


JAPAN DFS TEST REPORT

Equipment : MetroLin Outdoor 60GHz PTP + 5GHz + 2.4GHz
Brand Name : Ignitenet
Model Name : ML1-60-35/ML1-60-19
Applicant : Accton Technology Corporation
No. 1, Creation 3rd Rd., Science-based Industrial Park,
HsinChu 300, Taiwan, R.O.C.
Manufacturer (1) : Joy Technology (Shen Zhen) Co. Ltd
HengKeng Ind., Shangpai, Shangwu, Aiqun Rd., Shiyan
Town, Shenzhen 518108 China
Manufacturer (2) : Accton Technology Corporation
No. 1, Creation 3rd Rd., Science-based Industrial Park,
HsinChu 300, Taiwan, R.O.C.
Standard : MIC Certification Rule, Article 2 Paragraph 1 Item 19-3-2

The product was received on Jan. 16, 2018, and testing was started from Feb. 06, 2018 and completed on Feb. 21, 2018. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in MIC Notice No.88 Appendix No.45 and shown compliance with the applicable MIC Ordinance Regulating Radio Equipment Article 49.20 and ARIB RCB STD-71 technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.


Approved by: Sam Chen

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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Appendix A. Test Photos

Photographs of EUT v01

History of this test report

[illegible]



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	NT No.368,2011	Channel Availability Check (CAC)	PASS	-
3.3	NT No.368,2011	In-service Monitoring	PASS	-
3.4	NT No.368,2011	Channel Shutdown and Non-Occupancy Period	PASS	-
RLE: Radio Law Enforcement Regulations ORE: Ordinance Regulating Radio Equipment TR: Terminal and Other Equipment Regulations NT: Notification of the Ministry of Internal Affairs and Communications				

Reviewed by: Sam Chen**Report Producer: Wendy Pan**

1 General Description

1.1 Information

1.1.1 Frequency Band

Frequency Band	
<input type="checkbox"/>	W53:
<input type="checkbox"/>	(20MHz) - 5260, 5280, 5300, 5320MHz
<input type="checkbox"/>	(40MHz) - 5270, 5310MHz
<input type="checkbox"/>	(80MHz) - 5290MHz
<input type="checkbox"/>	W52+W53:
<input type="checkbox"/>	(160MHz) contiguous – 5250MHz
<input checked="" type="checkbox"/>	W56:
<input checked="" type="checkbox"/>	(20MHz) - 5500, 5520, 5540, 5560, 5580, 5600, 5620, 5640, 5660, 5680, 5700MHz
<input checked="" type="checkbox"/>	(40MHz) - 5510, 5550, 5590, 5630, 5670MHz
<input checked="" type="checkbox"/>	(80MHz) - 5530, 5610MHz
<input type="checkbox"/>	(160MHz) contiguous - 5570MHz
<input type="checkbox"/>	W52+W56: (80+80 MHz) non-contiguous - 5210, 5530MHz or 5210, 5610MHz
<input type="checkbox"/>	W53+W56: (80+80 MHz) non-contiguous - 5290, 5530MHz or 5290, 5610MHz
Note: The EUT supports 802.11a/n/ac This device contains 60GHz transmitter approval module.	

1.1.2 Table for Multiple Listing

The EUT has two model names which are identical to each other in all aspects except for the following table:

Brand Name	Model Name	EUT No.	WLAN 2.4GHz	WLAN 5GHz	60GHz
			Ant. Model Name	Ant. Model Name	Ant. Model Name
Ignitenet	ML1-60-35	EUT 1	OS-242509-NM	120G00000174X	123400001485A
	ML1-60-19	EUT 2	OS-242509-NM	120G00000175X	123400001486A

From the above models, model: ML1-60-35 was selected as representative model for the test and its data was recorded in this report.

1.1.3 Antenna Information

For WLAN Function:

Set	Brand	P/N (Model Name)	Antenna Type	Connector	Antenna Gain (dBi)		Cable Loss (dB)		True Gain (dBi)	
					2.4GHz	5GHz	2.4GHz	5GHz	2.4GHz	5GHz
1	FT-RF	OS-242509-NM	Dipole	N-Male	9	-	1.18	-	7.82	-
2	Accton	120G00000174X	Dish Ant.	MMCX	-	20	-	-	-	20
3	Accton	120G00000175X	Dish Ant.	MMCX	-	13.4	-	-	-	13.4

Note: EUT 1 go with Set 1 and Set 2 antennas.

EUT 2 go with Set 1 and Set 3 antennas.

Because 5GHz Set 2 and Set 3 are the same type antennas, only the higher gain antenna "Set 2" was tested.

For 2.4GHz function:

For IEEE 802.11b/g/n mode (2TX/2RX):

Port 1 and Port 2 connect to Set 1.

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11a/n/ac mode (2TX/2RX):

Port 1 and Port 2 connect to Set 2 or Set 3.

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

For 60GHz Function:

Ant.	Brand	Part Number	Antenna Type	Connector	Gain (dBi)
1	Accton	123400001485A	Dish Ant.	N/A	42
2	Accton	123400001486A	Dish Ant.	N/A	38

Note: EUT 1 go with antenna 1.

EUT 2 go with antenna 2.

The device contains 60GHz approval module.

1.2 Accessories

N/A

1.3 Support Equipment

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook*2	DELL	E4300	DoC
2	WLAN Dongle	Abocom	AU7520	2AA9A-AU7520
3	PoE	GME	GME241DA-240100G	DoC

1.4 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ MIC Ordinance Regulating Radio Equipment Article 49.20
- ♦ MIC Notice No.88 Appendix No.45

1.5 Testing Location Information

Testing Location				
<input type="checkbox"/>	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.		
		TEL : 886-3-327-3456 FAX : 886-3-327-0973		
<input checked="" type="checkbox"/>	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.		
		TEL : 886-3-656-9065 FAX : 886-3-656-9085		
Test Condition		Test Site No.	Test Engineer	Test Environment
DFS Site		DF01-CB	Jeff Wu	25.3°C / 56%
				06-Feb-18 ~ 21-Feb-18

2 Test Configuration of EUT

2.1 EUT Information

EUT Information				
Operating Mode	<input checked="" type="checkbox"/>	Master		
	<input type="checkbox"/>	Slave with radar detection		
	<input type="checkbox"/>	Slave without radar detection		
Software / Firmware Version	2.0.1-2054			
Communication Mode	<input checked="" type="checkbox"/>	IP Based (Load Based)	<input type="checkbox"/>	Frame Based
TPC Function	<input checked="" type="checkbox"/>	With TPC	<input type="checkbox"/>	Without TPC

2.2 Test Channel Frequencies Configuration

Test Channel Frequencies Configuration		
Frequency Range (MHz)	IEEE Std. 802.11	Test Channel Freq. (MHz)
5470-5725MHz	ac (VHT20)	5500
5470-5725MHz	ac (VHT40)	5510
5470-5725MHz	ac (VHT80)	5530

2.3 The Worst Case Measurement Configuration

Tests Item	Dynamic Frequency Selection (DFS)
Test Condition	Conducted measurement at transmit chains
Modulation Mode	11ac (VHT20), 11ac (VHT40), 11ac (VHT80)
<input type="checkbox"/>	For radiated tests, the DFS test should be performed with lowest antenna gain (regardless of antenna type).
<input checked="" type="checkbox"/>	For conducted tests, antenna ports are used for the tests and Master lowest antenna gain that was used to set the DFS Detection Threshold level during calibration of the test setup.
Modulation modes consist of below configuration: 11a: IEEE 802.11a, HT20/HT40: IEEE 802.11n, VHT20/VHT40/VHT80: IEEE 802.11ac	

Note: The PoE is for measurement only, would not be marketed, and its information as below:

Equipment	Brand	Model	FCC ID
PoE	GME	GME241DA-480050G	N/A

3 Dynamic Frequency Selection (DFS) Test Result

3.1 General DFS Information

3.1.1 DFS Parameters

DFS requirement values	
Parameter	Value
Channel Availability Check Time	60 sec
Channel Move Time	10 sec
Channel Closing Transmission Time	260 ms
Non-occupancy period	Minimum 30 minutes

W53: Parameters DFS radar test signal				
Test Signal (#)	Pulse width [μs]	Pulse repetition frequency PRF [Hz]	Pulses per burst [PPB]	Detection Probability (%)
1	1	700	18	≥60
2	2.5	260	18	≥60

W56: Un-modulation Parameters DFS radar test signal				
Test Signal (#)	Pulse width [μs]	Pulse repetition frequency PRF [Hz]	Pulses per burst [PPB]	Detection Probability (%)
1	0.5	720	18	≥60
2	1.0	700	18	≥60
3	2.0	250	18	≥60
4	1~5 (step 1)	200-500 (step 1)	23~29	≥60
5	6~10 (step 1)	2000-5000 (step 1)	16~18	≥60
6	11~20 (step 1)	2000-5000 (step 1)	12~16	≥60
Aggregate (Radar Types 1-6)				≥80

W56: Chirp Modulation (5~20MHz) Parameters DFS radar test signal					
Test Signal (#)	Pulse width [μs]	Pulse repetition frequency PRF [Hz]	Number of Pulses per Burst	Number of Bursts	Detection Probability (%)
7	50-100 (step 1)	500-1000 (step 1)	1-3	8-20	≥80

W56: 5250-5724 MHz Frequency Hopping Modulation Parameters DFS radar test signal					
Test Signal (#)	Pulse width [μs]	Pulse repetition frequency PRF [Hz]	Number of Pulses per Burst	Hopping Length (ms)	Detection Probability (%)
8	1	3000	9 (3ms)	300	≥70

3.1.2 DFS Threshold Level

DFS Threshold Level	
DFS Threshold level: -64 dBm	<input checked="" type="checkbox"/> at the antenna connector
	<input type="checkbox"/> in front of the antenna
Note 1: The DFS Detection Threshold Level is chosen the worse Interference Detection Threshold level (-64dBm) as the test parameter. Note 2: maximum EIRP < 200mW (23dBm). DFS Detection Threshold Level is (-62dBm) + G_{ANT} maximum EIRP ≥ 200mW (23dBm). DFS Detection Threshold Level is (-64dBm) + G_{ANT}	

