

TEST REPORT

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Test Report Number: SKT-EFC-200015

Date of issue: July 28, 2020

Applicant:

Intellian Technologies, Inc.

18-7, Jinwisandan-ro, Jinwi-myeon (Chungho-ri), Pyeongtaek-si, Gyeonggi-do
17709 Korea

Manufacturer:

Intellian Technologies, Inc.

18-7, Jinwisandan-ro, Jinwi-myeon (Chungho-ri), Pyeongtaek-si, Gyeonggi-do
17709 Korea

Product:

Intellian C700

Model:

C1-70-A00S

(please see P5 for all the model numbers)

Project number:

SKTEU20-0531

EUT received:

May 20, 2020

Applied standards:

ANSI C63.4-2014

Rule parts:

FCC Part 15 Subpart B - Unintentional radiators
ICES-003, Issue 6, April 2019

Equipment Class:

Class B digital devices

Remarks to the standards: None

The above equipment has been tested by SK Tech Co., Ltd., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product or system, which was tested.



Daejung Jeong / **Testing Engineer**



Sangkeun Lee / **Technical Manager**

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Revision History of Test Report

Rev.	Revisions	Effect page	Approved by	Date
-	Initial issue	All	Sangkeun Lee	Jul. 28, 2020



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1 Summary of test results

The following reference standards (identified by date of publication and/or edition number or version number) applied, unless otherwise specified in this test report.

☒ **class B equipment**

Requirement	Rule section	Result
AC Power line conducted emission	FCC Part 15, Subpart B, Section 15.107(a) ICES-003, Section 6.1, Table 2	N/A
Radiated emissions below 1 GHz	FCC Part 15, Subpart B, Section 15.109(a) ICES-003, Section 6.2.1, Table 5	Meets the requirements
Radiated emissions above 1 GHz	FCC Part 15, Subpart B, Section 15.109(a) ICES-003, Section 6.2.2, Table 7	Meets the requirements

Note: The EUT is operated from DC 10.8 V to DC 30 V, and therefore the test suites related to AC Mains port were not applicable.



2 Description of equipment under test (EUT)

Product:	Intellian C700
Model:	C1-70-A00S
Serial number:	None (prototype)

Model differences:

Model name	Difference	Tested (checked)
C1-70-A00S	fully tested model that was provided by the applicant	☒
C1-70-A00R	Listed without the tests by the applicant's request. The model is the same as the tested model except the Rack mounting installation type.	

Note: All the differences were compared with the test sample.

Technical data:

Rated voltage	DC 10.8 V to DC 30 V
Rated frequency	-
Voltage during the Test	DC 24 V
Frequency during the Test	-
AC power input cord type	-

Note: According applicant request, all the tests were performed while the test sample was only powered DC 24 V from DC power supply that was prepared by the applicant.

Configuration of ports:

I/O port	Type	Q'ty	Remark
POWER	4-Pin Mini Power Connector	1	
Antenna Connector	TNC	1	
Wi-Fi Antenna Connector	SMA	1	
POE #1	RJ45	1	
POE #2	RJ45	1	
LAN	RJ45	1	
Phone	RJ14	1	
WAN	RJ45	1	not operate by applicant request
GPIO	16-Pin terminal block	1	not operate by applicant request
GND	block	1	not used

Internal Clock Frequency	Satellite: L-Band (Rx: 1616 MHz to 1626.5 MHz, Tx: 1616 MHz to 1626 MHz) GNSS: 1559 MHz to 1610 MHz WLAN: 2400 MHz to 2483.5 MHz (802.11 b/g)
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Modification of EUT during the compliance testing: none



The following information had been supplied by the applicant.

Power	
BDU (Below Deck Unit)	DC 10.8 V to 30 V
ADU (Above Deck Unit)	DC 48 V
Wireless function	
Satellite communication	L-Band (1616 MHz to 1626.5 MHz)
WLAN	2.4 GHz (802.11 b/g)
GNSS	GPS, GLONASS
Wired function	
POE #1, POE #2, LAN, WAN	RJ45, Shielded, 100 Mbps
Phone	RJ14, Unshielded
GPIO	16-Pin terminal block



3 Test and measurement conditions

3.1. Operating modes

Operating modes of the sample:

No.	Description
1	Normal operating mode: (a) establish a call and connection through communication (b) Data transmission via radio communication

Operating modes used for the Test:

No.	Operating mode
1	Normal operating mode: the EUT was operated under the conditions provided by the applicant. (a) The IP Phone communication links with the Corded Phone was established, and then have an active connection through a communication link. (b) The LAN communication links with the Notebook #1 was established, and then the ping tests was performed while the network traffic was exceeding 10 % with Traffic Generator. The conducted emissions measurements at the LAN communication port was performed with the shielded cable provided by the manufacturer. (c) The Wireless LAN radio communication (2.4 GHz) links with the Notebook #2 was established, and then the ping tests was performed by the Notebook #2. (d) The EUT transmits a satellite signal at the rated RF output Peak Envelope Power (PEP), and then check the frequency and output level of the transmitted signal with a spectrum analyzer. (e) The EUT receive the input signal from GPS antenna, and then checked the received coordinate in the Web UI of the EUT. ※ During the radiated emission test, the WLAN Radio communication link was only enabled.

3.2. Description of support units (accessory equipment)

The following support units or accessories were used to form a representative test configuration during the tests.

No.	Equipment	Model No.	Serial No.	Manufacturer
1	DC Power Supply	E3634A	MY57366255	KEYSIGHT
2	Corded Phone	AS7101	AS7101 R32B S160063714	Uniden
3	IP Phone	SPA504G	CCQ22220HHG	CISCO
4	Notebook #1	HSTNN-I66C-4	N/A	HP
5	Notebook #2	HSN-I05C-4	N/A	HP
6	Spectrum Analyzer	E7405A	US40240203	Agilent
7	Bar Antenna	N/A	N/A	N/A
8	Doom Antenna	N/A	N/A	N/A
9	Horn Antenna	3115	00040723	ETS-LINDGREN
10	Amplifier	MLA-0118-K01-40	14879	TSJ
11	AC Adapter #1 (Notebook #1)	PPP019L-S	N/A	LITE-ON TECHNOLOGY(CHANGZHOU) CO., LTD.
12	AC Adapter #2 (Notebook #2)	PPP009D	N/A	DELTA ELECTRONICS(JINGSU) LTD.



3.3. Interconnection and I/O cables

The following support units or accessories were used to form a representative test configuration during the tests.

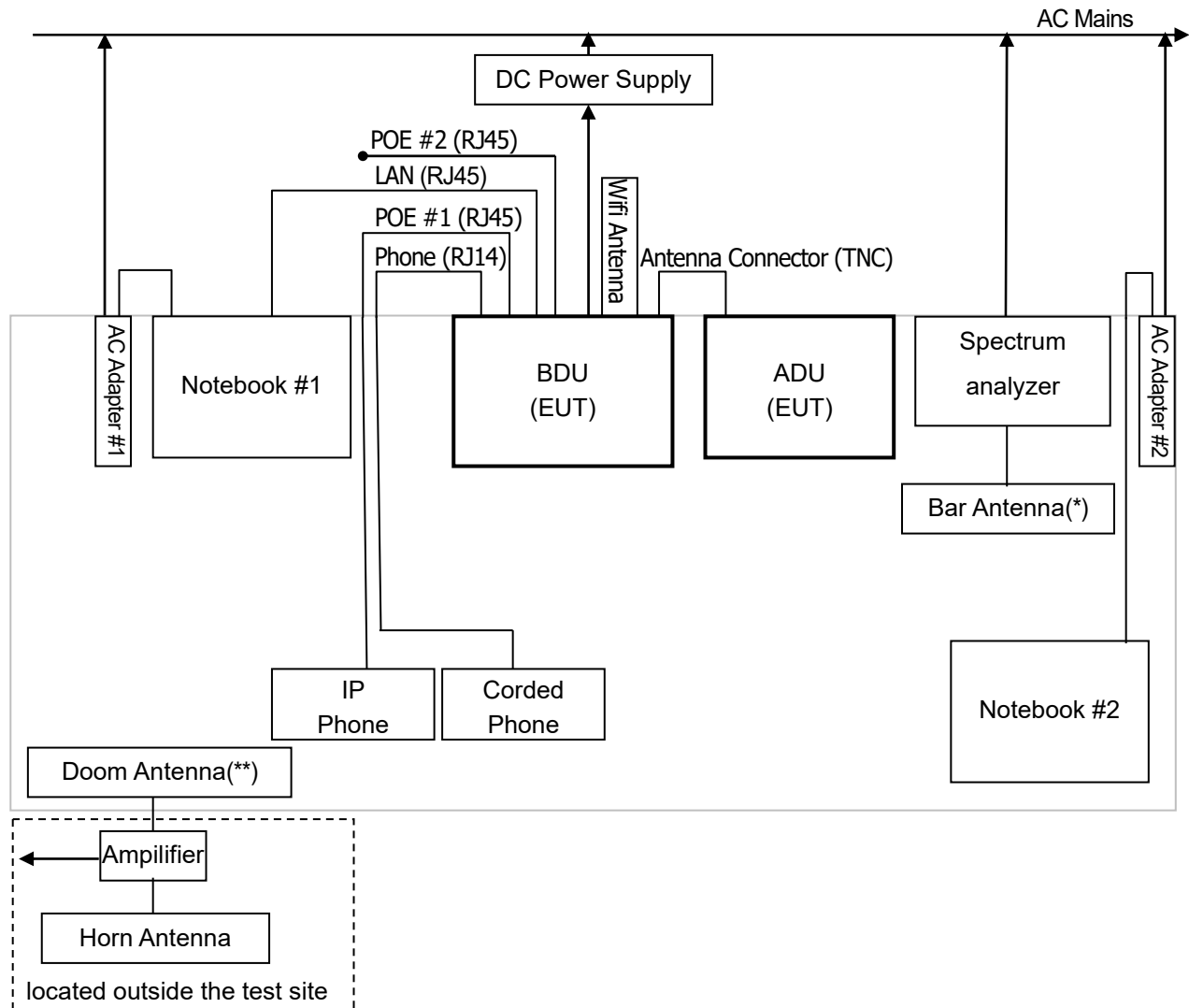
#	Start		End		Cable	
	Name	I/O port	Name	I/O port	length (m)	shielded (Y/N)
1	BDU (EUT)	POWER (4-Pin Mini Power Connector)	DC Power Supply	DC Output	1.0	N
2	BDU (EUT)	Wi-Fi Connector (SMA)	Wi-Fi Antenna	SMA	-	N
3	BDU (EUT)	Antenna Connector (TNC)	ADU (EUT)	Cable Connector (TNC)	25.0	Y
4	BDU (EUT)	Phone (RJ14)	Corded Phone	Tel	4.2	N
5	BDU (EUT)	LAN (RJ45)	Notebook #1	LAN	2.0	Y
6	BDU (EUT)	POE #1 (RJ45)	IP Phone	SW	3.0	Y
7	BDU (EUT)	POE #2 (RJ45)	Opened	-	0.95	Y
8	Notebook #1	DC Input	AC Adapter #1	DC Output	1.2	N
9	Notebook #2	DC Input	AC Adapter #2	DC Output	1.2	N
10	Spectrum Analyzer	AC Input	AC Mains	AC Mains	1.0	N
11	Spectrum Analyzer	Input 50Ω	Bar Antenna	-	3.0	Y
12	Amplifier	AC Input	AC Mains	AC Mains	1.0	N
13	Amplifier	RF OUT	Doom Antenna	-	15.0	Y
14	Amplifier	RF IN	Horn Antenna	-	2.0	Y
15	DC Power Supply	AC Input	AC Mains	AC Mains	1.0	N
16	AC Adapter #1	AC Input	AC Mains	AC Mains	1.0	N
17	AC Adapter #2	AC Input	AC Mains	AC Mains	1.0	N

