

4. OCCUPIED BANDWIDTH TEST

4.1 APPLIED PROCEDURES / LIMIT

LP0002				
Section	Test Item	Limit	Frequency Range (MHz)	Result
3.10.1(6.2.1)	Bandwidth	$\geq 500\text{kHz}$ (6dB bandwidth)	2400-2483.5	PASS

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	$>$ Measurement Bandwidth or Channel Separation
RB	100 kHz (6dB Bandwidth) / 100 kHz (Channel Separation)
VB	300 kHz (6dB Bandwidth) / 300 kHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 100kHz, VBW=300kHz, Sweep time = Auto.

4.1.2 TEST SETUP



4.1.3 EUT OPERATION CONDITIONS

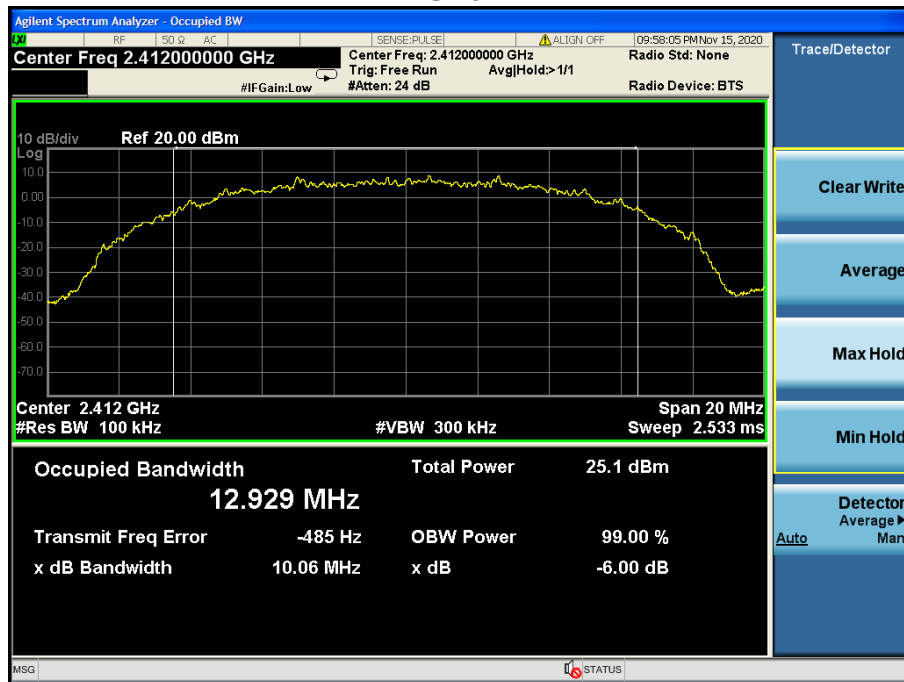
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

4.1.4 TEST RESULTS

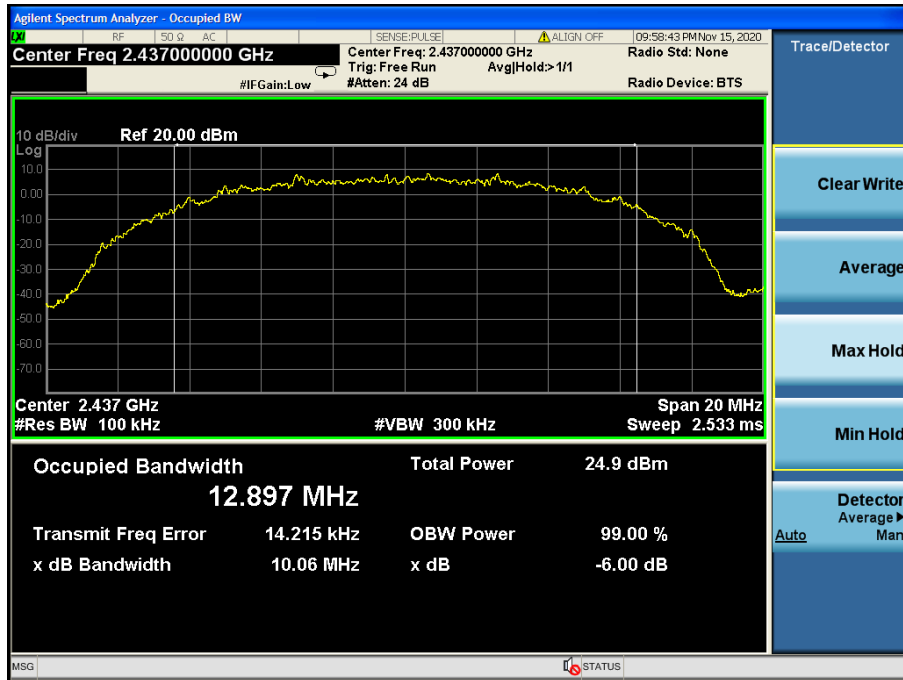
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01 / CH06 /CH11(802.11b Data rate 1Mbps)-ESP32		
Test Date :	2020-11-15		

Frequency	6dB Bandwidth (MHz)	Limit (kHz)	Result
2412 MHz	10.06	≥ 500	Pass
2437 MHz	10.06	≥ 500	Pass
2462 MHz	10.06	≥ 500	Pass

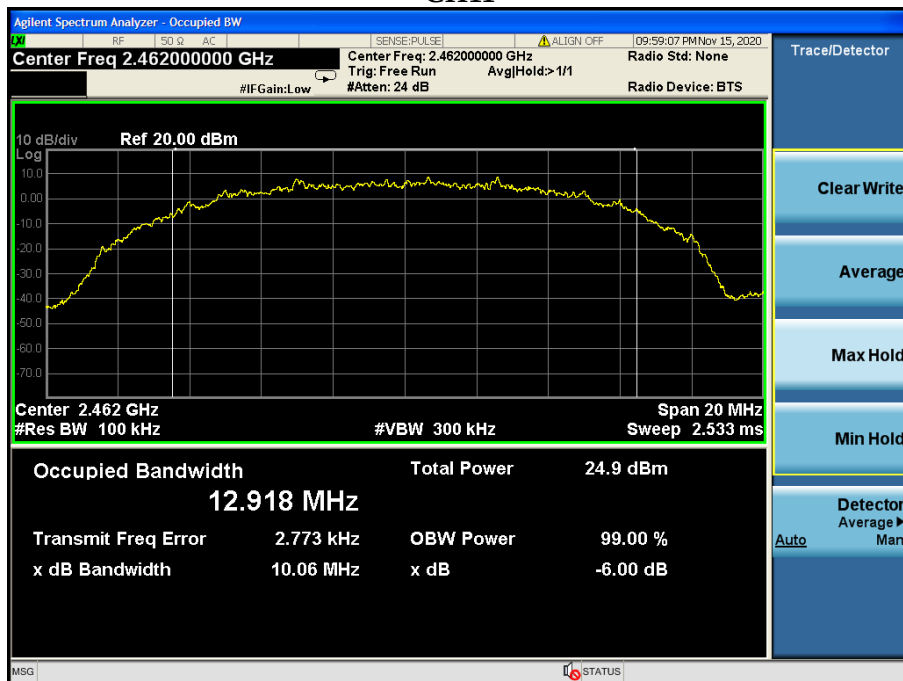
CH01



CH06



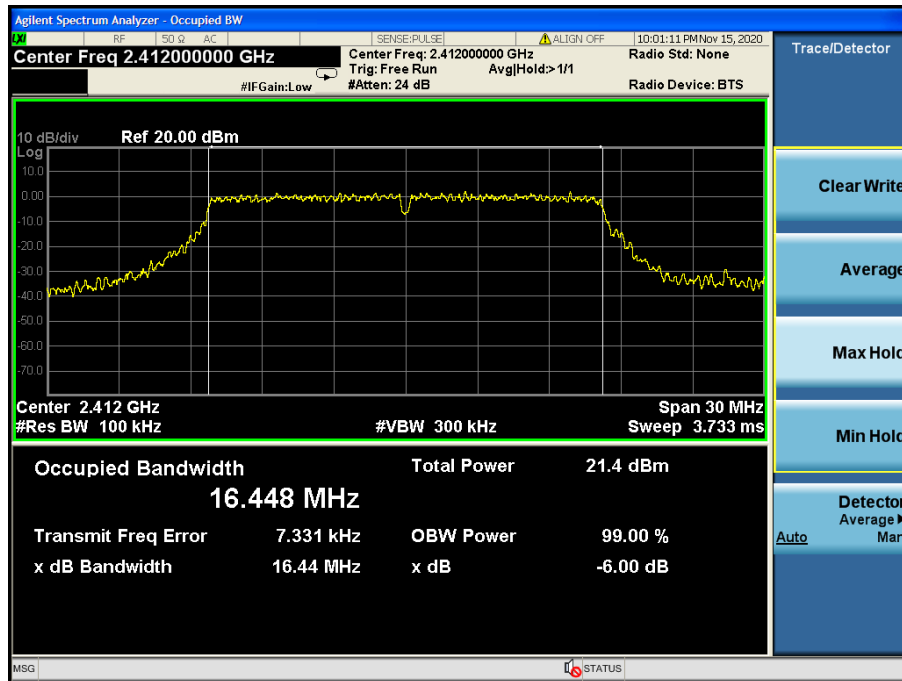
CH11



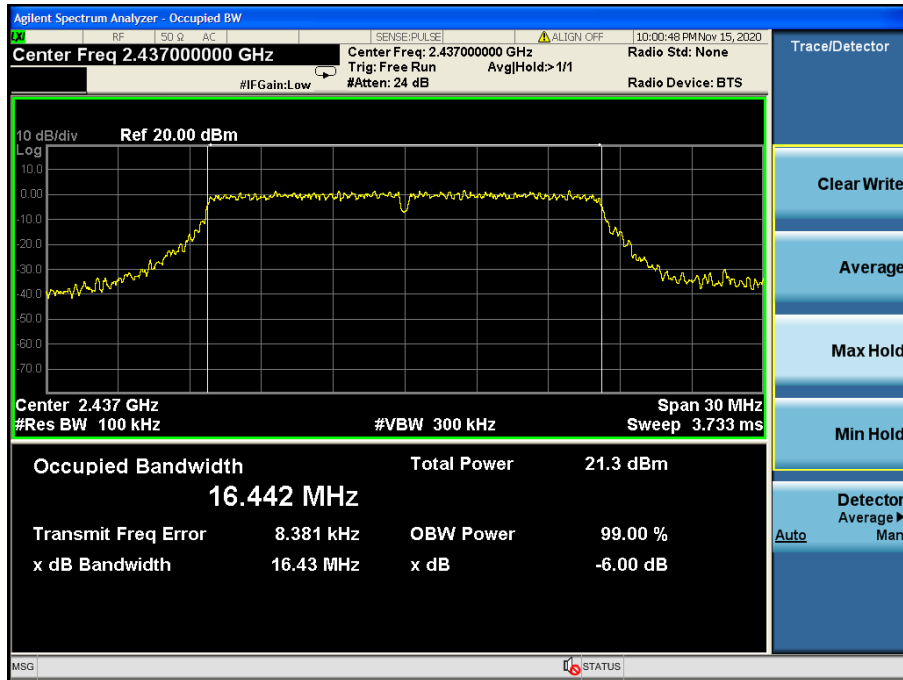
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01 / CH06 / CH11(802.11g Data rate 6Mbps)-ESP32		
Test Date :	2020-11-15		

Frequency	6dB Bandwidth (MHz)	Limit (kHz)	Result
2412 MHz	16.44	≥ 500	Pass
2437 MHz	16.43	≥ 500	Pass
2462 MHz	16.44	≥ 500	Pass

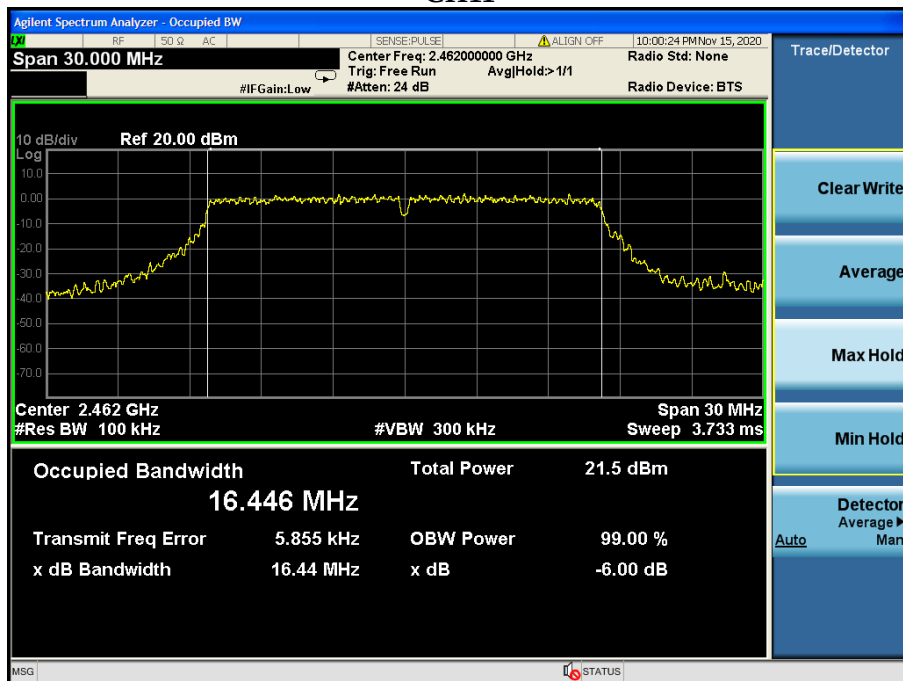
CH01



CH06



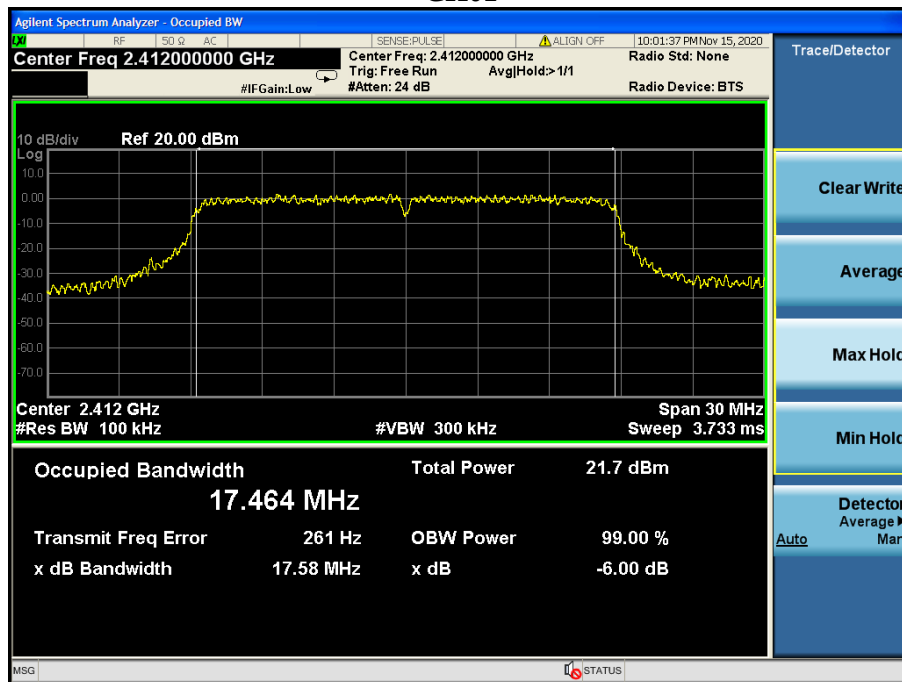
CH11



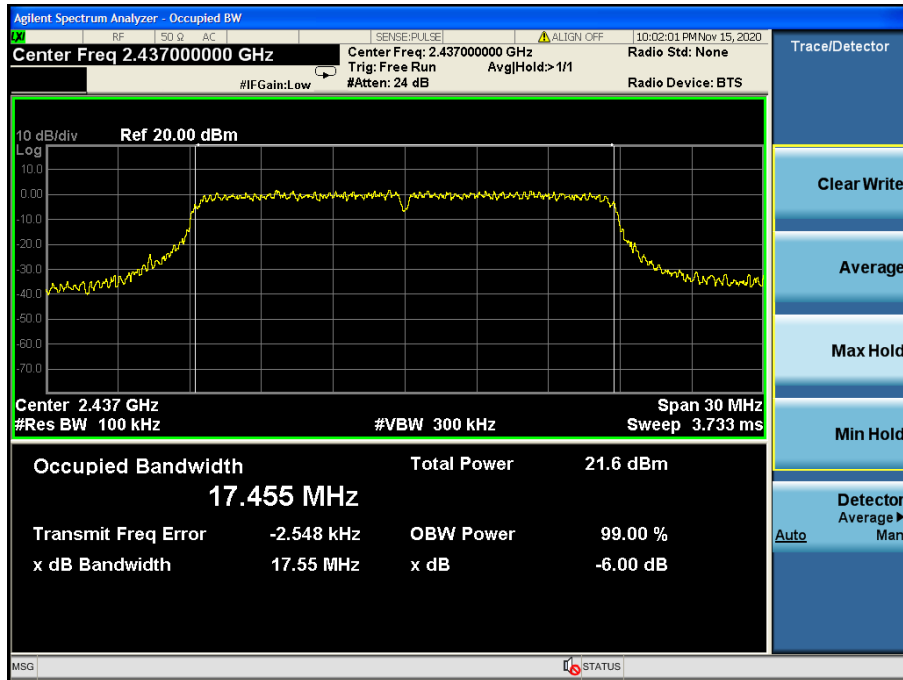
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01 / CH06/ CH11(802.11n20 Data rate 6.5Mbps) -ESP32		
Test Date :	2020-11-15		

Frequency	6dB Bandwidth (MHz)	Limit (kHz)	Result
2412 MHz	17.58	≥ 500	Pass
2437 MHz	17.55	≥ 500	Pass
2462 MHz	17.33	≥ 500	Pass