3.1.3 User Access Restrictions

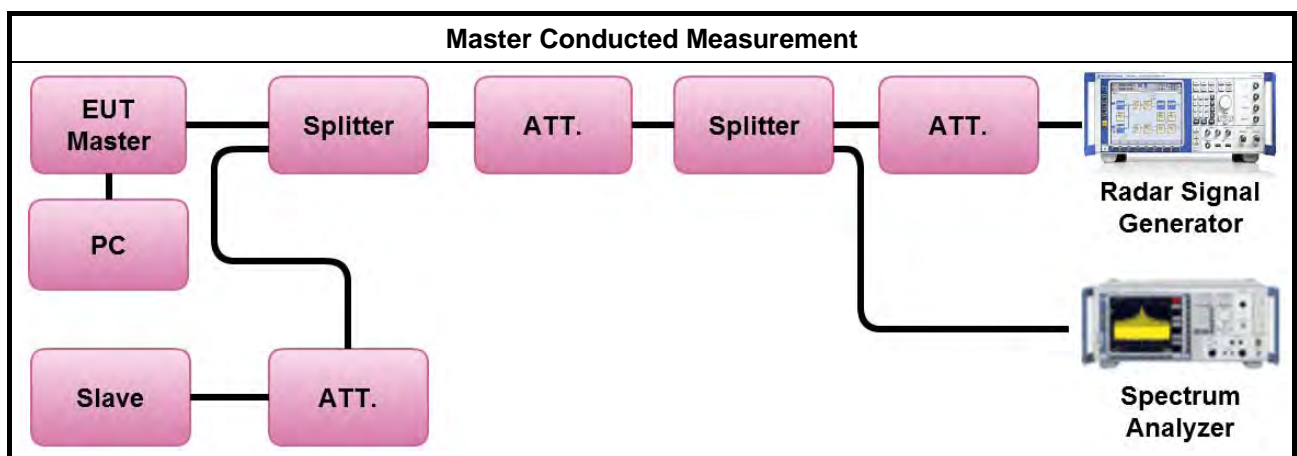
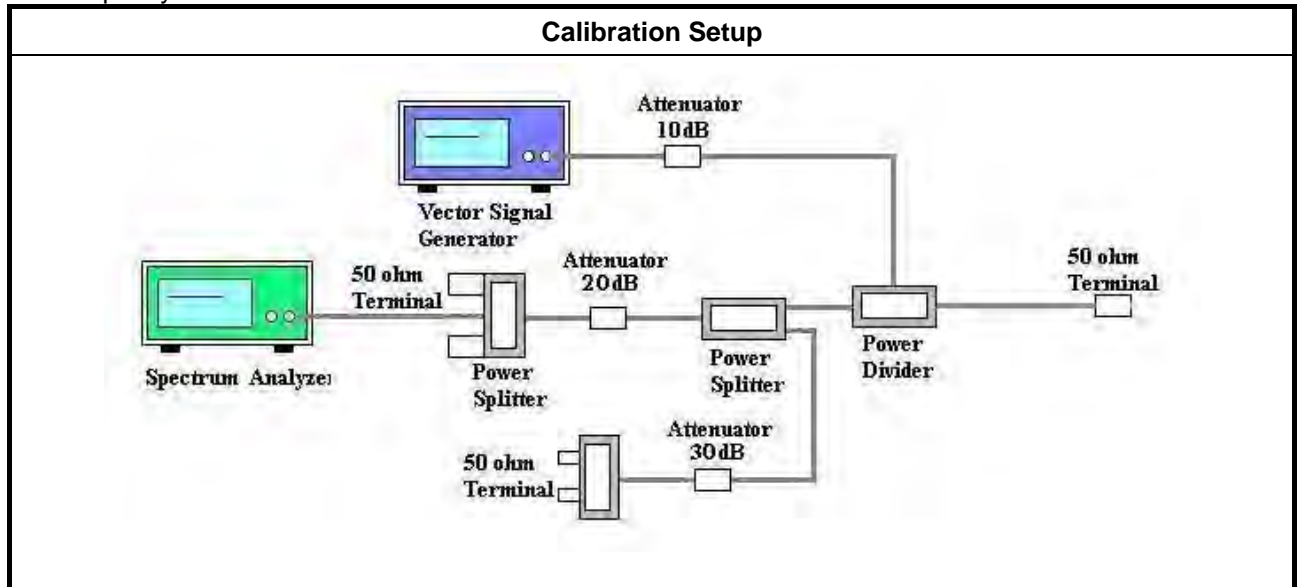
User Access Restrictions
<input checked="" type="checkbox"/> DFS controls (hardware or software) related to radar detection are NOT accessible to the user

3.1.4 Channel Loading/Data Streaming

<input checked="" type="checkbox"/> Test transmission sequence is from the Master to the Slave.
<input type="checkbox"/> For W53 band (5250-5350 MHz) Monitoring of operating channel with about 50% loading over maximum signal transmission speed.
<input checked="" type="checkbox"/> For W56 band (5470-5725 MHz) Monitoring of operating channel with about 17% loading over maximum signal transmission speed.
<input checked="" type="checkbox"/> No transmissions on channels being checked during a Channel Availability Check and Confirming Available Channels.

3.1.5 Test Setup and Calibration Setup

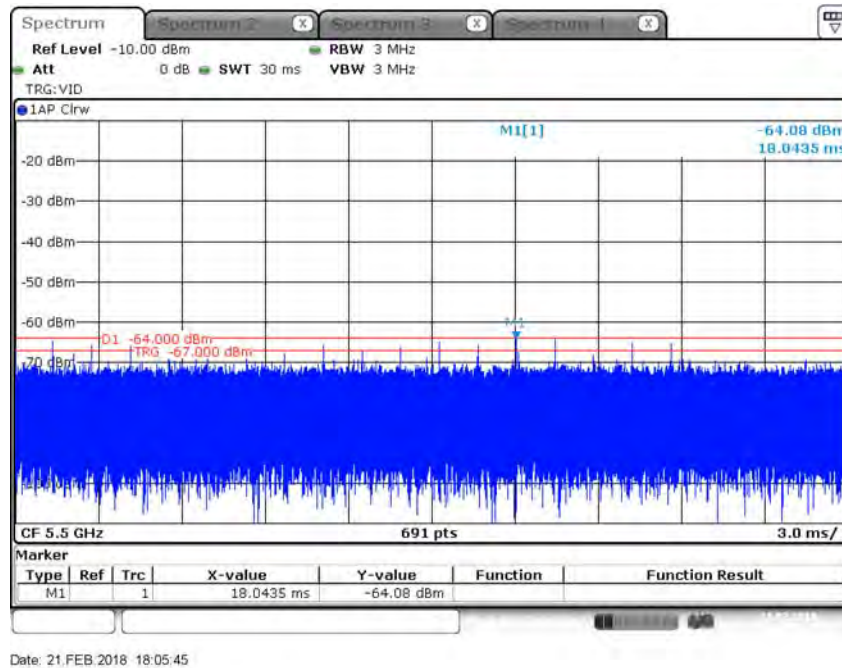
A spectrum analyzer is used as a monitor to verify that the EUT has vacated the Channel within the (Channel Closing Transmission Time and Channel Move Time, and does not transmit on a Channel during the Non-Occupancy Period after the detection and Channel move.



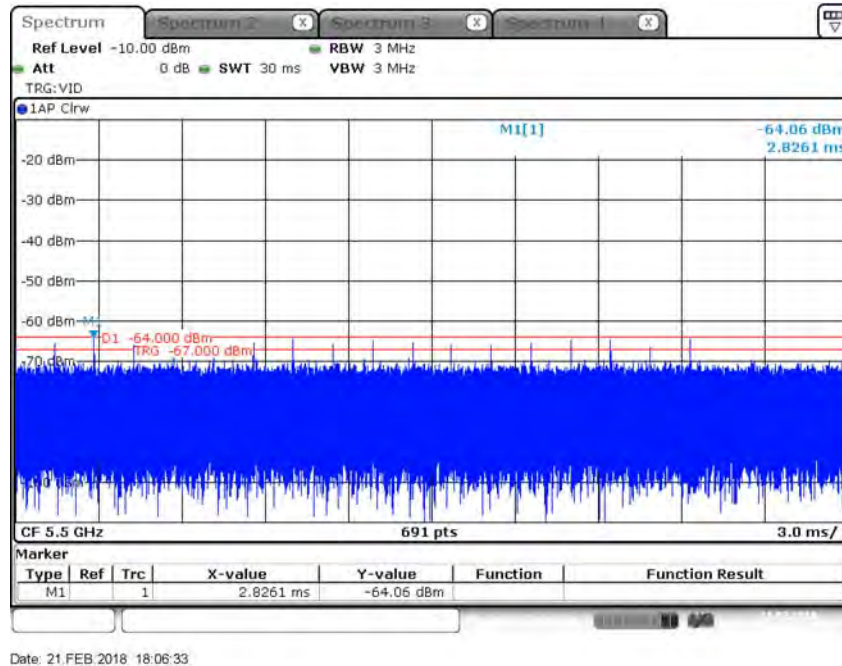
3.1.6 Radar Waveform calibration Plot

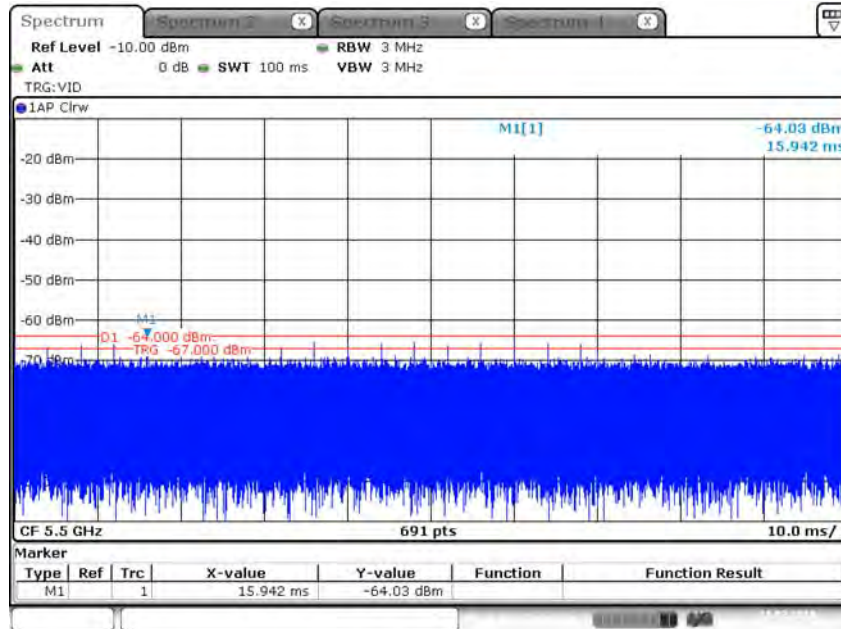
W56 band (5470-5725 MHz) Modulation Mode: ac (VHT20)