Note: 1) All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2) The WAN port and GPIO ports have not connected by the manufacturer's requirements and conditions for the intended use.



3.4. Test configuration (arrangement of EUT)

The drawing of the test configuration was shown below, and the photographs of the test setup were attached.



(*) for checking whether satellite signals are transmitted

(**) for GNSS input signal

3.5. Test date and environmental conditions

Test suites	Test date (YYYY.MM.DD)	Ambient temperature (°C)	Relative humidity (%)	Atmospheric pressure (kPa)
AC power line conducted emission	N/A	-	-	-
Radiated emissions below 1 GHz	2020.06.15	21.3	49	-
Radiated emissions above 1 GHz	2020.06.16	21.0	51	-



4 Facilities and accreditations

4.1. Facilities

All of the measurements described in this report were performed at SK Tech Co., Ltd

Site I: 88, Geulgaetul-ro, 81beon-gil, Wabu-eup, Namyangju-si, Gyeonggi-do, Korea

Site II: 124-8, Geulgaetul-ro, Wabu-eup, Namyangju-si, Gyeonggi-do, Korea

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-4. The sites comply with the Normalized Site Attenuation requirements given in ANSI C63.4, and site VSWR requirements specified in CISPR 16-1-4. The measuring apparatus and ancillary equipment conform to CISPR 16-1 series.

4.2. Accreditations

Our testing laboratory is accredited by the following accreditation bodies in accordance with ISO/IEC 17025.

Korea KOLAS No. KT191

The laboratory has been also notified to FCC by RRA as a Conformity Assessment Body, and designated to perform compliance testing on equipment subject to Supplier's Declaration of Conformity (SDoC) and Certification under Parts 15 and 18 of the FCC Rules.

Designation No. KR0007

4.3. List of test and measurement instruments

Description	Model	Manufacturer	Serial No.	Cal. due	Use
Conducted emissions					
EMI test receiver	PMM9010F	Narda	020WW40105	2021-06-08	
Pulse limiter	ESH3-Z2	Rohde & Schwarz	100604	2021-06-08	
AMN (LISN)	ENV 216	Rohde & Schwarz	102047	2021-02-03	
AMN (LISN)	FCC-LISN-50-32-2-01-480V	FCC	141455	2021-06-08	
EMI test receiver	PMM9010F	Narda	020WW31008	2021-06-08	
Pulse limiter	KFL-007D	Kyoritsu	8-2126-9	2021-02-07	
AMN (LISN)	ESH3-Z5	Rohde & Schwarz	836679/018	2021-06-08	
AMN (LISN)	NNLK8129	Schwarzbeck	8129-215	2021-02-10	
Test program	PMM Emission Suite Ver: 2.31	Narda	N/A	N/A	
Radiated emissions					
EMI test receiver	ESR 26	Rohde & Schwarz	101441	2021-07-24	☒
Bilog broadband antenna	VULB9168	Schwarzbeck	9168-230	2021-07-06	☒
Attenuator (6 dB)	18N5W	API Technology	N/A	2021-07-06	☒
Bilog broadband antenna	VULB9168	Schwarzbeck	9168-189	2021-04-24	
Attenuator (6 dB)	8491A	HP	36514	2021-04-24	
Pre-amplifier (30 MHz - 1 GHz)	MLA-10K01-B01-27	TSJ	2005350	2021-06-08	☒
Horn antenna (1 GHz - 18 GHz)	3117	ETS-LINDGREN	00205960	2021-07-06	☒
Pre-amplifier (1 GHz - 18 GHz)	MLA-0118-J01-40	TSJ	14879	2021-06-09	
Pre-amplifier (1 GHz - 18 GHz)	AFS44-00101800-25-10P-44	MITEQ	1116321	2021-06-08	☒
Pre-amplifier (18 GHz - 26.5 GHz)	MLA-18265-J01-35	TSJ	8490	2021-02-07	
Band reject filter	WRCGV2400/2483	Wainwright	4	2021-02-03	☒
EMI test receiver	ESIB40	Rohde & Schwarz	100277	2021-02-25	
Horn antenna (1 GHz - 18 GHz)	BBHA 9120D	Schwarzbeck	9120D-816	2021-05-22	
Pre-amplifier (1 GHz - 18 GHz)	MLA-100M18-B02-38	TSJ	1539546	2021-02-03	
Band reject filter	WRCGV2400/2483	Wainwright	5	2021-02-03	
Test program	TEPTO-DV/RE Ver: 3.1.0044	TSJ	N/A	N/A	☒



4.4. Measurement uncertainty

The following measurement uncertainty levels have been estimated according to CISPR 16-4-2.

Measurement	Frequency	Uncertainty	U_{CISPR}
Conducted emissions	150 kHz to 30 MHz	± 2.8 dB	± 3.4 dB
Radiated emissions	30 MHz to 1000 MHz	± 5.0 dB	± 6.3 dB
	1000 MHz to 6000 MHz	± 5.0 dB	± 5.2 dB
	6000 MHz to 18000 MHz	± 5.0 dB	± 5.5 dB

This measurement uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of $k = 2$.

If the measurement value is lower or equal to the limit, the EUT is considered to pass the test.

When the measured emission is positioned within the range of the measurement uncertainty from the emission limit, compliance or non-compliance with a disturbance limit is determined in the following manner.

- 1) If U_{lab} is less than or equal to U_{CISPR}
 - compliance is deemed to occur if no measured disturbance exceeds the disturbance limit;
 - non-compliance is deemed to occur if any measured disturbance exceeds the disturbance limit.
- 2) If U_{lab} is greater than U_{CISPR}
 - compliance is deemed to occur if no measured disturbance, increased by $(U_{\text{lab}} - U_{\text{CISPR}})$, exceeds the disturbance limit;
 - non-compliance is deemed to occur if any measured disturbance, increased by $(U_{\text{lab}} - U_{\text{CISPR}})$, exceeds the disturbance limit.



5 Test and measurements

5.1. AC power line conducted emission

5.1.1. Limits for AC power line conducted emission

Classification of equipment	Frequency range (MHz)	Limits (dB μ V)	
		Quasi-peak	Average
class A equipment	0.15 to 0.5	79	66
	0.5 to 30	73	60
class B equipment	0.15 to 0.5	66 to 56 *	56 to 46 *
	0.50 to 5	56	46
	5 to 30	60	50

* Decreases with the logarithm of the frequency

5.1.2. Test procedure

- The EUT and supporting equipment including all I/O cables were set up as per the test configuration to simulate typical usage. If the EUT is a table top system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane. If the EUT is a floor standing equipment, it is placed on the ground plane, which has about 10 mm non-conductive covering to insulate the EUT from the ground plane.
- Each current-carrying conductor of the EUT power cord(s), except the ground (safety) conductor(s) was individually connected through a 50 Ω /50 μ H line impedance stabilization network (LISN) to the input power mains. Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.
- Exploratory measurements were made to identify the frequency of the emission that had the highest amplitude relative to the limit by operating the EUT in a range of typical modes of operation, cable position, and with a typical system equipment configuration and arrangement. Based on the exploratory tests of the EUT, the one EUT cable configuration and arrangement and mode of operation that had produced the emission with the highest amplitude relative to the limit was selected for the final measurement.
- The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment in the system) was then performed over the frequency range of 0.15 MHz to 30 MHz.
- The measurements were made with the detector set to peak mode, quasi-peak mode and average mode within a bandwidth of 9 kHz.



5.1.3 Test results

Test set-up: Refer to the test configuration and photographs of the test setup.
Test specification: frequency range: 150 kHz to 30 MHz
frequency step size: less than 50 % of the IF bandwidth
IF bandwidth: 9 kHz
Classification of equipment: Class ☐ A ☐ B

Operating mode:
Test results: **N/A**

(The chart below shows the highest readings taken from the final data.)