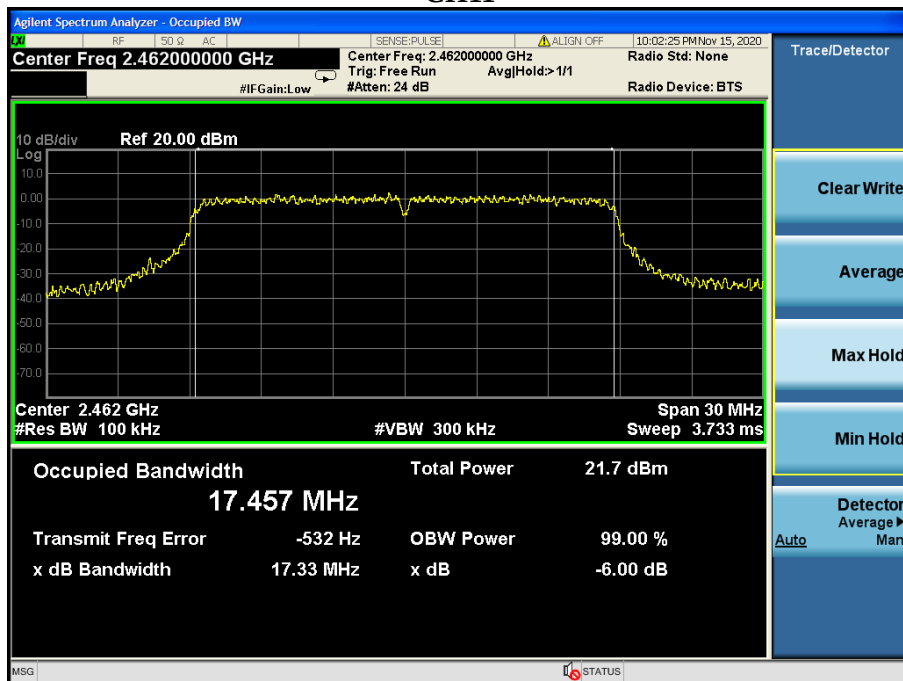
CH01



CH06



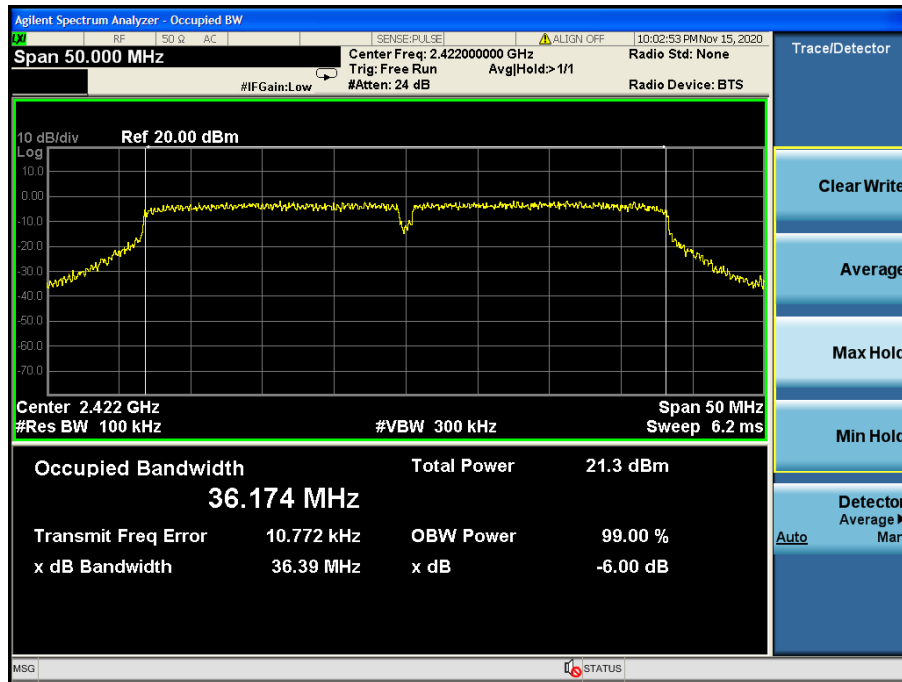
CH11



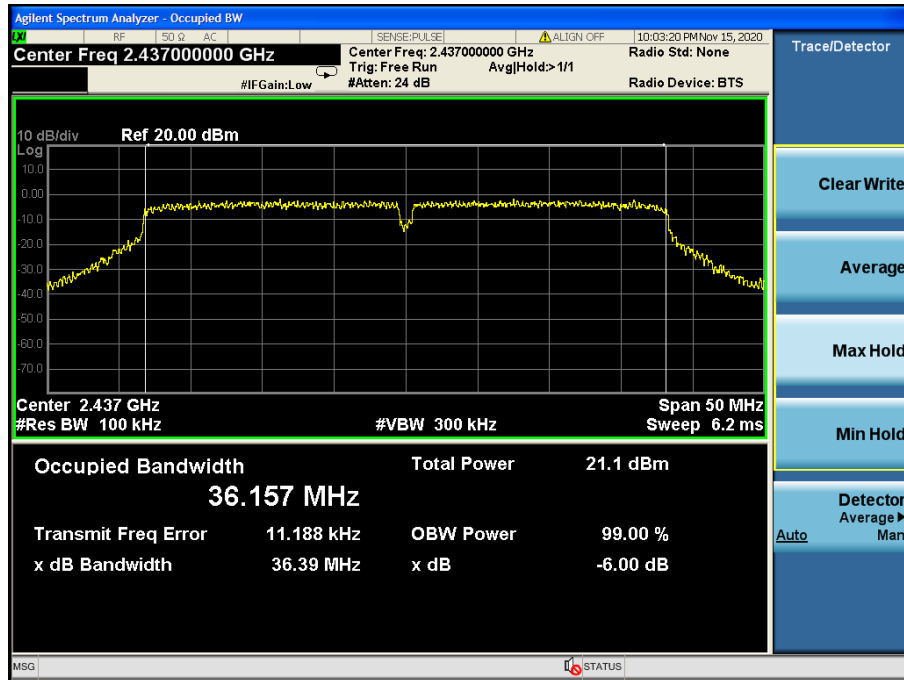
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH03 / CH06/ CH09(802.11n40 Data rate 13.5Mbps) -ESP32		
Test Date :	2020-11-15		

Frequency	6dB Bandwidth (MHz)	Limit (kHz)	Result
2422 MHz	36.39	≧ 500	Pass
2437 MHz	36.39	≧ 500	Pass
2452 MHz	36.39	≧ 500	Pass

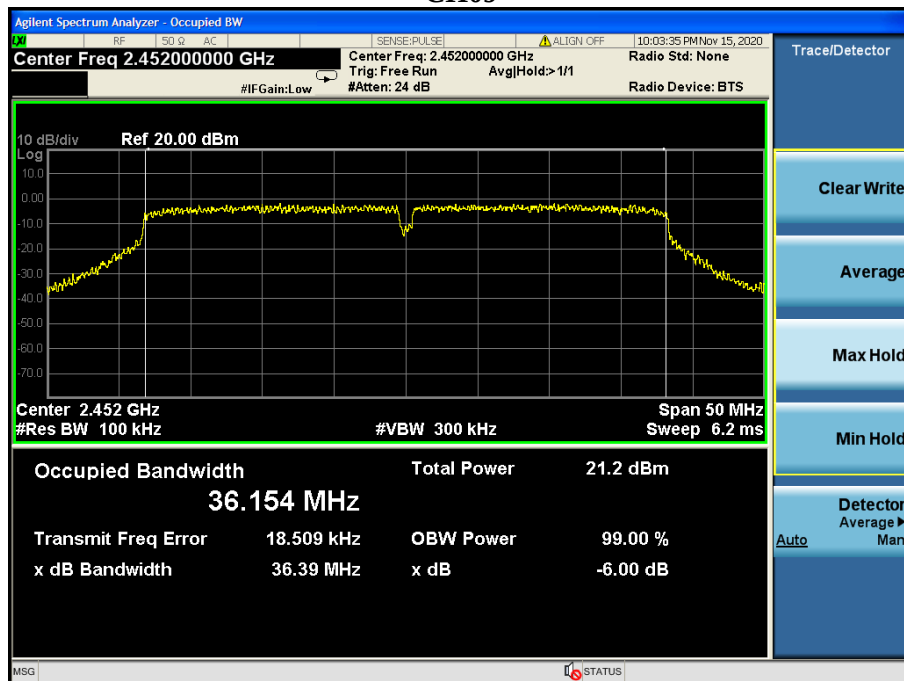
CH03



CH06



CH09

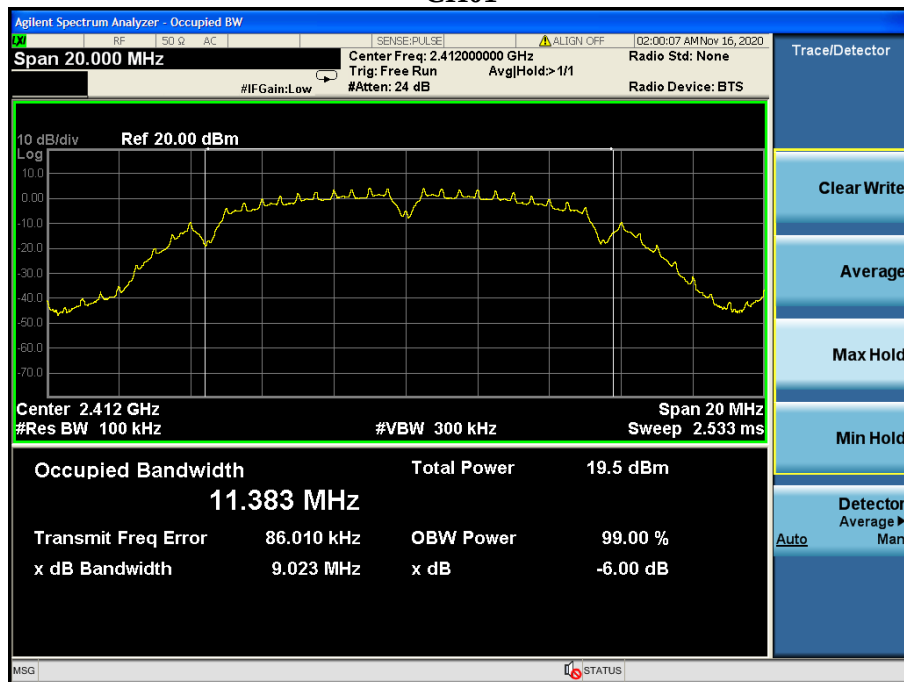


ANT 1(2) Represent the value of antenna 1 and 2, The worst data is 1 Antenna a ,only shown Antenna 1 Plot.

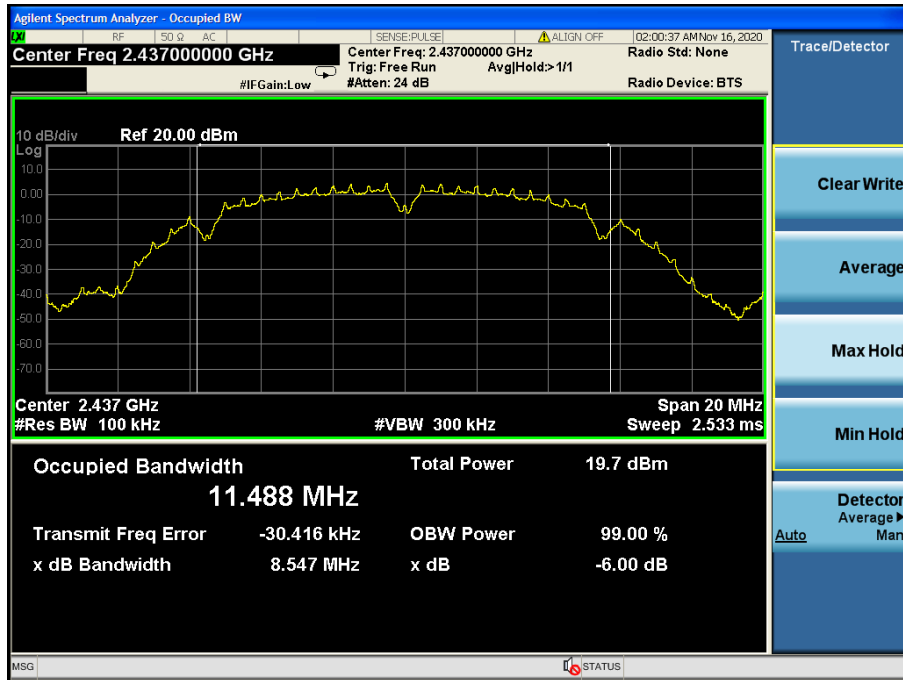
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01 / CH06 /CH11(802.11b Data rate 1Mbps)-AP6356S		
Test Date :	2020-11-16		

Frequency	6dB Bandwidth (MHz) ANT 1	6dB Bandwidth (MHz) ANT 2	Limit (kHz)	Result
2412 MHz	9.023	8.826	≥ 500	Pass
2437 MHz	8.547	8.124	≥ 500	Pass
2462 MHz	8.575	8.203	≥ 500	Pass

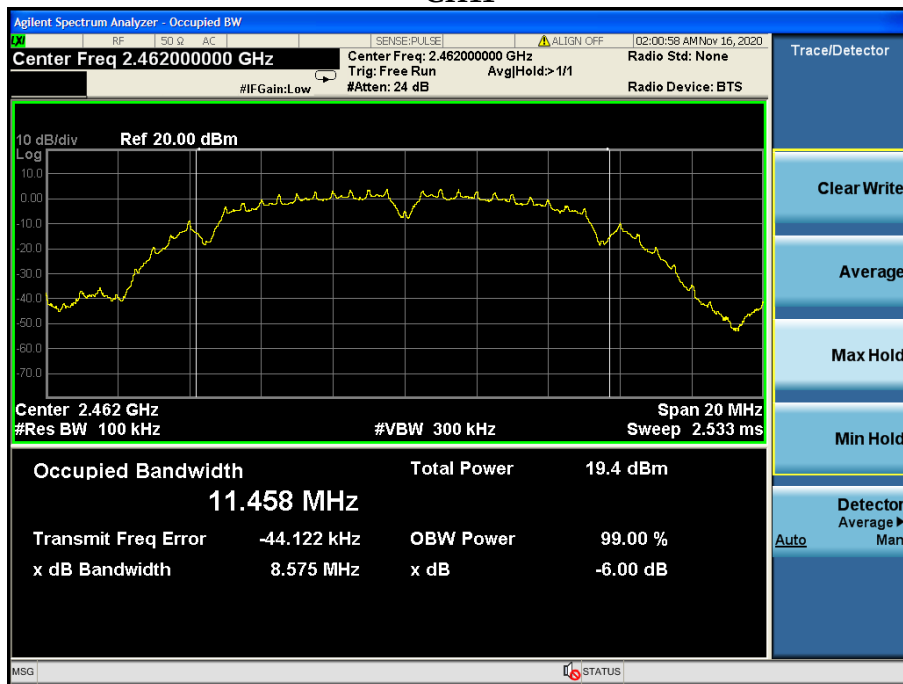
CH01



CH06



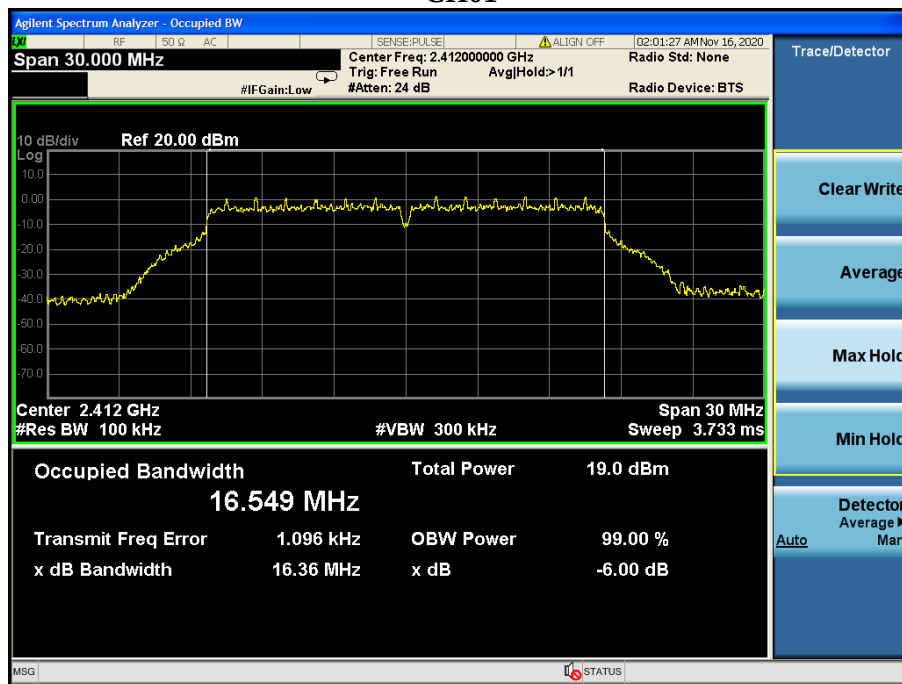
CH11



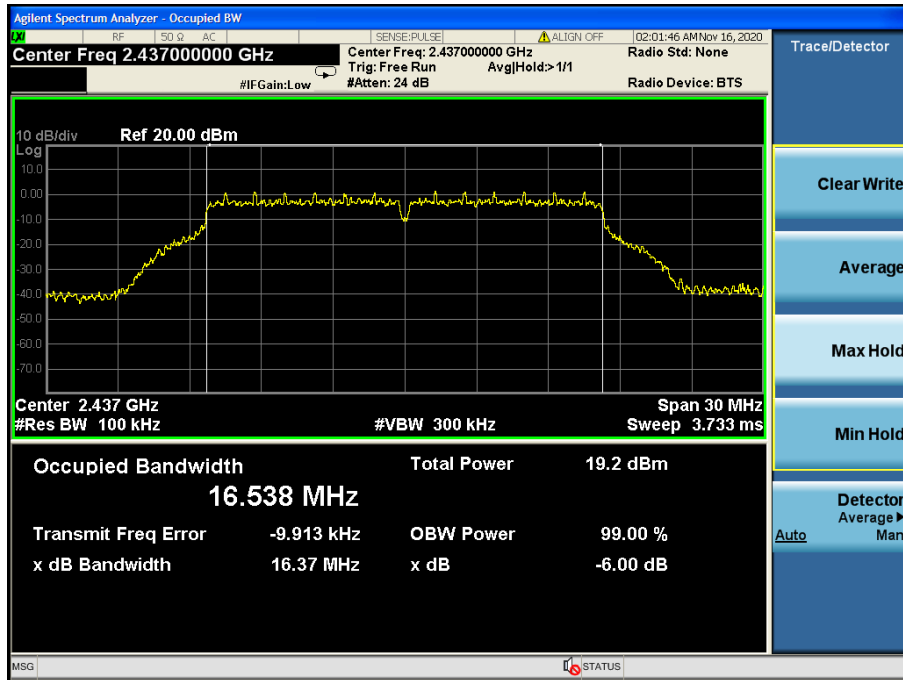
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01 / CH06 / CH11(802.11g Data rate 6Mbps)-AP6356S		
Test Date :	2020-11-16		

Frequency	6dB Bandwidth (MHz) ANT 1	6dB Bandwidth (MHz) ANT 2	Limit (kHz)	Result
2412 MHz	16.36	16.21	≥ 500	Pass
2437 MHz	16.37	16.15	≥ 500	Pass
2462 MHz	16.38	16.17	≥ 500	Pass

