

RF Interference and DFS Radar Pulse Generation

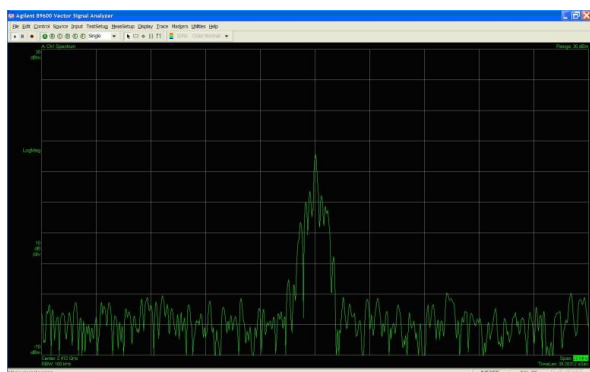
The **RF Interference and DFS Radar Pulse Generator** simplifies RF interference generation of common waveforms in the 802.11 bands, including Bluetooth, Microwave oven and DFS radar pulses. Rather than using cumbersome signal generators and I/Q modulation software, this option makes generation of interference signals in the band of interest a “point and click” solution, and easily automatable.

The RF Interference and DFS Radar Pulse Generator provides a library of signal types combined with an easy to use GUI that allows the user to modify and control the characteristics of the interference being generated.

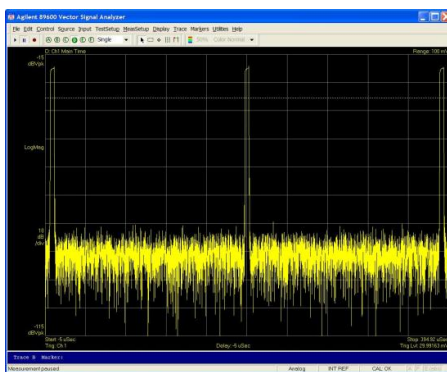
The RF Interference and DFS Radar Pulse Generator is supported by WBW1101, WBW1104, WBW1104N, and WBW1101P WaveBlades and uses WaveQoE as a control dashboard.

Benefits

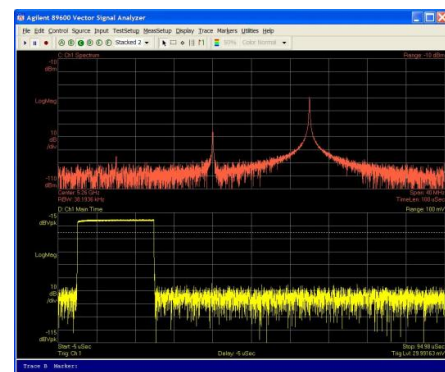
- No I/Q file generation required
- Library of interference types, with adjustable power level, burst length, burst rate, and center frequency offset
- Point and click generation of all FCC, ETSI and Japan radar pulse types



Bluetooth interference



Radar type 2



Radar type 6

Specifications – RF Interference

•IG – Interference Generator

- Creates RF energy to collide and corrupt 802.11 frames – user sets probability of corruption for each frame size range

•Adjustable Interference Parameters

- 802.11 Channel
- Tx Power
 - 0 to -50 dBm for WBW1101, WBW1104, WBW1104N
 - 0 to +15 dBm for WBW1101P
- Burst length
- Burst gap
- Center frequency offset

•Signal Types

- Microwave Oven
- 1 MHz Tone
- Bluetooth Spectrum
- Radar Pulses

Supported Radar Pulse Patterns

Spec	Type	Pulse Width (us)	PRI (us)	Pulses	Bursts	Other
FCC	1	1	1428	18	1	
FCC	2	1 - 5	150 - 230	23 - 29	1	
FCC	3	6 - 10	200 - 500	16 - 18	1	
FCC	4	11 - 20	200 - 500	12 - 16	1	
FCC	5	50 - 100	1000 - 2000	1 - 3	8 - 20	Chirp BW 5 - 20 MHz
FCC	6	1	333	9	100	Frequency hopping between bursts range: 5250 - 5724 MHz
FCC	7	1	518	calculated	1	Weather radar under proposal

Spec	Type	Pulse Width (us)	PRI (us)	Pulses	Bursts	Other
ETSI	0	1	1428	18	1	
ETSI	1	0.8 - 5	1000 - 5000	10	1	
ETSI	2	0.8 - 15	625 - 5,000	15	1	
ETSI	3	0.8 - 15	250 - 434	25	1	
ETSI	4	20 - 30	250 - 500	25	1	Chirp BW 5 MHz
ETSI	5	0.8 - 2	2000 - 3333	10	1	Interleaved 2 - 3 PRIs in a burst / 20 - 50 pps difference amongst PRIs
ETSI	6	0.8 - 2	833 - 2500	10	1	Interleaved 2 - 3 PRIs in a burst / 80 - 400 pps difference amongst PRIs

Spec	Type	Pulse Width (us)	PRI (us)	Pulses	Bursts	Other
Japan	1	1	1428	18	1	W53 Band 5250 - 5350 MHz
Japan	2	2.5	3846	18	1	W53 Band 5250 - 5350 MHz
Japan	3	0.5	1288	18	1	W56 Band 5500 - 5700 MHz
Japan	4	1	1428	18	1	W56 Band 5500 - 5700 MHz
Japan	5	2	4000	18	1	W56 Band 5500 - 5700 MHz
Japan	6	1 - 5	150 - 230	23 - 29	1	W56 Band 5500 - 5700 MHz
Japan	7	6 - 10	200 - 500	16 - 18	1	W56 Band 5500 - 5700 MHz
Japan	8	11 - 20	200 - 500	12 - 16	1	W56 Band 5500 - 5700 MHz
Japan	9	5 - 100	1000 - 2000	1 - 3	8 - 20	W56 Chirp BW 5 - 10 MHz
Japan	10	1	333	9	100	W56 Frequency hopping between bursts

Minimum Requirements

VeriWave Test System	<ul style="list-style-type: none"> • 1 x VeriWave WaveTest 90™ or WaveTest 20™ system • 1 x VeriWave WLAN port (WBW1101 or WBW1104 or WBW1104N or WBW1101P)
Host Computer	<ul style="list-style-type: none"> • X86-based PC with 1GHz processor and 256MB RAM • Windows XP SP2, or Linux (2.6 or higher kernel level)
Application Software	<ul style="list-style-type: none"> • IG – Interference Generator to create 802.11 interference including Bluetooth, tone and Microwave oven • Radar Pulse Generator to create DFS Radar Pulses as per FCC specification • WaveQoE