WHAT IS CLAIMED IS:

1. A method comprising:

determining, by a test computer, a test plan to test a kernel on a mobile device;

determining, by the test computer, an interaction input message according to the test plan, the interaction input message comprising first data;

transmitting, by the test computer, the interaction input message comprising the first data to the mobile device over a network-based communication channel, wherein the kernel in the mobile device generates an interaction output message in response to receiving the interaction input message;

receiving, by the test computer from the mobile device, the interaction output message comprising second data from the mobile device over the network-based communication channel; and

determining, by the test computer, if the interaction output message is consistent with the test plan,

wherein the test computer comprises a test engine, a virtual reader, and a socket server, the test engine providing the interaction input message in a first format to the virtual reader, and the virtual reader providing the interaction input message in a second format to the socket server, and

wherein the mobile device comprises a virtual device, wherein the virtual device receives the interaction input message in the second format and provides the interaction input message in the first format to the kernel.

2. The method of claim 1, wherein the network-based communication channel is a TCP/IP (Transmission Control Protocol/Internet Protocol) communication channel.

3. The method of claim 1, determining if the interaction output message is consistent with the test plan comprises determining if the second data is expected by the test.

4. The method of claim 1, wherein the mobile device is a smartphone.

5. The method of claim 1, wherein the mobile device comprises an interaction application comprising the kernel.

6. The method of claim 1, wherein the test plan describes a test interaction.

7. The method of claim 6, wherein the test interaction is a test transaction.

8. The method of claim 1, wherein the first data is in the form of APDUs (Application Protocol Data Units).

9. The method of claim 1, wherein the virtual device is a virtual payment card.

10. The method of claim 9, wherein the virtual reader simulates functions of an access terminal.

11. A test computer comprising:

a processor; and

a computer readable medium coupled to the processor, the computer readable medium comprising instructions executable by the processor, to cause the test computer to:

determine a test plan to test a kernel on a mobile device;

determine an interaction input message according to the test plan, the interaction input message comprising first data;

transmit the interaction input message comprising the first data to the mobile device over a network-based communication channel, wherein the kernel in the mobile device generates an interaction output message in response to receiving the interaction input message;

receive, from the mobile device, the interaction output message comprising second data from the mobile device over the network-based communication channel; and

determine, if the interaction output message is consistent with the test plan,

wherein the test computer comprises a test engine, a virtual reader, and a socket server, the test engine providing the interaction input message in a first format to the virtual reader, and the virtual reader providing the interaction input message in a second format to the socket server, and

wherein the mobile device comprises a virtual device, wherein the virtual device receives the interaction input message in the second format and provides the interaction input message in the first format to the kernel.

12. The test computer of claim 11, wherein the test computer further comprises a memory comprising a plurality of test plans for testing the kernel.

13. The test computer of claim 11, wherein the network-based communication channel comprises a TCP/IP (Transmission Control Protocol/Internet Protocol) channel.

14. The test computer of claim 11, wherein the test computer further comprises a memory comprising a plurality of test reports.

15. A method comprising:

receiving, by a mobile device comprising a kernel from a test computer, an interaction input message comprising first data over a network-based communication channel;

generating, by the kernel in the mobile device, an interaction output message comprising second data in response to receiving the interaction input message; and

transmitting, by the mobile device, the interaction output message to the test computer over the network-based communication channel,

wherein the test computer comprises a test engine, a virtual reader, and a socket server, the test engine providing the interaction input message in a first format to the virtual reader, and the virtual reader providing the interaction input message in a second format to the socket server, and

wherein the mobile device comprises a virtual device, wherein the virtual device receives the interaction input message in the second format and provides the interaction input message in the first format to the kernel.

16. The method of claim 15, wherein the mobile device comprises an interaction application comprising the kernel.

17. The method of claim 15, wherein the mobile device is a smartphone.

18. The method of claim 15, wherein the mobile device comprises NFC hardware.

19. The method of claim 15, wherein the mobile device comprises an NFC API between the kernel and NFC hardware.

20. The method of claim 15, wherein the network-based communication channel is a TCP/IP (Transmission Control Protocol/Internet Protocol) based communication channel.