



# **FCC RADIO TEST REPORT**

FCC ID : A4RG8V0U

**Equipment : Phone** 

Applicant : Google LLC

1600 Amphitheatre Parkway,

Mountain View, California, 94043 USA

Standard : 47 CFR FCC Part 15.519

The product was received on Jun. 25, 2021, and testing was performed from May 23, 2022 to Jun. 24, 2022. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Approved by: Louis Wu

TEL: 886-3-327-0868

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Louis Wu

Sporton International Inc. Wensan Laboratory

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)

Report Template No.: BU5-FR15F Version 1.0

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: 01

Report No.: FR121931-20

# History of this test report

Report No. : FR121931-20

Report No.	Version	Description	Issued Date
FR121931-20	01	Initial issue of report	Jun. 29, 2022

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## **Summary of Test Result**

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Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.2	15.203	Antenna Requirement	PASS	15.203
-	15.207	AC Power-line Conducted Emissions	Not Required	15.207
3.1	15.503	UWB Bandwidth	PASS	≥ 500MHz
-	15.519(a)(1)  Technical requirements for Hand Held UWB systems		Not Required	15.519(a)(1)
3.2	15.519(e)	Peak Power Measurement	PASS	≤ 0 dBm/50MHz
3.3	15.519(c) /15.519(d)	Radiated Emissions	PASS	UWB Emissions: 15.519(c) GPS Emissions: 15.519(d) Digital Emissions: 15.209

**Note:** This is a variant report by turning on UWB Antenna Tx function via Software version. All the test cases were performed on original report which can be referred to Sporton Report Number FR121931-04J. Based on the original report, the test cases were verified.

#### **Declaration of Conformity:**

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
   It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
- 2. The measurement uncertainty please refer to this report "Measurement Uncertainty".

#### Comments and Explanations:

The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: William Chen Report Producer: Lucy Wu

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# 1 General Description

# 1.1 Product Feature of Equipment Under Test

Product Feature				
Equipment	Phone			
FCC ID	A4RG8V0U			
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE/5G NR/NFC/GNSS/WPC/WPT/UWB WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80/VHT160 WLAN 11ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE			

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Remark: The above EUT's information was declared by manufacturer.

EUT Information List		
S/N Performed Test Item		
16011FDEE0009P	Equivalent Isotropic Radiated Power	
16011FDEE0009P	Radiated Spurious Emission	

# 1.2 Product Specification of Equipment Under Test

Product Specification subjective to this standard				
Channel Number &	CH05: 6489.6 MHz			
Tx/Rx Frequency Range	CH09: 7987.2 MHz			
	<uwb ant.1="">: Patch Antenna</uwb>			
Antenna Type	<ul><li><uwb ant.2="">: Patch Antenna</uwb></li></ul>			
	<b><uwb ant.3="">:</uwb></b> ILA Antenna			
	<uwb ant.1="">:</uwb>			
	CH05: -0.27 dBi			
	<uwb ant.2="">:</uwb>			
Antenna Gain	CH09: 3.46 dBi			
	<uwb ant.3="">:</uwb>			
	CH05: 2.78 dBi			
	CH09: 2.84 dBi			
Type of Modulation BPM-BPSK				

**Remark:** The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

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## 1.3 Type of EUT

	Operational Condition				
EUT	EUT Power Type Battery				
	Type of EUT				
	Stand-alone				
	□ Combined (EUT where the radio part is fully integrated within another device)				
	Combined Equ	ipment - Brand Name / Model No.:			
	□ Plug-in radio (EUT intended for a variety of host systems)				
	Host System - Brand Name / Model No.:				
	Other:				

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## 1.4 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- FCC KDB 414788 D01 Radiated Test Site v01r01

Remark: The TAF code is not including all the FCC KDB listed without accreditation.

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# 1.5 Testing Location Information

Test Site	Sporton International Inc. Wensan Laboratory		
Test Site Location  No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855			
Test Site No.	Sporton Site No.		
	03CH20-HY		

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**Note:** The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW3786

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH20-HY	JC Liang and Bill Chang	19~21 °C 65~69 %	May 23, 2022~ May 25, 2022

## 1.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Radiated Emission (30MHz ~ 1000MHz)	5.90 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	5.20 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	5.70 dB	Confidence levels of 95%

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# 2 Test Configuration of EUT

## 2.1 Test Mode

Test Configuration						
Mode	UWB Antenna	UWB Channel	preamble_cidx	rx_sts_mode	packet_length	
1	1	5	9	0	125	
2	1	5	9	1	125	
3	1	5	9	3	0	
4	1	5	10	0	125	
5	1	5	10	1	125	
6	1	5	10	3	0	
7	1	5	11	0	125	
8	1	5	11	1	125	
9	1	5	11	3	0	
10	1	5	12	0	125	
11	1	5	12	1	125	
12	1	5	12	3	0	
13	2	9	9	0	125	
14	2	9	9	1	125	
15	2	9	9	3	0	
16	2	9	10	0	125	
17	2	9	10	1	125	
18	2	9	10	3	0	
19	2	9	11	0	125	
20	2	9	11	1	125	
21	2	9	11	3	0	
22	2	9	12	0	125	
23	2	9	12	1	125	
24	2	9	12	3	0	

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**Test Configuration UWB Channel** Mode **UWB Antenna** preamble\_cidx rx\_sts\_mode packet\_length 

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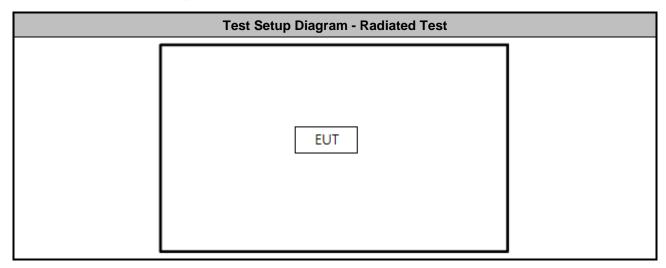
## 2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests					
Tests Item	UWB Bandwidth, Peak Power Measurement, Radiated Emissions				
Test Condition	Radiated measurement				
Operating Mode	CTX				
1	Standalone Mode				
Mode 1 configuration was tested	and found to be the wor	st case and measured du	ring the test.		
Operating Mode > 1GHz	СТХ				
	X Plane	Y Plane	Z Plane		
Orthogonal Planes of EUT					
Worst Plane of Ant. 1_CH05	V				
Worst Plane of Ant. 2_CH09		V			
Worst Plane of Ant. 3_CH05	V				
Worst Plane of Ant. 3_CH09	V				

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**Remark:** The measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape) and accessory (Adapter or Earphone), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and find as worst plane, and recorded in this report.

# 2.3 Test Setup Diagram



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## 3 Transmitter Test Result

### 3.1 UWB bandwidth

#### 3.1.1 UWB bandwidth Limit

#### **UWB** bandwidth Limit

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UWB bandwidth  $\geq$  500 MHz or Fractional bandwidth  $\geq$  0.2; Fractional bandwidth = 2(f<sub>H</sub>-f<sub>L</sub>)/ (f<sub>H</sub> + f<sub>L</sub>)

## 3.1.2 Measuring Instruments

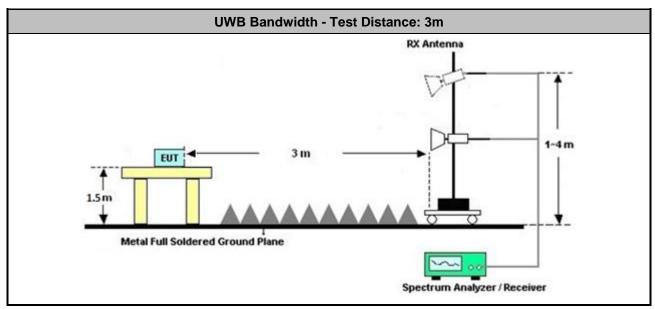
Refer a test equipment and calibration data table in this test report.

#### 3.1.3 Test Procedures

#### **Test Method**

- For the UWB bandwidth shall be measured using one of the options below:
  - Refer as ANSI C63.10, clause 6.9.2 and clause 10.1 for UWB bandwidth testing.

## 3.1.4 Test Setup



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## 3.1.5 Test Result of UWB Bandwidth

To at we also	FL	F <sub>H</sub>	UWB Bandwidth	Bandwidth limit	Danult	Pol [H/V]	
Test mode	(MHz)	(MHz)	(MHz)	(MHz)	Result		
1	6307 6823		516	≥ 500	Pass	V	
2	2 6306 6819		513	≥ 500	Pass	V	
3	6300	6810	510	≥ 500	Pass	V	
4	6318	6819	501	≥ 500	Pass	V	
5	6318	6833	515	≥ 500	Pass	V	
6	6271	6828	557	≥ 500	Pass	V	
7	6302	6816	514	≥ 500	Pass	V	
8	6273	6809	536	≥ 500	Pass	V	
9	6302	6812	510	≥ 500	Pass	V	
10 6308		6812	504	≥ 500	Pass	V	
11 631		6813	502	≥ 500	Pass	V	
12 6261 6794		533	≥ 500	Pass	V		
13 7720 8234		514	≥ 500	Pass	Н		
14	14 7706 8237		531	≥ 500	Pass	Н	
15	15 7706 8237		531	≥ 500	Pass	Н	
16	16 7717 8227		510	≥ 500	Pass	Н	
17	17 7706 8237		531	≥ 500	Pass	Н	
18	18 7728 8237		509	≥ 500 Pass		Н	
19	19 7723 8231		508	≥ 500	Pass	Н	
20	20 7706 8238		532	≥ 500 Pass		Н	
21	7706	8237	531	≥ 500	Pass	Н	
22	7706	8215	509	≥ 500	Pass	Н	
23	7707	8237	530	≥ 500	Pass	Н	
24	7701	8239	538	≥ 500	Pass	Н	

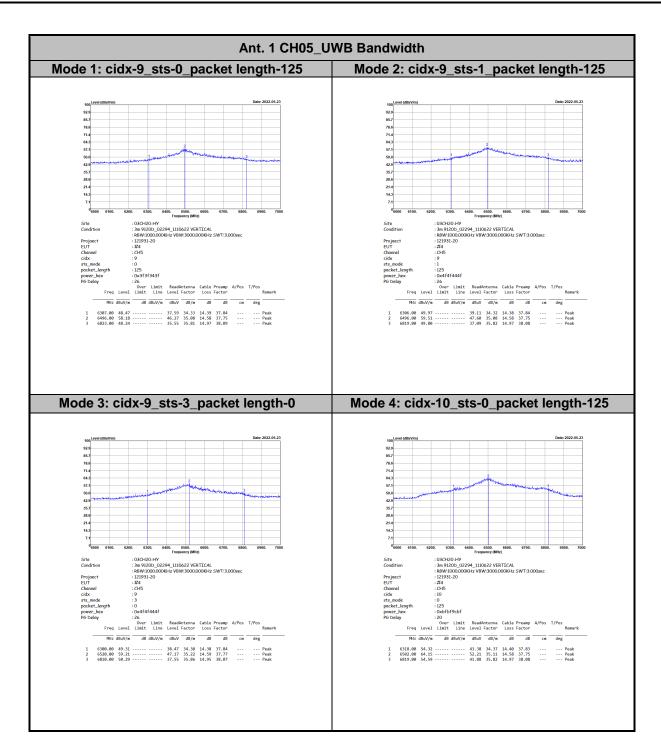
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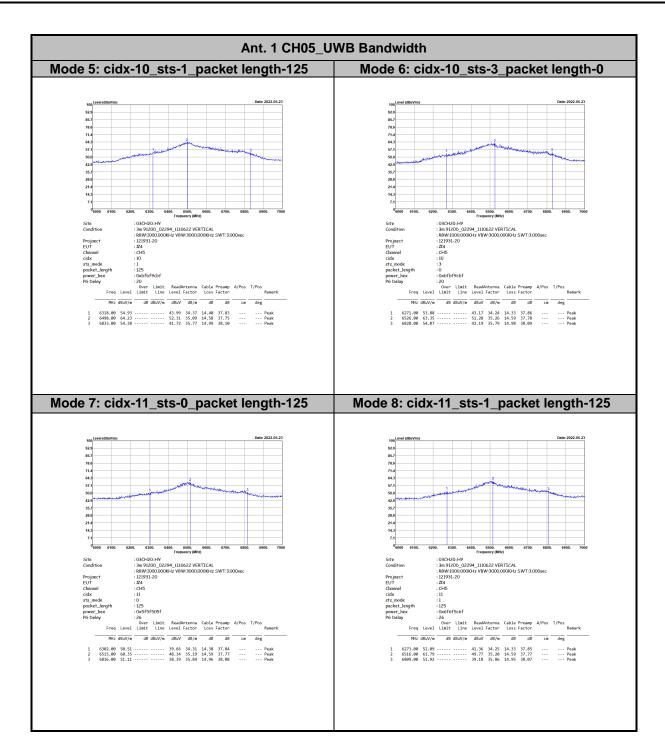
 $F_L$  $F_H$ **UWB Bandwidth Bandwidth limit** Pol Test mode Result [H/V] (MHz) (MHz) (MHz) (MHz) 25 6222 520 6742 ≥ 500 **Pass** Н ≥ 500 26 6209 6741 532 **Pass** Н 27 6226 6740 ≥ 500 Pass 514 Н Н 28 6220 6759 539 ≥ 500 **Pass** 29 6209 6739 530 ≥ 500 **Pass** Η 30 6228 ≥ 500 **Pass** Н 6739 511 31 6225 6751 526 ≥ 500 Pass Н 6223 6771 548 32 ≥ 500 **Pass** Η 33 6226 ≥ 500 Pass Н 6756 530 34 6126 6844 718 ≥ 500 Pass Н Н 35 6230 6740 510 ≥ 500 **Pass** 36 6224 6741 517 ≥ 500 Pass Н 37 7735 8251 516 ≥ 500 Pass Н 38 7729 8268 539 ≥ 500 **Pass** Н 39 Н 7737 8268 531 ≥ 500 **Pass** 7741 8257 516 ≥ 500 **Pass** Н 40 41 7737 8268 531 ≥ 500 **Pass** Н Н 42 7738 8261 523 ≥ 500 **Pass** 43 7732 8252 520 ≥ 500 Pass Н 44 7737 8268 531 ≥ 500 **Pass** Н 45 Н 7738 8268 530 ≥ 500 **Pass** 7671 8340 669 ≥ 500 **Pass** 46 Н 47 7738 8268 530 ≥ 500 **Pass** Н 48 7737 8255 ≥ 500 Н 518 **Pass** 

