FCC RADIO TEST REPORT

FCC ID	:	**KR5PPE1C**
Equipment	:	**Radio Frequency Bidirectional Key**
Brand Name	:	**Continental**
Model Name	:	**PPE1C**
Applicant	:	**Continental Automotive GmbH Siemensstrasse 12, 93055, Regensburg, Germany**
Manufacturer	:	**Continental Automotive GmbH Siemensstrasse 12, 93055, Regensburg, Germany**
Standard	:	**47 CFR FCC Part 15.519**

The product was received on Oct. 12, 2021, and testing was started from Nov. 03, 2021 and completed on Dec. 15, 2021. 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 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.

Louis Wu

Approved by: 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.)

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History of this test report

Report No.	Version	Description	Issued Date
FR1O1258B	01	Initial issue of report	Jan. 21, 2022
FR1O1258B	02	1. Revise frequency range in section 1.2 2. Add frequency information in section 2.1 3. Revise report title in section 3.4.6	Feb. 09, 2022

Summary of Test Result

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
3.2	15.519(a)(1)	Technical requirements for Hand Held UWB systems	PASS	15.519(a)(1)
3.3	15.519(e)	Peak Power Measurement	PASS	≤ 0 dBm/50MHz
3.4	15.519(c) /15.519(d)	Radiated Emissions	PASS	UWB Emissions: 15.519(c) GPS Emissions: 15.519(d) Digital Emissions: 15.209

Note: Not required means after assessing, test items are not necessary to carry out.

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
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: Yun Huang

Report Producer: Dara Chiu

1. General Description

1.1. Product Feature of Equipment Under Test

Product Feature	
Equipment	Radio Frequency Bidirectional Key
Brand Name	Continental
Model Name	PPE1C
FCC ID	KR5PPE1C
Sample 1	EUT with PANIC Button
Sample 2	EUT without PANIC Button
EUT supports Radios application	RFID/SRD/UWB
EUT Stage	Production Unit

Remark:
1. The above EUT's information was declared by manufacturer.
2. All the tests were performed with sample 2

1.2. Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Frequency Range	6000MHz ~ 8500 MHz
Antenna Type	printed antenna (pcb)
Antenna Gain	-2 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.

1.3. Modification of EUT

No modifications are made to the EUT during all test items.

1.4. Type of EUT

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

1.5. 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.

1.6. 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, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	03CH20-HY

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	Bill Chang and JC Liang	19 ~ 21 °C 65 ~ 68 %	Nov. 03, 2021 ~ Dec. 15, 2021

1.7. 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%

2. Test Configuration of EUT

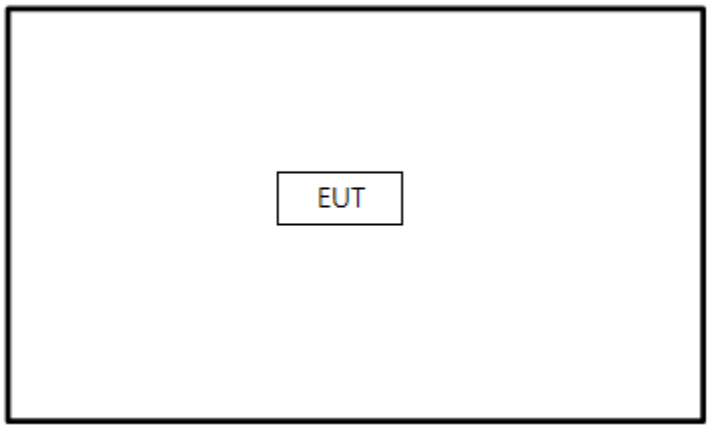
2.1. Test Mode

Test Configuration	
Mode	**UWB Channel**
1	5 (6489.6 MHz)
2	6 (6988.8 MHz)
3	8 (7488.8 MHz)
4	9 (7987.2 MHz)

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	Stand-alone Mode		
Mode 1 configuration was tested and found to be the worst case and measured during the test.			
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
			
Worst Plane of all Test Modes			V
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 adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and find Z plane as worst plane, and recorded in this report.			

2.3. Test Setup Diagram

Test Setup Diagram - Radiated Test


2.4. Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Battery	Panasonic	CR2032	N/A	N/A	N/A

3. Transmitter Test Result

3.1. UWB bandwidth

3.1.1. UWB bandwidth Limit

UWB bandwidth Limit
UWB bandwidth ≥ 500 MHz or Fractional bandwidth ≥ 0.2; Fractional bandwidth = $2(f_H - f_L)/ (f_H + f_L)$

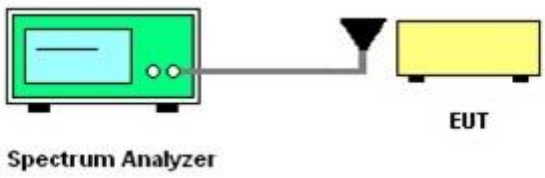
3.1.2. Measuring Instruments

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

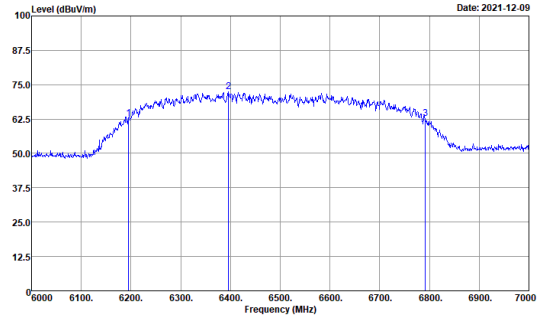


3.1.5. Test Result of UWB Bandwidth

Test mode	F_L (MHz)	F_H (MHz)	UWB Bandwidth (MHz)	Bandwidth limit (MHz)	Result	Pol [H/V]
1	6195.00	6792.00	597	≥ 500	Pass	V
2	6696.00	7276.00	580	≥ 500	Pass	V
3	7182.00	7799.00	617	≥ 500	Pass	V
4	7687.00	8268.00	581	≥ 500	Pass	V

UWB Bandwidth

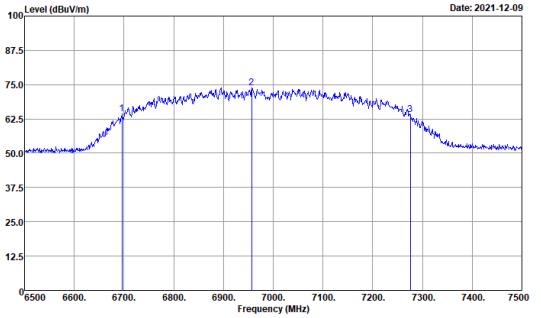
Mode 1: CH 05



Site : 03CH20-HY
Condition : 3m 9120D_02294_1110622 VERTICAL
: RBW:1000.000KHz VBW:3000.000KHz SWT:3.000sec
Projaect : 1O2508
EUT : #3
Channel : CH5

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Remark	Aux Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		dB
1	6195.00	62.61	------	------	52.76	34.01	13.73	37.89	Peak	0.00
2	6396.00	72.44	------	------	61.69	34.59	13.96	37.80	Peak	0.00
3	6792.00	62.69	------	------	50.45	35.88	14.41	38.05	Peak	0.00

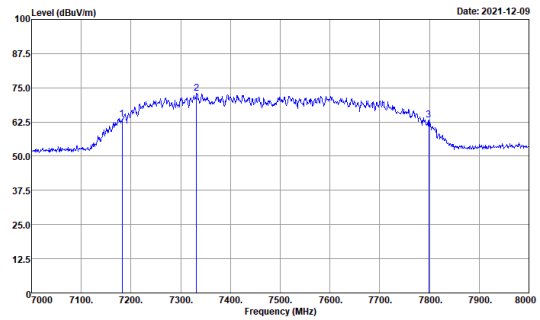
Mode 2: CH 06



Site : 03CH20-HY
Condition : 3m 9120D_02294_1110622 VERTICAL
: RBW:1000.000KHz VBW:3000.000KHz SWT:3.000sec
Projaect : 1O2508
EUT : #3
Channel : CH6

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Remark	Aux Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		dB
1	6696.00	64.36	------	------	52.11	35.88	14.32	37.95	Peak	0.00
2	6957.00	73.75	------	------	61.62	35.80	14.56	38.23	Peak	0.00
3	7276.00	64.06	------	------	50.78	36.90	14.88	38.50	Peak	0.00

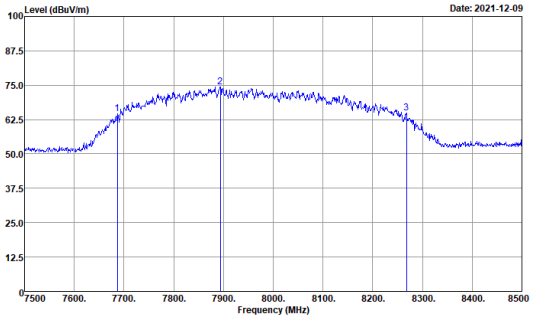
Mode 3: CH 08



Site : 03CH20-HY
Condition : 3m 9120D_02294_1110622 VERTICAL
: RBW:1000.000KHz VBW:3000.000KHz SWT:3.000sec
Projaect : 1O2508
EUT : #3
Channel : CH8

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Remark	Aux Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		dB
1	7182.00	63.38	------	------	50.27	36.73	14.80	38.42	Peak	0.00
2	7332.00	72.94	------	------	59.81	36.74	14.93	38.54	Peak	0.00
3	7799.00	63.22	------	------	50.12	36.79	15.28	38.97	Peak	0.00

Mode 4: CH 09



Site : 03CH20-HY
Condition : 3m 9120D_02294_1110622 VERTICAL
: RBW:1000.000KHz VBW:3000.000KHz SWT:3.000sec
Projaect : 1O2508
EUT : #3
Channel : CH9

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Remark	Aux Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		dB
1	7687.00	64.68	------	------	52.31	36.42	14.81	38.86	Peak	0.00
2	7894.00	74.35	------	------	61.02	36.99	15.40	39.06	Peak	0.00
3	8268.00	64.91	------	------	52.05	37.00	15.34	39.48	Peak	0.00

3.2. Technical requirements for hand held UWB systems

3.2.1. Technical Requirements for transmission Limit

FCC 15.519(a) (1) A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

3.2.2. Measuring Instruments

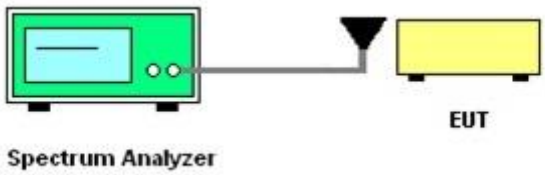
Refer a test equipment and calibration data table in this test report.

