

RF Record & Playback System

Contents

Bird's authorized exclusive representative in Korea !

- **RF Record & Playback System**
 - What is Record & Playback System for?
 - Products
 - IQC5000B
 - IQC91000A
 - System Configuration

- **Graphic User Interface (GUI)**
 - IQC Control
 - Spectro-X
 - RF Editor

- **Case Study**

RF Record & Playback System

Bird's authorized exclusive representative in Korea!

- **What is RF Record & Playback system for?**
 - Record, store, and playback real-world RF signals for analysis



Radio
Conversations



SIGINT



Telemetry
Links



Spectrum
Monitoring



Flight
Range Ops



System
Interoperability

RF Record & Playback System

Bird's authorized exclusive representative in Korea !

- **Products**
 - **IQC5000B**

Signal Recording and Playback

- 40, 160 and 255 MHz streaming
- Built-in IQ and fixed RF playback
- Metadata inputs

Memory

- Internal : 50 min @ 255 MHz (2 TB)
- External : >3 hours @ 255 MHz (8 TB or 15 TB)

Workstation (optional)

- Quad-Core
- 64GB RAM
- 128TB HDD storage



IQC5000B

Dimensions

- 12 x 1.75 x 10.5 in / 305 x 45 x 266 mm

RF Record & Playback System

Bird's authorized exclusive representative in Korea!

- **Products**
 - **IQC91000A**

Signal Recording and Playback

- 500 MHz ~ 18 GHz, options up to 40 GHz
- 125 MHz ~ 1,000 MHz streaming bandwidth
 - * Selectable @ 125 MHz, 250 MHz, 500 MHz, & 1,000 MHz
- Built-in IQ playback
- Metadata inputs

Memory

External (30 TB) : 90 minutes @ 1,000 MHz

Workstation (optional)