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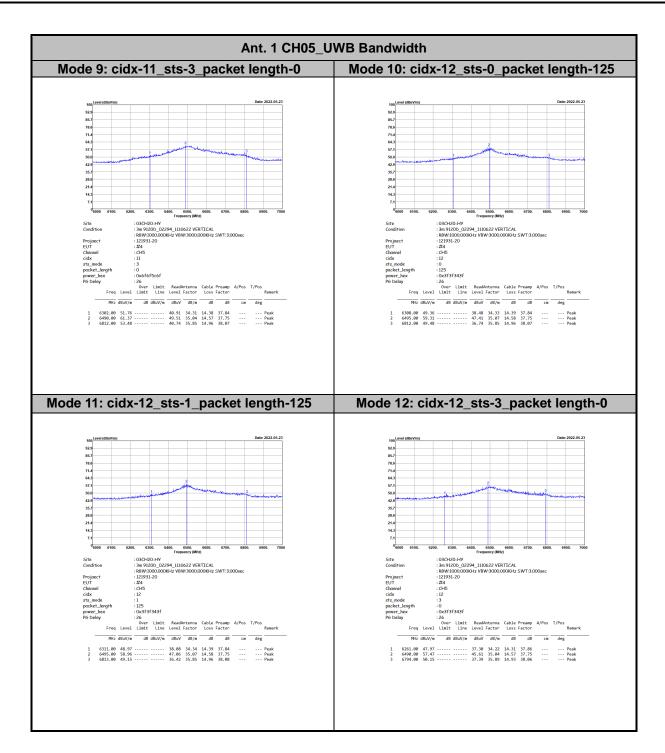
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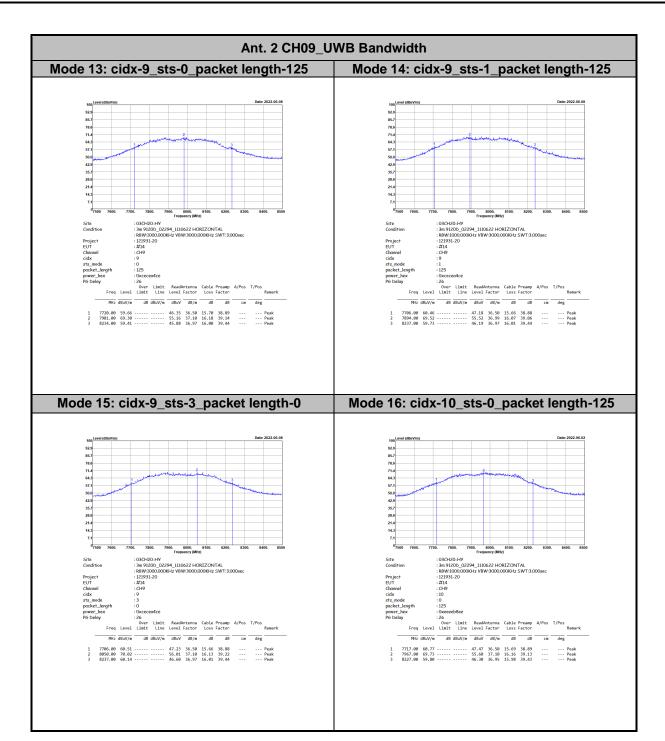
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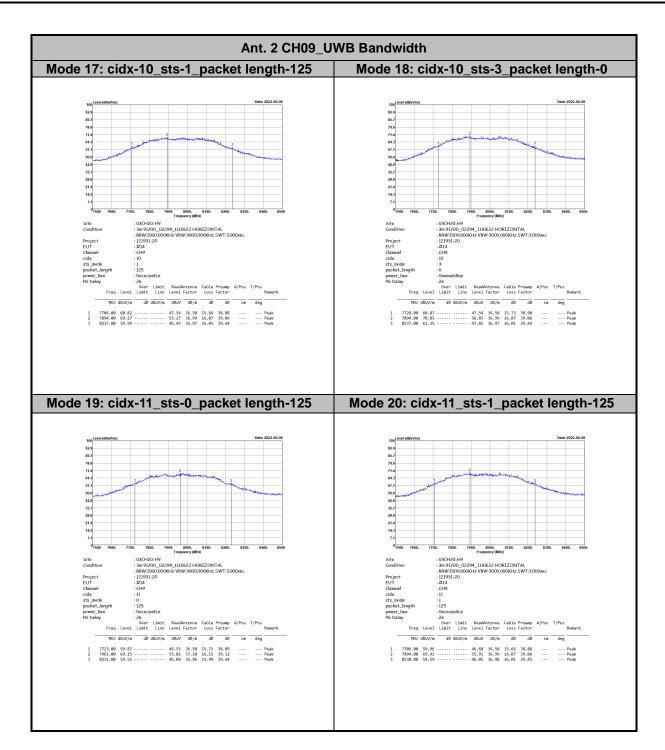
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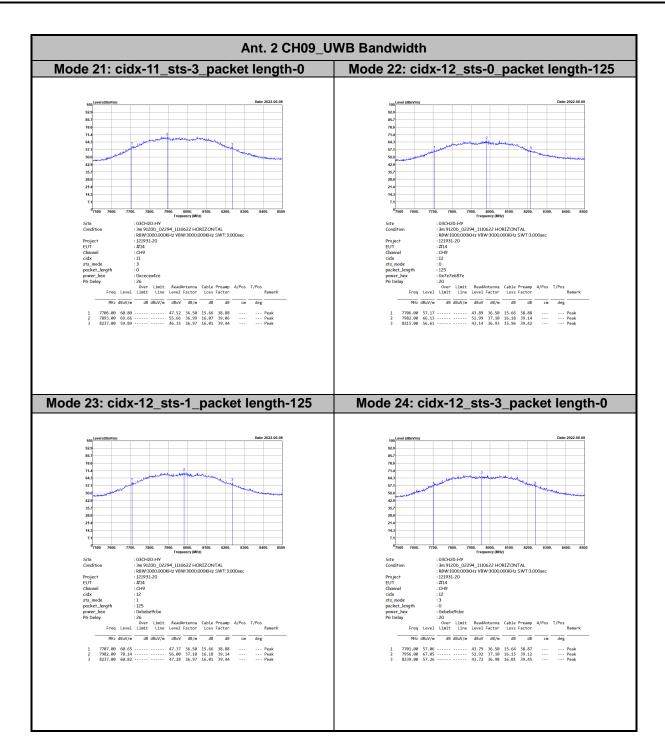
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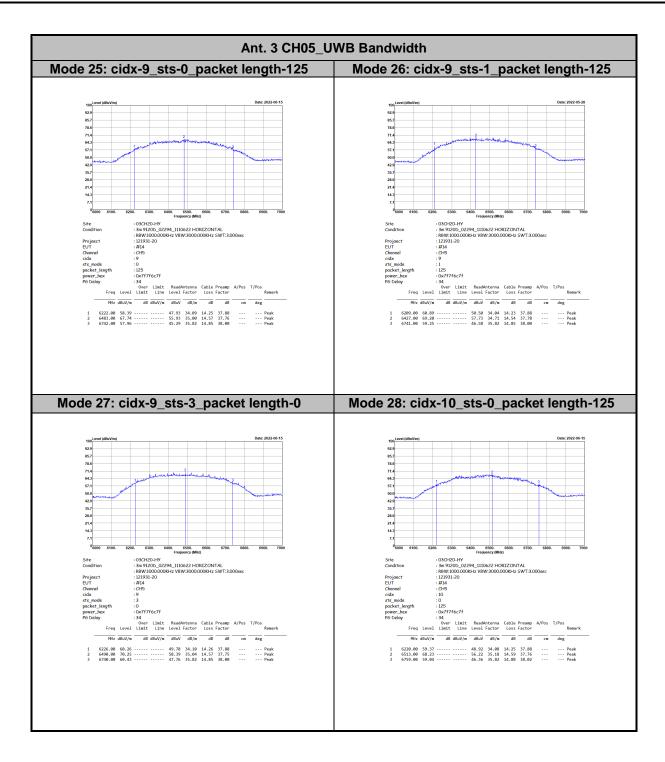
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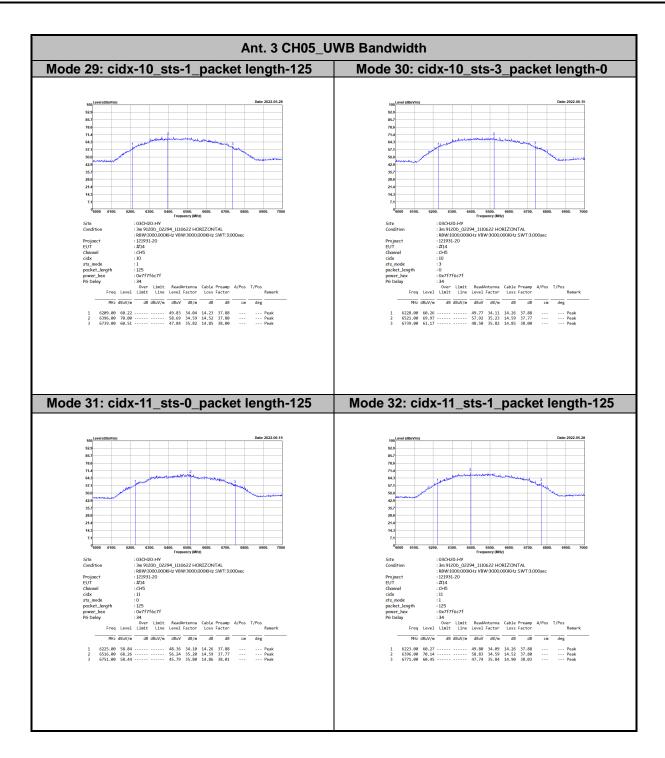
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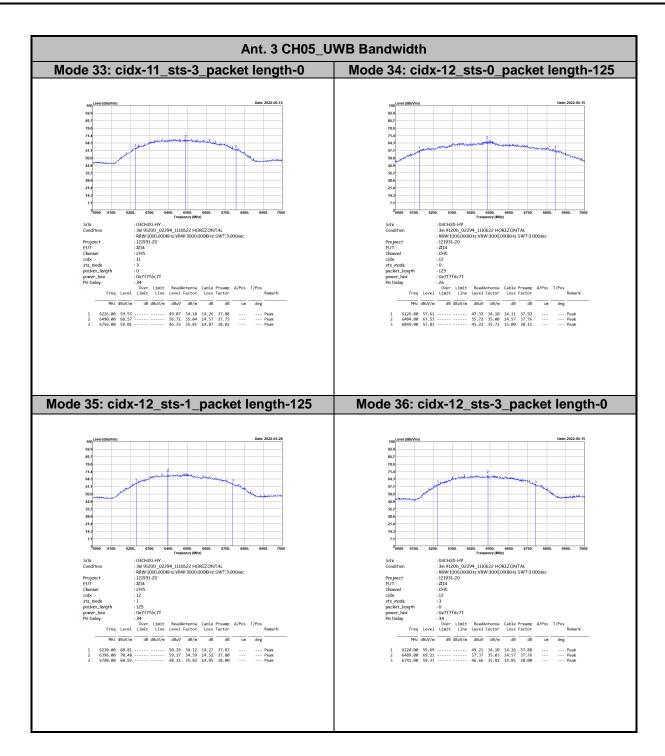
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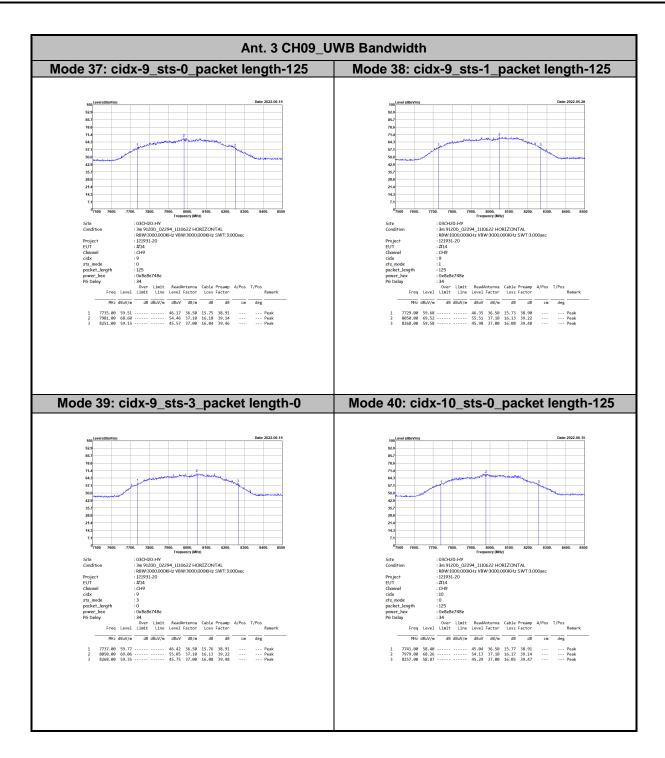
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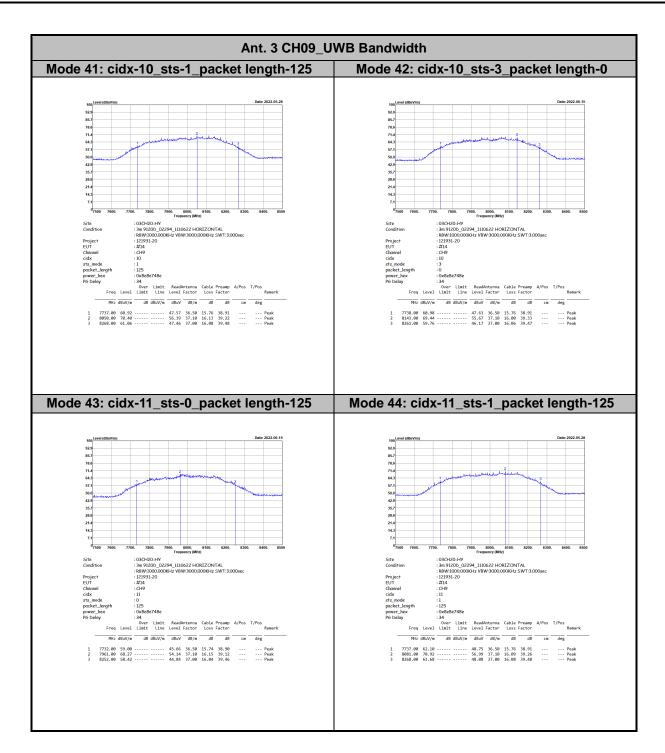
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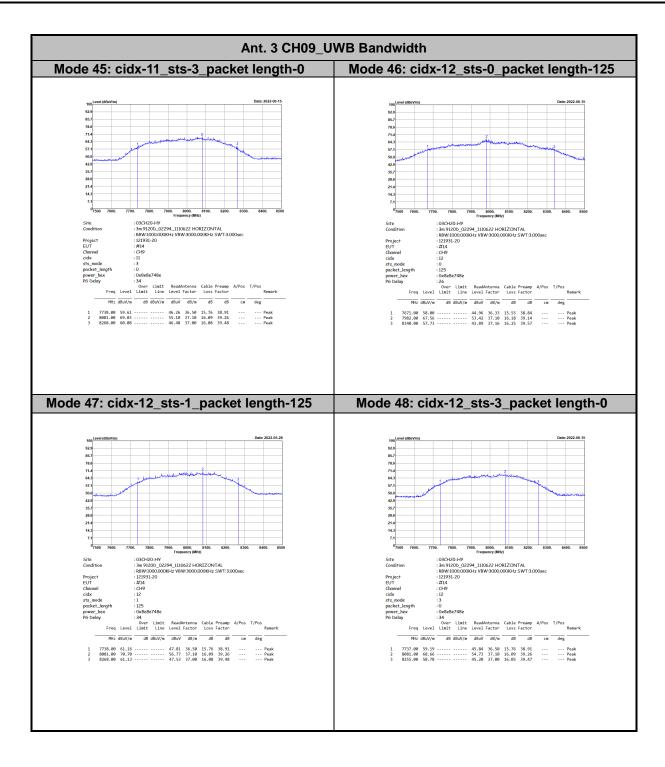
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### 3.2 Peak Power Measurement

#### 3.2.1 Peak Power Measurement Limit

	Peak Power Measurement Limit
$P_{eirp} = 0 \text{ dBm/50MHz}$	

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## 3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

#### 3.2.3 Test Procedures

Test Method								
	Peak Power Measurement							
	■ Refer as ANSI C63.10, clause 10.3.1 for radiated measurement procedure testing.							
	■ Refer as ANSI C63.10, clause 10.3.2 for measurement distance is 3m.							
	■ Refer as ANSI C63.10, clause 10.3.5 for peak detector procedure testing.							
	■ Refer as ANSI C63.10, clause 10.3.6 for bandwidth conversion of peak power.							

Frequency of max peak power is pre-located:

The span bandwidth is continuously reduced to find the worst frequency. Once the worst frequency is found, the setting of spectrum analyzer is set as below:

Central frequency: Worst frequency point

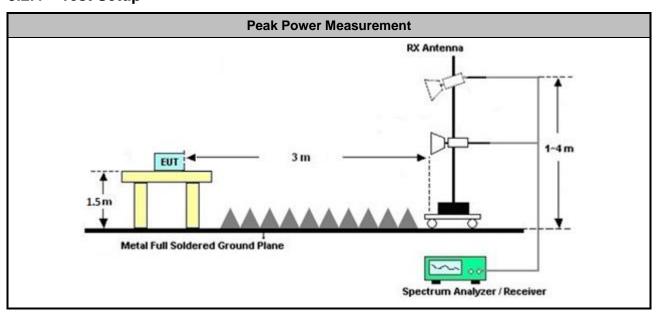
Span: Zero span RBW: 40MHz

• VBW: 40MHz

Detector: Peak detector

Trace: Max hold

### 3.2.4 Test Setup



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### 3.2.5 Test Result of Peak Power Measurement

Peak Measurement Result									
Test Mode	Freq. (MHz)	E-Field (dBuV/m)	ERIP <sub>40MHz</sub> (dBm)	ERIP <sub>50MHz</sub> Limit (dBm)	EIRP <sub>40MHz</sub> Limit (dBm)	Margin (dB)	Result	Pol [H/V]	
1	6495.05	80.12	-15.11	0	-1.94	-13.17	Pass	V	
2	6495.80	81.93	-13.3	0	-1.94	-11.36	Pass	V	
3	6489.45	75.06	-20.17	0	-1.94	-18.23	Pass	V	
4	6497.75	86.59	-8.64	0	-1.94	-6.7	Pass	V	
5	6498.10	86.60	-8.63	0	-1.94	-6.69	Pass	V	
6	6520.60	77.37	-17.86	0	-1.94	-15.92	Pass	V	
7	6501.75	82.95	-12.28	0	-1.94	-10.34	Pass	V	
8	6515.65	82.38	-12.85	0	-1.94	-10.91	Pass	V	
9	6489.35	77.91	-17.32	0	-1.94	-15.38	Pass	V	
10	6494.90	80.18	-15.05	0	-1.94	-13.11	Pass	V	
11	6494.95	80.34	-14.89	0	-1.94	-12.95	Pass	V	
12	6489.70	74.46	-20.77	0	-1.94	-18.83	Pass	V	
13	7980.90	90.15	-5.08	0	-1.94	-3.14	Pass	Н	
14	7893.75	87.65	-7.58	0	-1.94	-5.64	Pass	Н	
15	8049.20	82.47	-12.76	0	-1.94	-10.82	Pass	Н	
16	7967.10	91.05	-4.18	0	-1.94	-2.24	Pass	Н	
17	7893.85	87.61	-7.62	0	-1.94	-5.68	Pass	Н	
18	7893.85	87.73	-7.5	0	-1.94	-5.56	Pass	Н	
19	7961.30	88.55	-6.68	0	-1.94	-4.74	Pass	Н	
20	7893.70	87.66	-7.57	0	-1.94	-5.63	Pass	Н	
21	7893.65	81.54	-13.71	0	-1.94	-11.77	Pass	Н	
22	7981.85	87.01	-8.22	0	-1.94	-6.28	Pass	Н	
23	7981.85	89.61	-5.62	0	-1.94	-3.68	Pass	Н	
24	7893.50	80.67	-14.56	0	-1.94	-12.62	Pass	Н	

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Note 1: EIRP [dBm] = E-Field [dBuV/m] - 95.23;

Note 2: Bandwidth Correction Factor (BWCF) = 20 log (40MHz/50MHz).

Note 3: EIRP<sub>40MHz</sub> Limit = EIRP<sub>50MHz</sub> Limit + BWCF, FCC Part 15.521(g).

Note 4: Measurement worst emissions of receive antenna polarization.

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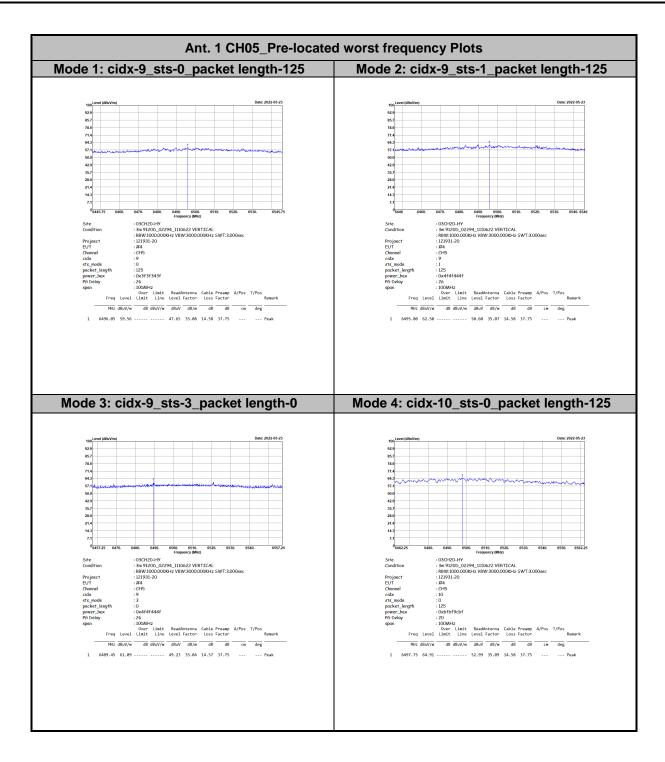
Peak Measurement Result									
Test Mode	Freq. (MHz)	E-Field (dBuV/m)	ERIP <sub>40MHz</sub> (dBm)	ERIP <sub>50MHz</sub> Limit (dBm)	EIRP <sub>40MHz</sub> Limit (dBm)	Margin (dB)	Result	Pol [H/V]	
25	6483.15	91.44	-3.79	0	-1.94	-1.85	Pass	Н	
26	6427.25	87.66	-7.57	0	-1.94	-5.63	Pass	Н	
27	6489.45	83.59	-11.64	0	-1.94	-9.7	Pass	Н	
28	6512.50	89.94	-5.29	0	-1.94	-3.35	Pass	Н	
29	6396.25	87.36	-7.87	0	-1.94	-5.93	Pass	Н	
30	6520.75	81.89	-13.34	0	-1.94	-11.4	Pass	Н	
31	6515.80	89.41	-5.82	0	-1.94	-3.88	Pass	Н	
32	6396.05	87.30	-7.93	0	-1.94	-5.99	Pass	Н	
33	6489.65	84.02	-11.21	0	-1.94	-9.27	Pass	Н	
34	6484.15	88.94	-6.29	0	-1.94	-4.35	Pass	Н	
35	6395.80	87.39	-7.84	0	-1.94	-5.9	Pass	Н	
36	6489.45	84.09	-11.14	0	-1.94	-9.2	Pass	Н	
37	7980.80	89.87	-5.36	0	-1.94	-3.42	Pass	Н	
38	8049.70	86.82	-8.41	0	-1.94	-6.47	Pass	Н	
39	8050.15	82.60	-12.63	0	-1.94	-10.69	Pass	Н	
40	7979.05	89.70	-5.53	0	-1.94	-3.59	Pass	Н	
41	8049.60	86.87	-8.36	0	-1.94	-6.42	Pass	Н	
42	8143.80	80.01	-15.22	0	-1.94	-13.28	Pass	Н	
43	7961.05	88.25	-6.98	0	-1.94	-5.04	Pass	Н	
44	8080.90	87.02	-8.21	0	-1.94	-6.27	Pass	Н	
45	8080.90	80.85	-14.38	0	-1.94	-12.44	Pass	Н	
46	7981.75	87.69	-7.54	0	-1.94	-5.6	Pass	Н	
47	8081.10	86.90	-8.33	0	-1.94	-6.39	Pass	Н	
48	8081.05	80.00	-15.23	0	-1.94	-13.29	Pass	Н	

Note 1: EIRP [dBm] = E-Field [dBuV/m] - 95.23; Note 2: Bandwidth Correction Factor (BWCF) = 20 log (40MHz/50MHz).

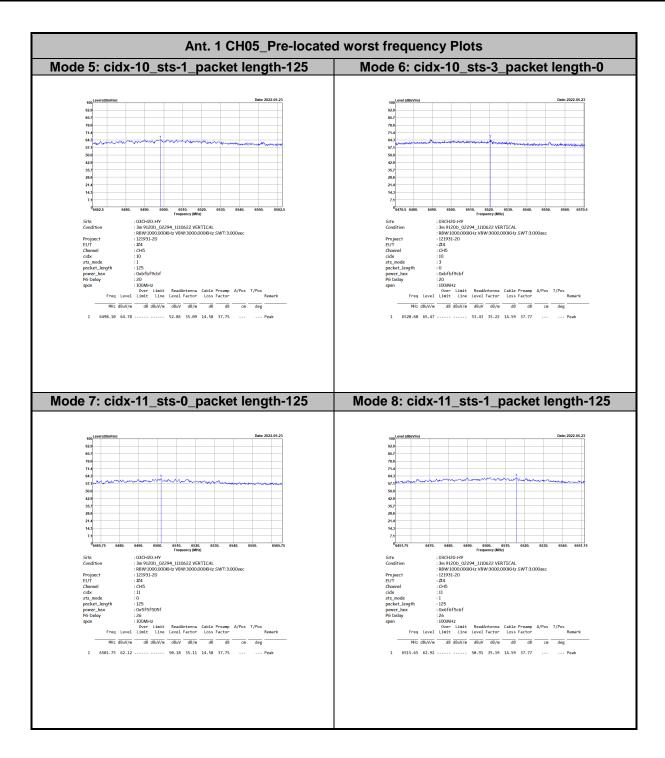
Note 3: EIRP<sub>40MHz</sub> Limit = EIRP<sub>50MHz</sub> Limit + BWCF, FCC Part 15.521(g).

