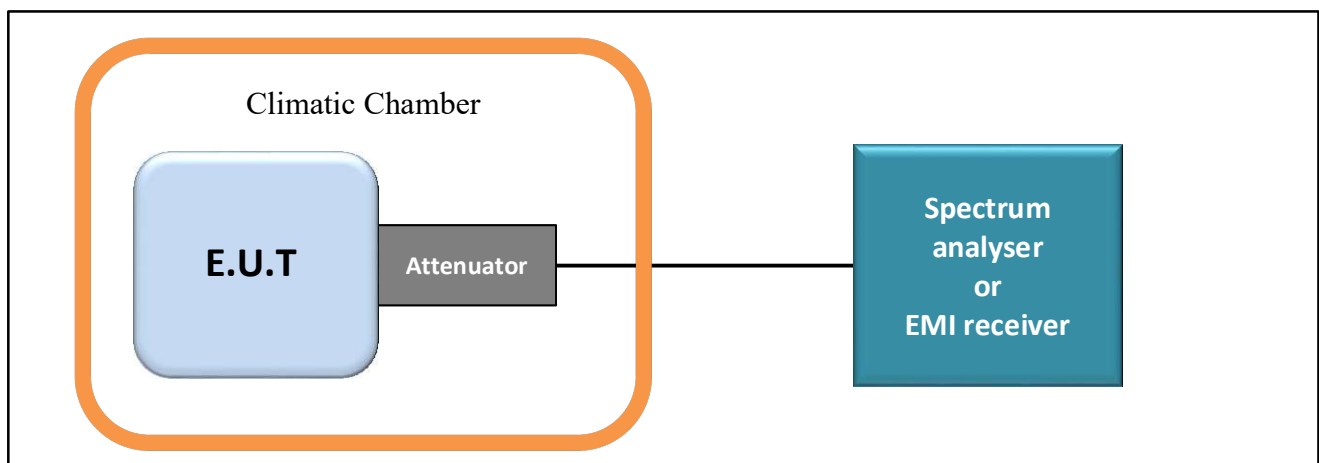
-Measurement is performed with a spectrum analyzer

