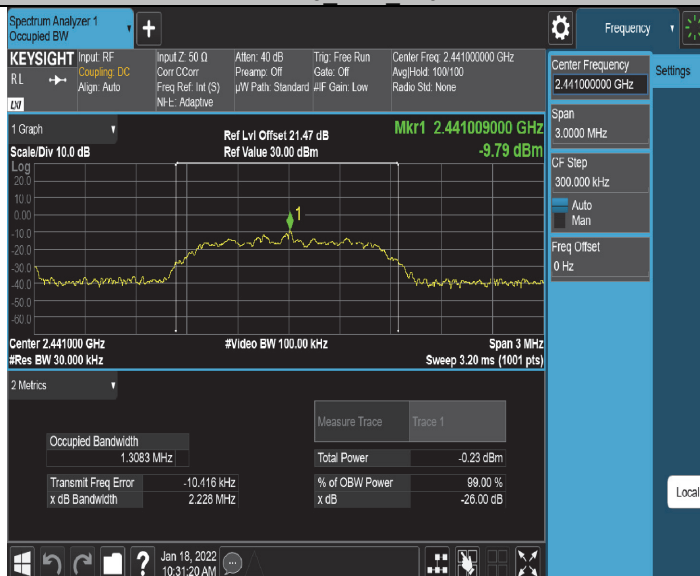
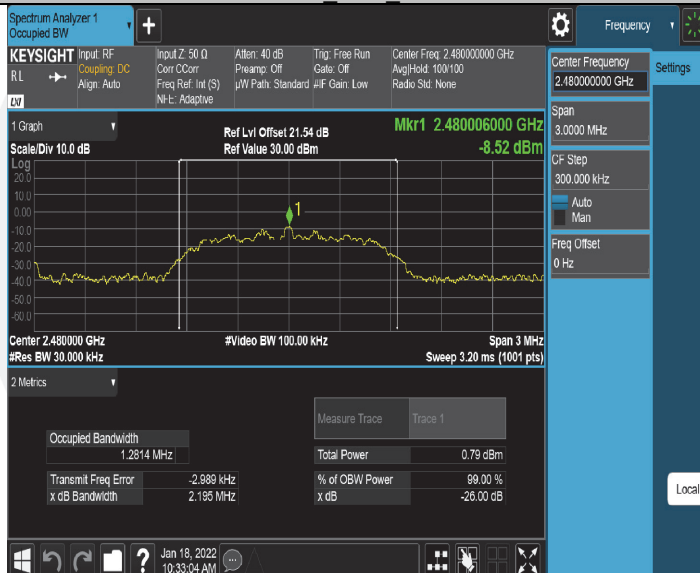


## 2DH5 Ant1 2402



## 2DH5 Ant1 2441



## 2DH5 Ant1 2480

## 9.2 CARRIER FREQUENCY SEPARATION

### 9.2.1 Applicable Standard

According to FCC Part 15.247(a)(1) and KDB 558074 D01 15.247 MEAS GUIDANCE v05r02  
According to IC RSS-247.5.1

### 9.2.2 Conformance Limit

Frequency hopping systems operating in the 2400-2483.5MHz band shall have hopping channel carrier frequencies separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater.

In case of an output power less than 125mW, the frequency hopping system may have channels separated by a minimum of 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater.

### 9.2.3 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

### 9.2.4 Test Procedure

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Set the RBW =300kHz. Set VBW =300kHz.

Set the span = wide enough to capture the peaks of two adjacent channels

Set Sweep time = auto couple.

Set Detector = peak. Set Trace mode = max hold.