Frequency (MHz)	Line (L/N)	CF (dB)	CL (dB)	Actual (dB μ V)		Limit (dB μ V)		Margin (dB)	
				QP	AV	QP	AV	QP	AV

- Note:**
- 1) L/N: Line / Neutral
 - 2) CF and CL: Correction factor (LISN) and cable loss including the insertion loss of Pulse Limiter
 - 3) Actual = Final measured values after containing CF and CL
 - 4) Margin = Limit - Actual



5.2. Radiated emission

5.2.1. Limits for radiated emission

Limits for radiated emissions below 1 GHz

Equipment class	Frequency range (MHz)	Quasi-peak limits (dB μ V/m)	Measurement distance (m)
class A equipment	30 to 88	39.1	10
	88 to 216	43.5	
	216 to 960	46.4	
	960 to 1000	49.5	
class B equipment	30 to 88	40.0	3
	88 to 216	43.5	
	216 to 960	46.0	
	960 to 1000	54.0	

Limits for radiated emissions above 1 GHz

Equipment class	Frequency range (MHz)	Peak limits (dB μ V/m)	Average limits (dB μ V/m)	Measurement distance (m)
class A equipment	> 1000	69.5	49.5	10
class B equipment	> 1000	74	54	3

5.2.2. Test procedure

- The EUT and supporting equipment including all I/O cables were set up as per the test configuration to simulate typical usage. If the EUT was a table top system, the EUT was placed on the top of the 0.8-meter height with non-metallic table. If the EUT was a floor standing equipment, the EUT was placed on the top of 10 mm height above the ground plane
- The preliminary radiated measurements were performed to determine the frequency producing the maximum emissions in an anechoic chamber.
- For the final measurements, each frequency found during preliminary measurements was re-examined and investigated. The EMI test receiver was set up to average, peak and quasi-peak detector with specified bandwidth. It was attempted to maximize the emission, by varying the configuration of the EUT and the cables routing.
- Radiated emission measurements for the frequency up to 1 GHz at SAC with ground plane
 - Bilog broadband antenna was placed at 10-m distance (or 3-m distance if applicable) from the EUT.
 - The EUT was rotated about 360° and the receiving antenna was scanned from 1 m up to 4 m in order to capture the maximum emission.
 - The measurements were conducted with both horizontal and vertical antenna polarization.
- Radiated emission measurements for the frequency above 1 GHz at absorber-lined SAC
 - Horn antenna was placed at a distance of 3 meters from the EUT.
 - The EUT was rotated about 360° and the receiving antenna was scanned from 1 m up to 4 m in order to capture the maximum emission.
 - The measurements were conducted with both horizontal and vertical antenna polarization.



5.2.3 Test results (radiated emission below 1 GHz)

Test set-up:	Refer to the test configuration and photographs of the test setup.		
Test specification:	Test site:	SAC	
	Antenna distance:	☐ 10 m	☒ 3 m
	Rx antenna height:	1 m to 4 m	
	frequency range:	30 MHz to 1 GHz	
	IF bandwidth:	120 kHz	
Classification of equipment:	Class	☐ A	☒ B
Operating mode:	#1		
Test results:	PASS		

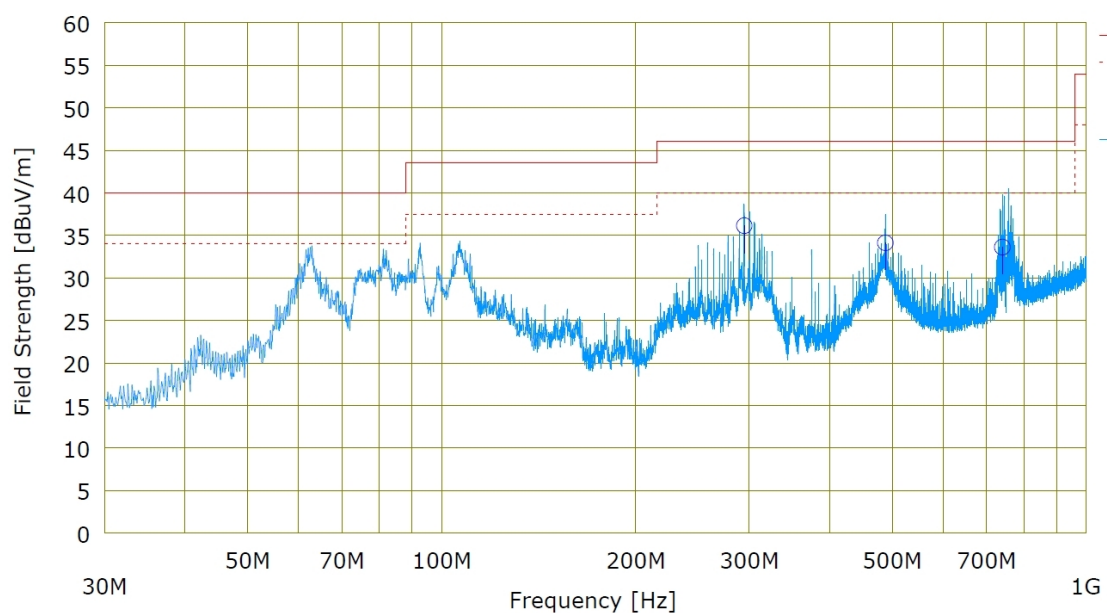
(The chart below shows the highest readings taken from the final data. The other emission levels were very low against the limit.)

Frequency (MHz)	Pol. (V/H)	Height (m)	Reading (dBμV)	AMP (dB)	AF (dB/m)	CL (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
			QP				QP	QP	QP
62.297	V	1.00	48.5	30.5	18.7	1.1	37.8	40.0	2.2
86.924	V	1.36	48.5	30.3	14.0	1.3	33.5	40.0	6.5
106.733	V	1.01	48.9	30.2	15.4	1.4	35.5	43.5	8.0
247.567	V	1.12	47.7	29.9	17.6	2.1	37.5	46.0	8.5
253.121	V	1.01	48.1	29.9	17.8	2.2	38.2	46.0	7.8
289.295	V	1.01	44.4	30.0	19.0	2.3	35.7	46.0	10.3
294.823	H	1.23	44.6	30.0	19.2	2.3	36.1	46.0	9.9
488.152	H	1.00	38.1	30.4	23.4	3.0	34.1	46.0	11.9
741.671	H	3.44	34.1	31.6	27.4	3.7	33.6	46.0	12.4
758.327	V	1.00	34.8	31.6	27.6	3.7	34.5	46.0	11.5

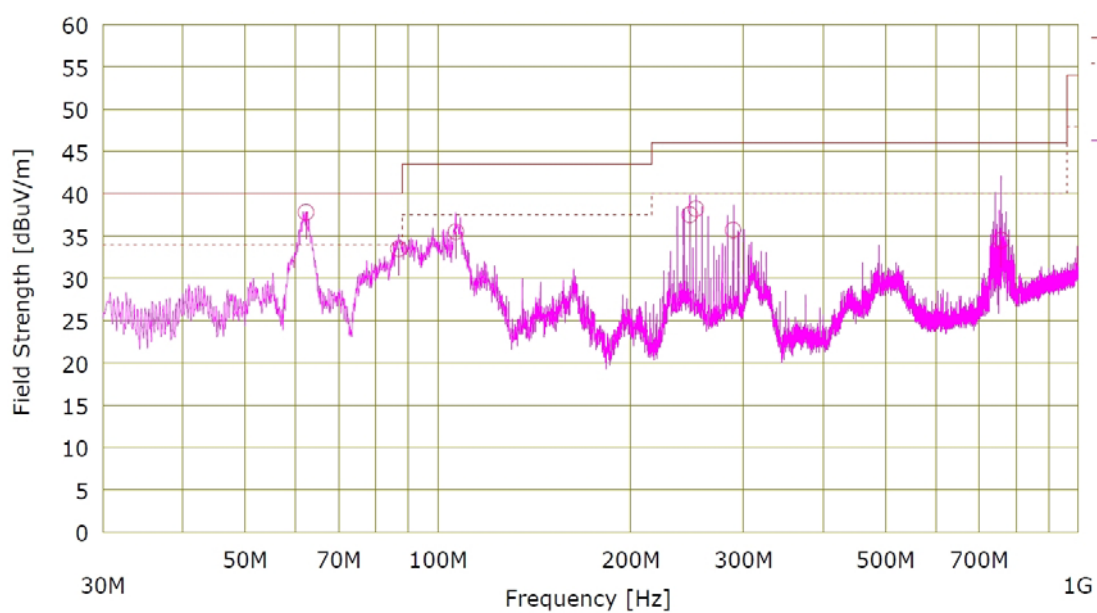
- Note:**
- 1) V/H: Vertical / Horizontal polarization
 - 2) AMP, AF and CL: pre-amplifier gain, antenna factor including 6 dB attenuator and cable loss
 - 3) Actual = Reading - AMP + AF + CL
 - 4) Margin = Limit - Actual



Horizontal



Vertical





5.2.4. Test results (radiated emission in the range 1 GHz to 6 GHz)

Test set-up:	Refer to the test configuration and photographs of the test setup.		
Test specification:	Test site:	absorber-lined SAC	
	Antenna distance:	3 m	
	Rx antenna height:	1 m to 4 m	
	frequency range:	1 GHz to 6 GHz (or 5th harmonic of the highest internal frequency, whichever is higher)	
	IF bandwidth:	1 MHz	
Classification of equipment:	Class	☐ A	☒ B
	When the EUT is Class A equipment, the limits were extrapolated to the 3 meter distance using an extrapolated factor of 20 dB/decade according to FCC Part 15, section 15.31(f)(1) / ICES-003, Issue 6, Section 6.2		
Operating mode:	#1		
Test results:	PASS		