- On the EUT conducted access
- With a test fixture

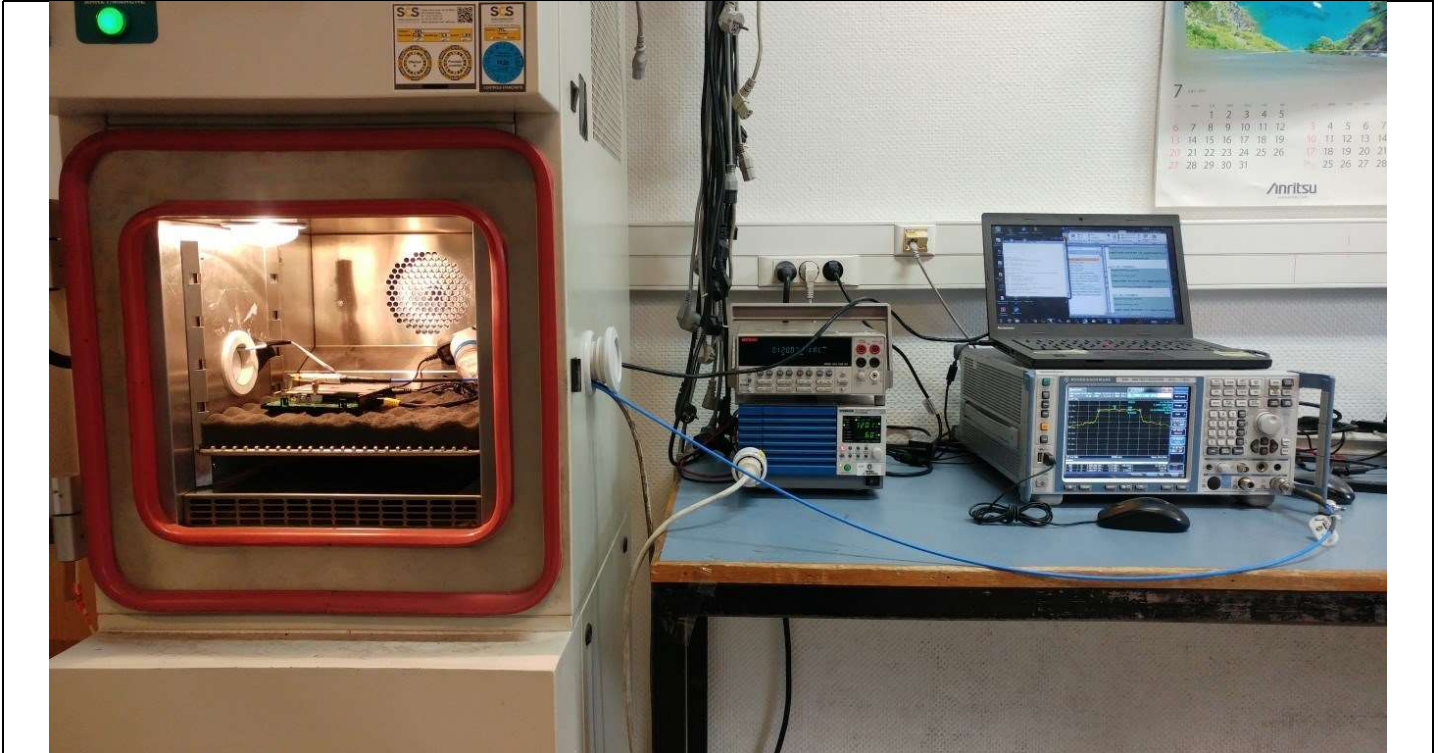
-Method of measurement

- Unmodulated (Spectrum Analyzer Counter Function)
- Modulated (Spectrum Analyzer NdB down Function)

In case of smart antenna systems operating in a multiple transmit chains active simultaneously, the measurement is only performed on one of the active transmit chains.



Test set up of Carrier Frequencies



Photograph for Carrier Frequencies in normal test conditions



Photograph for Carrier Frequencies in extreme test conditions



4.3. LIMIT

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

4.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Climatic chamber	SECASI Technologies	SLT-34	D1024029	Calibrate with thermometer	Calibrate with thermometer
Thermometer	AOIP	TM 6630	B4041042	2020/04	2021/04
EMI receiver	ROHDE & SCHWARZ	ESR7	A2642026	2019/07	2021/07
Cable + Attenuateur 20dB	PASTERNAK	PE350-150CM	A5329973	2020/09	2021/09
Multimeter	KEITHLEY	2000	A1242090	2019/05	2021/05
Power supply	KIKUSUI	PCR500M	A7040079	See Multimeter	See Multimeter
Load 50 ohms	TELEGARTNER	-	A7150103	2019/04	2021/04
Load 50 ohms	TELEGARTNER	-	A7150104	2019/04	2021/04

Note: In our quality system, the test equipment calibration due is more & less 2 months

4.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None Divergence:

4.6. RESULTS





L C I E

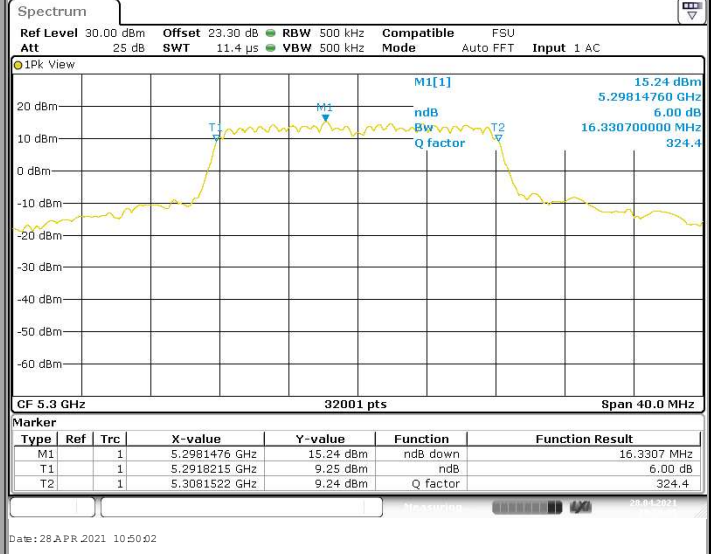
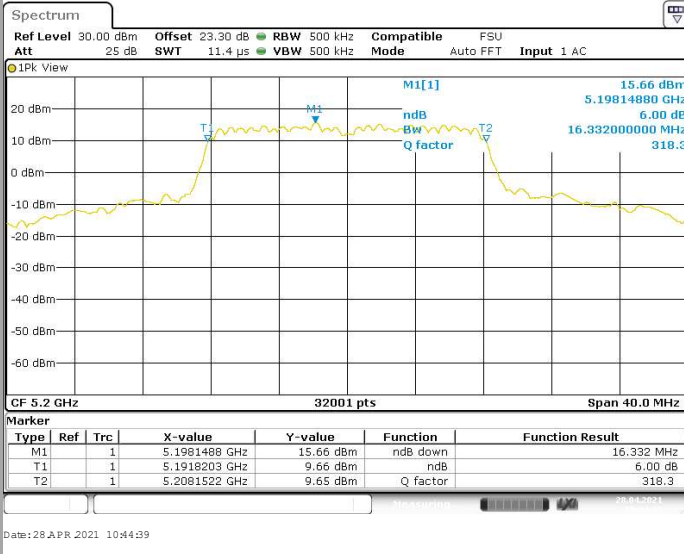
802.11a/802.11nHT20/ac VHT20