- Quad-Core
- 64GB RAM
- 128TB HDD storage



IQC91000A

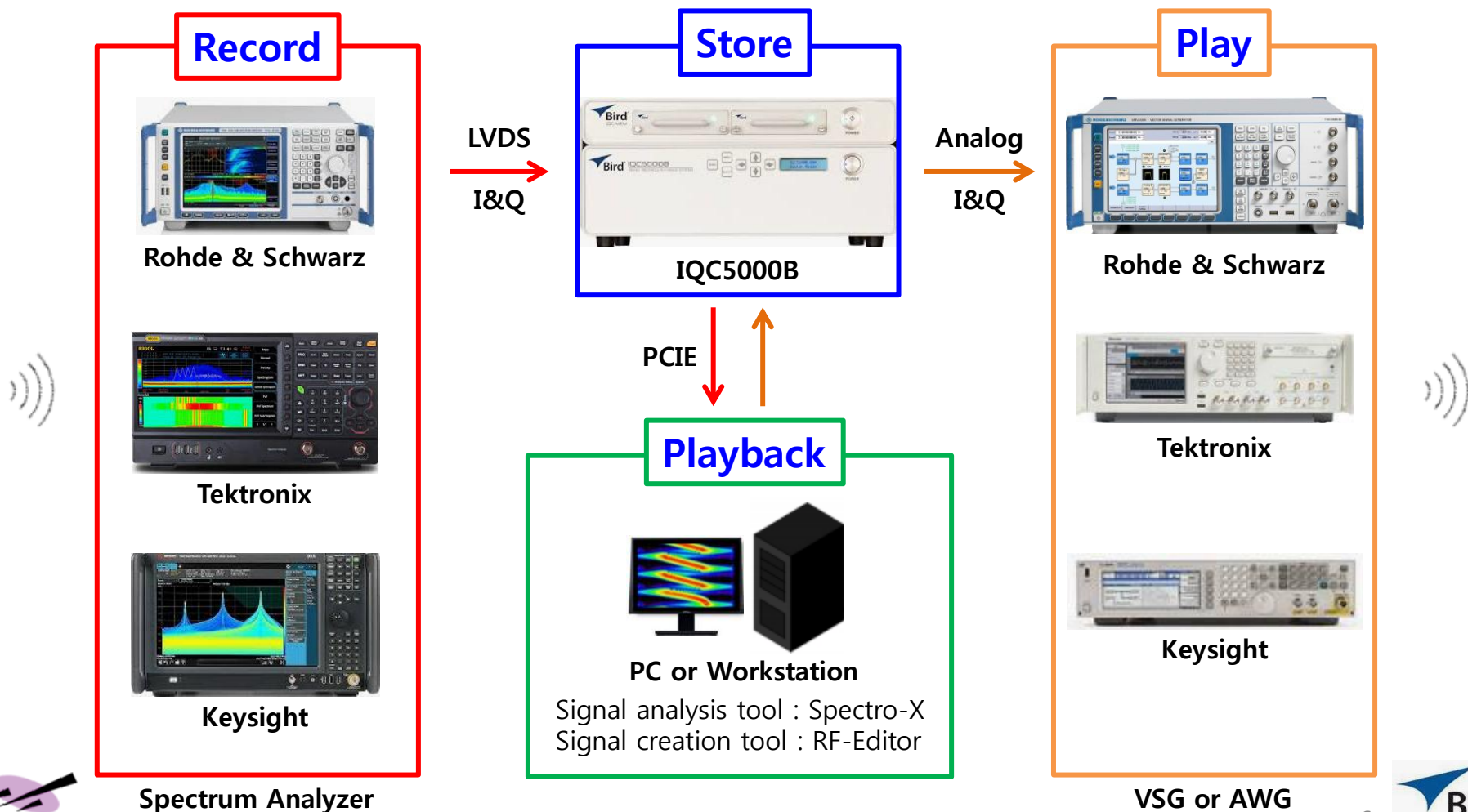
Dimensions

- 3.5 x 16.5 x 19.5 in / 88.9 x 420 x 496 mm

RF Record & Playback System

Bird's authorized exclusive representative in Korea !

- System Configuration



Graphic User Interface (GUI)

Bird's authorized exclusive representative in Korea!

- **IQC Control**

- User interface for capture/playback hardware
- Offload and Upload Datasets
- Spectrum Analyzer Remote Control

The screenshot displays the IQC5000 software interface. At the top, it shows the connection to 'IQCS255B.334 - MEM (Versions) | 10.1.1.205'. The main control area includes a 'Record' button and a 'File Name' field set to 'test200' with a sample rate of '300.0 MSa/S'. Below this, there are sections for 'Record Channel' (Ch. 1 and Ch. 2), 'Marker Inputs' (Marker 1 and Marker 2), 'Recording Type' (Manual, Duration, Advanced), and 'Signal Inputs' (IRIG, NMEA, 10MHz). A 'Record Comments' text area is also present. The bottom half of the screen features a table listing recorded files.