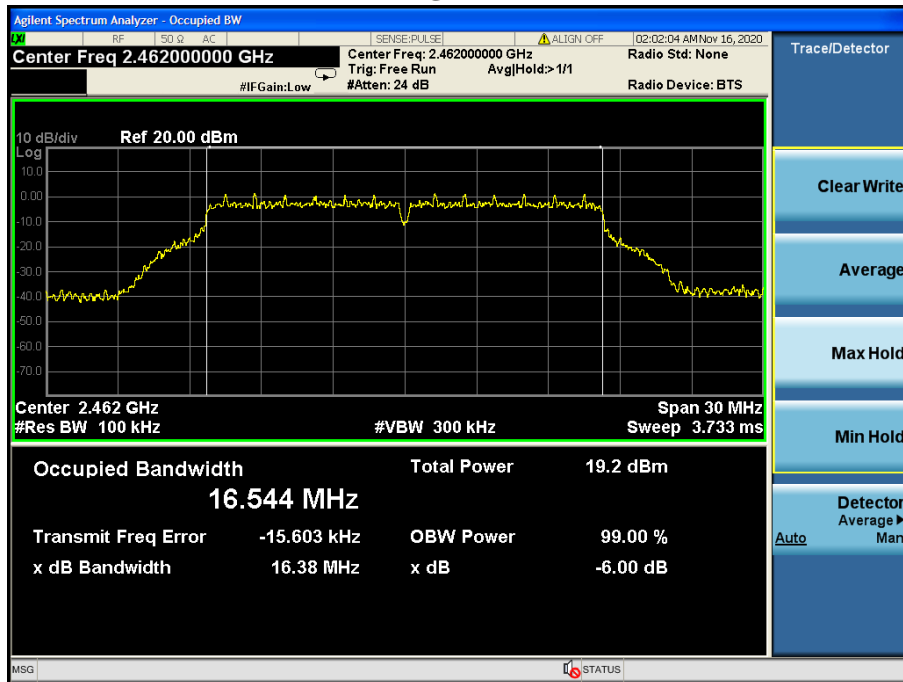
CH01



CH06



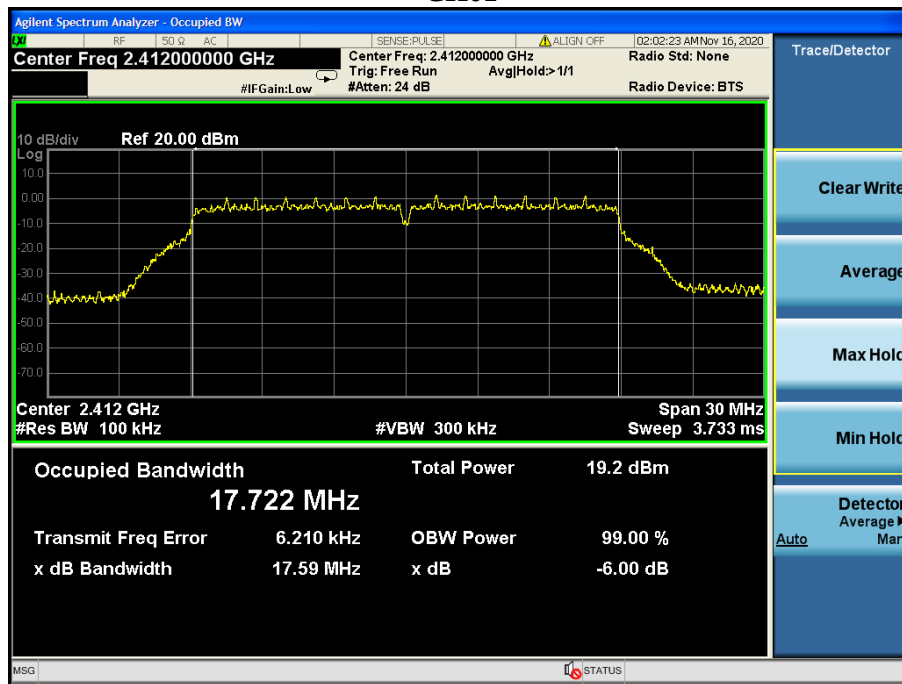
CH11



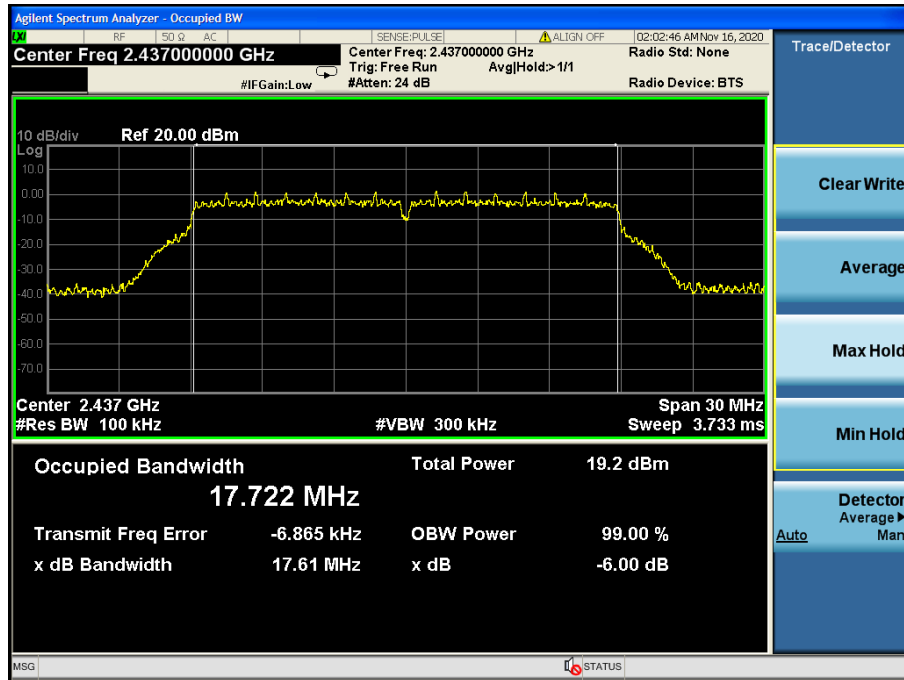
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01 / CH06/ CH11(802.11n20 Data rate 6.5Mbps) -AP6356S		
Test Date :	2020-11-16		

Frequency	6dB Bandwidth (MHz) ANT 1	6dB Bandwidth (MHz) ANT 2	Limit (kHz)	Result
2412 MHz	17.59	17.43	≥ 500	Pass
2437 MHz	17.61	17.38	≥ 500	Pass
2462 MHz	17.58	17.39	≥ 500	Pass

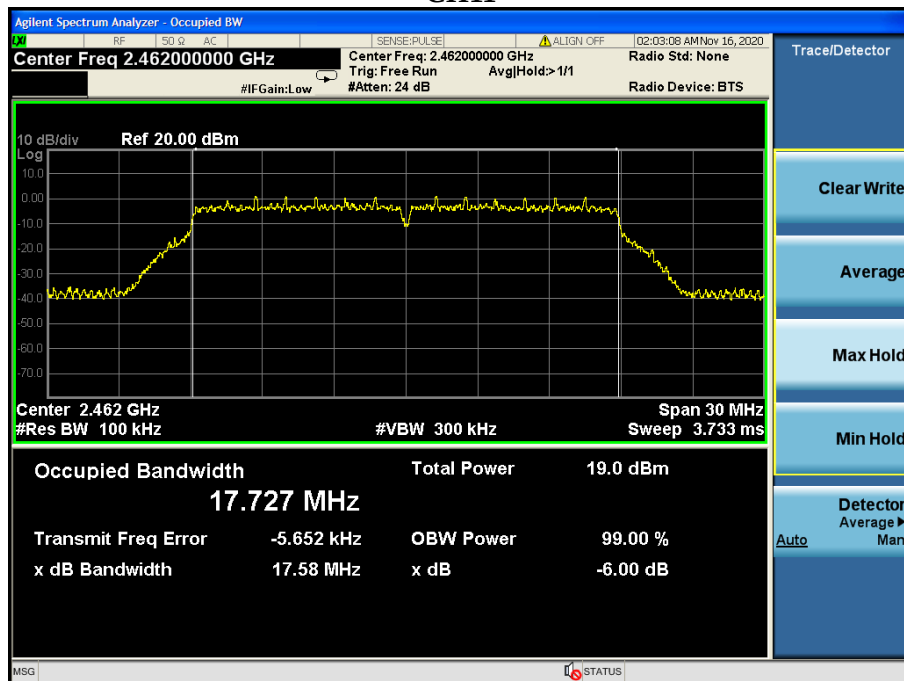
CH01



CH06



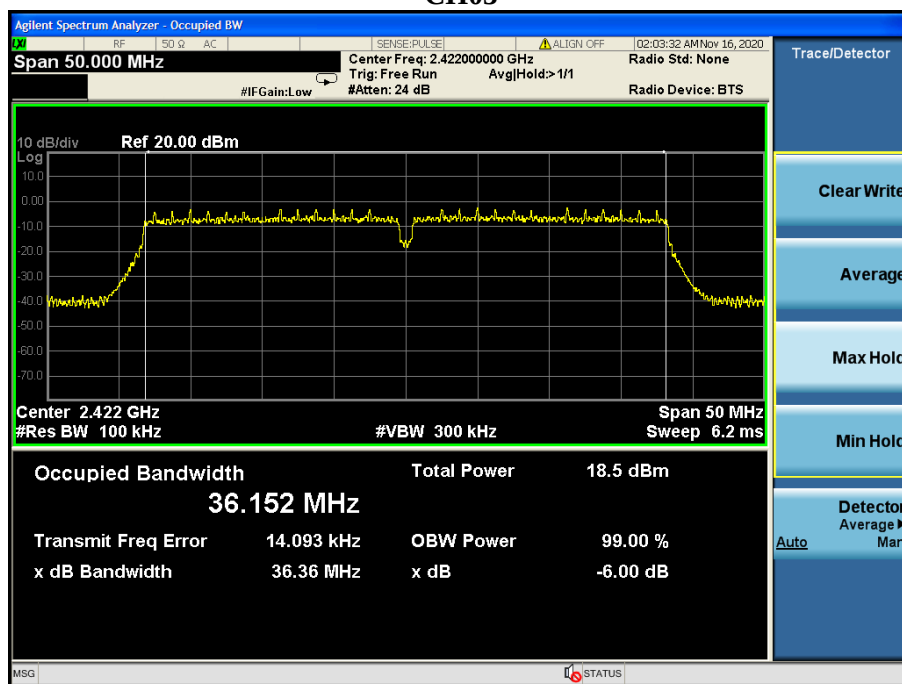
CH11



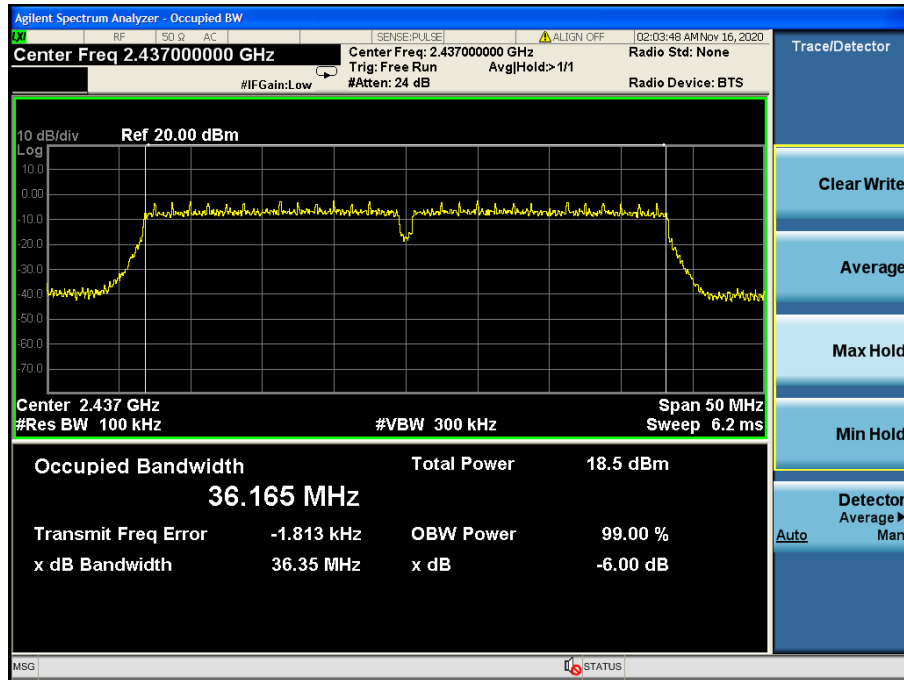
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH03 / CH06/ CH09(802.11n40 Data rate 13.5Mbps) -AP6356S		
Test Date :	2020-11-16		

Frequency	6dB Bandwidth (MHz) ANT 1	6dB Bandwidth (MHz) ANT 2	Limit (kHz)	Result
2422 MHz	36.36	36.02	≥ 500	Pass
2437 MHz	36.35	36.12	≥ 500	Pass
2452 MHz	36.39	36.09	≥ 500	Pass

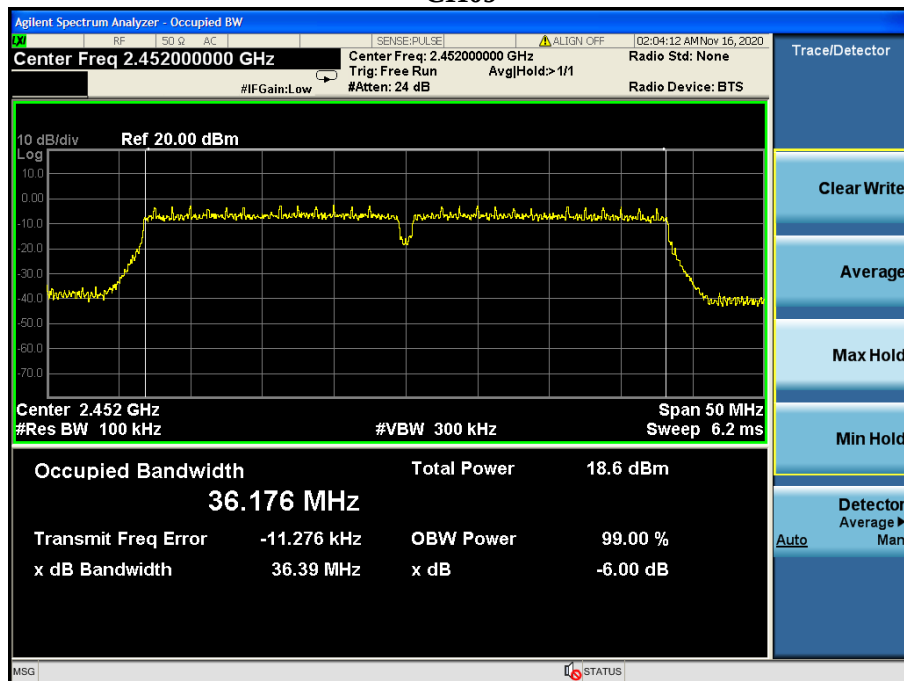
CH03



CH06



CH09



5. POWER DENSITY

5.1 APPLIED PROCEDURES / LIMIT

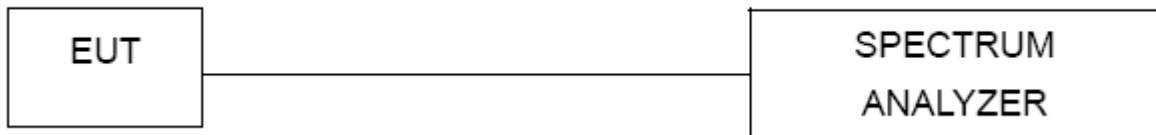
LP0002				
Section	Test Item	Limit	Frequency Range (MHz)	Result
3.10.1(6.2.2)	Power density	8dBm	2400-2483.5	PASS

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating Frequency Range
RB	3 kHz
VB	10 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 3kHz, VBW=10kHz, Sweep time = 100S, Span=300kHz.

5.1.2 TEST SETUP



5.1.3 EUT OPERATION CONDITIONS

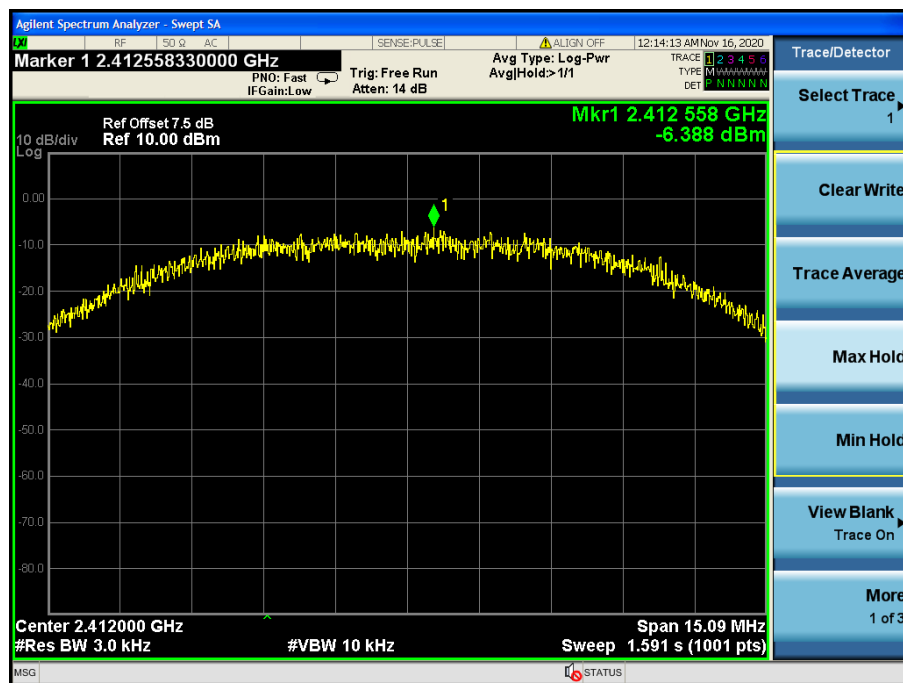
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.4 TEST RESULTS

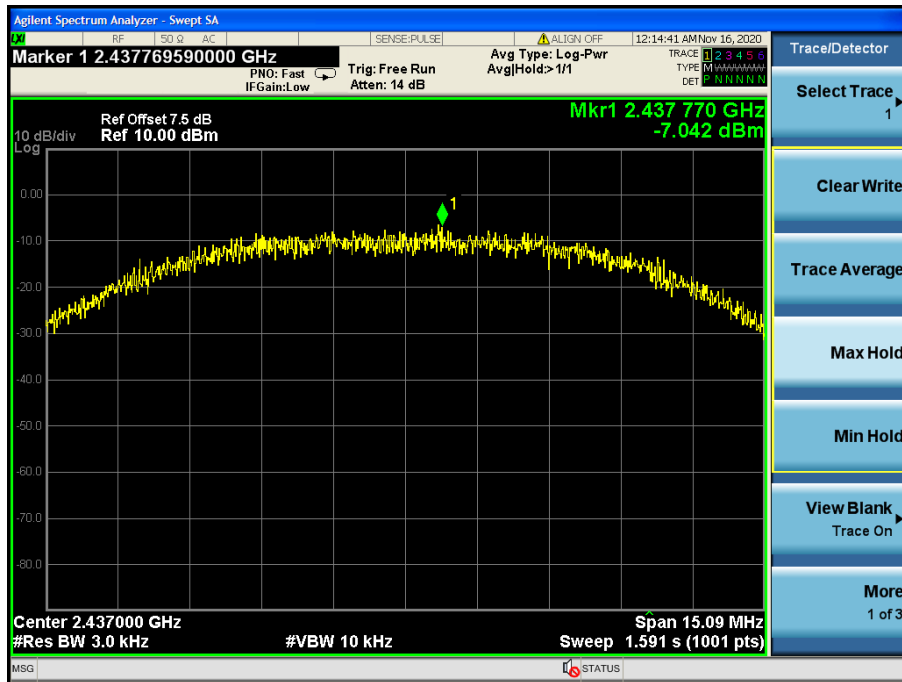
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01 /CH06 /CH11 (802.11b Data rate 1Mbps) -ESP32		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH01	2412 MHz	-6.388	8
CH06	2437 MHz	-7.042	8
CH11	2462 MHz	-7.425	8