Note 4: Measurement worst emissions of receive antenna polarization.

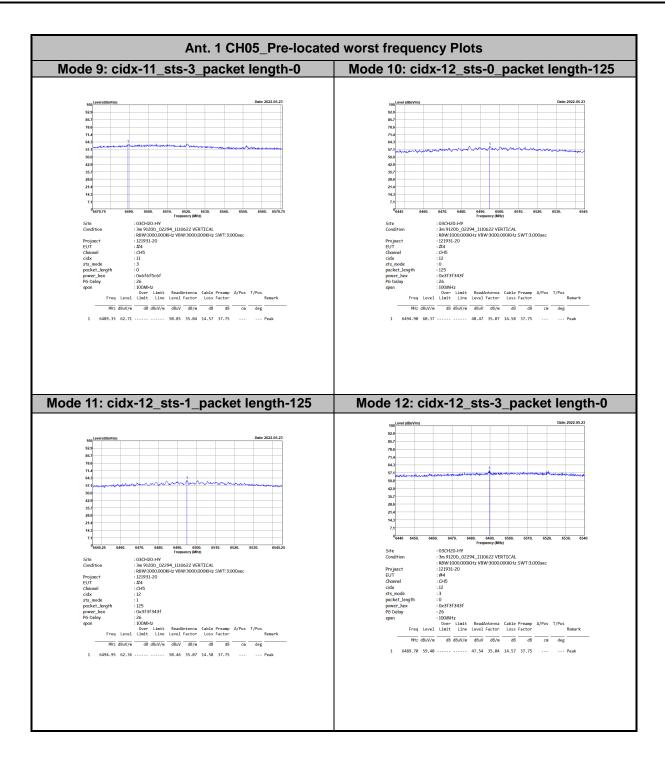
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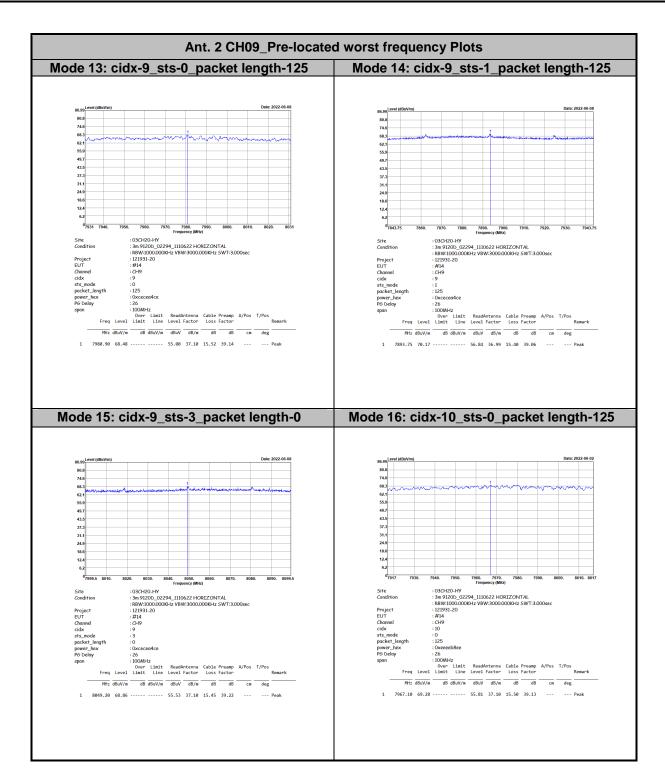
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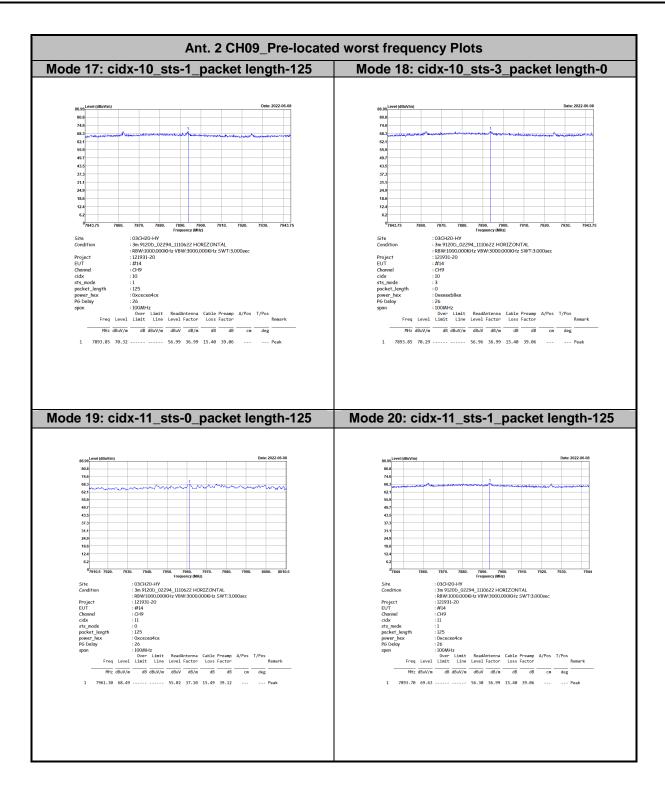
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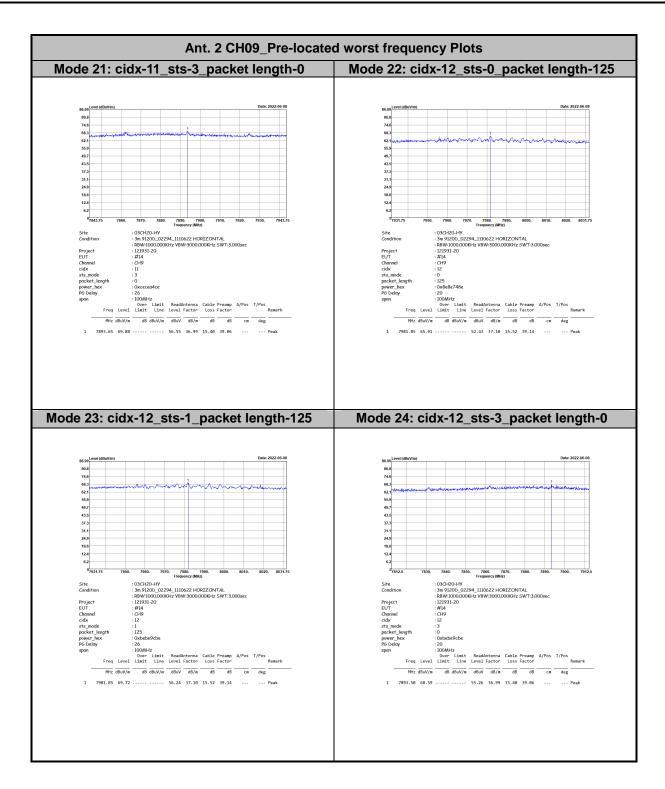
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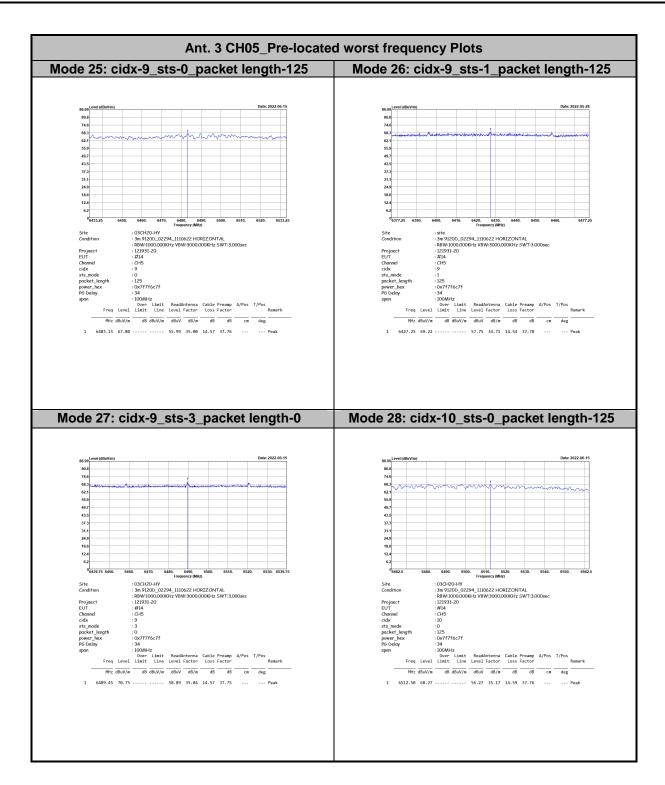
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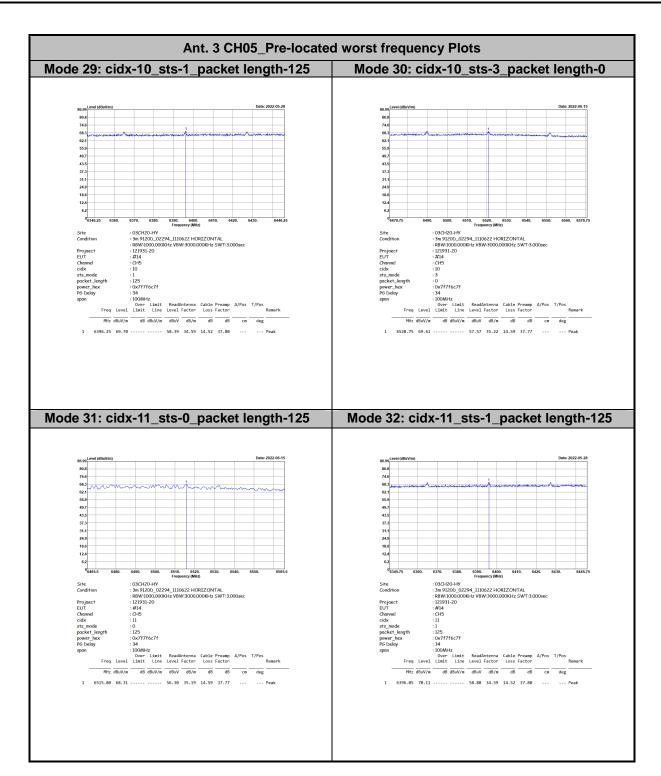
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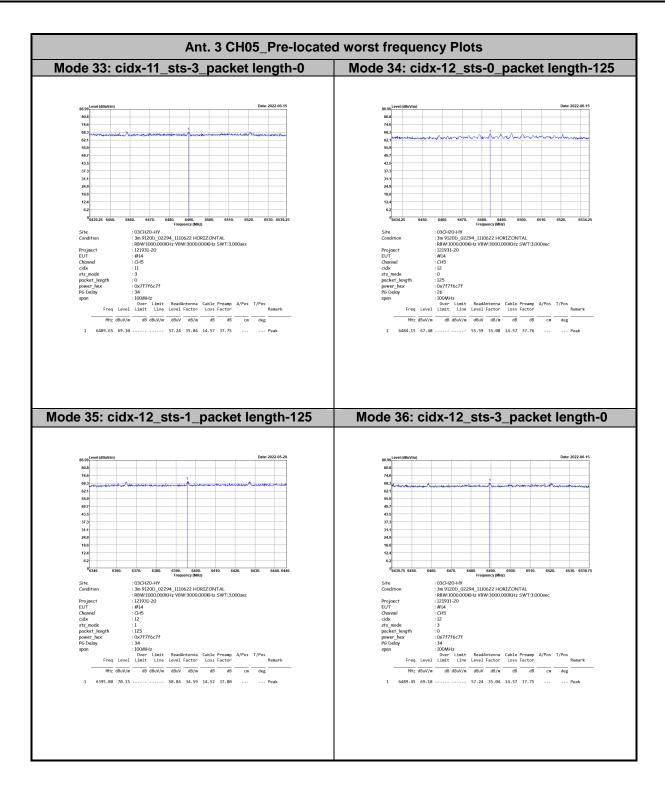
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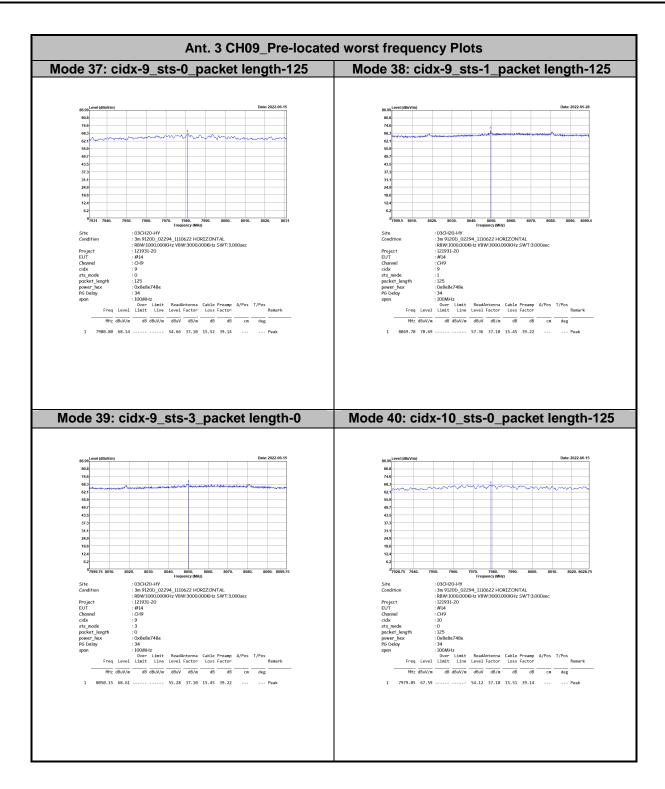
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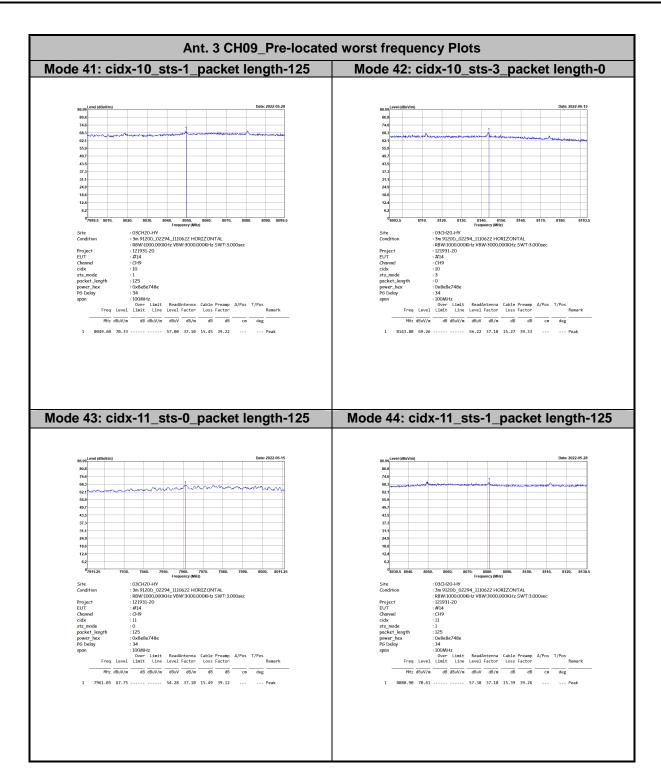
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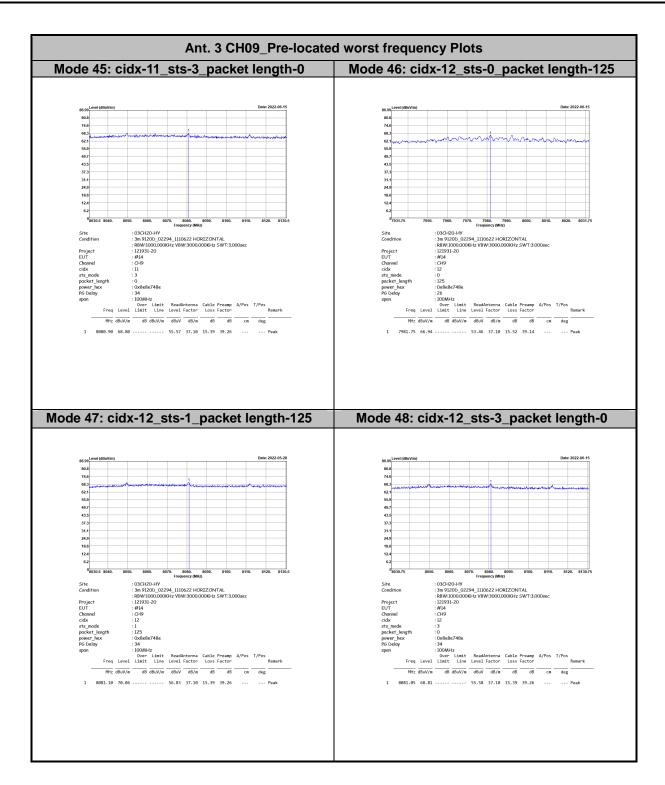
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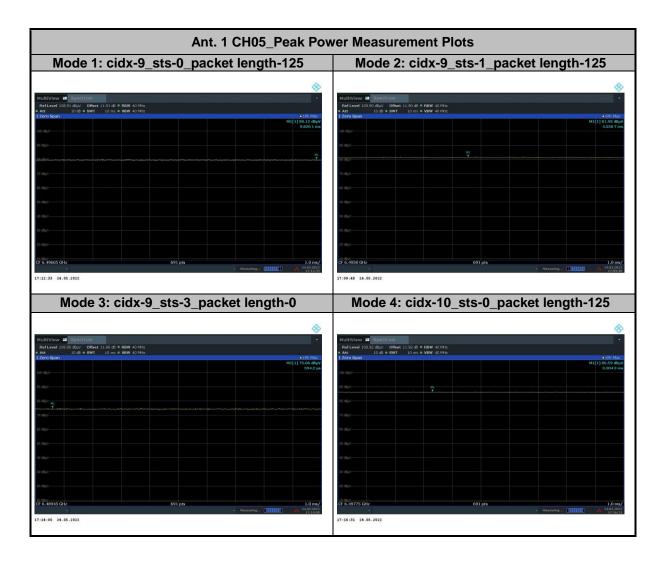
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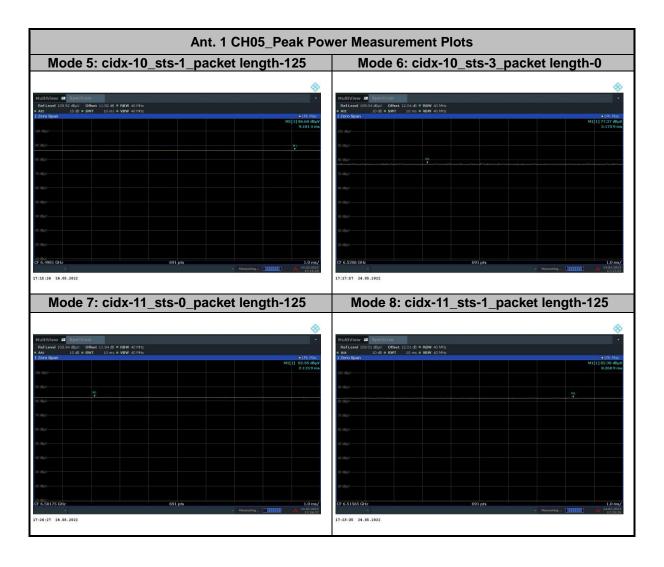
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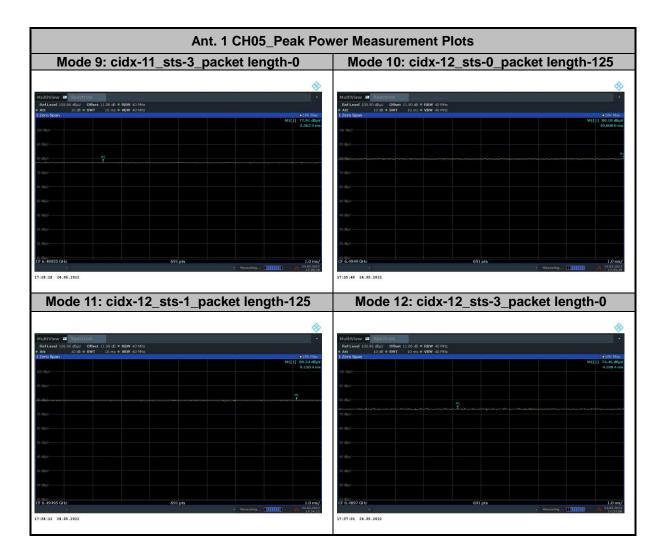
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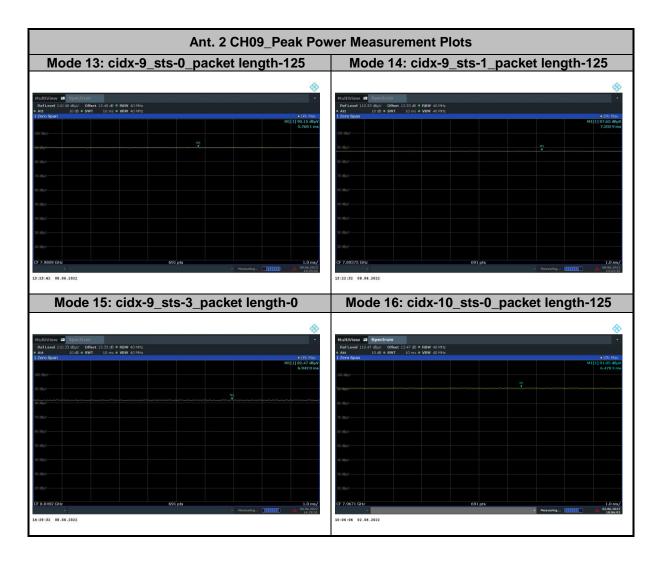
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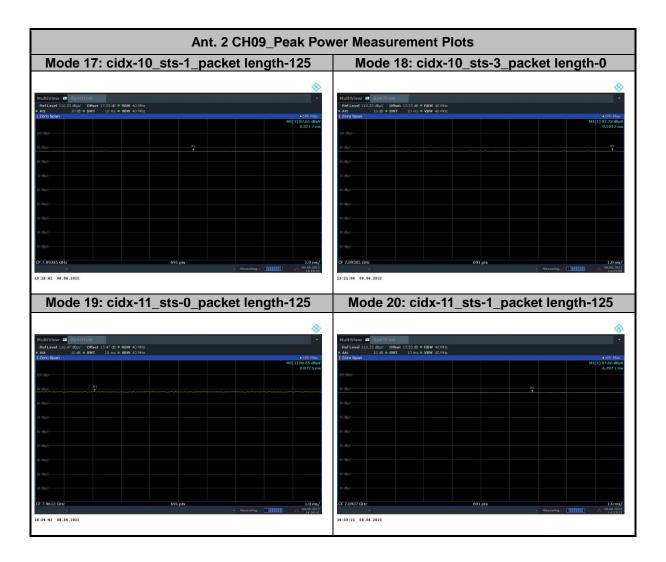