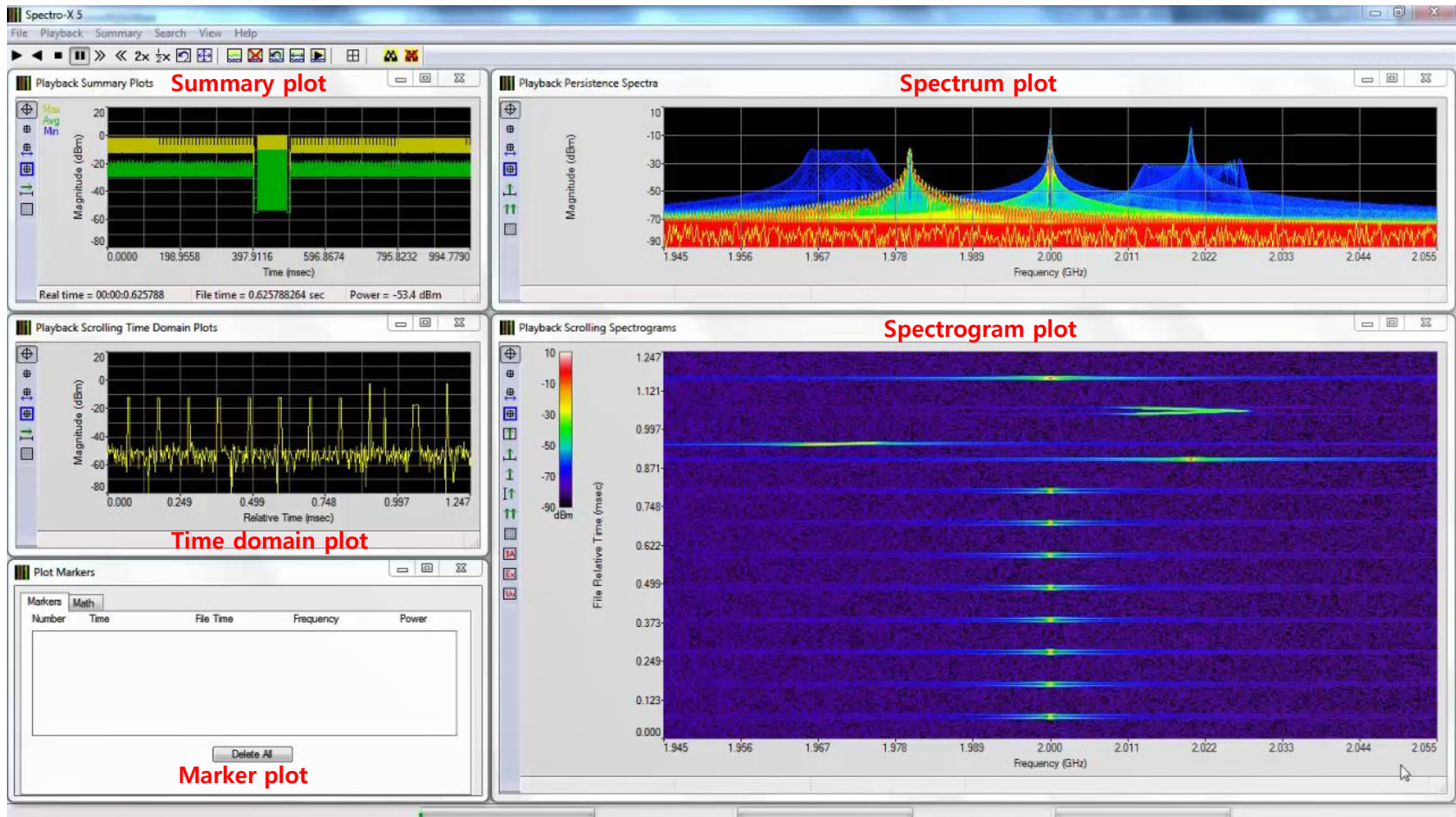
Name	Device Name	Bytes	Header	Markers	Ch.	Creation Time	Time	Bandwidth	Sample Rate
test600.xdat	File_0000.xdat	400 MB	Yes	No	Ch. 1	01/20/16 19:02:01 UTC	2 s	40 MHz	50.00 MSa/S
test601.xdat	File_0001.xdat	400 MB	Yes	No	Ch. 1	01/20/16 19:02:07 UTC	2 s	40 MHz	50.00 MSa/S
test602.xdat	File_0002.xdat	200 MB	Yes	No	Ch. 1	01/20/16 19:02:55 UTC	2 s	20 MHz	25.00 MSa/S
test603.xdat	File_0003.xdat	200 MB	Yes	No	Ch. 1	01/20/16 19:03:01 UTC	2 s	20 MHz	25.00 MSa/S
test604.xdat	File_0004.xdat	200 MB	Yes	No	Ch. 1	01/20/16 19:03:08 UTC	2 s	20 MHz	25.00 MSa/S
test605.xdat	File_0005.xdat	50 MB	Yes	No	Ch. 1	01/20/16 19:03:39 UTC	2 s	5 MHz	6.25 MSa/S
test606.xdat	File_0006.xdat	50 MB	Yes	No	Ch. 1	01/20/16 19:03:49 UTC	2 s	5 MHz	6.25 MSa/S
test607.xdat	File_0007.xdat	400 MB	Yes	No	Ch. 1	01/20/16 19:04:18 UTC	2 s	40 MHz	50.00 MSa/S
test608.xdat	File_0008.xdat	400 MB	Yes	No	Ch. 1	01/20/16 19:04:35 UTC	2 s	40 MHz	50.00 MSa/S
test609.xdat	File_0009.xdat	150 MB	Yes	No	Ch. 1	01/20/16 19:04:58 UTC	2 s	15 MHz	18.75 MSa/S
test610.xdat	File_0010.xdat	400 MB	Yes	No	Ch. 1	01/20/16 19:05:27 UTC	2 s	40 MHz	50.00 MSa/S
test611.xdat	File_0011.xdat	400 MB	Yes	No	Ch. 1	01/20/16 19:05:39 UTC	2 s	40 MHz	50.00 MSa/S
test612.xdat	File_0012.xdat	400 MB	Yes	No	Ch. 1	01/20/16 19:05:45 UTC	2 s	40 MHz	50.00 MSa/S
test613.xdat	File_0013.xdat	400 MB	Yes	No	Ch. 1	01/20/16 19:05:49 UTC	2 s	40 MHz	50.00 MSa/S
test614.xdat	File_0014.xdat	400 MB	Yes	No	Ch. 1	01/20/16 19:05:54 UTC	2 s	40 MHz	50.00 MSa/S

At the bottom, it shows storage usage: '3.9 TB / 3.91 TB -- 99.61% Available' and '1.8 H at 300.0 MSa/S'. The interface also includes a 'Record Devices' panel on the right with 'Channel 1 Input' at 300.0 MSa/S and 'Channel 2 Input' at --. A 'KEYSIGHT TECHNOLOGIES' logo and 'N9040B UXA-WB' model information are visible in the right panel.

Graphic User Interface (GUI)

Bird's authorized exclusive representative in Korea !