3.2.3. Test Procedure

Follow the test step as below:

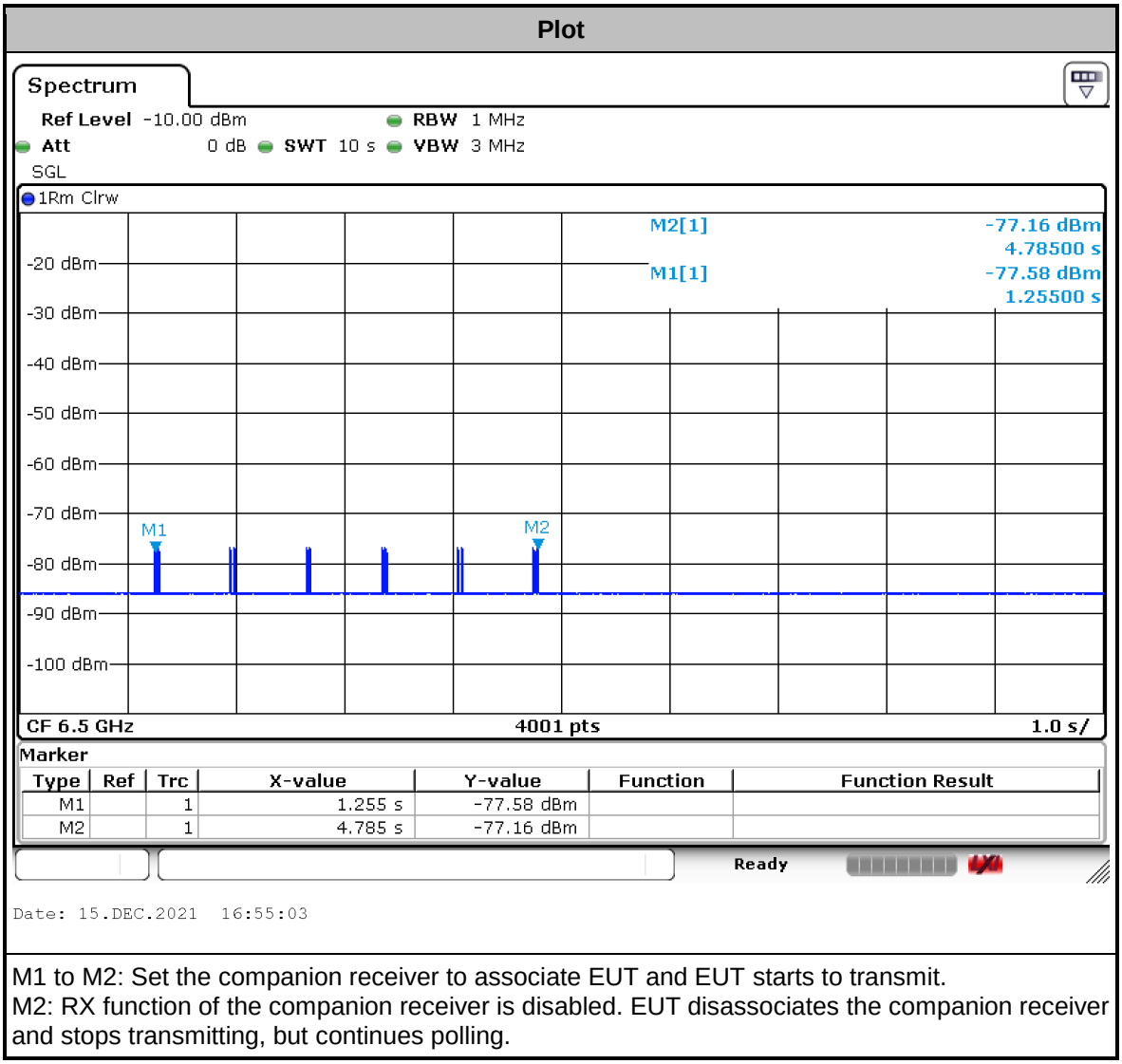
1. Turn on both EUT and companion receiver.
2. Set the EUT to TX mode, and EUT starts polling.
3. Set the companion receiver to associate EUT and EUT starts to transmit.
4. Disable the RX function of the companion receiver to disassociate the EUT.
5. Check if EUT stop transmitting once step 4 is made.

3.2.4. Test Setup



3.2.5. Test Result

Plot



M1 to M2: Set the companion receiver to associate EUT and EUT starts to transmit.
M2: RX function of the companion receiver is disabled. EUT disassociates the companion receiver and stops transmitting, but continues polling.

3.3. Peak Power Measurement

3.3.1. Peak Power Measurement Limit

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

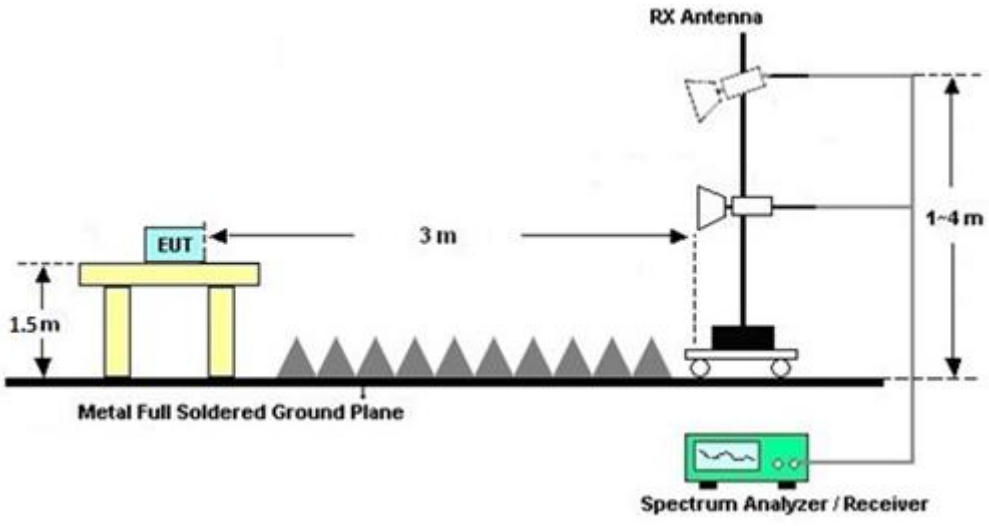
3.3.2. Measuring Instruments

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

3.3.3. 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

3.3.4. Test Setup

Peak Power Measurement


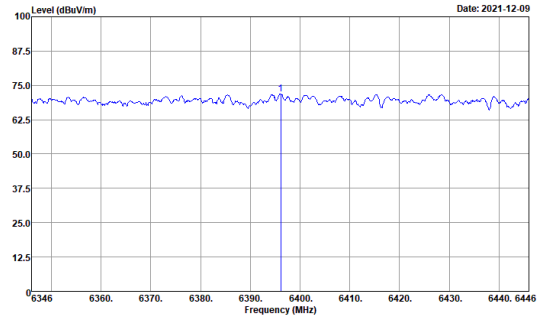
3.3.5. Test Result of Peak Power Measurement

Peak Measurement Result								
Test Mode	**Freq. (MHz)**	**E-Field (dBuV/m)**	**$ERIP_{40MHz}$ (dBm)**	**$ERIP_{50MHz}$ Limit (dBm)**	**$EIRP_{40MHz}$ Limit (dBm)**	**Margin (dB)**	**Result**	**Pol [H/V]**
1	6396.10	85.32	-9.91	0	-1.94	-7.97	Pass	V
2	6957.30	85.77	-9.46	0	-1.94	-7.52	Pass	V
3	7331.85	83.94	-11.29	0	-1.94	-9.35	Pass	V
4	7893.70	84.32	-10.91	0	-1.94	-8.97	Pass	V

Note 1: EIRP [dBm] = E-Field [dBuV/m] - 95.23;
Note 2: Bandwidth Correction Factor (BWCF) = 20 log (40MHz/50MHz).
Note 3: $EIRP_{40MHz}$ Limit = $EIRP_{50MHz}$ Limit + BWCF, FCC Part 15.521(g).
Note 4: Measurement worst emissions of receive antenna polarization.

Mode 1: CH 05

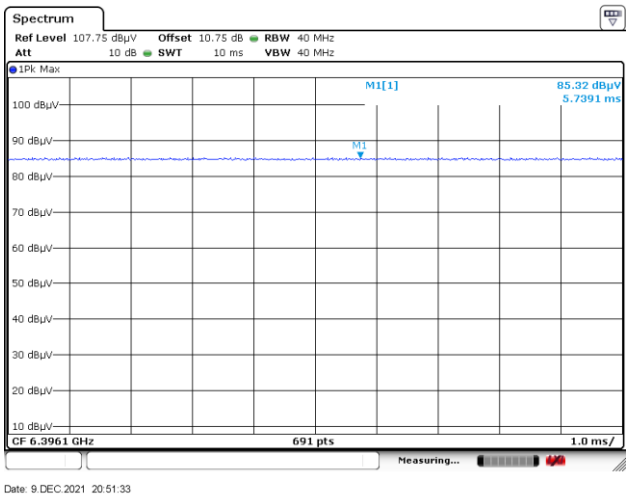
Pre-located worst frequency Plots



Site : 03CH20-HY
Condition : 3m 9120D_02294_1110622 VERTICAL
: RBW:1000.000KHz VBW:3000.000KHz SWT:3.000sec
Projaect : 1O2508
EUT : #3
Channel : CH5
span : 100MHz

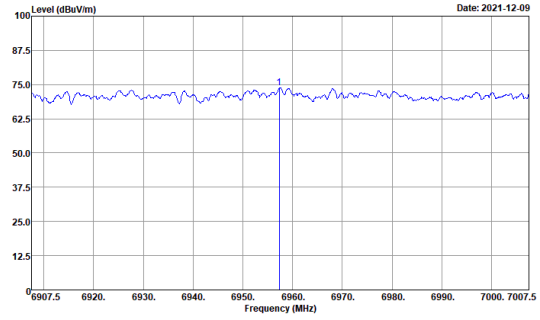
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Remark	Aux Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		dB
1	6396.10	71.96	------	------	61.21	34.59	13.96	37.80	Peak	0.00

Peak Power Measurement Plots



Mode 2: CH 06

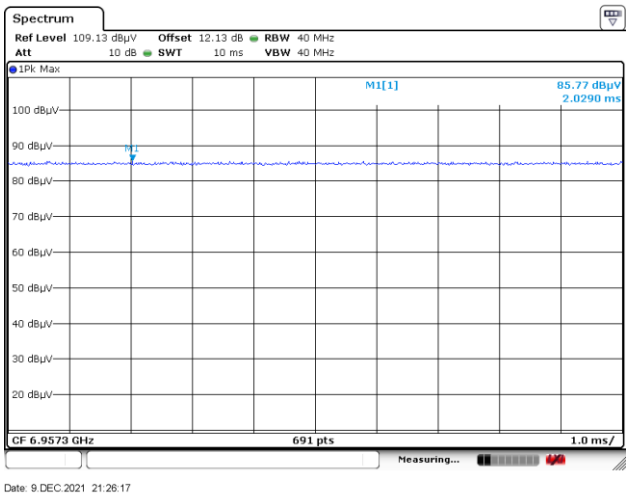
Pre-located worst frequency Plots



Site : 03CH20-HY
Condition : 3m 9120D_02294_1110622 VERTICAL
: RBW:1000.000KHz VBW:3000.000KHz SWT:3.000sec
Projaect : 1O2508
EUT : #3
Channel : CH6
span : 100MHz

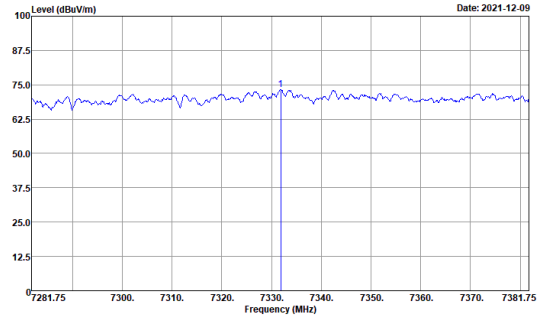
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Remark	Aux Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		dB
1	6957.30	73.83	------	------	61.70	35.80	14.56	38.23	Peak	0.00

Peak Power Measurement Plots



Mode 3: CH 08

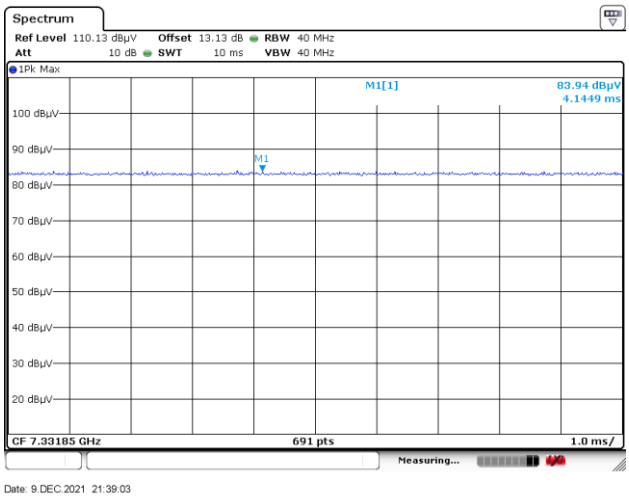
Pre-located worst frequency Plots



Site : 03CH20-HY
Condition : 3m 9120D_02294_1110622 VERTICAL
: RBW:1000.000KHz VBW:3000.000KHz SWT:3.000sec
Projaect : 1O2508
EUT : #3
Channel : CH8
span : 100MHz

