



低功率射頻器材-DFS 測試報告

台灣索尼股份有限公司

器材名稱: 控制器

廠牌: SONY

型號: TMR-A9WT

申請廠商 : 台灣索尼股份有限公司
臺北市中山區中山北路 2 段 42 號 5 樓

測試實驗室 : 敦吉檢測科技股份有限公司電磁相容部
新北市林口區忠福路 491 號
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受理日期 : 2021 年 05 月 27 日
案件編號 : C1M2105513
報告號碼 : EM-NC210340
測試日期 : 2021 年 07 月 05 日~23 日

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低功率射頻器材-DFS 測試報告

受理日期：2021年05月27日
完成日期：2021年08月05日
報告號碼：EM-NC210340
實驗室名稱：敦吉檢測科技股份有限公司電磁相容部
實驗室地址：新北市林口區忠福路491號
實驗室電話：(02) 2609-9301, (02) 2609-2133
測試場所：RF測試室
認可編號及範圍：TAF 1724 (9KHz ~ 260GHz)
申請廠商：台灣索尼股份有限公司
製造廠商：Sony Corporation
器材名稱：控制器
廠牌：SONY
型號：TMR-A9WT
樣品接收日期：2021年05月28日



工作頻率/發射功率：

無線模組：WM-BAC-AT-49					
無線技術	工作頻率(MHz)		頻道數	發射功率(dBm)	
				峰值 (Peak)	平均值 (Average)
BT	GFSK	2402-2480	79	5.38	---
	8DPSK			6.13	---
BLE	1M	2402-2480	40	5.21	---
	2M			5.26	---
802.11b	2412-2462		11	14.53	11.97
802.11g	2412-2462		11	17.86	13.21
802.11n-HT20	2412-2462		11	18.18	13.26
802.11a	U-NII Band I	5180-5240	4	---	10.99
	U-NII Band II	5260-5320	4	---	10.81
	U-NII Band III	5500-5580	5	---	9.01
		5660-5700	3		
	U-NII Band IV	5745-5825	5	---	8.87
802.11n-HT20/ 802.11ac-VHT20	U-NII Band I	5180-5240	4	---	8.19
	U-NII Band II	5260-5320	4	---	7.99
	U-NII Band III	5500-5580	5	---	6.22
		5660-5700	3		
	U-NII Band IV	5745-5825	5	---	6.58
802.11n-HT40/ 802.11ac-VHT40	U-NII Band I	5190-5230	2	---	7.98
	U-NII Band II	5270-5310	2	---	8.60
	U-NII Band III	5510-5550	2	---	6.64
		5670	1		
	U-NII Band IV	5755-5795	2	---	6.61
802.11ac-VHT80	U-NII Band I	5210	1	---	10.64
	U-NII Band II	5290	1	---	10.33
	U-NII Band III	5530	1	---	8.58
	U-NII Band IV	5775	1	---	8.58
U-NII Band II & III [DFS Function-Client(Without radar detection function)]					
不支援頻率5590MHz-5650MHz					

無線模組: LBEE5ZZ1PJ					
無線技術	工作頻率(MHz)		頻道數	發射功率(dBm)	
				峰值 (Peak)	平均值 (Average)
802.11a	U-NII Band I	5180-5240	4	---	12.15
	U-NII Band II	5260-5320	4	---	11.90
	U-NII Band III	5500-5580	5	---	12.13
		5660-5700	3		
	U-NII Band IV	5745-5825	5	---	12.15
802.11n-HT20	U-NII Band I	5180-5240	4	---	11.93
	U-NII Band II	5260-5320	4	---	11.66
	U-NII Band III	5500-5580	5	---	12.28
		5660-5700	3		
	U-NII Band IV	5745-5825	5	---	12.20
802.11n-HT40	U-NII Band I	5190-5230	2	---	12.22
	U-NII Band II	5270-5310	2	---	12.14
	U-NII Band III	5510-5550	2	---	12.14
		5670	1		
	U-NII Band IV	5755-5795	2	---	11.87
U-NII Band II & III [DFS Function-Master]					
不支援頻率5590MHz-5650MHz					

調變方式 :

無線技術	調變方式
無線模組: WM-BAC-AT-49	
BT	FHSS (GFSK, 8DPSK, $\pi/4$ DQPSK)
Bluetooth Low Energy (BLE)	GFSK (1M, 2M)
802.11b	DSSS (DBPSK/ DQPSK/ CCK)
802.11a/g/n-HT20/n-HT40	OFDM (BPSK/ QPSK/ 16QAM/ 64QAM)
802.11ac-VHT20/VHT40/VHT80	OFDM (BPSK/ QPSK/ 16QAM/ 64QAM/ 256QAM)
無線模組: LBEE5ZZ1PJ	
802.11a/n-HT20/n-HT40	OFDM (BPSK/ QPSK/ 16QAM/ 64QAM)

天線規格：此裝置使用固定式天線，其天線資料如下：

無線模組	天線類型	廠牌	型號	頻率(MHz)	天線增益(dBi)
WM-BAC-AT-49	Dipole	SONY	TMR-A9WT (ANT 0)	2400	1.36
				5200	3.71
				5300	2.60
				5600	2.48
				5800	3.09
	Dipole	SONY	TMR-A9WT (ANT 1)	2400	1.90
				5200	5.79
				5300	5.79
				5600	5.12
				5800	4.13
	Dipole	SONY	TMR-A9WT (BT)	2400	3.54
LBEE5ZZ1PJ	Dipole	SONY	TMR-A9WT	5200	4.64
				5300	4.48
				5600	4.76
				5800	4.76

註:天線已符合低功率射頻器材技術規範3.2.節之規定。

- 備註：
1. 本試驗符合性判定之決定規則不另外考慮量測不確定度。
 2. 本測試報告僅對受測之樣品負責。
 3. 本測試報告所引用之天線規格及 RF 射頻規格係由申請者提供，實驗室對申請者提供規格及數據不負擔保責任。
 4. 非經本公司同意，測試報告不得摘錄複印使用。(全部複製除外)
 5. 本產品適用低功率射頻器材技術規範 LP0002 (修訂日期 2020 年 07 月 01 日)。
 6. 此份報告是針對 WLAN 5G U-NII Band II、III 之 DFS 功能進行製作，
至於 WLAN 2.4GHz 及 BLE 功能於報告號碼(EM-NC210337)，
至於 BT 功能於報告號碼(EM-NC210338)，
至於 WLAN 5G U-NII Band I、II、III、IV 功能於報告號碼(EM-NC210339)。

SUMMARY OF TEST RESULT

Description of Test Item	Refer to report Section	Results
Channel Availability Check Time	Appendix I (附錄一), Section 1	PASS
Channel Move Time	Appendix I (附錄一), Section 2	PASS
Channel Closing Transmission Time	Appendix I (附錄一), Section 3	PASS
Non-Occupancy Period	Appendix I (附錄一), Section 3	PASS
U-NII Detection Bandwidth	Appendix I (附錄一), Section 4	PASS
Statistical Performance Check	Appendix I (附錄一), Section 5	PASS

報告簽署人：薛舜誠 2021.08.06
(薛舜誠/課長)

審查人員：吳俊澤 2021.08.06
(吳俊澤/主任)

報告發行紀錄摘要

發行版本	完成日期	紀錄摘要說明
Original	2021. 08. 05	首次發行之原始報告

1. GENERAL INFORMATION

1.1. EUT Information

- a) Product : 控制器
 b) Brand : SONY
 c) Model Name : TMR-A9WT
 d) Power Supply : DC 12V
 e) Test Voltage : AC 110V/60Hz (經電源供應器供電)

1.2. Product Information

- 1.2.1. This EUT include two wireless module (one is WM-BAC-AT-49, another is LBEE5ZZ1PJ), it is support 802.11a/b/g/n/ac and DFS Function, BLE/Bluetooth this device is correlated unit.

For DFS function, the wireless module WM-BAC-AT-49 is support Client DFS (Without radar detection function) and the LBEE5ZZ1PJ is support master DFS function.

- 1.2.2. The max data rate of EUT as below list:

無線模組：WM-BAC-AT-49		
Mode	The max data rate of EUT (Mbps)	
	WLAN 2.4G/BT	WLAN 5G
Bluetooth	3	---
BLE	2	---
802.11b	11	---
802.11g	54	---
802.11a	---	54
802.11n-HT20	144.4	144.4
802.11n-HT40	---	300
802.11ac-VHT20	---	173.3
802.11ac-VHT40	---	400
802.11ac-VHT80	---	866.7

無線模組：LBEE5ZZ1PJ	
Mode	The max data rate of EUT (Mbps)
	WLAN 5G
802.11a	54
802.11n-HT20	144.4
802.11n-HT40	300

1.3. Support Equipment

Item	Manufacturer	Model	Remark
AP Server	ASUS	RT-AX88U	NCC: CCAF18LP1530T1

1.4. Standard Requirement

NCC LP0002 (2020.07.01)5.7.7.2:

U-NII devices operating in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems.

EUT has support master and client device (without radar detection) function.

1.5. Measurement Uncertainty

Test Item	Uncertainty
DFS Measurement	$\pm 0.5\text{ms}$
Threshold	$\pm 0.33\text{dB}$

2. TEST EQUIPMENT

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1	Vector Signal Generation	R&S	SMU200A	104893	2021. 06. 10	1 Year
2	Spectrum Analyzer	R&S	FSV30	101181	2021. 07. 13	1 Year
3	Attenuator (10dB) X2	Worken	WK0602-10	0120A02208001S	N.C.R	N.C.R
4	Attenuator (30 dB) X2	Worken	WK0602-30	0120A02208002S	N.C.R	N.C.R
5	Digital Thermo-Hygro Meter	Shenzhen Datronn Electronics	KT-905	OTA	2021. 04. 15	1 Year

3. WORKING MODES AND REQUIREMENT TEST ITEM

3.1. Applicability of DFS Requirements Prior To Use A Channel

Requirement	Operational Mode		
	Master	Client without radar detection	Client with radar detection
Non-Occupancy Period	✓	Not required	✓
DFS Detection Threshold	✓	Not required	✓
Channel Availability Check Time	✓	Not required	Not required
Uniform Spreading	✓	Not required	Not required

3.2. Applicability of DFS Requirements During Normal Operation

Requirement	Operational Mode		
	Master	Client without radar detection	Client with radar detection
DFS Detection Threshold	✓	Not required	✓
Channel Closing Transmission Time	✓	✓	✓
Channel Move Time	✓	✓	✓

4. DFS DETECTION THRESHOLD AND RADAR TEST WAVEFORMS

4.1. Interference Threshold Value, Master or Client Incorporating In-Service Monitoring

Maximum Transmit Power	Power Density	Value (See Notes 1 and 2)
200mW ~ 1W	--	-64dBm
< 200mW	< 10dBm/MHz	-62dBm
< 200mW	$\geq 10\text{dBm/MHz}$	-64dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.

Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

The radar Detection Threshold, lowest antenna gain is the parameter of interference radar DFS detection threshold.

The interference Detection Threshold is -62dBm

4.2. Radar Test Waveform Minimum Step

Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

4.3. Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulse	Minimum Percentage of Successful Detection	Minimum number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 4.3a	Roundup $\left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of μsec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time test.					

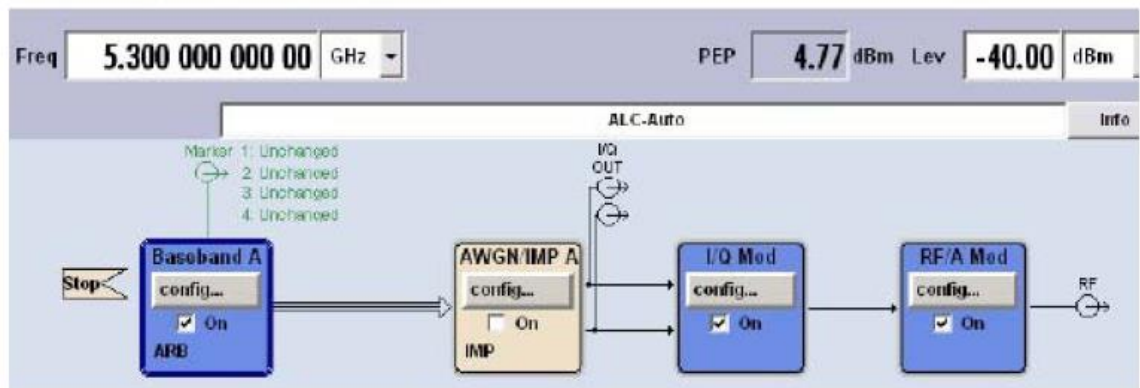
Table 4.3a - Pulse Repetition Intervals Values for Test A

Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)
1	1930.5	518
2	1858.7	538
3	1792.1	558
4	1730.1	578
5	1672.2	598
6	1618.1	618
7	1567.7	638
8	1519.8	658
9	1474.9	679
10	1432.7	698
11	1392.8	718
12	1355.0	738
13	1319.3	758
14	1285.3	778
15	1253.1	798
16	1222.5	818
17	1193.3	838
18	1165.6	858
19	1139.0	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B.