Tmin

Vnom

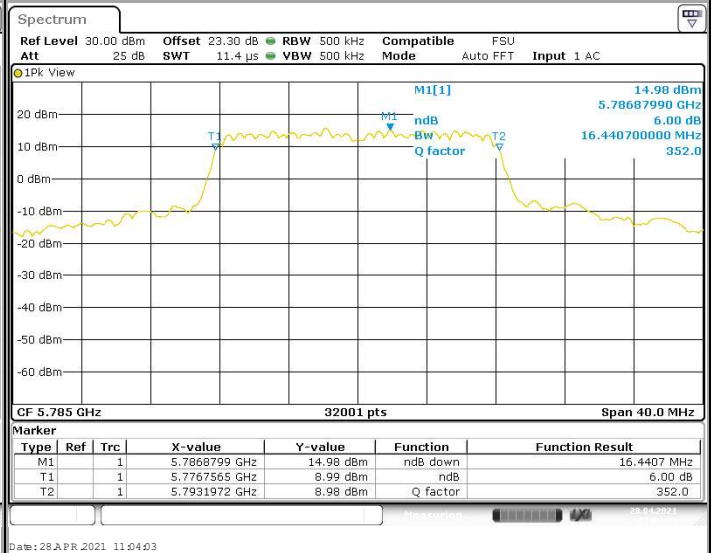
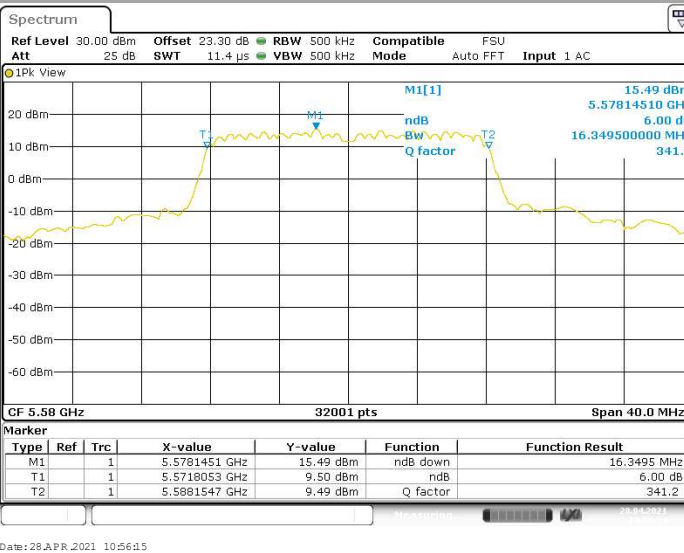
C2

C5



C8

C12





L C I E

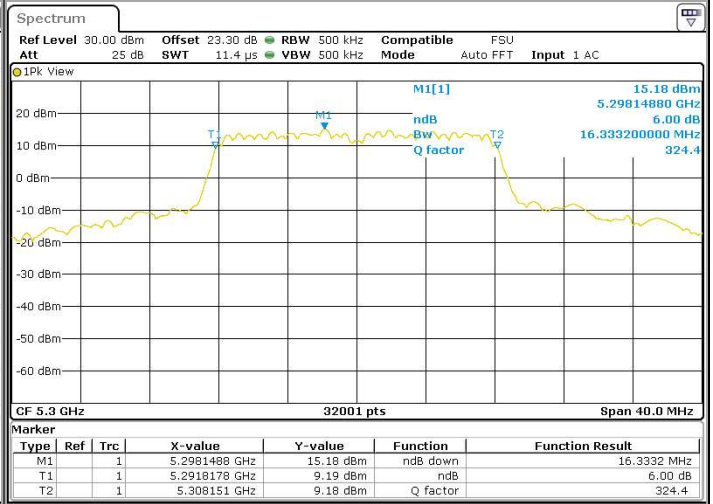
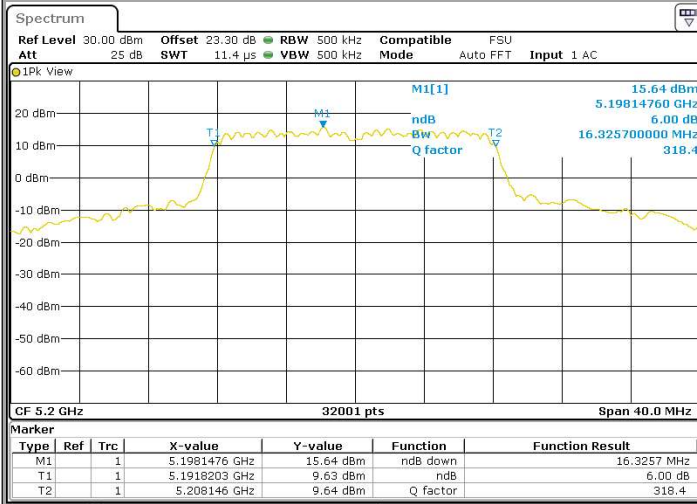
802.11a/802.11nHT20/ac VHT20