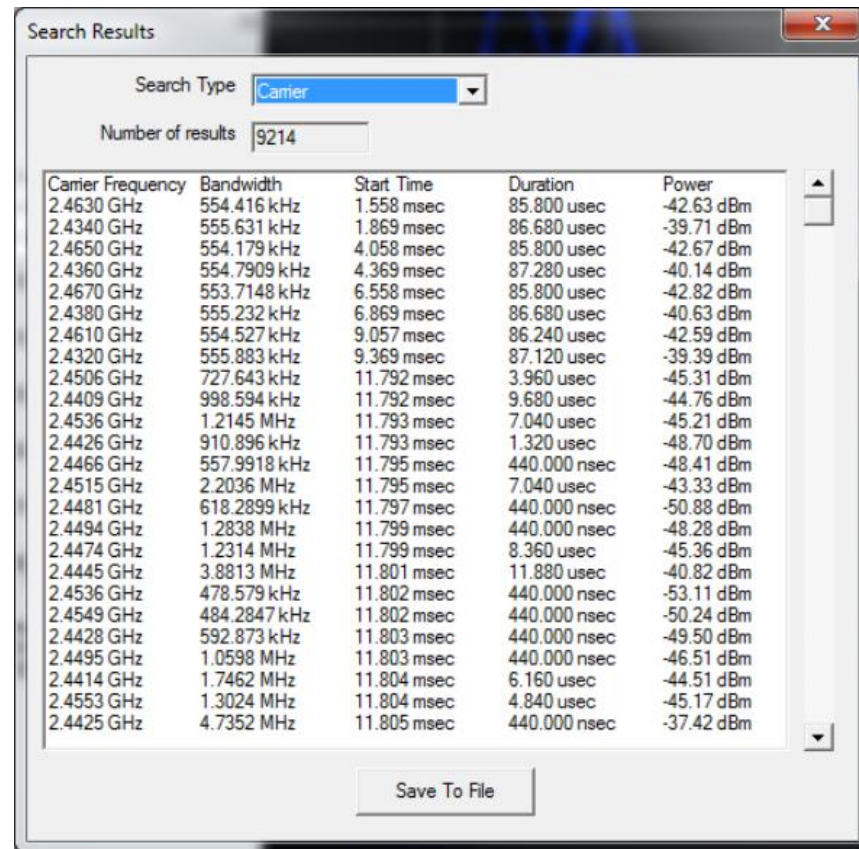
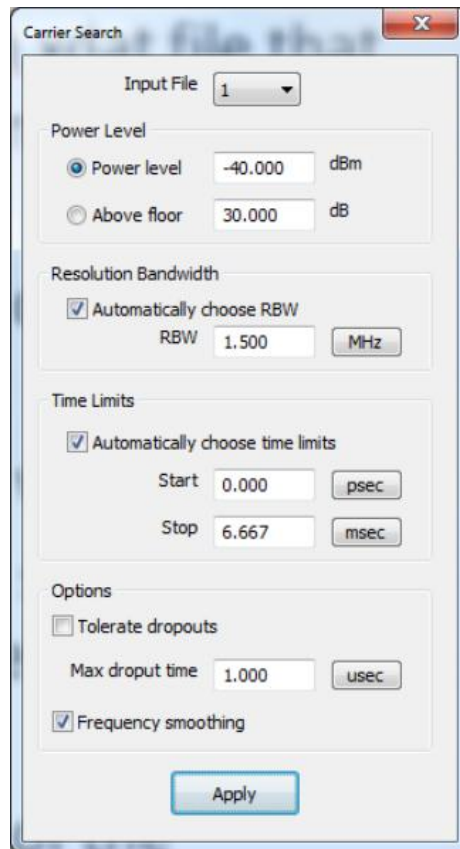
- Spectro-X – Signal Analysis Tool



Graphic User Interface (GUI)

Bird's authorized exclusive representative in Korea!

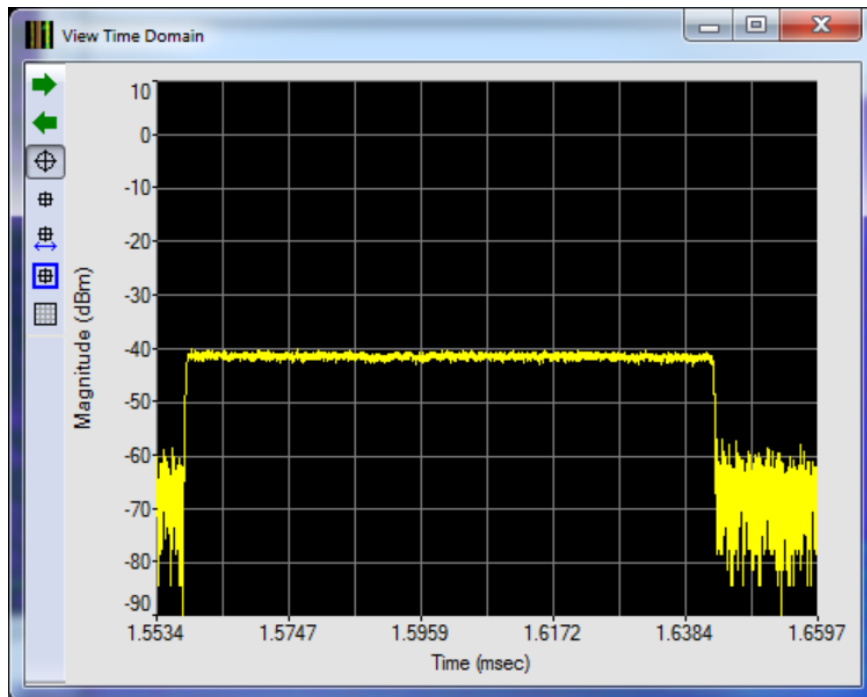
- Spectro-X – Signal Analysis Tool
 - Search & Pruning (Carrier, Waveform, Pulse)