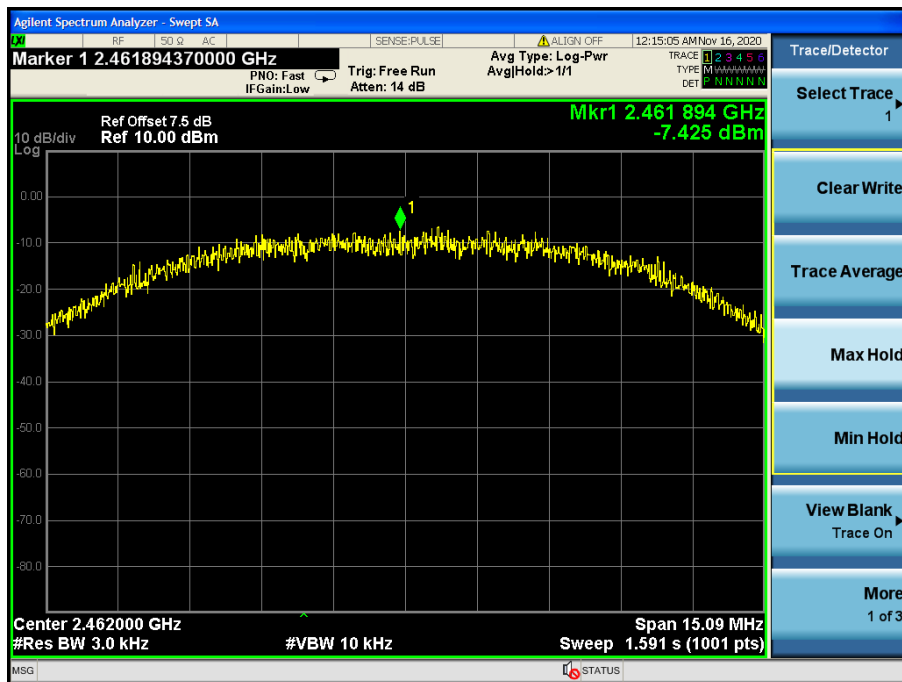
CH01



CH06



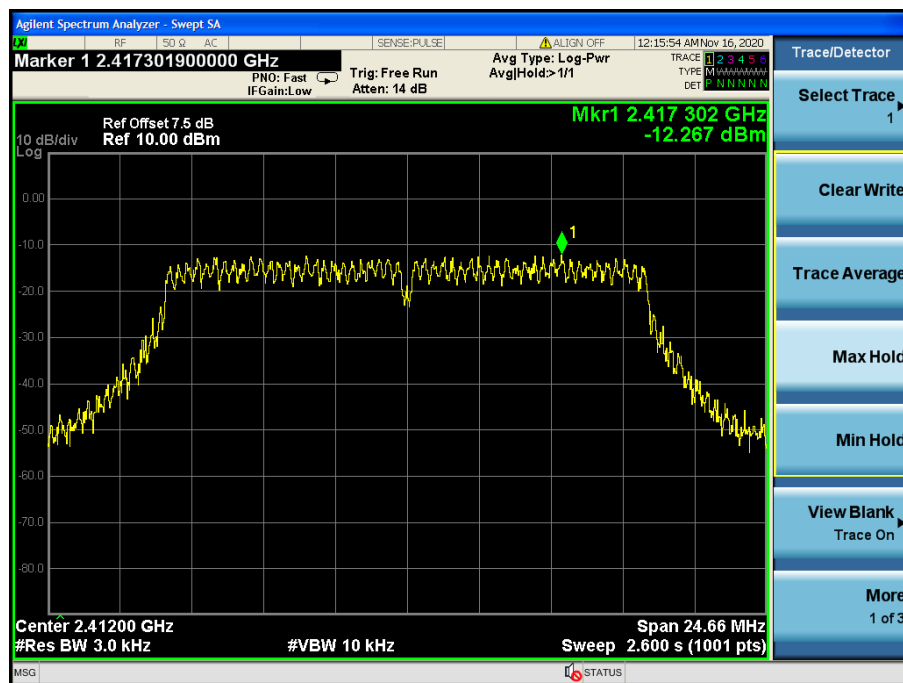
CH11



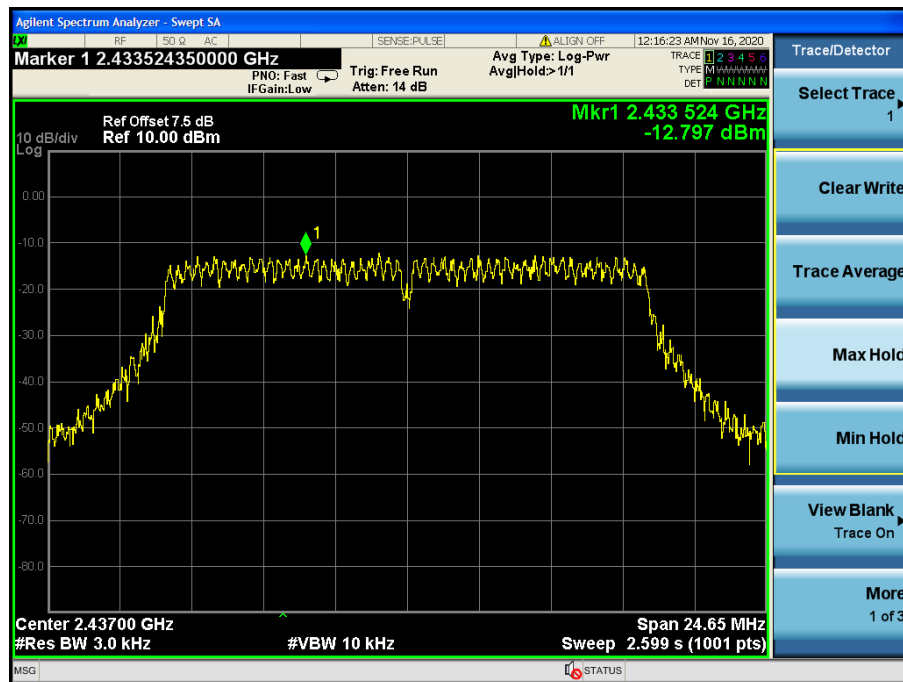
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01 / CH06/CH11 (802.11g Data rate 6Mbps) -ESP32		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH01	2412 MHz	-12.267	8
CH06	2437 MHz	-12.797	8
CH11	2462 MHz	-12.058	8

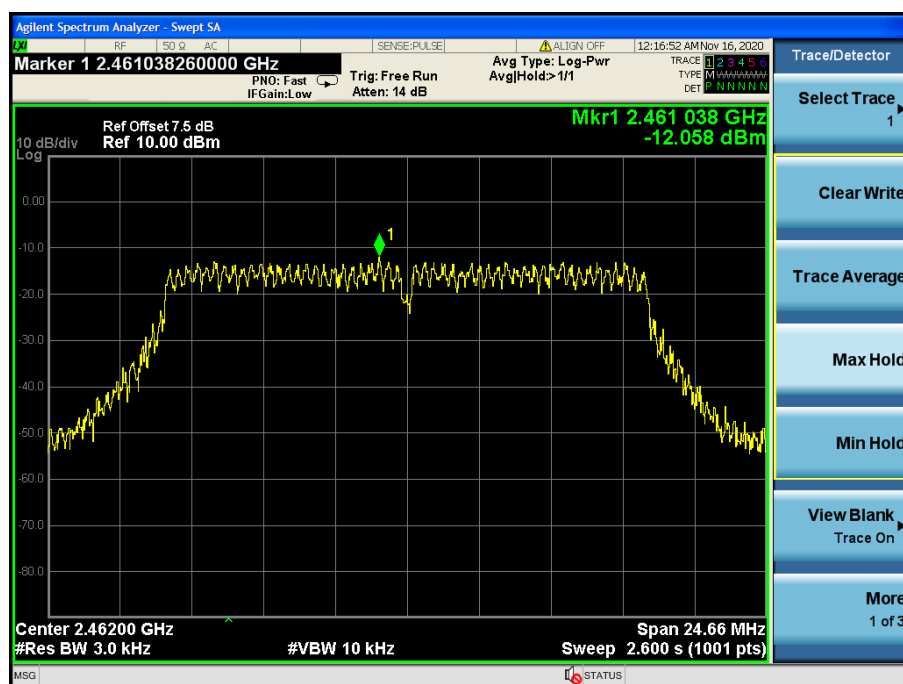
CH01



CH06



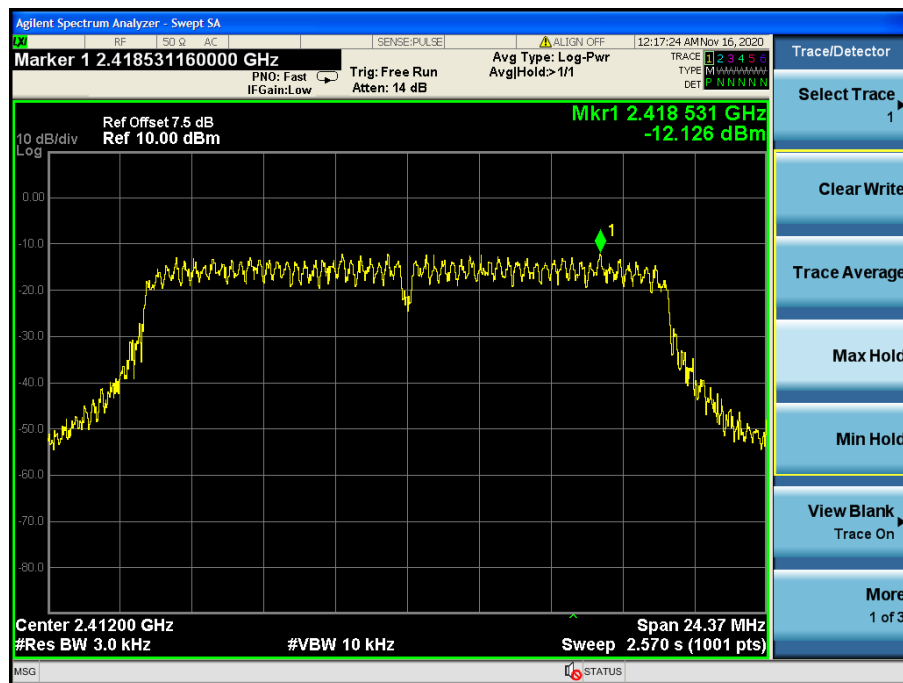
CH11



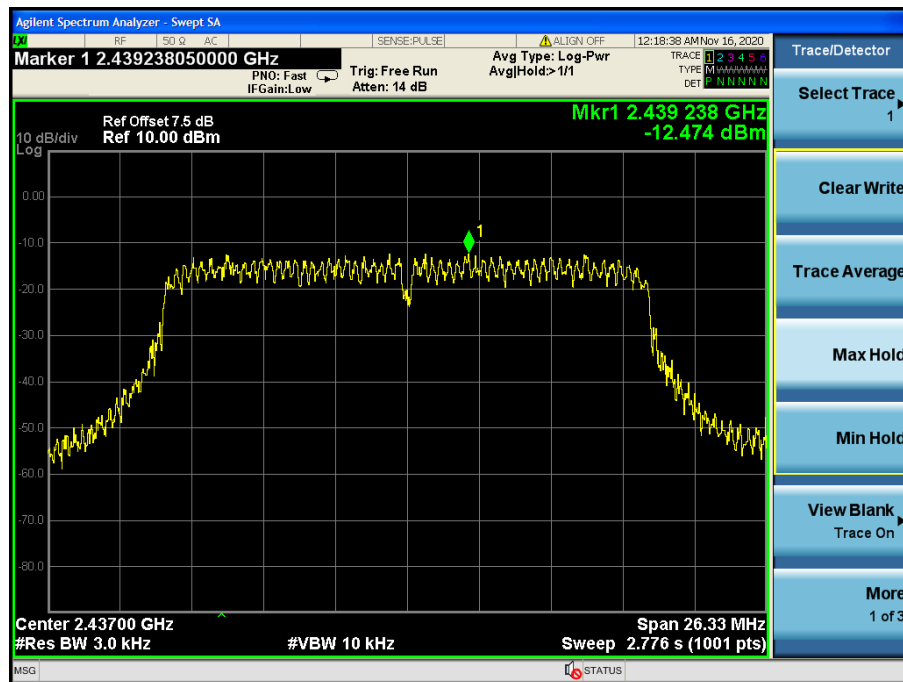
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01 / CH06/ CH11 (802.11n20 Data rate 6.5Mbps) -ESP32		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH01	2412 MHz	-12.126	8
CH06	2437 MHz	-12.474	8
CH11	2462 MHz	-12.471	8

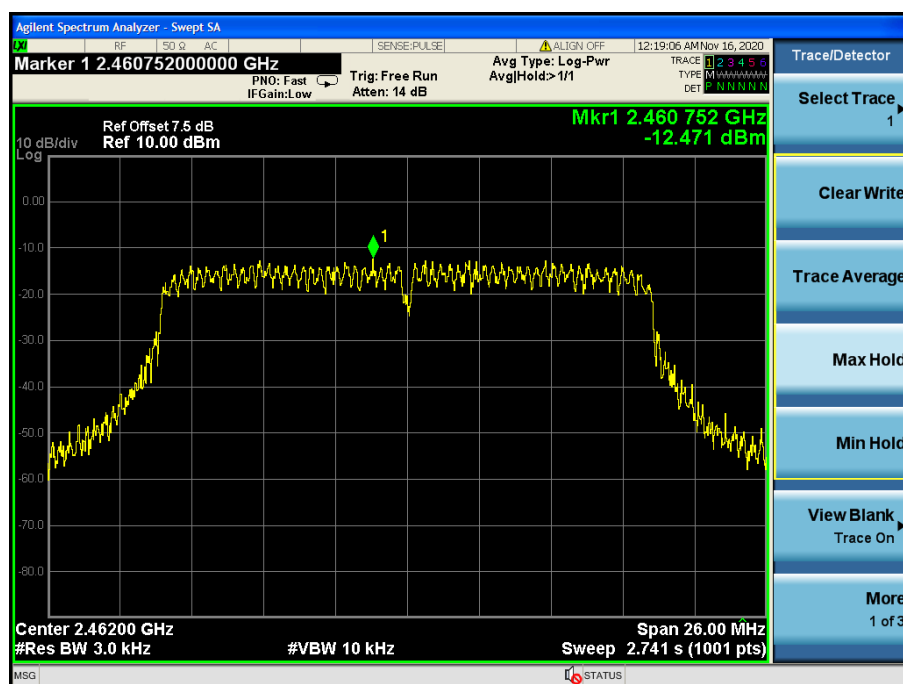
CH01



CH06



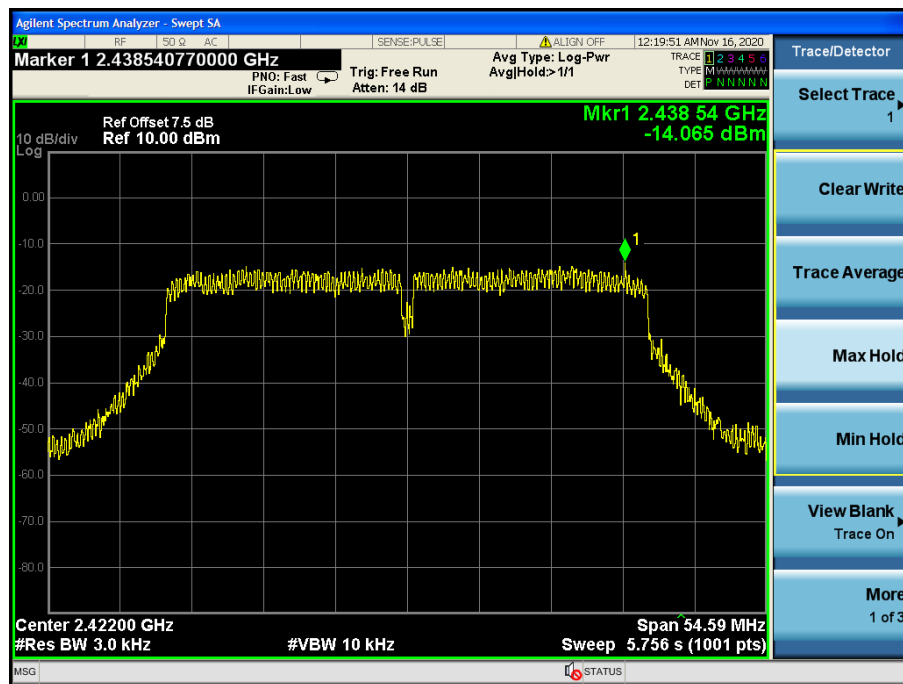
CH11



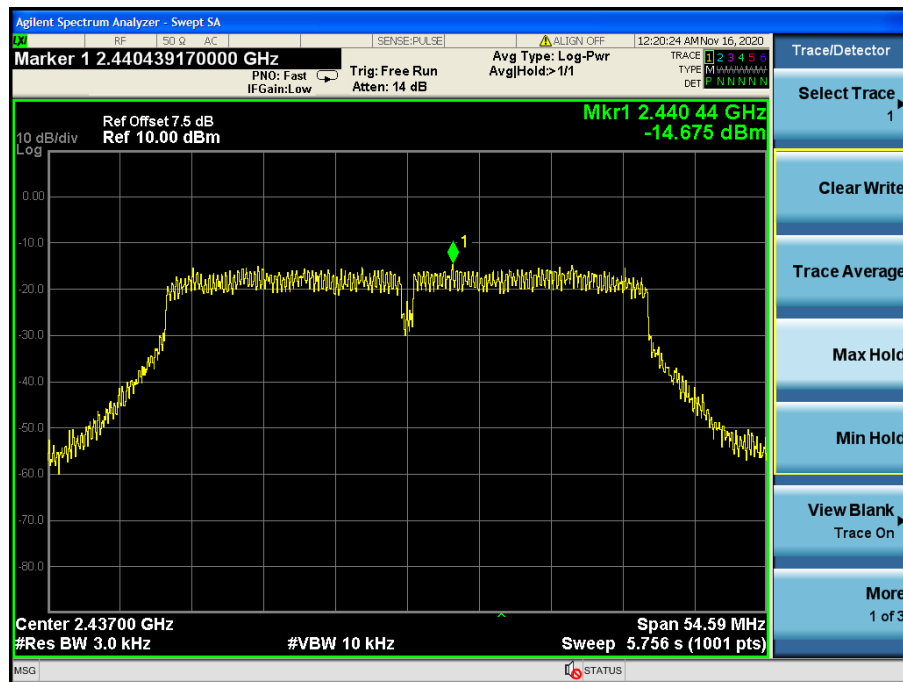
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH03 / CH06/ CH09 (802.11n40 Data rate 13.5Mbps) -ESP32		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH03	2422 MHz	-14.065	8
CH06	2437 MHz	-14.675	8
CH09	2452 MHz	-14.016	8