Radar #1 DFS detection threshold level and the burst of pulses on the Channel frequency

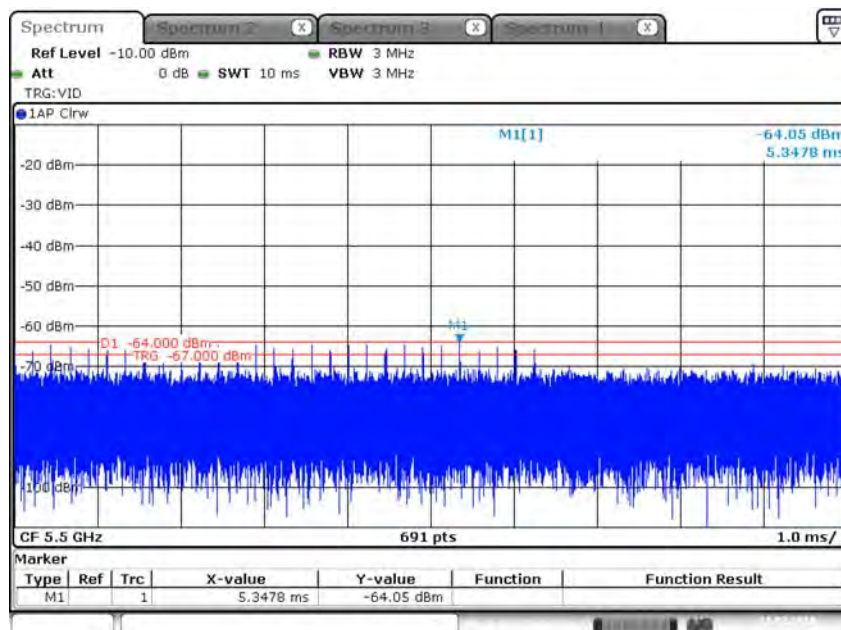


Radar #2 DFS detection threshold level and the burst of pulses on the Channel frequency

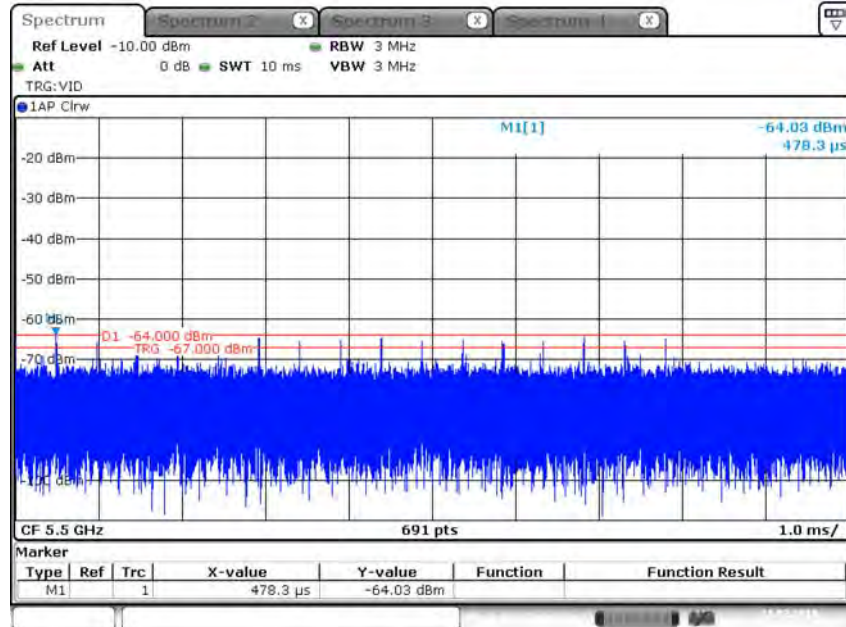


Radar #3 DFS detection threshold level and the burst of pulses on the Channel frequency


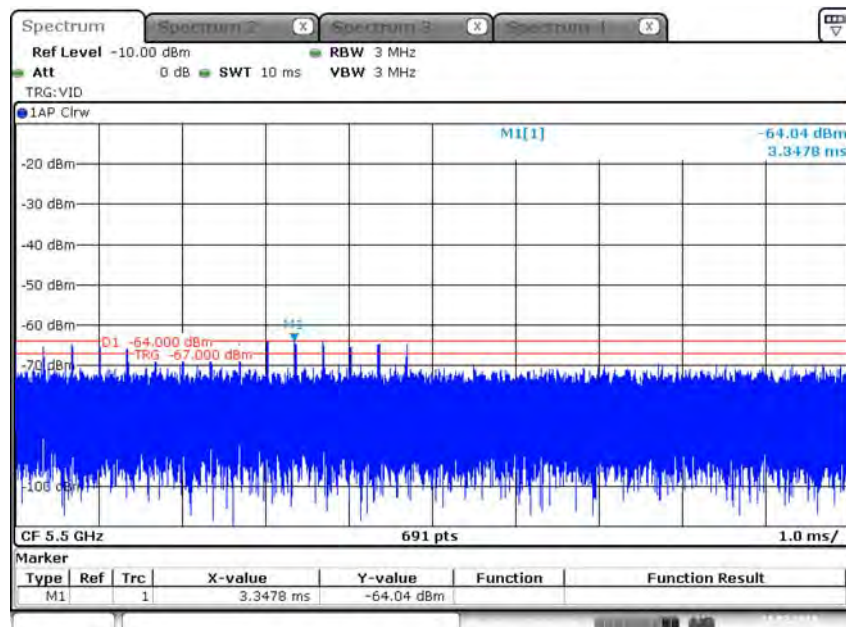
Date: 21.FEB.2018 18:07:17

Radar #4 DFS detection threshold level and the burst of pulses on the Channel frequency


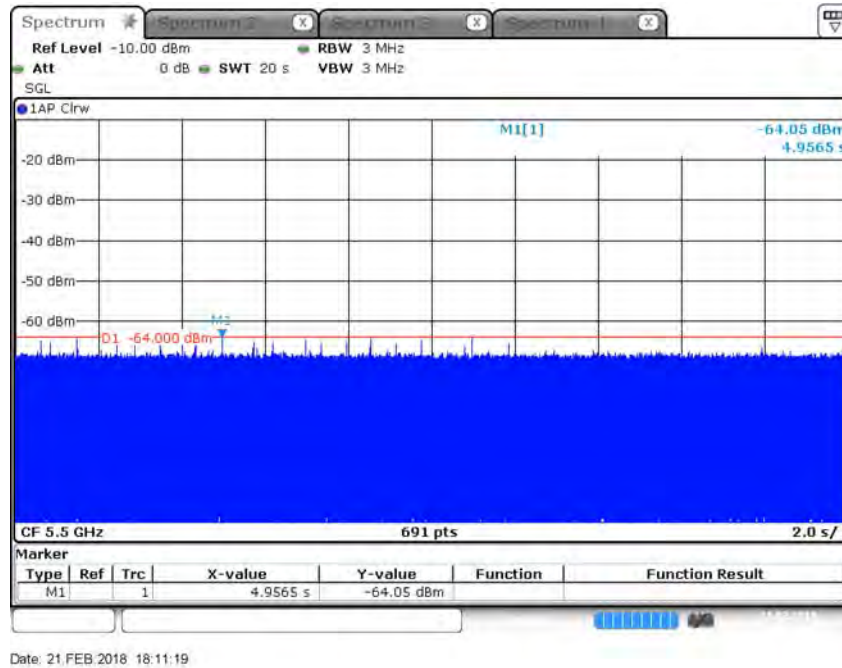
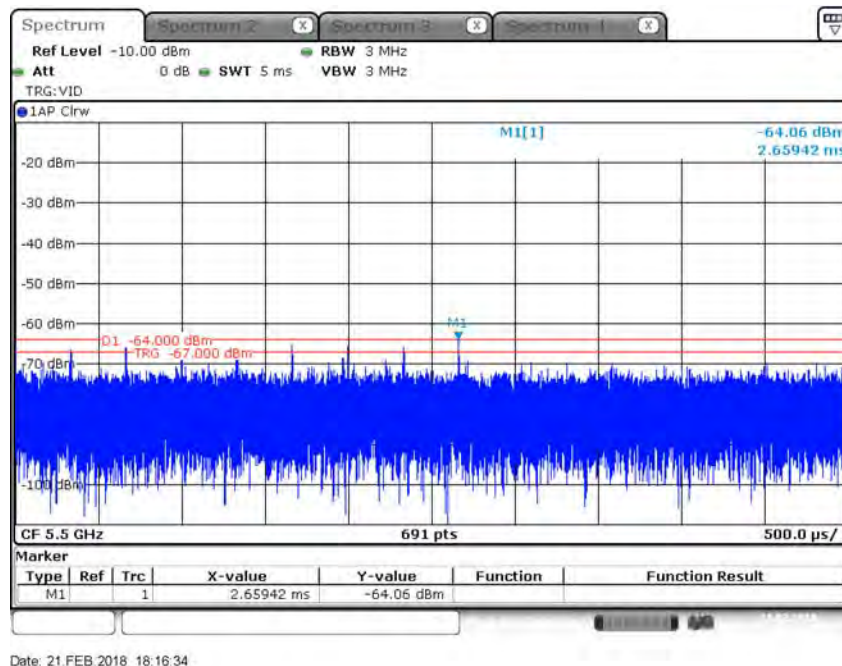
Date: 21.FEB.2018 18:08:21