Graphic User Interface (GUI)

Bird's authorized exclusive representative in Korea !

- **Spectro-X – Signal Analysis Tool**
 - Search & Pruning (Carrier, Waveform, Pulse)



The 'Carrier Search Pruning' dialog box contains the following settings:

Parameter	Operator	Value	Unit
Remove a Result if			
Frequency	<=	0.000	Hz
Frequency range	Inside		
Min		0.000	Hz
Max		0.000	Hz
Bandwidth	<=	0.000	Hz
Bandwidth range	Inside		
Min		0.000	Hz
Max		0.000	Hz
Start Time	<=	0.000	psec
Start time range	Inside		
Min		0.000	psec
Max		0.000	psec
Duration	<=	0.000	psec
Duration range	Outside		
Min		80.000	usec
Max		90.000	usec
Power	<=	0.00	dBm
Power range	Inside		
Min		0.00	dBm
Max		0.00	dBm

Pruning options:

- Off
- After the next Carrier Search
- Results in a Carrier Search file

Buttons: Browse, Apply

Graphic User Interface (GUI)

Bird's authorized exclusive representative in Korea!

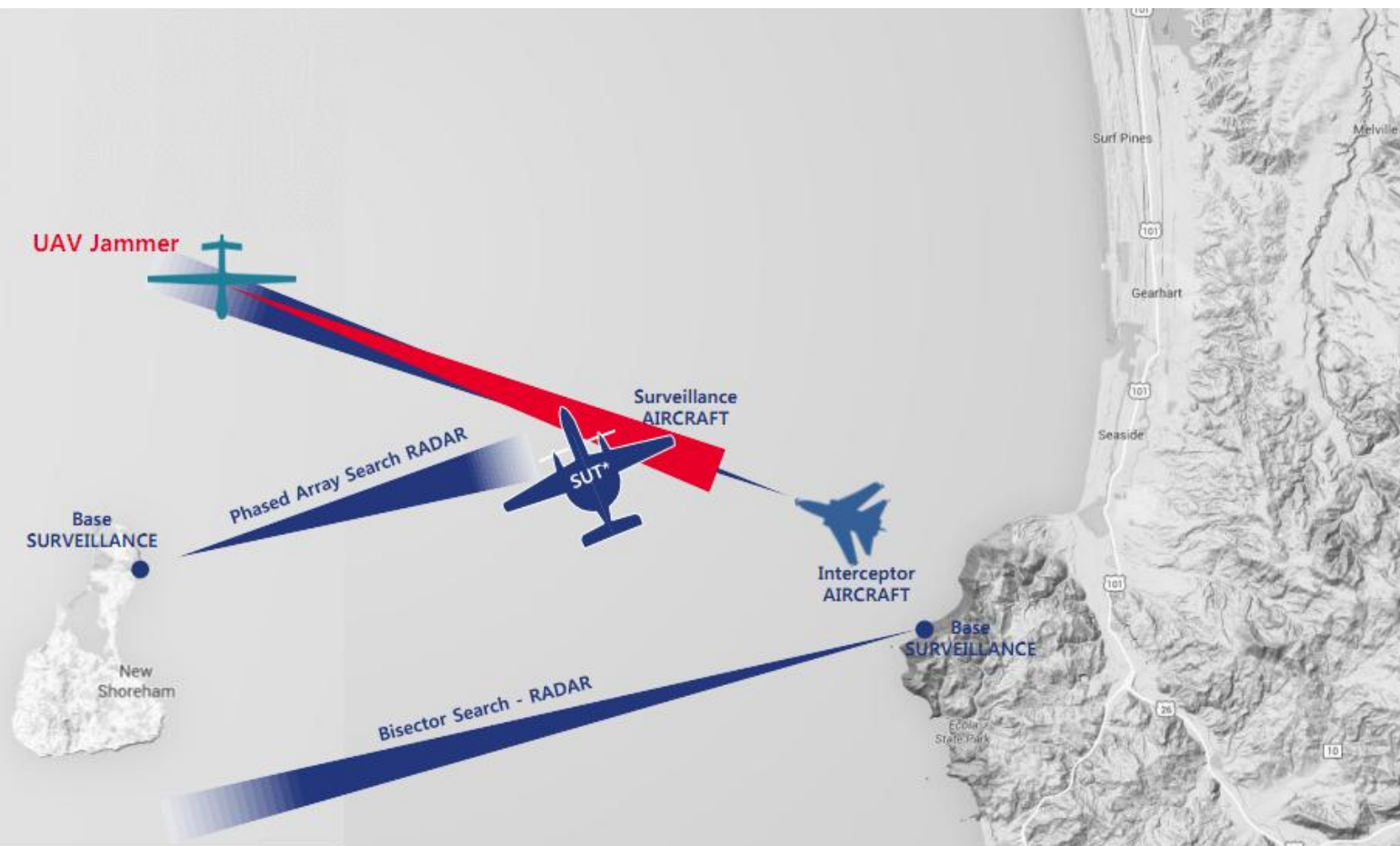
- **RF Editor – Signal Creation Tool**
 - Analogous to music mixing software: 10 tracks
 - Clip, Mix, Stitch, Modify and Loop Previously Recorded Waveforms

