

**Application for
FCC Class II Permissive Change
ISED Class IV Permissive Change**
(Trace antenna on CovertTrack PCB)

u-blox AG
Zürcherstrasse 68
CH-8800 Thalwil, Switzerland

u-blox cellular module

M/N: SARA-R410M

FCC ID: XPY2AGQN4NNN
IC: 8595A-2AGQN4NNN
HVIN: SARA-R410M

REPORT # UT96134B-003

This report was prepared in accordance with the requirements of the FCC Rules and Regulations Part 2, Subpart J, 2.1033, Part 27, RSS-130 Issue 1 and other applicable sections of the rules as indicated herein.

Prepared By:

DNB Engineering, Inc.
1100 E Chalk Creek Road
Coalville, UT 84017

29 Oct 2019

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Paragraph numbers in this report follow the application section numbers found in the FEDERAL COMMUNICATIONS COMMISSION Rules and Regulations, Part 2, Subpart J for Certification of electronic equipment.

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1.0 ADMINISTRATIVE DATA

1.1 Certifications and Qualifications

I certify that DNB Engineering, Inc conducted the tests performed in order to obtain the technical data presented in this application. Also, based on the results of the enclosed data, I have concluded that the equipment tested meets or exceeds the requirements of the Rules and Regulations governing this application.

1.2 Measurement Repeatability Information

The test data presented in this report has been acquired using the guidelines set forth in FCC Part 2.1031 through 2.1057, Part 27. The test results presented in this document are valid only for the equipment identified herein under the test conditions described. Repeatability of these test results will only be achieved with identical measurement conditions. These conditions include: The same test distance, EUT Height, Measurement Site Characteristics, and the same EUT System Components. The system must have the same Interconnecting Cables arranged in identical placement to that in the test set-up, with the system and/or EUT functioning in the identical mode of operation (i.e. software and so on) as on the date of the test. Any deviation from the test conditions and the environment on the date of the test may result in measurement repeatability difficulties.

All changes made to the EUT during the course of testing as identified in this test report must be incorporated into the EUT or identical models to ensure compliance with the FCC regulations.



C. L. Payne III (Para. 1.1)
Facility Manager
Coalville Facility.
DNB Engineering, Inc.
Tel. (435) 336-4433
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1.3 Test Equipment List

TEST EQUIPMENT LIST - RADIATED EMISSIONS				
Description	Manufacturer/MN	Asset #	Serial #	Cal Due
Amplifier	HP/8447D	U-065	2727A06180	6 May 20
BiconiLog Antenna	ETS / 3142E	U-256	166322	28 Feb 21
HF Cable	W.L.Grove	U-075	P44609	4 Mar 20
DRG Horn Antenna	AH Systems/SAS-200/571	U-071	417	10 Jul 20
Spectrum Analyzer	R&S/FSV30	U-248	101367	17 Aug 20
TILE Software	ETS- Lindgern/ 3.4.11.13	U-317	8112006	7 Mar 20

1.4 Test Summary Cross Reference

Test Item	FCC Requirement	IC Requirement	Test Method	Result
Antenna Requirement	FCC Part 27, Subpart C	RSS-Gen-Issue 5 Section 6.8	---	Pass
Output Power	FCC Part 27, Subpart C Section 27.50 (b) (10)	RSS-130 Issue2 Feb 2019	ANSI C63.26 (2015) Section 5.2	Pass
Radiated Spurious Emissions	FCC Part 27, Subpart C Section 27.53	RSS-130 Issue 2 Feb 2019	ANSI C63.26 (2015) Section 5.5	Pass

Preliminary scans were performed to determine worst case modulation, packet length, and data rates. Only worst case data has been recorded within the body of the test report.

1.5 Measurement Uncertainty

Measurement Type	Uncertainty
OATS - Radiated Emissions - Vertical Biconical (30-300MHz)	± 4.17 dB
OATS - Radiated Emissions - Horizontal Biconical (30-300MHz)	± 4.22 dB
OATS - Radiated Emissions - Vertical Log Periodic (300-100MHz)	± 4.92 dB
OATS - Radiated Emissions - Horizontal Log Periodic (300-1000MHz)	± 4.79 dB
OATS - Radiated Emissions - Vertical DRG Horn (> 1GHz)	± 5.74 dB
OATS - Radiated Emissions - Horizontal DRG Horn (>1GHz)	± 5.80 dB

2.1033 (b) (1) Application for Certification

Name of Applicant: u-blox AG
Zürcherstrasse 68
CH-8800 Thalwil, Switzerland

FRN Number: 0019077858

Applicant is:

Vendor

Licensee X u-blox AG

Prospective Licensee

Other

Name of OEM Manufacturer : CovertTrack Group Inc
15600 N. 78th Str.
Scottsdale, AZ 85260

Description: Cellular Module used in Tracking Device

Part Number: SARA-R410M

Anticipated Production Quantity: Multiple Units

Rated Power (ERP): 0.455W

Conducted Output Power: 0.275W (From original grant)
(Verified during evaluation to be valid)

2.1033 (b) (6) Report of Measurements

15.203 Antenna requirement. (RSS-210 Issue 9 Annex C - C.2)

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§15.211, 15.213, 15.217, 15.219, 15.221, or §15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

Class II Permissive Change - Trace Antenna

The antenna is an integral part of the EUT. It also satisfies the requirements of FCC Part 15.203. The antenna is a trace antenna on the pcb and can not be modified by the end user. This trace antenna is for use with LTE Band 13 only. The calculated gain of this trace antenna does not exceed 1.4dBi.