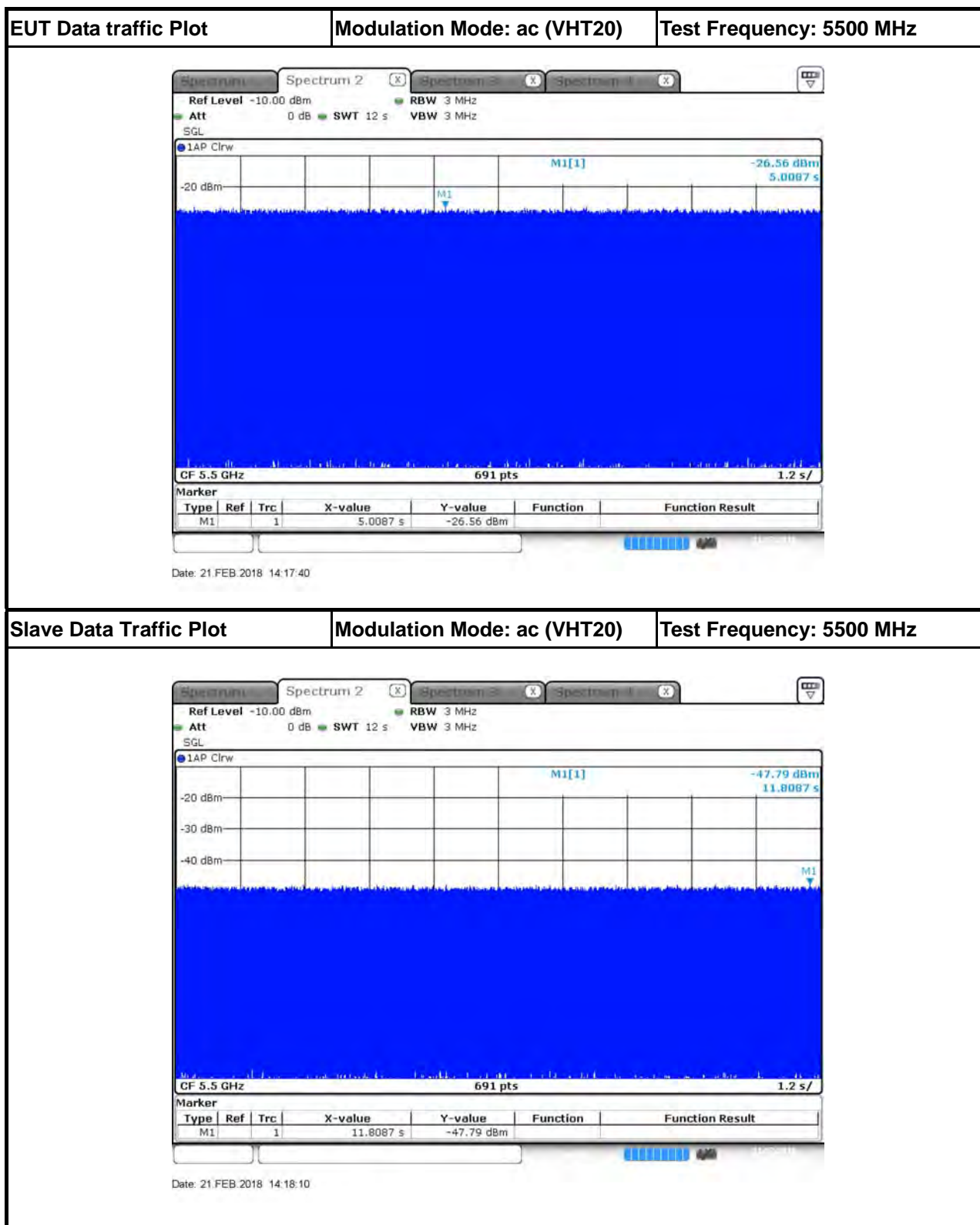
Radar #5 DFS detection threshold level and the burst of pulses on the Channel frequency


Date: 21.FEB.2018 18:08:36

Radar #6 DFS detection threshold level and the burst of pulses on the Channel frequency


Date: 21.FEB.2018 18:09:05

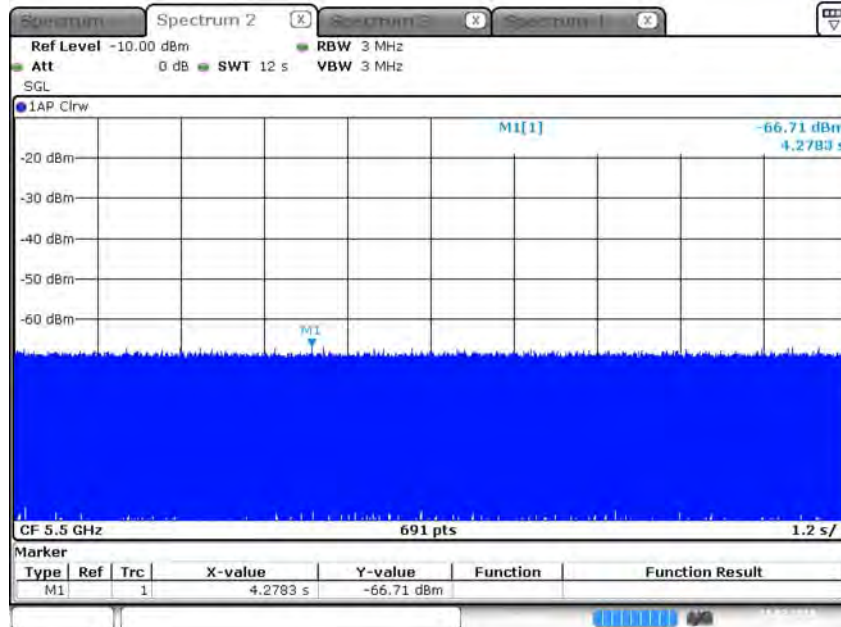
Radar #7 DFS detection threshold level and the burst of pulses on the Channel frequency

Radar #8 DFS detection threshold level and a single hop (9 pulses) on the Channel frequency within UNII detection bandwidth.


3.1.7 Data traffic Plot


Without Data Traffic Plot

Modulation Mode: ac (VHT20)

Test Frequency: 5500 MHz



Date: 21.FEB.2018 14:18:40

3.2 Channel Availability Check (CAC)

3.2.1 Channel Availability Check Limit

Channel Availability Check Limit	
<input checked="" type="checkbox"/>	The EUT shall perform a Channel Availability Check to ensure that there is no radar operating on the channel. After power-up sequence, receive at least 1 minute (60 sec) on the intended operating frequency.

3.2.2 Measuring Instruments

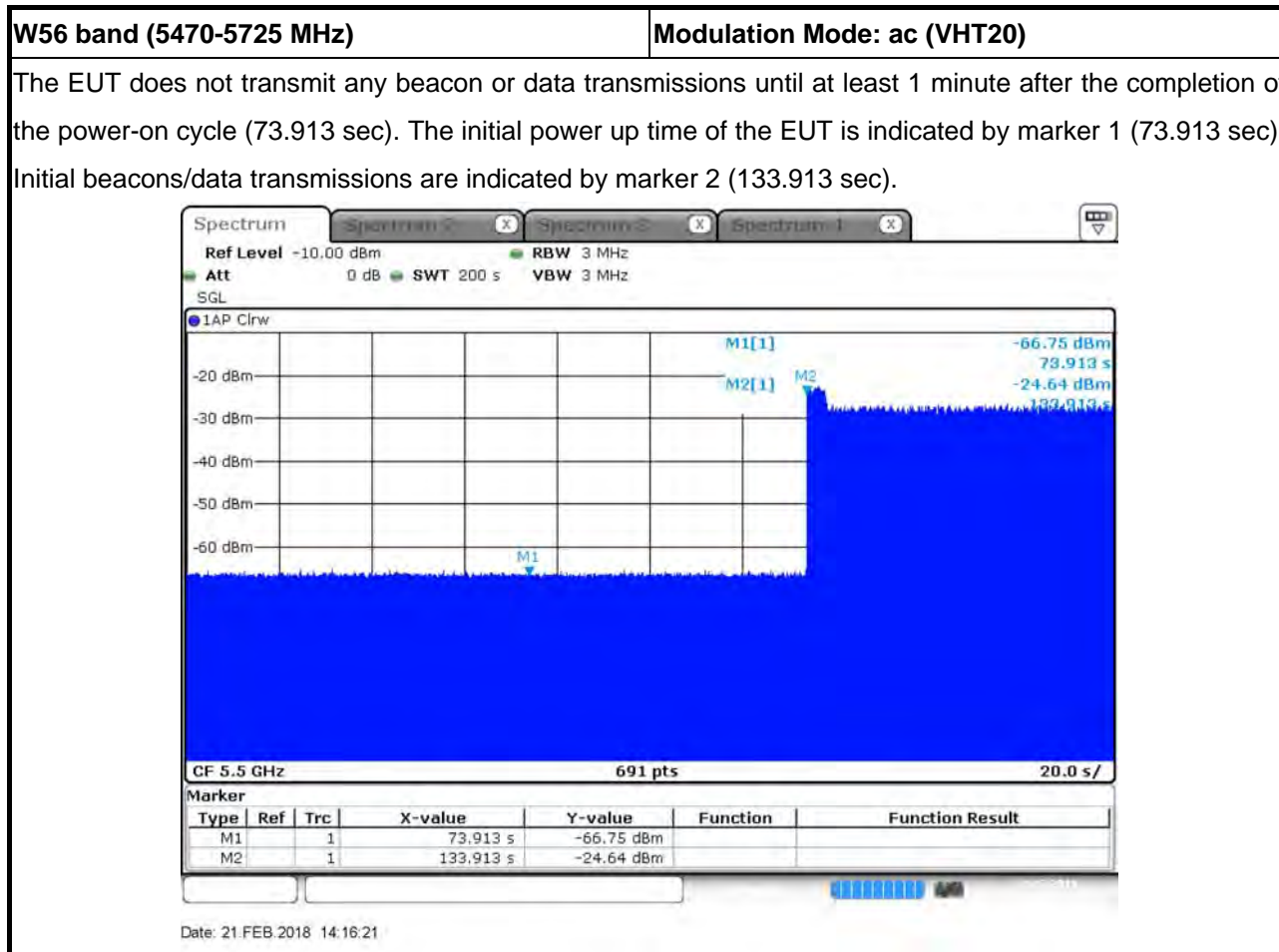
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method for W53	
Measuring Equipment Conditions	MIC Notice No.88 Appendix No.45, clause 13.2/26.2
Conditions of Equipment under Test	MIC Notice No.88 Appendix No.45, clause 13.3/26.3
Measuring Operation Procedures	MIC Notice No.88 Appendix No.45, clause 13.4/26.4
Presentation of Results	MIC Notice No.88 Appendix No.45, clause 13.5/26.5
Other Conditions	MIC Notice No.88 Appendix No.45, clause 13.6/26.6