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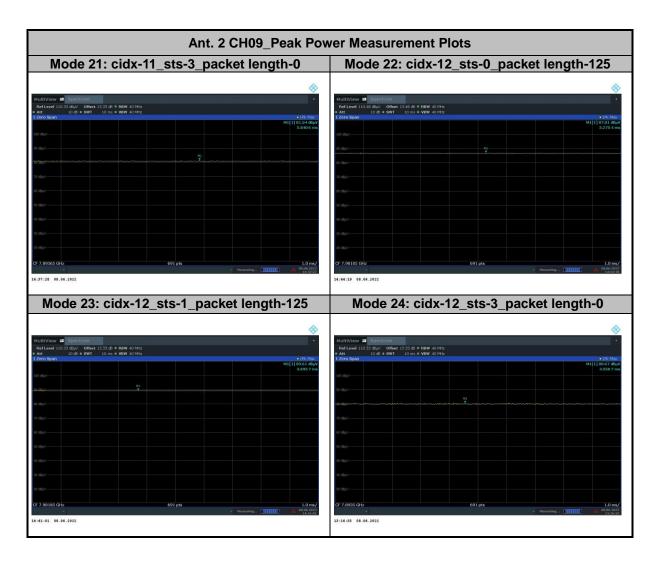


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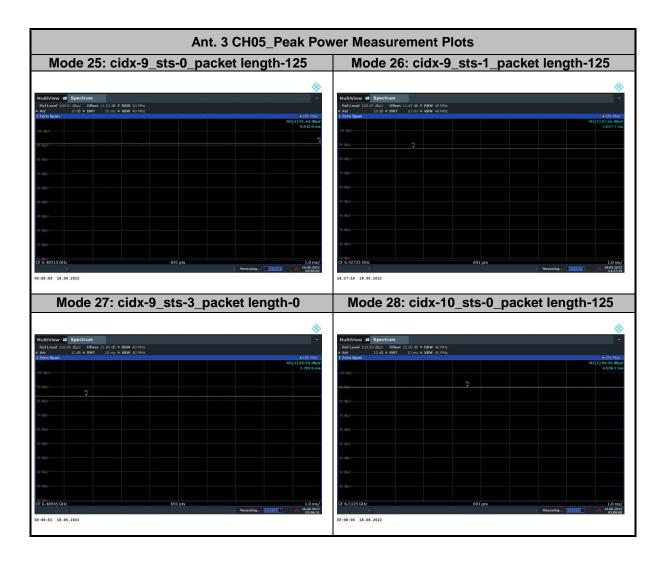
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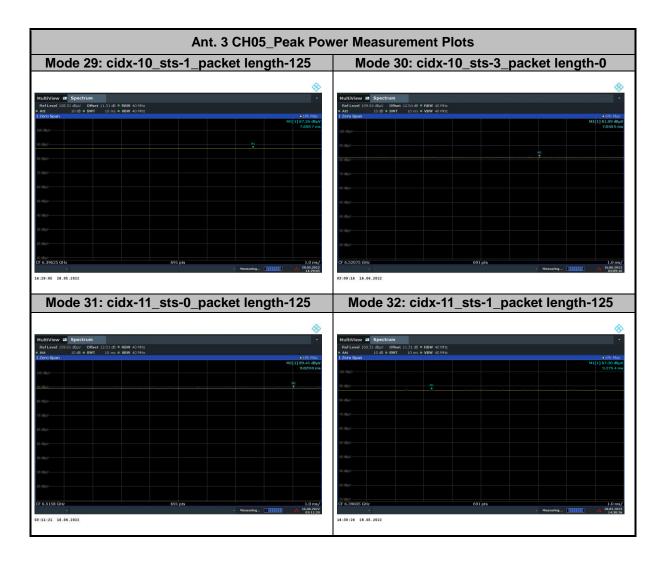
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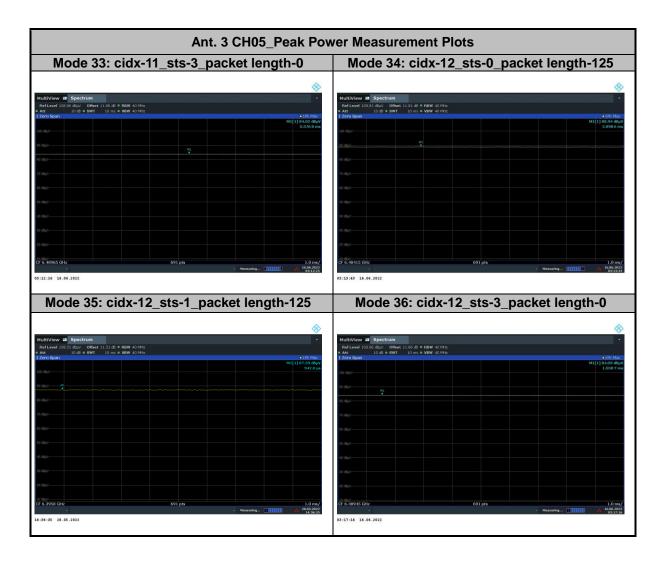
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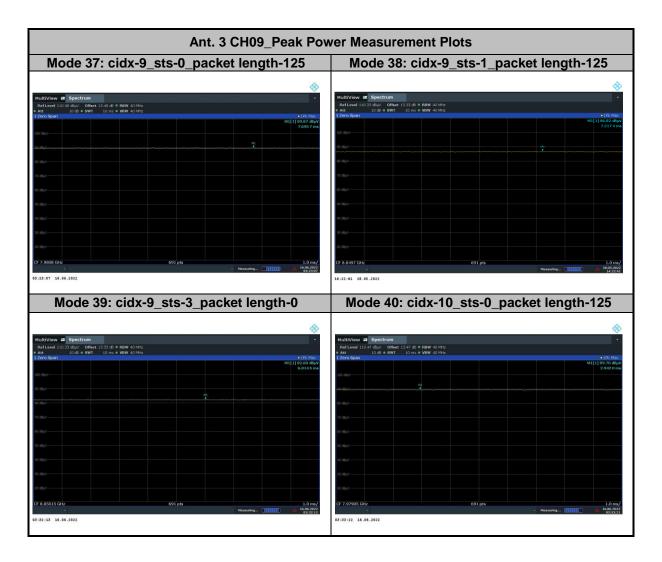
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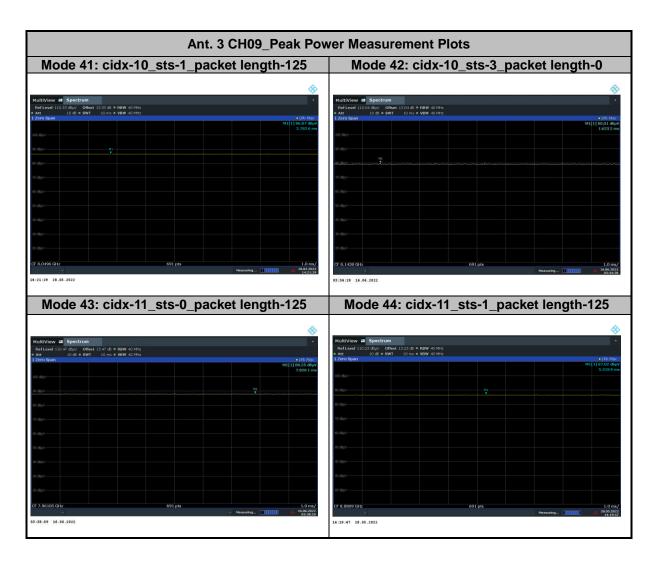
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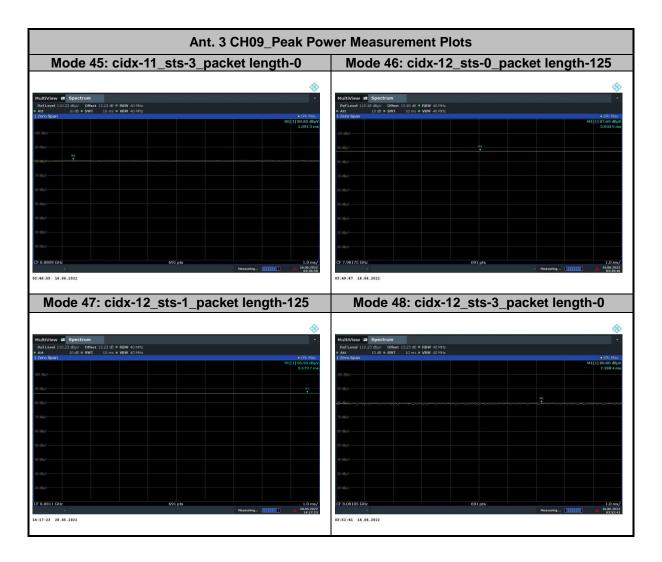
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# 3.3 Radiated Emissions

## 3.3.1 Radiated Emissions Limit

Radiated Emissions below 960MHz and Emissions from Digital Circuitry Limit						
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)			
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300			
0.490~1.705	24000/F(kHz)	33.8 - 23	30			
1.705~30.0 30		29	30			
30~88	100	40	3			
88~216	150	43.5	3			
216~960	200	46	3			
Above 960	500	54	3			

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- Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).
- Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Radiated Emissions above 960MHz Limit				
Frequency Range (MHz)	EIRP (dBm), RBW = 1MHz			
960-1610	-75.3			
1610-1990	-63.3			
1990-3100	-61.3			
3100-10600	-41.3			
Above 10600	-61.3			

### Note:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
   (Note: Aux = Filter loss; Aux 2 = Distance extrapolation factor)

Radiated Emissions in GPS Bands Limit				
Frequency Range (MHz)	EIRP (dBm), RBW ≥ 1kHz			
1164-1240	-85.3			
1559-1610	-85.3			

Note E (dBuv/m) = EIRP (dBm) + 95.23, example, E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m

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# 3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

## 3.3.3 Test Procedures

#### Test Method for Radiated Emissions above 960MHz

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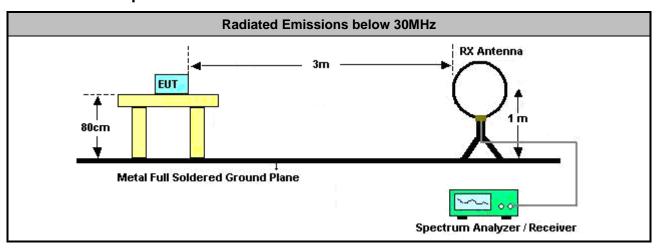
- Radiated Emissions above 960MHz
  - Refer as ANSI C63.10, clause 10.3.1 for radiated measurement procedure testing.
  - Refer as ANSI C63.10, clause 10.3.2 for measurement distance is 3m. In some cases, it may be necessary to measure the radiated UWB emissions at a closer distance to obtain enough signal and margin to overcome the measurement system noise floor. Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
  - Refer as ANSI C63.10, clause 10.3.4 for rms detector procedure testing.
  - Refer as ANSI C63.10, clause 10.3.7 for evaluating AVG-PSD (RBW=1MHz).
  - Refer as ANSI C63.10, clause 10.3.10 for evaluating AVG-PSD in GPS Band (RBW≥1kHz).
- For radiated measurement.
  - Refer as ANSI C63.10, clause 10.3.8 following eirp can be used radiated test configuration.
  - Refer as ANSI C63.10, clause 10.3.9 following eirp can be directly determined using the field strength.

## Test Method for Radiated Emissions below 960MHz and Emissions from Digital Circuitry

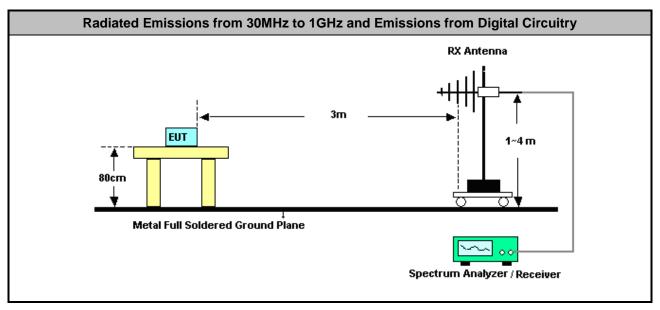
- Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements) for above 30MHz-960MHz; 40dB/decade for frequency below 30MHz.
- For the transmitter unwanted emissions shall be measured using following options below:
  - Refer as ANSI C63.10, clause 4.1.4 Detector functions and selection of bandwidth
  - □ Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a "duty cycle correction factor", derived from 20log (dwell time/100 ms). Average emission = peak emission + 20 log (duty cycle).
  - Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
- For radiated measurement.
  - Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
  - Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
  - Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 3m.
  - If the noise floor can't meet the limit, the test distance will be shorten and described in the report.
- Any unwanted emissions level shall not exceed the fundamental emission level.

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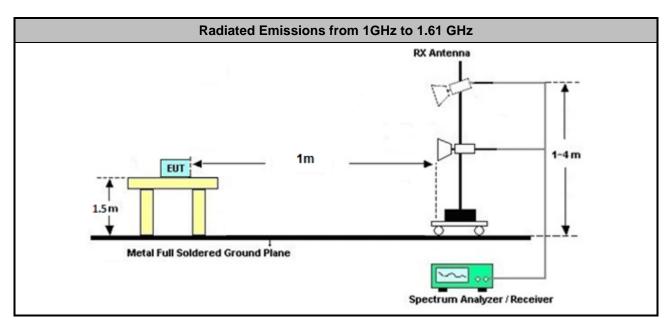
# 3.3.4 Test Setup

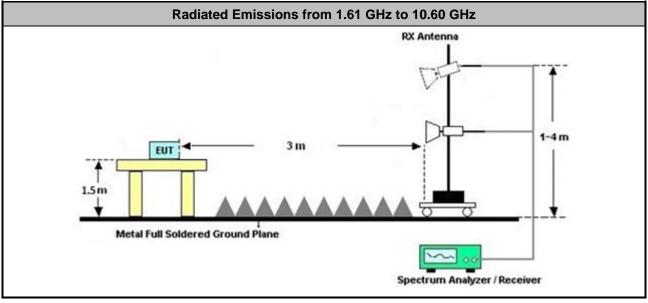


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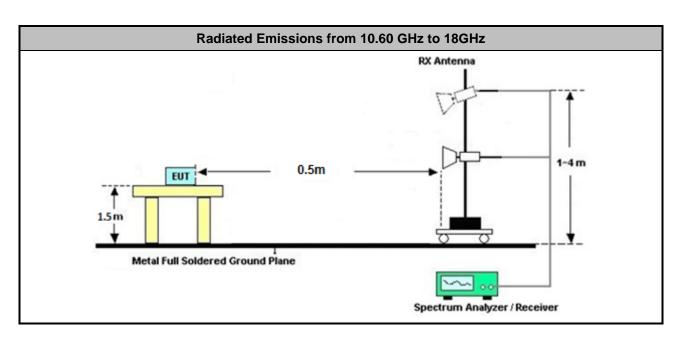


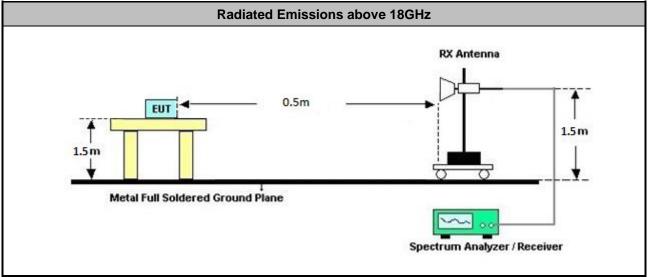
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Note 1: Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna. Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna and the frequency range of 1 GHz to 40 GHz using a calibrated horn antenna. Note 2: If test distance other than 3m is used, the used test distance will be recorded in test result.