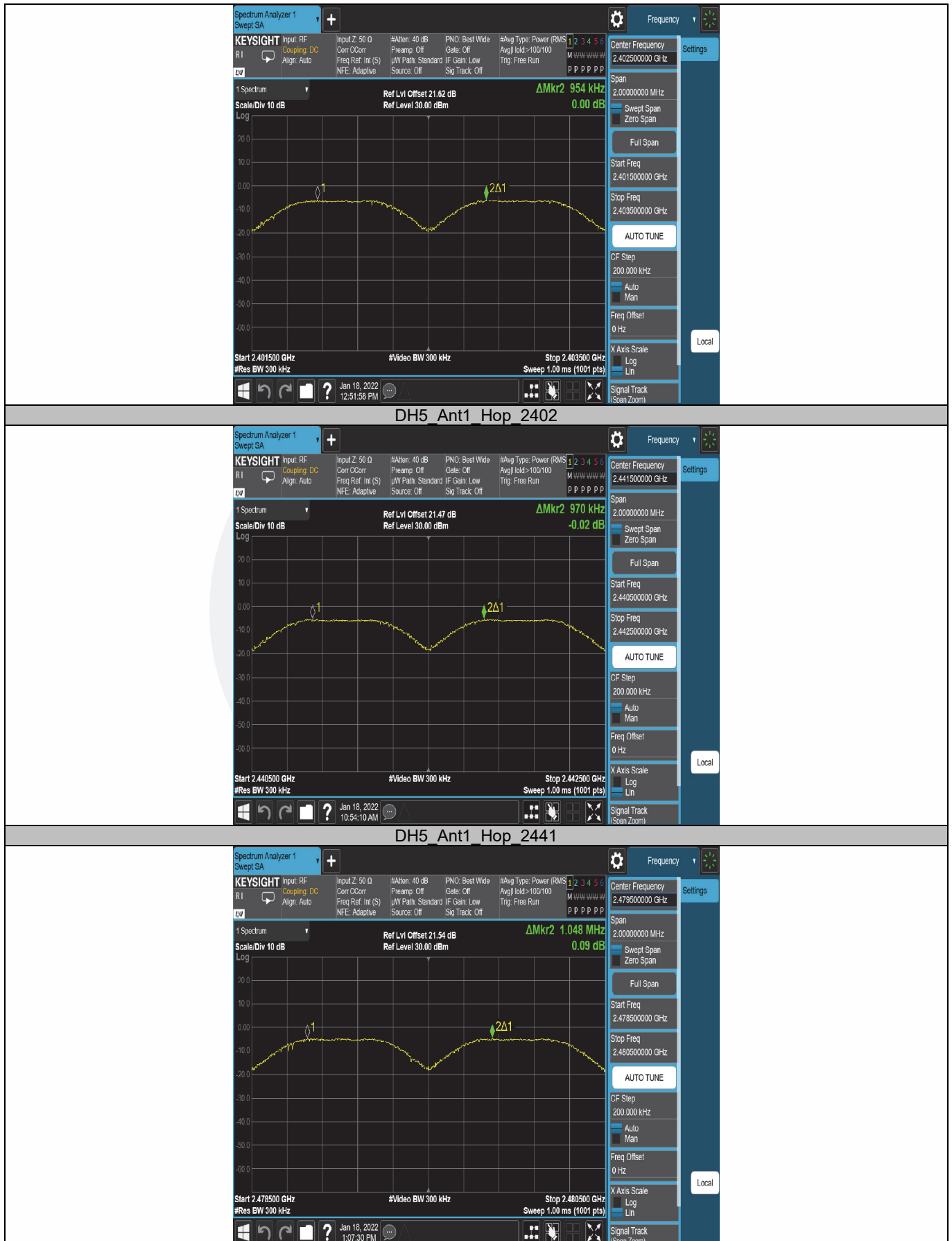
Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section. Submit this plot.

### Test Results

Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

Note: For Limit = 20dB bandwidth \* 2/3

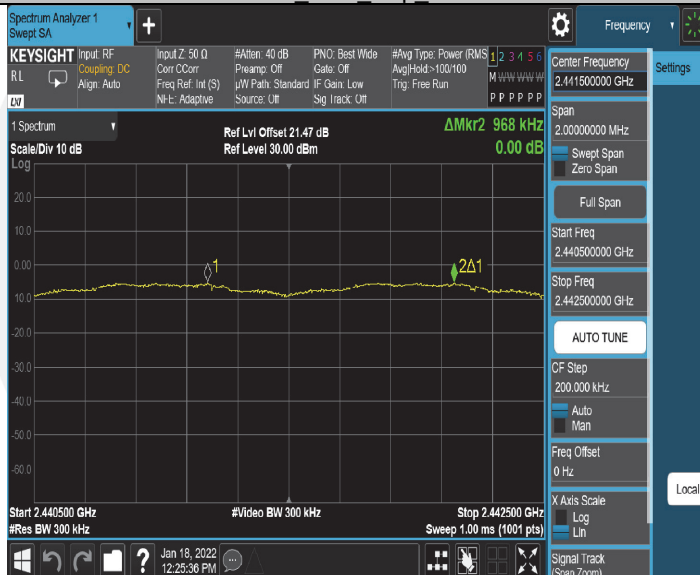
TestMode	Antenna	Frequency[MHz]	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	Hop_2402	0.954	≥0.682	PASS
		Hop_2441	0.970	≥0.680	PASS
		Hop_2480	1.048	≥0.642	PASS
2DH5	Ant1	Hop_2402	1.030	≥0.886	PASS
		Hop_2441	0.968	≥0.882	PASS
		Hop_2480	1.012	≥0.886	PASS