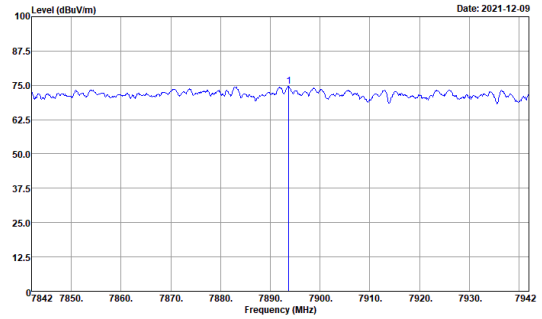
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Remark	Aux Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		dB
1	7331.85	73.29	------	------	60.16	36.74	14.93	38.54	Peak	0.00

Peak Power Measurement Plots



Mode 4: CH 09

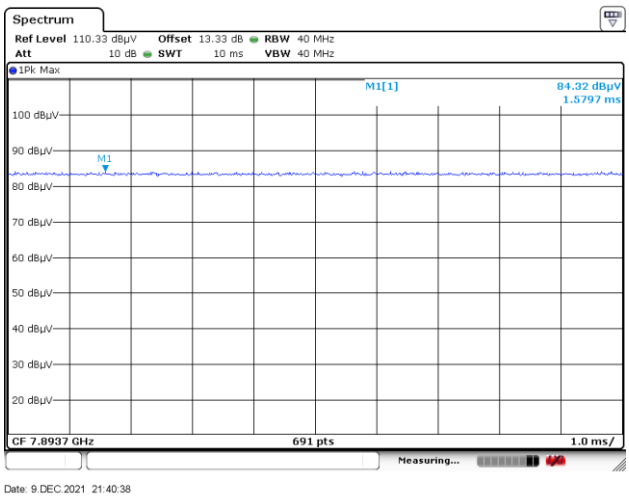
Pre-located worst frequency Plots



Site : 03CH20-HY
Condition : 3m 9120D_02294_1110622 VERTICAL
: RBW:1000.000KHz VBW:3000.000KHz SWT:3.000sec
Projaect : 1O2508
EUT : #3
Channel : CH9
span : 100MHz

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Remark	Aux Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		dB
1	7893.70	74.62	------	------	61.29	36.99	15.40	39.06	Peak	0.00

Peak Power Measurement Plots



3.4. Radiated Emissions

3.4.1. 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
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)
  Example: Distance extrapolation factor = 20log (0.5m/3m) = -15.56 (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 = Filter loss)
  Example:
  Corrected Reading: 23.90 (dB/m) + 0.96 (dB) + 34.26 (dBuV) – 35.72 (dB) + 0.00 (dB) + 0.01 (dB) = 23.41 (dBuV/m)

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

3.4.2. Measuring Instruments

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

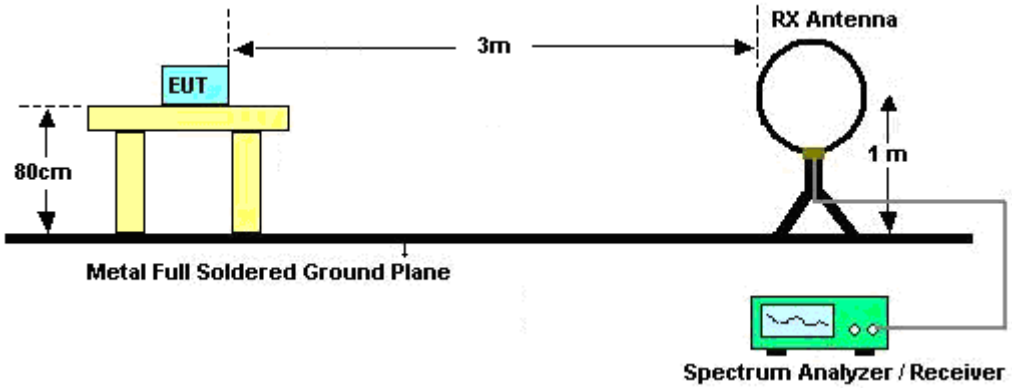
3.4.3. Test Procedures

Test Method for Radiated Emissions above 960MHz	
■	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.

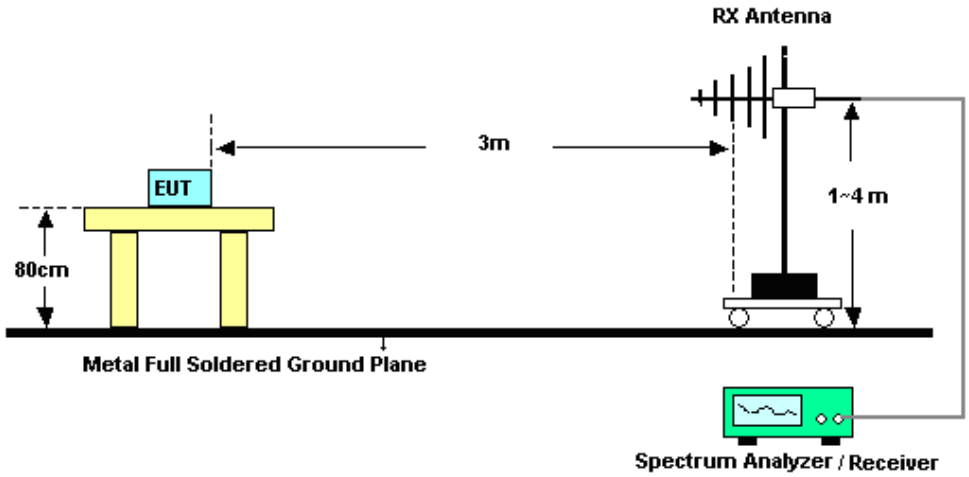
Test Method for Radiated Emissions below 960MHz and Emissions from Digital Circuitry	
■	Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing 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.

3.4.4. Test Setup

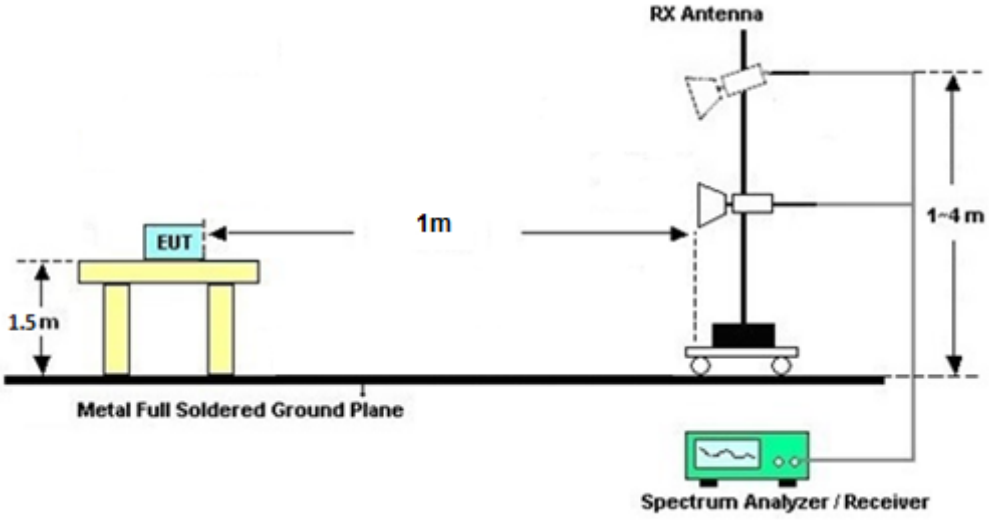
Radiated Emissions below 30MHz



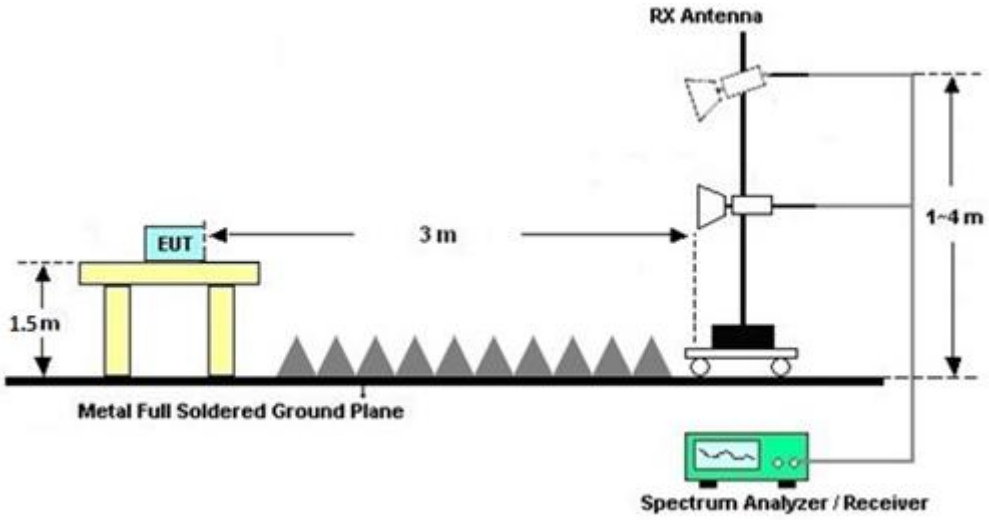
Radiated Emissions from 30MHz to 1GHz and Emissions from Digital Circuitry



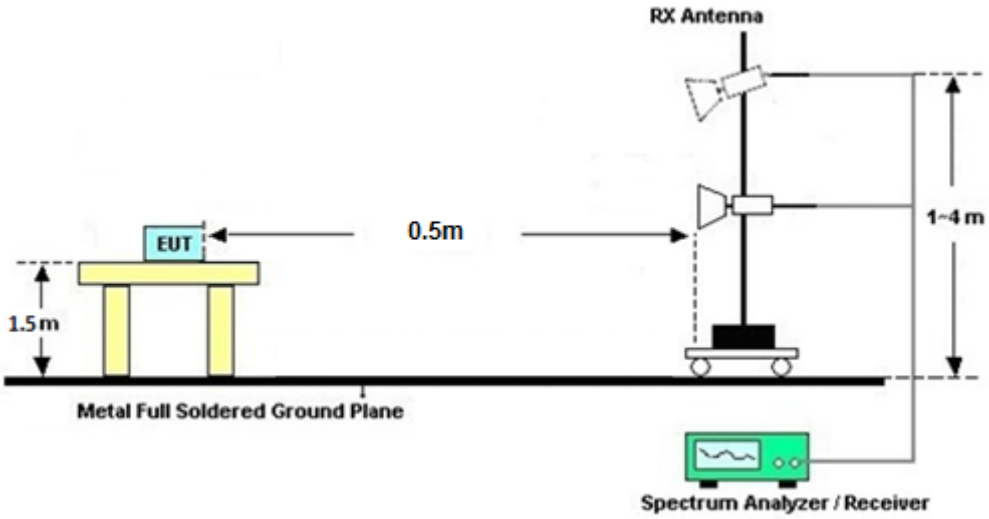
Radiated Emissions from 1GHz to 1.61 GHz



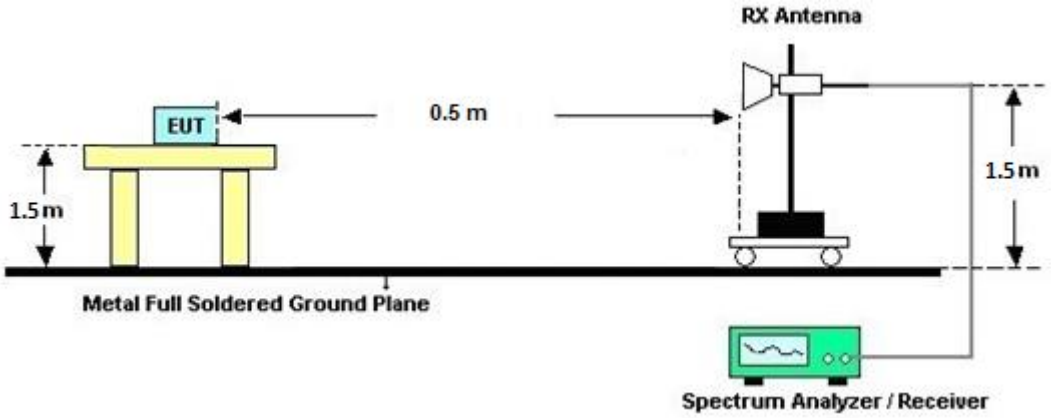
Radiated Emissions from 1.61 GHz to 10.60 GHz



Radiated Emissions from 10.60 GHz to 18GHz



Radiated Emissions above 18GHz



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.