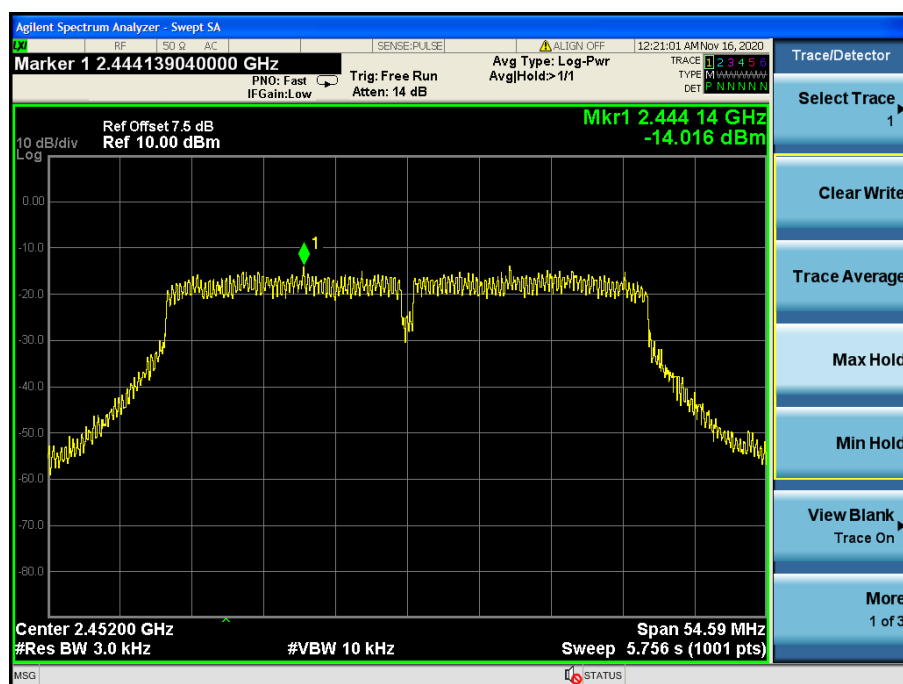
CH03



CH06



CH09



ANT 1(2) Represent the value of antenna 1 and 2, The worst data is 1 Antenna a ,only shown Antenna 1 Plot

EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01 /CH06 /CH11 (802.11b Data rate 1Mbps) -AP6356S		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Power Density (dBm)ANT 1	Power Density (dBm)ANT 2	Total Power Density (dBm)	LIMIT (dBm)
CH01	2412 MHz	-9.892	-10.226	--	8
CH06	2437 MHz	-10.472	-10.987	--	8
CH11	2462 MHz	-9.146	-9.663	--	8

CH01



CH06



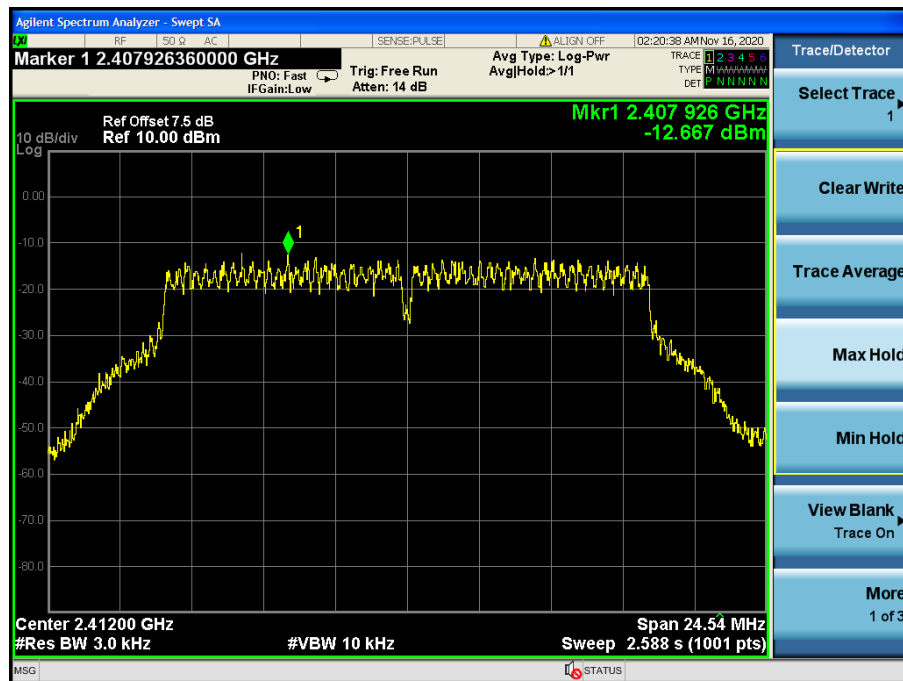
CH11



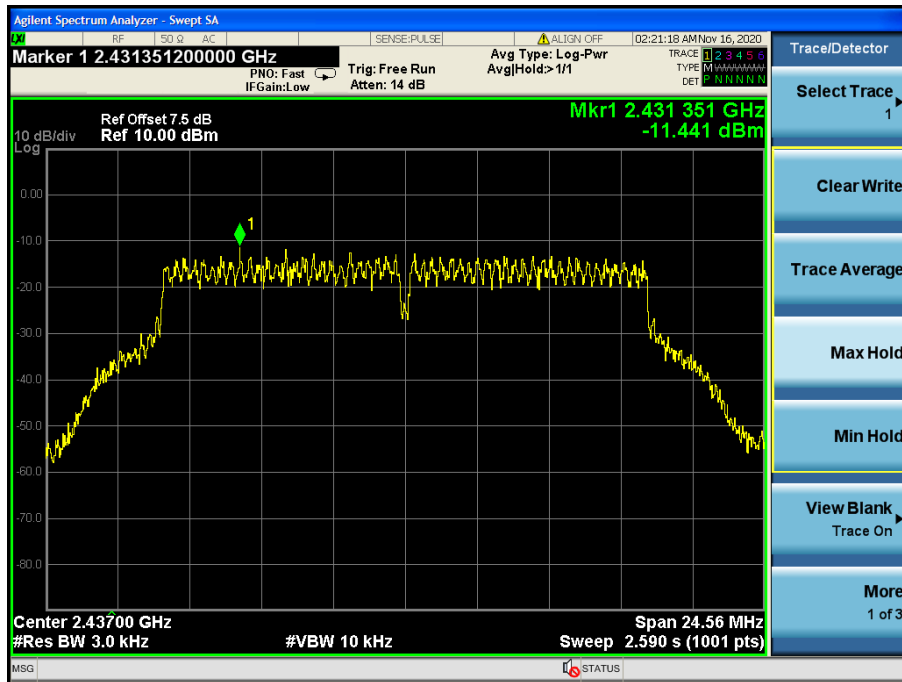
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01 / CH06/CH11 (802.11g Data rate 6Mbps) -AP6356S		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Power Density (dBm)ANT 1	Power Density (dBm)ANT 2	Total Power Density (dBm)	LIMIT (dBm)
CH01	2412 MHz	-12.667	-13.005	--	8
CH06	2437 MHz	-11.441	-12.158	--	8
CH11	2462 MHz	-13.519	-13.475	--	8

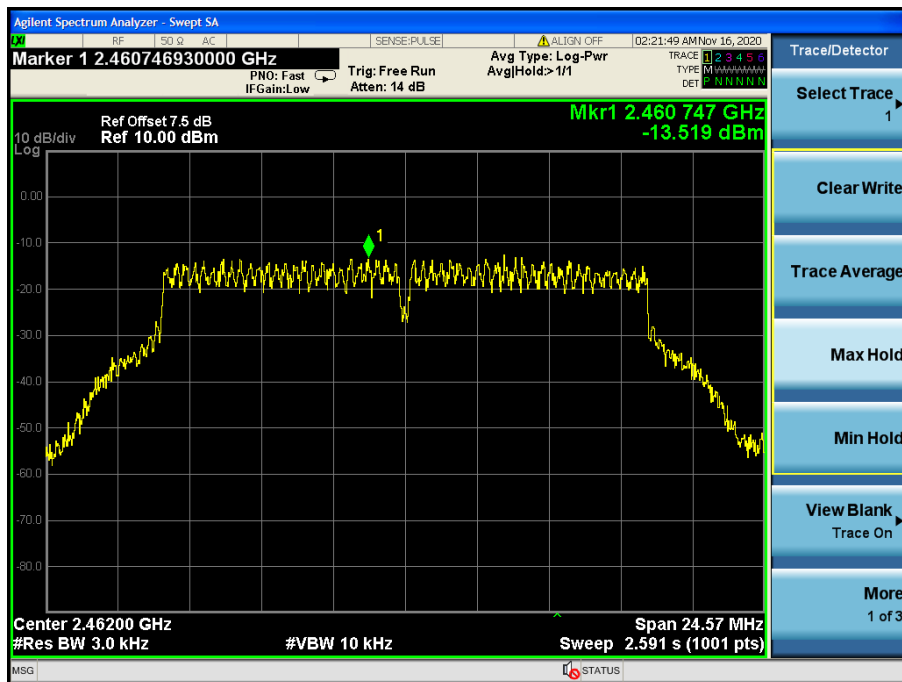
CH01



CH06



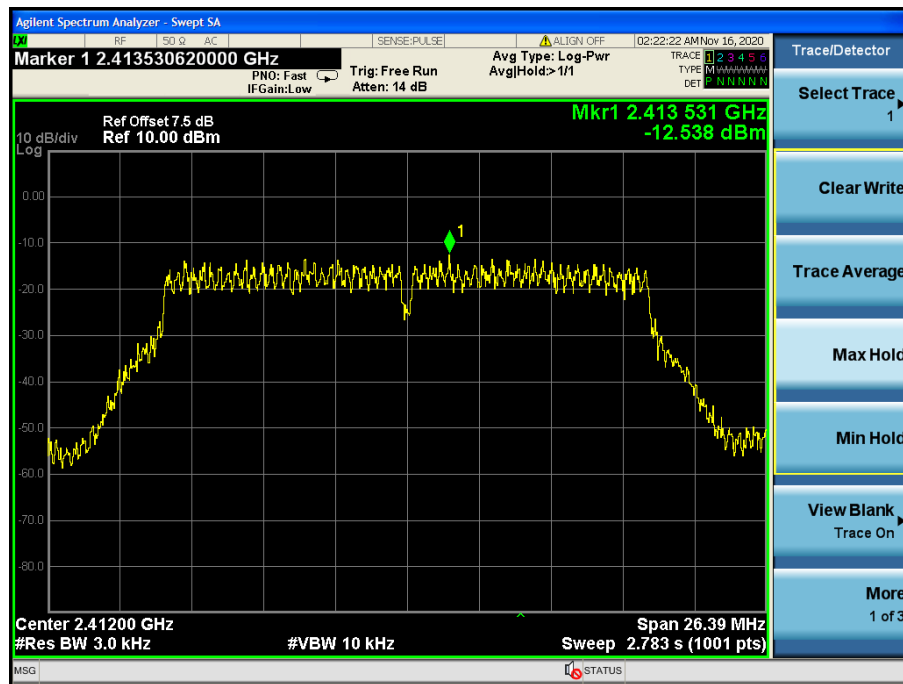
CH11



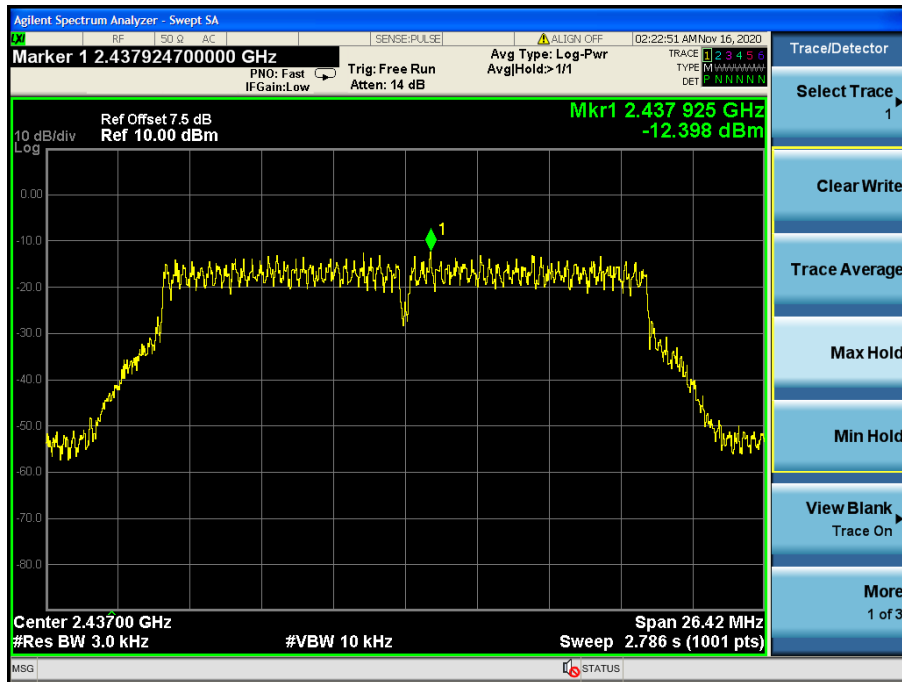
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01 / CH06/ CH11 (802.11n20 Data rate 6.5Mbps) -AP6356S		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Power Density (dBm)ANT 1	Power Density (dBm)ANT 2	Total Power Density (dBm)	LIMIT (dBm)
CH01	2412 MHz	-12.538	-12.776	-9.65	7.49
CH06	2437 MHz	-12.398	-12.845	-9.61	7.49
CH11	2462 MHz	-13.095	-13.669	-10.36	7.49

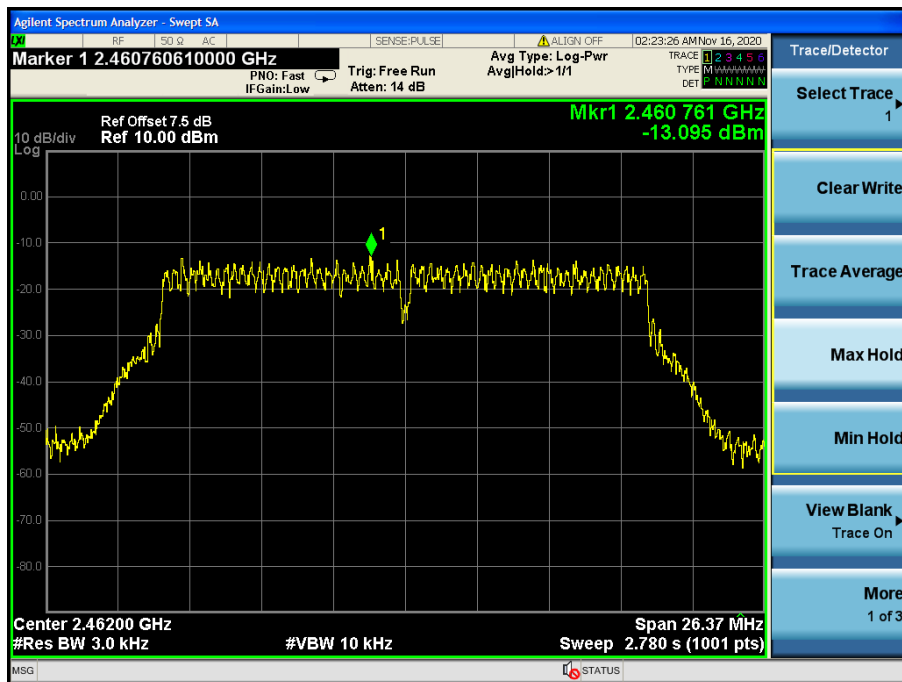
CH01



CH06



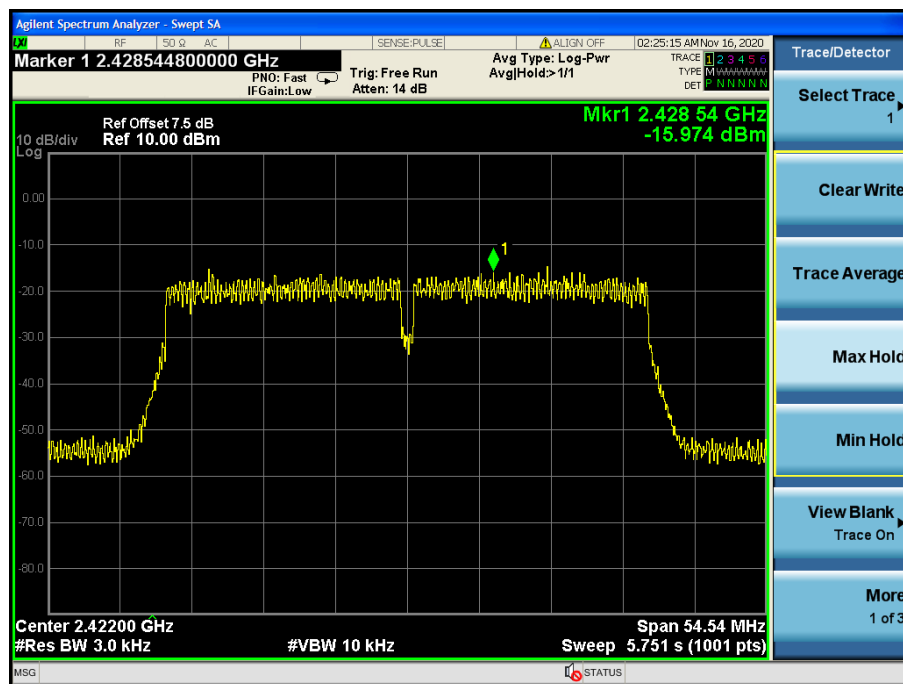
CH11



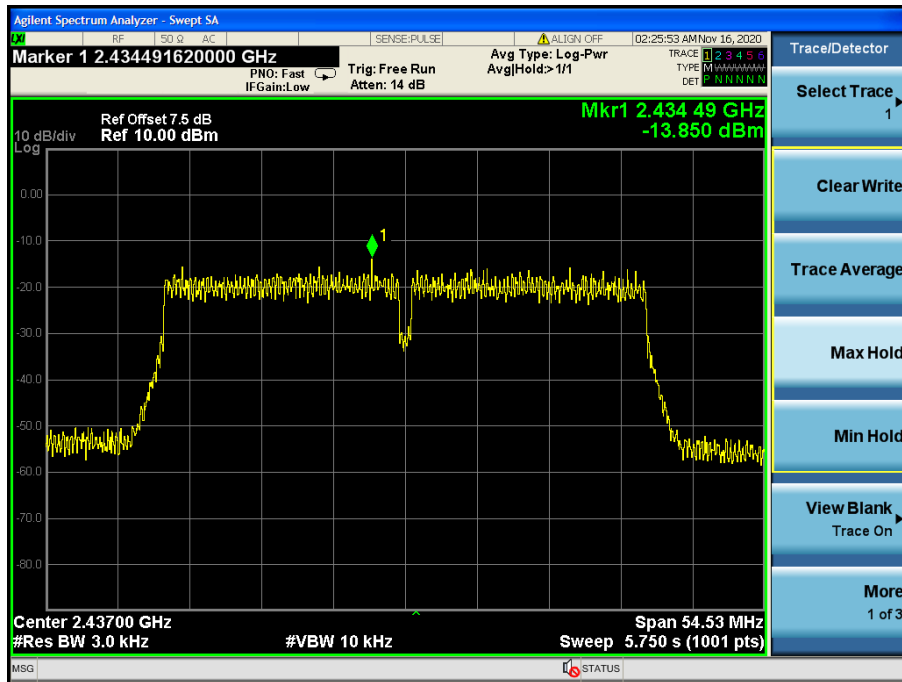
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH03 / CH06/ CH09 (802.11n40 Data rate 13.5Mbps) -AP6356S		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Power Density (dBm)ANT 1	Power Density (dBm)ANT 2	Total Power Density (dBm)	LIMIT (dBm)
CH03	2412 MHz	-15.974	-16.187	-13.07	7.49
CH06	2437 MHz	-13.850	-14.227	-11.02	7.49
CH09	2462 MHz	-15.406	-16.103	-12.73	7.49