The aggregate is the average of the percentage of successful detections of short pulse radar types 1-4.

FCC Radar Types (1~4) System Diagram



Used R&S SMU200A (Vector SG with two ARB)

B11: Base-band Generator with ARB (16M samples) and Digital Modulation

B13: Base-band Main Module

B106: frequency range (100 kHz to 6 GHz)

For selecting the waveform parameters from within the bounds of the signal type, system was random selection using uniform distribution.

4.4. Long Pulse Radar Test Waveforms

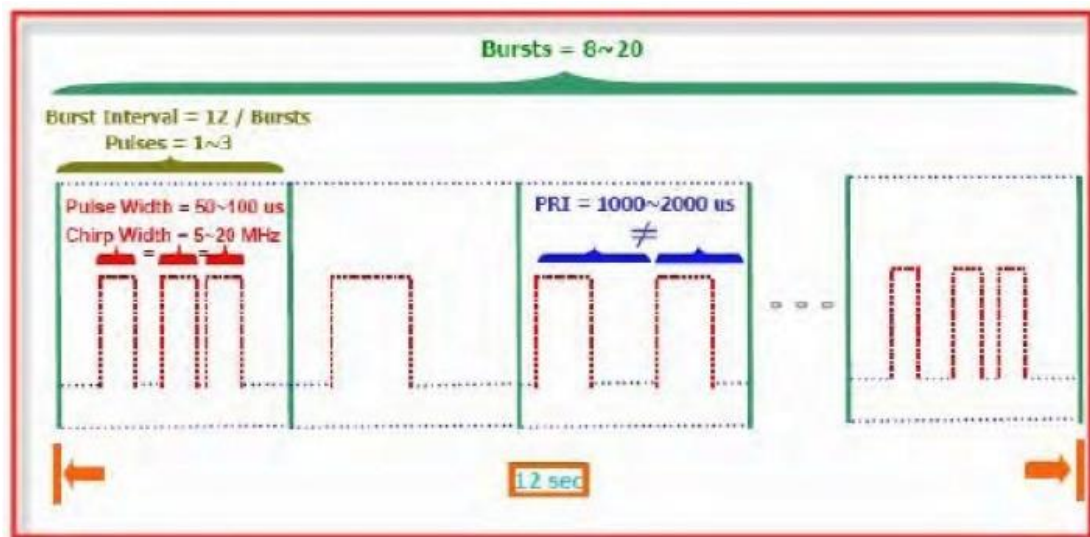
Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulse Per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse radar test signal. If more 30 waveforms are used for the Long Pulse radar test signal, then each additional waveform must also be unique and not repeated from the previous waveforms. Each waveform is defined as following:

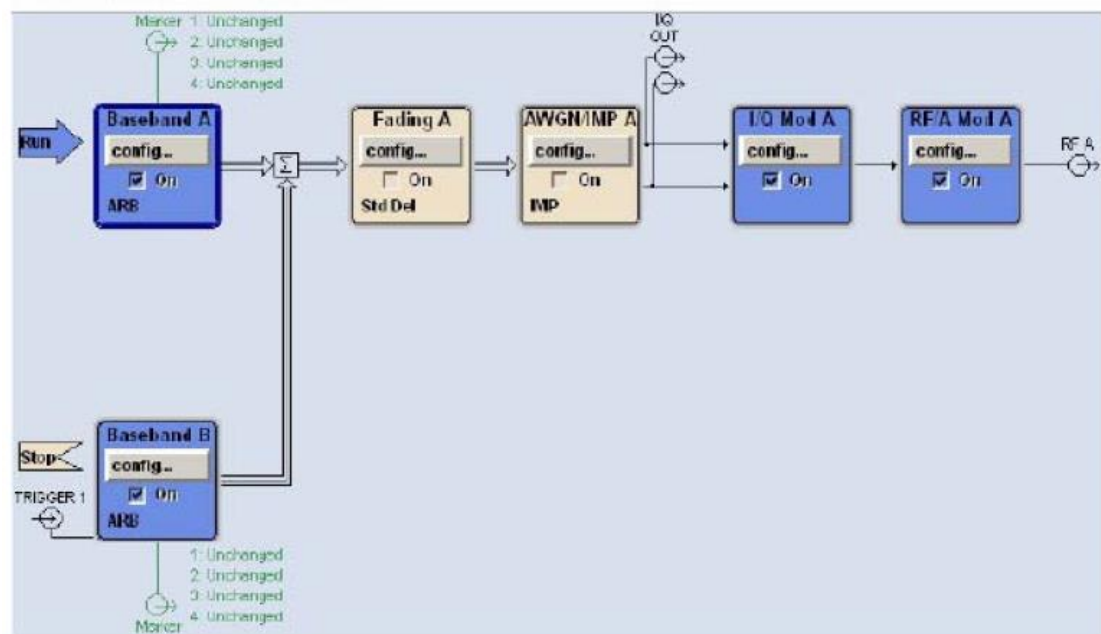
- (1) The transmission period for the Long Pulse Radar test signal is 12 seconds.
- (2) There are a total of 8 to 20 Bursts in the 12 second period, with the number of Bursts being randomly chosen. This number is Burst_Count.
- (3) Each Burst consists of 1 to 3 pulses, with the number of pulses being randomly chosen. Each Burst within the 12 second sequence may have a different number of pulses.
- (4) The pulse width is between 50 and 100 microseconds, with the pulse width being randomly chosen. Each pulse within a Burst will have the same pulse width. Pulses in different Bursts may have different pulse widths.
- (5) If more than one pulse is present in a Burst, the time between the pulses will be between 1000 and 2000 microseconds, with the time being randomly chosen. If three pulses are present in a Burst, the time between the first and second pulses is chosen independently of the time between the second and third pulses.
- (6) The 12 second transmission period is divided into even intervals. The number of intervals is equal to Burst_Count. Each interval is of length $(12000000/\text{Burst_Count})$ microseconds. Each interval contains one Burst. The start time for the Burst, relative to the beginning of the interval, is between 1 and $[(12000000/\text{Burst_Count})-(\text{Total Burst length})+(\text{One Random PRI interval})]$ microseconds, with the start time being randomly chosen. The step interval for the start time is 1 microsecond. The start time for each Burst is chosen independently.

A representative example of a Long Pulse radar test waveform:

- (1) The total test signal length is 12 seconds.
- (2) 8 Bursts are randomly generated for the Burst_Count.
- (3) Burst 1 has 2 randomly generated pulses.
- (4) The pulse width (for both pulses) is randomly selected to be 75 microseconds.
- (5) The PRI is randomly selected to be at 1213 microseconds.
- (6) Bursts 2 through 8 are generated using steps 3-5.
- (7) Each Burst is contained in even intervals of 1500000 microseconds. The starting location for Pulse 1. Burst 1 is randomly generated (1 to 1500000 minus the total Burst 1 length + 1 random PRI interval) at the 325001 microsecond step. Bursts 2 through 8 randomly fall in successive 1500000 microsecond intervals (i.e. Burst 2 falls in the 1500001-3000000 microsecond range).



FCC Radar Types (5) System Diagram



Used R&S SMU200A (Vector SG with two ARB)

Path A/Path B Two B11: Base-band Generator with ARB (16M samples) and Digital Modulation

B13: Base-band Main Module

B106: frequency range (100 kHz to 6 GHz)

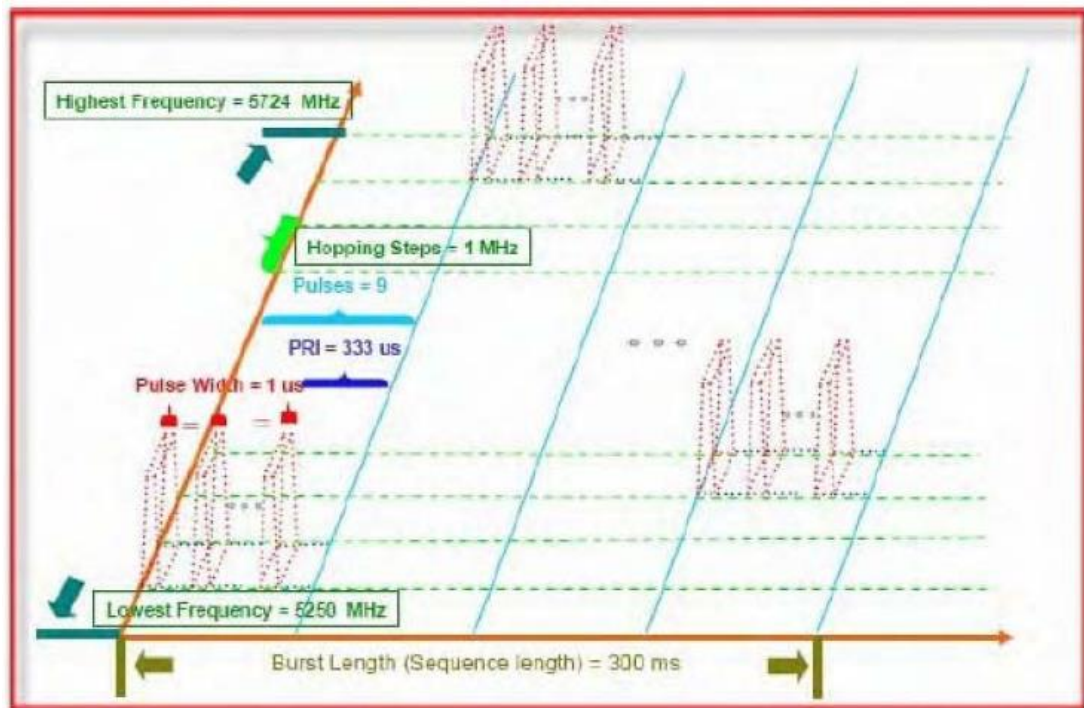
For selecting the waveform parameters from within the bounds of the signal type, system was random selection using uniform distribution.

4.5. Frequency Hopping Pulse Radar Test Waveforms

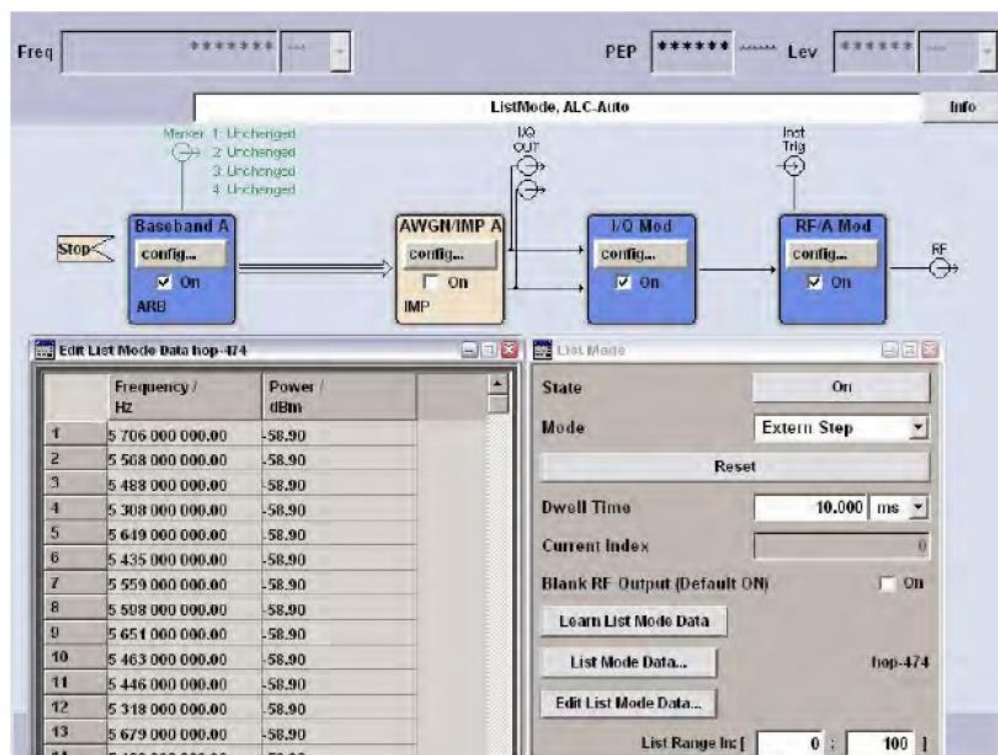
Radar Type	Pulse Width (μsec)	PRI (μsec)	Pulses Per Hop	Hopping Rate (kHz)	Hopping Sequence Length (ms)	Minimum Percentage of Successful Detection	Minimum of Trials
6	1	333	9	0.333	300	70%	30

For the Frequency Hopping Radar Type, the same Burst parameters are used for each waveform. The hopping sequence is different for each waveform and a 100-length segment is selected from the hopping sequence defined by the following algorithm:

The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250-5274MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues until all 475 frequencies are chosen for the set. For selection of random frequency, the frequencies remaining within the group are always treated as equally likely.