Tmin

Vmax

C2

C5

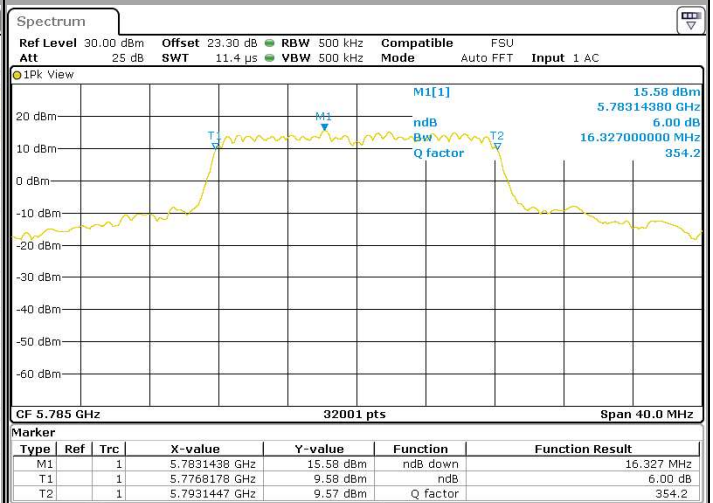
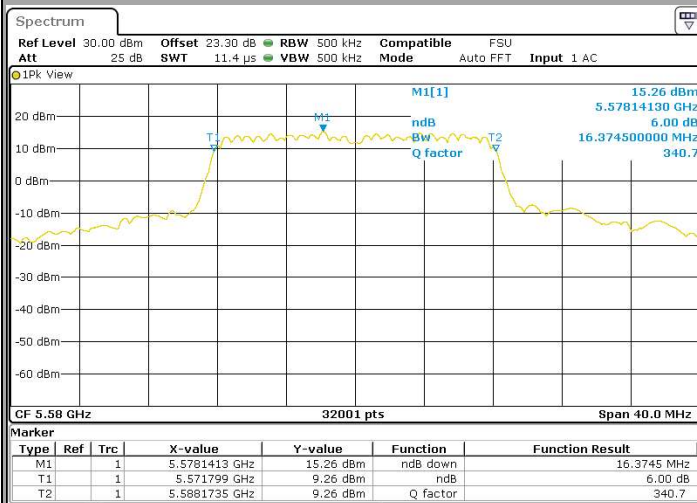