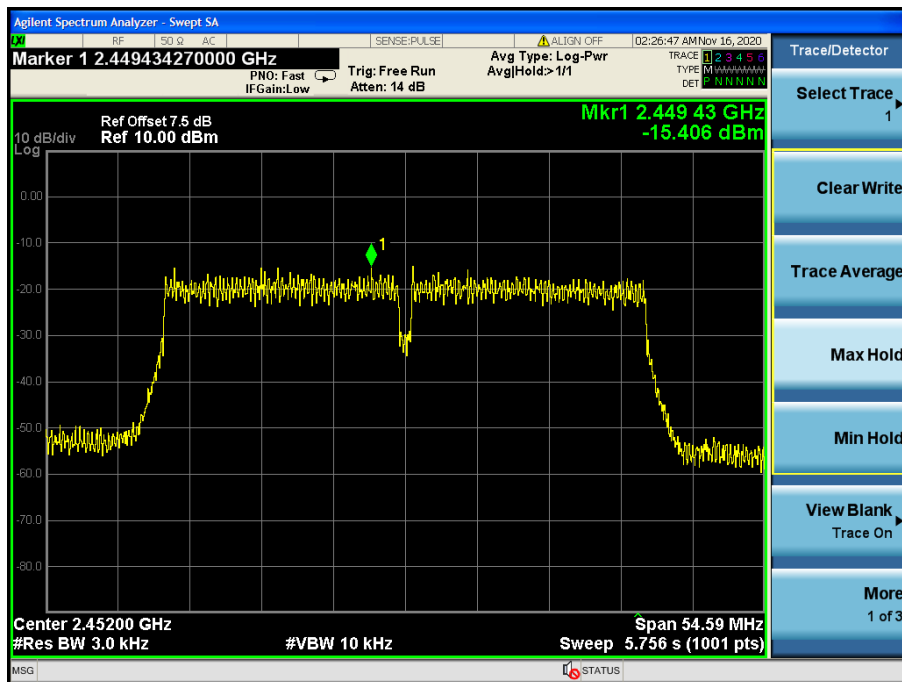
CH03



CH06



CH09



6. PEAK OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

LP0002				
Section	Test Item	Limit	Frequency Range (MHz)	Result
3.10.1(2)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

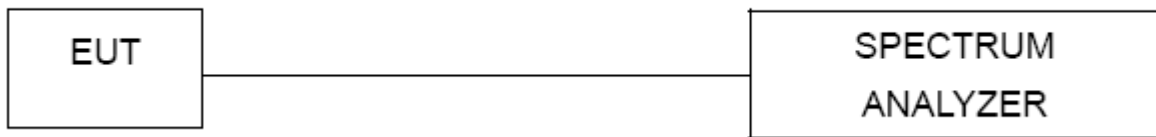
6.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 1MHz, VBW= 3MHz, Sweep time = Auto.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.5 TEST RESULTS

EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01/ CH06 /CH11 (802.11b Data rate 1Mbps) -ESP32		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	15.27	30	1
CH06	2437MHz	15.08	30	1
CH11	2462 MHz	15.13	30	1

EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01/ CH06 /CH11 (802.11g Data rate 6Mbps) -ESP32		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	14.36	30	1
CH06	2437MHz	14.29	30	1
CH11	2462 MHz	14.54	30	1

EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01/ CH06 /CH11 (802.11n20 Data rate 6.5Mbps) -ESP32		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	14.02	30	1
CH06	2437MHz	13.79	30	1
CH11	2462 MHz	13.85	30	1

EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH03/ CH06 /CH09 (802.11n40 Data rate 7.2Mbps) -ESP32		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH03	2422 MHz	12.76	30	1
CH06	2437MHz	12.59	30	1
CH09	2452 MHz	12.41	30	1

EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01/ CH06 /CH11 (802.11b Data rate 1Mbps) -AP6356S		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Output Power (dBm)ANT 1	Output Power (dBm)ANT 2	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	16.31	15.89	30	1
CH06	2437MHz	15.76	15.16	30	1
CH11	2462 MHz	15.38	15.07	30	1

EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01/ CH06 /CH11 (802.11g Data rate 6Mbps) -AP6356S		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Output Power (dBm)ANT 1	Output Power (dBm)ANT 2	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	15.20	14.81	30	1
CH06	2437MHz	14.53	14.05	30	1
CH11	2462 MHz	14.22	14.12	30	1

EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01/ CH06 /CH11 (802.11n20 Data rate 6.5Mbps) -AP6356S		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Output Power (dBm)ANT 1	Output Power (dBm)ANT 2	Total Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	14.66	13.58	17.16	29.49	1
CH06	2437MHz	14.31	13.86	17.10	29.49	1
CH11	2462 MHz	14.19	13.74	16.98	29.49	1

EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH03/ CH06 /CH09 (802.11n40 Data rate 7.2Mbps) -AP6356S		
Test Date :	2020-11-16		

Test Channel	Frequency (MHz)	Output Power (dBm)ANT 1	Output Power (dBm)ANT 2	Total Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH03	2422 MHz	13.05	12.85	15.96	29.49	1
CH06	2437MHz	13.47	13.07	16.28	29.49	1
CH09	2452 MHz	13.62	13.09	16.37	29.49	1

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 APPLIED PROCEDURES / LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified in Section 2.8.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

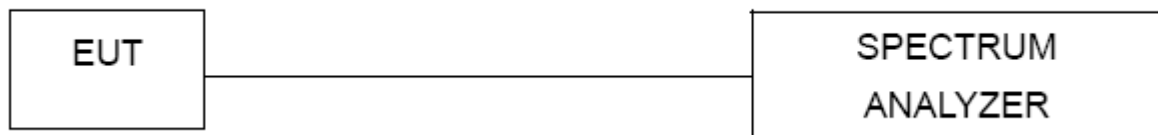
The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (other emission)	100 kHz /100 kHz for Peak

7.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 100kHz, VBW=100kHz, Sweep time = Auto.

7.1.2 TEST SETUP



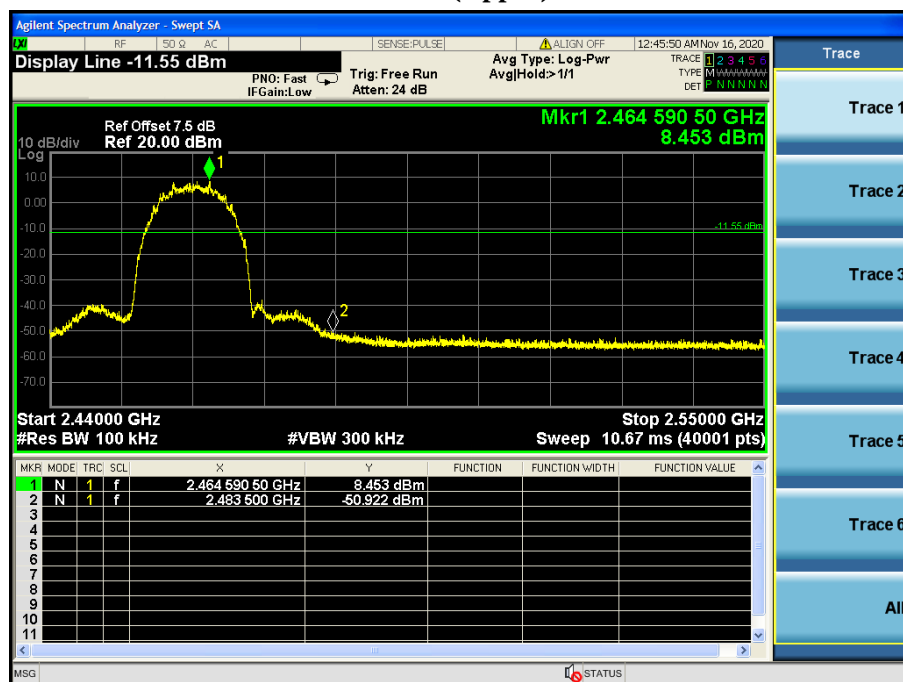
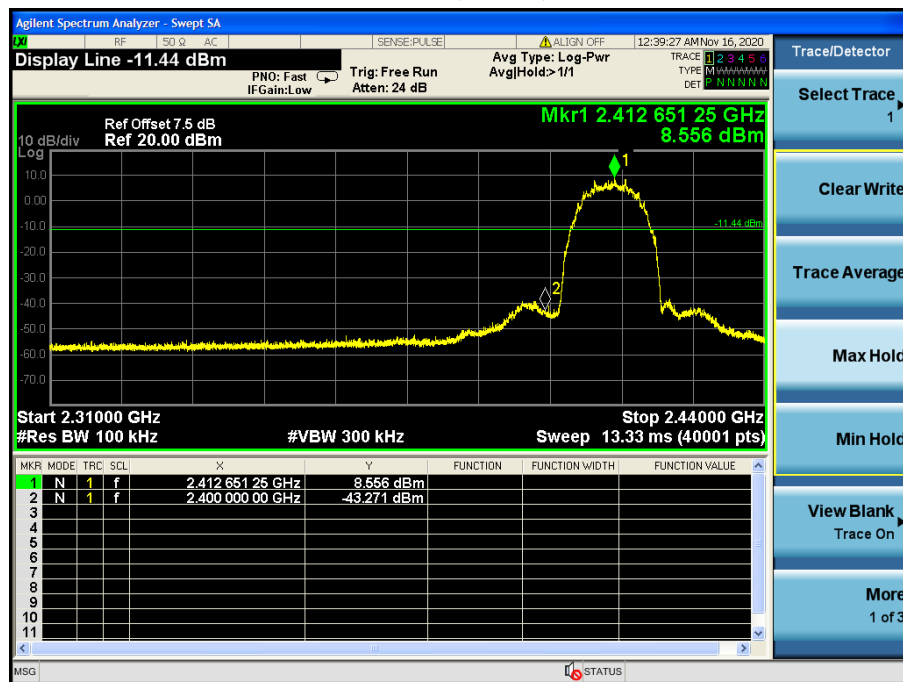
7.1.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

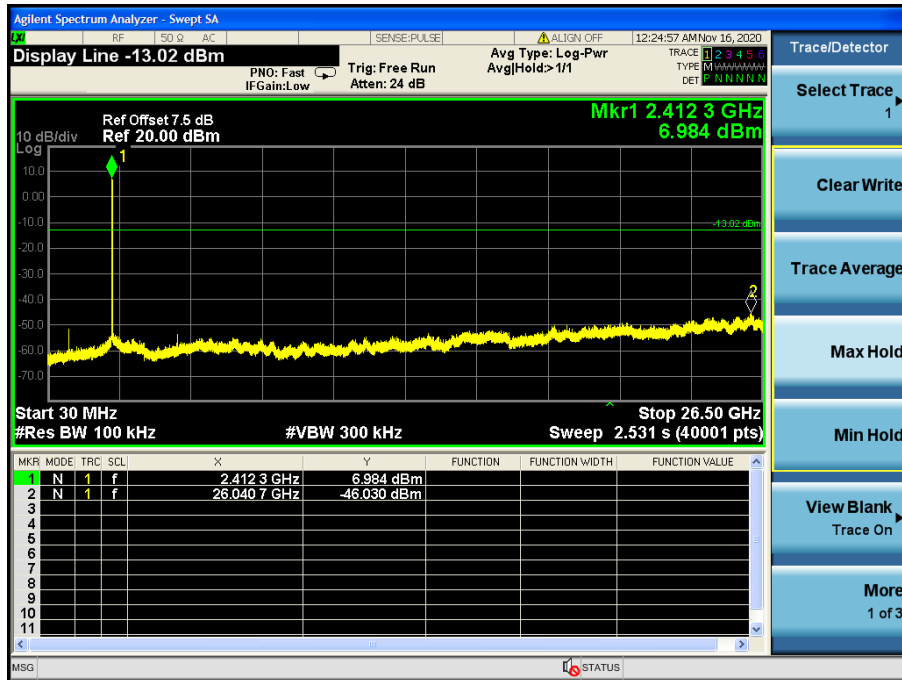
7.1.4 TEST RESULTS

EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01/ CH11 (802.11b Data rate 1Mbps) -ESP32		
Test Date :	2020-11-16		

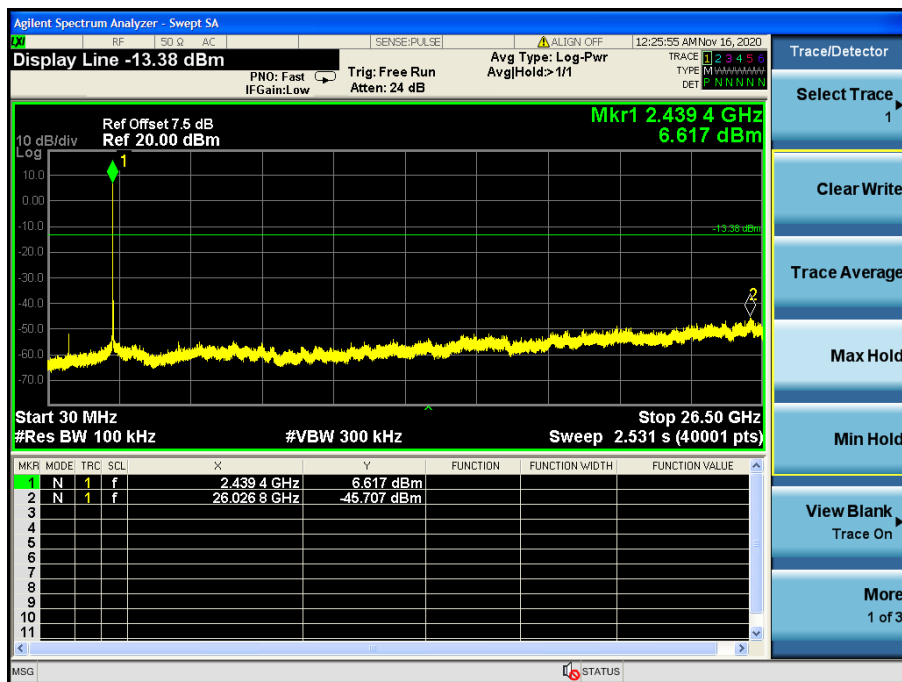
in any 100kHz bandwidth outside the low frequency band	in any 100 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.	



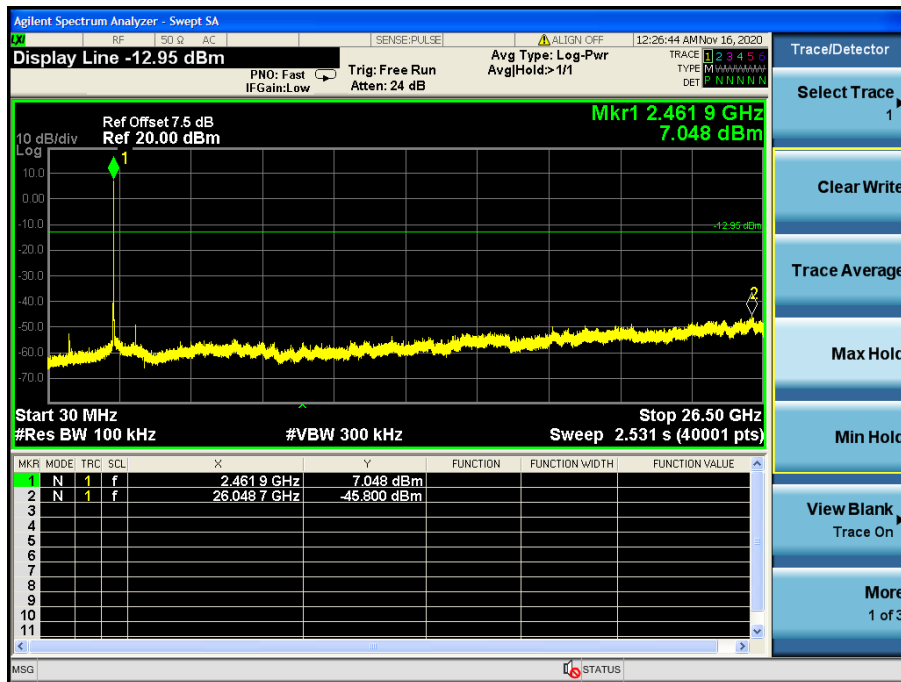
CH01



CH06



CH11

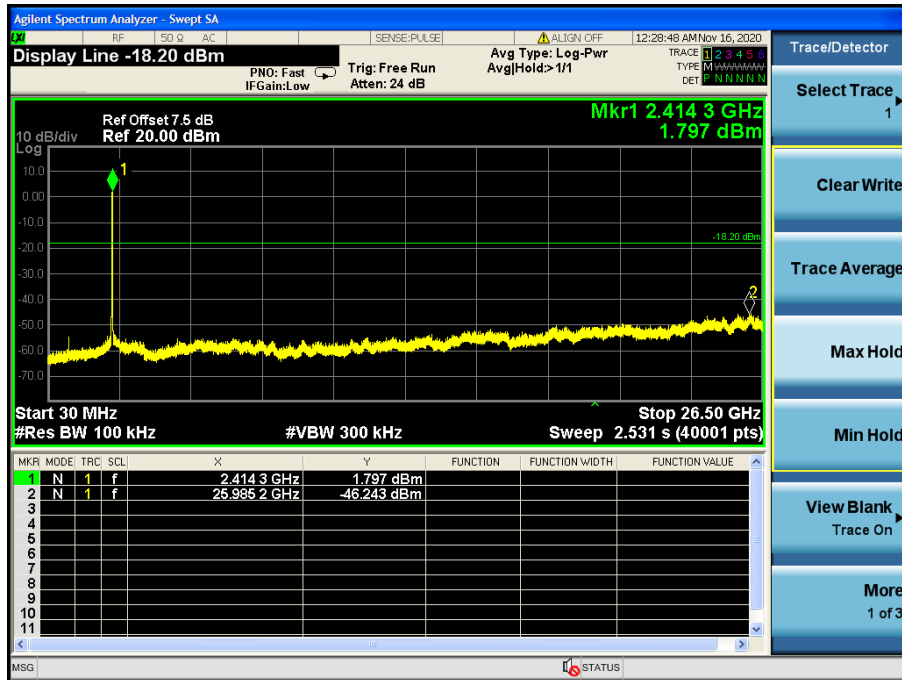


EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01/ CH11 (802.11g Data rate 6Mbps) -ESP32		
Test Date :	2020-11-16		

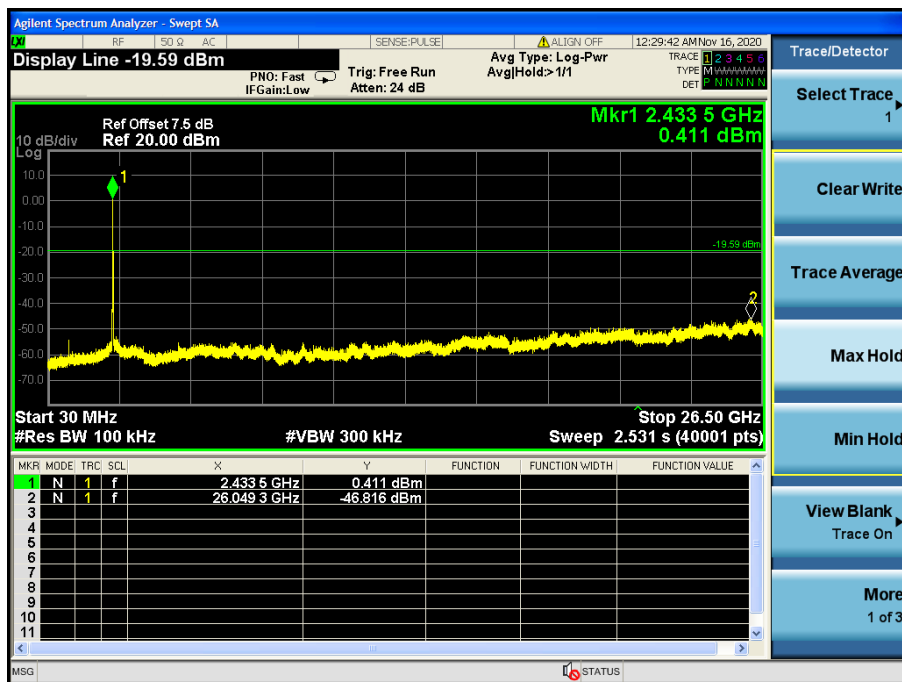
in any 100kHz bandwidth outside the low frequency band	in any 100 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.	