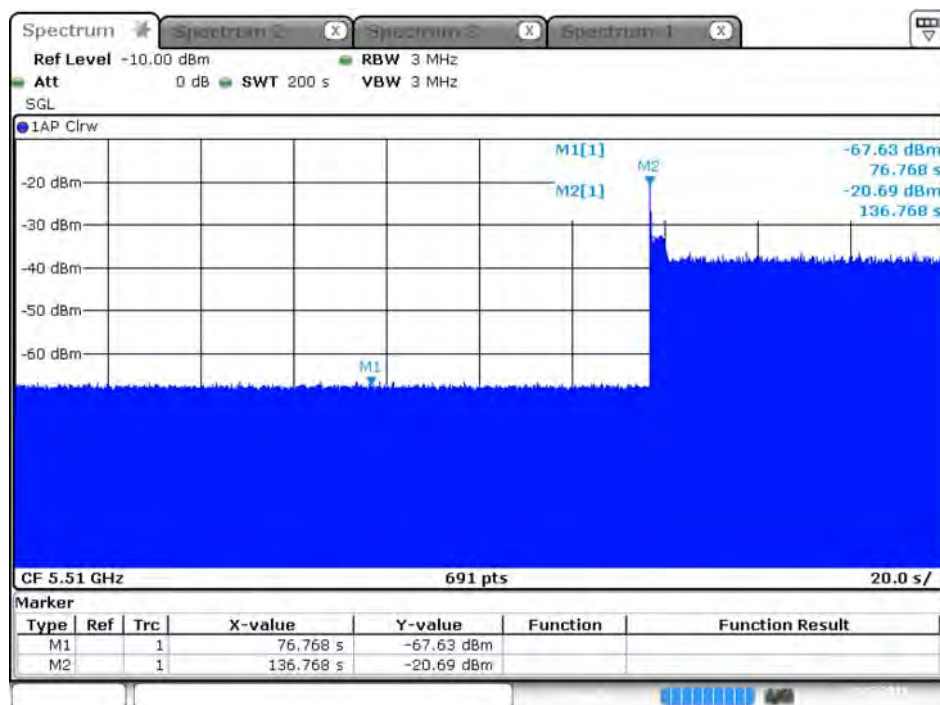
Test Method for W56	
Measuring Equipment Conditions	MIC Notice No.88 Appendix No.45, clause 13.2/27.2
Conditions of Equipment under Test	MIC Notice No.88 Appendix No.45, clause 13.3/27.3
Measuring Operation Procedures	MIC Notice No.88 Appendix No.45, clause 13.4/27.4
Presentation of Results	MIC Notice No.88 Appendix No.45, clause 13.5/27.5
Other Conditions	MIC Notice No.88 Appendix No.45, clause 13.6/27.6

3.2.4 Radar Detection Threshold (Initial Channel Availability Check) Result



W56 band (5470-5725 MHz)
Modulation Mode: ac (VHT40)

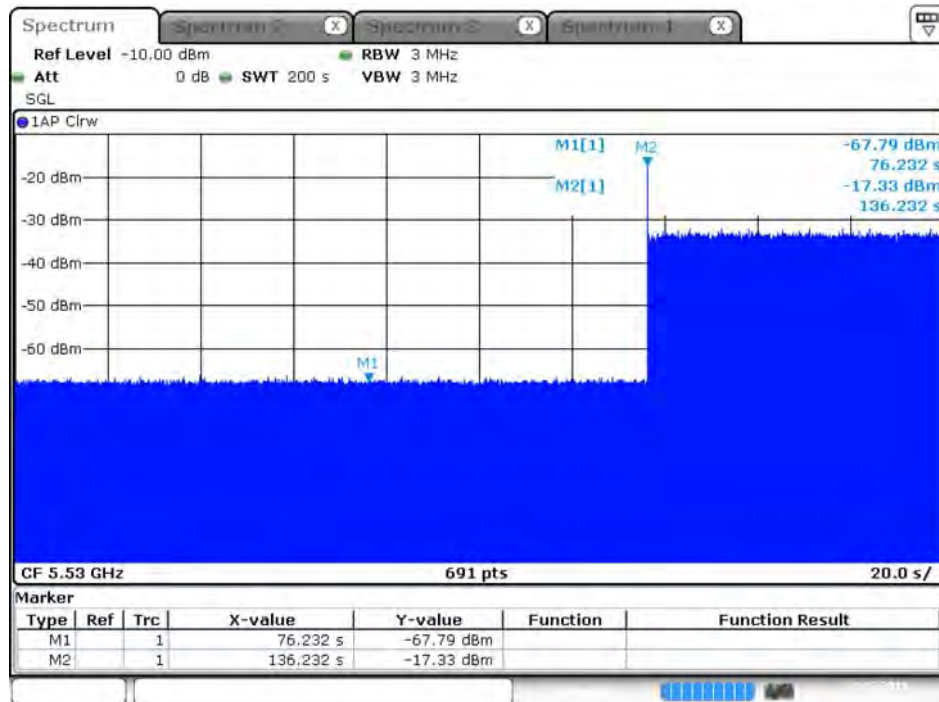
The EUT does not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle (76.768 sec). The initial power up time of the EUT is indicated by marker 1 (76.768 sec). Initial beacons/data transmissions are indicated by marker 2 (136.768 sec).



Date: 21.FEB.2018 15:22:31

W56 band (5470-5725 MHz)
Modulation Mode: ac (VHT80)

The EUT does not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle (76.232 sec). The initial power up time of the EUT is indicated by marker 1 (76.232 sec). Initial beacons/data transmissions are indicated by marker 2 (136.232 sec).



Date: 21.FEB.2018 17:18:00

3.2.5 Radar Detection Threshold (during the Channel Availability Check) Result

Radar Detection Threshold (during the Channel Availability Check) Result					
Detection Threshold Level (dBm)			-64		
Modulation Mode	Freq. (MHz)	Radar Test Signal (#)	Nr of Times Triggered (# out of 4)	Detection Probability (%)	Detection Probability Limit (%)
ac (VHT20)	5500	1 - Fixed	4	100	100
		2 - Fixed	4	100	100
		3 - Fixed	4	100	100
		4 - Variable	4	100	100
		5 - Variable	4	100	100
		6 - Variable	4	100	100
		7 - Chirp	4	100	100
		8 - Hopping	4	100	100
Result		Complied			

Radar Detection Threshold (during the Channel Availability Check) Result					
Detection Threshold Level (dBm)			-64		
Modulation Mode	Freq. (MHz)	Radar Test Signal (#)	Nr of Times Triggered (# out of 4)	Detection Probability (%)	Detection Probability Limit (%)
ac (VHT40)	5510	1 - Fixed	4	100	100
		2 - Fixed	4	100	100
		3 - Fixed	4	100	100
		4 - Variable	4	100	100
		5 - Variable	4	100	100
		6 - Variable	4	100	100
		7 - Chirp	4	100	100
		8 - Hopping	4	100	100
Result		Complied			

Radar Detection Threshold (during the Channel Availability Check) Result					
Detection Threshold Level (dBm)			-64		
Modulation Mode	Freq. (MHz)	Radar Test Signal (#)	Nr of Times Triggered (# out of 4)	Detection Probability (%)	Detection Probability Limit (%)
ac (VHT80)	5530	1 - Fixed	4	100	100
		2 - Fixed	4	100	100
		3 - Fixed	4	100	100
		4 - Variable	4	100	100
		5 - Variable	4	100	100
		6 - Variable	4	100	100
		7 - Chirp	4	100	100
		8 - Hopping	4	100	100
Result		Complied			

3.3 In-service Monitoring

3.3.1 In-service Monitoring Limit

In-service Monitoring Limit	
<input checked="" type="checkbox"/>	The <i>In-Service Monitoring</i> shall be used to monitor an <i>Operating Channel</i> .
<input checked="" type="checkbox"/>	The <i>In-Service-Monitoring</i> shall start immediately after the EUT has started transmissions on a channel. During the <i>In-Service Monitoring</i> , the EUT shall be capable of detecting any of the radar test signals that fall within the started transmissions ranges and with a level above the <i>Radar Detection Threshold</i> .
<input checked="" type="checkbox"/>	The minimum required detection probability is defined in clause 3.1.1 DFS Parameters.