FCC Radar Types (6) System Diagram



Used R&S SMU200A (Vector SG with two ARB)

B11: Base-band Generator with ARB (16M samples) and Digital Modulation

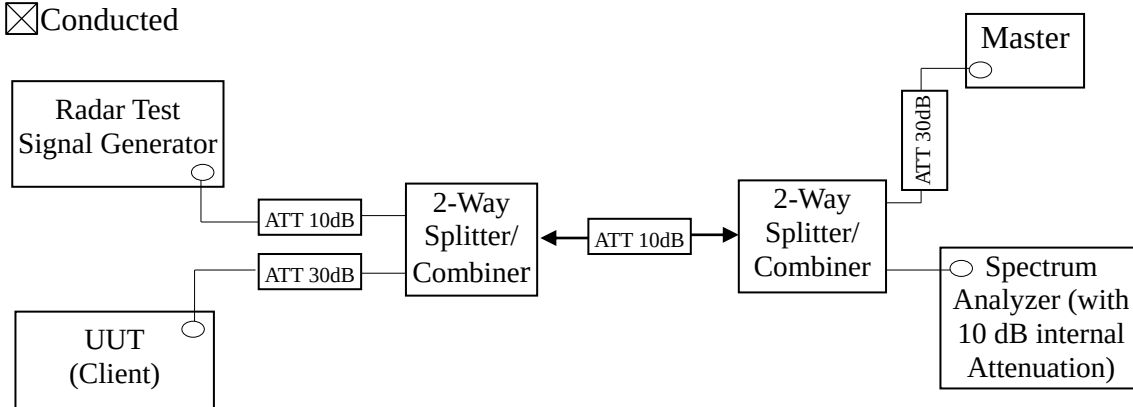
B13: Base-band Main Module

B106: frequency range (100 kHz to 6 GHz)

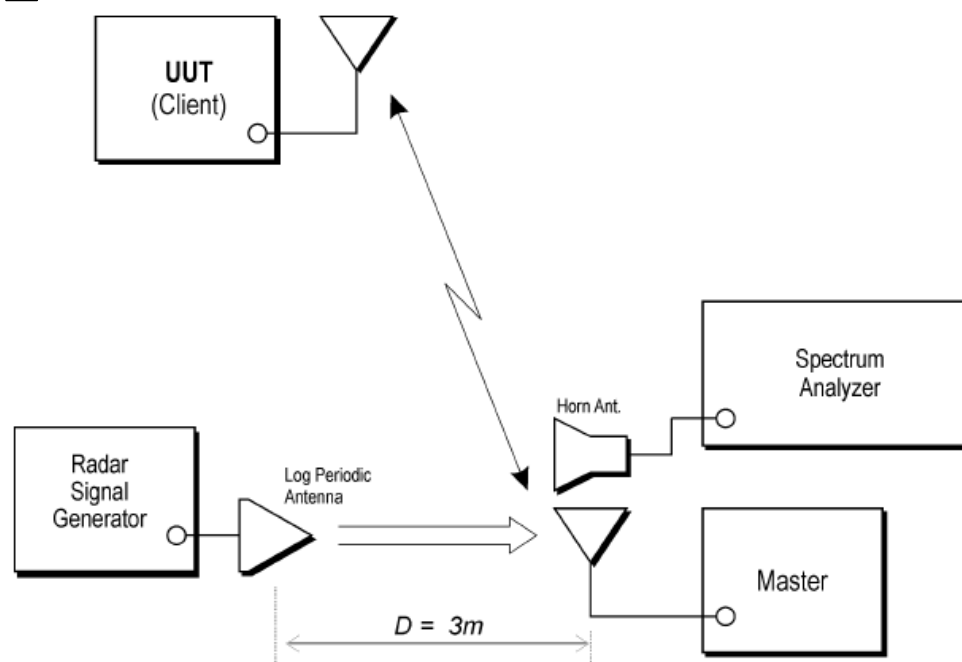
For selecting the waveform parameters from within the bounds of the signal type, system was random selection using uniform distribution.

4.6. Calibration Setup

☒ Conducted



☐ Radiated



4.7. Radar Waveform Calibration Procedure

The measured channel is 5530MHz or 5500MHz. The radar signal was the same as transmitted channels, and injected into the antenna port of master or client device.

The calibrated conducted detection threshold level is set to -62dBm. The tested level is lower than required level hence it provides margin to the limit.

4.8. Calibration Deviation

There is no deviation with the original standard.

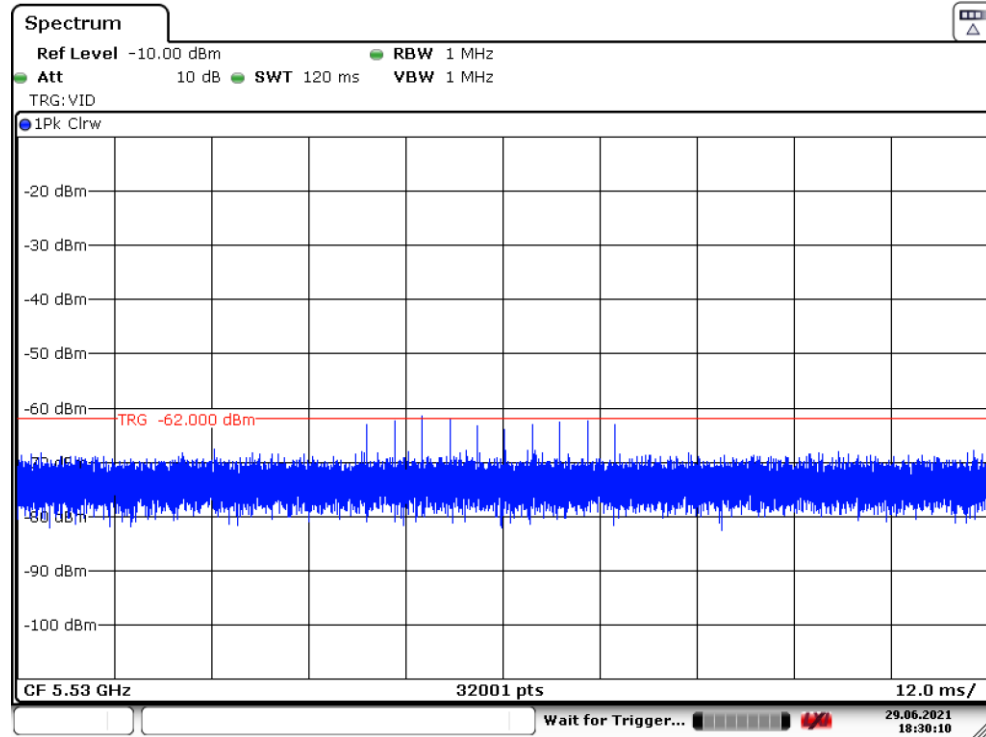
4.9. Radar Waveform Calibration Result

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

For Wireless Module: WM-BAC-AT-49 (Client)

80MHz

Type 0 Radar Calibration

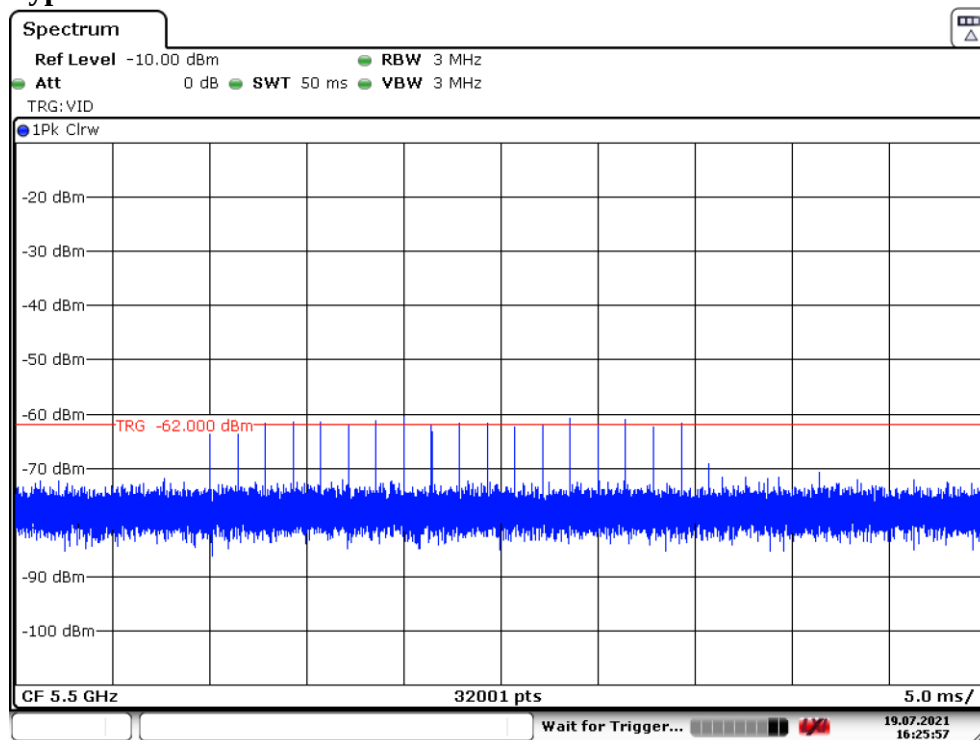


Date: 5.JUL.2021 18:30:10

For Wireless Module: LBEE5ZZ1PJ (Master)