The screenshot displays the RF Editor software interface. At the top, a 'Build' menu is open, showing options for 'Build RF File' (highlighted with an arrow pointing to the text 'Create composite IQ file'), 'Stitch File', and 'Build'. Below the menu, the main workspace shows five tracks (Track 1 to Track 5) with a time axis from 0 to 0.1 seconds and a span of 20 MHz. Track 1 contains several yellow signal segments. Track 2 and Track 3 contain blue segments labeled 'Demo board_2.4453GHz_20MHz_small-segment_20 MHz_CS'. Track 4 and Track 5 contain yellow segments. Annotations include: 'Choose Recordings From Library' pointing to the file list on the left; 'Independent, parallel tracks can be precisely time synchronized' pointing to the tracks; 'Add frequency shifted copies of original signal' pointing to the blue segments; 'Loop segments at specific intervals' pointing to a yellow segment in Track 1; and 'Filter signals to reduce transition transients' pointing to a blue segment in Track 2.

Case Study

Bird's authorized exclusive representative in Korea!

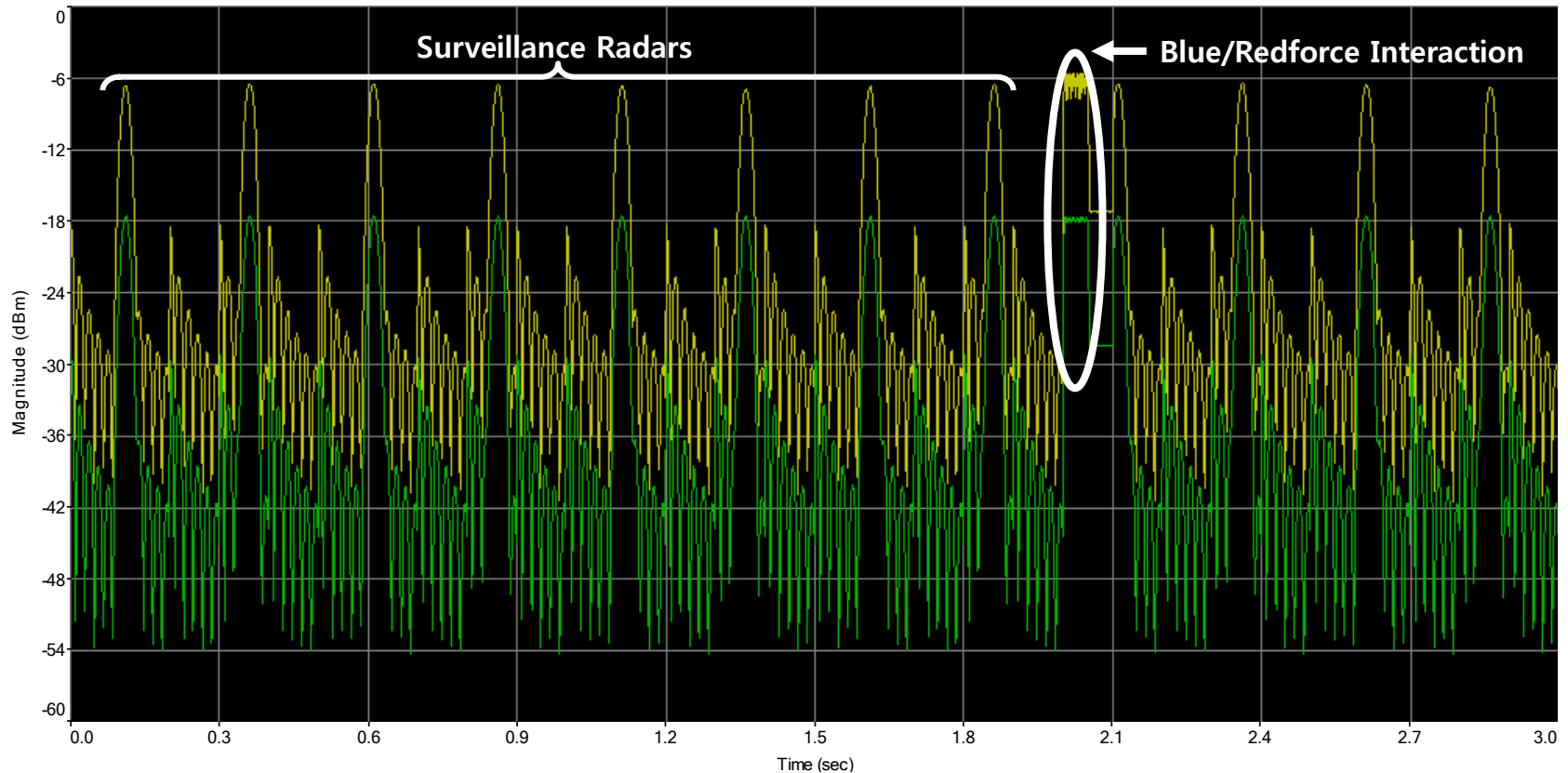
- Analyze Interaction between Interceptor and Jammer