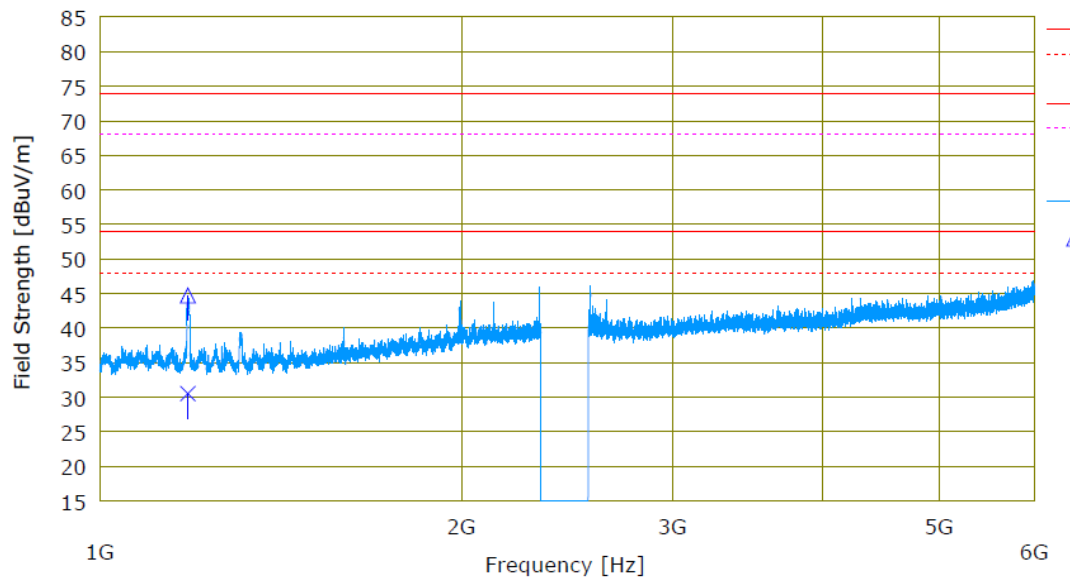
(The chart below shows the highest readings taken from the final data. The other emission levels were very low against the limit.)

Freq. (MHz)	Pol. (V/H)	Height (m)	Reading (dBμV)		Cd (dB)	AMP (dB)	AF (dB/m)	CL (dB)	Actual (dBμV/m)		Limit (dBμV/m)		Margin (dB)	
			PK	AV					PK	AV	PK	AV	PK	AV
1183.618	H	1.00	53.1	38.9	1.9	43.0	27.5	5.2	44.7	30.5	74.0	54.0	29.3	23.5
1997.654	V	1.00	47.7	30.4	1.9	43.5	30.9	6.7	43.7	26.4	74.0	54.0	30.3	27.6
2125.187	V	1.00	49.4	31.1	1.9	43.6	31.1	7.0	45.8	27.5	74.0	54.0	28.2	26.5
2318.731	V	1.00	44.9	30.7	1.9	43.8	31.3	7.5	41.8	27.6	74.0	54.0	32.2	26.4
2575.799	V	1.00	45.3	30.5	1.9	44.0	31.7	7.9	42.8	28.0	74.0	54.0	31.2	26.0

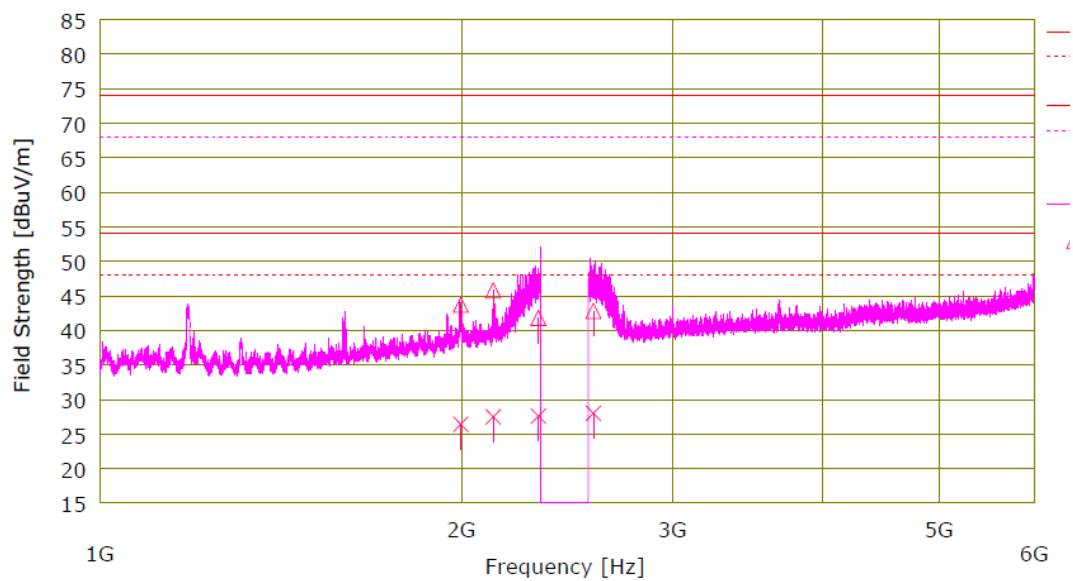
- Note:**
- 1) V/H: Vertical / Horizontal polarization
 - 2) PK/AV: Peak / Average values
 - 3) Cd: correction for the measurement distance ($20 \times \log(d/3)$), d: measurement distance ($d = 3.75$ m)
 - 4) AMP, AF and CL: pre-amplifier gain, antenna factor and cable loss
 - 5) Actual = Reading + Cd - AMP + AF + CL
 - 6) Margin = Limit - Actual



Horizontal



Vertical





5.2.5. Test results (radiated emission in the range 6 GHz to 13 GHz)

Test set-up:	Refer to the test configuration and photographs of the test setup.
	Test site: absorber-lined SAC
	Antenna distance: 3 m
	Rx antenna height: 1 m to 4 m
	frequency range: 6 GHz to 13 GHz
	IF bandwidth: 1 MHz
LIMIT	Class ☐ A ☒ B
	When the EUT is Class A equipment, the limits were extrapolated to the 3 meter distance using an extrapolated factor of 20 dB/decade according to FCC Part 15, section 15.31(d)(1) / ICES-003, Issue 6, Section 6.2

Operating mode:	#1
Test results:	PASS

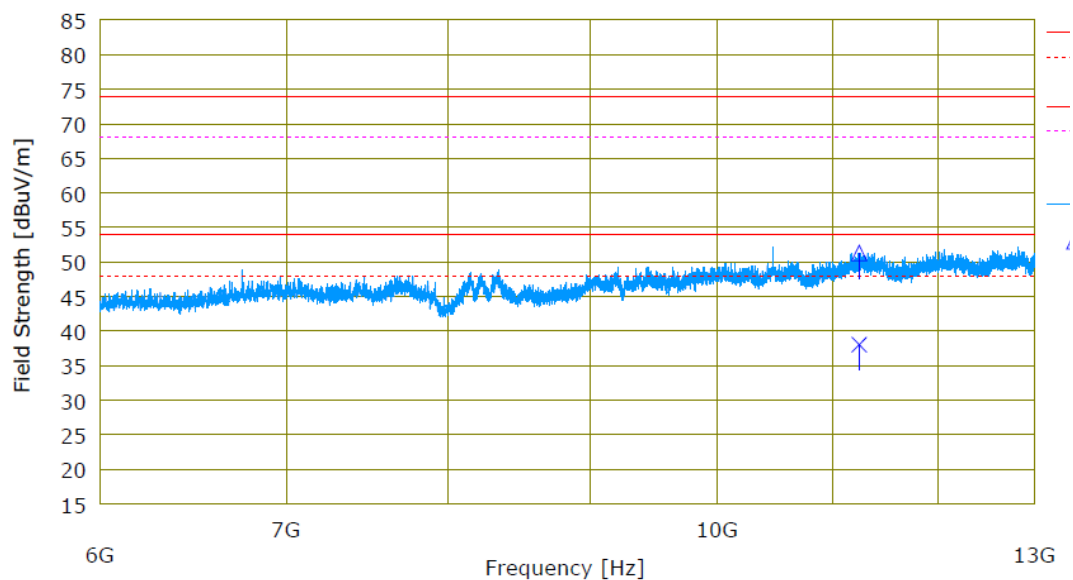
(The chart below shows the highest readings taken from the final data. The other emission levels were very low against the limit.)

Freq. (MHz)	Pol. (V/H)	Height (m)	Reading (dBμV)		Cd (dB)	AMP (dB)	AF (dB/m)	CL (dB)	Actual (dBμV/m)		Limit (dBμV/m)		Margin (dB)	
			PK	AV					PK	AV	PK	AV	PK	AV
8218.938	V	1.00	39.3	26.3	1.9	43.0	35.9	14.2	48.3	35.3	74.0	54.0	25.7	18.7
11245.400	H	1.00	36.6	23.3	1.9	42.1	38.0	16.9	51.3	38.0	74.0	54.0	22.7	16.0

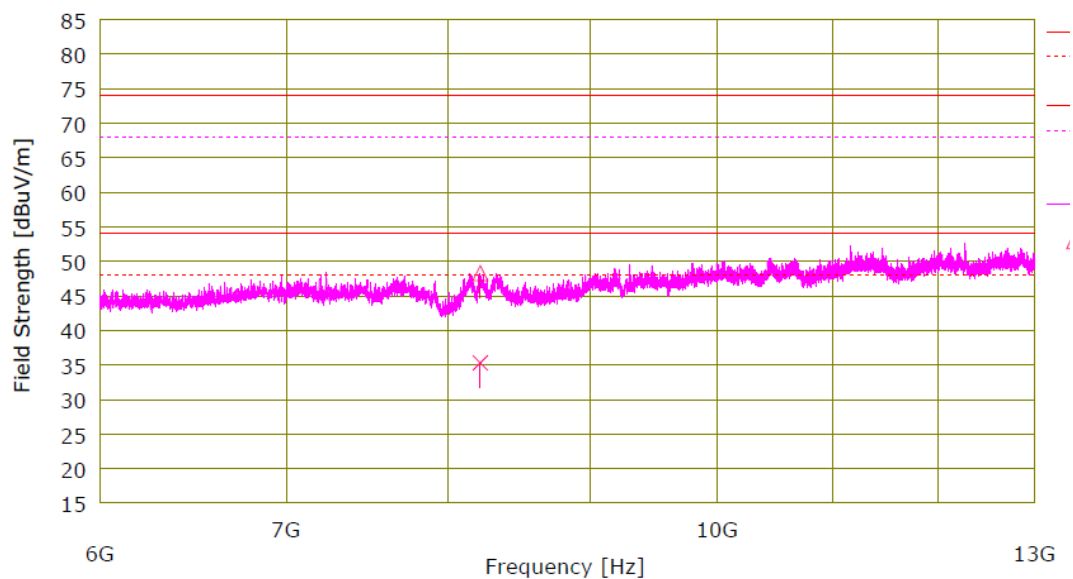
- Note:**
- 1) V/H: Vertical / Horizontal polarization
 - 2) PK/AV: Peak / Average values
 - 3) Cd: correction for the measurement distance ($20 \times \log(d/3)$), d: measurement distance ($d = 3.5$ m)
 - 4) AMP, AF and CL: pre-amplifier gain, antenna factor and cable loss
 - 5) Actual = Reading + Cd - AMP + AF + CL
 - 6) Margin = Limit - Actual