Date: 28 APR 2021 10:46:26

Date: 28 APR 2021 10:48:36

C8

C12



Date: 28 APR 2021 10:57:38

Date: 28 APR 2021 11:00:40



L C I E

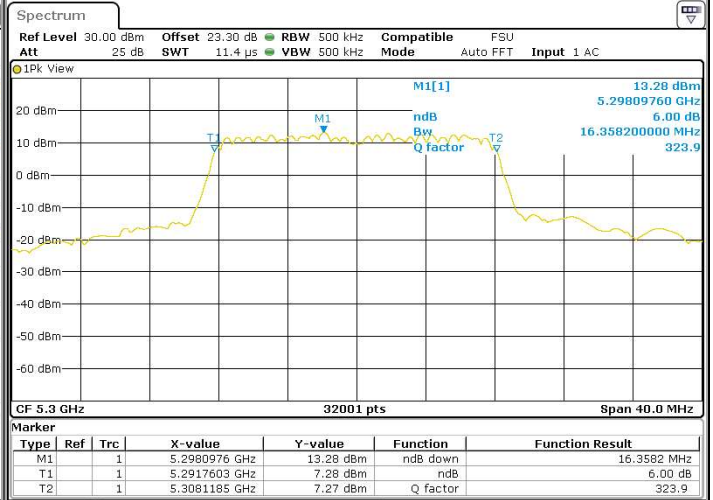
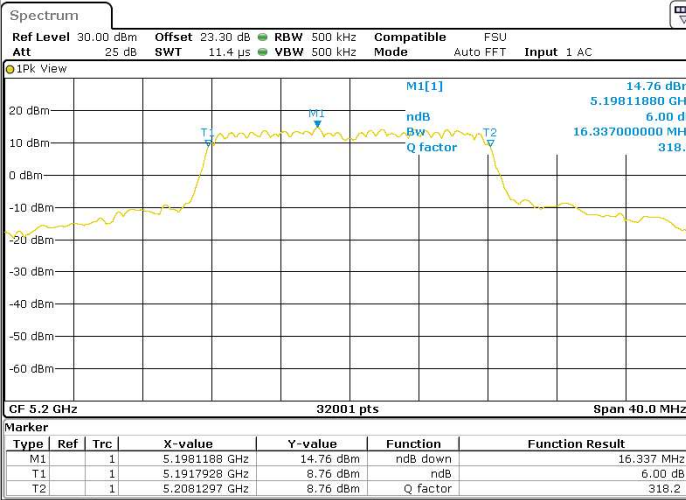
802.11a/802.11nHT20/ac VHT20

Tnom

Vmin

C2

C5

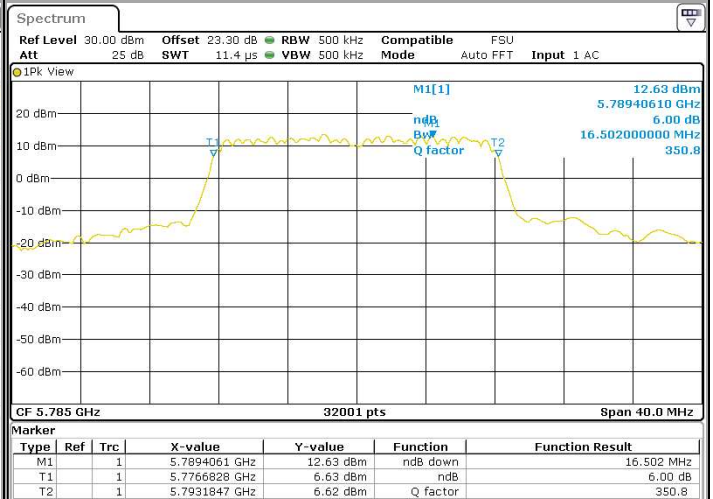


Date: 28 APR 2021 09:20:10

Date: 28 APR 2021 09:31:45

C8

C12



Date: 28 APR 2021 09:34:25

Date: 28 APR 2021 09:51:51



L C I E

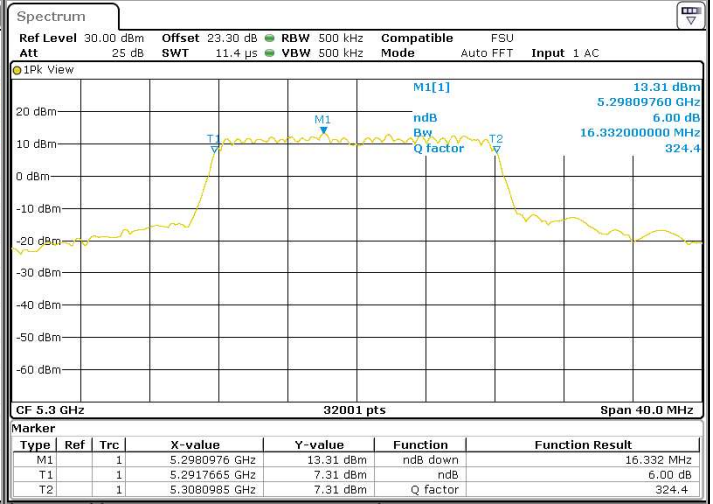
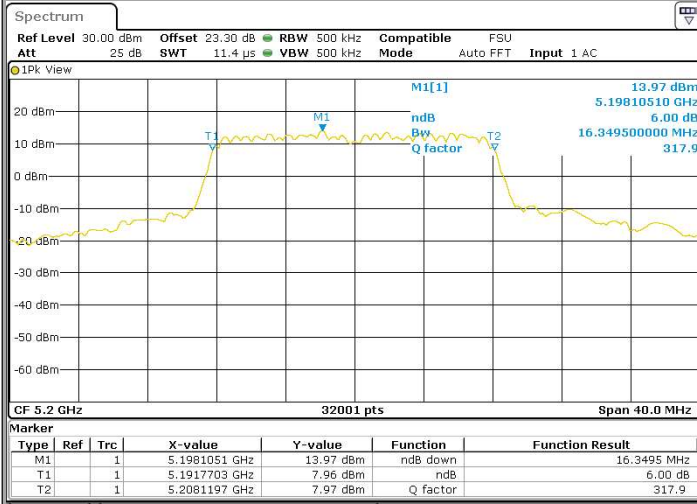
802.11a/802.11nHT20/ac VHT20