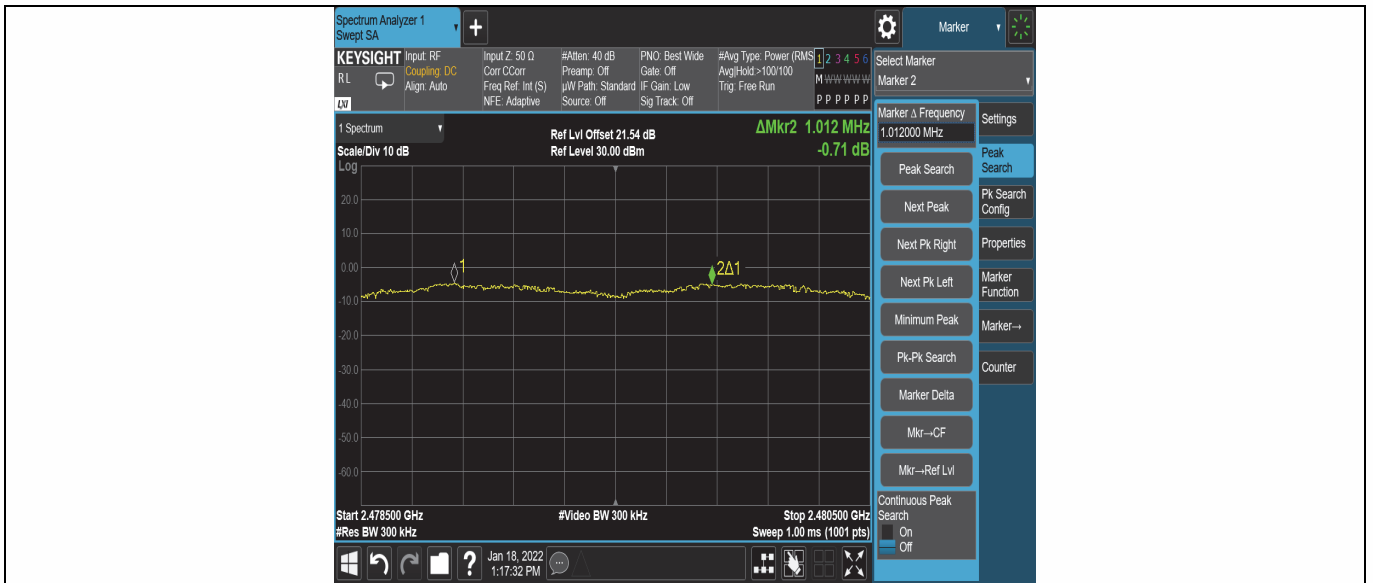
## DH5\_Ant1\_Hop\_2480



## 2DH5\_Ant1\_Hop\_2402



## 2DH5\_Ant1\_Hop\_2441



### 9.3 NUMBER OF HOPPING FREQUENCIES

#### 9.3.1 Applicable Standard

According to FCC Part 15.247(a)(1) and KDB 558074 D01 15.247 MEAS GUIDANCE v05r02  
According to IC RSS-247.5.1

#### 9.3.2 Conformance Limit

Frequency hopping systems operating in the 2400-2483.5MHz band shall use at least 15 channels.

#### 9.3.3 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

#### 9.3.4 Test Procedure

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = the frequency band of operation (2400-2483.5MHz)