Horizontal

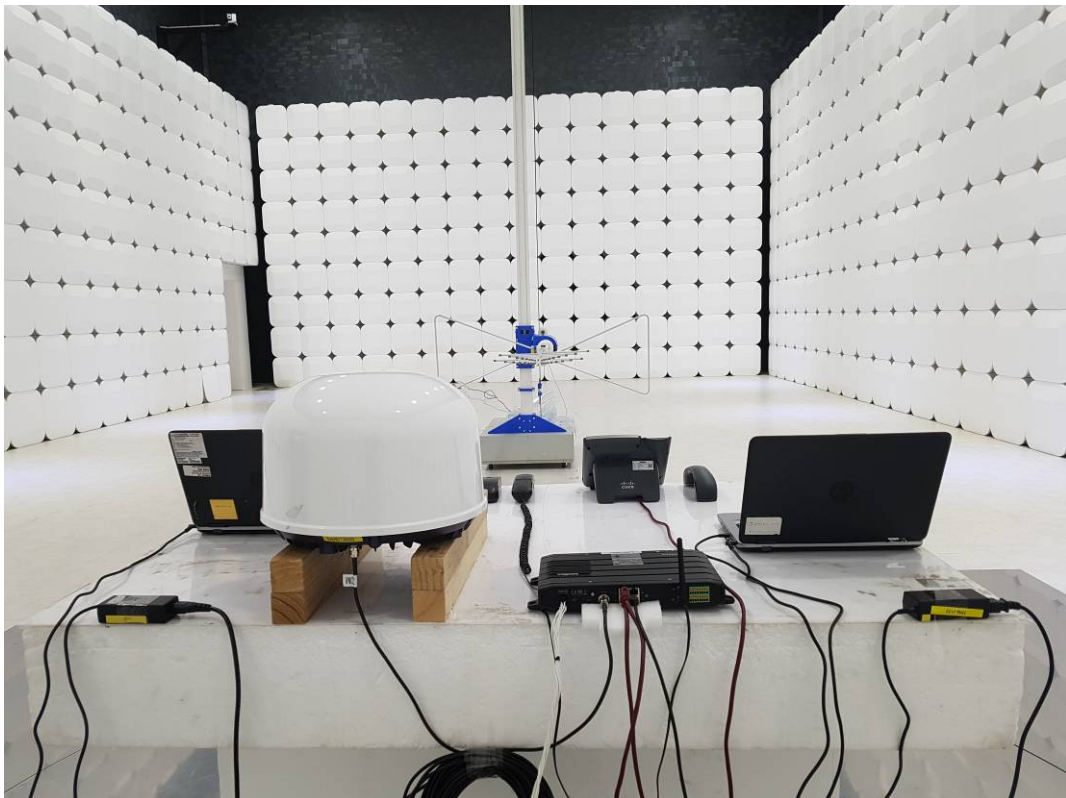
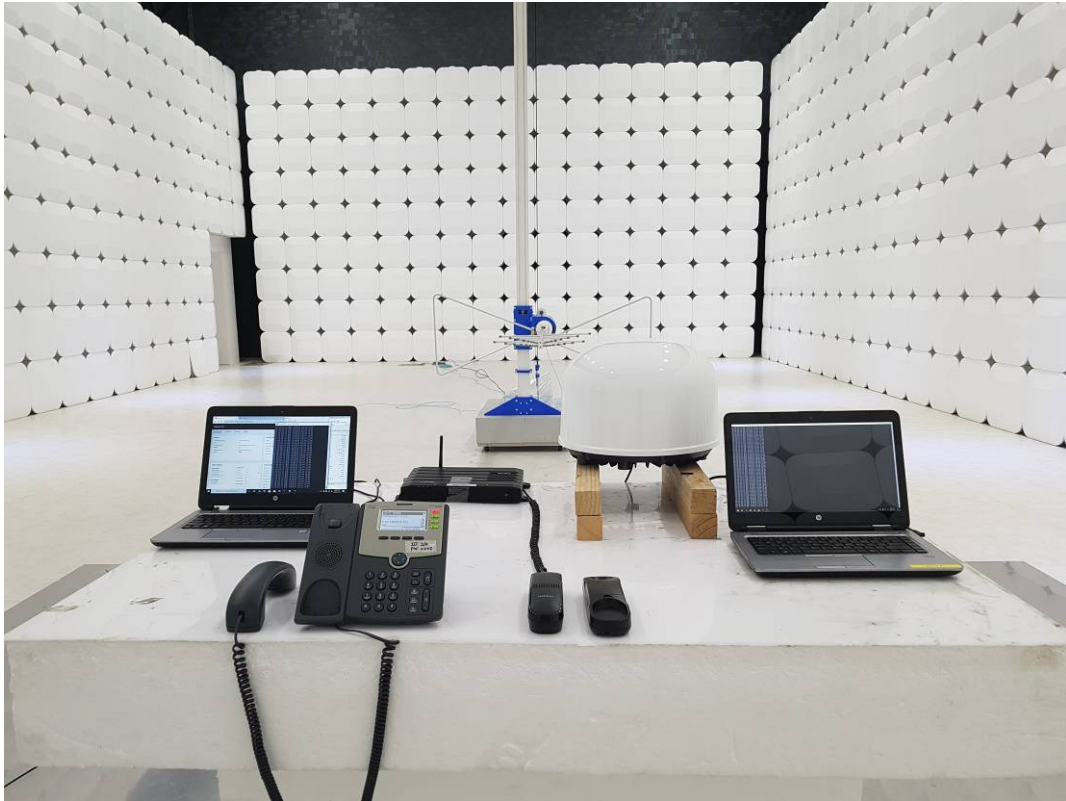


Vertical

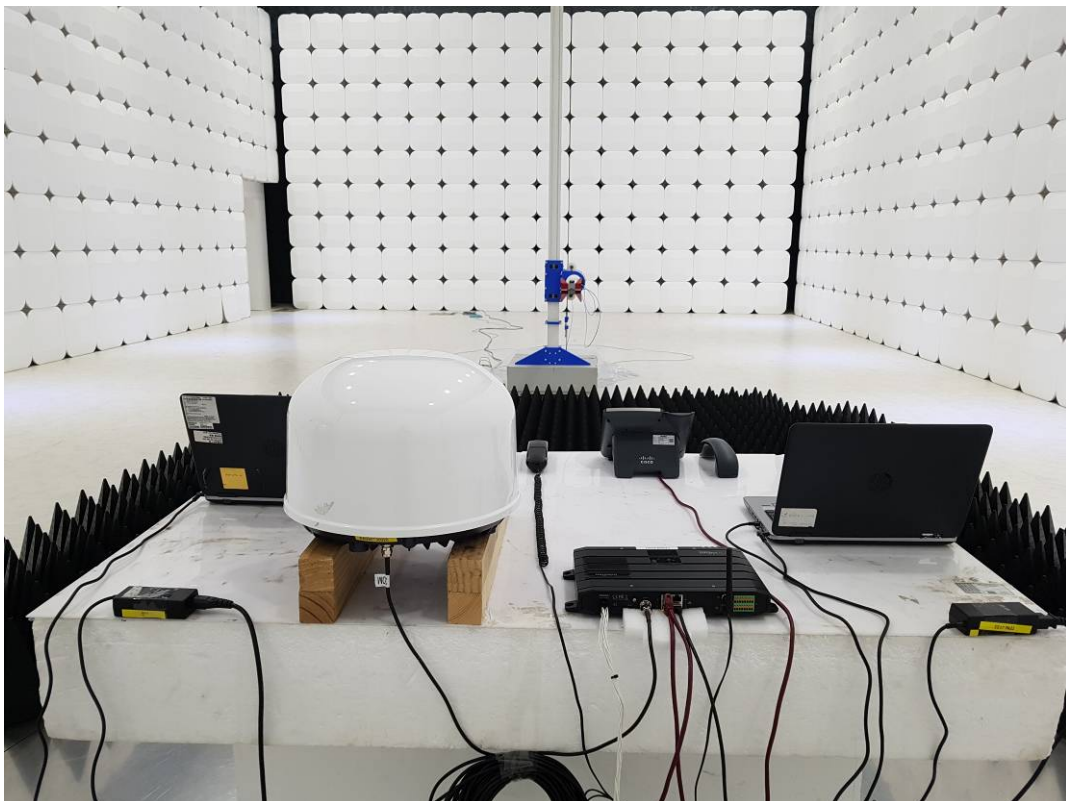
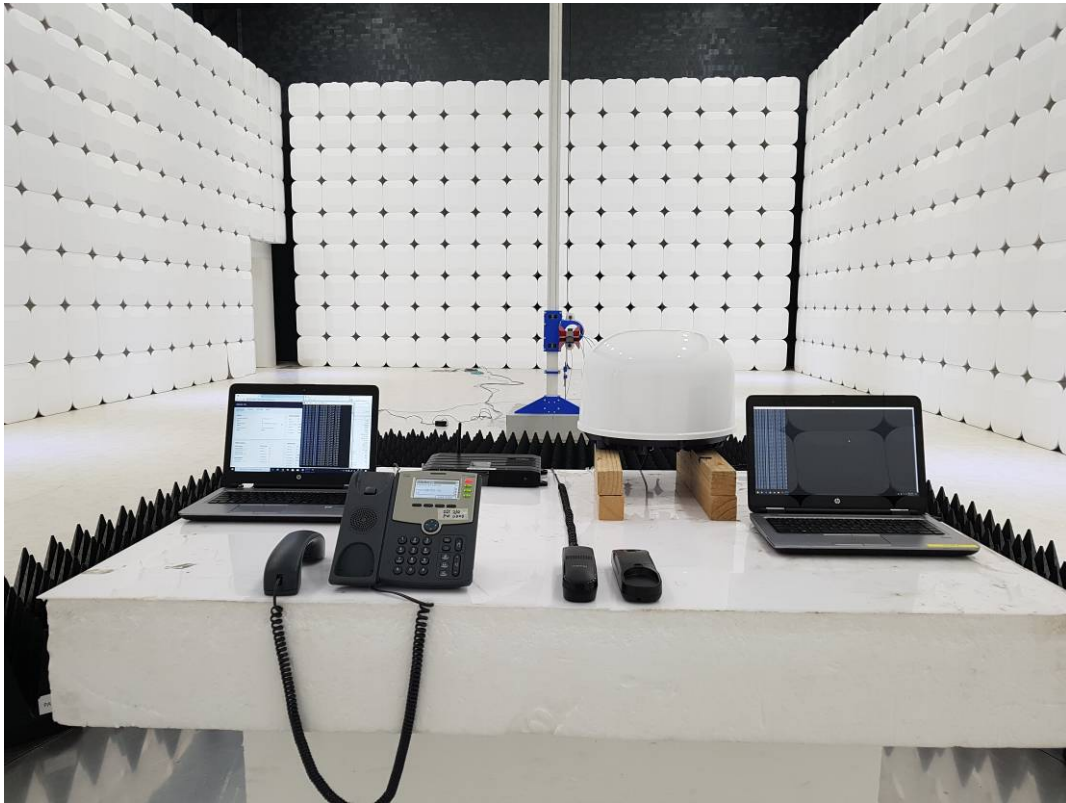