3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method for W53	
Measuring Equipment Conditions	MIC Notice No.88 Appendix No.45, clause 13.2/26.2
Conditions of Equipment under Test	MIC Notice No.88 Appendix No.45, clause 13.3/26.3
Measuring Operation Procedures	MIC Notice No.88 Appendix No.45, clause 13.4/26.4
Presentation of Results	MIC Notice No.88 Appendix No.45, clause 13.5/26.5
Other Conditions	MIC Notice No.88 Appendix No.45, clause 13.6/26.6

Test Method for W56	
Measuring Equipment Conditions	MIC Notice No.88 Appendix No.45, clause 13.2/27.2
Conditions of Equipment under Test	MIC Notice No.88 Appendix No.45, clause 13.3/27.3
Measuring Operation Procedures	MIC Notice No.88 Appendix No.45, clause 13.4/27.4
Presentation of Results	MIC Notice No.88 Appendix No.45, clause 13.5/27.5
Other Conditions	MIC Notice No.88 Appendix No.45, clause 13.6/27.6

3.3.4 Test Result of In-service Monitoring

In-service Monitoring Result					
Detection Threshold Level (dBm)			-64 (DFS Detection Threshold)		
Modulation Mode	Freq. (MHz)	Radar Test Signal (#)	Nr of Times Triggered (# out of 20)	Detection Probability (%)	Detection Probability Limit (%)
ac (VHT20)	5500	1 - Fixed	19	95	60
		2 - Fixed	19	95	60
		3 - Fixed	17	85	60
		4 - Variable	15	75	60
		5 - Variable	14	70	60
		6 - Variable	13	65	60
		7 - Chirp	18	90	80
		8 - Hopping	19	95	70
Result		Complied			

In-service Monitoring Result					
Detection Threshold Level (dBm)			-64 (DFS Detection Threshold)		
Modulation Mode	Freq. (MHz)	Radar Test Signal (#)	Nr of Times Triggered (# out of 20)	Detection Probability (%)	Detection Probability Limit (%)
ac (VHT40)	5510	1 - Fixed	19	95	60
		2 - Fixed	19	95	60
		3 - Fixed	19	95	60
		4 - Variable	15	75	60
		5 - Variable	16	80	60
		6 - Variable	15	75	60
		7 - Chirp	18	90	80
		8 - Hopping	19	95	70
Result		Complied			

In-service Monitoring Result					
Detection Threshold Level (dBm)			-64 (DFS Detection Threshold)		
Modulation Mode	Freq. (MHz)	Radar Test Signal (#)	Nr of Times Triggered (# out of 20)	Detection Probability (%)	Detection Probability Limit (%)
ac (VHT80)	5530	1 - Fixed	17	85	60
		2 - Fixed	19	95	60
		3 - Fixed	18	90	60
		4 - Variable	15	75	60
		5 - Variable	17	85	60
		6 - Variable	15	75	60
		7 - Chirp	16	80	80
		8 - Hopping	19	95	70
Result		Complied			

3.4 Channel Shutdown and Non-Occupancy Period

3.4.1 Channel Shutdown and Non-Occupancy Period Limit

Channel Shutdown and Non-Occupancy Period Limit	
Channel Move Time	10 sec
Channel Closing Transmission Time	260 ms in Channel Move Time 10 sec period.
Non-occupancy period	Minimum 30 minutes

3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

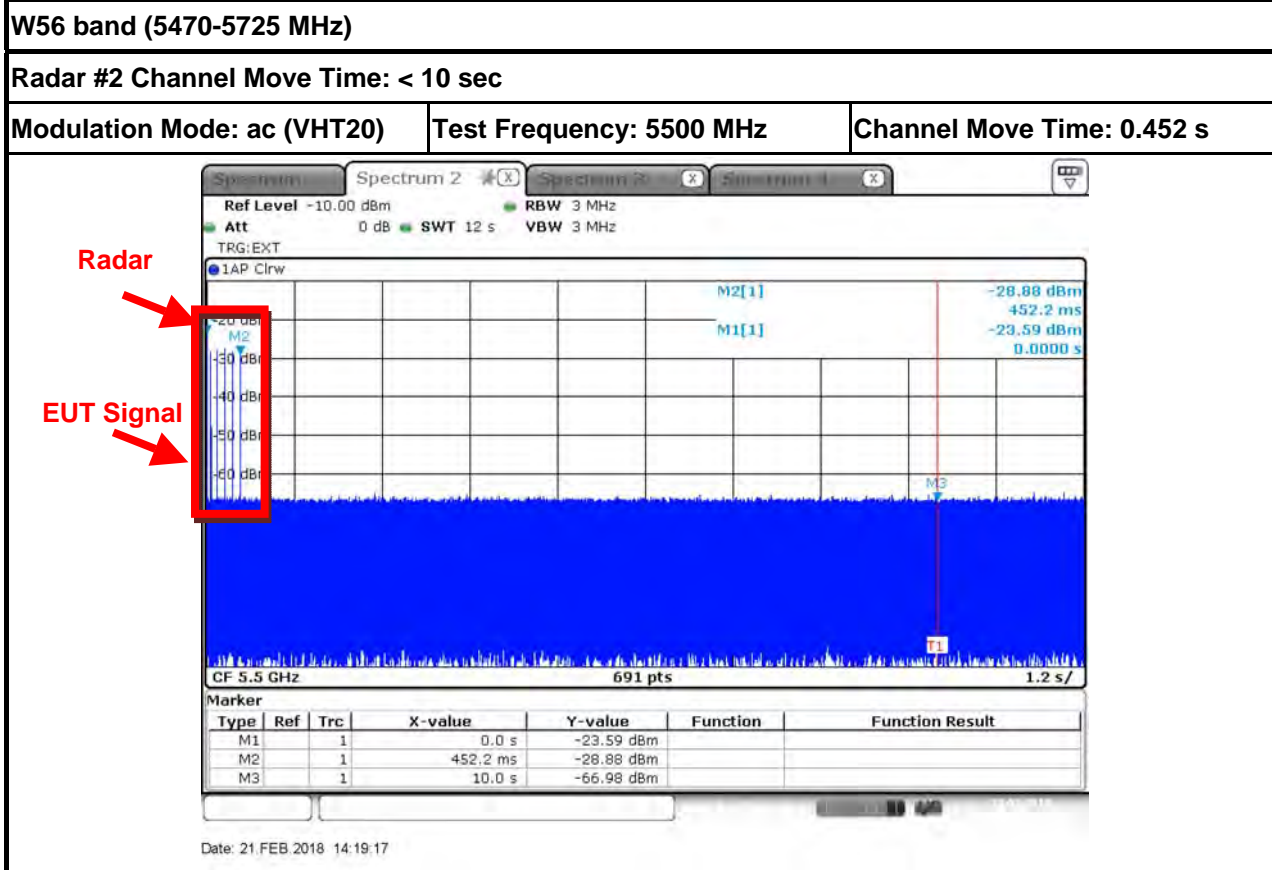
Test Method for W53	
Measuring Equipment Conditions	MIC Notice No.88 Appendix No.45, clause 13.2/26.2
Conditions of Equipment under Test	MIC Notice No.88 Appendix No.45, clause 13.3/26.3
Measuring Operation Procedures	MIC Notice No.88 Appendix No.45, clause 13.4/26.4
Presentation of Results	MIC Notice No.88 Appendix No.45, clause 13.5/26.5
Other Conditions	MIC Notice No.88 Appendix No.45, clause 13.6/26.6

Test Method for W56	
Measuring Equipment Conditions	MIC Notice No.88 Appendix No.45, clause 13.2/27.2
Conditions of Equipment under Test	MIC Notice No.88 Appendix No.45, clause 13.3/27.3
Measuring Operation Procedures	MIC Notice No.88 Appendix No.45, clause 13.4/27.4
Presentation of Results	MIC Notice No.88 Appendix No.45, clause 13.5/27.5
Other Conditions	MIC Notice No.88 Appendix No.45, clause 13.6/27.6

3.4.4 Test Result of Channel Shutdown

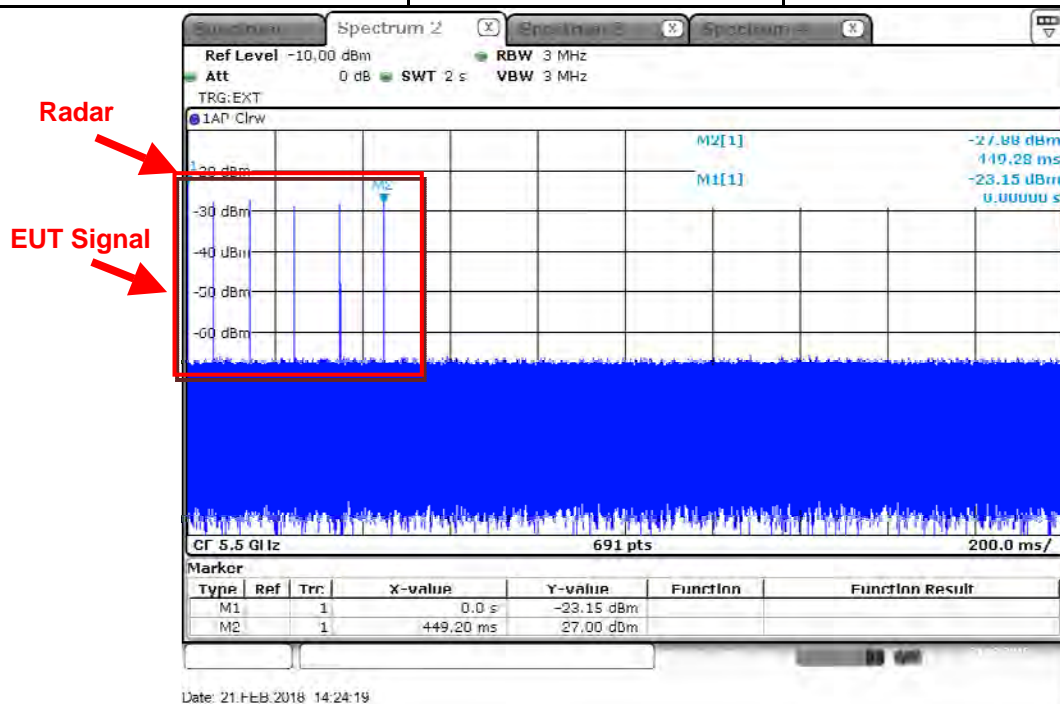
Channel Shutdown and Non-Occupancy Period Result				
Detection Threshold Level (dBm)			-64	
Modulation Mode	Freq. (MHz)	Radar Test Signal	Channel Closing Transmission Time (ms)	Channel Move Time (s)
ac (VHT20)	5500	2 - Fixed	14.492	0.452
ac (VHT40)	5510	2 - Fixed	23.188	0.452
ac (VHT80)	5530	2 - Fixed	26.086	0.417
Limit			260 ms	10 sec
Result			Complied	