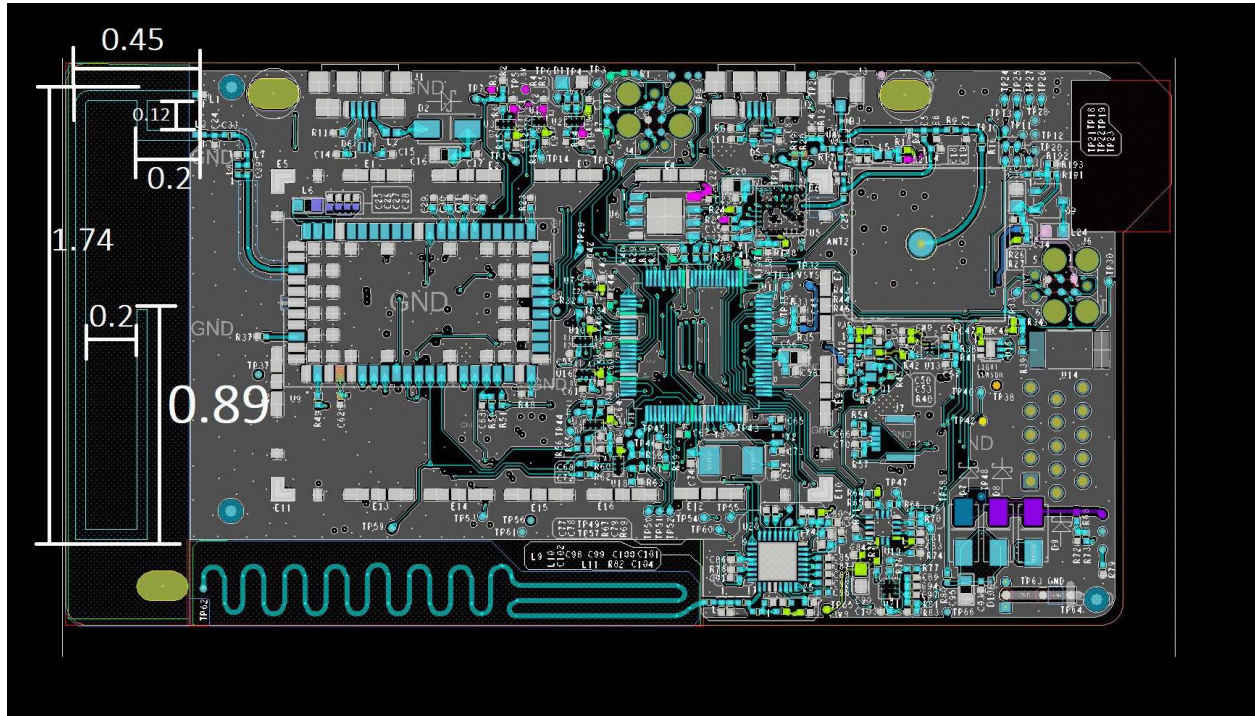
For the CovertTrack StealthV product the only relevant spec for B13 Gain, which cannot exceed 3.94dBi.

The B13 IFA trace antenna BluFlux designed has the following gain across B13 as measured by TRP/TIS and datasheet typical conducted power:

Measurement	Channel	Freq (MHz)	Directivity (dBi)	Efficiency (dB)	Peak Gain (dBi)
TIS	L	752.4	2.4	-1.3	1.1
TRP	L	778.04	2.7	-1.3	1.4
TRP	M	782.36	2.6	-1.5	1.1
TRP	H	785.96	2.6	-1.5	1.1

The last column shows that the antenna has gain < 3.94dBi (and also directivity < 3.94dBi).

Trace Antenna Specifications:



27.50 Power limits and duty cycle.
(RSS-130 Issue 2 4.6.3)

FCC Part 27

Band 13

- (b) The following power and antenna height limits apply to transmitters operating in the 746-758 MHz, 775-788 MHz and 805-806 MHz bands:
- (10) Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

RSS-130

The e.r.p. shall not exceed 3 watts for portable equipment and indoor fixed subscriber equipment.

- Note 1: Limits listed above are the maximum ERP values allowed in the particularly referenced standards.
- Note 2: No change was made to the existing circuitry or module to increase the conducted output values.
- Note 3: Maximum conducted power on original Grant is 0.275W and the maximum antenna gain for Band 13 on the Grant is 3.94dBi. The following calculations indicate that the change requested is in compliance with the original grant of authorization.

$0.275W = 275mW = 24.393dBm$
 $24.393dBm + 3.94dBi = 28.333dBm$
Calculated EIRP would then be 0.681W or 681mW
Converting the EIRP value to ERP = 0.415W or 415mW

Maximum measured radiated ERP is 0.455W or 455mW
Difference between the 415mW and the 455mW is 0.40dB

Maximum measured conducted output power is 268mW
Difference between grant 275mW and 268mW = -7mW

455mW measured ERP is greater than the calculated 415mW ERP from the original grant but is within 0.5dB, additionally the maximum conducted output power was measured and verified to be 24.29dBm or 268mW which is below the output power listed on the grant therefore this device is considered to be within the requirements of the change.

This subclause provides guidance for performing the power measurements necessary to demonstrate compliance to the RF output power limits imposed by regulatory authorities on transmitters. In addition, these procedures can also be utilized to collect the data necessary to demonstrate compliance to regulatory limits placed on unwanted (out-of-band and spurious) emissions.

5.2.7 Radiated power measurements

The output power and unwanted emissions regulatory limits that are typical for licensed devices presume antenna port conducted measurements are utilized when demonstrating compliance. However, it sometimes becomes necessary to measure these parameters in a radiated test set-up. This is often the case for many portable transmitting devices that utilize integral antennas, thus precluding access to an antenna port. Additionally, even when antenna-port conducted measurements can be performed, there is still a requirement to perform a radiated spurious emission test to detect and demonstrate that any case-leakage emissions from the EUT also comply with the applicable unwanted emissions limit. When radiated emissions measurements become necessary to demonstrate compliance, then the conditions specified in 5.5 shall be satisfied. The procedures provided herein for measuring RF output power and unwanted emission power can also be used in a radiated test configuration.