6 Photographs of the test set-up

Radiated emission test below 1 GHz



Radiated emission test above 1 GHz





7 Photographs of EUT

(ADU) External view



(ADU) Cover opened





(BDU) External view



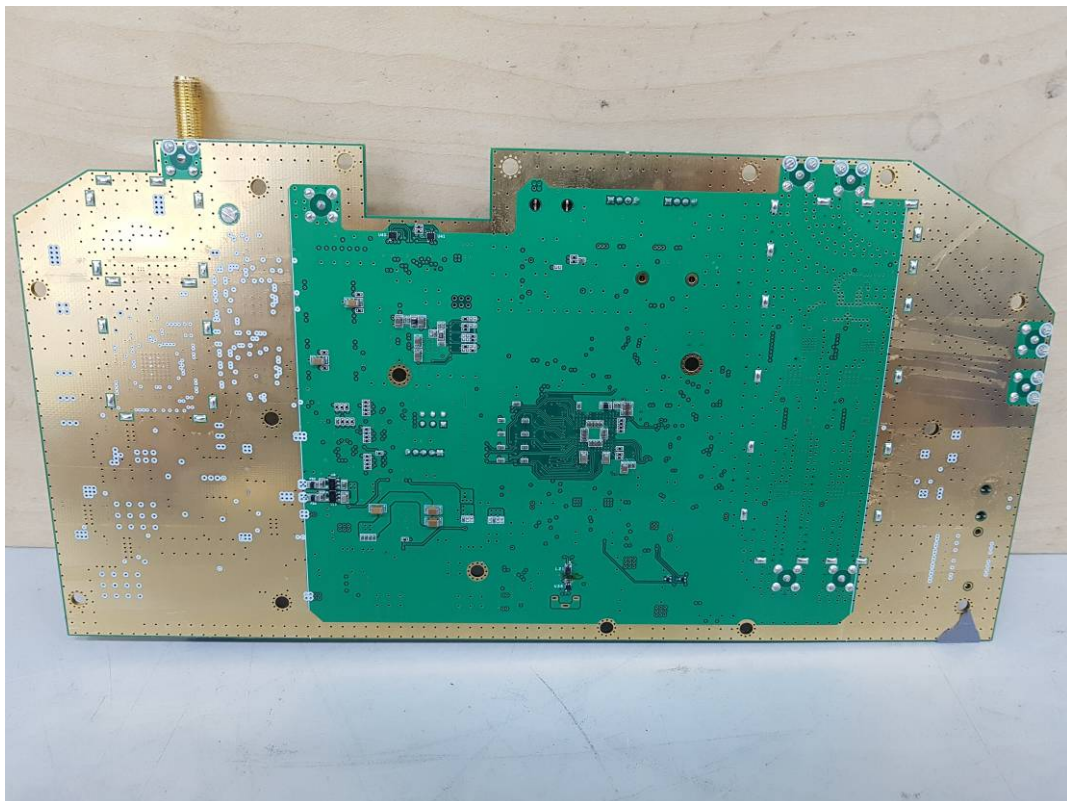
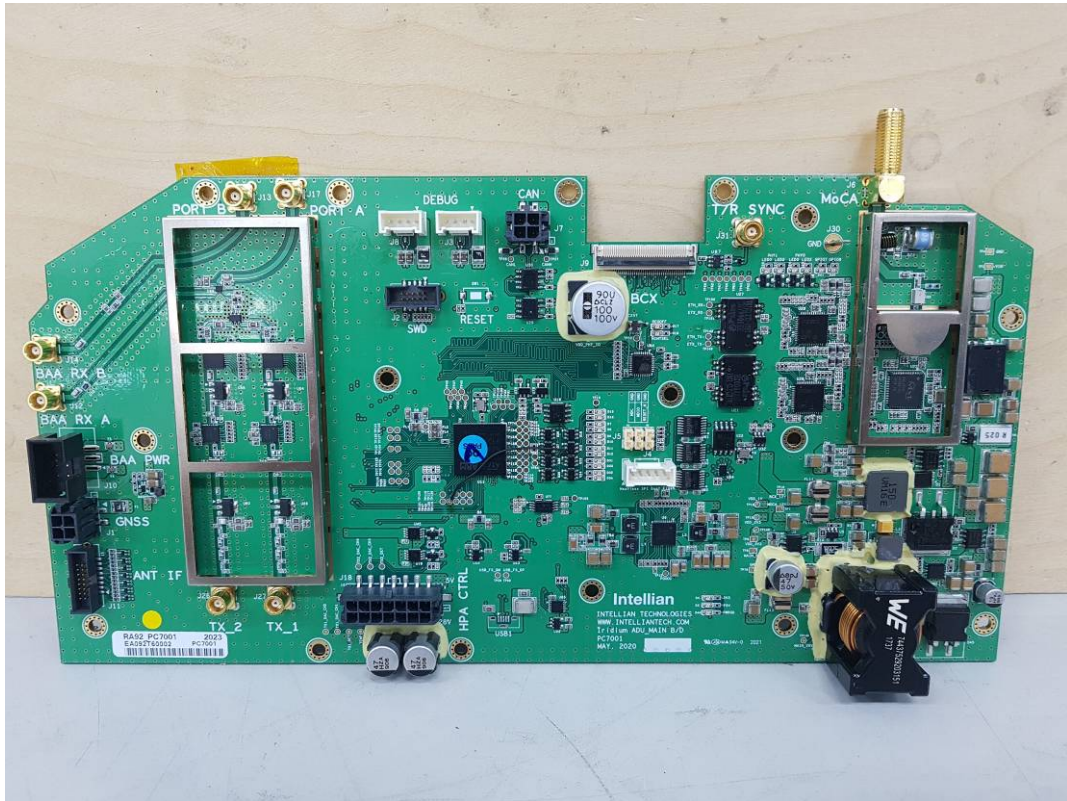