3.4.5. Radiated Emissions (Below 30MHz)

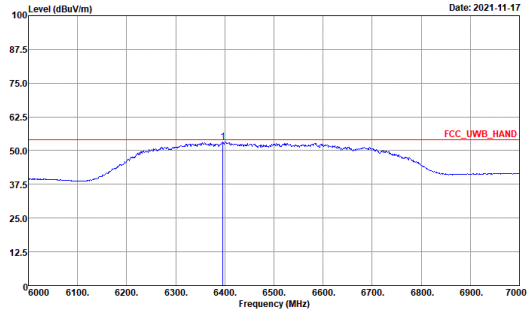
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.
There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.4.6. Average Power Spectral Density

Test mode	Frequency (MHz)	Emission Level (dBuV/m)	Emission Limit (dBm/MHz)	Emission Limit (dBuV/m)	Margin (dB)	Result	Pol [H/V]
1	6396.00	53.24	-41.3	53.93	-0.69	Pass	V
2	7060.00	53.92	-41.3	53.93	-0.01	Pass	V
3	7326.00	53.92	-41.3	53.93	-0.01	Pass	V
4	7894.00	53.25	-41.3	53.93	-0.68	Pass	V

Radiated Emissions (Fundamental)			
Operating Function	Stand-alone Mode	**Polarization**	V
		Test Distance	3m

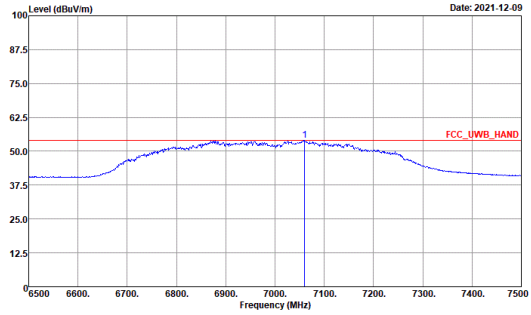
Mode 1: CH 05



Site : 03CH20-HY
Condition : FCC_UWB_HAND 3m 9120D_02294_1110622 VERTICAL
: RBW:1000.000KHz VBW:3000.000KHz SWT:1.000sec
Projaect : 1O1258
EUT : #3
Channel : CH5

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	6396.00	53.24	-0.69	53.93	42.57	34.59	13.96	37.88	0.00	0.00	Average

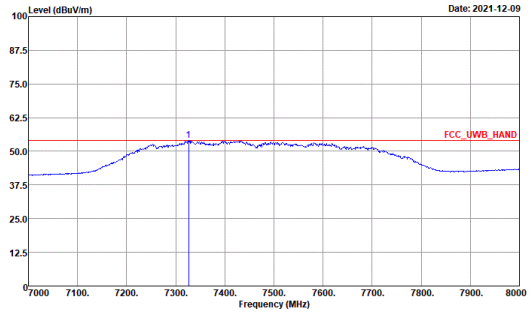
Mode 2: CH 06



Site : 03CH20-HY
Condition : FCC_UWB_HAND 3m 9120D_02294_1110622 VERTICAL
: RBW:1000.000KHz VBW:3000.000KHz SWT:1.000sec
Projaect : 1O1258
EUT : #3
Channel : CH6

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	7060.00	53.92	-0.01	53.93	41.27	36.14	14.67	38.16	0.00	0.00	Average

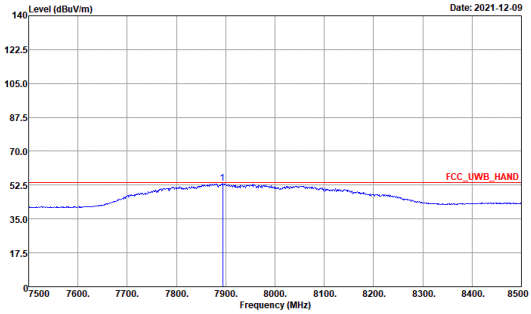
Mode 3: CH 08



Site : 03CH20-HY
Condition : FCC_UWB_HAND 3m 9120D_02294_1110622 VERTICAL
: RBW:1000.000KHz VBW:3000.000KHz SWT:1.000sec
Projaect : 1O1258
EUT : #3
Channel : CH8

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	7326.00	53.92	-0.01	53.93	40.60	36.75	14.93	38.36	0.00	0.00	Average

Mode 4: CH 09



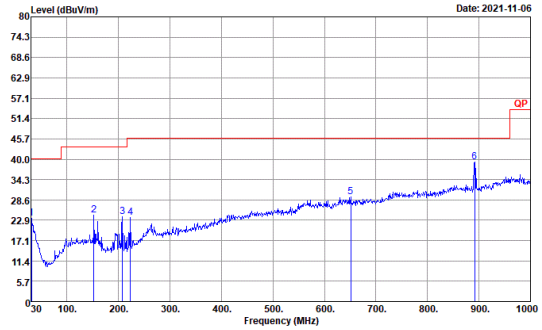
Site : 03CH20-HY
Condition : FCC_UWB_HAND 3m 9120D_02294_1110622 VERTICAL
: RBW:1000.000KHz VBW:10.000KHz SWT:Auto
Projaect : 1O2508
EUT : #3
Channel : CH9

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	7894.00	53.25	-0.68	53.93	39.92	36.99	15.40	39.06	0.00	0.00	Average

3.4.7. Radiated Emissions (30MHz – 1GHz)

Radiated Emissions (30MHz – 1GHz)			
Test Mode	Mode 1: CH 05		
Operating Function	Stand-alone Mode	**Test Distance**	3m

Polarization: H

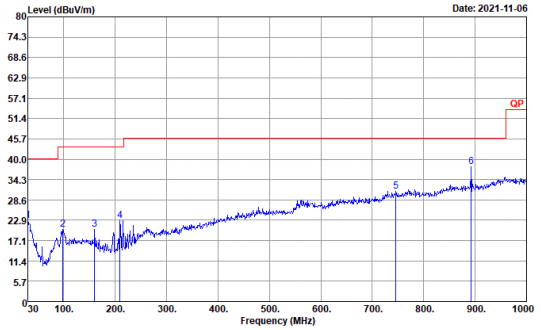


Site : 03CH20-HY
Condition : QP 3m LF_55606&08_1101017 HORIZONTAL

Project : 1O1258
EUT : #3
Channel : CH5
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	30.97	23.41	-16.59	40.00	34.26	23.90	0.96	35.72	0.00	0.01	Peak
2	152.22	24.31	-19.19	43.50	40.65	17.07	2.07	35.56	0.00	0.08	Peak
3	207.51	23.91	-19.59	43.50	41.79	15.09	2.43	35.46	0.00	0.06	Peak
4	223.03	23.55	-22.45	46.00	40.97	15.42	2.52	35.43	0.00	0.07	Peak
5	650.80	29.32	-16.68	46.00	32.98	26.12	4.33	34.24	0.00	0.13	Peak
6	891.36	39.33	-6.67	46.00	38.59	28.67	5.09	33.38	0.00	0.36	Peak

Polarization: V



Site : 03CH20-HY
Condition : QP 3m LF_55606&08_1101017 VERTICAL

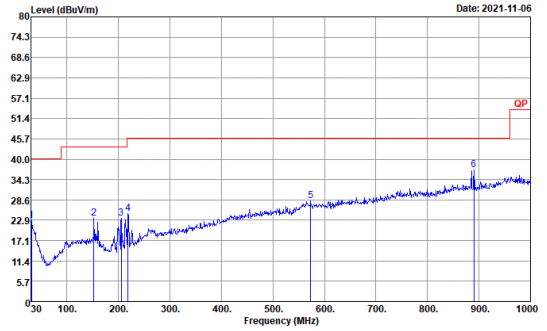
Project : 1O1258
EUT : #3
Channel : CH5
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	30.00	22.71	-17.29	40.00	33.11	24.37	0.94	35.72	0.00	0.01	Peak
2	97.90	20.32	-23.18	43.50	38.62	15.63	1.65	35.65	0.00	0.07	Peak
3	159.98	20.29	-23.21	43.50	37.28	16.36	2.12	35.55	0.00	0.08	Peak
4	209.45	22.81	-20.69	43.50	40.67	15.10	2.44	35.46	0.00	0.06	Peak
5	745.86	30.98	-15.02	46.00	32.39	27.67	4.64	33.90	0.00	0.18	Peak
6	892.33	37.77	-8.23	46.00	37.02	28.67	5.10	33.38	0.00	0.36	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.

Radiated Emissions (30MHz – 1GHz)			
Test Mode	Mode 2: CH 06		
Operating Function	Stand-alone Mode	**Test Distance**	3m

Polarization: H

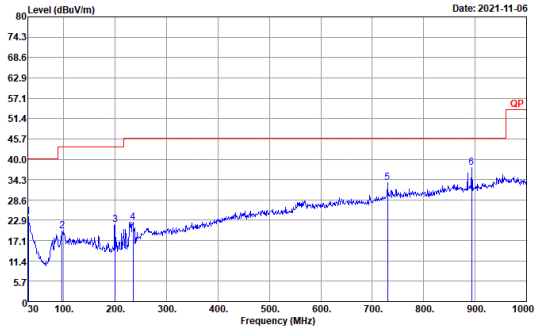


Site : 03CH20-HY
Condition : QP 3m LF_55606&08_1101017 HORIZONTAL

Project : 1O1258
EUT : #3
Channel : CH6
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	30.97	22.81	-17.19	40.00	33.66	23.90	0.96	35.72	0.00	0.01	Peak
2	152.22	23.33	-20.17	43.50	39.67	17.07	2.07	35.56	0.00	0.08	Peak
3	205.57	23.38	-20.12	43.50	41.29	15.08	2.42	35.47	0.00	0.06	Peak
4	218.18	24.63	-21.37	46.00	42.40	15.10	2.50	35.44	0.00	0.07	Peak
5	573.20	28.20	-17.80	46.00	32.83	25.66	4.07	34.50	0.00	0.14	Peak
6	890.39	37.10	-8.90	46.00	36.36	28.67	5.09	33.38	0.00	0.36	Peak

Polarization: V



Site : 03CH20-HY
Condition : QP 3m LF_55606&08_1101017 VERTICAL

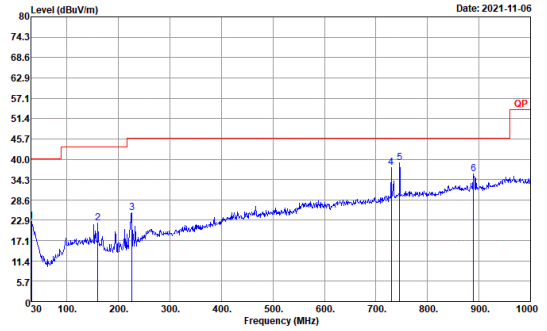
Project : 1O1258
EUT : #3
Channel : CH6
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	30.97	23.77	-16.23	40.00	34.62	23.90	0.96	35.72	0.00	0.01	Peak
2	96.93	19.77	-23.73	43.50	38.31	15.41	1.64	35.65	0.00	0.06	Peak
3	199.75	21.68	-21.82	43.50	39.83	14.88	2.39	35.48	0.00	0.06	Peak
4	234.67	22.37	-23.63	46.00	38.55	16.56	2.59	35.40	0.00	0.07	Peak
5	729.37	33.39	-12.61	46.00	35.33	27.26	4.60	33.96	0.00	0.16	Peak
6	893.30	37.64	-8.36	46.00	36.87	28.68	5.10	33.37	0.00	0.36	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.