[illegible]

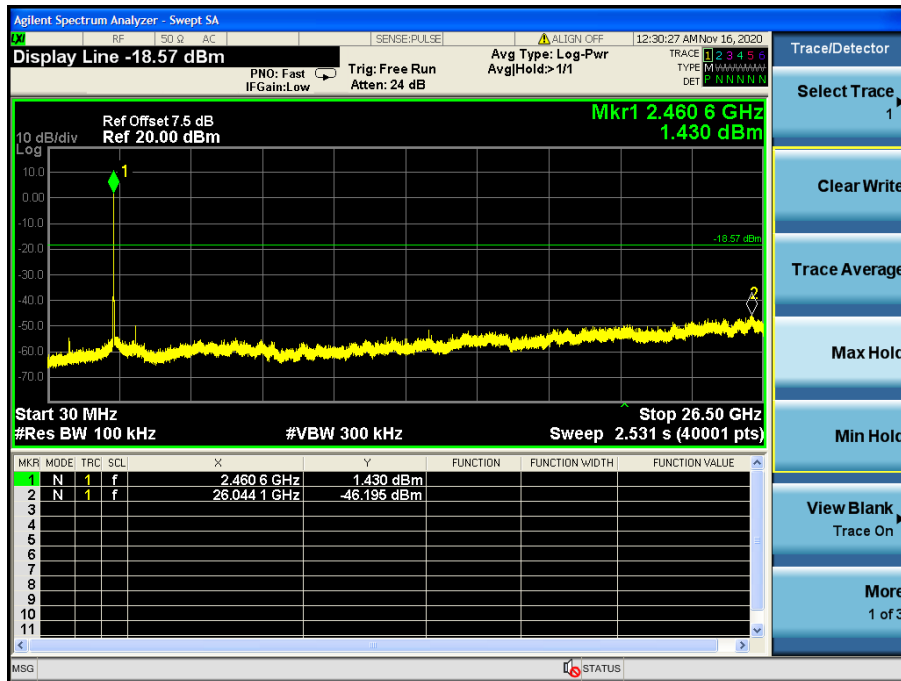
CH01



CH06



CH11

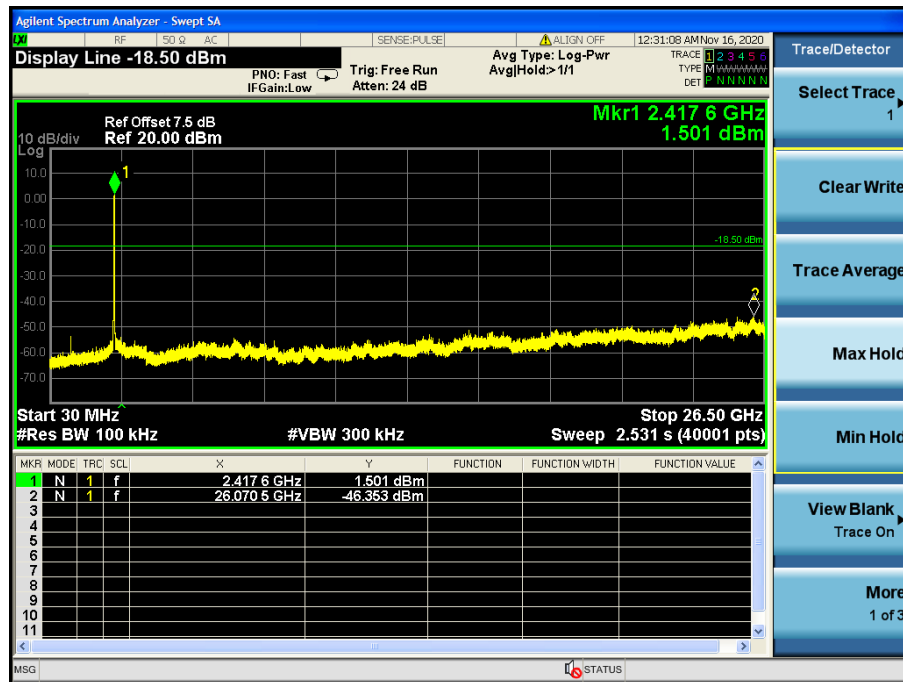


EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01/ CH11 (802.11n20 Data rate 6.5Mbps) -ESP32		
Test Date :	2020-11-16		

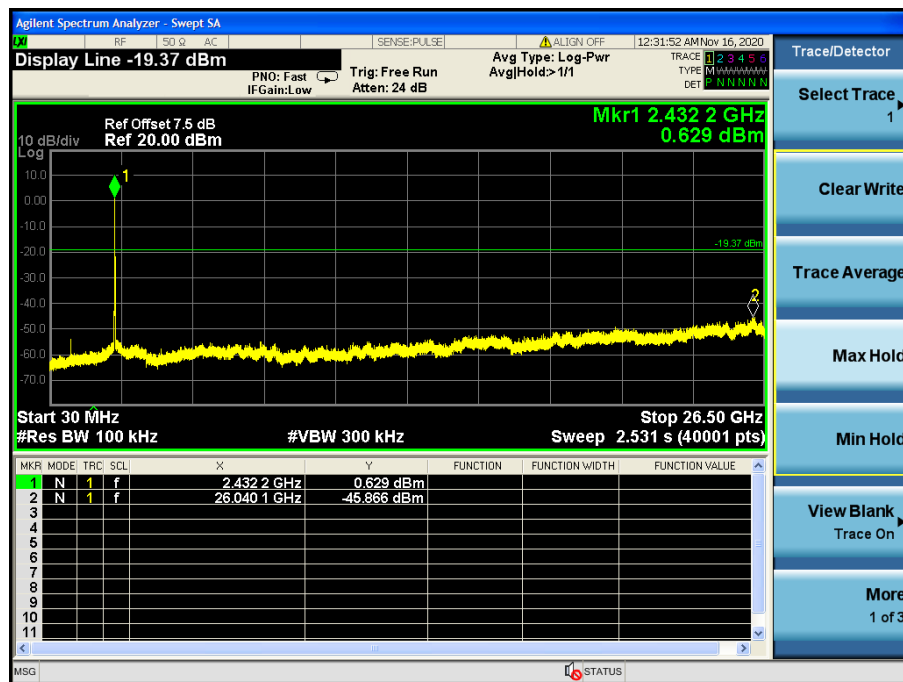
in any 100kHz bandwidth outside the low frequency band	in any 100 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.	

[illegible][illegible]

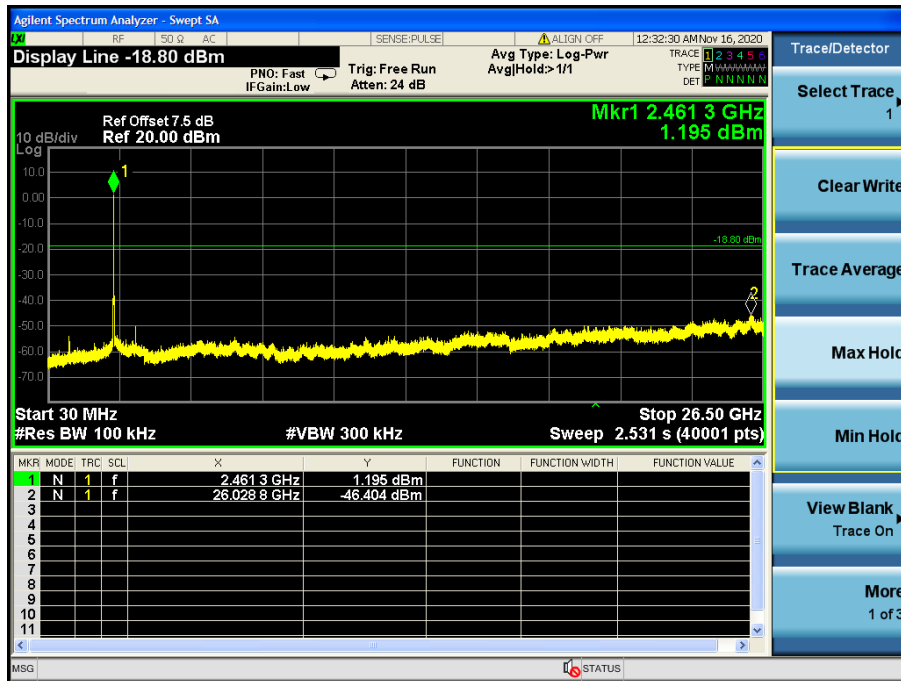
CH01



CH06



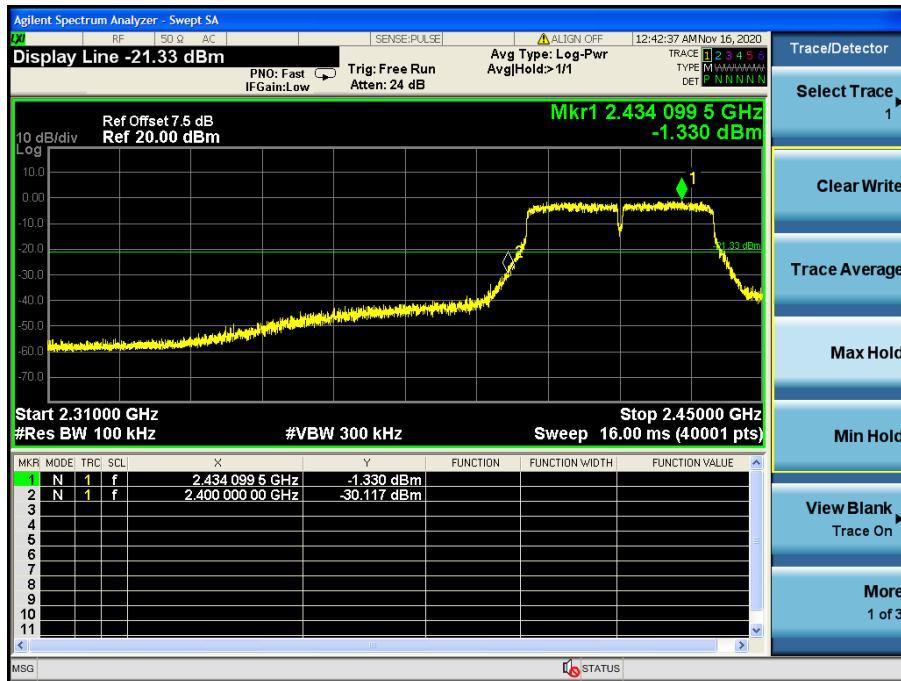
CH11



EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH03/ CH09 (802.11n40 Data rate 13.5Mbps) -ESP32		
Test Date :	2020-11-16		

in any 100kHz bandwidth outside the low frequency band	in any 100 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.	

CH03 (Lower)



CH 09(Upper)



Agilent Spectrum Analyzer - Swept SA

RF 50 Ω AC SENSE:PULSE ALIGN OFF 12:33:18 AM Nov 16, 2020

Display Line -22.06 dBm PNO: Fast IFGain:Low Trig: Free Run Atten: 24 dB Avg Type: Log-Pwr AvgHold>1/1 TRACE TYPE DET M N N N N N

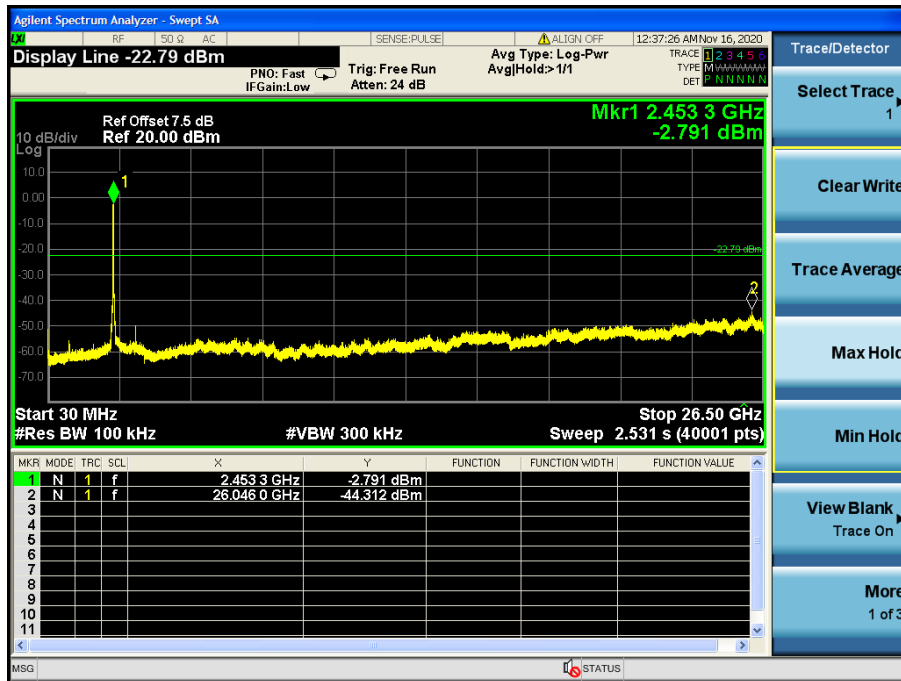
The spectrum analyzer displays a frequency range from approximately 2.3 GHz to 2.5 GHz. A prominent peak is visible at 2.425 GHz, labeled "Mkr1 2.425 5 Ghz -2.057 dBm". The reference level is set at Ref Offset 7.5 dB and Ref 20.00 dBm. The noise floor is around -70 dBm.

MKR	MODE	FREQ	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f	f	2.425 5 GHz	-2.057 dBm			
2	N	f	f	26.082 4 GHz	-46.789 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								

Start 30 MHz #Res BW 100 kHz Stop 26.50 GHz Sweep 2.531 s (40001 pts) VBW 300 kHz

[illegible]

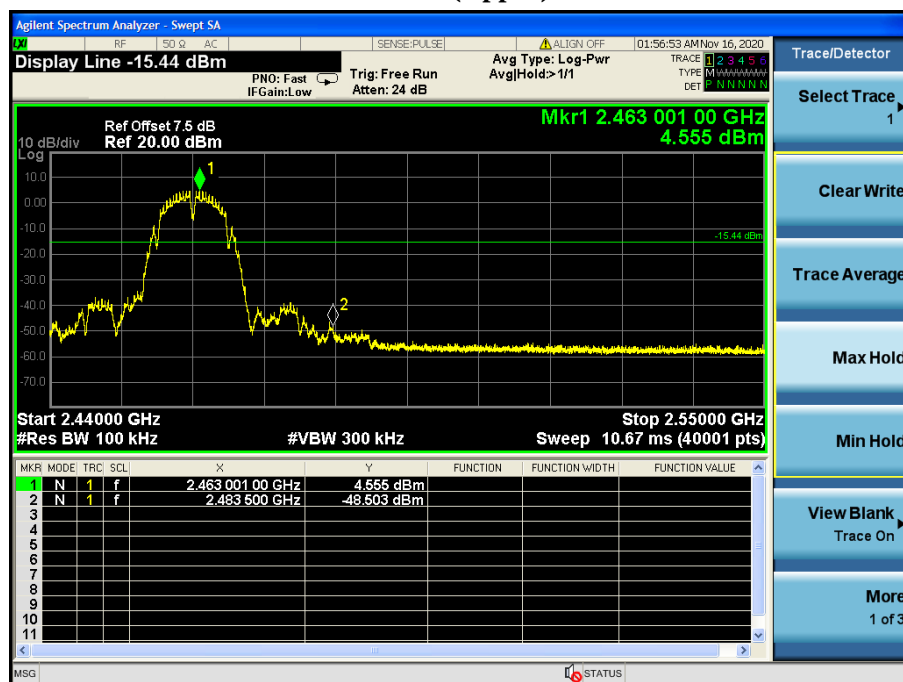
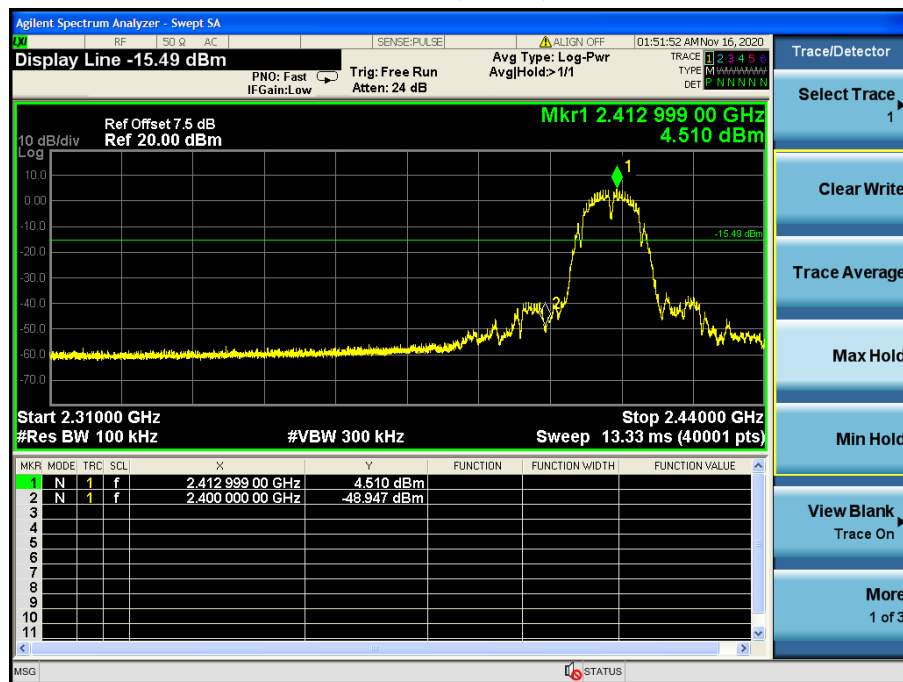
CH09