Case Study

Bird's authorized exclusive representative in Korea!

- Post Mission Analysis – Threat Assessment

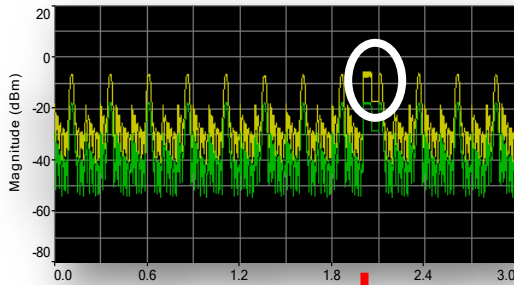


Case Study

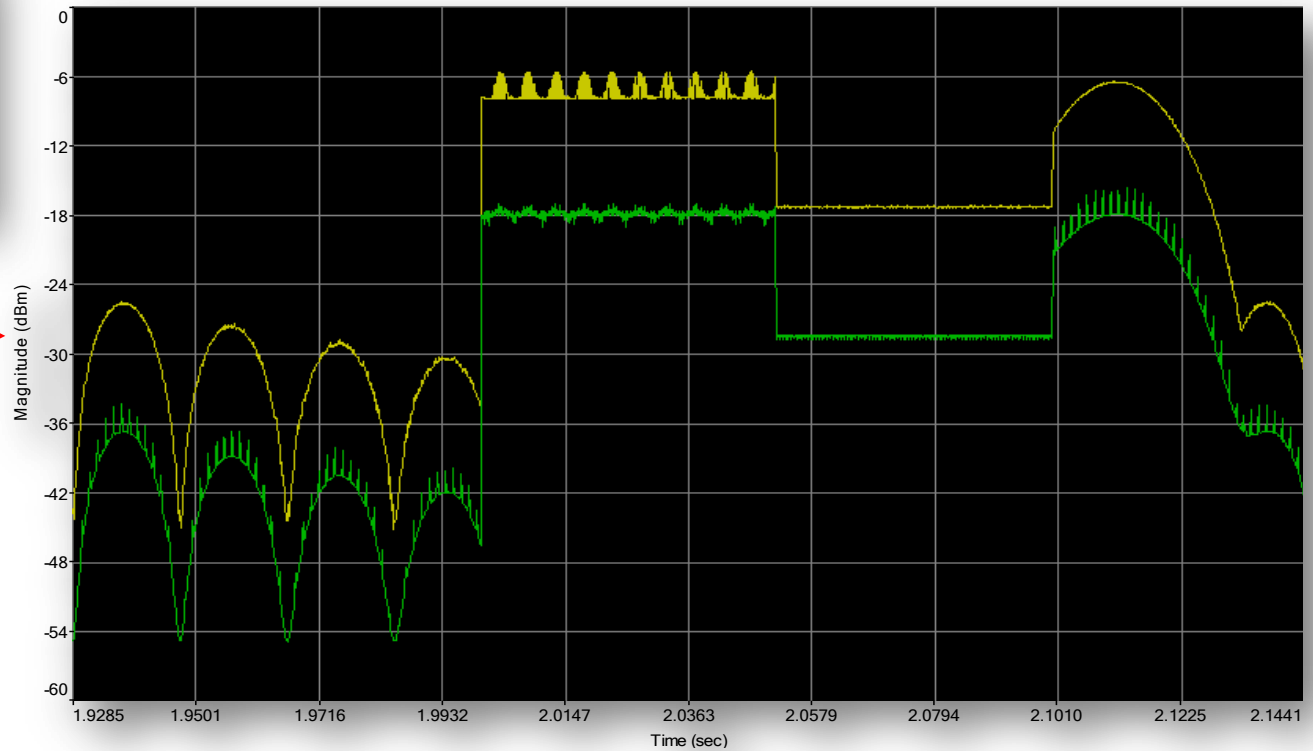
Bird's authorized exclusive representative in Korea !