3.4.5 Channel Shutdown Plots



Radar #2 Channel Closing Transmission Time: 14.492 ms	Sampling Bins (B): 690
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Modulation Mode: ac (VHT20)	Test Frequency: 5500 MHz	Number of Sampling Bins (N): 5
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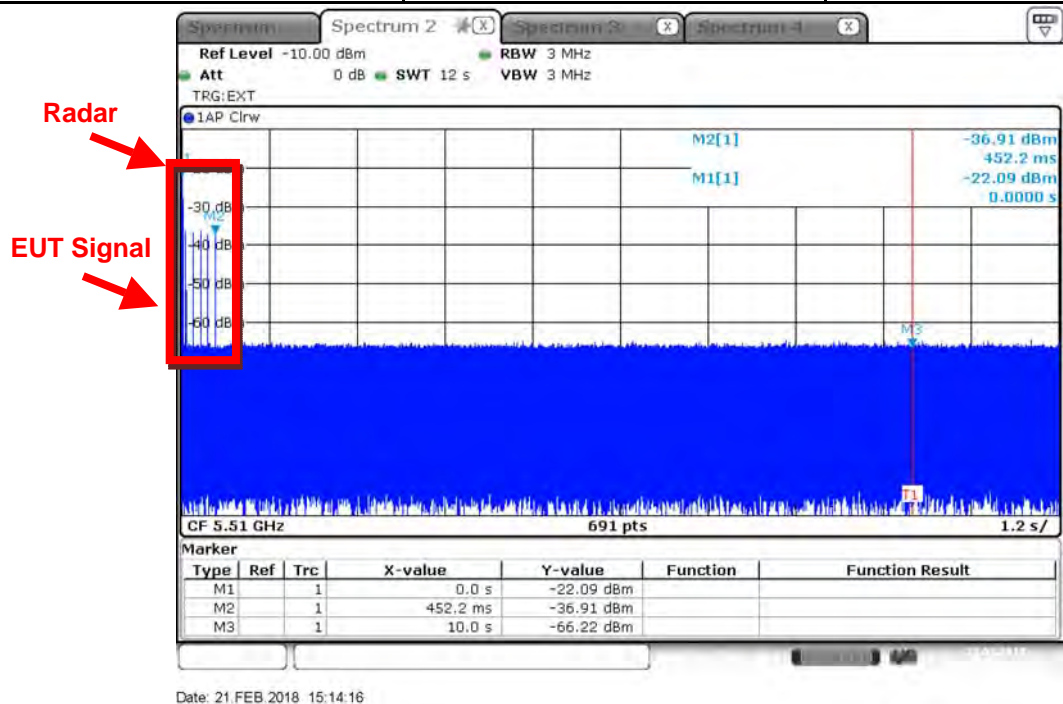
R&S | Agilent

VISA session GPIB0::20	Threshold (dBm) -60	Marker 1 (sec) 0	Space Time of Point 0.002899	No. of Pulse 5
	Mean Level (dBm) -27.99	Marker 2 (sec) 2	Mark 1 Point 1	Close TX Time(sec) 14.492754m
	RMS Level (dBm) -27.96	Total Trace of Points 691	Mark 2 Point 691	Duty (%) 724.64m

Dwell=S / B=2000ms / 690=2.899ms, C=N x Dwell=5 x 2.899ms=14.492 ms

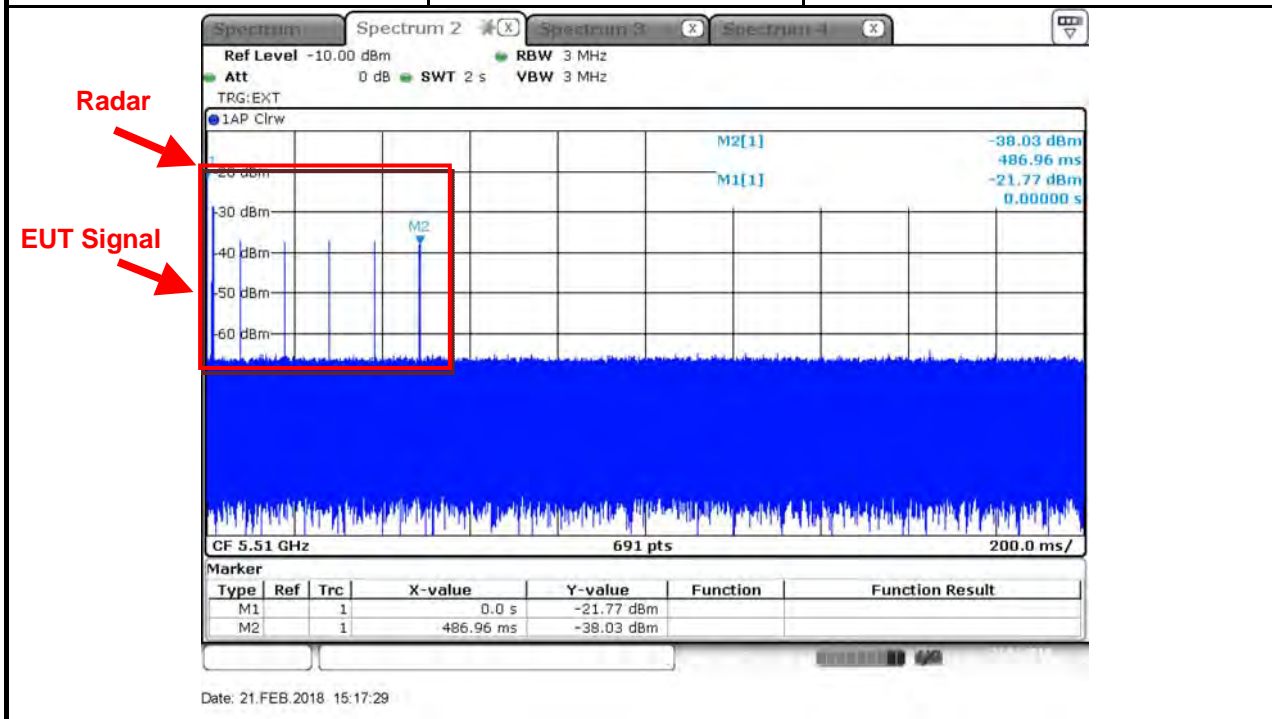
Note: The first sweep point of spectrum analyzer is occupied by radar signal, therefore, the number "Sweep Point-1" should be used for Channel Closing Transmission Time calculation.

The Channel Closing Transmission Time is calculated by Closing Time = N*(Sweep time/Sweep Point-1) where N is the number of spectrum analyzer sampling bins.

W56 band (5470-5725 MHz)
Radar #2 Channel Move Time: < 10 sec
Modulation Mode: ac (VHT40)
Test Frequency: 5510 MHz
Channel Move Time: 0.452 s


Radar #2 Channel Closing Transmission Time: 23.188 ms	Sampling Bins (B): 690
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Modulation Mode: ac (VHT40)	Test Frequency: 5510 MHz	Number of Sampling Bins (N): 8
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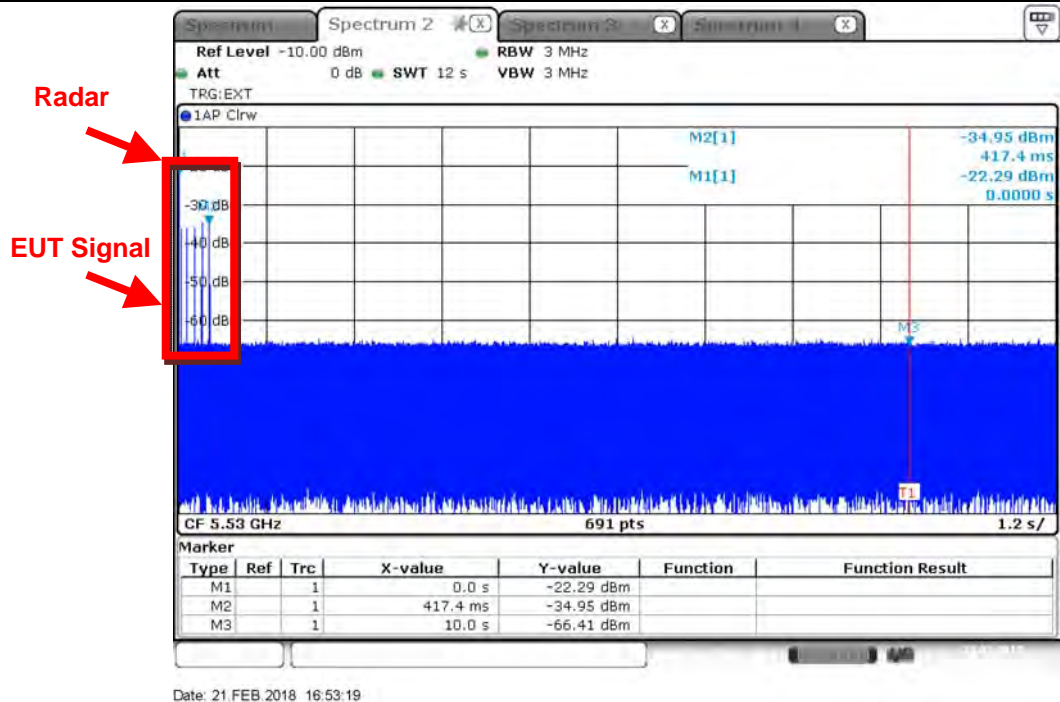
R&S
Agilent