# 3.3.5 Radiated Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

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# 3.3.6 Radiated Emissions (Fundamental)

Test	Frequency	<b>Emission Level</b>	<b>Emission Limit</b>	<b>Emission Limit</b>	Margin	Result	Pol
mode	(MHz)	(dBuV/m)	(dBm/MHz)	(dBuV/m)	(dB)	Result	[H/V]
1	6491	43.85	-41.3	53.93	-10.08	Pass	V
2	6502	46.46	-41.3	53.93	-7.47	Pass	V
3	6491	43.85	-41.3	53.93	-10.08	Pass	V
4	6510	48.16	-41.3	53.93	-5.77	Pass	V
5	6504	49.22	-41.3	53.93	-4.71	Pass	V
6	6504	46.60	-41.3	53.93	-7.33	Pass	V
7	6506	46.98	-41.3	53.93	-6.95	Pass	V
8	6506	46.92	-41.3	53.93	-7.01	Pass	V
9	6509	44.97	-41.3	53.93	-8.96	Pass	V
10	6507	43.87	-41.3	53.93	-10.06	Pass	V
11	6507	44.43	-41.3	53.93	-9.5	Pass	V
12	6491	43.13	-41.3	53.93	-10.8	Pass	V
13	7877	52.57	-41.3	53.93	-1.36	Pass	Н
14	7877	53.77	-41.3	53.93	-0.16	Pass	Н
15	7878	50.71	-41.3	53.93	-3.22	Pass	Н
16	8064	53.52	-41.3	53.93	-0.41	Pass	Н
17	7877	53.52	-41.3	53.93	-0.41	Pass	Н
18	7875	51.66	-41.3	53.93	-2.27	Pass	Н
19	7887	52.58	-41.3	53.93	-1.35	Pass	Н
20	7887	53.66	-41.3	53.93	-0.27	Pass	Н
21	7887	50.54	-41.3	53.93	-3.39	Pass	Н
22	7878	49.08	-41.3	53.93	-4.85	Pass	Н
23	7878	52.91	-41.3	53.93	-1.02	Pass	Н
24	7878	49.80	-41.3	53.93	-4.13	Pass	Н
25	6439	51.00	-41.3	53.93	-2.93	Pass	Н
26	6443	52.77	-41.3	53.93	-1.16	Pass	Н
27	6431	49.89	-41.3	53.93	-4.04	Pass	Н
28	6434	51.73	-41.3	53.93	-2.2	Pass	Н
29	6434	52.82	-41.3	53.93	-1.11	Pass	Н
30	6437	49.65	-41.3	53.93	-4.28	Pass	Н
31	6436	51.57	-41.3	53.93	-2.36	Pass	Н
32	6437	53.09	-41.3	53.93	-0.84	Pass	Н

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Test	Frequency	<b>Emission Level</b>	<b>Emission Limit</b>	<b>Emission Limit</b>	Margin	Decell	Pol
mode	(MHz)	(dBuV/m)	(dBm/MHz)	(dBuV/m)	(dB)	Result	[H/V]
33	6435	49.47	-41.3	53.93	-4.46	Pass	Н
34	6506	49.64	-41.3	53.93	-4.29	Pass	Н
35	6444	53.03	-41.3	53.93	-0.9	Pass	Н
36	6490	49.63	-41.3	53.93	-4.3	Pass	Н
37	8062	52.05	-41.3	53.93	-1.88	Pass	Н
38	8065	53.42	-41.3	53.93	-0.51	Pass	Н
39	8063	50.16	-41.3	53.93	-3.77	Pass	Н
40	8064	52.07	-41.3	53.93	-1.86	Pass	Н
41	8064	53.39	-41.3	53.93	-0.54	Pass	Н
42	8062	50.21	-41.3	53.93	-3.72	Pass	Н
43	8065	52.00	-41.3	53.93	-1.93	Pass	Н
44	8065	53.48	-41.3	53.93	-0.45	Pass	Н
45	8066	50.03	-41.3	53.93	-3.9	Pass	Н
46	8064	49.23	-41.3	53.93	-4.7	Pass	Н
47	8064	53.34	-41.3	53.93	-0.59	Pass	Н
48	8065	50.24	-41.3	53.93	-3.69	Pass	Н

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Ant. 1 CH05\_Radiated Emissions (Fundamental) **Polarization** V **Operating Function** Standalone Mode **Test Distance** 3m Mode 1: cidx-9\_sts-0\_packet length-125 Mode 2: cidx-9\_sts-1\_packet length-125 | TrequercyMH2|
| :03CH2O-HY | FrequercyMH2|
| :FCC\_UWB\_HAND 3m 91200\_02294\_1110622 VERTICAL |
| :RWM:0000000KHz VBW:3000.000KHz SWT:1.000sec |
| :121931-26 |
| :12494 |
| :CH5 |
| :9 : 03CH2O-HY
:FCC\_UWB\_HAND 3m 9120D\_02294\_1110422 VERTICAL
:RBW11000,000KHz VBW-3000,000KHz SWT:1,000ec
:121931-26
:H4
:CH5
:9 Mode 3: cidx-9\_sts-3\_packet length-0 : 03CH2O-HY
: FCC\_UWB\_HAND 3m 91200\_02294\_1110622 VERTICAL.
: RBW::000,000KHz VBW:3000,000KHz SWT:1,000sec
: 121931-26
: L21931-26
: L24 5
: L4 5
: L4 5
: L5 5
: L 

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Ant. 1 CH05\_Radiated Emissions (Fundamental) **Polarization** V **Operating Function** Standalone Mode **Test Distance** 3m Mode 4: cidx-10\_sts-0\_packet length-125 Mode 5: cidx-10\_sts-1\_packet length-125 | :03CH2O-H7 | Treumer/BM10 | :03CH2O-H7 | : | Trequery,08(4) | 103CH2O-HY | 110CH2O-HY | xx : Oxbfbf9cbf | Mode 6: cidx-10\_sts-3\_packet length-0 | 103CH2O-HY | 103CH2O-HY | 103CH2O-HY | 103CH2O-HY | 103CH2O-HY | 105CL\_UWB\_HAND 3m 91200\_02294\_1110622 VERTICAL | 18W:1000,000KHz VBW:3000,000KHz VBW:11000sec | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 121931-26 | 

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Ant. 1 CH05\_Radiated Emissions (Fundamental) **Polarization** V **Operating Function** Standalone Mode **Test Distance** 3m Mode 7: cidx-11\_sts-0\_packet length-125 Mode 8: cidx-11\_sts-1\_packet length-125 | :03CH2O-H7 | Treumer/BM10 | :03CH2O-H7 | : e : 0
ingth : 125
ex : 0x6f6/f5c6f
: 26
Over Limit Readdwtenna Cable Presum A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor

| Mt: dbuV/n | d8 dbuV/n | d8 W db/n | d8 d8 cn | deg Mode 9: cidx-11\_sts-3\_packet length-0 : 03CH2O-HY
: FCC\_UWB\_HAND 3m 91200\_02294\_1110622 VERTICAL.
: RBW::000,000KHz VBW:3000,000KHz SWT:1,000sec
:121931-26
:124931-26
:144
: C-H5
: III 

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Ant. 1 CH05\_Radiated Emissions (Fundamental) **Polarization** V **Operating Function** Standalone Mode **Test Distance** 3m Mode 10: cidx-12\_sts-0\_packet length-125 Mode 11: cidx-12\_sts-1\_packet length-125 | Trequery,08(4) | 103CH2O-HY | 110CH2O-HY | | 14 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | Mode 12: cidx-12\_sts-3\_packet length-0 Frequency (MRD)

: 030-120-147
: FCC\_UWB, HAND 3m 9120D, 02294\_1110622 VERTICAL
: FCC\_UWB, HAND 3m 9120D, 02294\_1110622 VERTICAL
: FEWHIO000,000(Hz VBW-3000,0000KHz SWT-1,000sec
: 121931-20
: 124
: 12
: 12
: 13 

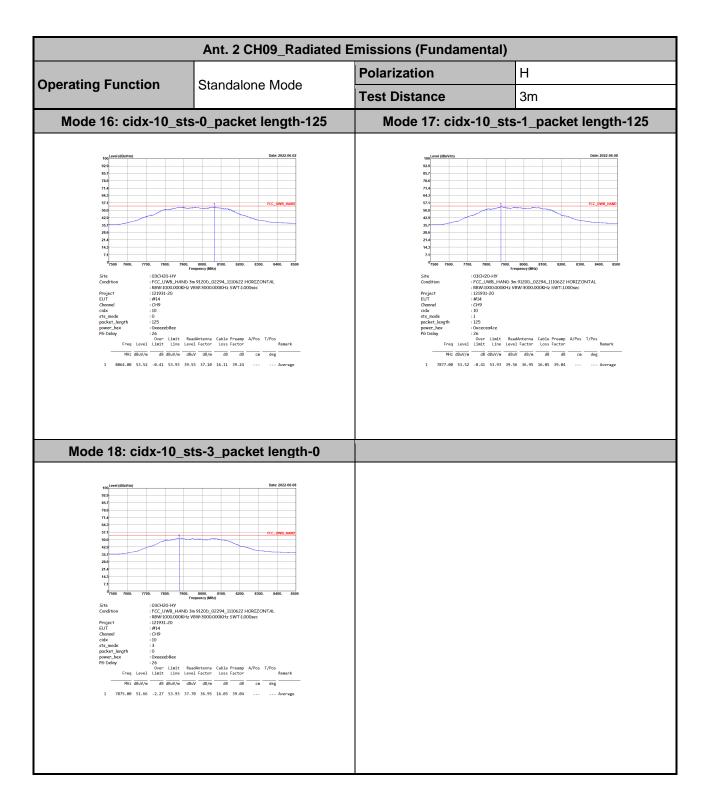
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Ant. 2 CH09\_Radiated Emissions (Fundamental) **Polarization** Н **Operating Function** Standalone Mode **Test Distance** 3m Mode 13: cidx-9\_sts-0\_packet length-125 Mode 14: cidx-9\_sts-1\_packet length-125 : 03CH20-HY
: FCC\_UWB\_HAND 3m 9120D\_02294\_1110622 HORIZONTAL
: R8W:1000.000KHz VBW:3000.000KHz SWT:1.000sec
: 121931\_44
: CH9 : 03CH20-HY
:FOC\_UWB\_HAND 3m 91200\_02294\_1110622 HORIZONTAL
:RWB\_W10000000Hz VBW:3000.000KHz SWT:1.000sec
:121931-20
:##44
:CH9
:9 Mode 15: cidx-9\_sts-3\_packet length-0 ... 1990. 8000. 8100. E200. 8300. E Frequency (MRt) :FCC\_UWB\_HAND 3m 91200\_02294\_1110622 HORIZONTAL :RBW:1000.000Hz/2BW:3000.000Hz/2SWT:1000Sec :#14 :CH9 

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Ant. 2 CH09\_Radiated Emissions (Fundamental) **Polarization** Н **Operating Function** Standalone Mode **Test Distance** 3m Mode 19: cidx-11\_sts-0\_packet length-125 Mode 20: cidx-11\_sts-1\_packet length-125 : 03CH20-HY
: 03CH20-HY
: FRC\_UWB\_HAND 39 1920b\_02594\_1110622 HORIZONTAL
: REWI-1000000Hz VBW-3000,000Hz 5WT:1.0008ec
: 12/931\_20
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: 12/931 Mode 21: cidx-11\_sts-3\_packet length-0 

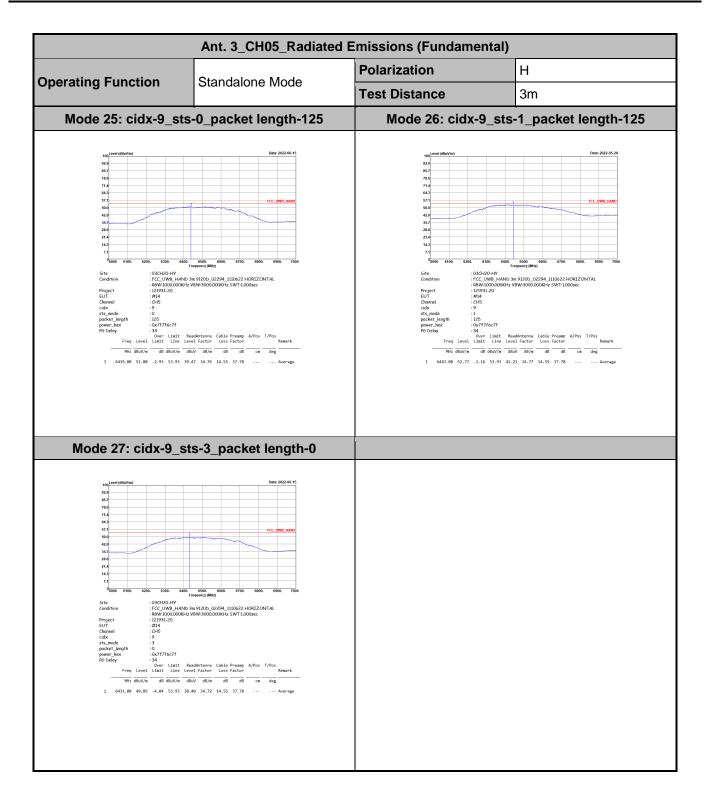
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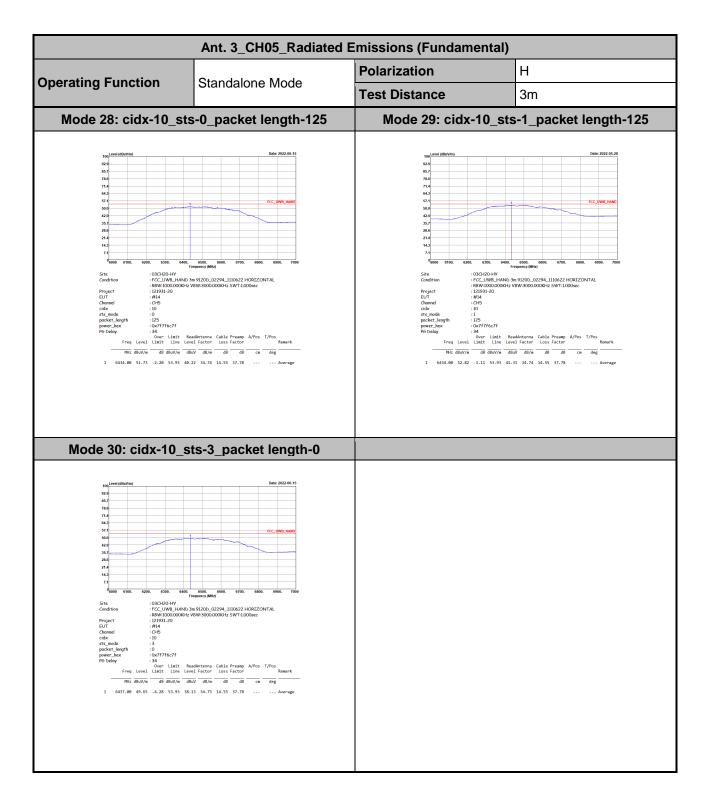
Ant. 2 CH09\_Radiated Emissions (Fundamental) **Polarization** Н **Operating Function** Standalone Mode **Test Distance** 3m Mode 22: cidx-12\_sts-0\_packet length-125 Mode 23: cidx-12\_sts-1\_packet length-125 : 03CH20-HY
: 03CH20-HY
: FCC\_UWB\_HAND 3m 9120D\_02294\_1110622 HORTZONTAL
: R8W11000.0000Hz v8W3000.000Hz SWT1.0008ec
: 12931-200
: ###
: CH9
: L12931-201
: L1293 x : Oxbebe9cbe | Oxbeb9cbe | O Mode 24: cidx-12\_sts-3\_packet length-0 103CH20-HY
103CH20-HY
1FCC\_UWB\_HAND 3m 91200\_02294\_1110622 HORTZCNTAL.
12P03\_120
12P03\_120 

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Ant. 3\_CH05\_Radiated Emissions (Fundamental) **Polarization** Н **Operating Function** Standalone Mode **Test Distance** 3m Mode 31: cidx-11\_sts-0\_packet length-125 Mode 32: cidx-11\_sts-1\_packet length-125 : 03CH20-HY Freewinc (MRI)
: 03CH20-HY SW 91200\_02294\_1110622 HORIZONTAL : REWIJ0000000Hz VBW:3000.000Hz SWT:1.000sec : 12/931-2 CH5 : 12/931 Mode 33: cidx-11\_sts-3\_packet length-0 : 03CH20-HY
: 03CH20-HY
: FCC\_UWB, HAND 3m 91200\_02294\_1110622 HORIZONTAL.
: 12U931\_05
: 12U931\_05
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: CH5
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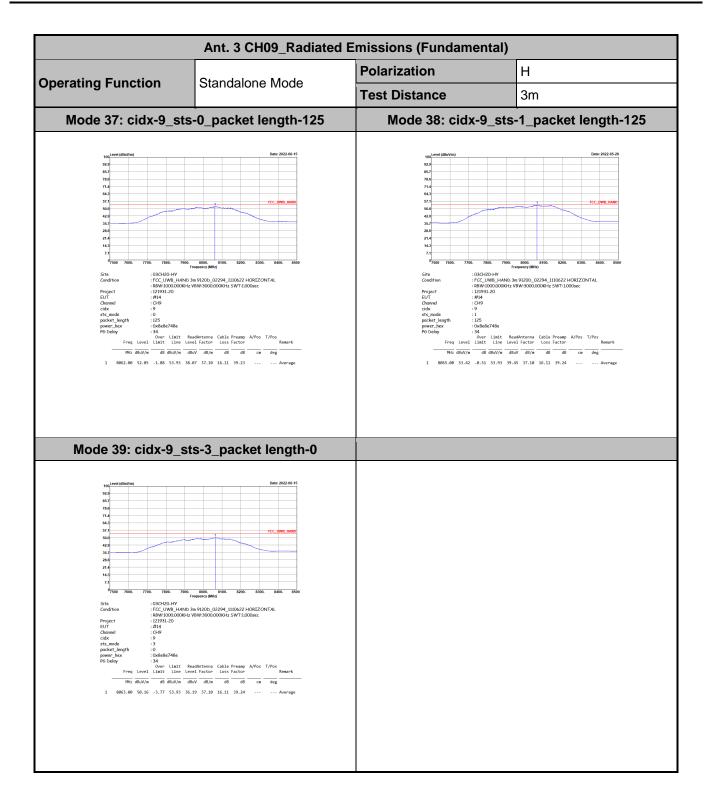
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Ant. 3\_CH05\_Radiated Emissions (Fundamental) **Polarization** Н **Operating Function** Standalone Mode **Test Distance** 3m Mode 34: cidx-12\_sts-0\_packet length-125 Mode 35: cidx-12\_sts-1\_packet length-125 : 03CH20-HY Freewinc (MRI)
: 03CH20-HY SW 91200\_02294\_1110622 HORIZONTAL : RPC\_UWB\_HAND 3 m91200\_02294\_1110622 HORIZONTAL : RBW10000000Hz VBW:3000000Hz SWT:1.0008ec : 12/931\_6 CH5 : 12/9 : 03CH20-HY
: 03CH20-HY
: FCC\_UWB\_HAND3 m9120D\_02294\_1110622 HORIZONTAL
: R8W110000000Hz v8W3000.000Hz 5WT:1.000sec
: 121931\_50
: ###
: CH5
: L12931\_50
: ###
: CH5
: L12931\_50
: L12931\_5 | 14 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | e :0
ingth :125
ex :Oxf7ff6c7f
: 26
Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor

| Phi: dbuV/n | db dbuV/n | db w db/n | db | db | cn | deg Mode 36: cidx-12\_sts-3\_packet length-0 : 63G-H20-HY Frequency (MH2)
: 63G-H20-HY FREQUENCY FREQUEN 

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Ant. 3 CH09\_Radiated Emissions (Fundamental) **Polarization** Н **Operating Function** Standalone Mode **Test Distance** 3m Mode 40: cidx-10\_sts-0\_packet length-125 Mode 41: cidx-10\_sts-1\_packet length-125 : 03CH20-HY
: 03CH20-HY
: FCC\_UWB\_HAND3 m9120D\_02294\_1110622 HORIZONTAL
: R8W110000000Hz v8W3000.000Hz 5WT:1.000sec
: 121931-20
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: 121931-20
: 121931-2 | 10 | 125 | 126 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | Mode 42: cidx-10\_sts-3\_packet length-0 : 03CH20-HY
:FCC\_UWB\_HAND 3m 9120D\_02294\_1110622 HORIZONTAL
:FECS\_UWB\_HAND 3m 9120D\_02294\_1110622 HORIZONTAL
:121931\_25
:121931\_25
:121931\_25
:110 | 1091| | 1048ele748e| | 34 | 1048ele748e| | 3

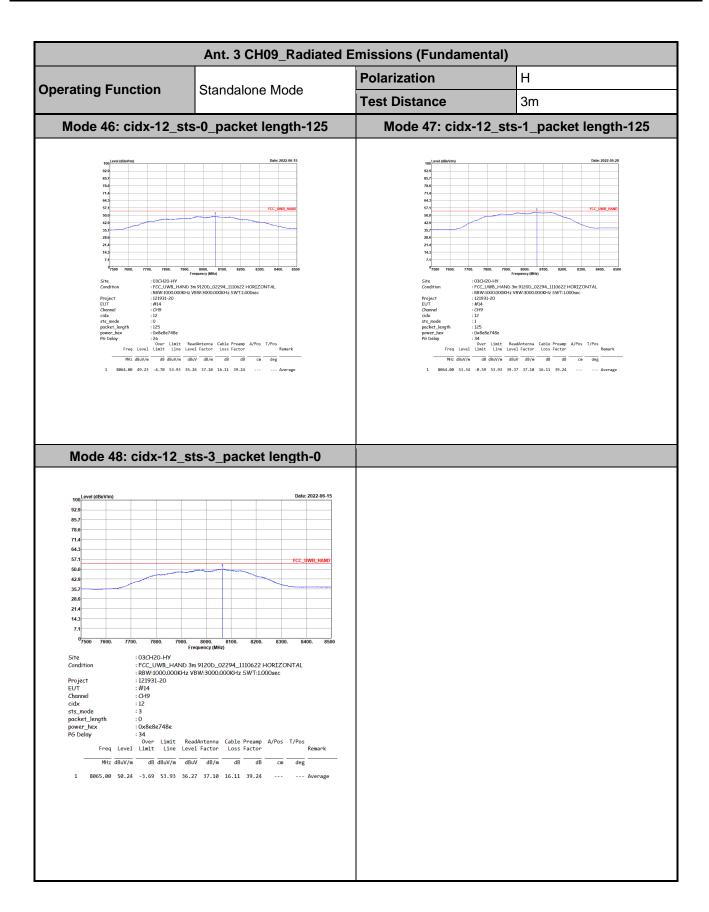
Report No.: FR121931-20

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Ant. 3 CH09\_Radiated Emissions (Fundamental) **Polarization** Н **Operating Function** Standalone Mode **Test Distance** 3m Mode 43: cidx-11\_sts-0\_packet length-125 Mode 44: cidx-11\_sts-1\_packet length-125 : 03CH20-HY
: 03CH20-HY
: FCC\_UWB\_HAND 39 #1200\_02294\_1110622 HORTZONTAL
: R8W10000000Hz V8W:3000,000Hz 5WT:10008ec
: 12/931\_9
: HH
: CH9
: 111 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 Mode 45: cidx-11\_sts-3\_packet length-0 ... 1990. 8000. 8100. 8200. 8300. i Frequency(MIN) :FCC\_UVB\_HAND 3m 9120D\_0Z294\_111062Z HCREZCONTAL :RBW:1000.0000Hz VBW:3000.000Hz SWT:1000Sec :PH4 | 1091| | 1048ele748e| | 34 | 1048ele748e| | 3