Radiated Emissions (30MHz – 1GHz)			
Test Mode	Mode 3: CH 08		
Operating Function	Stand-alone Mode	**Test Distance**	3m

Polarization: H

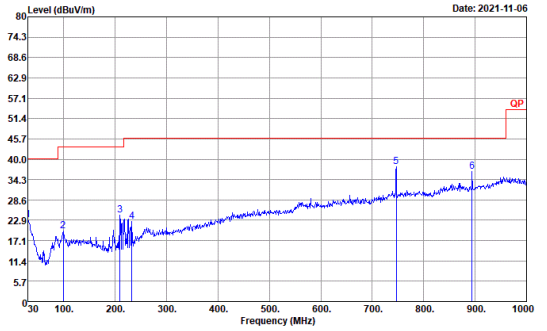


Site : 03CH20-HY
Condition : QP 3m LF_55606&08_1101017 HORIZONTAL

Project : 1O1258
EUT : #3
Channel : CH8
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	30.97	22.40	-17.60	40.00	33.25	23.90	0.96	35.72	0.00	0.01	Peak
2	159.98	22.17	-21.33	43.50	39.16	16.36	2.12	35.55	0.00	0.08	Peak
3	225.94	25.01	-20.99	46.00	42.14	15.68	2.54	35.42	0.00	0.07	Peak
4	729.37	37.63	-8.37	46.00	39.57	27.26	4.60	33.96	0.00	0.16	Peak
5	745.86	38.98	-7.02	46.00	40.39	27.67	4.64	33.90	0.00	0.18	Peak
6	889.42	35.89	-10.11	46.00	35.16	28.67	5.09	33.39	0.00	0.36	Peak

Polarization: V



Site : 03CH20-HY
Condition : QP 3m LF_55606&08_1101017 VERTICAL

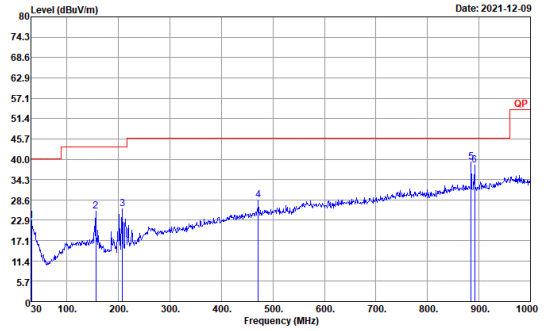
Project : 1O1258
EUT : #3
Channel : CH8
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	30.00	22.88	-17.12	40.00	33.28	24.37	0.94	35.72	0.00	0.01	Peak
2	98.87	19.76	-23.74	43.50	37.88	15.80	1.66	35.65	0.00	0.07	Peak
3	209.45	24.25	-19.25	43.50	42.11	15.10	2.44	35.46	0.00	0.06	Peak
4	232.73	22.47	-23.53	46.00	38.87	16.35	2.58	35.40	0.00	0.07	Peak
5	746.83	37.99	-8.01	46.00	39.40	27.67	4.64	33.90	0.00	0.18	Peak
6	894.27	36.52	-9.48	46.00	35.75	28.68	5.10	33.37	0.00	0.36	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.

Radiated Emissions (30MHz – 1GHz)			
Test Mode	Mode 4: CH 09		
Operating Function	Stand-alone Mode	**Test Distance**	3m

Polarization: H

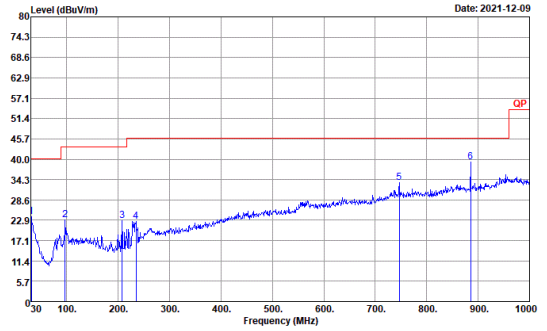


Site : 03CH20-HY
Condition : QP 3m LF_55606&08_1101017 HORIZONTAL

Project : 1O1258
EUT : #3
Channel : CH9
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	30.97	22.71	-17.29	40.00	33.56	23.90	0.96	35.72	0.00	0.01	Peak
2	156.10	25.47	-18.03	43.50	42.15	16.70	2.09	35.55	0.00	0.08	Peak
3	207.51	26.00	-17.50	43.50	43.88	15.09	2.43	35.46	0.00	0.06	Peak
4	471.35	28.59	-17.41	46.00	36.09	23.46	3.71	34.80	0.00	0.13	Peak
5	884.57	39.33	-6.67	46.00	38.62	28.70	5.07	33.41	0.00	0.35	Peak
6	891.36	38.43	-7.57	46.00	37.69	28.67	5.09	33.38	0.00	0.36	Peak

Polarization: V



Site : 03CH20-HY
Condition : QP 3m LF_55606&08_1101017 VERTICAL

Project : 1O1258
EUT : #3
Channel : CH9
AVG Type : RMS
Trace : Max Hold

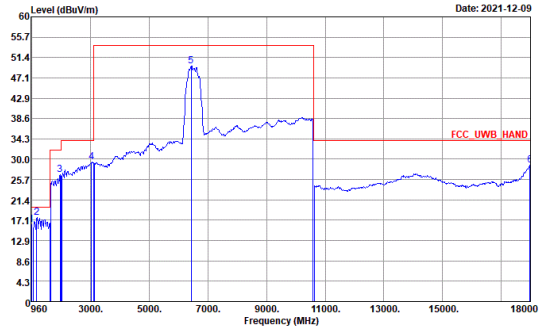
	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	30.97	23.80	-16.20	40.00	34.65	23.90	0.96	35.72	0.00	0.01	Peak
2	96.93	22.85	-20.65	43.50	41.39	15.41	1.64	35.65	0.00	0.06	Peak
3	207.51	22.84	-20.66	43.50	40.72	15.09	2.43	35.46	0.00	0.06	Peak
4	234.67	22.46	-23.54	46.00	38.64	16.56	2.59	35.40	0.00	0.07	Peak
5	746.83	33.50	-12.50	46.00	34.91	27.67	4.64	33.90	0.00	0.18	Peak
6	885.54	39.12	-6.88	46.00	38.39	28.70	5.08	33.40	0.00	0.35	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.

3.4.8. Radiated Emissions (960MHz – 18GHz)

Radiated Emissions (960MHz – 18GHz)	
Test Mode	Mode 1: CH 05
Operating Function	Stand-alone Mode
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3 m for 1.61 GHz ~ 10.60 GHz frequency range 1 m for 1 GHz ~ 1.61 GHz 0.5 m for other frequency ranges.

Polarization: H

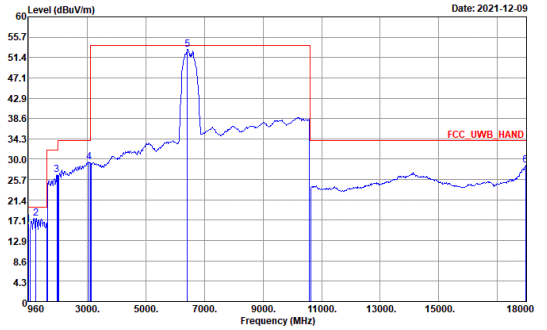


Site : 03CH20-HY
Condition : FCC_UWB_HAND 3m 9120D_02294_1110622 HORIZONTAL

Project : 1O1258
EUT : #3
Channel : CH5
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	977.12	16.16	-3.77	19.93	28.55	30.49	5.32	33.04	-15.56	0.40	Average
2	1160.43	17.65	-2.28	19.93	31.21	25.84	5.82	35.68	-9.54	0.00	Average
3	1950.10	26.69	-5.24	31.93	29.01	26.20	7.55	36.07	0.00	0.00	Average
4	3028.96	29.36	-4.57	33.93	26.45	29.52	9.51	36.12	0.00	0.00	Average
5	6430.00	49.63	-4.30	53.93	38.69	34.72	14.00	37.78	0.00	0.00	Average
6	17977.80	28.79	-5.14	33.93	24.28	41.64	23.88	45.45	-15.56	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : FCC_UWB_HAND 3m 9120D_02294_1110622 VERTICAL

Project : 1O1258
EUT : #3
Channel : CH5
AVG Type : RMS
Trace : Max Hold

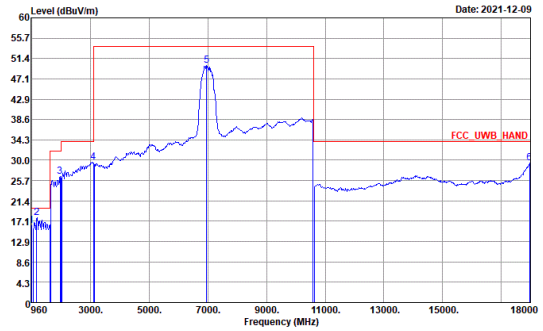
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	972.00	16.13	-3.80	19.93	28.43	30.63	5.30	33.06	-15.56	0.40	Average
2	1240.34	17.62	-2.31	19.93	30.93	25.92	6.01	35.70	-9.54	0.00	Average
3	1950.86	26.72	-5.21	31.93	29.03	26.21	7.55	36.07	0.00	0.00	Average
4	3047.83	29.34	-4.59	33.93	26.36	29.59	9.54	36.15	0.00	0.00	Average
5	6415.00	53.21	-0.72	53.93	42.36	34.66	13.98	37.79	0.00	0.00	Average
6	17970.40	28.70	-5.23	33.93	24.24	41.59	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=100kHz; VBW=300kHz.
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 (dB) + Aux 2 (dB) = Level (dBuV/m)
  (Note: For test item below 1GHz, Aux = Distance extrapolation factor; Aux 2 = Filter loss)
  (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

Radiated Emissions (960MHz – 18GHz)	
Test Mode	Mode 2: CH 06
Operating Function	Stand-alone Mode
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3 m for 1.61 GHz ~ 10.60 GHz frequency range 1 m for 1 GHz ~ 1.61 GHz 0.5 m for other frequency ranges.