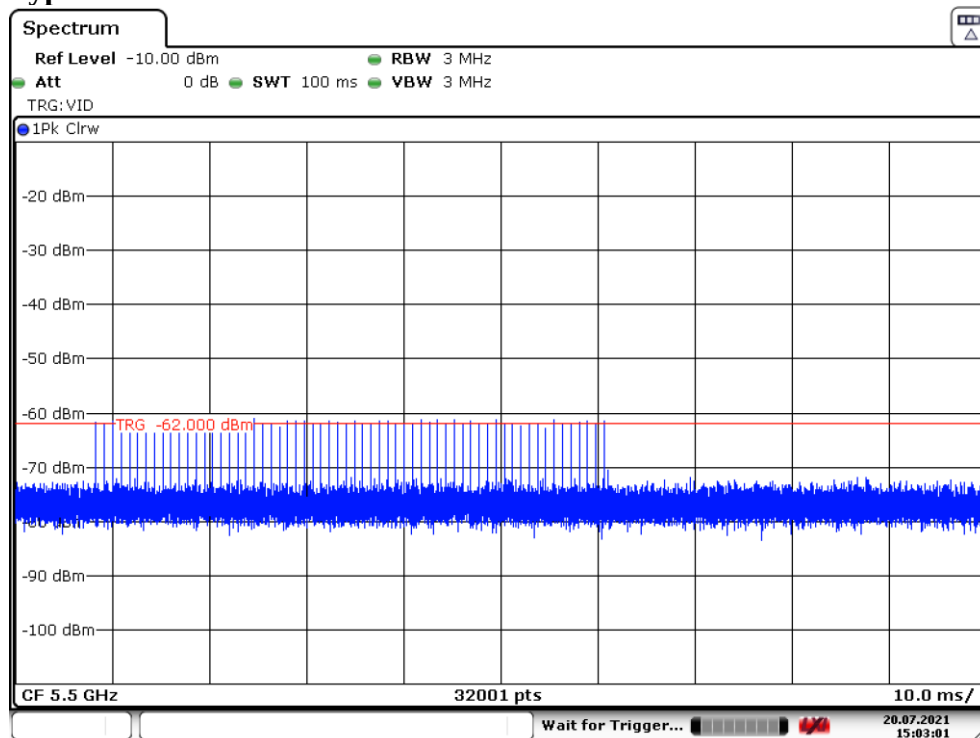
40MHz

Type 0 Radar Calibration



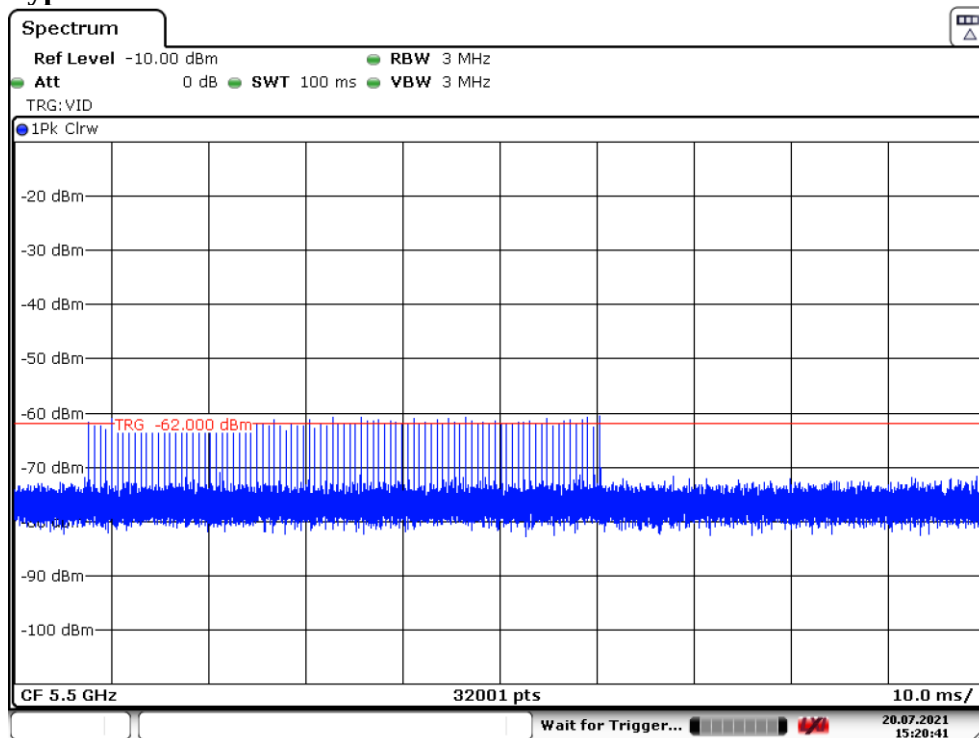
Date: 19.JUL.2021 16:25:58

Type 1A Radar Calibration



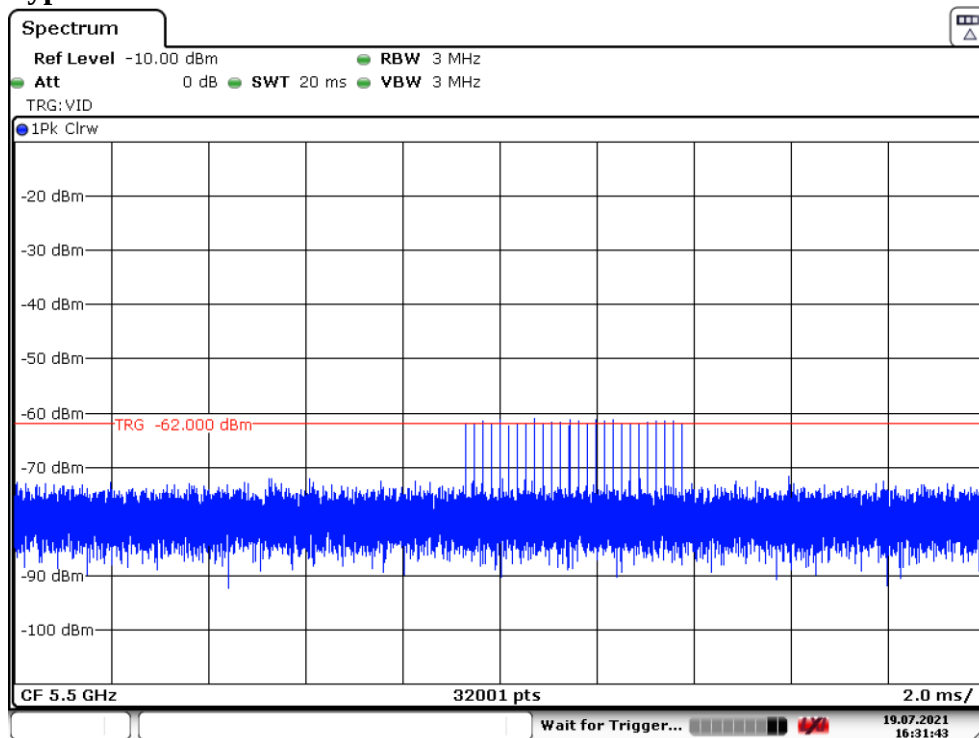
Date: 20.JUL.2021 15:03:00

Type 1B Radar Calibration



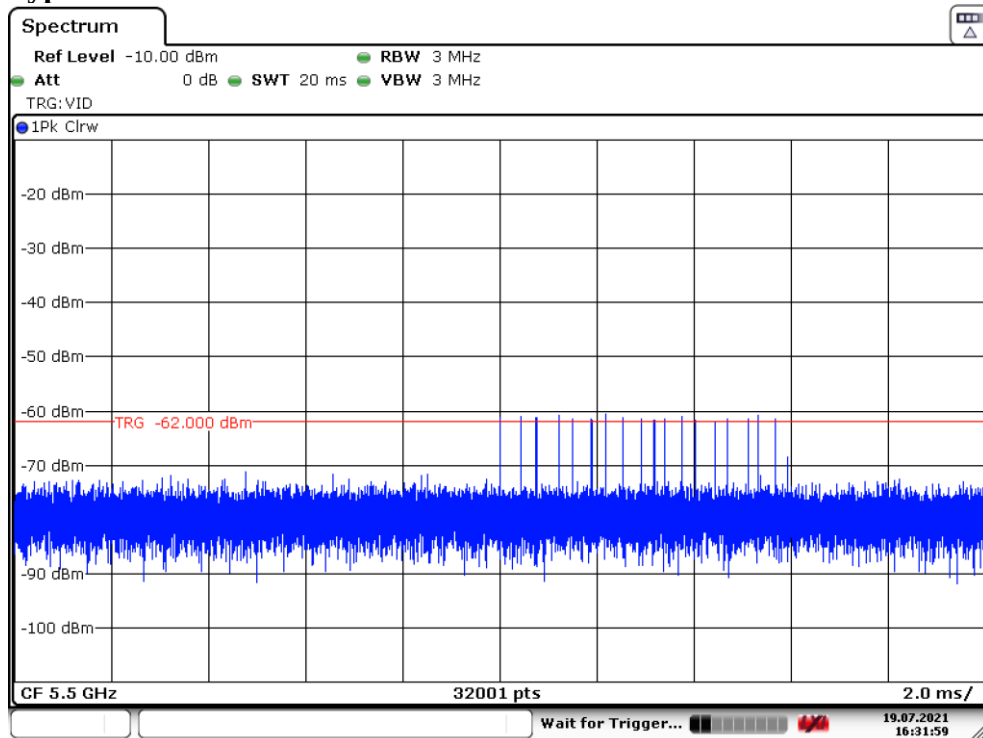
Date: 20.JUL.2021 15:20:41

Type 2 Radar Calibration



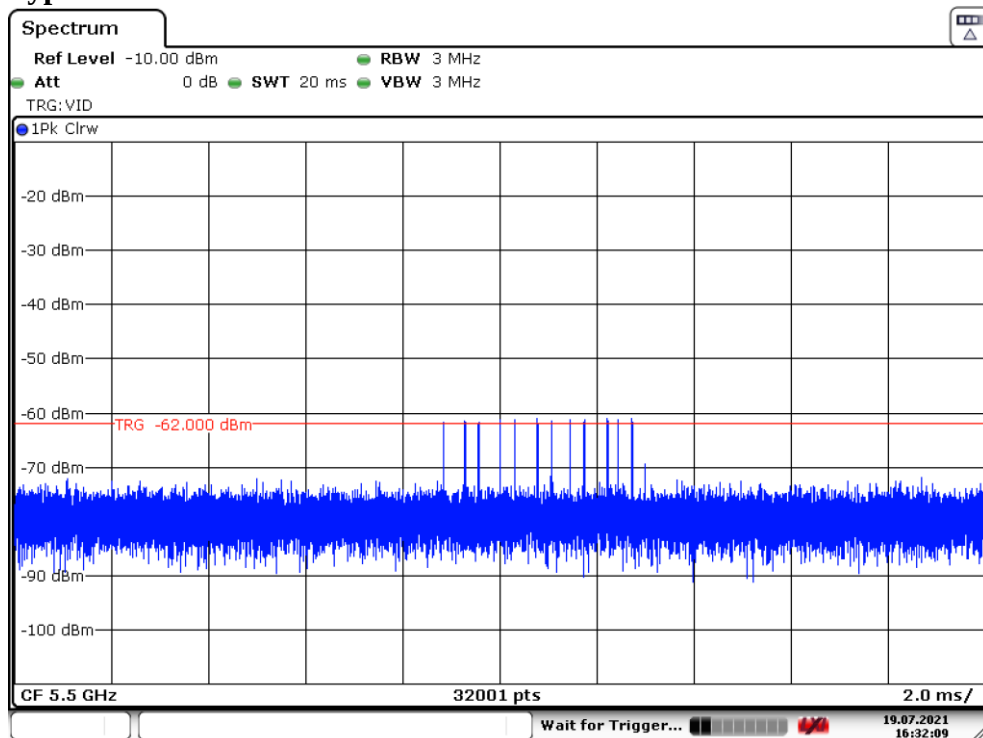
Date: 19.JUL.2021 16:31:44

Type 3 Radar Calibration



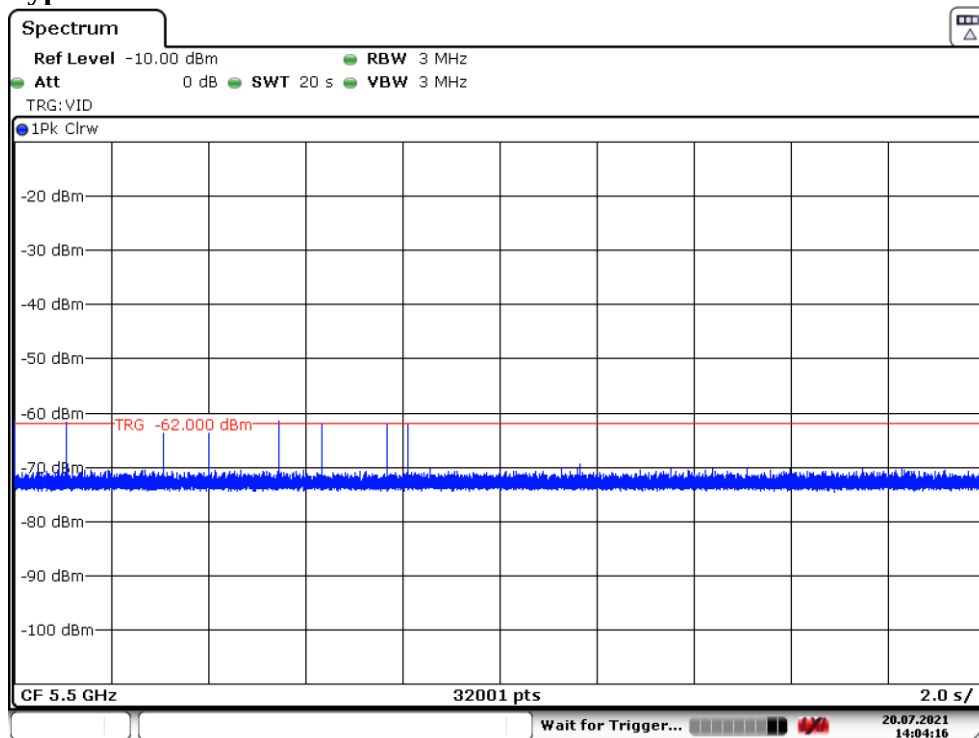
Date: 19.JUL.2021 16:31:59

Type 4 Radar Calibration



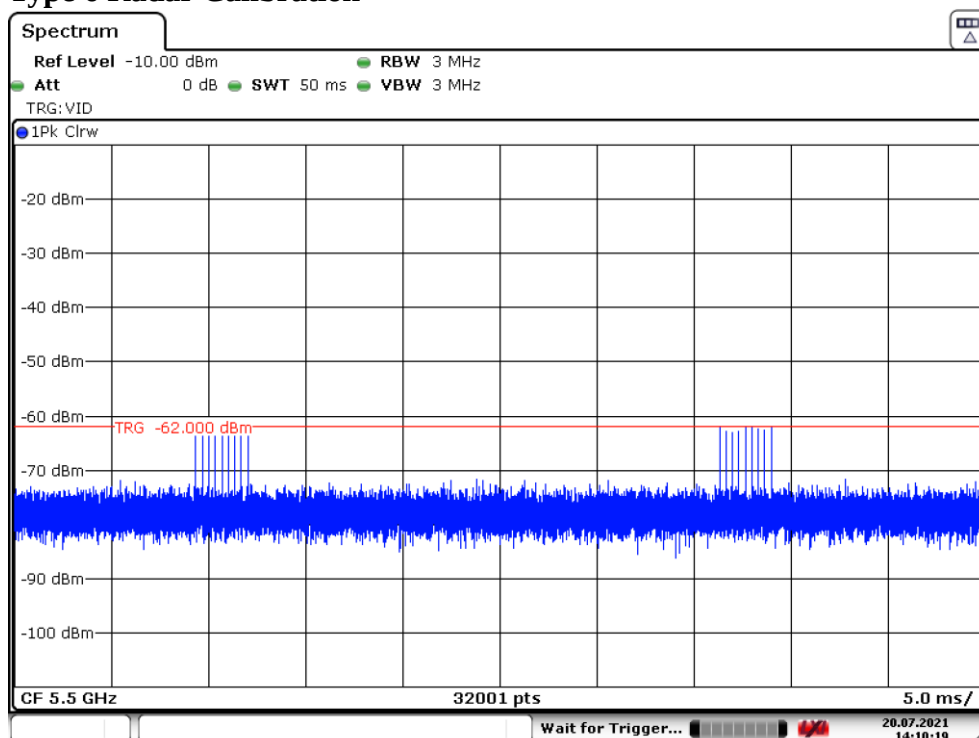
Date: 19.JUL.2021 16:32:10

Type 5 Radar Calibration



Date: 20.JUL.2021 14:04:16

Type 6 Radar Calibration



Date: 20.JUL.2021 14:10:19

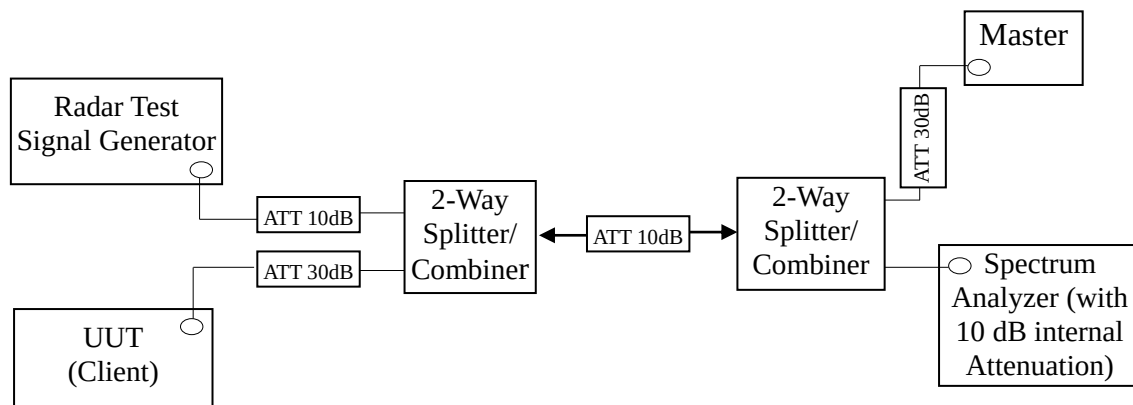
5. TEST SETUP AND TEST RESULT

5.1. Test Setup

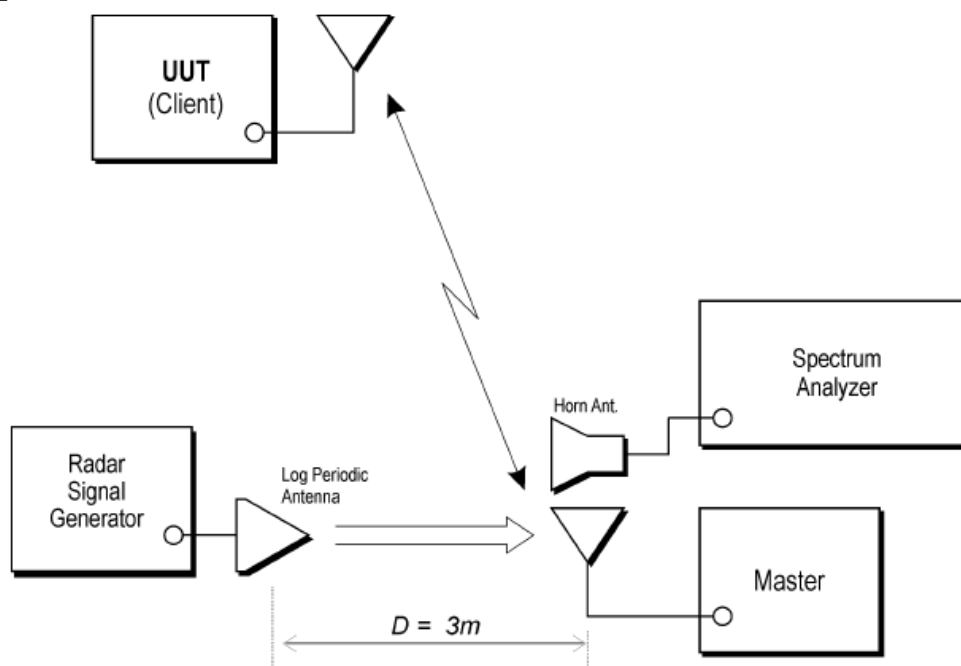
5.1.1. Test Setup Diagram

Following is the test setup for generated the radar waveforms and used to monitor NII device.

☒ Conducted



☐ Radiated



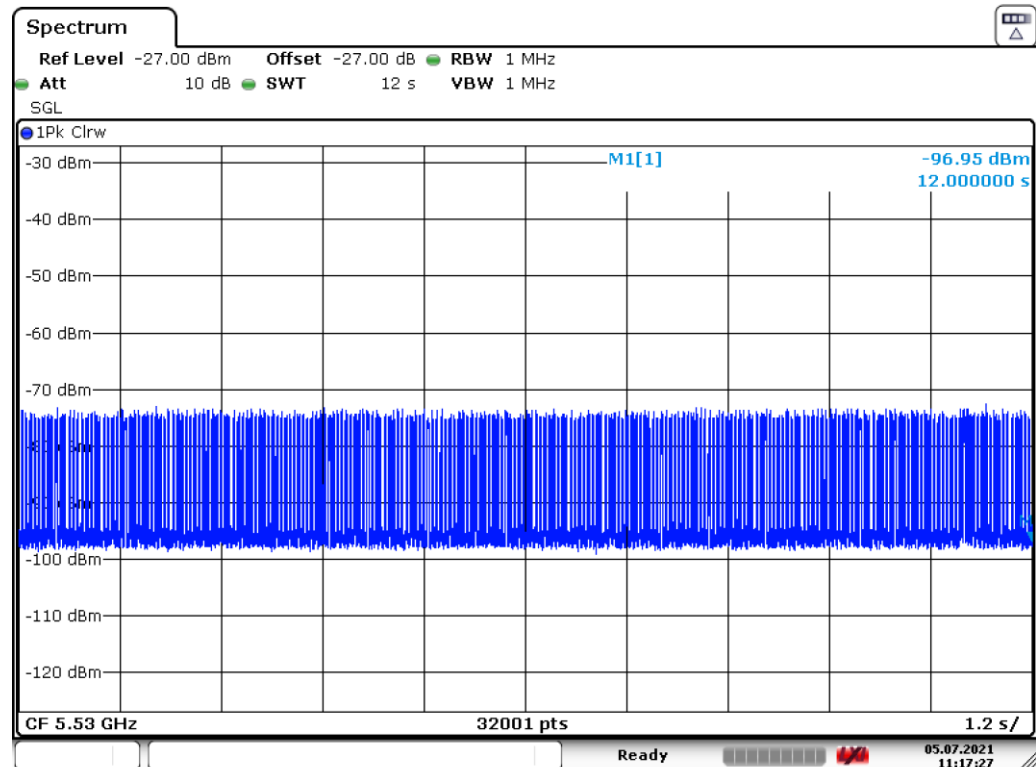
5.1.2. Test Setup Operation

System testing was performed with the designated MPEG test file that streams full motion video from the Access Point to Client in full motion video mode using the media player with the V2.61 Codec package. This file is used by IP and Frame based systems for loading the test channel during the in-service compliance testing of the U-NII device.

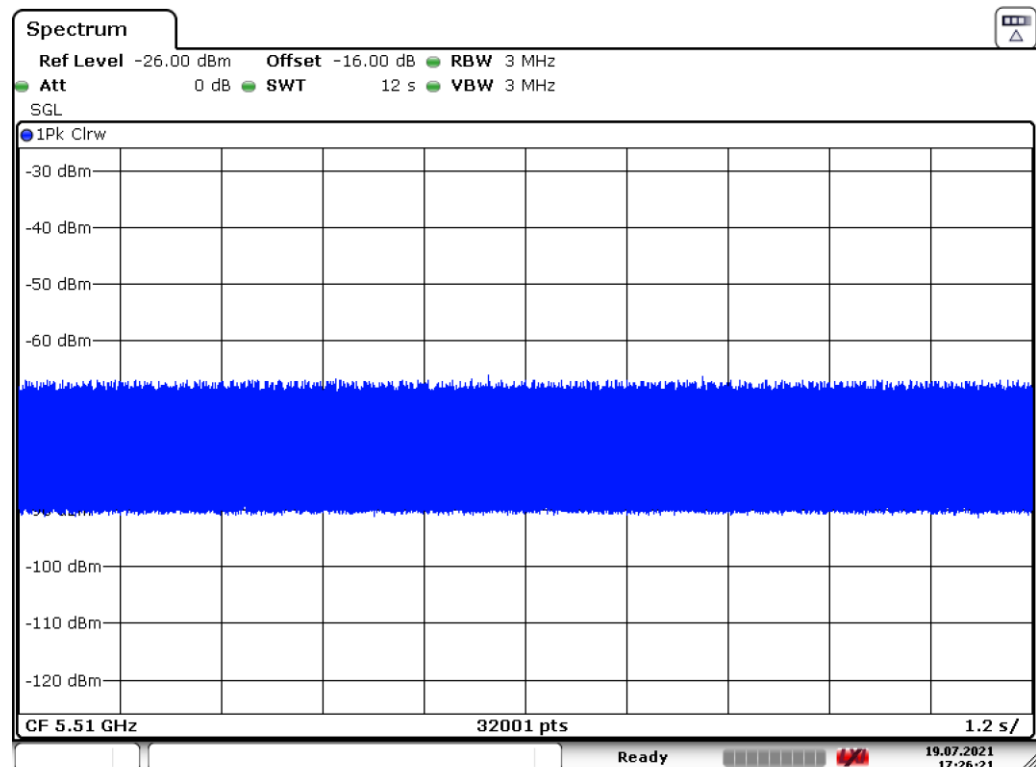
The waveform parameters from within the bounds of the signal type are selected randomly using uniform distribution.

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. It is also used to monitor EUT transmissions during the Channel Availability Check Time.

5.1.3. Test Setup for Data Traffic Plot

For Wireless Module: WM-BAC-AT-49 (Client)
80MHz

Date: 5.JUL.2021 11:17:28

For Wireless Module: LBEE5ZZ1PJ (Master)
40MHz

Date: 19.JUL.2021 17:26:22

5.2. Limit

Parameter	Value
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
Non-Occupancy Period	Non-Occupancy Period time is 30 minute during which a Channel will not be utilized after a Radar Waveform is detected on that Channel
Non-Associated Client Beacon	The non-associated Client Beacon Test is during the 30 minutes observation time. The EUT should not make any transmissions in the DFS band after EUT power up.
U-NII Detection Bandwidth	Minimum 80% of the 99% power bandwidth see Note 3
Statistical Performance Check	Radar Type 0~4: 60% Radar Type 5: 80% Radar Type 6: 70%