Tnom

Vnom

C2

C5

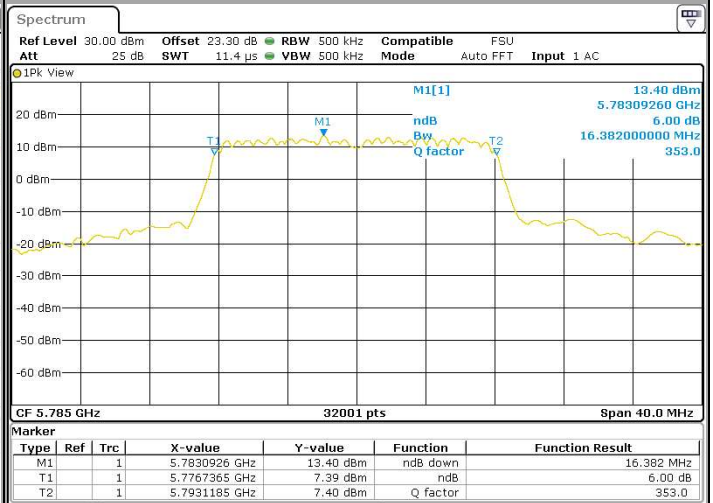
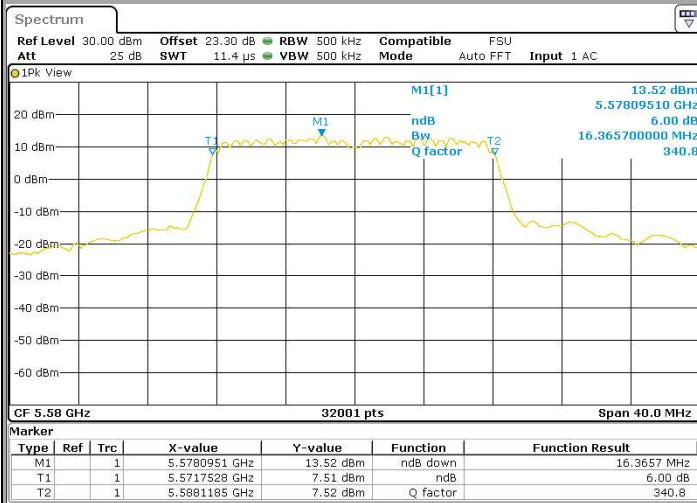


Date: 28 APR 2021 09:22:49

Date: 28 APR 2021 09:29:07

C8

C12



Date: 28 APR 2021 09:36:45

Date: 28 APR 2021 09:44:15



L C I E

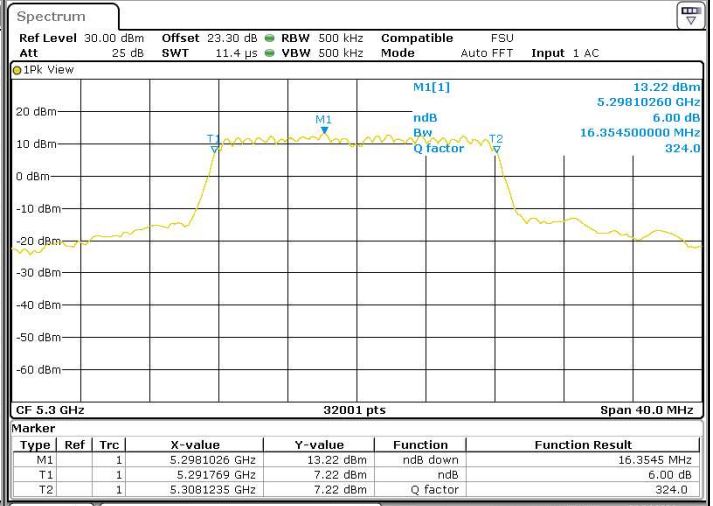
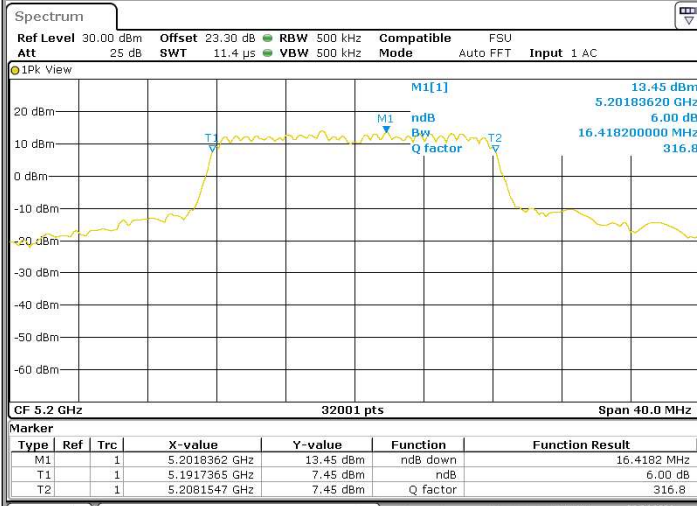
802.11a/802.11nHT20/ac VHT20