Polarization: H

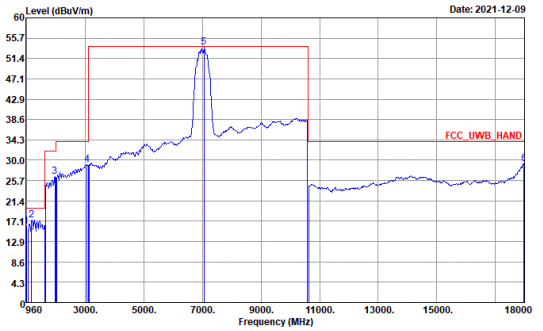


Site : 03CH20-HY
Condition : FCC_UWB_HAND 3m 9120D_02294_1110622 HORIZONTAL

Project : 1O1258
EUT : #3
Channel : CH6
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	976.52	16.16	-3.77	19.93	28.52	30.52	5.32	33.04	-15.56	0.40	Average
2	1158.60	17.80	-2.13	19.93	31.38	25.83	5.81	35.68	-9.54	0.00	Average
3	1952.00	26.59	-5.34	31.93	28.88	26.22	7.56	36.07	0.00	0.00	Average
4	3097.78	29.55	-4.38	33.93	26.65	29.50	9.63	36.23	0.00	0.00	Average
5	6955.00	49.90	-4.03	53.93	37.76	35.80	14.56	38.22	0.00	0.00	Average
6	17963.00	29.43	-4.50	33.93	25.01	41.54	23.88	45.44	-15.56	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : FCC_UWB_HAND 3m 9120D_02294_1110622 VERTICAL

Project : 1O1258
EUT : #3
Channel : CH6
AVG Type : RMS
Trace : Max Hold

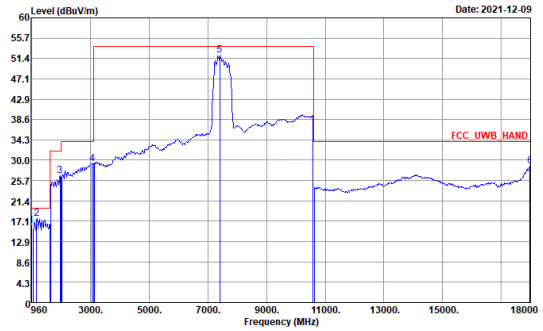
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	977.20	16.06	-3.87	19.93	28.45	30.49	5.32	33.04	-15.56	0.40	Average
2	1158.60	17.40	-2.53	19.93	30.98	25.83	5.81	35.68	-9.54	0.00	Average
3	1952.76	26.55	-5.38	31.93	28.84	26.22	7.56	36.07	0.00	0.00	Average
4	3048.94	29.13	-4.80	33.93	26.14	29.60	9.54	36.15	0.00	0.00	Average
5	7045.00	53.81	-0.12	53.93	41.40	36.07	14.65	38.31	0.00	0.00	Average
6	17977.80	29.32	-4.61	33.93	24.81	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=100kHz; VBW=300kHz.
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 (dB) + Aux 2 (dB) = Level (dBuV/m)
  (Note: For test item below 1GHz, Aux = Distance extrapolation factor; Aux 2 = Filter loss)
  (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

Radiated Emissions (960MHz – 18GHz)	
Test Mode	Mode 3: CH 08
Operating Function	Stand-alone Mode
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3 m for 1.61 GHz ~ 10.60 GHz frequency range 1 m for 1 GHz ~ 1.61 GHz 0.5 m for other frequency ranges.

Polarization: H

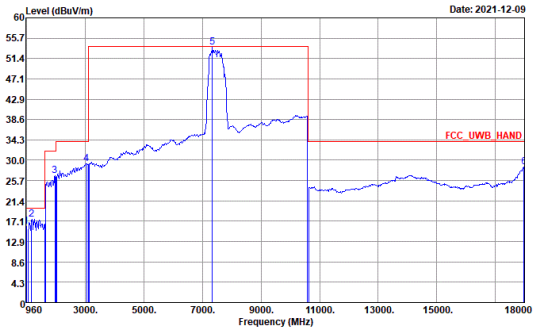


Site : 03CH20-HY
Condition : FCC_UWB_HAND 3m 9120D_02294_1110622 HORIZONTAL

Project : 1O1258
EUT : #3
Channel : CH8
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	980.40	16.19	-3.74	19.93	28.67	30.38	5.33	33.03	-15.56	0.40	Average
2	1158.60	17.65	-2.28	19.93	31.23	25.83	5.81	35.68	-9.54	0.00	Average
3	1952.00	26.70	-5.23	31.93	28.99	26.22	7.56	36.07	0.00	0.00	Average
4	3047.83	29.30	-4.63	33.93	26.32	29.59	9.54	36.15	0.00	0.00	Average
5	7397.50	52.12	-1.81	53.93	39.41	36.32	14.99	38.60	0.00	0.00	Average
6	17977.80	28.73	-5.20	33.93	24.22	41.64	23.88	45.45	-15.56	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : FCC_UWB_HAND 3m 9120D_02294_1110622 VERTICAL

Project : 1O1258
EUT : #3
Channel : CH8
AVG Type : RMS
Trace : Max Hold

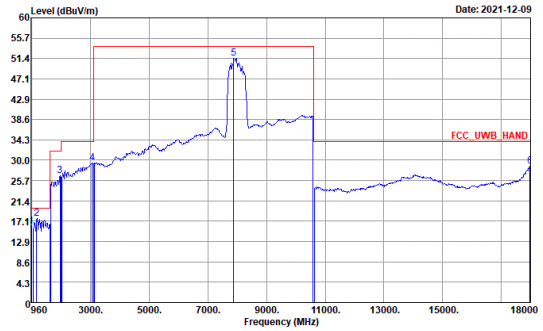
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	977.48	16.10	-3.83	19.93	28.50	30.48	5.32	33.04	-15.56	0.40	Average
2	1158.60	17.58	-2.35	19.93	31.16	25.83	5.81	35.68	-9.54	0.00	Average
3	1951.62	26.75	-5.18	31.93	29.05	26.21	7.56	36.07	0.00	0.00	Average
4	3043.39	29.26	-4.67	33.93	26.31	29.57	9.53	36.15	0.00	0.00	Average
5	7330.00	53.78	-0.15	53.93	40.65	36.74	14.93	38.54	0.00	0.00	Average
6	17985.20	28.55	-5.38	33.93	23.98	41.70	23.89	45.46	-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=100kHz; VBW=300kHz.
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 (dB) + Aux 2 (dB) = Level (dBuV/m)
  (Note: For test item below 1GHz, Aux = Distance extrapolation factor; Aux 2 = Filter loss)
  (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

Radiated Emissions (960MHz – 18GHz)	
Test Mode	Mode 4: CH 09
Operating Function	Stand-alone Mode
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3 m for 1.61 GHz ~ 10.60 GHz frequency range 1 m for 1 GHz ~ 1.61 GHz 0.5 m for other frequency ranges.

Polarization: H

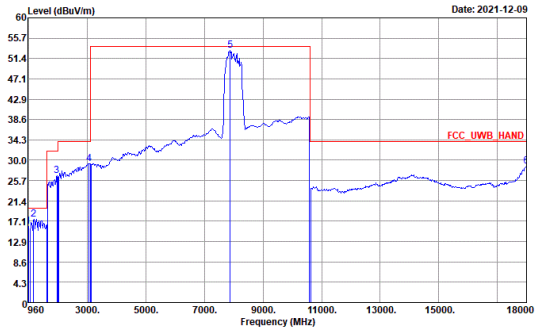


Site : 03CH20-HY
Condition : FCC_UWB_HAND 3m 9120D_02294_1110622 HORIZONTAL

Project : 1O1258
EUT : #3
Channel : CH9
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	984.68	15.99	-3.94	19.93	28.59	30.22	5.35	33.01	-15.56	0.40	Average
2	1159.82	17.64	-2.29	19.93	31.20	25.84	5.82	35.68	-9.54	0.00	Average
3	1950.10	26.81	-5.12	31.93	29.13	26.20	7.55	36.07	0.00	0.00	Average
4	3052.27	29.34	-4.59	33.93	26.35	29.60	9.55	36.16	0.00	0.00	Average
5	7877.50	51.52	-2.41	53.93	38.22	36.96	15.38	39.04	0.00	0.00	Average
6	17985.20	28.75	-5.18	33.93	24.18	41.70	23.89	45.46	-15.56	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : FCC_UWB_HAND 3m 9120D_02294_1110622 VERTICAL

Project : 1O1258
EUT : #3
Channel : CH9
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	970.48	16.00	-3.93	19.93	28.28	30.66	5.30	33.07	-15.56	0.40	Average
2	1158.60	17.60	-2.33	19.93	31.18	25.83	5.81	35.68	-9.54	0.00	Average
3	1951.62	26.68	-5.25	31.93	28.98	26.21	7.56	36.07	0.00	0.00	Average
4	3046.72	29.32	-4.61	33.93	26.34	29.59	9.54	36.15	0.00	0.00	Average
5	7870.00	53.22	-0.71	53.93	39.95	36.94	15.37	39.04	0.00	0.00	Average
6	17992.60	28.69	-5.24	33.93	24.07	41.75	23.89	45.46	-15.56	0.00	Average

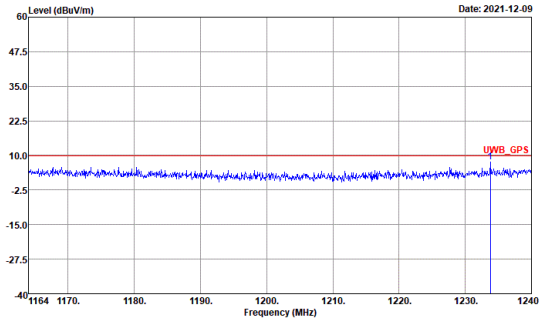
Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.
Note 5: Average emission setting in GPS bands: RBW=100kHz; VBW=300kHz.
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 (dB) + Aux 2 (dB) = Level (dBuV/m)
  (Note: For test item below 1GHz, Aux = Distance extrapolation factor; Aux 2 = Filter loss)
  (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

3.4.9. Radiated Emissions (1164MHz – 1240MHz)

Radiated Emissions (1164MHz – 1240MHz)			
Test Mode	Mode 1: CH 05		
Operating Function	Stand-alone Mode	**Test Distance**	3m

Polarization: H

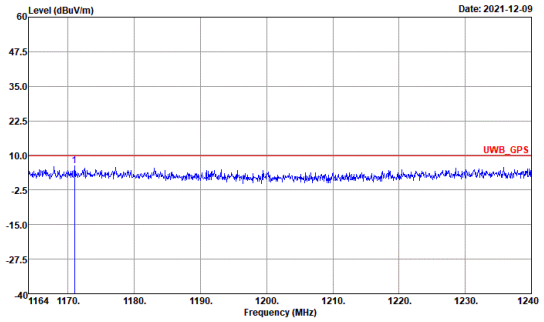


Site : 03CH20-HY
Condition : UWB_GPS 3m 9120D_02294_1110622 HORIZONTAL

Projaect : 1O1258
EUT : #3
Channel : CH5
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1233.77	7.55	-2.38	9.93	11.32	25.93	6.00	35.70	0.00	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : UWB_GPS 3m 9120D_02294_1110622 VERTICAL

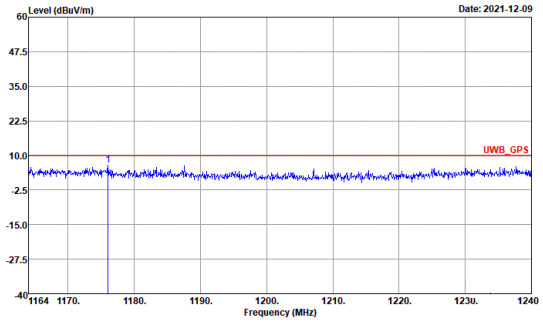
Projaect : 1O1258
EUT : #3
Channel : CH5
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1170.99	6.19	-3.74	9.93	10.15	25.88	5.84	35.68	0.00	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=1kHz; VBW=3kHz.
Note 5: E (dBuv/m) = EIRP (dBm) + 95.23, example, E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m

Radiated Emissions (1164MHz – 1240MHz)			
Test Mode	Mode 2: CH 06		
Operating Function	Stand-alone Mode	**Test Distance**	3m

Polarization: H

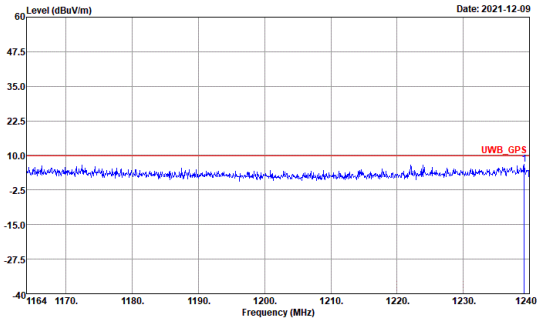


Site : 03CH20-HY
Condition : UWB_6PS 3m 9120D_02294_1110622 HORIZONTAL

Projaect : 1O1258
EUT : #3
Channel : CH6
AV6 Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1176.01	6.46	-3.47	9.93	10.38	25.90	5.86	35.68	0.00	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : UWB_6PS 3m 9120D_02294_1110622 VERTICAL