Note 1: The instant that the Channel Move Time and the Channel Closing Transmission Time begins is as follows: - For the Short Pulse Radar Test Signals this instant is the end of the Burst. - For the Frequency Hopping radar Test Signal, this instant is the end of the last radar Burst generated. - For the Long Pulse Radar Test Signal this instant is the end of the 12 second period defining the Radar Waveform. Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions. Note 3: During the U-NII detection Bandwidth detection test, radar type 1 is used and for each frequency step the minimum percentage of detection is 90%. Measurements are performed with no data traffic.	

5.3. Test Procedures

5.3.1. For Channel Availability Check Time

- The **Initial Channel Availability** Check Time tests that the UUT does not emit beacon, control, or data signals on the test Channel until the power-up sequence has been completed and the U-NII device checks for Radar Waveforms for one minute on the test Channel. This test does not use any Radar Waveforms.

The U-NII device is powered on and instructed to operate at 5500 MHz. At the same time the UUT is powered on, the spectrum analyzer is set to zero span mode with a 3 MHz resolution bandwidth at 5500MHz with a 2.5 minute sweep time. The analyzer's sweep will be started the same time power is applied to the U-NII device.

The EUT should not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.

- **Radar Burst at the Beginning of the Channel Availability Check Time:**
The steps below define the procedure to verify successful radar detection on the selected Channel during a period equal to the Channel Availability Check Time and avoidance of operation on that Channel when a radar Burst with a level equal to the DFS Detection Threshold + 1 dB (-63dBm) occurs at the beginning of the Channel Availability Check Time.

The UUT is powered on at T_0 . T_1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T_1 and will end no sooner than $T_1 + 60$ seconds.

A single Burst of short pulse of radar type 1 at -63 dBm will commence within a 6 second window starting at T_1 .

Visual indication on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions at 5500MHz will continue for 2.5 minutes after the radar Burst has been generated.

Verify that during the 2.5 minute measurement window no EUT transmissions occurred at 5500MHz.

- **Radar Burst at the End of the Channel Availability Check Time:** The steps below define the procedure to verify successful radar detection on the selected Channel during a period equal to the Channel Availability Check Time and avoidance of operation on that Channel when a radar Burst with a level equal to the DFS Detection Threshold + 1 dB (-63dBm) occurs at the end of the Channel Availability Check Time.