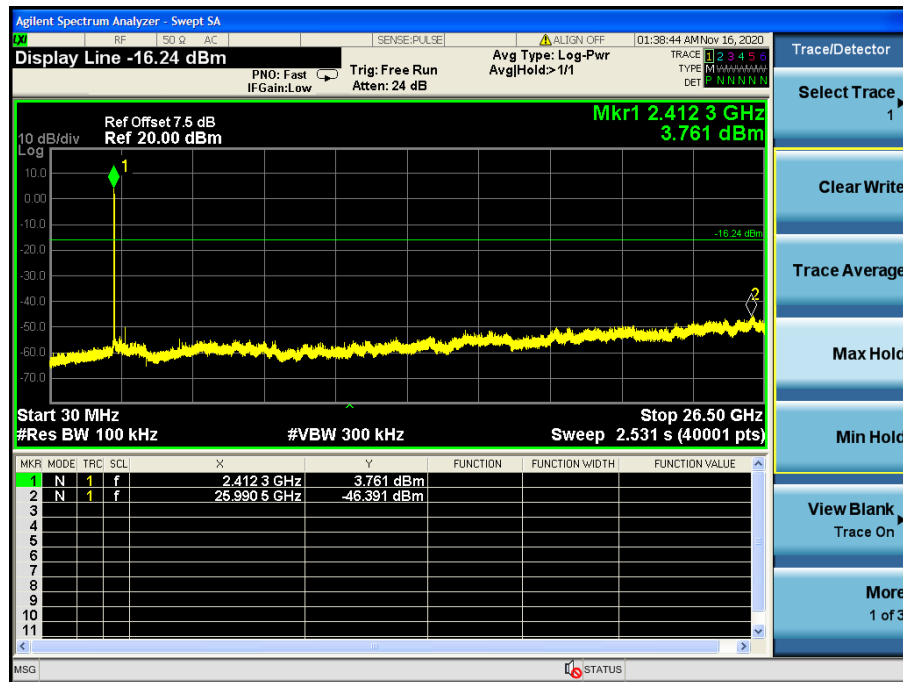
ANT 1(2) Represent the value of antenna 1 and 2, The worst data is 1 Antenna a ,only shown
Antenna 1 Plot

EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01/ CH11 (802.11b Data rate 1Mbps) -AP6356S		
Test Date :	2020-11-16		

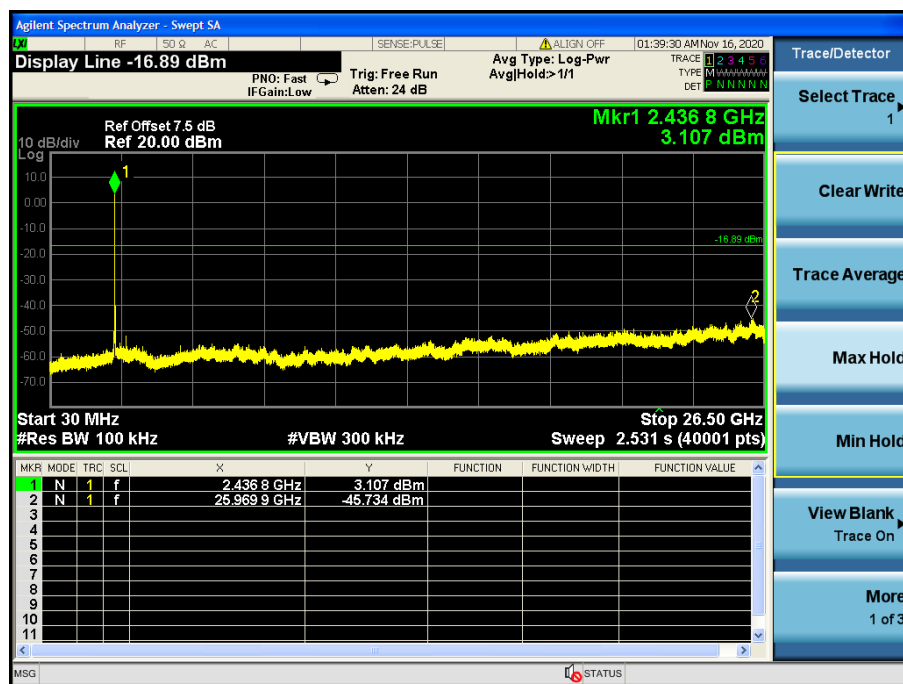
in any 100kHz bandwidth outside the low frequency band	in any 100 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.	



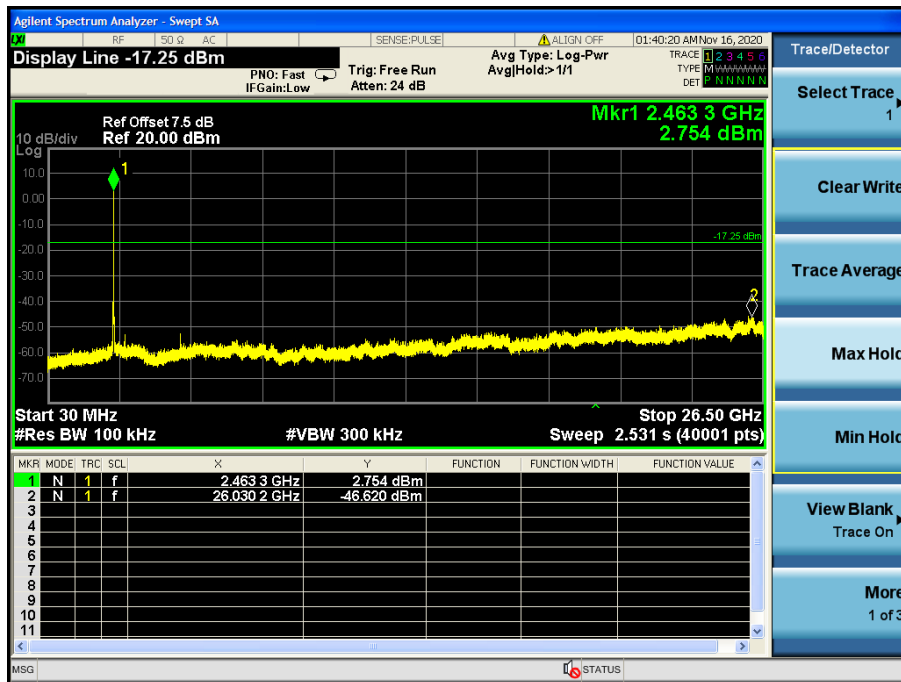
CH01



CH06



CH11



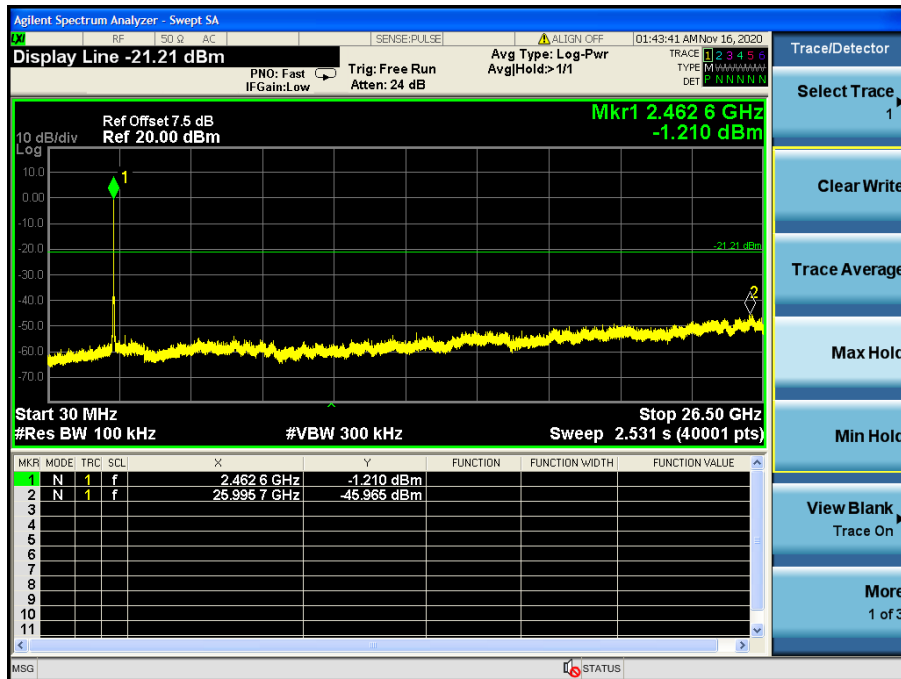
EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01/ CH11 (802.11g Data rate 6Mbps) -AP6356S		
Test Date :	2020-11-16		

in any 100kHz bandwidth outside the low frequency band	in any 100 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.	

[illegible]

[illegible][illegible]

CH11

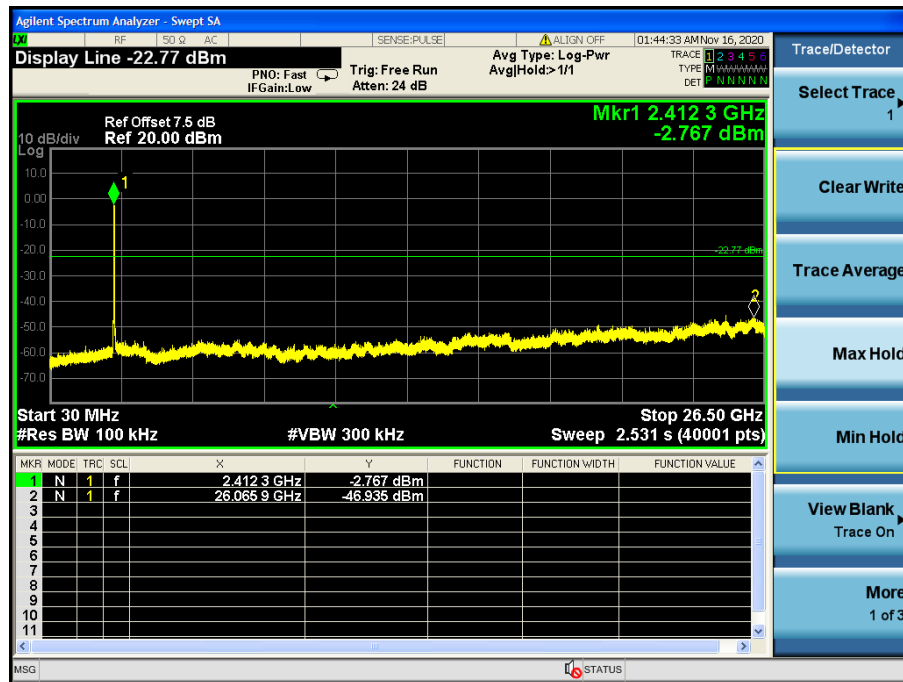


EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH01/ CH11 (802.11n20 Data rate 6.5Mbps) -AP6356S		
Test Date :	2020-11-16		

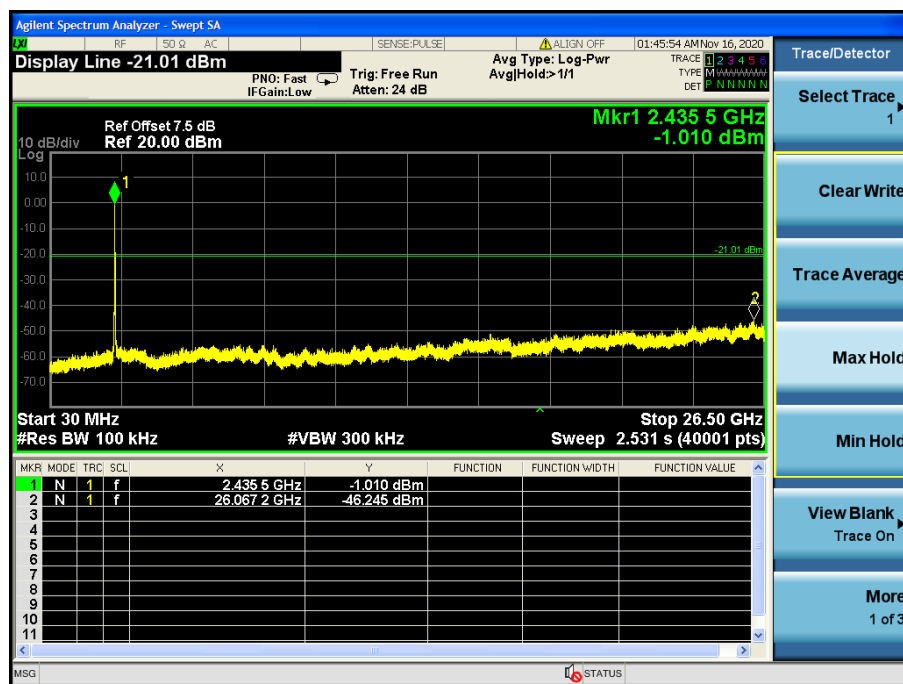
in any 100kHz bandwidth outside the low frequency band	in any 100 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.	

[illegible]

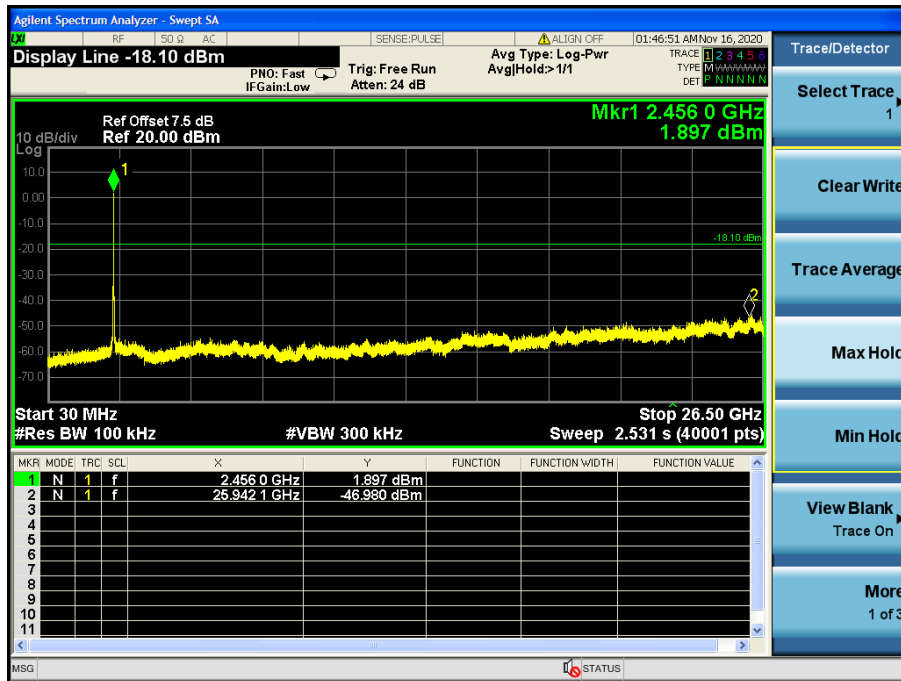
CH01



CH06



CH11



EUT :	好啦機器人 HolaBot	Model Name :	HL100
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	DC25.55V from battery
Test Mode :	CH03/ CH09 (802.11n40 Data rate 13.5Mbps) -AP6356S		
Test Date :	2020-11-16		

in any 100kHz bandwidth outside the low frequency band	in any 100 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.	

Agilent Spectrum Analyzer - Swept SA

RF SENSE: PULSE SO Q AC 01:54:10 AM Nov 16, 2020

Display Line -21.10 dBm

PN0: Fast IF Gain: Low Trig: Free Run Atten: 24 dB

Avg Type: Log-Pwr AvgHold: 1/1

TRACE 1 2 3 4 5 TYPE M DET N

Ref Offset 7.5 dB Ref 20.00 dBm

Mkr1 2.427 001 5 GHz -1.103 dBm

10 dB/div Log

Start 2.31000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 16.00 ms (40001 pts)

Stop 2.45000 GHz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.427 001 5 GHz	-1.103 dBm			
2	N	f		2.400 000 00 GHz	-40.062 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								

MSG STATUS

Trace/Detector

Select Trace

Clear Write

Trace Average

Max Hold

Min Hold

View Blank Trace On

More 1 of 3

[illegible]

[illegible]

Agilent Spectrum Analyzer - Swept SA

Display Line -20.87 dBm

Ref Offset 7.5 dB
Ref 20.00 dBm

Start 30 MHz
#Res BW 100 kHz

Stop 26.50 GHz
Sweep 2.531 s (40001 pts)

Mkr1 2.432 2 GHz
-0.869 dBm

Trace/Detector

Select Trace

Clear Write

Trace Average

Max Hold

Min Hold

View Blank

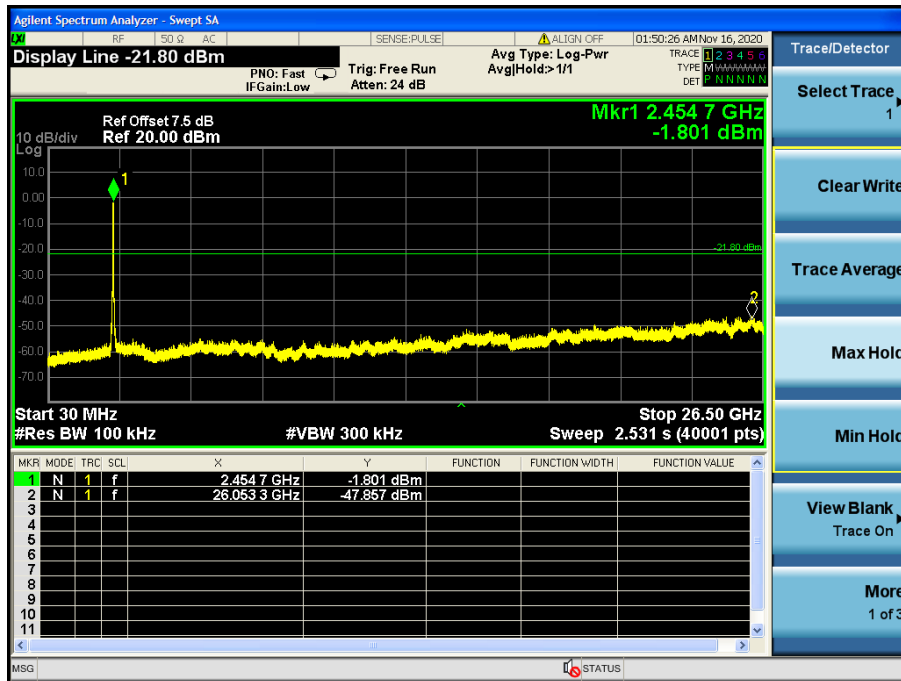
Trace On

More

1 of 3

The screenshot shows an Agilent Spectrum Analyzer in Swept SA mode. The main display area shows a frequency spectrum from 30 MHz to 26.50 GHz. A yellow trace represents the spectrum, with a prominent peak at 2.432 GHz marked by a green diamond and labeled 'Mkr1 2.432 2 GHz -0.869 dBm'. The background is black with a grid. The top status bar shows 'Display Line -20.87 dBm', 'Ref Offset 7.5 dB', 'Ref 20.00 dBm', 'Start 30 MHz', '#Res BW 100 kHz', 'Stop 26.50 GHz', and 'Sweep 2.531 s (40001 pts)'. The right side has a vertical toolbar with buttons for 'Trace/Detector', 'Select Trace', 'Clear Write', 'Trace Average', 'Max Hold', 'Min Hold', 'View Blank', 'Trace On', and 'More'. The bottom status bar shows 'MSG' and 'STATUS'.

CH09



9. ANTENNA REQUIREMENT

9.1 STANDARD REQUIREMENT

3.10.1 requirement: Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

9.2 EUT ANTENNA

The antenna is PCB Antenna and no consideration of replacement. Antenna max gain is 2.0 dBi from 2.4GHz to 2.5GHz.

10. EUT TEST PHOTO

**Radiated Measurement Photos
30MHz-1GHz**



**Radiated Measurement Photos
Above 1GHz**



Conducted Measurement Photos**11. APPENDIX-Photographs of EUT Constructional Details**

Refer to Appendix-photographs.

**** End of Report ****