When performing radiated measurements, it is sometimes more convenient to perform a field strength measurement and then mathematically convert the measured field strength level to an equivalent power level for comparison to the applicable limit. Alternatively, power limit values can be mathematically converted to an equivalent field strength limit; however some regulatory agencies discourage this practice, preferring instead that the measured power levels be compared to the actual limit numerical values and units as shown in the applicable regulation. The following relationships can be used to facilitate using such radiated measurement data to demonstrate compliance to the relevant conducted output power limits:

- a) $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dB}\mu\text{V)} + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)} - \text{preamplifier (if used)}$.
- b) $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$.
- c) $E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20\log(D) + 104.8$; where D is the measurement distance (in the far field region) in m.
- d) $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.
- e) $\text{ERP (dBm)} = \text{EIRP (dBm)} - 2.15$

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436			<h2>Radiated Output Power</h2>			
	DNB Job Number: 96134	Date: 18 Oct 2019	Specification				
Customer: CovertTrack Inc	[X] 27.50 (b) (10) [X] RSS-130 4.6.3 [X] ANSI C63.26:2015						
Model Number: STLTHV							
Description: Class II Permissive Change - Trace Antenna							

EUT is in conformance with stated requirements	X	YES		NO	Signed	<i>CL Payne III</i>
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RADIATED POWER MEASUREMENT (ANSI C63-26:2015 clause 5.2.7)

Freq	Meter	Preamp	Cable	Antenna	Corr'd	ERP				Azimuth	Height	Polarity	Meas	Comments
						Power	Power	Limit	Delta					
(MHz)	(dBuV/m)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBm)	(W)	(W)	(W)	(deg)	(m)		Type	
777.000	85.96	0.00	5.99	26.80	118.75	21.35	0.136	3.000	-2.864	144	1.00	Horz	QP	X-Axis / Low Channel
777.000	85.55	0.00	5.99	26.80	118.34	20.94	0.124	3.000	-2.876	207	1.16	Vert	QP	X-Axis / Low Channel
777.000	86.31	0.00	5.99	26.80	119.10	21.70	0.148	3.000	-2.852	152	1.00	Horz	QP	Y-Axis / Low Channel
777.000	84.07	0.00	5.99	26.80	116.86	19.46	0.088	3.000	-2.912	205	2.00	Vert	QP	Y-Axis / Low Channel
777.000	84.00	0.00	5.99	26.80	116.79	19.39	0.087	3.000	-2.913	218	1.10	Horz	QP	Z-Axis / Low Channel
777.000	90.48	0.00	5.99	26.80	123.27	25.87	0.386	3.000	-2.614	234	1.36	Vert	QP	Z-Axis / Low Channel
782.000	87.78	0.00	6.04	26.90	120.72	23.31	0.214	3.000	-2.786	252	1.10	Horz	QP	X-Axis / Mid Channel
782.000	84.25	0.00	6.04	26.90	117.19	19.78	0.095	3.000	-2.905	196	1.09	Vert	QP	X-Axis / Mid Channel
782.000	85.89	0.00	6.04	26.90	118.83	21.42	0.139	3.000	-2.861	247	1.06	Horz	QP	Y-Axis / Mid Channel
782.000	85.44	0.00	6.04	26.90	118.38	20.97	0.125	3.000	-2.875	187	2.00	Vert	QP	Y-Axis / Mid Channel
782.000	83.19	0.00	6.04	26.90	116.13	18.72	0.074	3.000	-2.926	134	1.00	Horz	QP	Z-Axis / Mid Channel
782.000	91.00	0.00	6.04	26.90	123.94	26.53	0.450	3.000	-2.550	228	1.25	Vert	QP	Z-Axis / Mid Channel
787.000	85.96	0.00	6.08	27.10	119.14	21.74	0.149	3.000	-2.851	213	1.20	Horz	QP	X-Axis / High Channel
787.000	85.35	0.00	6.08	27.10	118.53	21.13	0.130	3.000	-2.870	175	1.12	Vert	QP	X-Axis / High Channel
787.000	85.44	0.00	6.08	27.10	118.62	21.22	0.132	3.000	-2.868	225	1.00	Horz	QP	Y-Axis / High Channel
787.000	84.97	0.00	6.08	27.10	118.15	20.75	0.119	3.000	-2.881	165	1.00	Vert	QP	Y-Axis / High Channel
787.000	83.92	0.00	6.08	27.10	117.10	19.70	0.093	3.000	-2.907	147	1.00	Horz	QP	Z-Axis / High Channel
787.000	90.80	0.00	6.08	27.10	123.98	26.58	0.455	3.000	-2.545	241	1.28	Vert	QP	Z-Axis / High Channel

Verification Check of Conducted Output Power:

Channel	Measured (dBm)	Grant (dBm)	Delta (dBm)	Pass/Fail
Low	24.08	24.39	-0.31	Pass
Middle	24.24	24.39	-0.15	Pass
High	24.29	24.39	-0.10	Pass

5.5.1 General

The primary necessity for radiated emissions testing is to demonstrate that any spurious emissions radiating from the EUT cabinet, control circuitry, power leads, or intermediate circuit elements, which would be missed in a totally dedicated conducted test, comply with the applicable limits. Such a test can only be performed in a radiated test configuration. In addition, many contemporary portable transmitters utilize integral antennas, precluding access to an antenna output port from which to perform conducted compliance measurements. For these types of transmitters, all of the data necessary to demonstrate compliance must be measured in a radiated test configuration. The procedures provided in this subclause are applicable to all radiated measurements performed on transmitters.