(BDU) Cover opened



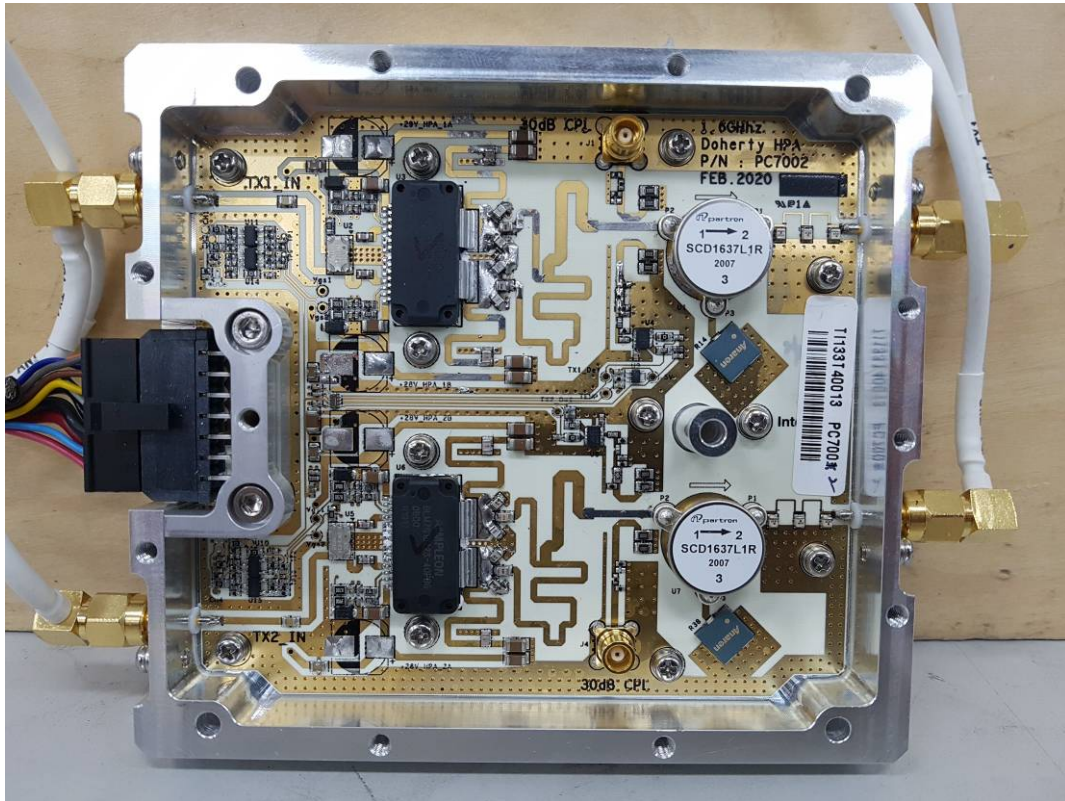


(ADU) Main board



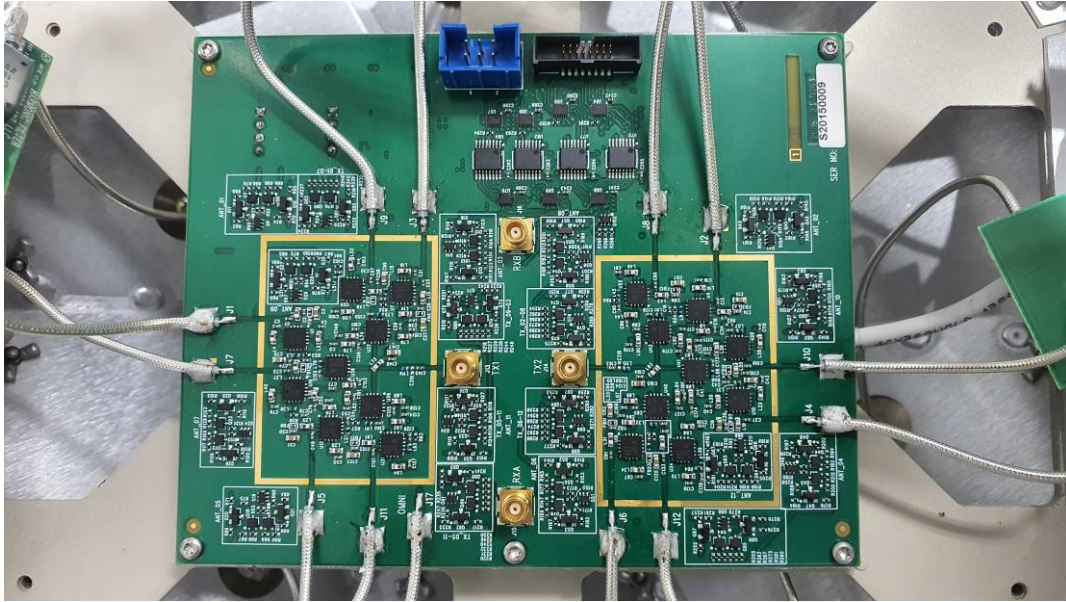


(ADU) HPA board



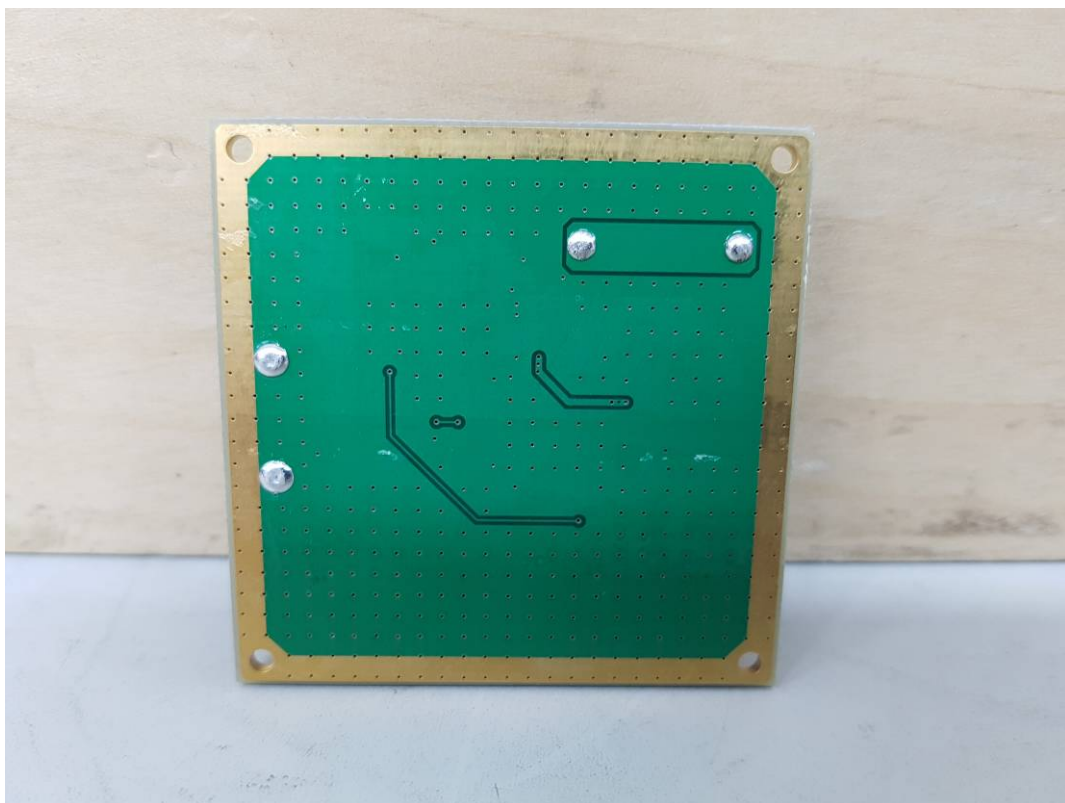


(ADU) Antenna board



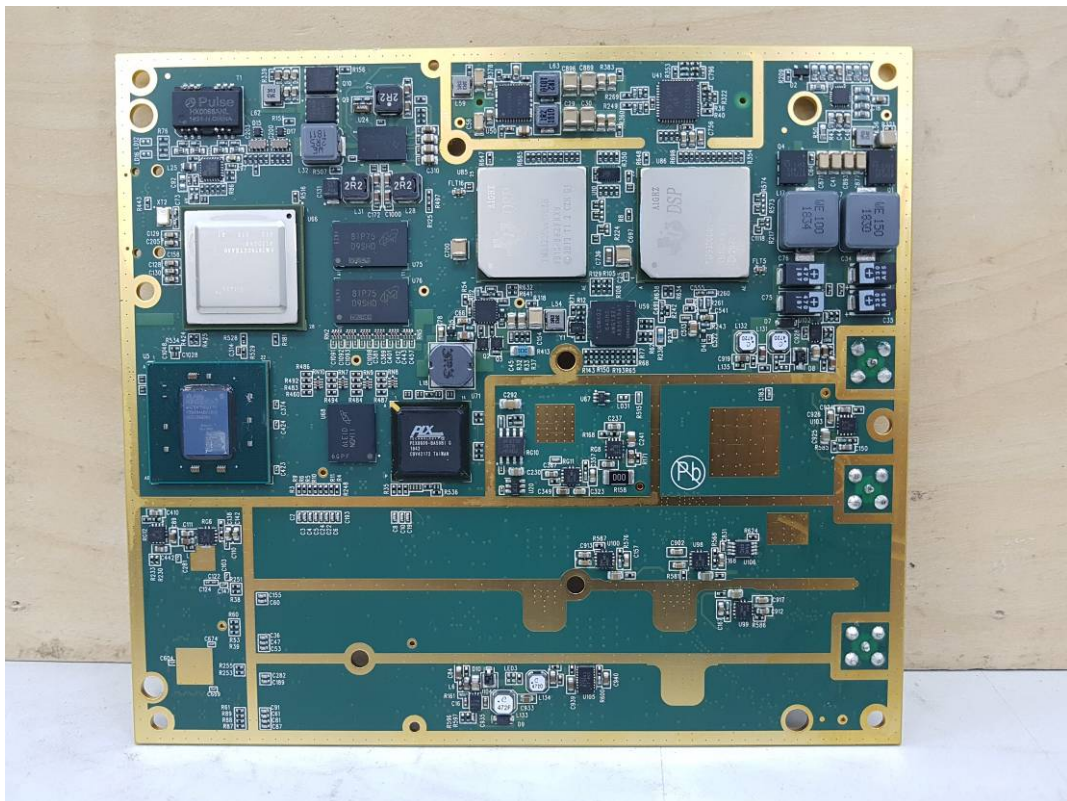
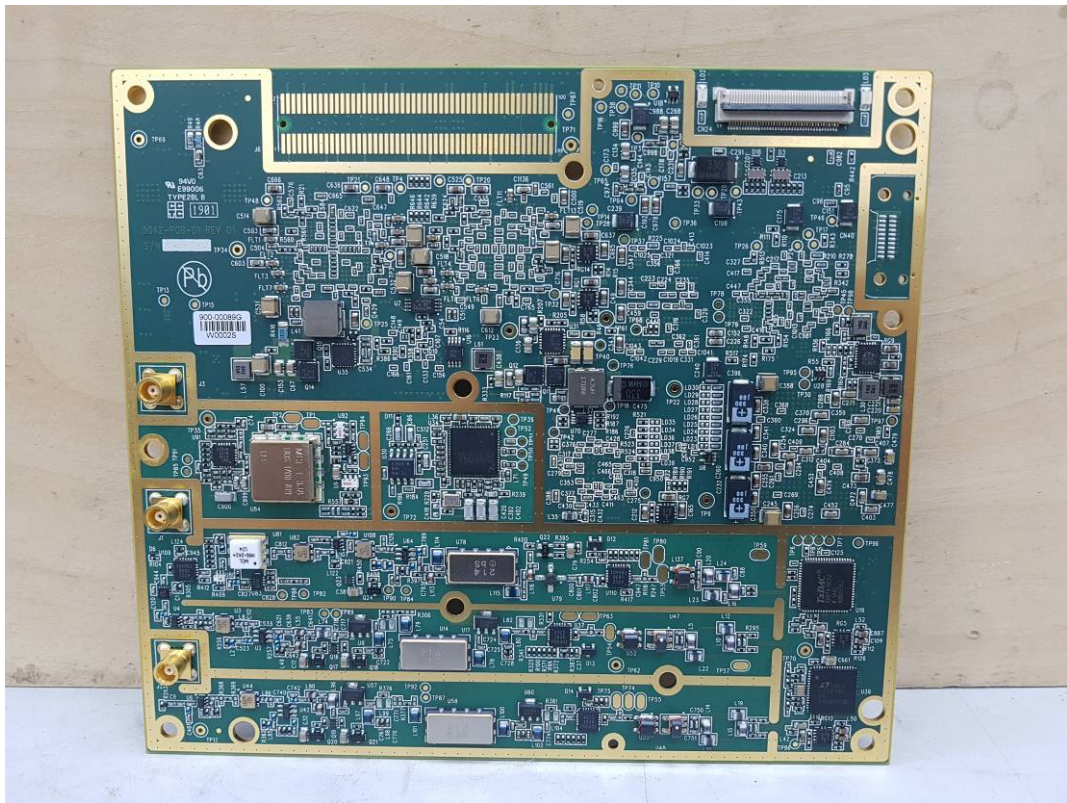