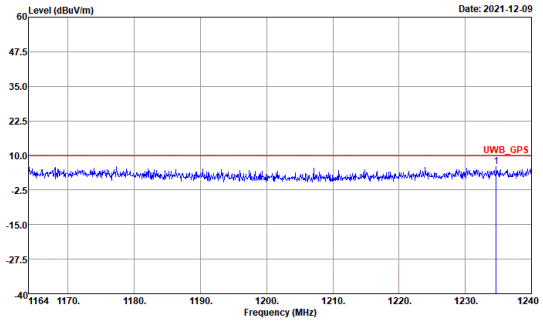
Projaect : 1O1258
EUT : #3
Channel : CH6
AV6 Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1239.24	6.69	-3.24	9.93	10.46	25.92	6.01	35.70	0.00	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=1kHz; VBW=3kHz.
Note 5: E (dBuv/m) = EIRP (dBm) + 95.23

Radiated Emissions (1164MHz – 1240MHz)			
Test Mode	Mode 3: CH 08		
Operating Function	Stand-alone Mode	**Test Distance**	3m

Polarization: H

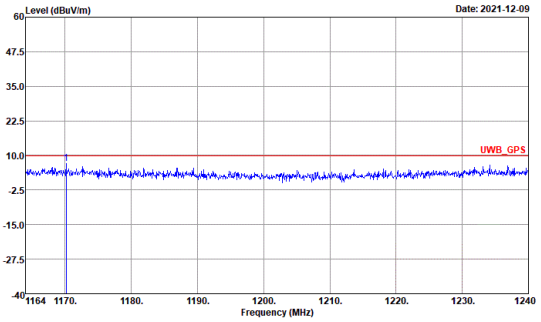


Site : 03CH20-HY
Condition : UWB_6PS 3m 9120D_02294_1110622 HORIZONTAL

Projaect : 1O1258
EUT : #3
Channel : CH8
AV6 Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1234.68	6.07	-3.86	9.93	9.84	25.93	6.00	35.70	0.00	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : UWB_6PS 3m 9120D_02294_1110622 VERTICAL

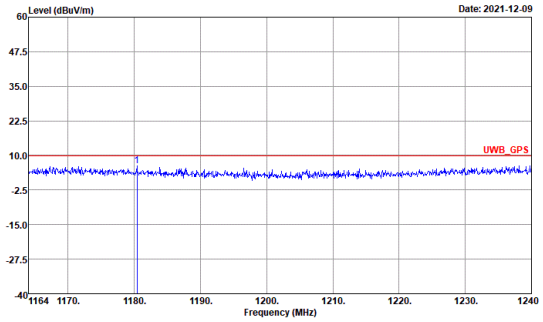
Projaect : 1O1258
EUT : #3
Channel : CH8
AV6 Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1170.16	7.11	-2.82	9.93	11.07	25.88	5.84	35.68	0.00	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=1kHz; VBW=3kHz.
Note 5: E (dBuv/m) = EIRP (dBm) + 95.23

Radiated Emissions (1164MHz – 1240MHz)			
Test Mode	Mode 4: CH 09		
Operating Function	Stand-alone Mode	**Test Distance**	3m

Polarization: H

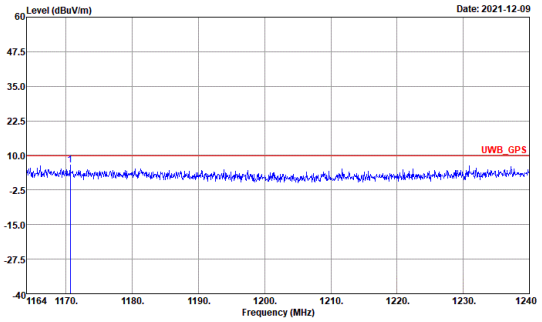


Site : 03CH20-HY
Condition : UWB_6PS 3m 9120D_02294_1110622 HORIZONTAL

Projaect : 1O1258
EUT : #3
Channel : CH9
AV6 Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1180.42	6.34	-3.59	9.93	10.23	25.92	5.87	35.68	0.00	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : UWB_6PS 3m 9120D_02294_1110622 VERTICAL

Projaect : 1O1258
EUT : #3
Channel : CH9
AV6 Type : RMS
Trace : Max Hold

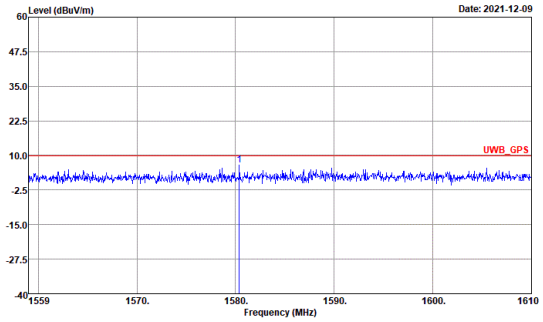
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1170.61	6.40	-3.53	9.93	10.36	25.88	5.84	35.68	0.00	0.00	Average

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=1kHz; VBW=3kHz.
Note 5: E (dBuv/m) = EIRP (dBm) + 95.23

3.4.10. Radiated Emissions (1559MHz – 1610MHz)

Radiated Emissions (1559MHz – 1610MHz)			
Test Mode	Mode 1: CH 05		
Operating Function	Stand-alone Mode	**Test Distance**	3m

Polarization: H

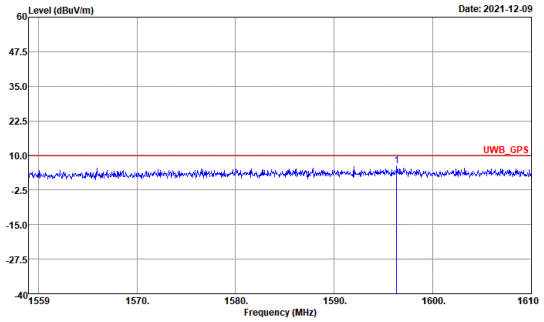


Site : 03CH20-HY
Condition : UWB_GPS 3m 9120D_02294_1110622 HORIZONTAL

Projaect : 1O1258
EUT : #3
Channel : CH5
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1580.37	6.45	-3.48	9.93	10.04	25.44	6.80	35.83	0.00	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : UWB_GPS 3m 9120D_02294_1110622 VERTICAL

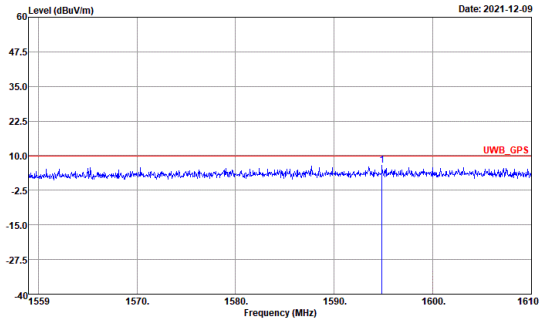
Projaect : 1O1258
EUT : #3
Channel : CH5
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1596.33	6.28	-3.65	9.93	9.88	25.41	6.83	35.84	0.00	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=1kHz; VBW=3kHz.
Note 5: E (dBuv/m) = EIRP (dBm) + 95.23

Radiated Emissions (1559MHz – 1610MHz)			
Test Mode	Mode 2: CH 06		
Operating Function	Stand-alone Mode	**Test Distance**	3m

Polarization: H

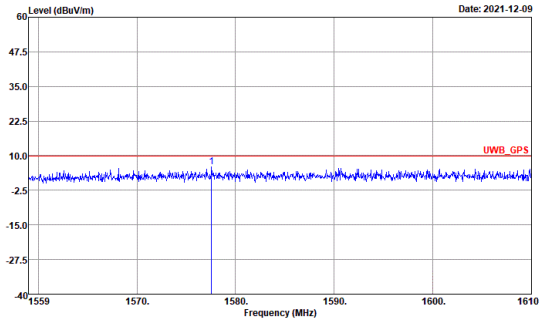


Site : 03CH20-HY
Condition : UWB_GPS 3m 9120D_02294_1110622 HORIZONTAL

Projaect : 1O1258
EUT : #3
Channel : CH6
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1594.85	6.39	-3.54	9.93	9.99	25.41	6.83	35.84	0.00	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : UWB_GPS 3m 9120D_02294_1110622 VERTICAL

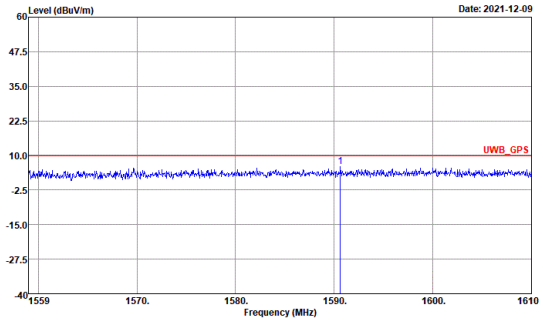
Projaect : 1O1258
EUT : #3
Channel : CH6
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1577.56	6.10	-3.83	9.93	9.70	25.44	6.79	35.83	0.00	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=1kHz; VBW=3kHz.
Note 5: E (dBuv/m) = EIRP (dBm) + 95.23

Radiated Emissions (1559MHz – 1610MHz)			
Test Mode	Mode 3: CH 08		
Operating Function	Stand-alone Mode	**Test Distance**	3m

Polarization: H

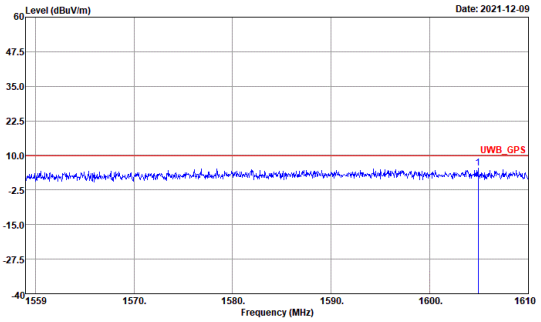


Site : 03CH20-HY
Condition : UWB_6PS 3m 9120D_02294_1110622 HORIZONTAL

Projaect : 1O1258
EUT : #3
Channel : CH8
AV6 Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1590.62	6.02	-3.91	9.93	9.62	25.42	6.82	35.84	0.00	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : UWB_6PS 3m 9120D_02294_1110622 VERTICAL

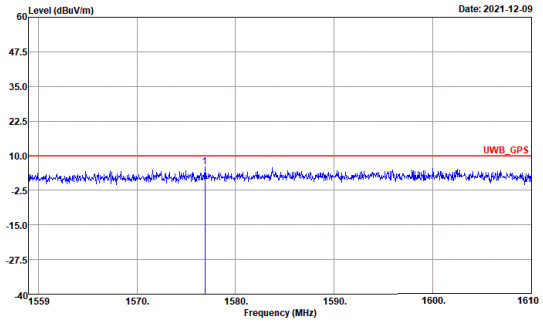
Projaect : 1O1258
EUT : #3
Channel : CH8
AV6 Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1604.90	5.39	-4.54	9.93	9.01	25.38	6.85	35.85	0.00	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=1kHz; VBW=3kHz.
Note 5: E (dBuv/m) = EIRP (dBm) + 95.23

Radiated Emissions (1559MHz – 1610MHz)			
Test Mode	Mode 4: CH 09		
Operating Function	Stand-alone Mode	**Test Distance**	3m