Due to recent trends in which many wireless products combine multiple radios within a single enclosure, and that such combination products typically incorporate both licensed and unlicensed transmitters, at least a portion of the required compliance (i.e., the unlicensed radio components) tests must be performed on a validated test site, in accordance with ANSI C63.10, to satisfy unlicensed intentional radiator compliance measurement requirements. For these types of combination products, conversion of a field strength measurement (or received power measurement) to an equivalent EIRP or ERP value based on the equations in 5.2.7 without using the substitution method is acceptable provided that they are performed on a test site that is validated to the requirements of ANSI C63.10.

All radiated emissions measurements shall conform to the common requirements in specified in 5.5.2 and to the specific requirements listed in 5.5.4 when the field strength method is used.

5.5.2.3.1 Test arrangements for tabletop EUTs

For radiated emissions measurements performed at frequencies less than or equal to 1 GHz, the EUT shall be placed on a RF-transparent table or support at a nominal height of 80 cm above the reference ground plane. Radiated measurements shall be made with the measurement antenna positioned in both horizontal and vertical polarization. The measurement antenna shall be varied from 1 m to 4 m in height above the reference ground in a search for the relative positioning that produces the maximum radiated signal level (i.e., field strength or received power). When orienting the measurement antenna in vertical polarization, the minimum height of the lowest element of the antenna shall clear the site reference ground plane by at least 25 cm.

For radiated measurements performed at frequencies above 1 GHz, the EUT shall be placed on an RF transparent table or support at a nominal height of 1.5 m above the ground plane. Radiated measurements shall be made with the measurement antenna positioned in both horizontal and vertical polarization. The height scan of the measurement antenna shall be varied from 1 m to 4 m in a search for the relative positioning that produces the maximum radiated signal level (i.e., field strength or received power). When using the direct field strength method and the EUT is manipulated through

three different orientations, then the scan height range of the measurement antenna is limited to 2.5 m, or 0.5 m above the top of the EUT, whichever is higher.

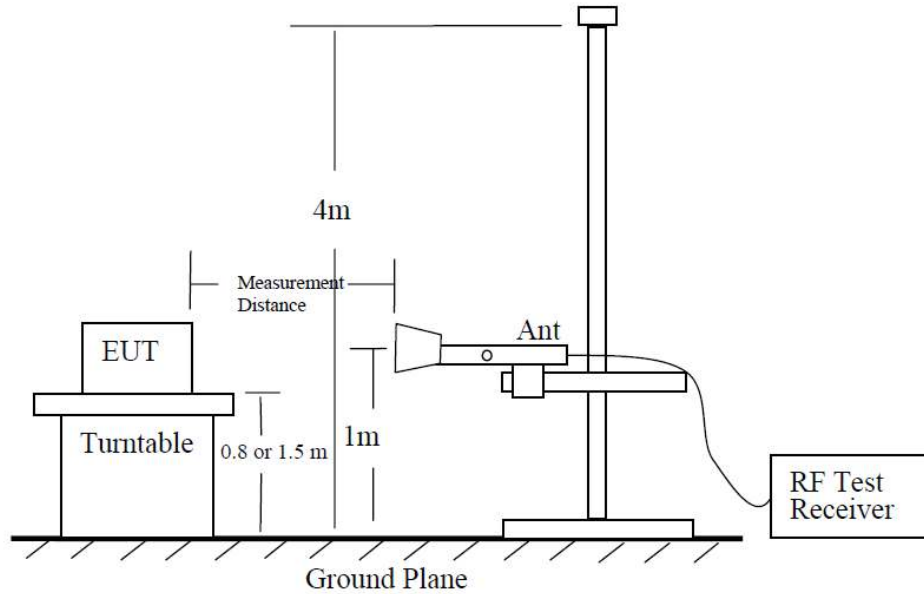
Figure below shows a typical EUT configuration with a wireless device placed on a tabletop on an appropriate radiated test site. The measurement antenna shall be placed at the specified distance from the closest point of the EUT. Tabletop devices shall be placed on a RF transparent platform with nominal top surface dimensions of 1 m by 1.5 m. Any necessary support equipment shall be placed far enough away from the EUT, such that changes in relative position of the EUT and support equipment do not influence the measured values. If the EUT requires a connection to a server or computer, via control/data cable(s), to exercise the product, then the controlling server or computer may be placed outside of the test area.

EUTs that can be operated in one of multiple orientations (e.g., handheld, portable, or modular devices) shall be tested in a minimum of three orientations. (Reference figure below)

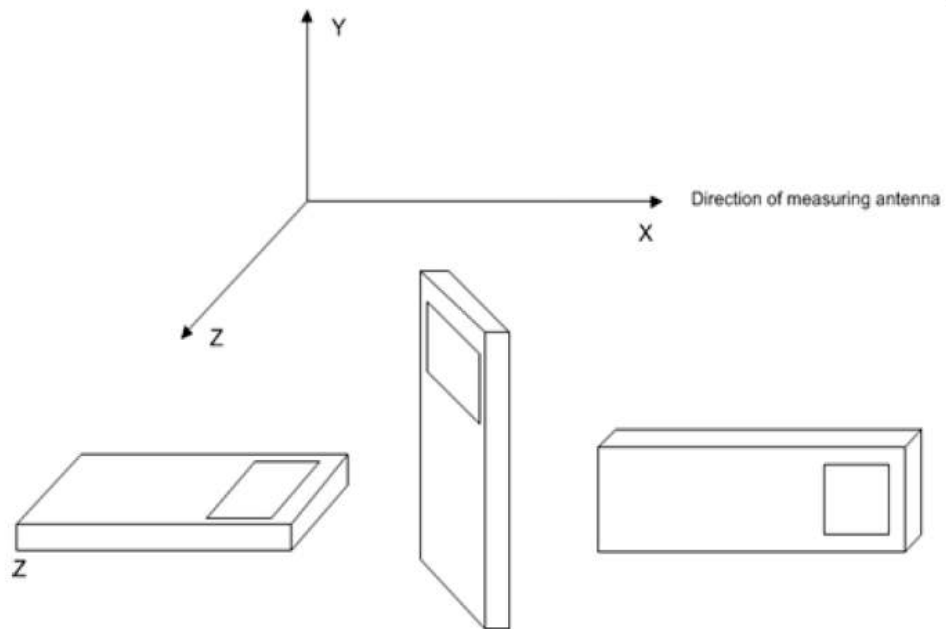
27.53 Emission Limits

- (c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:
 - (2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;
$$\begin{aligned} \text{Watts (P)} &= 0.521 \\ 43 + 10\log(0.521)\text{dB} &= \mathbf{40.168\text{dB}} \\ 27.168\text{dBm} - 40.168\text{dB} &= -13\text{dbm} = 0.050\text{mW} = \text{Limit} \end{aligned}$$
 - (5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;
 - (6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