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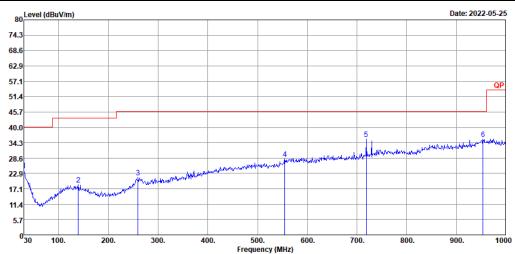


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## 3.3.7 Radiated Emissions (30MHz - 1GHz)

	Ant. 1 CH05_Radiated Emissions (30MHz – 1GHz)										
Test Mode Mode 5: cidx-10_sts-1_packet length-125 Polarization H											
Operating Function	Standalone Mode	Test Distance	3m								

Report No.: FR121931-20



Site : 03CH20-HY

Condition : QP 3m LF\_55606&08\_1101017 HORIZONTAL

 Projaect
 : 121931-20

 EUT
 : #4

 Channel
 : CH5

 cidx
 : 10

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0xbfbf9cbf

PG Delay : 20

	,												
	Freq	Level		Limit Line							A/Pos	T/Pos	Remark
_	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	cm	deg	
1	30.00	24.18	-15.82	40.00	34.29	24.37	1.17	35.66	0.01	0.00			Peak
2	139.61	18.73	-24.77	43.50	34.26	17.57	2.31	35.50	0.09	0.00			Peak
3	259.89	21.31	-24.69	46.00	33.36	20.09	3.04	35.26	0.08	0.00			Peak
4	554.77	28.35	-17.65	46.00	32.77	25.55	4.35	34.45	0.13	0.00			Peak
5	718.70	35.59	-10.41	46.00	37.72	26.71	4.88	33.87	0.15	0.00			Peak
6	953.44	35.57	-10.43	46.00	32.01	30.54	5.61	32.97	0.38	0.00			Peak

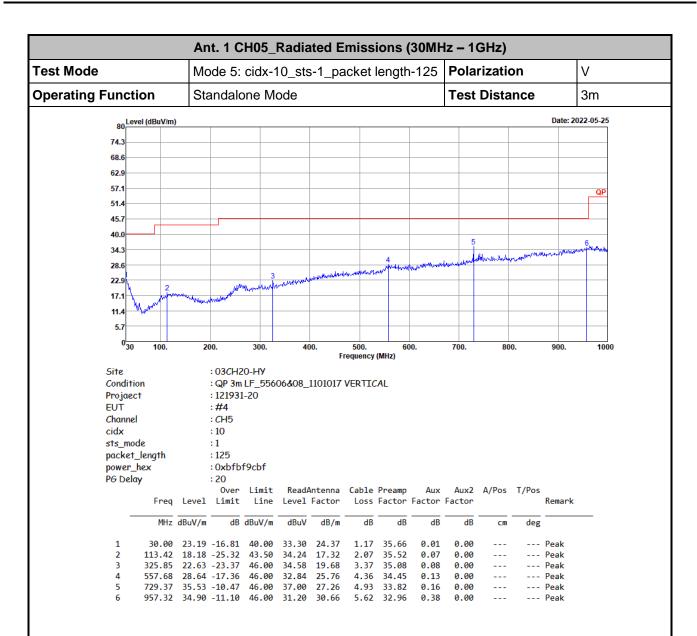
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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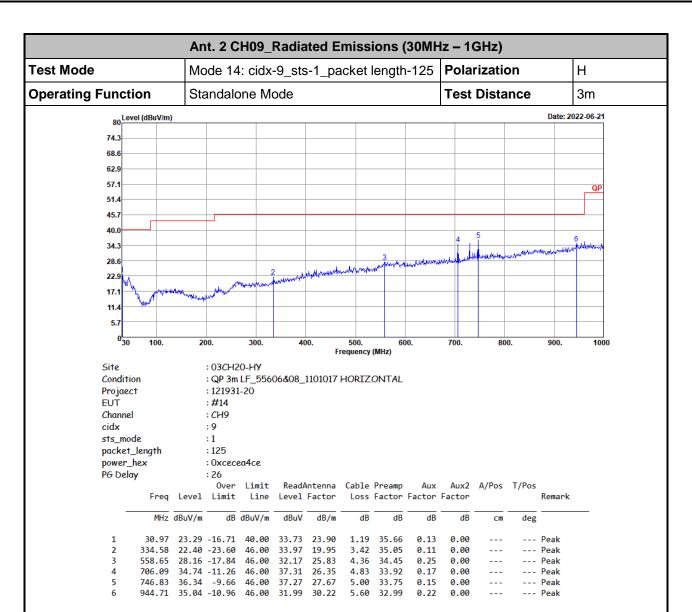
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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#### Ant. 2 CH09\_Radiated Emissions (30MHz - 1GHz) ٧ Mode 14: cidx-9\_sts-1\_packet length-125 **Test Mode Operating Function** Standalone Mode **Test Distance** 3m 80 Level (dBuV/m) Date: 2022-06-21 74. 68.6 62.9 57.1 51.4 45. 40.0 28.6 22.9 17.1 11.4 0<mark>30</mark> Frequency (MHz) Site : 03CH20-HY Condition : QP 3m LF\_55606&08\_1101017 VERTICAL : 121931-20 Projaect EUŤ : #14 : CH9 Channel cidx :9 sts\_mode :1 packet\_length : 125 power\_hex : 0xcecea4ce PG Delay : 26 ReadAntenna Cable Preamp A/Pos Over Limit Aux Aux2 Remark Freq Level Limit Line Level Factor Loss Factor Factor Factor MHz dBuV/m dB dBuV/m dBuV dB/m deg 30.00 23.06 -16.94 40.00 33.05 24.37 1.17 35.66 0.13 0.00 --- Peak 129.91 17.90 -25.60 43.50 33.65 17.43 2.22 35.51 0.11 0.00 --- Peak 340.40 23.05 -22.95 46.00 34.37 20.15 3.45 35.03 0.11 0.00 ------ Peak 32.22 565.44 28.32 -17.68 46.00 25.91 4.39 34.44 0.24 0.00 --- Peak 759.44 31.90 -14.10 46.00 32.73 27.70 5.04 33.73 --- Peak 0.16 0.00 957.32 35.09 -10.91 46.00 31.54 30.66 32.96 --- Peak

Report No.: FR121931-20

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

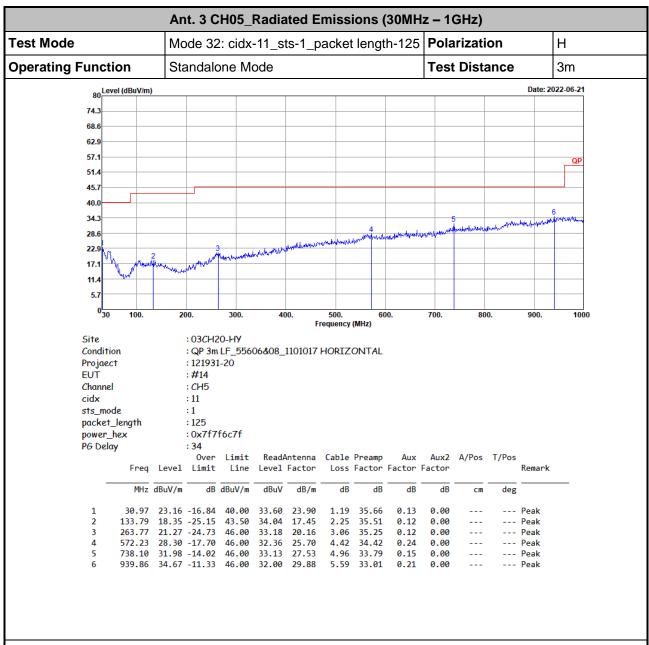
5.62

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

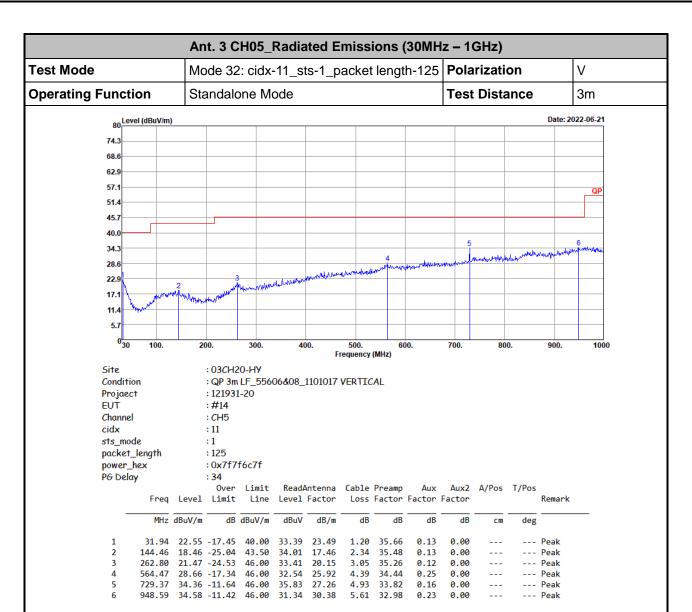
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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 : Jun. 29, 2022



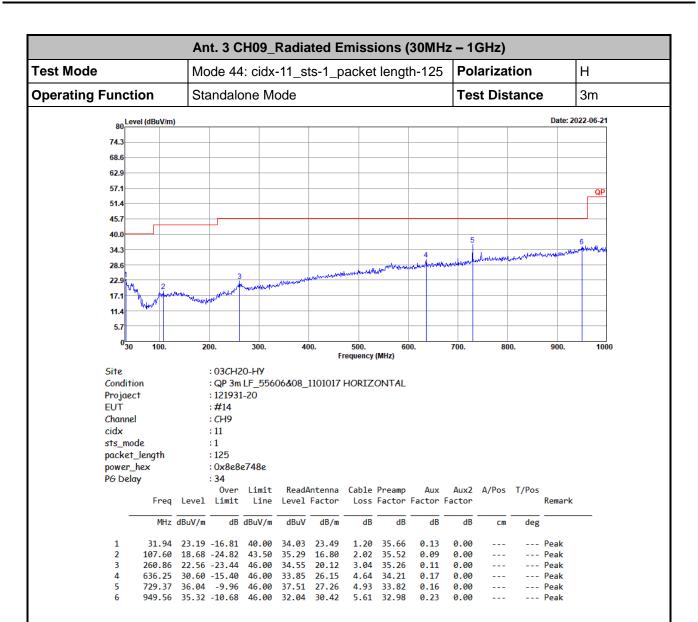
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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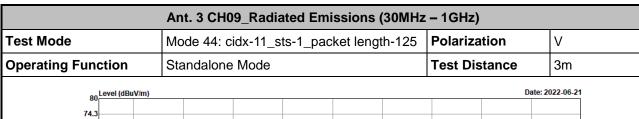
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

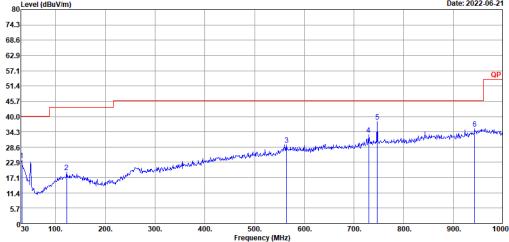
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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Site : 03CH20-HY

Condition : QP 3m LF\_55606&08\_1101017 VERTICAL

 Projaect
 : 121931-20

 EUT
 : #14

 Channel
 : CH9

 cidx
 : 11

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0x8e8e748e

PG Delay : 34

Frea	Level		Limit Line							A/Pos	T/Pos	Remark
	dBuV/m		dBuV/m	dBuV	dB/m	dB	dB	dB			deg	
31.94	23.62	-16.38	40.00	34.46	23.49	1.20	35.66	0.13	0.00			Peak
			43.50									
			46.00 46.00				34.44 33.82	0.25 0.16				
			46.00									Peak
942.77	35.37	-10.63	46.00	32.47	30.08	5.60	33.00	0.22	0.00			Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

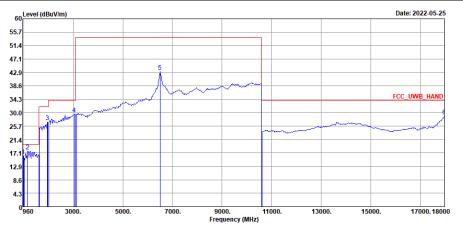
Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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## 3.3.8 Radiated Emissions (960MHz – 18GHz)

,	Ant. 1 CH05_Radiated Emissions (960MHz – 18GHz)										
Test Mode	Mode 5: cidx-10_sts-1_packet length-125	Polarization	Н								
Operating Function	Standalone Mode										
Test Distance	The test distance between the receiving ar 3m for 1.61 GHz ~ 10.60 GHz frequency r 0.5 m for other frequency ranges.										

Report No.: FR121931-20



: 03CH20-HY Condition : FCC\_UWB\_HAND 3m 9120D\_02294\_1110622 HORIZONTAL Projaect : 121931-20

**EUT** : #4 Channel : CH5 : 10 sts\_mode packet\_length : 125 : 0xbfbf9cbf power hex PG Delay : 20

Cable Preamp A/Pos T/Pos Loss Factor Factor Factor Remark Freq Level Limit Line Level Factor dB dBuV/m dBuV MHz dBuV/m dB/m dB dB dB deg cm979.24 16.21 -3.72 19.93 28.21 30.42 5.63 32.89 0.40 -15.56 --- Average 1159.82 17.77 -2.16 1953.52 27.09 -4.84 19.93 31.08 25.84 6.07 35.68 -9.54 0.00 31.93 29.09 26.23 7.84 0.00 36.07 0.00 --- Average 29.58 -4.35 33.93 26.28 29.57 9.87 43.07 -10.86 6497.50 53.93 31.16 35.08 14.58 0.00 0.00 --- Average 33.93 41.59

Διιν

Aux2

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

ReadAntenna

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

Over Limit

Note 6: #5 is fundamental signal.

#### Note 7:

Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB) **Example:** Distance extrapolation factor =  $20\log (0.5\text{m/3m}) = -15.56 \text{ (dB)}$ 

Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)

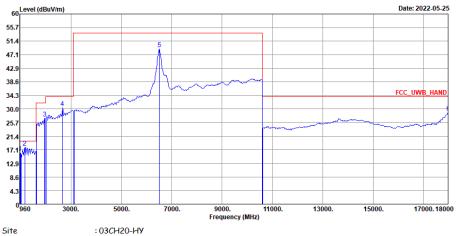
(Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor)

(Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

Example: Corrected Reading: 30.42 (dB/m) + 5.63 (dB) + 28.21 (dBuV) - 32.89 (dB) + (-15.16) (dB) = 16.21 (dBuV/m)

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	Ant. 1 CH05_Radiated Emissions (960MHz – 18GHz)										
Test Mode	Mode 5: cidx-10_sts-1_packet length-125	Polarization	V								
Operating Function	Standalone Mode										
Test Distance	The test distance between the receiving ar 3m for 1.61 GHz ~ 10.60 GHz frequency r 0.5 m for other frequency ranges.										



 Site
 : 03CH20-HY

 Condition
 : FCC\_UWB\_HAND 3m 9120D\_02294\_1110622 VERTICAL

 Projaec†
 : 121931-20

 EUT
 : #4

 Channel
 : CH5

 cidx
 : 10

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0xbfbf9cbf

 P6 Delay
 : 20

	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Factor	Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	cm	deg	
1	977.40	16.15	-3.78	19.93	28.10	30.48	5.63	32.90	0.40	-15.56			Average
2	1164.09	17.91	-2.02	19.93	31.19	25.86	6.08	35.68	-9.54	0.00			Average
3	1953.52	27.14	-4.79	31.93	29.14	26.23	7.84	36.07	0.00	0.00			Average
4	2661.55	30.36	-3.57	33.93	29.32	28.12	9.16	36.24	0.00	0.00			Average
5	6512.50	49.02	-4.91	53.93	37.02	35.17	14.59	37.76	0.00	0.00			Average
6	17992.60	28.97	-4.96	33.93	24.03	41.75	24.21	45.46	-15.56	0.00			Average

Over Limit ReadAntenna Cable Preamp Aux Aux2 A/Pos T/Pos

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

Note 6: #5 is fundamental signal.

## Note 7:

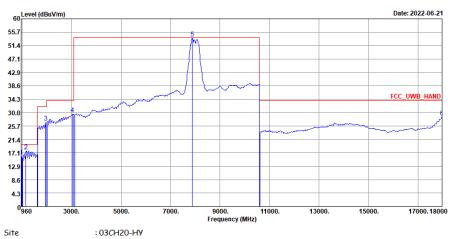
Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)
 (Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor)
 (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means

the measuring units are not connecting to the Filter)

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Ant. 2 CH09_Radiated Emissions (960MHz – 18GHz)										
Test Mode	Mode 14: cidx-9_sts-1_packet length-125	Polarization	Н							
Operating Function	on Standalone Mode									
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3m for 1.61 GHz ~ 10.60 GHz frequency range, 1 m for 1GHz ~ 1.61 GHz, and 0.5 m for other frequency ranges.									



 Condition
 : FCC\_UWB\_HAND 3m 9120D\_02294\_1110622 HORIZONTAL

 Projaect
 : 121931-20

 EUT
 : #14

 Channel
 : CH9

 cidx
 : 9

 sts\_mode
 : 1

 sts\_mode
 :1

 packet\_length
 :125

 power\_hex
 :0xcecea4ce

 P6 Delay
 :26

 Over\_Limit
 ReadAntenna
 Cable Preamp

	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Factor	Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	cm	deg	
1	977.88	15.97	-3.96	19.93	28.10	30.47	5.63	32.90	0.23	-15.56			Average
2	1159.21	17.71	-2.22	19.93	31.02	25.84	6.07	35.68	-9.54	0.00			Average
3	1957.32	26.87	-5.06	31.93	28.83	26.26	7.85	36.07	0.00	0.00			Average
4	3042.28	29.54	-4.39	33.93	26.24	29.57	9.87	36.14	0.00	0.00			Average
5	7877.50	53.76	-0.17	53.93	39.79	36.96	16.05	39.04	0.00	0.00			Average
6	17977.80	28.64	-5.29	33.93	23.81	41.64	24.20	45.45	-15.56	0.00			Average

Aux Aux2 A/Pos T/Pos

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

Note 6: #5 is fundamental signal.

## Note 7:

Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

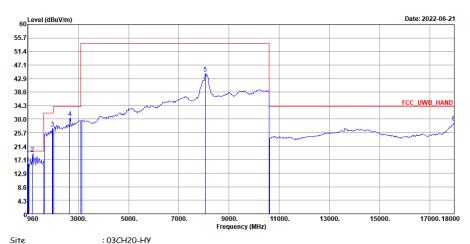
 Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)

(Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor)

(Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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	Ant. 2 CH09_Radiated Emissions (960MHz – 18GHz)										
Test Mode	Mode 14: cidx-9_sts-1_packet length-125	Polarization	V								
Operating Function	Standalone Mode										
Test Distance	The test distance between the receiving ar 3m for 1.61 GHz ~ 10.60 GHz frequency r 0.5 m for other frequency ranges.										