VISA session GPIB0::20:	Threshold (dBm) -60	Marker 1 (sec) 0	Space Time of Point 0.002899	No. of Pulse 8
	Mean Level (dBm) -33.34	Marker 2 (sec) 2	Mark 1 Point 1	Close TX Time(sec) 23.188406m
	RMS Level (dBm) -31.67	Total Trace of Points 691	Mark 2 Point 691	Duty (%) 1.16

Dwell=S / B=2000ms / 690=2.899ms, C=N x Dwell=8 x 2.899ms=23.188 ms

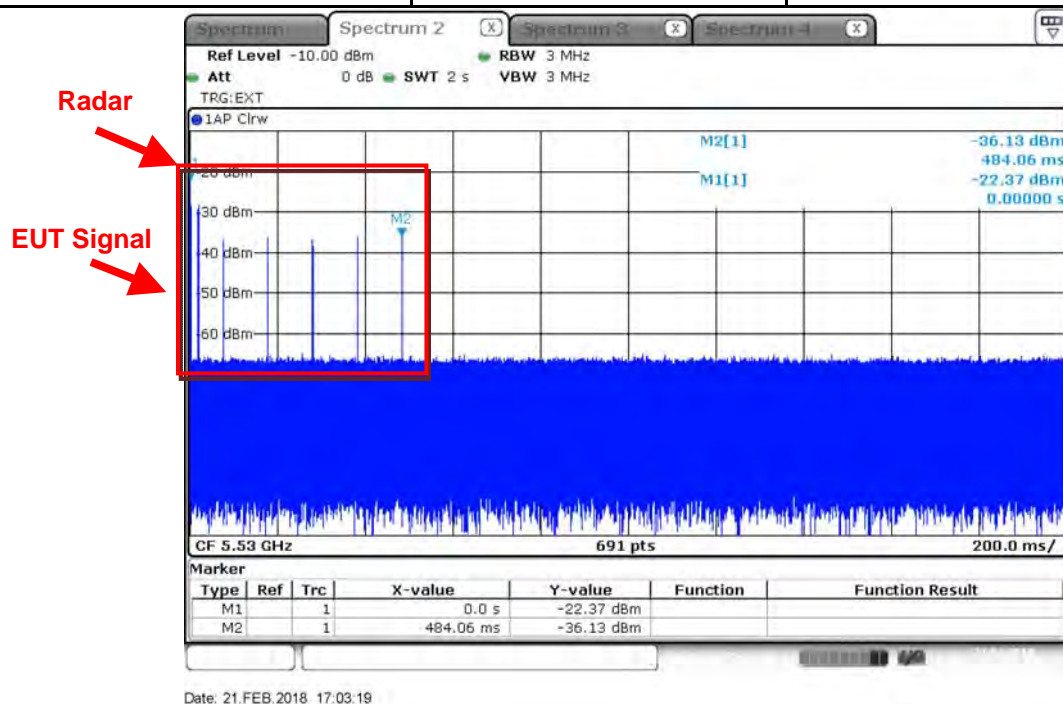
Note: The first sweep point of spectrum analyzer is occupied by radar signal, therefore, the number "Sweep Point-1" should be used for Channel Closing Transmission Time calculation.

The Channel Closing Transmission Time is calculated by Closing Time = N*(Sweep time/Sweep Point-1) where N is the number of spectrum analyzer sampling bins.

W56 band (5470-5725 MHz)
Radar #2 Channel Move Time: < 10 sec
Modulation Mode: ac (VHT80)
Test Frequency: 5530 MHz
Channel Move Time: 0.417 s


Radar #2 Channel Closing Transmission Time: 26.086 ms	Sampling Bins (B): 690
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Modulation Mode: ac (VHT80)	Test Frequency: 5530 MHz	Number of Sampling Bins (N): 9
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R&S | Agilent

VISA session GPIB0::20:	Threshold (dBm) -60	Marker 1 (sec) 0	Space Time of Point 0.002899	No. of Pulse 9
	Mean Level (dBm) -32.3	Marker 2 (sec) 2	Mark 1 Point 1	Close TX Time(sec) 26.086957m
	RMS Level (dBm) -30.98	Total Trace of Points 691	Mark 2 Point 691	Duty (%) 1.3

Dwell=S / B=2000ms / 690=2.899ms, C=N x Dwell=9 x 2.899ms=26.086 ms

Note: The first sweep point of spectrum analyzer is occupied by radar signal, therefore, the number "Sweep Point-1" should be used for Channel Closing Transmission Time calculation.

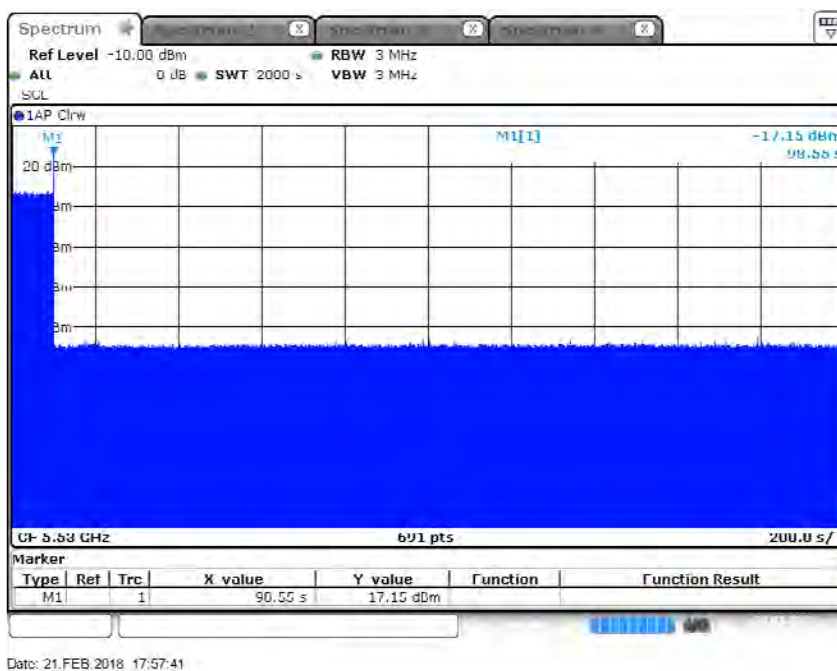
The Channel Closing Transmission Time is calculated by Closing Time = N*(Sweep time/Sweep Point-1) where N is the number of spectrum analyzer sampling bins.

3.4.6 Test Result of Non-Occupancy Period

Non-Occupancy Period Result			
Detection Threshold Level (dBm)			-64
Modulation Mode	Freq. (MHz)	Radar Test Signal	Non-Occupancy Period (min)
ac (VHT20)	5500	2 - Fixed	>30
ac (VHT40)	5510	2 - Fixed	>30
ac (VHT80)	5530	2 - Fixed	>30
Limit			30 min
Result			Complied

3.4.7 Non-Occupancy Period Plots



W56 band (5470-5725 MHz)
Modulation Mode: ac (VHT80)
Radar #2 Non-Occupancy Period / Non-Occupancy Period is more than 30 min.


Date: 21.FEB.2018 17:57:41

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Calibration Method	Calibration Agent Name	Remark
Spectrum Analyzer	R&S	FSV40	101026	9kHz~40GHz	Sep. 19, 2017	Sep. 18, 2018	c)	A	Conducted (DF01-CB)
Vector Signal generator	R&S	SMU200A	102782	100kHz-6GHz	Dec. 18, 2017	Dec. 17, 2018	c)	A	Conducted (DF01-CB)
RF Power Divider	ANAREN	2 Way	DFS-01-DV-02	1GHz ~ 6GHz	Oct. 11, 2017	Oct. 10, 2018	c)	B	Conducted (DF01-CB)
RF Power Divider	MTJ	2 Way	DFS-01-DV-03	1GHz ~ 6GHz	Oct. 11, 2017	Oct. 10, 2018	c)	B	Conducted (DF01-CB)
RF Power Divider	ANAREN	4 Way	DFS-01-DV-01	1GHz ~ 6GHz	Oct. 11, 2017	Oct. 10, 2018	c)	B	Conducted (DF01-CB)
RF Cable-high	Woken	RG402	High Cable-53	1 GHz ~18 GHz	Oct. 11, 2017	Oct. 10, 2018	c)	B	Conducted (DF01-CB)
RF Cable-high	Woken	RG402	High Cable-54	1 GHz ~18 GHz	Oct. 11, 2017	Oct. 10, 2018	c)	B	Conducted (DF01-CB)
RF Cable-high	Woken	RG402	High Cable-56	1 GHz ~18 GHz	Oct. 11, 2017	Oct. 10, 2018	c)	B	Conducted (DF01-CB)
RF Cable-high	Woken	RG402	High Cable-60	1 GHz ~18 GHz	Oct. 11, 2017	Oct. 10, 2018	c)	B	Conducted (DF01-CB)

Note:

- Calibration Interval of instruments listed above is one year.
- N.C.R. means Non-Calibration required.
- Calibration Agent Name: Describe calibration agent name with its country name, and symbols in "Calibration Agent Name" shows the agent names as follows,
A: Electronics Testing Center, Taiwan.
B: Sporton International Inc., Taiwan.
C: ROHDE&SCHWARZ., Taiwan.
- Calibration Method
 - Calibration conducted by the National Institute of Information and Communications Technology or a designated calibration agency under Article 102-18 paragraph (1)
 - Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992)
 - Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1)
 - Calibration conducted by using other equipment that listed above from a) to c)

5 Measurement Uncertainty

Test Items	Uncertainty	Remark
Conducted Emission	1.7 dB	Confidence levels of 95%