For this test the RBW = 120kHz and VBW = 500kHz



Test Set up for Radiated Power and Spurious Emissions



EUT Configurations (indicating three orthogonal axis)



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Radiated Spurious

DNB Job Number:	96134	Date:	19 Oct 2019	Specification <input checked="" type="checkbox"/> 27.53 <input checked="" type="checkbox"/> RSS-130 <input checked="" type="checkbox"/> ANSI C63.26:2015
Customer:	CovertTrack Inc			
Model Number:	STLTHV			
Description:				

EUT is in conformance with stated requirements YES NO Signed *CL Payne III*

RADIATED SPURIOUS MEASUREMENTS (ANSI C63-26:2015 clause 5.5.4)

Freq	Meter	Preamp	Cable	Antenna	Corr'd	ERP				Azimuth	Height	Pol	Meas	Comments
						Power	Power	Limit	Delta					
(MHz)	(dBuV/m)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBm)	(mW)	(mW)	(mW)	(deg)	(m)		Type	
1553.994	63.19	26.30	3.05	25.12	65.06	-32.35	0.000583	0.050000	-0.049417	223	1.00	V	AVE	Axis 1 - low channel
2330.945	55.20	26.33	3.83	29.33	62.02	-35.38	0.000290	0.050000	-0.049710	223	1.00	V	AVE	Axis 1 - low channel
3108.200	28.12	26.27	4.61	30.58	37.04	-60.37	0.000001	0.050000	-0.049999	50	1.00	V	AVE	Axis 1 - low channel
3884.963	31.69	26.03	5.31	31.81	42.78	-54.63	0.000003	0.050000	-0.049997	225	1.00	V	AVE	Axis 1 - low channel
4661.596	25.56	25.84	5.86	32.58	38.16	-59.25	0.000001	0.050000	-0.049999	103	1.00	V	AVE	Axis 1 - low channel
1553.994	74.67	26.30	3.05	25.12	76.54	-20.87	0.008193	0.050000	-0.041807	146	1.56	H	AVE	Axis 1 - low channel
2330.888	55.03	26.33	3.83	29.33	61.85	-35.55	0.000278	0.050000	-0.049722	216	1.76	H	AVE	Axis 1 - low channel
3108.113	39.82	26.27	4.61	30.58	48.74	-48.67	0.000014	0.050000	-0.049986	211	2.08	H	AVE	Axis 1 - low channel
3884.992	42.77	26.03	5.31	31.81	53.86	-43.55	0.000044	0.050000	-0.049956	214	1.29	H	AVE	Axis 1 - low channel

Note : Readings at ground floor not recorded.



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Radiated Spurious

DNB Job Number:	96134	Date:	19 Oct 2019	Specification <input checked="" type="checkbox"/> 27.53 <input checked="" type="checkbox"/> RSS-130 <input checked="" type="checkbox"/> ANSI C63.26:2015
Customer:	CovertTrack Inc			
Model Number:	STLTHV			
Description:				

EUT is in conformance with stated requirements YES NO Signed *CL Payne III*

RADIATED SPURIOUS MEASUREMENTS (ANSI C63-26:2015 clause 5.5.4)

Freq	Meter	Preamp	Cable	Antenna	Corr'd	ERP				Azimuth	Height	Pol	Meas	Comments
						Power	Power	Limit	Delta					
(MHz)	(dBuV/m)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBm)	(mW)	(mW)	(mW)	(deg)	(m)		Type	
1563.790	74.22	26.30	3.06	25.20	76.18	-21.23	0.007533	0.050000	-0.042467	208	1.16	V	AVE	Axis 1 - mid channel
2345.708	52.56	26.33	3.85	29.36	59.44	-37.97	0.000160	0.050000	-0.049840	212	1.13	V	AVE	Axis 1 - mid channel
3127.559	38.01	26.27	4.63	30.57	46.95	-50.46	0.000009	0.050000	-0.049991	207	1.12	V	AVE	Axis 1 - mid channel
3909.646	37.95	26.02	5.33	31.90	49.15	-48.25	0.000015	0.050000	-0.049985	214	1.18	V	AVE	Axis 1 - mid channel
4691.000	31.92	25.84	5.88	32.69	44.65	-52.76	0.000005	0.050000	-0.049995	214	1.17	V	AVE	Axis 1 - mid channel
1563.790	76.64	26.30	3.06	25.20	78.60	-18.81	0.013151	0.050000	-0.036849	273	1.14	H	AVE	Axis 1 - mid channel
2345.708	53.79	26.33	3.85	29.36	60.67	-36.74	0.000212	0.050000	-0.049788	281	2.55	H	AVE	Axis 1 - mid channel
3127.559	39.26	26.27	4.63	30.57	48.20	-49.21	0.000012	0.050000	-0.049988	267	1.93	H	AVE	Axis 1 - mid channel
3909.646	44.71	26.02	5.33	31.90	55.91	-41.49	0.000071	0.050000	-0.049929	280	1.86	H	AVE	Axis 1 - mid channel
4691.000	40.24	25.84	5.88	32.69	52.97	-44.44	0.000036	0.050000	-0.049964	274	1.82	H	AVE	Axis 1 - mid channel

Note : Readings at ground floor not recorded.