The UUT is powered on at T_0 . T_1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T_1 and will end no sooner than $T_1 + 60$ seconds.

A single Burst of short pulse of radar type 1 at -63 dBm will commence within a 6 second window starting at $T_1 + 54$ seconds.

Visual indication on the UUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions at 5500MHz will continue for 2.5 minutes after the radar Burst has been generated.

Verify that during the 2.5 minute measurement window no EUT transmissions occurred at 5500MHz.

5.3.2. For In-Service Monitoring for Channel Closing Transmission Time, Channel Move Time, Non-Occupancy Period and Non-associated Test

When a radar Burst with a level equal to the DFS Detection Threshold + 1dB is generated on the operating channel of the U-NII device. A U-NII device operating as a Client Device will associate with the Master of channel. Stream the MPEG test file from the Master Device to the Client Device on the selected channel for entire period of the test. At time to the radar waveform generator sends a Burst of pulses for each of the radar types at Detection Threshold + 1dB.

Observe the transmissions of the EUT at the end of the radar Burst on the Operating channel. Measure and record the transmissions from the EUT during the observation time [Channel Move Time]. One 10 Second plot be reported for the short Pulse Radar type 1-4 and one for the Long Pulse Radar Type test in a 22 second plot. The plot for the Short Pulse Radar types start at the end of the radar burst. The Channel Move Time will be calculated based on the plot of the short Pulse Radar Type. The Long Pulse Radar Type plot show the device ceased transmissions within the 10 second window after detection has occurred. The plot for the Long Pulse Radar type should start at the beginning of the 12 second waveform.

Measurement of the aggregate duration of the Channel Closing Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, Peak detection and max hold.

Measure the EUT for more than 30 minutes following the channel close/move time to verify that the EUT does not resume only transmissions on this channel.

5.3.3. For UNII Detection Bandwidth Test

All UNII 20 MHz channels for this device have identical Channel bandwidths. All UNII 40 MHz channels for this device also have identical Channel bandwidths. Therefore, all DFS testing was done at 5500 MHz. The 99% channel bandwidth for 20MHz signals is 17.2 MHz, and the 99% channel bandwidth for 40MHz signals is 36.8 MHz. (See the 26dB BW section of the RF report for further measurement details).

The generating equipment is configured as shown in the Conducted Test Setup above. A single Burst of the desired radar profile is produced at 5500MHz at a -63dBm level. The EUT is set up as a standalone device (no associated Client and no traffic).

A single radar Burst is generated for a minimum of 10 trials, and the response of the EUT is noted. The EUT must detect the Radar Waveform 90% or more of the time.

Starting at the center frequency of the UUT operating Channel, increase the radar frequency in 5 MHz steps, repeating the above test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion specified in section 5.2. Repeat this measurement in 1MHz steps at frequencies 5 MHz below where the detection rate begins to fall. Record the frequency (denote as FH/FL) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion.

The U-NII Detection Bandwidth is calculated as follows:

$$\text{U-NII Detection Bandwidth} = F_H - F_L$$

The U-NII Detection Bandwidth must be at least 80% of the EUT transmitter 99% power bandwidth (13.76 MHz for 20MHz signals, 29.44MHz for 40 MHz signals), otherwise, the EUT does not comply with DFS requirements.

5.3.4. For Statistical Performance Check Test

The steps below define the procedure to determine the minimum percentage of detection when a radar burst with a level equal to the DFS Detection Threshold + 1dB (-63dBm) is generated on the Operating Channel of the U-NII device.

A U-NII device operating as a Client Device will associate with the EUT (Master) at 5500 MHz. Stream the MPEG test file from the Master Device to the Client Device on the selected Channel for the entire period of the test.

The Radar Waveform generator sends the individual waveform for each of the radar types 1-6 at -63dbm. Statistical data will be gathered to determine the ability of the device to detect the radar test waveforms. The device can utilize a test mode to demonstrate when detection occurs to prevent the need to reset the device between trial runs. The percentage of successful detection is calculated by:

$$\frac{\text{TotalWaveformDetections}}{\text{TotalWaveformTrials}} \times 100 = \text{Probability of Detection Radar Waveform}$$

The Minimum number of trails, minimum percentage of successful detection and the average minimum percentage of successful detection are found in the Radar Test Waveforms section. All BW mode shall be tested and record into report.

5.4. Test Result

量測結果，請參見附錄一。

6. USER ACCESS RESTRICTION

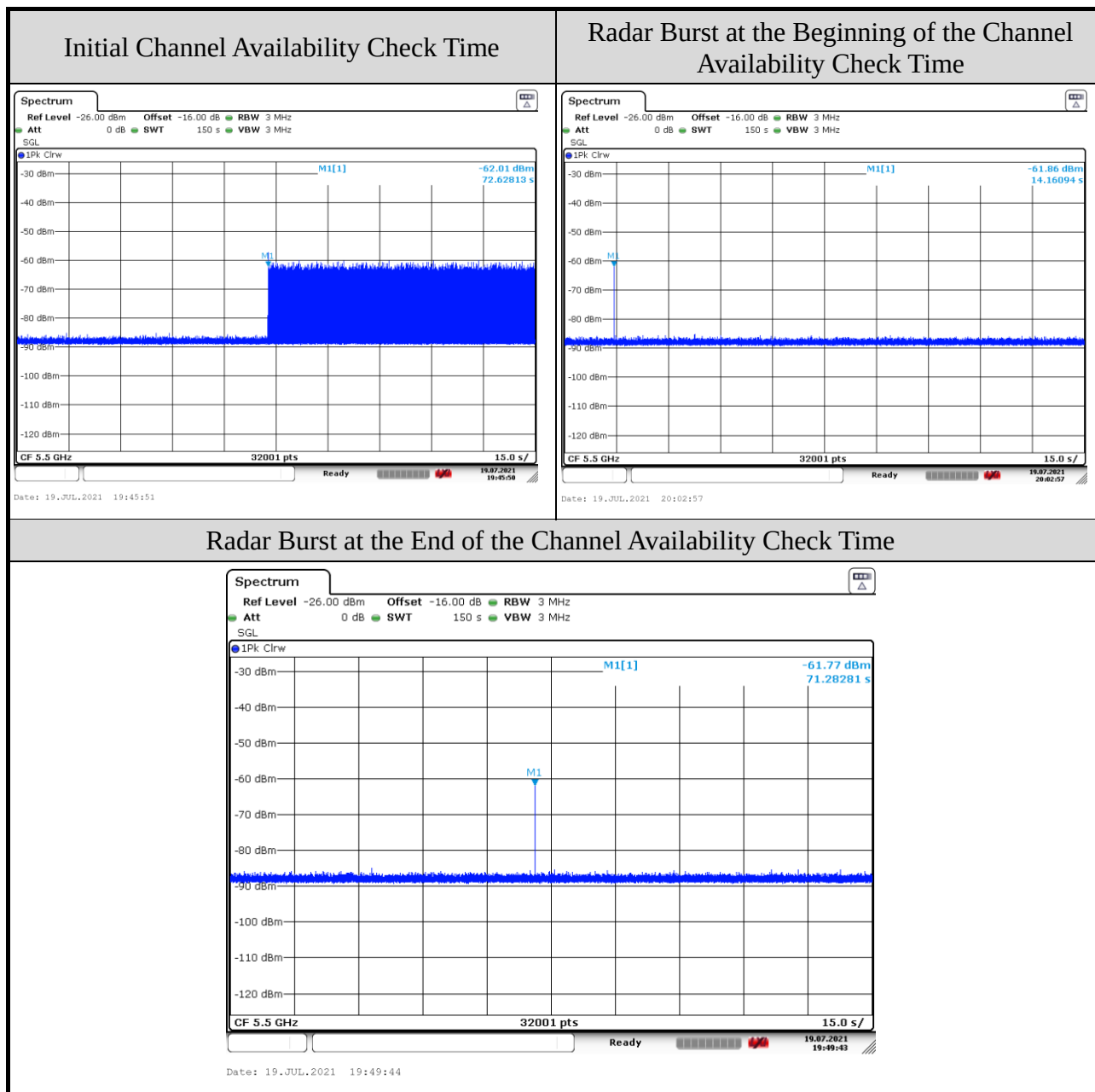
DFS controls (hardware or software) related to radar detection are not accessible to the user.

附錄 一

受測裝置之測試結果

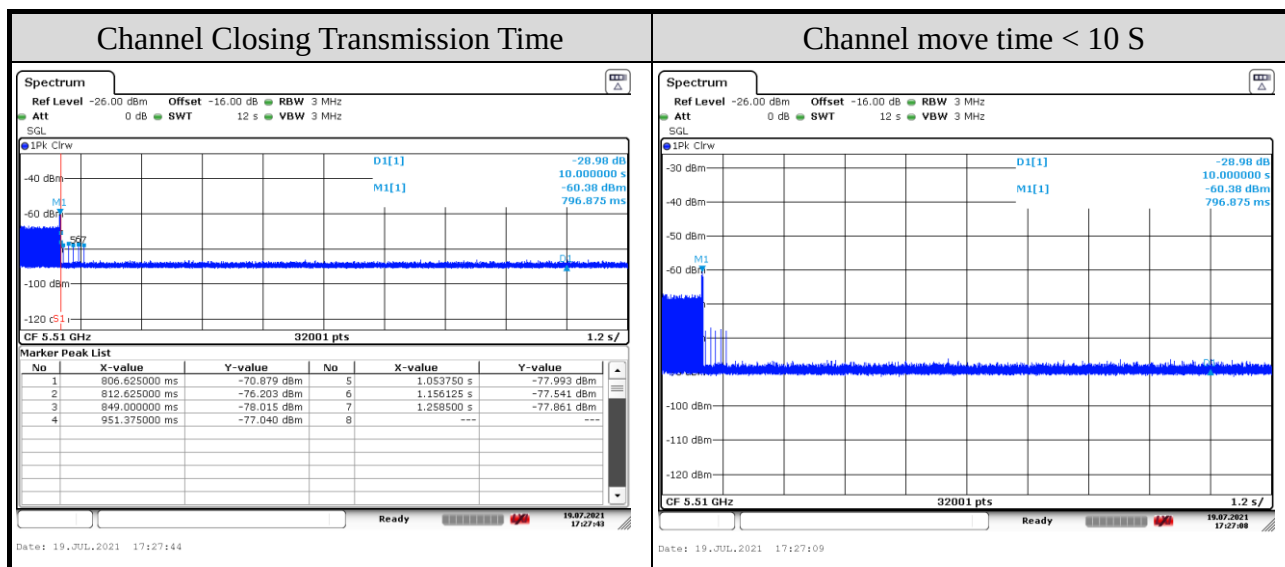
1. Test Result for Channel Availability Check Time

Test Date	2021/07/19	Temp./Hum.	23°C/52%
Test Mode	40MHz	Tested By	Sam Chang
Frequency	TX 5500MHz	Test Model	TMR-A9WT
		Test Wireless Module	Model: LBEE5ZZ1PJ (DFS-Master)



2. Test Result for In-Service Monitor for Channel Closing Transmission Time & Channel Move Time

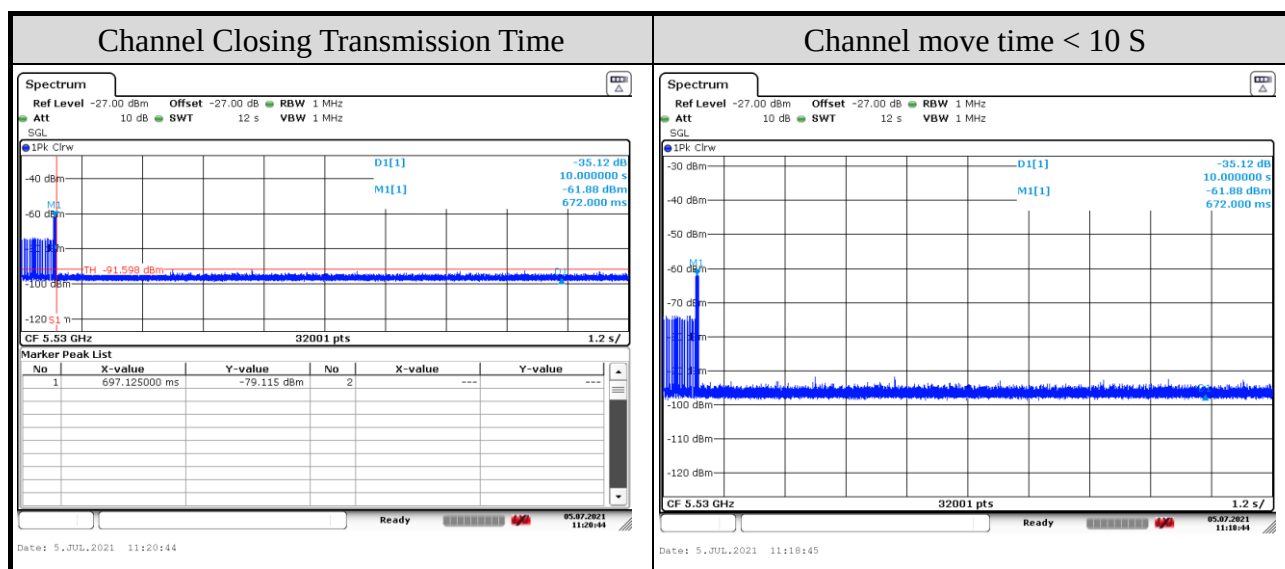
Test Date	2021/07/19	Temp./Hum.	23°C/52%
Test Mode	40MHz	Tested By	Sam Chang
Frequency	TX 5510MHz	Test Model	TMR-A9WT
		Test Wireless Module	Model: LBEE5ZZ1PJ (DFS-Master)