Tnom

Vmax

C2

C5

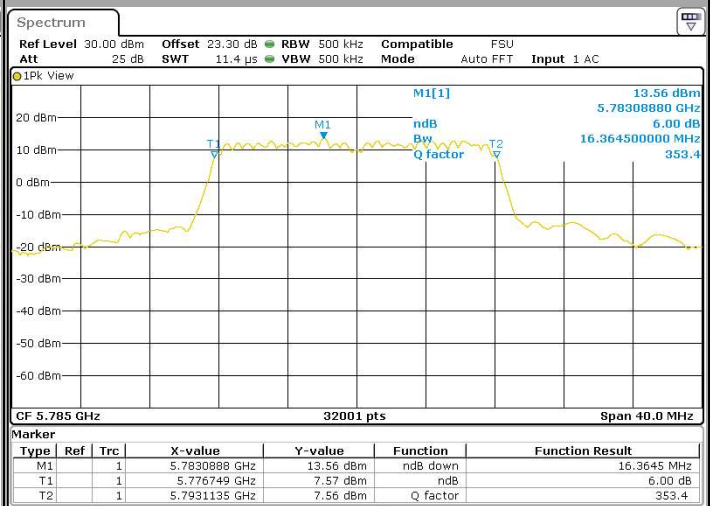
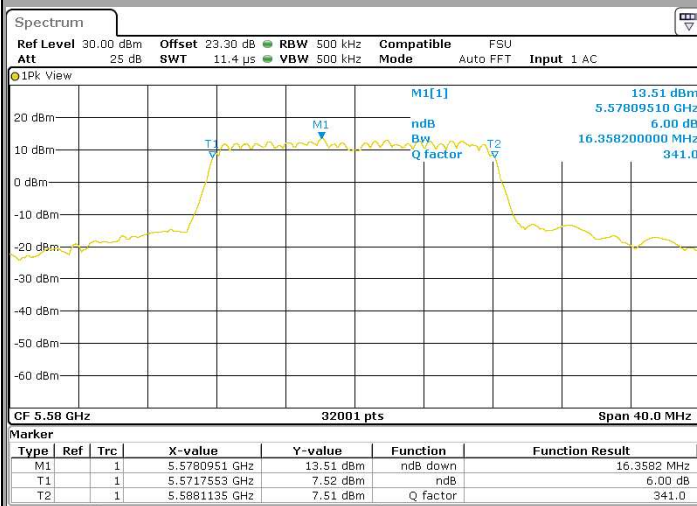