(ADU) GNSS board



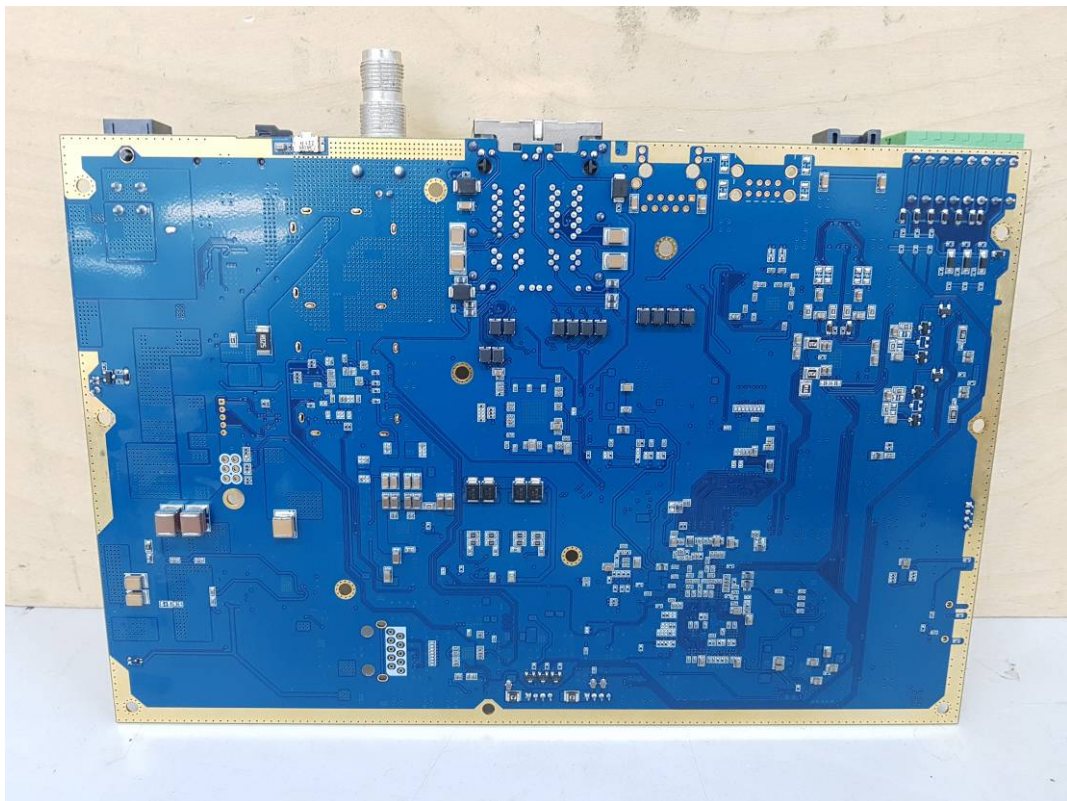
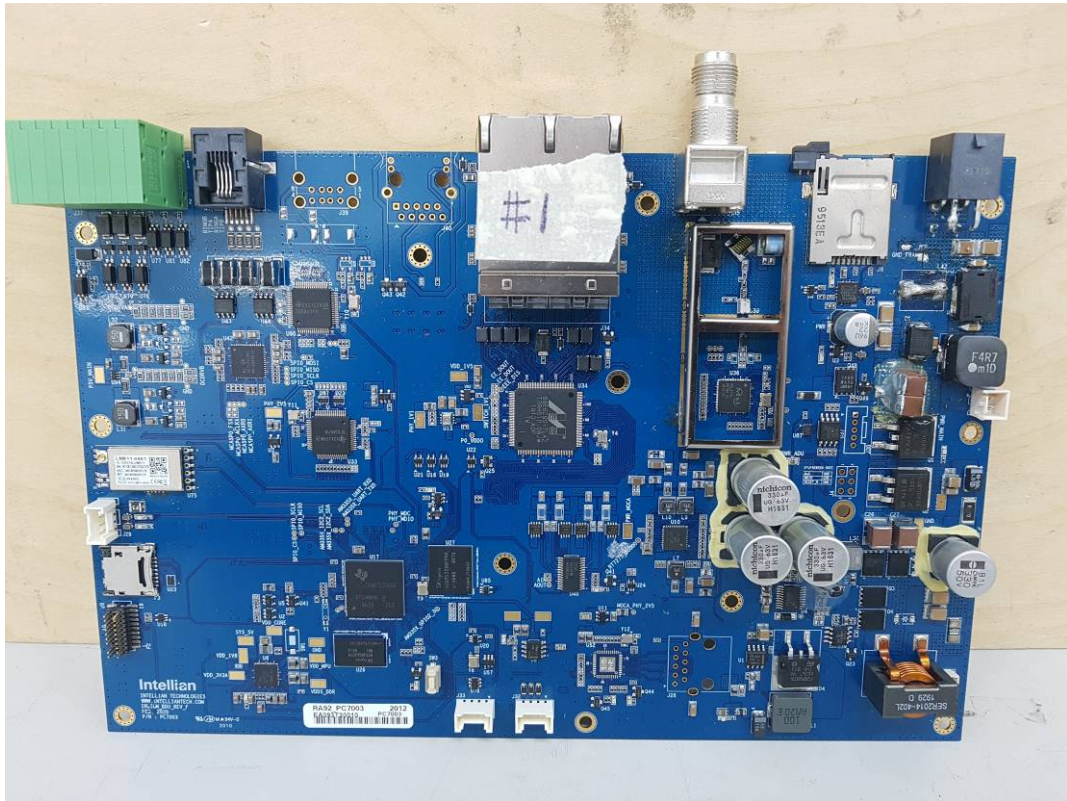


(ADU) BCX board

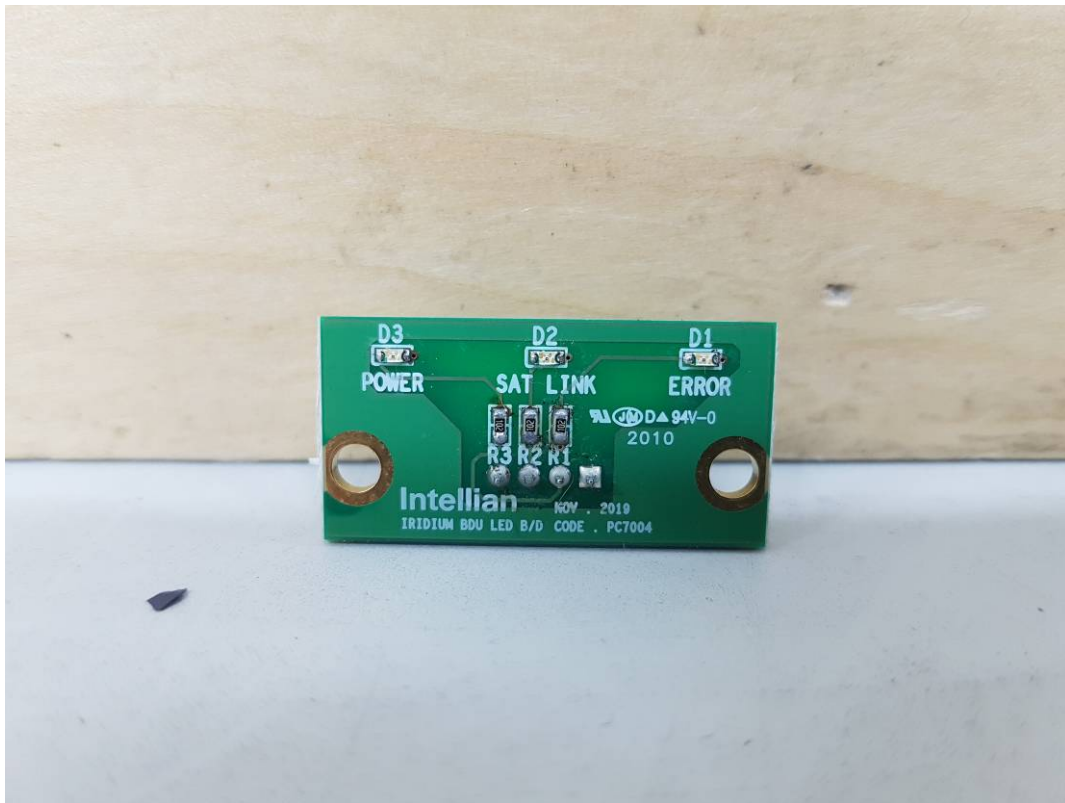




(BDU) Main board



(BDU) LED board



(BDU) Switch board





(BDU) Wi-Fi antenna





Accessories that were provided by the applicant and used during all the tests:
Corded phone





IP phone





DC power supply