EUT : #14
Channel : CH9
cidx : 9
sts\_mode : 1
packet\_length : 125
power\_hex : 0xcecea4ce
P6 Delay : 26

	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Factor	Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	cm	deg	
1	975.60	15.90	-4.03	19.93	27.95	30.55	5.63	32.90	0.23	-15.56			Average
2	1165.92	19.02	-0.91	19.93	32.29	25.86	6.09	35.68	-9.54	0.00			Average
3	1958.08	27.02	-4.91	31.93	28.98	26.26	7.85	36.07	0.00	0.00			Average
4	2654.89	30.37	-3.56	33.93	29.36	28.11	9.15	36.25	0.00	0.00			Average
5	8065.00	44.52	-9.41	53.93	30.55	37.10	16.11	39.24	0.00	0.00			Average
6	17977.80	28.93	-5.00	33.93	24.10	41.64	24.20	45.45	-15.56	0.00			Average

Aux2 A/Pos T/Pos

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Over Limit ReadAntenna Cable Preamp

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

Note 6: #5 is fundamental signal.

## Note 7:

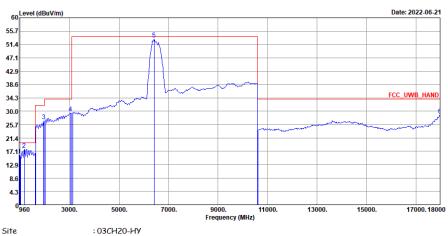
Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

 Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)

(Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor) (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

TEL: 886-3-327-0868 Page Number : 87 of 116
FAX: 886-3-327-0855 Issued Date : Jun. 29, 2022

	Ant. 3 CH05_Radiated Emissions (960MHz – 18GHz)										
Test Mode	Mode 32: cidx-11_sts-1_packet length-125	Polarization	Н								
Operating Function	Standalone Mode										
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3m for 1.61 GHz ~ 10.60 GHz frequency range, 1 m for 1GHz ~ 1.61 GHz, and 0.5 m for other frequency ranges.										



 Channel
 : CH5

 cidx
 : 11

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0x7f7f6c7f

 P6 Delay
 : 34

	Freq	Level		Limit Line							A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	Cm	deg	
1	979.32	15.94	-3.99	19.93	28.12	30.41	5.63	32.89	0.23	-15.56			Average
2	1162.26	17.77	-2.16	19.93	31.06	25.85	6.08	35.68	-9.54	0.00			Average
3	1956.18	26.93	-5.00	31.93	28.91	26.25	7.84	36.07	0.00	0.00			Average
4	3044.50	29.48	-4.45	33.93	26.17	29.58	9.88	36.15	0.00	0.00			Average
5	6415.00	53.12	-0.81	53.93	41.71	34.66	14.54	37.79	0.00	0.00			Average
6	17977.80	28.82	-5.11	33.93	23.99	41.64	24.20	45.45	-15.56	0.00			Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

Note 6: #5 is fundamental signal.

## Note 7:

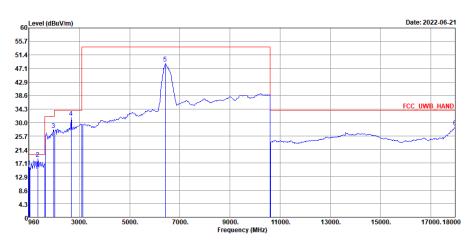
Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

 Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)

(Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor) (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

TEL: 886-3-327-0868 Page Number : 88 of 116
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Ant. 3 CH05_Radiated Emissions (960MHz – 18GHz)						
Test Mode	Mode 32: cidx-11_sts-1_packet length-125	Polarization	V			
Operating Function	Standalone Mode					
Test Distance	The test distance between the receiving an 3m for 1.61 GHz ~ 10.60 GHz frequency ranges.					



: 03CH20-HY Site Condition : FCC\_UWB\_HAND 3m 9120D\_02294\_1110622 VERTICAL

Projaect : 121931-20 EUT : #14 Channel : CH5 cidx : 11 sts\_mode packet\_length : 125 power\_hex : 0x7f7f6c7f PG Delay

o Dei	αy		: 54										
	-		0ver	Limit	Read/	Antenna	Cable	Preamp	Aux	Aux2	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Factor	Factor			Remark
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	cm	deg	
1	985.04	15.92	-4.01	19.93	28.27	30.21	5.64	32.87	0.23	-15.56			Average
2	1330.62	18.49	-1.44	19.93	31.57	25.72	6.47	35.73	-9.54	0.00			Average
3	1963.02	27.70	-4.23	31.93	29.62	26.30	7.86	36.08	0.00	0.00			Average
4	2659.33	31.59	-2.34	33.93	30.56	28.12	9.15	36.24	0.00	0.00			Average
5	6415.00	48.73	-5.20	53.93	37.32	34.66	14.54	37.79	0.00	0.00			Average
6	17970.40	28.65	-5.28	33.93	23.88	41.59	24.19	45.45	-15.56	0.00			Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

Note 6: #5 is fundamental signal.

## Note 7:

Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

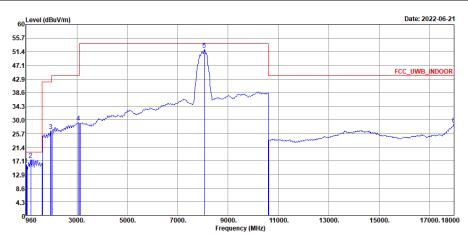
Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)

(Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor)

(Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

TEL: 886-3-327-0868 Page Number : 89 of 116 FAX: 886-3-327-0855 Issued Date : Jun. 29, 2022

Ant. 3 CH09_Radiated Emissions (960MHz – 18GHz)							
Test Mode	Mode 44: cidx-11_sts-1_packet length-125	Polarization	Н				
Operating Function	Standalone Mode						
Test Distance	The test distance between the receiving anto 3m for 1.61 GHz ~ 10.60 GHz frequency ra 0.5 m for other frequency ranges.						



 Site
 : 03CH20-HY

 Condition
 : FCC\_UWB\_INDOOR 3m 9120D\_02294\_1110622 HORIZONTAL

 Project
 : 121931-20

Projaect :121931-20
EUT :#14
Channel :CH9
cidx :11
sts\_mode :1
packet\_length :125
power\_hex :0x8e8e748e
P6 Delay :34

			0ver	Limit	ReadA	ntenna	Cable	Preamp	Aux	Aux2	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Factor	Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	cm	deg	
1	978.72	15.92	-4.01	19.93	28.07	30.44	5.63	32.89	0.23	-15.56			Average
2	1164.70	17.61	-2.32	19.93	31.14	25.86	5.83	35.68	-9.54	0.00			Average
3	1953.52	26.63	-15.30	41.93	28.91	26.23	7.56	36.07	0.00	0.00			Average
4	3048.94	29.18	-14.75	43.93	26.19	29.60	9.54	36.15	0.00	0.00			Average
5	8057.50	52.15	-1.78	53.93	38.85	37.10	15.43	39.23	0.00	0.00			Average
6	17977.80	28.66	-15.27	43.93	24.15	41.64	23.88	45.45	-15.56	0.00			Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

Note 6: #5 is fundamental signal.

## Note 7:

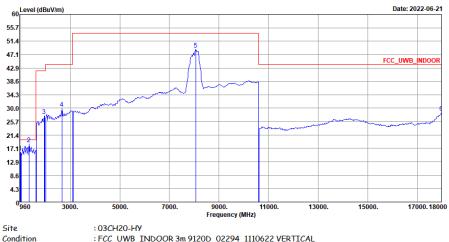
Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

 Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)

(Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor) (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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Ant. 3 CH09_Radiated Emissions (960MHz – 18GHz)						
Test Mode	Mode 44: cidx-11_sts-1_packet length-125	Polarization	V			
Operating Function	Standalone Mode					
Test Distance	The test distance between the receiving anto 3m for 1.61 GHz ~ 10.60 GHz frequency ra 0.5 m for other frequency ranges.					



 Condition
 : FCC\_UWB\_INDOOR 3m 9120D\_02294\_1110622 V

 Projaect
 : 121931-20

 EUT
 : #14

 Channel
 : CH9

 cidx
 : 11

 cidx
 : 11

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0x8e8e748e

 P6 Delay
 : 34

 Over Limit
 ReadAntenna
 Cable Preamp

	1104	LCVCI	LIMIL	Line	LCVCI	i uc coi	2033	i uc coi	i de coi	i uc coi			remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	cm	deg	
1	976.72	15.89	-4.04	19.93	27.98	30.51	5.63	32.90	0.23	-15.56			Average
2	1331.84	18.49	-1.44	19.93	31.80	25.73	6.23	35.73	-9.54	0.00			Average
3	1947.82	27.62	-14.31	41.93	29.97	26.17	7.55	36.07	0.00	0.00			Average
4	2658.22	29.89	-14.04	43.93	29.15	28.12	8.86	36.24	0.00	0.00			Average
5	8057.50	48.79	-5.14	53.93	35.49	37.10	15.43	39.23	0.00	0.00			Average
6	17970.40	28.59	-15.34	43.93	24.13	41.59	23.88	45.45	-15.56	0.00			Average

Aux2 A/Pos T/Pos

Aux

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

line level Factor

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

the measuring units are not connecting to the Filter)

Note 6: #5 is fundamental signal.

## Note 7:

Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

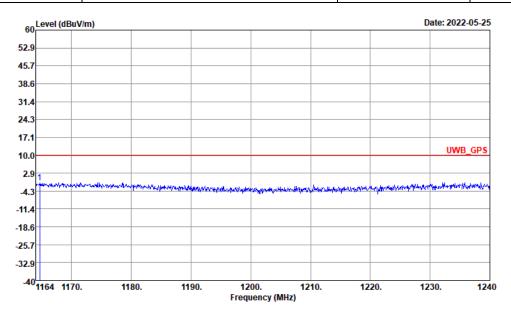
Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)
 (Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor)
 (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means

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## 3.3.9 Radiated Emissions (1164MHz – 1240MHz)

Ant. 1 CH05_Radiated Emissions (1164MHz – 1240MHz)							
Test Mode	Test Mode Mode 5: cidx-10_sts-1_packet length-125 Polarization H						
Operating Function	Standalone Mode	Test Distance	3m				

Report No.: FR121931-20



Site : 03CH20-HY

Condition : UWB\_GPS 3m 9120D\_02294\_1110622 HORIZONTAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

Projaect : 121931-20 EUT : #4 Channel : CH5 cidx : 10

 cidx
 : 10

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0xbfbf9cbf

DC Delen

PG Delay : 20

ReadAntenna Cable Preamp Over Limit A/Pos T/Pos Level Factor Freq Level Limit Line Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB deg cm

1 1164.68 -0.89 -10.82 9.93 2.84 25.86 6.09 35.68 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

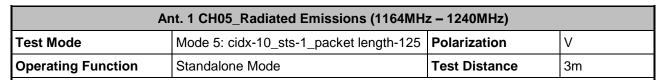
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

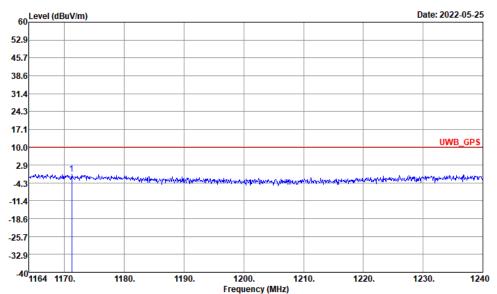
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Site : 03CH20-HY

: UWB\_GPS 3m 9120D\_02294\_1110622 VERTICAL Condition

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

Projaect : 121931-20 **EUT** : #4 : CH5 Channel cidx : 10 sts\_mode : 125 packet\_length power\_hex : 0xbfbf9cbf

PG Delay : 20

ReadAntenna Cable Preamp A/Pos T/Pos Over Limit Freq Level Limit Line Level Factor Loss Factor Remark

dB MHz dBuV/m dB dBuV/m dBuV dB/m dB cmdeg

1171.22 -0.84 -10.77 9.93 2.86 25.88 6.10 35.68 --- Average ---

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

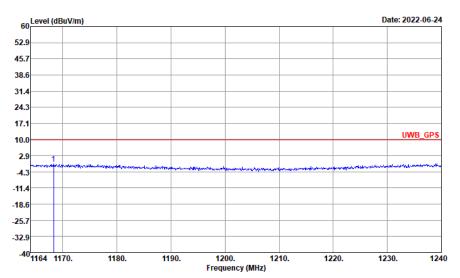
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.2 = 9.93dBuV/m.

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Ant. 2 CH09_Radiated Emissions (1164MHz – 1240MHz)								
Test Mode	Test Mode Mode 14: cidx-9_sts-1_packet length-125 Polarization H							
Operating Function	Standalone Mode	Test Distance	3m					



Site : 03CH20-HY

Condition : UWB\_6PS 3m 9120D\_02360\_211102 HORIZONTAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

Project : 121931-20 **EUT** : #14 Channel : CH9 cidx :9 sts\_mode : 1 packet\_length : 125 power\_hex : 0xcecea4ce PG Dealy : 26 AVG Type : RMS Trace : Max Hold

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Remark

6.10 35.68

--- Average

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

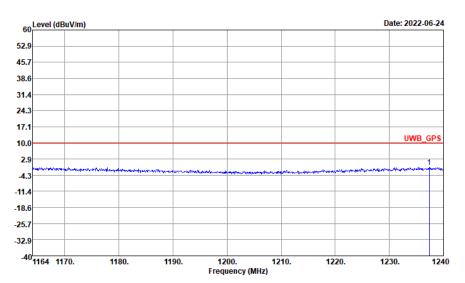
Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.2 = 9.93dBuV/m.

1168.26 -0.84 -10.77 9.93 2.91 25.83

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Ant. 2 CH09_Radiated Emissions (1164MHz – 1240MHz)						
Test Mode Mode 14: cidx-9_sts-1_packet length-125 Polarization V						
Operating Function	Standalone Mode	Test Distance	3m			



Site : 03CH20-HY

Condition : UWB\_6P5 3m 9120D\_02360\_211102 VERTICAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

Project : 121931-20 **EUT** : #14 Channel : CH9 : 9 cidx sts\_mode : 1 packet\_length : 125 power\_hex : 0xcecea4ce PG Dealy : 26 AVG Type : RMS Trace : Max Hold

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1237.42 -0.77 -10.70 9.93 3.04 25.63 6.26 35.70 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

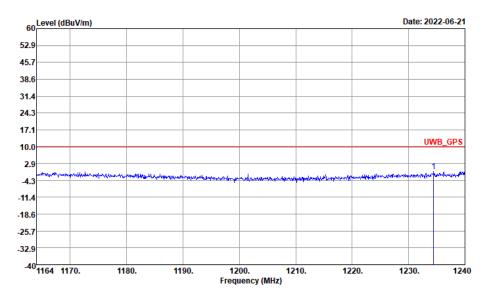
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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 Issued Date
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Ant. 3 CH05_Radiated Emissions (1164MHz – 1240MHz)								
Test Mode	Test Mode Mode 32: cidx-11_sts-1_packet length-125 Polarization H							
Operating Function	Standalone Mode	Test Distance	3m					



5ite : 03CH20-HY

Condition : UWB\_6PS 3m 9120D\_02294\_1110622 HORIZONTAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

 Projaect
 : 121931-20

 EUT
 : #14

 Channel
 : CH5

 cidx
 : 11

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0x7f7f6c7f

PG Delay : 34

ReadAntenna Cable Preamp A/Pos T/Pos Over Limit Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB deg 1234.45 -0.56 -10.49 9.93 2.95 25.93 6.26 35.70 --- Average

-

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

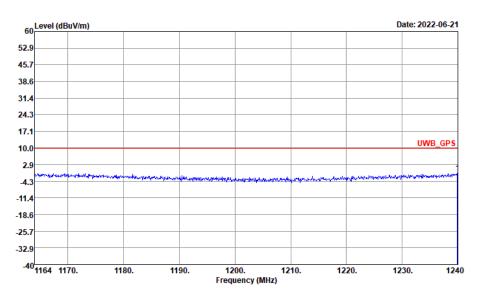
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuV/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.2 = 9.93dBuV/m.

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Ant. 3 CH05_Radiated Emissions (1164MHz – 1240MHz)							
Test Mode	Test Mode Mode 32: cidx-11_sts-1_packet length-125 Polarization V						
Operating Function	Standalone Mode	Test Distance	3m				



Site : 03CH20-HY

Condition : UWB\_6PS 3m 9120D\_02294\_1110622 VERTICAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

 Projaect
 :121931-20

 EUT
 :#14

 Channel
 : CH5

 cidx
 :11

 sts\_mode
 :1

 packet\_length
 :125

 power\_hex
 :0x7f7f6c7f

PG Delay : 34

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1239.92 -0.79 -10.72 9.93 2.72 25.92 6.27 35.70 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

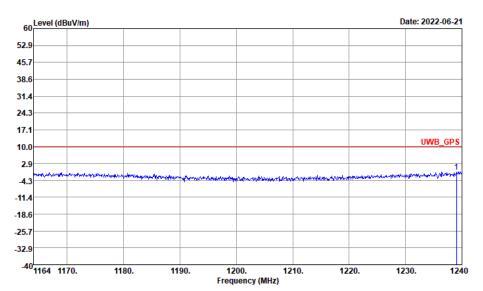
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Ant. 3 CH09_Radiated Emissions (1164MHz – 1240MHz)								
Test Mode	Test Mode							
Operating Function	Standalone Mode	Test Distance	3m					



5ite : 03CH20-HY

Condition : UWB\_6PS 3m 9120D\_02294\_1110622 HORIZONTAL

 $: RBW: 1.000 KHz\ VBW: 3.000 KHz\ SWT: 40.000 sec$ 

 Projaect
 : 121931-20

 EUT
 : #14

 Channel
 : CH9

 cidx
 : 11

 sts\_mode
 : 1

 packet\_length
 : 125

 packet\_length
 : 125

power\_hex : 0x8e8e748e

PG Delay : 34

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1239.01 -0.65 -10.58 9.93 2.86 25.92 6.27 35.70 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

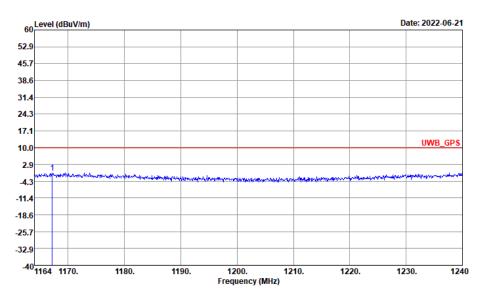
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuV/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.2 = 9.93dBuV/m.