Channel Closing Transmission Time Calculated	
Sweep Time(S) sec	12
Sweep points (P)	32001
Number of Sweep points in 10 sec (N)	7
Channel Closing Time (C) ms	2.62

Channel closing time is calculated from $C=N \times dwell$; where dwell is the occupancy time per sweep point calculated by the formula: $dwell=S/P$. N is the number of sweep points indicating transmission after S1; where S1 is the radar signal detected

Test Date	2021/07/05	Temp./Hum.	23°C/48%
Test Mode	80MHz	Tested By	Sam Chang
Frequency	TX 5530MHz	Test Model	TMR-A9WT
		Test Wireless Module	Model: WM-BAC-AT-49 (DFS Client)

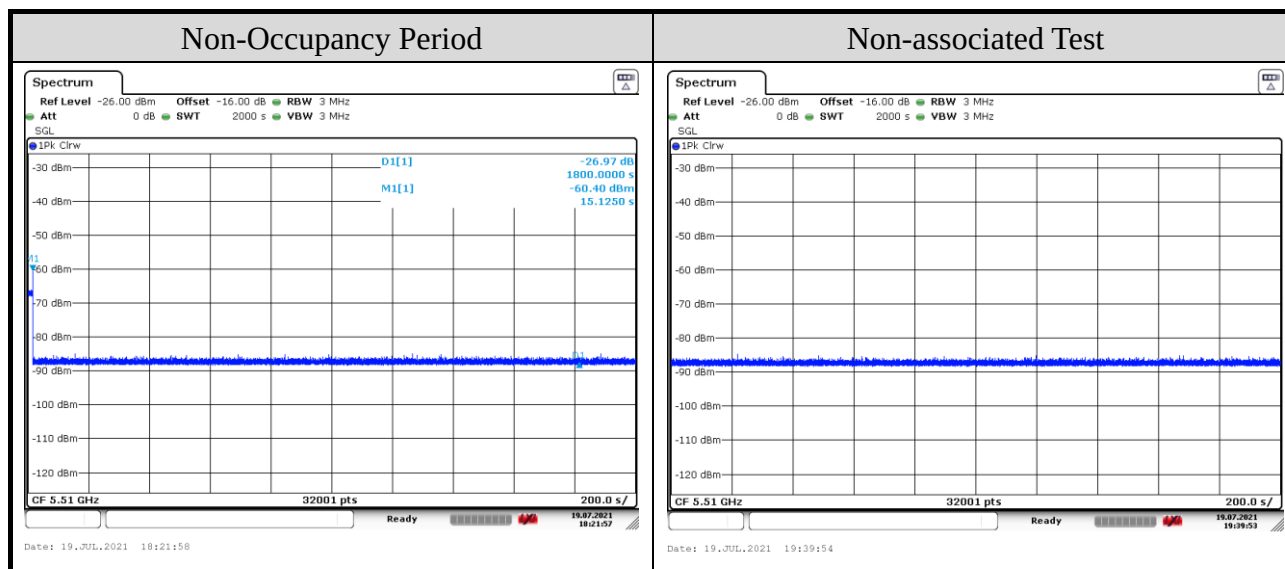


Channel Closing Transmission Time Calculated	
Sweep Time(S) sec	12
Sweep points (P)	32001
Number of Sweep points in 10 sec (N)	2
Channel Closing Time (C) ms	0.75

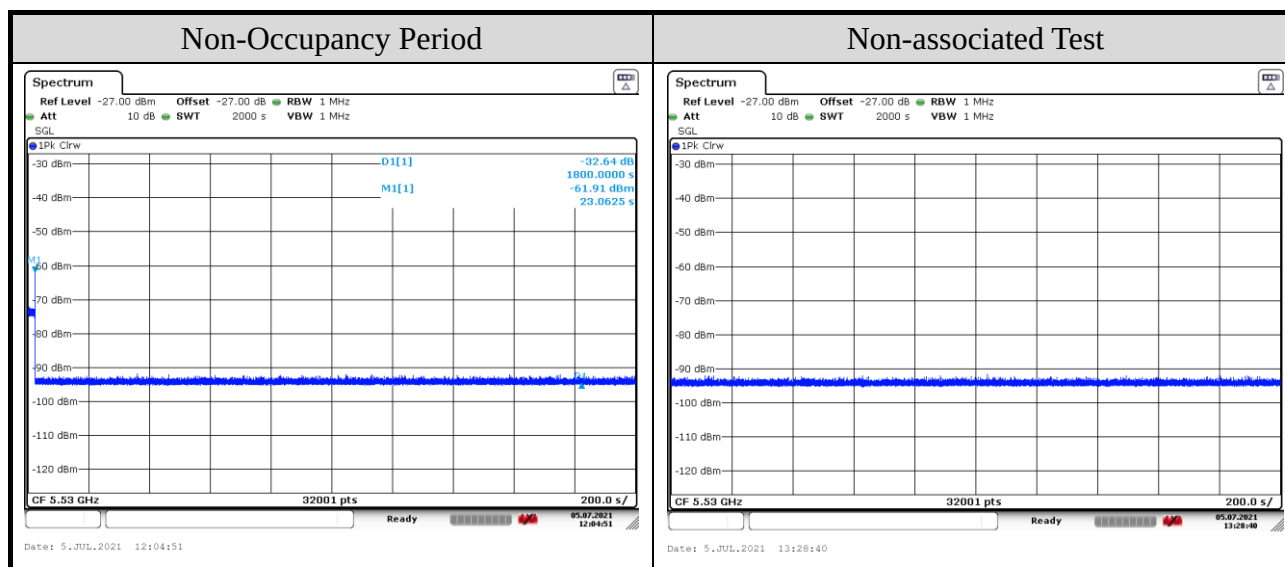
Channel closing time is calculated from $C=N* \text{dwell}$; where dwell is the occupancy time per sweep point calculated by the formula: $\text{dwell}=S/P$. N is the number of sweep points indicating transmission after S1; where S1 is the radar signal detected

3. Test Result for Non-Occupancy Period, Non-associated Test

Test Date	2021/07/19	Temp./Hum.	23°C/52%
Test Mode	40MHz	Tested By	Sam Chang
Frequency	TX 5510MHz	Test Model	TMR-A9WT
		Test Wireless Module	Model: LBEE5ZZ1PJ (DFS-Master)



Test Date	2021/07/05	Temp./Hum.	23°C/48%
Test Mode	80MHz	Tested By	Sam Chang
Frequency	TX 5530MHz	Test Model	TMR-A9WT
		Test Wireless Module	Model: WM-BAC-AT-49 (DFS-Client)



4. Test Result for U-NII Detection Bandwidth Test

Test Date	2021/07/26	Temp./Hum.	24°C/52%
Test Mode	20MHz	Tested By	Sam Chang
Frequency	TX 5500MHz	Test Model	TMR-A9WT
		Test Wireless Module	Model: LBEE5ZZ1PJ (DFS-Master)

Rader Frequency (MHz)	DFS Detection Trials (1 = Detection , 0 = No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5490											
5491 (FL)	1	1	1	1	1	1	1	1	1	1	100%
5492	1	1	1	1	1	1	1	1	1	1	100%
5493	1	1	1	1	1	1	1	1	1	1	100%
5494	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5506	1	1	1	1	1	1	1	1	1	1	100%
5507	1	1	1	1	1	1	1	1	1	1	100%
5508	1	1	1	1	1	1	1	1	1	1	100%
5509 (FH)	1	1	1	1	1	1	1	1	1	1	100%
5510											
Detection Bandwidth (MHz) = FH - FL = 5509MHz - 5491MHz =											18
EUT 99% Bandwidth (MHz) =											17.442
UNII Detection Bandwidth Min. Limit (MHz) =											13.9536

Test Date	2021/07/27	Temp./Hum.	23°C/55%
Test Mode	40MHz	Tested By	Sam Chang
Frequency	TX 5510MHz	Test Model	TMR-A9WT
		Test Module	Model: LBEE5ZZ1PJ (DFS Master)

Rader Frequency (MHz)	DFS Detection Trials (1 = Detection , 0 = No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5489											
5490											
5491 (FL)	1	1	1	1	1	1	1	1	1	1	100%
5492	1	1	1	1	1	1	1	1	1	1	100%
5493	1	1	1	1	1	1	1	1	1	1	100%
5494	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5510	1	1	1	1	1	1	1	1	1	1	100%
5515	1	1	1	1	1	1	1	1	1	1	100%
5520	1	1	1	1	1	1	1	1	1	1	100%
5525	1	1	1	1	1	1	1	1	1	1	100%
5526	1	1	1	1	1	1	1	1	1	1	100%
5527	1	1	1	1	1	1	1	1	1	1	100%
5528	1	1	1	1	1	1	1	1	1	1	100%
5529 (FH)	1	1	1	1	1	1	1	1	1	1	100%
5530											
5531											
Detection Bandwidth (MHz) = FH - FL = 5529MHz - 5491MHz =											38
EUT 99% Bandwidth (MHz) =											35.81
UNII Detection Bandwidth Min. Limit (MHz) =											28.648

5. Test Result for Statistical Performance Check Test

Test Date	2021/07/21~22	Temp./Hum.	24°C/49~55%
Test Mode	20MHz	Tested By	Sam Chang
Frequency	TX 5500MHz	Test Model	TMR-A9WT
		Test Module	Model: LBEE5ZZ1PJ (DFS Master)

Type 1 Radar Statistical Performance				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	Number of Pulses per Burst	Pulse Width (µsec)	PRI (µs)	Detection (yes/no)
1	62	1	858	Y
2	95	1	558	Y
3	62	1	858	Y
4	78	1	678	Y
5	86	1	618	Y
6	68	1	778	Y
7	61	1	878	Y
8	63	1	838	Y
9	102	1	518	Y
10	65	1	818	Y
11	65	1	818	Y
12	62	1	858	Y
13	63	1	838	Y
14	83	1	638	Y
15	67	1	798	Y
16	89	1	598	Y
17	83	1	638	Y
18	86	1	618	Y
19	58	1	918	Y
20	78	1	678	Y
21	81	1	658	Y
22	81	1	658	Y
23	67	1	798	Y
24	81	1	658	Y
25	102	1	518	Y
26	74	1	718	Y
27	62	1	858	Y
28	72	1	738	Y
29	78	1	678	Y
30	72	1	738	Y
DFS Detection Threshold				100.0%
Limit				60%

Type 2 Radar Statistical Performance				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	Number of Pulses per Burst	Pulse Width (μsec)	PRI (μs)	Detection (yes/no)
1	23	2.9	177	Y
2	28	3.1	208	Y
3	27	2.1	213	Y
4	25	1.7	186	Y
5	28	5	216	Y
6	25	1	195	Y
7	24	1.4	195	Y
8	28	5	217	Y
9	25	4.4	175	Y
10	25	3.3	224	Y
11	26	4.2	190	Y
12	26	3.6	154	Y
13	28	4.1	162	Y
14	28	3.3	194	Y
15	26	4.1	229	Y
16	26	3.2	153	Y
17	27	4.1	179	Y
18	24	1	189	Y
19	26	4.7	225	Y
20	27	1.3	180	Y
21	25	2	193	Y
22	28	4.8	202	N
23	23	4	190	Y
24	24	3.7	214	Y
25	29	2.6	197	Y
26	28	3.1	176	Y
27	29	4.6	161	Y
28	25	3.6	165	Y
29	23	3.1	180	Y
30	24	4.2	174	Y
DFS Detection Threshold				96.7%
Limit				60%

Type 3 Radar Statistical Performance				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	Number of Pulses per Burst	Pulse Width (μsec)	PRI (μs)	Detection (yes/no)
1	17	9.5	265	N
2	17	6.8	310	N
3	17	6.6	421	Y
4	17	8.6	239	Y
5	16	8.6	434	Y
6	18	8.9	435	Y
7	17	6.4	318	Y
8	18	8.1	355	Y
9	17	7.9	244	Y
10	18	8.8	233	Y
11	17	8.2	318	Y
12	17	9.2	276	N
13	18	6.6	388	Y
14	17	7	423	Y
15	18	7.6	208	Y
16	17	9.9	354	Y
17	17	8.2	371	Y
18	17	6.7	276	Y
19	18	6.6	370	Y
20	18	7.7	330	Y
21	17	7.9	301	Y
22	18	9	402	Y
23	18	9.5	373	Y
24	17	7.3	306	Y
25	17	8.6	481	Y
26	17	8.6	418	Y
27	16	8.6	306	Y
28	18	8.1	215	Y
29	18	6	357	Y
30	17	7	211	N
DFS Detection Threshold				86.7%
Limit				60%