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Radiated Spurious

DNB Job Number:	96134	Date:	19 Oct 2019	Specification [X] 27.53 [X] RSS-130 [X] ANSI C63.26:2015
Customer:	CovertTrack Inc			
Model Number:	STLTHV			
Description:				

EUT is in conformance with stated requirements YES NO Signed *CL Payne III*

RADIATED SPURIOUS MEASUREMENTS (ANSI C63-26:2015 clause 5.5.4)

Freq	Meter	Preamp	Cable	Antenna	Corr'd	ERP				Azimuth	Height	Pol	Meas	Comments
						Power	Power	Limit	Delta					
(MHz)	(dBuV/m)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBm)	(mW)	(mW)	(mW)	(deg)	(m)		Type	
1574.000	75.04	26.30	3.07	25.28	77.09	-20.32	0.009284	0.050000	-0.040716	212	1.22	V	AVE	Axis 1 - high channel
2361.000	55.09	26.33	3.86	29.39	62.01	-35.39	0.000289	0.050000	-0.049711	210	1.11	V	AVE	Axis 1 - high channel
3148.000	38.97	26.26	4.65	30.57	47.93	-49.48	0.000011	0.050000	-0.049989	209	1.68	V	AVE	Axis 1 - high channel
3935.000	44.50	26.01	5.35	31.98	55.82	-41.59	0.000069	0.050000	-0.049931	212	1.17	V	AVE	Axis 1 - high channel
4722.000	35.08	25.83	5.89	32.80	47.94	-49.47	0.000011	0.050000	-0.049989	210	1.11	V	AVE	Axis 1 - high channel
1574.000	73.64	26.30	3.07	25.28	75.69	-21.72	0.006726	0.050000	-0.043274	169	1.06	H	AVE	Axis 1 - high channel
2361.000	55.35	26.33	3.86	29.39	62.27	-35.13	0.000307	0.050000	-0.049693	171	1.01	H	AVE	Axis 1 - high channel
3148.000	38.53	26.26	4.65	30.57	47.49	-49.92	0.000010	0.050000	-0.049990	168	1.07	H	AVE	Axis 1 - high channel
3935.000	34.49	26.01	5.35	31.98	45.81	-51.60	0.000007	0.050000	-0.049993	174	1.02	H	AVE	Axis 1 - high channel

Note : Readings at ground floor not recorded.



1100 E Chalk Creek Road
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Radiated Spurious

DNB Job Number:	96134	Date:	19 Oct 2019	Specification <input checked="" type="checkbox"/> 27.53 <input checked="" type="checkbox"/> RSS-130 <input checked="" type="checkbox"/> ANSI C63.26:2015
Customer:	CovertTrack Inc			
Model Number:	STLTHV			
Description:				

EUT is in conformance with stated requirements YES NO Signed *CL Payne III*

RADIATED SPURIOUS MEASUREMENTS (ANSI C63-26:2015 clause 5.5.4)

Freq	Meter	Preamp	Cable	Antenna	Corr'd	ERP				Azimuth	Height	Pol	Meas	Comments
						Power	Power	Limit	Delta					
(MHz)	(dBuV/m)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBm)	(mW)	(mW)	(mW)	(deg)	(m)		Type	
1553.994	65.73	26.30	3.05	25.12	67.60	-29.81	0.001046	0.050000	-0.048954	346	1.30	V	AVE	Axis 2 - low channel
2330.945	45.89	26.33	3.83	29.33	52.71	-44.69	0.000034	0.050000	-0.049966	242	1.00	V	AVE	Axis 2 - low channel
3108.200	37.17	26.27	4.61	30.58	46.09	-51.32	0.000007	0.050000	-0.049993	219	1.46	V	AVE	Axis 2 - low channel
3884.963	41.28	26.03	5.31	31.81	52.37	-45.04	0.000031	0.050000	-0.049969	184	1.16	V	AVE	Axis 2 - low channel
4661.596	36.63	25.84	5.86	32.58	49.23	-48.18	0.000015	0.050000	-0.049985	193	2.36	V	AVE	Axis 2 - low channel
1553.994	74.84	26.30	3.05	25.12	76.71	-20.70	0.008521	0.050000	-0.041479	225	1.07	H	AVE	Axis 2 - low channel
2330.945	58.61	26.33	3.83	29.33	65.43	-31.97	0.000635	0.050000	-0.049365	306	1.16	H	AVE	Axis 2 - low channel
3108.200	38.95	26.27	4.61	30.58	47.87	-49.54	0.000011	0.050000	-0.049989	157	1.19	H	AVE	Axis 2 - low channel
3884.963	39.71	26.03	5.31	31.81	50.80	-46.61	0.000022	0.050000	-0.049978	165	1.62	H	AVE	Axis 2 - low channel

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Radiated Spurious

DNB Job Number:	96134	Date:	19 Oct 2019	Specification <input checked="" type="checkbox"/> 27.53 <input checked="" type="checkbox"/> RSS-130 <input checked="" type="checkbox"/> ANSI C63.26:2015
Customer:	CovertTrack Inc			
Model Number:	STLTHV			
Description:				

EUT is in conformance with stated requirements YES NO Signed *CL Payne III*

RADIATED SPURIOUS MEASUREMENTS (ANSI C63-26:2015 clause 5.5.4)