Date: 28 APR 2021 09:24:30

Date: 28 APR 2021 09:27:30

C8

C12



Date: 28 APR 2021 09:40:08

Date: 28 APR 2021 09:42:43



L C I E

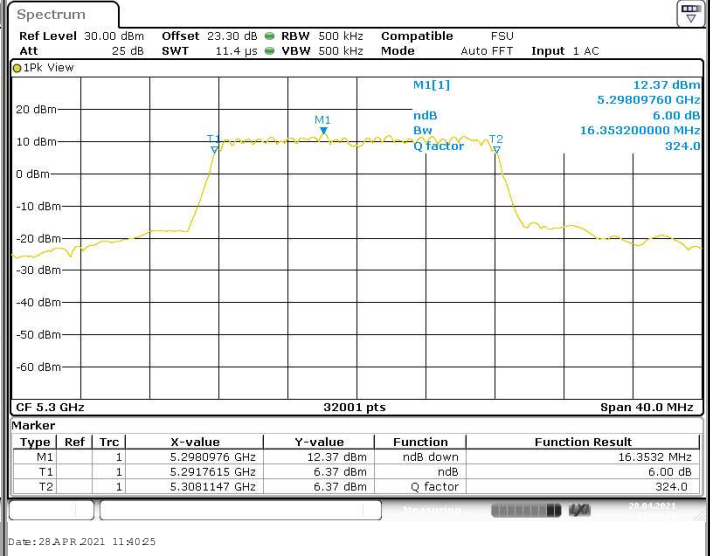
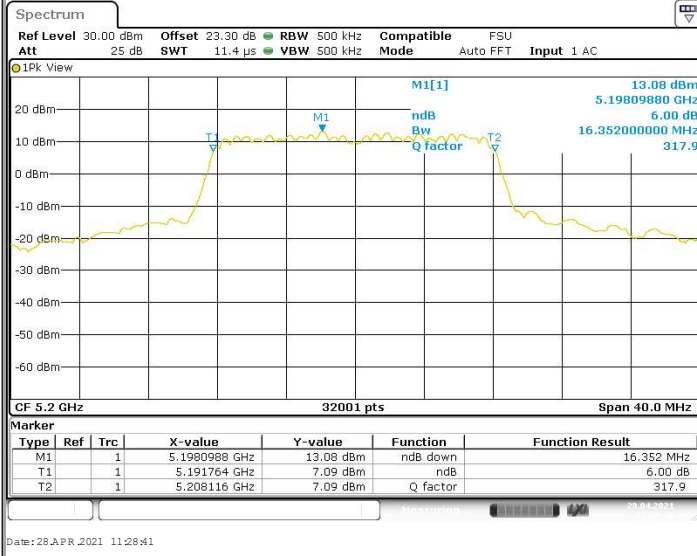
802.11a/802.11nHT20/ac VHT20

Tmax

Vmin

C2

C5

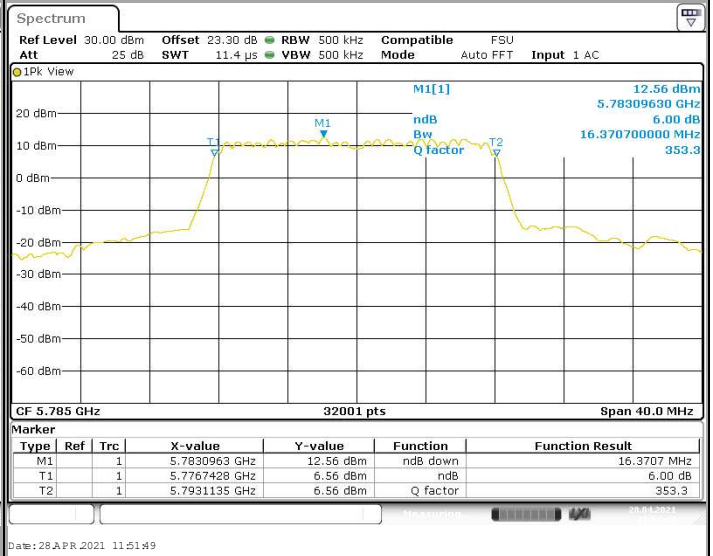
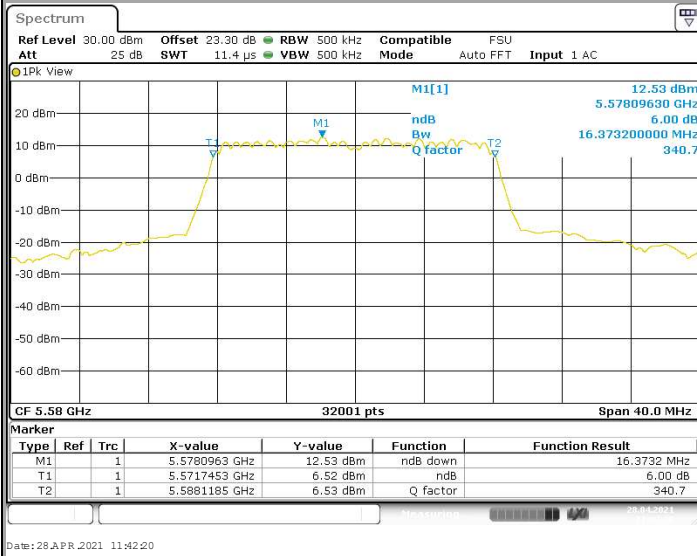


Date: 28 APR 2021 11:28:41

Date: 28 APR 2021 11:40:25

C8

C12



Date: 28 APR 2021 11:42:20

Date: 28 APR 2021 11:51:49