RBW = 300KHz

VBW  $\geq$  RBW

Sweep = auto

Detector function = peak

Trace = max hold

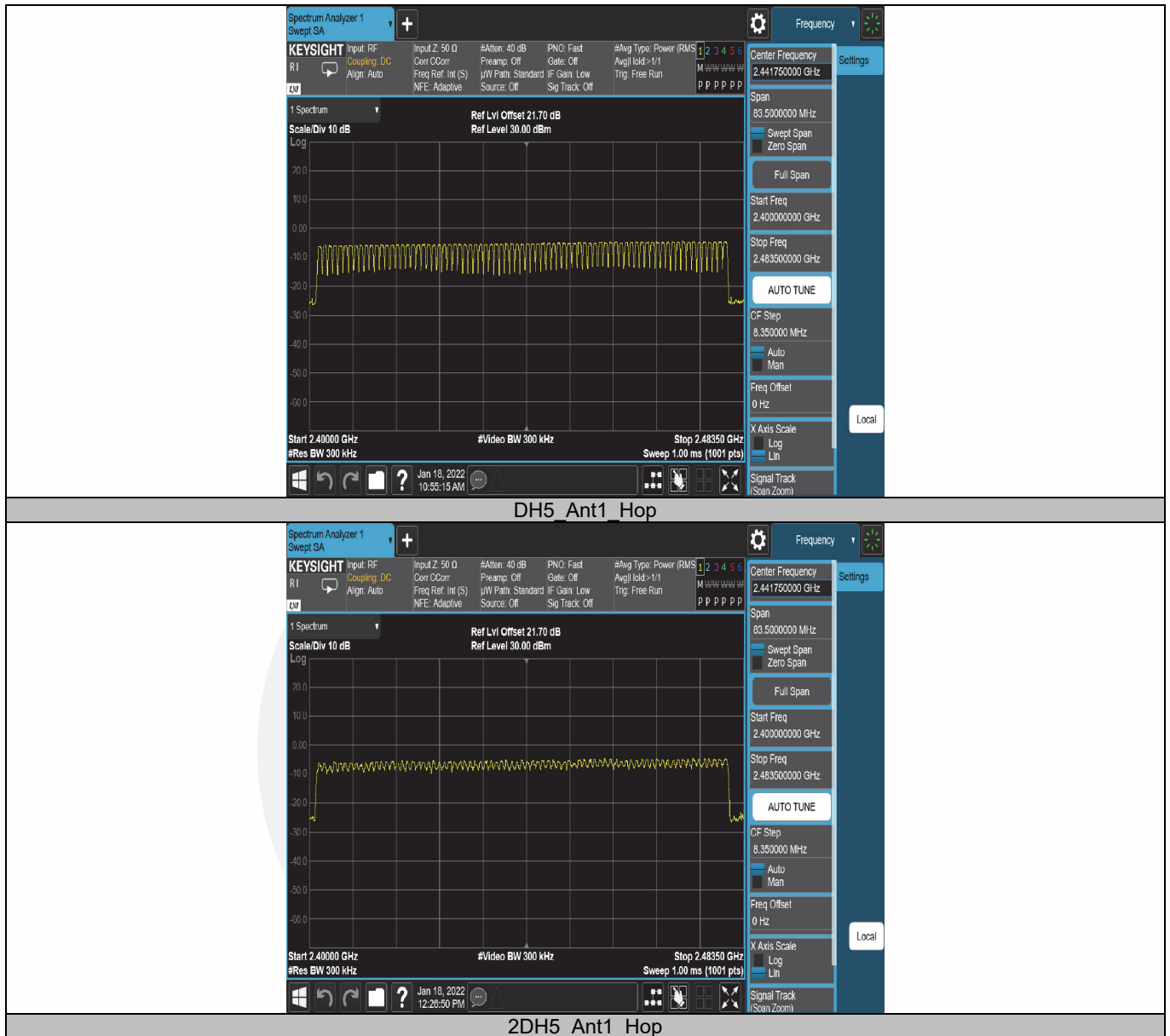
Allow the trace to stabilize. It may prove necessary to break the span up to sections, in order to clearly show all of the hopping frequencies.

#### Test Results

Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

Note: N/A

TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	$\geq 15$	PASS
2DH5	Ant1	Hop	79	$\geq 15$	PASS





## 9.4 AVERAGE TIME OF OCCUPANCY (DWEELL TIME)

### 9.4.1 Applicable Standard

According to FCC Part 15.247(a)(1) and KDB 558074 D01 15.247 MEAS GUIDANCE v05r02  
According to IC RSS-247.5.1

### 9.4.2 Conformance Limit

For frequency hopping systems operating in the 2400-2483.5MHz band, the average time of occupancy on any channel shall not be greater than 0.4s within a period of 0.4s multiplied by the number of hopping channels employed.

### 9.4.3 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

### 9.4.4 Test Procedure

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = zero span, centered on a hopping channel

RBW = 1 MHz

VBW ≥ RBW

Sweep = as necessary to capture the entire dwell time per hopping channel

Detector function = peak

Trace = max hold

If possible, use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section.

### 9.4.5 Test Results

Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

Note: TotalHops(DH1)=(1600/2/79)\*31.6  
TotalHops(DH3)=(1600/4/79)\*31.6  
TotalHops(DH5)=(1600/6/79)\*31.6  
Dwell Time= BurstWidth\* TotalHops

TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.38	320	0.121	≤0.4	PASS
DH3	Ant1	Hop	1.63	160	0.260	≤0.4	PASS
DH5	Ant1	Hop	2.87	106.67	0.306	≤0.4	PASS
2DH1	Ant1	Hop	0.39	320	0.124	≤0.4	PASS
2DH3	Ant1	Hop	1.63	160	0.261	≤0.4	PASS
2DH5	Ant1	Hop	2.87	106.67	0.306	≤0.4	PASS