Freq	Meter	Preamp	Cable	Antenna	Corr'd	ERP				Azimuth	Height	Pol	Meas	Comments
						Power	Power	Limit	Delta					
(MHz)	(dBuV/m)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBm)	(mW)	(mW)	(mW)	(deg)	(m)		Type	
1563.790	75.28	26.30	3.06	25.20	77.24	-20.17	0.009615	0.050000	-0.040385	208	1.25	V	AVE	Axis 2 - mid channel
2345.708	59.70	26.33	3.85	29.36	66.58	-30.83	0.000826	0.050000	-0.049174	210	1.20	V	AVE	Axis 2 - mid channel
3127.559	39.74	26.27	4.63	30.57	48.68	-48.73	0.000013	0.050000	-0.049987	208	1.24	V	AVE	Axis 2 - mid channel
3909.646	42.57	26.02	5.33	31.90	53.77	-43.63	0.000043	0.050000	-0.049957	213	1.25	V	AVE	Axis 2 - mid channel
4691.000	33.23	25.84	5.88	32.69	45.96	-51.45	0.000007	0.050000	-0.049993	209	1.17	V	AVE	Axis 2 - mid channel
1563.790	76.43	26.30	3.06	25.20	78.39	-19.02	0.012530	0.050000	-0.037470	222	1.25	H	AVE	Axis 2 - mid channel
2345.708	61.95	26.33	3.85	29.36	68.83	-28.58	0.001387	0.050000	-0.048613	221	1.13	H	AVE	Axis 2 - mid channel
3127.559	39.53	26.27	4.63	30.57	48.47	-48.94	0.000013	0.050000	-0.049987	224	1.16	H	AVE	Axis 2 - mid channel
3909.646	44.03	26.02	5.33	31.90	55.23	-42.17	0.000061	0.050000	-0.049939	221	1.13	H	AVE	Axis 2 - mid channel
4691.000	36.29	25.84	5.88	32.69	49.02	-48.39	0.000015	0.050000	-0.049985	220	1.09	H	AVE	Axis 2 - mid channel

Note : Readings at ground floor not recorded.



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Radiated Spurious

DNB Job Number:	96134	Date:	19 Oct 2019	Specification <input checked="" type="checkbox"/> 27.53 <input checked="" type="checkbox"/> RSS-130 <input checked="" type="checkbox"/> ANSI C63.26:2015
Customer:	CovertTrack Inc			
Model Number:	STLTHV			
Description:				

EUT is in conformance with stated requirements YES NO Signed *CL Payne III*

RADIATED SPURIOUS MEASUREMENTS (ANSI C63-26:2015 clause 5.5.4)

Freq	Meter	Preamp	Cable	Antenna	Corr'd	ERP				Azimuth	Height	Pol	Meas	Comments
						Power	Power	Limit	Delta					
(MHz)	(dBuV/m)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBm)	(mW)	(mW)	(mW)	(deg)	(m)		Type	
1574.000	76.50	26.30	3.07	25.28	78.55	-18.86	0.012994	0.050000	-0.037006	197	1.15	V	AVE	Axis 2 - high channel
2361.000	56.35	26.33	3.86	29.39	63.27	-34.13	0.000386	0.050000	-0.049614	206	1.13	V	AVE	Axis 2 - high channel
3148.000	39.48	26.26	4.65	30.57	48.44	-48.97	0.000013	0.050000	-0.049987	208	1.20	V	AVE	Axis 2 - high channel
3935.000	44.90	26.01	5.35	31.98	56.22	-41.19	0.000076	0.050000	-0.049924	203	1.14	V	AVE	Axis 2 - high channel
4722.000	35.63	25.83	5.89	32.80	48.49	-48.92	0.000013	0.050000	-0.049987	203	1.13	V	AVE	Axis 2 - high channel
1574.000	76.03	26.30	3.07	25.28	78.08	-19.33	0.011661	0.050000	-0.038339	221	1.75	H	AVE	Axis 2 - high channel
2361.000	63.01	26.33	3.86	29.39	69.93	-27.47	0.001789	0.050000	-0.048211	222	1.20	H	AVE	Axis 2 - high channel
3148.000	42.32	26.26	4.65	30.57	51.28	-46.13	0.000024	0.050000	-0.049976	224	1.13	H	AVE	Axis 2 - high channel
3935.000	46.14	26.01	5.35	31.98	57.46	-39.95	0.000101	0.050000	-0.049899	224	1.13	H	AVE	Axis 2 - high channel
4722.000	41.81	25.83	5.89	32.80	54.67	-42.74	0.000053	0.050000	-0.049947	225	1.13	H	AVE	Axis 2 - high channel

Note : Readings at ground floor not recorded.



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Radiated Spurious

DNB Job Number:	96134	Date:	19 Oct 2019	Specification [X] 27.53 [X] RSS-130 [X] ANSI C63.26:2015
Customer:	CovertTrack Inc			
Model Number:	STLTHV			
Description:				

EUT is in conformance with stated requirements YES NO Signed *CL Payne III*

RADIATED SPURIOUS MEASUREMENTS (ANSI C63-26:2015 clause 5.5.4)

Freq	Meter	Preamp	Cable	Antenna	Corr'd	ERP				Azimuth	Height	Pol	Meas	Comments
						Power	Power	Limit	Delta					
(MHz)	(dBuV/m)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBm)	(mW)	(mW)	(mW)	(deg)	(m)		Type	
1553.994	78.30	26.30	3.05	25.12	80.17	-17.24	0.018900	0.050000	-0.031100	256	1.22	V	AVE	Axis 3 - low channel
2330.945	64.69	26.33	3.83	29.33	71.51	-25.89	0.002574	0.050000	-0.047426	254	1.29	V	AVE	Axis 3 - low channel
3108.200	47.29	26.27	4.61	30.58	56.21	-41.20	0.000076	0.050000	-0.049924	256	1.24	V	AVE	Axis 3 - low channel
3884.963	51.06	26.03	5.31	31.81	62.15	-35.26	0.000298	0.050000	-0.049702	258	1.29	V	AVE	Axis 3 - low channel
4661.596	43.01	25.84	5.86	32.58	55.61	-41.80	0.000066	0.050000	-0.049934	257	1.33	V	AVE	Axis 3 - low channel
1553.994	68.34	26.30	3.05	25.12	70.21	-27.20	0.001908	0.050000	-0.048092	238	1.31	H	AVE	Axis 3 - low channel
2330.945	52.76	26.33	3.83	29.33	59.58	-37.82	0.000165	0.050000	-0.049835	239	1.22	H	AVE	Axis 3 - low channel
3108.200	36.11	26.27	4.61	30.58	45.03	-52.38	0.000006	0.050000	-0.049994	232	1.13	H	AVE	Axis 3 - low channel
3884.963	31.82	26.03	5.31	31.81	42.91	-54.50	0.000004	0.050000	-0.049996	237	1.14	H	AVE	Axis 3 - low channel