- Post Mission Analysis – Threat Assessment

View the Entire Recording



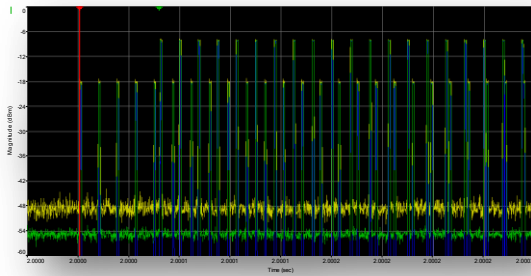
Zoom-in on Details



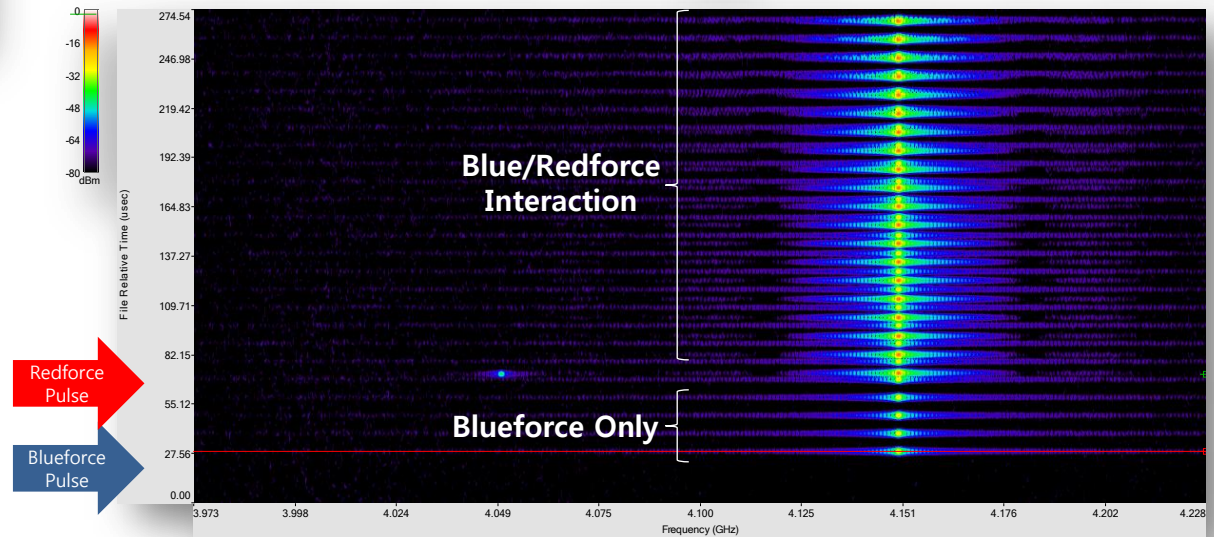
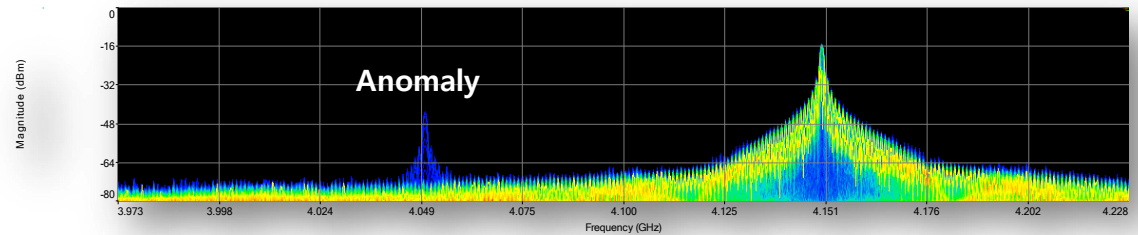
Case Study

Bird's authorized exclusive representative in Korea !

- Post Mission Analysis – Threat Assessment



Replay Time Range in
Frequency Domains





Bird's authorized exclusive representative in Korea !

영업 담당자

박용태 이사

010-3815-7971

spark@logisyskorea.co.kr

남상문 과장

010-2002-9555

smnam@logisyskorea.co.kr