Claims:

Claim 1: A module comprising:

a diplexer that includes a first terminal, a second terminal, and a common terminal coupled to an antenna;

a first switch that is coupled to the first terminal, includes first ports, and selects, from the first ports, and connects one port to the diplexer;

a first duplexer that is coupled to at least one of the first ports;

a second duplexer that is coupled to the second terminal and has a passband different from a passband of the first duplexer; and

a first impedance portion that is coupled to another port of the first ports,

wherein the another port of the first ports is not coupled to a filter or a duplexer through the first impedance portion.

Claim 2: A module comprising:

a diplexer that includes a first terminal, a second terminal, and a common terminal coupled to an antenna;

a first switch that is coupled to the first terminal, includes first ports, and selects, from the first ports, and connects one port to the diplexer;

a first duplexer that is coupled to at least one of the first ports;

a second duplexer that is coupled to the second terminal and has a passband different from a passband of the first duplexer;

a first impedance portion that is coupled to another port of the first ports;

a second switch that is coupled to the second terminal, includes second ports, and selects, from the second ports, and connects one port to the diplexer; and

a second impedance portion,

wherein the second duplexer is coupled to the second terminal through at least one of the second ports, and

the second impedance portion is coupled to another port of the second ports.

Claim 3: The module according to claim 1, wherein

the first impedance portion includes a reactance.

Claim 4: The module according to claim 3, wherein

the first impedance portion includes at least one of an inductor and a capacitor.

Claim 5: The module according to claim 2, wherein

the first switch selects a first port connected to the first impedance portion from the first ports when the second switch selects a second port connected to the second duplexer from the second ports.

Claim 6: The module according to claim 2, wherein

the first switch selects a first port connected to the first duplexer from the first ports while the second switch selects a second port connected to the second duplexer from the second ports.

Claim 7: The module according to claim 2, wherein

the second impedance portion includes a reactance.

Claim 8: The module according to claim 7, wherein

the second impedance portion includes at least one of an inductor and a capacitor.

Claim 9: The module according to claim 1, wherein

the first switch includes an FET.

Claim 10: The module according to claim 2, wherein

the second switch includes an FET.

Claim 11: The module according to claim 2, wherein

the first switch selects a first port connected to the first duplexer from the first ports and the second switch selects a second port connected to the second duplexer from the second ports when a first signal passing through the first switch and a second signal passing through the second switch are simultaneously transmitted or received,

the first switch selects a third port connected to the first impedance portion from the first ports and the second switch selects the second port connected to the second duplexer from the second ports when the first signal is not transmitted or received and the second signal is transmitted or received.

CLAIMS

What is claimed is:

1. A module comprising:

a diplexer that includes a first terminal, a second terminal, and a common terminal coupled to an antenna;

a first switch that is coupled to the first terminal, includes first ports, and selects, from the first ports, and connects one port to the diplexer;

a first duplexer that is coupled to at least one of the first ports;

a second duplexer that is coupled to the second terminal and has a passband different from a passband of the first duplexer; and

a first impedance portion that is coupled to another port of the first ports.

2. The module according to claim 1, further comprising:

a second switch that is coupled to the second terminal, includes second ports, and selects, from the second ports, and connects one port to the diplexer; and

a second impedance portion,

wherein the second duplexer is coupled to the second terminal through at least one of the second ports, and

the second impedance portion is coupled to another port of the second ports.

3. The module according to claim 1 or 2, wherein

the first impedance portion includes a reactance.

4. The module according to claim 3, wherein

the first impedance portion includes at least one of an inductor and a capacitor.

5. The module according to any one of claims 2 to 4, wherein

the first switch selects a first port connected to the first impedance portion from the first ports when the second switch selects a second port connected to the second duplexer from the second ports.

6. The module according to any one of claims 2 to 5, wherein

the first switch selects a first port connected to the first duplexer from the first ports while the second switch selects a second port connected to the second duplexer from the second ports.

7. The module according to any one of claims 2 to 6, wherein

the second impedance portion includes a reactance.

8. The module according to claim 7, wherein

the second impedance portion includes at least one of an inductor and a capacitor.

9. The module according to any one of claims 1 to 8, wherein

the first switch includes an FET.

10. The module according to any one of claims 2 to 8, wherein the second switch includes an FET.