Polarization: H

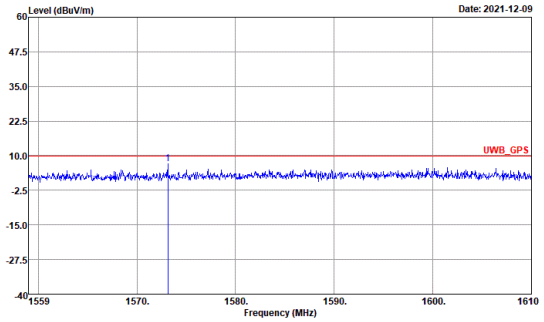


Site : 03CH20-HY
Condition : UWB_GPS 3m 9120D_02294_1110622 HORIZONTAL

Projaect : 1O1258
EUT : #3
Channel : CH9
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1576.90	5.94	-3.99	9.93	9.53	25.45	6.79	35.83	0.00	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : UWB_GPS 3m 9120D_02294_1110622 VERTICAL

Projaect : 1O1258
EUT : #3
Channel : CH9
AVG Type : RMS
Trace : Max Hold

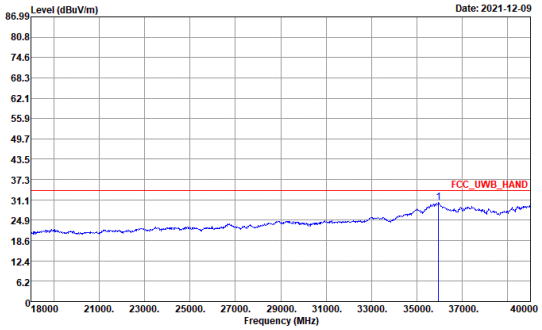
	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	1573.13	7.17	-2.76	9.93	10.77	25.45	6.78	35.83	0.00	0.00	Average

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=1kHz; VBW=3kHz.
Note 5: E (dBuv/m) = EIRP (dBm) + 95.23

3.4.11. Radiated Emissions (18GHz – 40GHz)

Radiated Emissions (18GHz – 40GHz)			
Test Mode	Mode 1: CH 05		
Operating Function	Stand-alone Mode	**Test Distance**	0.5m

Polarization: H

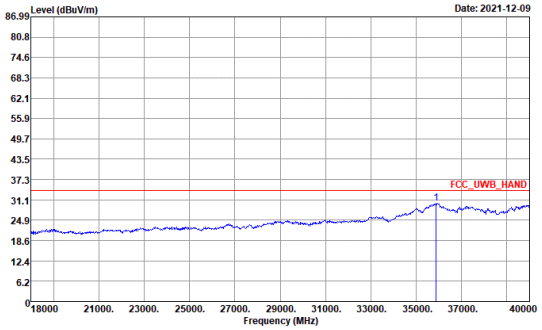


Site : 03CH20-HY
Condition : FCC_UWB_HAND 1m SHF_00991_210512 HORIZONTAL

Project : 1O1258
EUT : #3
Channel : CH5
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	35952.00	30.20	-3.73	33.93	53.47	42.72	8.39	58.82	-15.56	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : FCC_UWB_HAND 1m SHF_00991_210512 VERTICAL

Project : 1O1258
EUT : #3
Channel : CH5
AVG Type : RMS
Trace : Max Hold

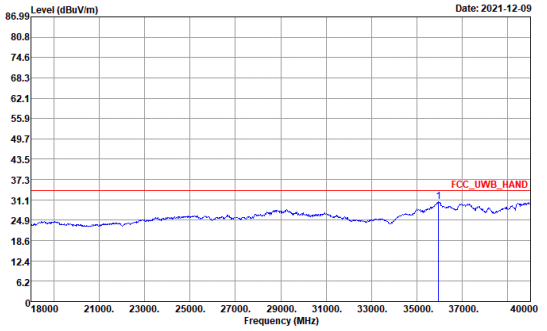
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	35886.00	30.10	-3.83	33.93	53.52	42.62	8.37	58.85	-15.56	0.00	Average

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)

Radiated Emissions (18GHz – 40GHz)			
Test Mode	Mode 2: CH 06		
Operating Function	Stand-alone Mode	**Test Distance**	0.5m

Polarization: H

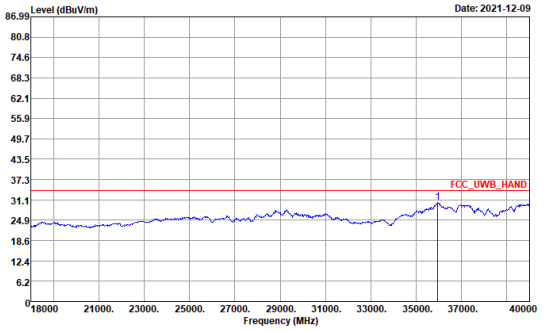


Site : 03CH20-HY
Condition : FCC_UWB_HAND 1m SHF_00991_210512 HORIZONTAL

Project : 1O1258
EUT : #3
Channel : CH6
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	35952.00	30.47	-3.46	33.93	53.74	42.72	8.39	58.82	-15.56	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : FCC_UWB_HAND 1m SHF_00991_210512 VERTICAL

Project : 1O1258
EUT : #3
Channel : CH6
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	35952.00	30.35	-3.58	33.93	53.62	42.72	8.39	58.82	-15.56	0.00	Average

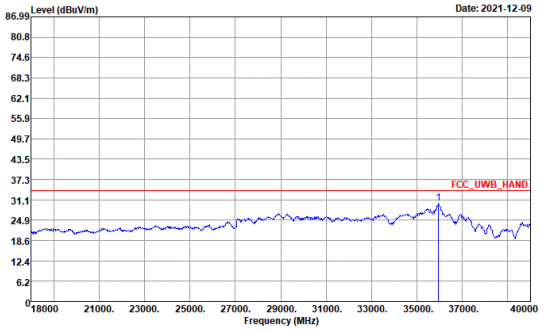
Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Average emission 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)

Radiated Emissions (18GHz – 40GHz)			
Test Mode	Mode 3: CH 08		
Operating Function	Stand-alone Mode	**Test Distance**	0.5m

Polarization: H

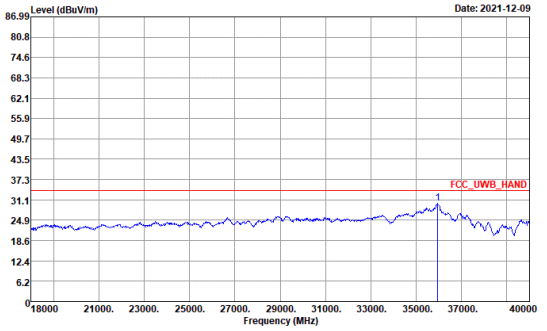


Site : 03CH20-HY
Condition : FCC_UWB_HAND 1m SHF_00991_210512 HORIZONTAL

Project : 1O1258
EUT : #3
Channel : CH8
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	35952.00	29.96	-3.97	33.93	53.23	42.72	8.39	58.82	-15.56	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : FCC_UWB_HAND 1m SHF_00991_210512 VERTICAL

Project : 1O1258
EUT : #3
Channel : CH8
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	35952.00	30.12	-3.81	33.93	53.39	42.72	8.39	58.82	-15.56	0.00	Average

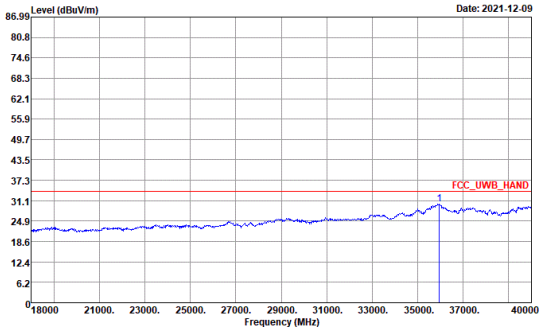
Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Average emission 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)

Radiated Emissions (18GHz – 40GHz)			
Test Mode	Mode 4: CH 09		
Operating Function	Stand-alone Mode	**Test Distance**	0.5m

Polarization: H

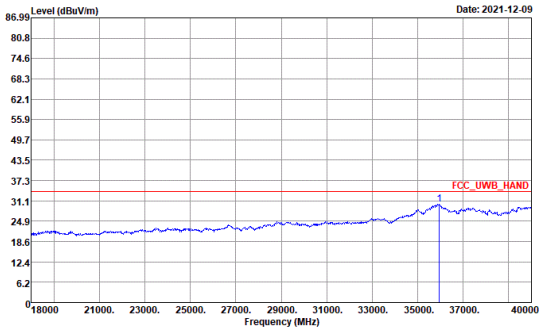


Site : 03CH20-HY
Condition : FCC_UWB_HAND 1m SHF_00991_210512 HORIZONTAL

Project : 1O1258
EUT : #3
Channel : CH9
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	35952.00	30.14	-3.79	33.93	53.41	42.72	8.39	58.82	-15.56	0.00	Average

Polarization: V



Site : 03CH20-HY
Condition : FCC_UWB_HAND 1m SHF_00991_210512 VERTICAL

Project : 1O1258
EUT : #3
Channel : CH9
AVG Type : RMS
Trace : Max Hold

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Aux Factor	Aux2 Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	dB	dB	
1	35952.00	30.16	-3.77	33.93	53.43	42.72	8.39	58.82	-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)

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	MY60240520	10Hz~44GHz	Dec. 02, 2020	Nov. 03, 2021 ~ Nov. 30, 2021	Dec. 01, 2021	Radiation (03CH20-HY)
EMI Test Receicver	Keysight	N9010B	MY60241055	10Hz~44GHz	Jul. 12, 2021	Dec. 01, 2021 ~ Dec. 15, 2021	Jul. 11, 2022	Radiation (03CH20-HY)
Preamplifier	COM-POWER	PAM-103	18020201	1MHz-1000MHz	Jan. 04 , 2021	Nov. 03, 2021 ~ Dec. 15, 2021	Jan. 03 , 2022	Radiation (03CH20-HY)
Amplifier	EMCI	EMC118A45SE	980792	N/A	Nov. 16 , 2020	Nov. 03, 2021 ~ Nov. 14 , 2021	Nov. 15 , 2021	Radiation (03CH20-HY)
Amplifier	EMCI	EMC118A45SE	980792	N/A	Nov. 15 , 2021	Nov. 15 , 2021 ~ Dec. 15, 2021	Nov. 14 , 2022	Radiation (03CH20-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	Jun. 22 , 2021	Nov. 03, 2021 ~ Dec. 15, 2021	Jun. 21 , 2022	Radiation (03CH20-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Jan. 04 , 2021	Nov. 03, 2021 ~ Dec. 15, 2021	Jan. 03 , 2022	Radiation (03CH20-HY)
Bilog Antenna	TESEQ	CBL 6111D&00802 N1D01N-06	55606 & 08	30MHz~1GHz	Oct. 17 , 2021	Nov. 03, 2021 ~ Dec. 15, 2021	Oct. 16 , 2022	Radiation (03CH20-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02294	1GHz~18GHz	Jun. 23, 2021	Nov. 03, 2021 ~ Dec. 15, 2021	Jun. 22, 2022	Radiation (03CH20-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA9170	00991	18GHz-40GHz	May. 12 , 2021	Nov. 03, 2021 ~ Dec. 15, 2021	May. 11 , 2022	Radiation (03CH20-HY)
Hygrometer	TECPEL	DTM-303B	TP200728	N/A	Mar. 09 , 2021	Nov. 03, 2021 ~ Dec. 15, 2021	Mar. 08 , 2022	Radiation (03CH20-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	519229/2,804015/2,804027/2	N/A	Jan. 20 , 2021	Nov. 03, 2021 ~ Dec. 15, 2021	Jan. 19 , 2022	Radiation (03CH20-HY)
Software	Audix	E3 6.2009-8-24	RK-002156	N/A	N/A	Nov. 03, 2021 ~ Dec. 15, 2021	N/A	Radiation (03CH20-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Nov. 03, 2021 ~ Dec. 15, 2021	N/A	Radiation (03CH20-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Nov. 03, 2021 ~ Dec. 15, 2021	N/A	Radiation (03CH20-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Nov. 03, 2021 ~ Dec. 15, 2021	N/A	Radiation (03CH20-HY)