Type 4 Radar Statistical Performance				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	Number of Pulses per Burst	Pulse Width (μsec)	PRI (μs)	Detection (yes/no)
1	14	16.6	281	Y
2	13	16.9	207	Y
3	14	14.8	201	Y
4	13	14.7	293	Y
5	12	18	220	Y
6	13	17.1	346	Y
7	14	13.9	351	Y
8	15	15.8	466	Y
9	16	19.6	469	Y
10	14	12.6	399	Y
11	13	16.8	217	Y
12	15	19.5	361	Y
13	12	15.4	208	Y
14	14	13.6	254	Y
15	15	19.2	463	Y
16	15	11.3	354	Y
17	15	18.9	288	Y
18	13	19.1	299	Y
19	13	12.6	451	Y
20	14	15.3	350	Y
21	12	16	222	Y
22	16	14	297	Y
23	15	18.3	298	Y
24	15	14.9	204	Y
25	13	11.7	225	Y
26	15	14.3	455	Y
27	15	13.6	313	Y
28	13	16.5	468	Y
29	14	14.4	440	N
30	15	14.8	245	Y
DFS Detection Threshold				96.7%
Limit				60%

Type 5 Radar Statistical Performance			Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	Number of Pulses per Burst	Detection (yes/no)	Remark
1	Type 5 Radar Test 1	Y	See the Type 5 Radar Characteristics at the 附錄二
2	Type 5 Radar Test 2	Y	
3	Type 5 Radar Test 3	Y	
4	Type 5 Radar Test 4	Y	
5	Type 5 Radar Test 5	Y	
6	Type 5 Radar Test 6	Y	
7	Type 5 Radar Test 7	Y	
8	Type 5 Radar Test 8	Y	
9	Type 5 Radar Test 9	Y	
10	Type 5 Radar Test 10	Y	
11	Type 5 Radar Test 11	Y	
12	Type 5 Radar Test 12	Y	
13	Type 5 Radar Test 13	Y	
14	Type 5 Radar Test 14	Y	
15	Type 5 Radar Test 15	Y	
16	Type 5 Radar Test 16	Y	
17	Type 5 Radar Test 17	Y	
18	Type 5 Radar Test 18	Y	
19	Type 5 Radar Test 19	Y	
20	Type 5 Radar Test 20	Y	
21	Type 5 Radar Test 21	Y	
22	Type 5 Radar Test 22	Y	
23	Type 5 Radar Test 23	Y	
24	Type 5 Radar Test 24	Y	
25	Type 5 Radar Test 25	Y	
26	Type 5 Radar Test 26	Y	
27	Type 5 Radar Test 27	Y	
28	Type 5 Radar Test 28	Y	
29	Type 5 Radar Test 29	Y	
30	Type 5 Radar Test 30	Y	
DFS Detection Threshold		100%	
Limit		60%	

Type 6 Radar Statistical Performance			Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	Number of Pulses per Burst	Detection (yes/no)	Remark
1	Type 6 Radar Test 1	Y	See the Type 6 Radar Characteristics at the 附錄二
2	Type 6 Radar Test 2	Y	
3	Type 6 Radar Test 3	Y	
4	Type 6 Radar Test 4	Y	
5	Type 6 Radar Test 5	Y	
6	Type 6 Radar Test 6	Y	
7	Type 6 Radar Test 7	Y	
8	Type 6 Radar Test 8	Y	
9	Type 6 Radar Test 9	Y	
10	Type 6 Radar Test 10	Y	
11	Type 6 Radar Test 11	Y	
12	Type 6 Radar Test 12	Y	
13	Type 6 Radar Test 13	Y	
14	Type 6 Radar Test 14	Y	
15	Type 6 Radar Test 15	Y	
16	Type 6 Radar Test 16	Y	
17	Type 6 Radar Test 17	Y	
18	Type 6 Radar Test 18	Y	
19	Type 6 Radar Test 19	Y	
20	Type 6 Radar Test 20	Y	
21	Type 6 Radar Test 21	Y	
22	Type 6 Radar Test 22	Y	
23	Type 6 Radar Test 23	Y	
24	Type 6 Radar Test 24	Y	
25	Type 6 Radar Test 25	Y	
26	Type 6 Radar Test 26	Y	
27	Type 6 Radar Test 27	Y	
28	Type 6 Radar Test 28	Y	
29	Type 6 Radar Test 29	Y	
30	Type 6 Radar Test 30	Y	
DFS Detection Threshold		100%	
Limit		70%	

Test Date	2021/07/22~23	Temp./Hum.	24°C/55~57%
Test Mode	40MHz	Tested By	Sam Chang
Frequency	TX 5510MHz	Test Model	TMR-A9WT
		Test Wireless Module	Model: LBEE5ZZ1PJ (DFS-Master)

Type 1 Radar Statistical Performance				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	Number of Pulses per Burst	Pulse Width (μsec)	PRI (μs)	Detection (yes/no)
1	78	1	678	Y
2	78	1	678	Y
3	74	1	718	Y
4	63	1	838	Y
5	18	1	3066	Y
6	72	1	738	Y
7	81	1	658	Y
8	72	1	738	Y
9	65	1	818	Y
10	76	1	698	Y
11	83	1	638	Y
12	76	1	698	Y
13	92	1	578	Y
14	72	1	738	Y
15	63	1	838	Y
16	67	1	798	Y
17	86	1	618	Y
18	68	1	778	Y
19	62	1	858	Y
20	61	1	878	Y
21	92	1	578	Y
22	57	1	938	Y
23	67	1	798	Y
24	76	1	698	Y
25	76	1	698	Y
26	81	1	658	Y
27	63	1	838	Y
28	62	1	858	Y
29	102	1	518	Y
30	61	1	878	Y
DFS Detection Threshold				100.0%
Limit				60%

Type 2 Radar Statistical Performance				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	Number of Pulses per Burst	Pulse Width (μsec)	PRI (μs)	Detection (yes/no)
1	26	1.3	204	Y
2	26	1	197	Y
3	25	4.2	205	Y
4	25	1.5	195	Y
5	28	5	229	Y
6	28	2.4	165	Y
7	26	1.5	210	Y
8	23	3.5	175	Y
9	29	3.7	150	Y
10	28	3	223	Y
11	24	1.9	189	Y
12	26	4.4	170	Y
13	24	2.5	157	Y
14	25	2.2	150	Y
15	23	1	162	Y
16	27	1.6	182	Y
17	24	2.8	199	Y
18	23	3.7	172	Y
19	28	4.8	153	Y
20	28	2.7	188	Y
21	27	2.4	211	Y
22	24	3	226	Y
23	25	1.7	167	Y
24	25	3.8	230	Y
25	28	1.4	160	Y
26	24	1.9	174	Y
27	26	3	155	Y
28	23	2.9	223	Y
29	26	1.2	187	Y
30	24	4.6	215	Y
DFS Detection Threshold				100.0%
Limit				60%

Type 3 Radar Statistical Performance				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	Number of Pulses per Burst	Pulse Width (μsec)	PRI (μs)	Detection (yes/no)
1	17	8.4	423	Y
2	18	6.1	398	Y
3	16	6	271	Y
4	18	7.2	235	Y
5	17	9.3	439	Y
6	18	9.7	292	Y
7	17	9.4	279	Y
8	17	7.7	225	Y
9	18	6	402	Y
10	18	7.7	335	Y
11	18	8.4	478	Y
12	17	6.8	451	Y
13	18	8.8	347	Y
14	18	9.9	289	Y
15	17	7.6	280	Y
16	16	10	498	Y
17	17	6.8	434	Y
18	17	6.4	291	Y
19	16	7	233	Y
20	17	6.5	483	Y
21	18	7.5	232	Y
22	17	9.9	434	Y
23	17	6.1	262	Y
24	16	9	389	Y
25	16	8.9	471	Y
26	18	7.7	228	Y
27	17	7.6	368	Y
28	17	8.2	359	Y
29	17	9.9	313	Y
30	17	7.1	250	Y
DFS Detection Threshold				100.0%
Limit				60%

Type 4 Radar Statistical Performance				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	Number of Pulses per Burst	Pulse Width (μsec)	PRI (μs)	Detection (yes/no)
1	12	16.6	205	Y
2	14	16.9	429	Y
3	14	13.3	473	Y
4	14	13.7	463	Y
5	15	12.5	454	Y
6	15	16.2	217	Y
7	13	16.7	315	Y
8	14	17.2	437	Y
9	14	15.5	272	Y
10	14	15	272	Y
11	14	15.3	253	Y
12	15	14.5	207	Y
13	14	11.6	439	Y
14	14	12.4	246	Y
15	14	17.4	200	Y
16	13	11.4	314	Y
17	14	17.7	450	Y
18	13	16	311	Y
19	14	19.8	379	Y
20	12	11.4	384	Y
21	12	15.9	233	Y
22	16	11.1	222	Y
23	14	14.8	447	Y
24	13	13.9	419	Y
25	16	11.1	240	Y
26	12	20	258	Y
27	12	17.6	350	Y
28	16	19.9	353	Y
29	13	13.8	283	Y
30	16	16.2	362	Y
DFS Detection Threshold				100.0%
Limit				60%

Type 5 Radar Statistical Performance			Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	Number of Pulses per Burst	Detection (yes/no)	Remark
1	Type 5 Radar Test 1	Y	See the Type 5 Radar Characteristics at the 附錄二
2	Type 5 Radar Test 2	Y	
3	Type 5 Radar Test 3	Y	
4	Type 5 Radar Test 4	Y	
5	Type 5 Radar Test 5	Y	
6	Type 5 Radar Test 6	Y	
7	Type 5 Radar Test 7	Y	
8	Type 5 Radar Test 8	Y	
9	Type 5 Radar Test 9	Y	
10	Type 5 Radar Test 10	Y	
11	Type 5 Radar Test 11	Y	
12	Type 5 Radar Test 12	Y	
13	Type 5 Radar Test 13	Y	
14	Type 5 Radar Test 14	Y	
15	Type 5 Radar Test 15	Y	
16	Type 5 Radar Test 16	Y	
17	Type 5 Radar Test 17	Y	
18	Type 5 Radar Test 18	Y	
19	Type 5 Radar Test 19	Y	
20	Type 5 Radar Test 20	Y	
21	Type 5 Radar Test 21	Y	
22	Type 5 Radar Test 22	Y	
23	Type 5 Radar Test 23	Y	
24	Type 5 Radar Test 24	Y	
25	Type 5 Radar Test 25	Y	
26	Type 5 Radar Test 26	Y	
27	Type 5 Radar Test 27	Y	
28	Type 5 Radar Test 28	Y	
29	Type 5 Radar Test 29	Y	
30	Type 5 Radar Test 30	Y	
DFS Detection Threshold		100%	
Limit		80%	

Type 6 Radar Statistical Performance			Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	Number of Pulses per Burst	Detection (yes/no)	Remark
1	Type 6 Radar Test 1	Y	See the Type 6 Radar Characteristics at the 附錄二
2	Type 6 Radar Test 2	Y	
3	Type 6 Radar Test 3	Y	
4	Type 6 Radar Test 4	Y	
5	Type 6 Radar Test 5	Y	
6	Type 6 Radar Test 6	Y	
7	Type 6 Radar Test 7	Y	
8	Type 6 Radar Test 8	Y	
9	Type 6 Radar Test 9	Y	
10	Type 6 Radar Test 10	Y	
11	Type 6 Radar Test 11	Y	
12	Type 6 Radar Test 12	Y	
13	Type 6 Radar Test 13	Y	
14	Type 6 Radar Test 14	Y	
15	Type 6 Radar Test 15	Y	
16	Type 6 Radar Test 16	Y	
17	Type 6 Radar Test 17	Y	
18	Type 6 Radar Test 18	Y	
19	Type 6 Radar Test 19	Y	
20	Type 6 Radar Test 20	Y	
21	Type 6 Radar Test 21	Y	
22	Type 6 Radar Test 22	Y	
23	Type 6 Radar Test 23	Y	
24	Type 6 Radar Test 24	Y	
25	Type 6 Radar Test 25	Y	
26	Type 6 Radar Test 26	Y	
27	Type 6 Radar Test 27	Y	
28	Type 6 Radar Test 28	Y	
29	Type 6 Radar Test 29	Y	
30	Type 6 Radar Test 30	Y	
DFS Detection Threshold		100%	
Limit		70%	

附錄 二

Type 5 & 6 Radar Statistical Performance Check List