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Ant. 3 CH09_Radiated Emissions (1164MHz – 1240MHz)							
Test Mode	Test Mode						
Operating Function	Test Distance	3m					



Site : 03CH20-HY

Condition : UWB\_6PS 3m 9120D\_02294\_1110622 VERTICAL : RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

 Projaect
 : 121931-20

 EUT
 : #14

 Channel
 : CH9

 cidx
 : 11

 sts\_mode
 : 1

 packet\_length
 : 125

power\_hex : 0x8e8e748e

PG Delay : 34

Over Limit ReadAntenna Cable Preamp A/Pos Line Level Factor Remark Level Limit Loss Factor MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cmdeg 1167.19 -0.81 -10.74 9.93 2.91 25.87 6.09 35.68 --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

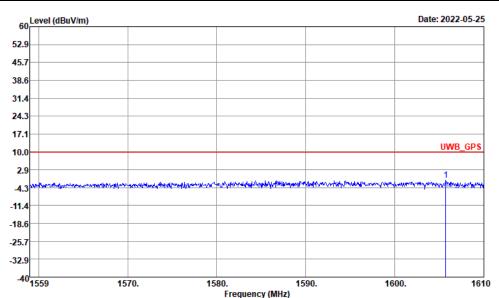
Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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## 3.3.10 Radiated Emissions (1559MHz - 1610MHz)

Ant. 1 CH05_Radiated Emissions (1559MHz – 1610MHz)						
Test Mode Mode 5: cidx-10_sts-1_packet length-125 Polarization H						
Operating Function	Standalone Mode	Test Distance	3m			

Report No.: FR121931-20



Site : 03CH20-HY

Condition : UWB\_GPS 3m 9120D\_02294\_1110622 HORIZONTAL

 $: \verb"RBW": 1.000 \verb"KHz" VBW": 3.000 \verb"KHz" SWT": 40.000 sec$ 

 Projaect
 : 121931-20

 EUT
 : #4

 Channel
 : CH5

 cidx
 : 10

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0xbfbf9cbf

PG Delay : 20

0ver Limit ReadAntenna Cable Preamp T/Pos Remark Level Limit Level Factor Line Loss Factor MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1605.72 -1.24 -11.17 9.93 2.11 25.38 7.12 35.85 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

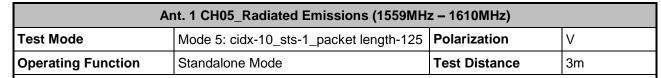
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

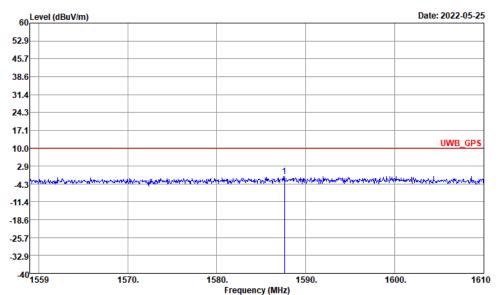
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Site : 03CH20-HY

Condition : UWB\_GPS 3m 9120D\_02294\_1110622 VERTICAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

Projaect : 121931-20 : #4 **EUT** Channel : CH5 cidx : 10 sts\_mode : 1 : 125 packet\_length power hex : 0xbfbf9cbf

PG Delay : 20

ReadAntenna Cable Preamp T/Pos Over Limit A/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB

cm

deg 1587.61 -1.21 -11.14 9.93 2.13 25.42 7.08 35.84 --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

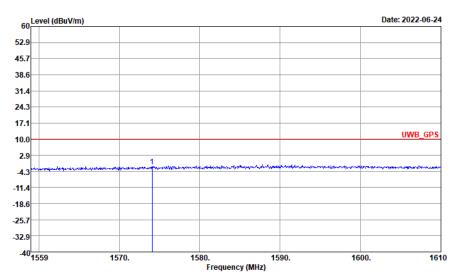
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Ant. 2 CH09_Radiated Emissions (1559MHz – 1610MHz)							
Test Mode	Test Mode Mode 14: cidx-9_sts-1_packet length-125 Polarization H						
Operating Function Standalone Mode Test Distance 3m							



Site : 03CH20-HY

Condition : UWB\_6PS 3m 9120D\_02360\_211102 HORIZONTAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

Project : 121931-20 FUT : #14 Channel : CH9 : 9 cidx sts\_mode :1 packet\_length : 125 power\_hex : 0xcecea4ce PG Dealy : 26 AVG Type : RMS Trace : Max Hold

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1574.10 -2.05 -11.98 9.93 1.28 25.45 7.05 35.83 --- --- Average

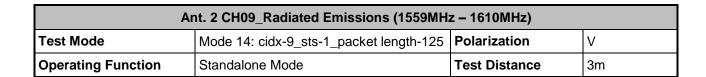
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

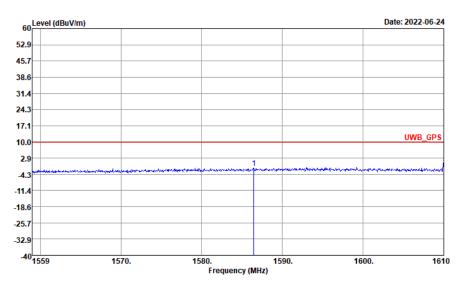
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Site : 03CH20-HY

Condition : UWB\_GPS 3m 9120D\_02360\_211102 VERTICAL

 $: \mathsf{RBW:} 1.000 \mathsf{KHz} \; \mathsf{VBW:} 3.000 \mathsf{KHz} \; \mathsf{SWT:} 40.000 \mathsf{sec}$ 

Project : 121931-20 EUT : #14 Channel : CH9 cidx : 9 sts\_mode :1 : 125 packet\_length power\_hex : 0xcecea4ce PG Dealy : 26 AVG Type : RMS : Max Hold Trace

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1586.49 -1.49 -11.42 9.93 1.84 25.43 7.08 35.84 --- -- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

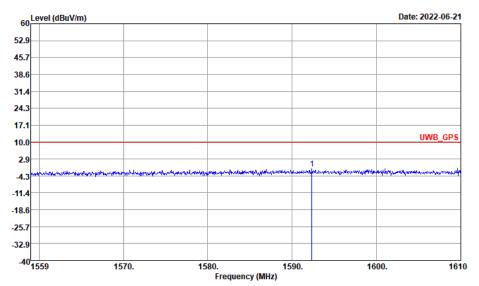
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Ant. 3 CH05_Radiated Emissions (1559MHz – 1610MHz)							
Test Mode Mode 32: cidx-11_sts-1_packet length-125 Polarization H							
Operating Function	Test Distance	3m					



Site : 03CH20-HY

Condition : UWB\_6PS 3m 9120D\_02294\_1110622 HORIZONTAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

 Projaect
 : 121931-20

 EUT
 : #14

 Channel
 : CH5

 cidx
 : 11

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0x7f7f6c7f

PG Delay : 34

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cmdeg 1592.35 -1.15 -11.08 9.93 2.18 25.42 7.09 35.84 --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

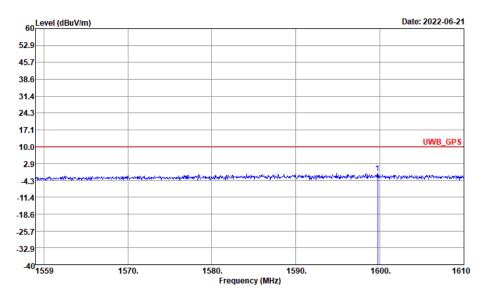
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Ant. 3 CH05_Radiated Emissions (1559MHz – 1610MHz)							
Test Mode Mode 32: cidx-11_sts-1_packet length-125 Polarization V							
Operating Function	Test Distance	3m					



Site : 03CH20-HY

Condition : UWB\_6PS 3m 9120D\_02294\_1110622 VERTICAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

 Projaect
 : 121931-20

 EUT
 : #14

 Channel
 : CH5

 cidx
 : 11

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0x7f7f6c7f

PG Delay : 34

ReadAntenna Cable Preamp A/Pos T/Pos Over Limit Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB deg

1 1599.75 -1.17 -11.10 9.93 2.16 25.40 7.11 35.84 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

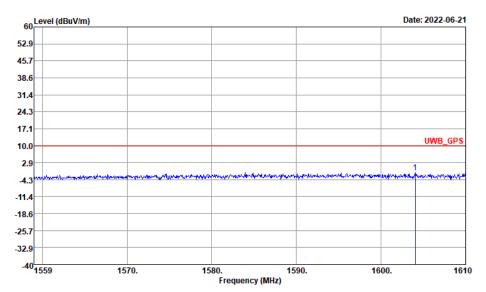
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Ant. 3 CH09_Radiated Emissions (1559MHz – 1610MHz)							
Test Mode	Test Mode Mode 44: cidx-11_sts-1_packet length-125 Polarization H						
Operating Function         Standalone Mode         Test Distance         3m							



Site : 03CH20-HY

Condition : UWB\_GPS 3m 9120D\_02294\_1110622 HORIZONTAL

 $: RBW: 1.000 KHz\ VBW: 3.000 KHz\ SWT: 40.000 sec$ 

 Projaect
 : 121931-20

 EUT
 : #14

 Channel
 : CH9

 cidx
 : 11

 sts\_mode
 : 1

 packet\_length
 : 125

power\_hex : 0x8e8e748e

PG Delay : 34

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1604.03 -1.30 -11.23 9.93 2.05 25.38 7.12 35.85 --- --- Average

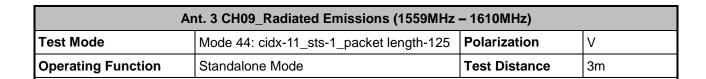
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

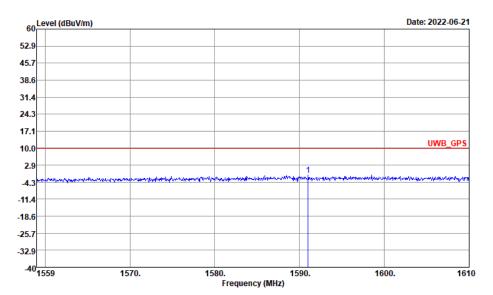
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Site : 03CH20-HY

Condition : UWB GPS 3m 9120D 02294 1110622 VERTICAL : RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

: 121931-20 Projaect **EUT** : #14 : CH9 Channel cidx : 11 sts\_mode : 1 : 125 packet\_length power\_hex :0x8e8e748e

PG Delay : 34

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m deg cm1591.03 -1.24 -11.17 9.93 2.09 25.42 7.09 35.84 --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

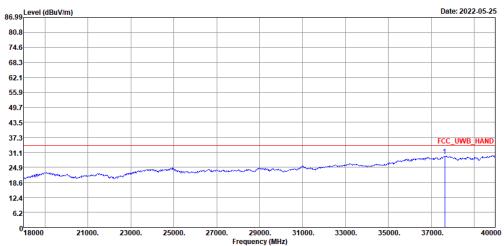
Note 5: E (dBuv/m) = EIRP (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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## 3.3.11 Radiated Emissions (18GHz - 40GHz)

Ant. 1 CH05_Radiated Emissions (18GHz – 40GHz)					
Test Mode Mode 5: cidx-10_sts-1_packet length-125 Polarization H					
Operating Function	Standalone Mode	Test Distance	0.5m		

Report No.: FR121931-20



Site : 03CH20-HY

Condition : FCC\_UWB\_HAND 1m SHF HORN00994\_211104 HORIZONTAL

 Projaect
 : 121931-20

 EUT
 : #4

 Channel
 : CH5

 cidx
 : 10

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0xbfbf9cbf

 P6 Delay
 : 20

Over Limit ReadAntenna Cable Preamp Aux Aux2 A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB dB cm deg

1 37624.00 29.64 -4.29 33.93 50.24 43.50 9.04 57.58 -15.56 0.00 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

## Note 5:

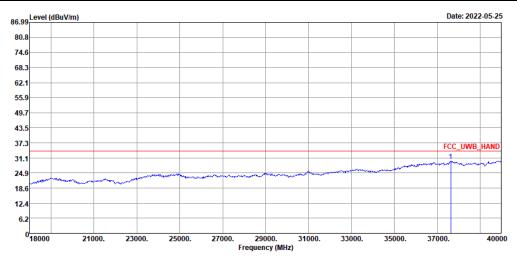
• Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
 (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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#### 

Report No.: FR121931-20



Site : 03CH20-HY

Condition : FCC\_UWB\_HAND 1m SHF HORN00994\_211104 VERTICAL

 Projaect
 : 121931-20

 EUT
 : #4

 Channel
 : CH5

 cidx
 : 10

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0xbfbf9cbf

 P6 Delay
 : 20
 Over Limit
 ReadAntenna
 Cable Preamp
 Aux Aux2
 A/Pos
 T/Pos

 Freq Level
 Limit
 Line
 Level Factor
 Loss Factor Factor
 Factor Factor
 Remark

 MHz
 dBuV/m
 dB dBuV/m
 dBuV
 dBuV
 dB dB
 dB
 dB
 dB
 cm
 deg

1 37624.00 29.79 -4.14 33.93 50.39 43.50 9.04 57.58 -15.56 0.00 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

## Note 5:

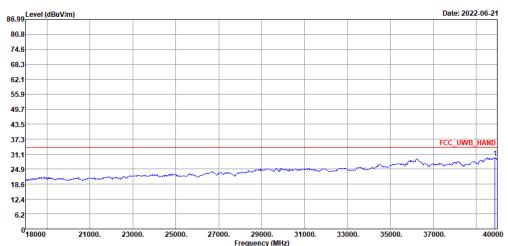
Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
 (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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#### 

Report No.: FR121931-20



Site : 03CH20-HY

 Condition
 : FCC\_UWB\_HAND 1m SHF\_00994\_211104 HORIZONTAL

 Projact
 : 121931-20

#14 | #14 | Channel | #14 | Channel | #15 | #15 | #16 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17 | #17

power\_hex : Uxcecea PG Delay : 26

Over Limit ReadAntenna Cable Preamp Aux Aux2 A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Factor Factor

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB dB dB cm deg

1 39868.00 29.65 -4.28 33.93 48.49 43.94 8.71 55.93 -15.56 0.00 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

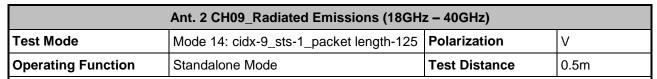
Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

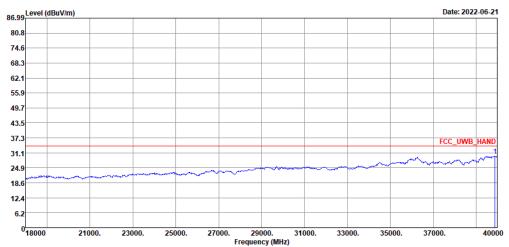
## Note 5:

• Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
 (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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Site : 03CH20-HY

Condition : FCC\_UWB\_HAND 1m SHF\_00994\_211104 VERTICAL

 Projaect
 : 121931-20

 EUT
 : #14

 Channel
 : CH9

 cidx
 : 9

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0xcecea4ce

PG Delay : 26

Over Limit ReadAntenna Cable Preamp Aux Aux2 A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB dB dB cm deg

1 39868.00 29.74 -4.19 33.93 48.58 43.94 8.71 55.93 -15.56 0.00 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

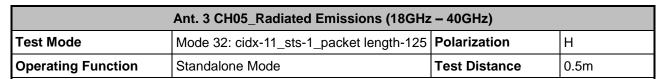
Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

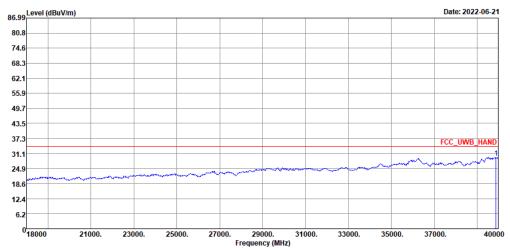
## Note 5:

Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
 (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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Site : 03*C*H20-HY

Condition : FCC\_UWB\_HAND 1m SHF\_00994\_211104 HORIZONTAL

 Projaect
 : 121931-20

 EUT
 : #14

 Channel
 : CH5

 cidx
 : 11

 sts\_mode
 : 1

 packet\_length
 : 125

 power\_hex
 : 0x7f7f6c7f

PG Delay : 34

Over Limit ReadAntenna Cable Preamp Aux Aux2 A/Pos Freq Level Limit Line Level Factor Loss Factor Factor Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m deg dB dB dB dB cm

1 39868.00 29.43 -4.50 33.93 48.27 43.94 8.71 55.93 -15.56 0.00 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

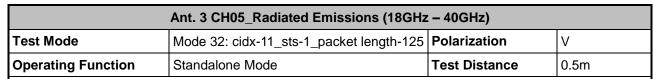
Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

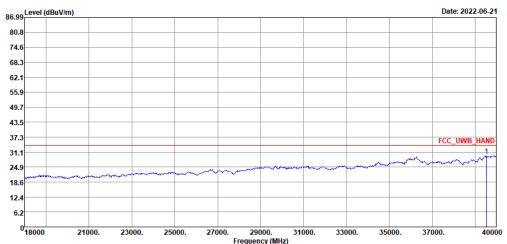
## Note 5:

• Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
 (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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Site : 03CH20-HY

Condition : FCC\_UWB\_HAND 1m SHF\_00994\_211104 VERTICAL Projacet : 121931-20

EUT :#14
Channel : CH5
cidx : 11
sts\_mode : 1
packet\_length : 125
power\_hex : 0x7f7f6c7f
P6 Delay : 34

Over Limit ReadAntenna Cable Preamp Aux Aux2 A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB dB cm deg

1 39516.00 29.59 -4.34 33.93 49.07 43.98 8.38 56.28 -15.56 0.00 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

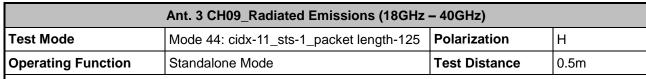
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

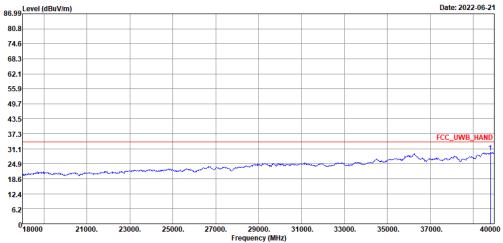
Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

## Note 5:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
   (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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 Site
 : 03CH20-HY

 Condition
 : FCC\_UWB\_HAND 1m SHF\_00993\_211130 HORIZONTAL

Projaect : 121931-20
EUT : #14
Channel : CH9
cidx : 11
sts\_mode : 1
packet\_length : 125
power\_hex : 0x8e8e748e

power\_hex : 0x8e8e748 PG Delay : 34

Over Limit ReadAntenna Cable Preamp Aux Aux2 A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Factor Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB dB dB dB cm deg

1 39802.00 29.56 -4.37 33.93 47.97 44.50 8.65 56.00 -15.56 0.00 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

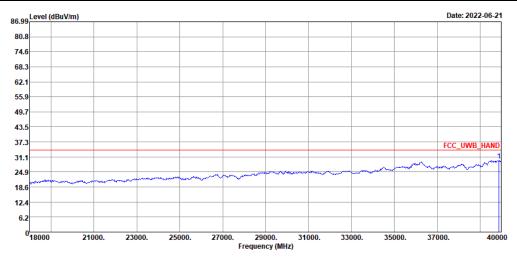
Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

## Note 5:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
   (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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Ant. 3 CH09_Radiated Emissions (18GHz – 40GHz)						
Test Mode Mode 44: cidx-11_sts-1_packet length-125 Polarization V						
Operating Function	Standalone Mode	Test Distance	0.5m			



Site : 03CH20-HY

Condition : FCC\_UWB\_HAND 1m SHF\_00993\_211130 VERTICAL

: 121931-20 Projaect FUT : #14 Channel : CH9 cidx : 11 sts\_mode : 1 packet\_length : 125 power\_hex :0x8e8e748e PG Delay : 34

Over Limit ReadAntenna Cable Preamp Aux Aux2 A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Factor Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB dB cm deg

1 39868.00 29.57 -4.36 33.93 47.85 44.50 8.71 55.93 -15.56 0.00 --- --- Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

## Note 5:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
   (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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# 4 Test Equipment and Calibration Data

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receicver	Keysight	N9010B	MY60241055	10Hz~44GHz	Jul. 12, 2021	May 23, 2022~ Jun. 24, 2022	Jul. 11, 2022	Radiation (03CH20-HY)
Preamplifier	COM-POWER	PAM-103	18020201	1MHz-1000MHz	Jan. 03, 2022	May 23, 2022~ Jun. 24, 2022	Jan. 02, 2023	Radiation (03CH20-HY)
Amplifier	EMCI	EMC118A45S E	980792	N/A	Nov. 15, 2021	May 23, 2022~ Jun. 24, 2022	Nov. 14, 2022	Radiation (03CH20-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	Jun. 22, 2021	May 23, 2022~ Jun. 20, 2022	Jun. 21, 2022	Radiation (03CH20-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 24, 2021	Jun. 21, 2022~ Jun. 24, 2022	Dec. 23, 2022	Radiation (03CH20-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-02294	1GHz~18GHz	Jun. 23, 2021	May 23, 2022~ Jun. 21, 2022	Jun. 22, 2022	Radiation (03CH20-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-02360	1GHz~18GHz	Nov. 02, 2021	Jun. 22, 2022~ Jun. 24, 2022	Nov. 01, 2022	Radiation (03CH20-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA9170	00994	18GHz-40GHz	Nov. 04, 2021	May 23, 2022~ Jun. 24, 2022	Nov. 03, 2022	Radiation (03CH20-HY)
Hygrometer	TECPEL	DTM-303B	TP200728	N/A	Mar. 22, 2022	May 23, 2022~ Jun. 24, 2022	Mar. 21, 2023	Radiation (03CH20-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	519229/2,804 015/2,804027 /2	N/A	Jan. 19, 2022	May 23, 2022~ Jun. 24, 2022	Jan. 18, 2023	Radiation (03CH20-HY)
Software	Audix	E3 6.2009-8-24	RK-002156	N/A	N/A	May 23, 2022~ Jun. 24, 2022	N/A	Radiation (03CH20-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	May 23, 2022~ Jun. 24, 2022	N/A	Radiation (03CH20-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	May 23, 2022~ Jun. 24, 2022	N/A	Radiation (03CH20-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	May 23, 2022~ Jun. 24, 2022	N/A	Radiation (03CH20-HY)

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