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Radiated Spurious

DNB Job Number:	96134	Date:	19 Oct 2019	Specification <input checked="" type="checkbox"/> 27.53 <input checked="" type="checkbox"/> RSS-130 <input checked="" type="checkbox"/> ANSI C63.26:2015
Customer:	CovertTrack Inc			
Model Number:	STLTHV			
Description:				

EUT is in conformance with stated requirements YES NO Signed *CL Payne III*

RADIATED SPURIOUS MEASUREMENTS (ANSI C63-26:2015 clause 5.5.4)

Freq	Meter	Preamp	Cable	Antenna	Corr'd	ERP				Azimuth	Height	Pol	Meas	Comments
						Power	Power	Limit	Delta					
(MHz)	(dBuV/m)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBm)	(mW)	(mW)	(mW)	(deg)	(m)		Type	
1563.790	77.80	26.30	3.06	25.20	79.76	-17.65	0.017177	0.050000	-0.032823	259	1.20	V	AVE	Axis 3 - mid channel
2345.708	65.26	26.33	3.85	29.36	72.14	-25.27	0.002973	0.050000	-0.047027	261	1.28	V	AVE	Axis 3 - mid channel
3127.559	54.49	26.27	4.63	30.57	63.43	-33.98	0.000400	0.050000	-0.049600	264	1.26	V	AVE	Axis 3 - mid channel
3909.646	53.85	26.02	5.33	31.90	65.05	-32.35	0.000582	0.050000	-0.049418	266	1.31	V	AVE	Axis 3 - mid channel
4691.000	49.32	25.84	5.88	32.69	62.05	-35.36	0.000291	0.050000	-0.049709	263	1.20	V	AVE	Axis 3 - mid channel
5473.318	41.01	25.66	6.14	34.84	56.33	-41.07	0.000078	0.050000	-0.049922	263	1.20	V	AVE	Axis 3 - mid channel
6255.311	35.15	25.51	6.71	35.47	51.81	-45.59	0.000028	0.050000	-0.049972	261	1.21	V	AVE	Axis 3 - mid channel
7037.240	31.46	25.37	7.28	36.05	49.42	-47.98	0.000016	0.050000	-0.049984	257	1.20	V	AVE	Axis 3 - mid channel
7819.259	26.34	25.23	7.86	36.64	45.61	-51.79	0.000007	0.050000	-0.049993	260	1.19	V	AVE	Axis 3 - mid channel
1563.790	69.64	26.30	3.06	25.20	71.60	-25.81	0.002624	0.050000	-0.047376	240	1.32	H	AVE	Axis 3 - mid channel
2345.708	54.35	26.33	3.85	29.36	61.23	-36.18	0.000241	0.050000	-0.049759	242	1.17	H	AVE	Axis 3 - mid channel
3127.559	37.87	26.27	4.63	30.57	46.81	-50.60	0.000009	0.050000	-0.049991	240	1.15	H	AVE	Axis 3 - mid channel
3909.701	32.14	26.02	5.33	31.90	43.34	-54.06	0.000004	0.050000	-0.049996	241	1.14	H	AVE	Axis 3 - mid channel

Note : Readings at ground floor not recorded.



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Radiated Spurious

DNB Job Number:	96134	Date:	19 Oct 2019	Specification <input checked="" type="checkbox"/> 27.53 <input checked="" type="checkbox"/> RSS-130 <input checked="" type="checkbox"/> ANSI C63.26:2015
Customer:	CovertTrack Inc			
Model Number:	STLTHV			
Description:				

EUT is in conformance with stated requirements YES NO Signed *CL Payne III*

RADIATED SPURIOUS MEASUREMENTS (ANSI C63-26:2015 clause 5.5.4)

Freq (MHz)	Meter (dBuV/m)	Preamp (dB)	Cable (dB)	Antenna (dB/m)	Corr'd (dBuV/m)	ERP				Azimuth (deg)	Height (m)	Pol	Meas Type	Comments
						Power (dBm)	Power (mW)	Limit (mW)	Delta (mW)					
1574.000	77.30	26.30	3.07	25.28	79.35	-18.06	0.015622	0.050000	-0.034378	259	1.24	V	AVE	Axis 3 - high channel
2361.000	67.87	26.33	3.86	29.39	74.79	-22.61	0.005479	0.050000	-0.044521	262	1.20	V	AVE	Axis 3 - high channel
3148.000	65.73	26.26	4.65	30.57	74.69	-22.72	0.005347	0.050000	-0.044653	263	1.22	V	AVE	Axis 3 - high channel
3935.000	63.20	26.01	5.35	31.98	74.52	-22.89	0.005142	0.050000	-0.044858	260	1.27	V	AVE	Axis 3 - high channel
4722.000	55.66	25.83	5.89	32.80	68.52	-28.89	0.001292	0.050000	-0.048708	261	1.25	V	AVE	Axis 3 - high channel
5509.000	44.45	25.65	6.16	34.91	59.87	-37.54	0.000176	0.050000	-0.049824	257	1.28	V	AVE	Axis 3 - high channel
6296.000	39.49	25.50	6.74	35.50	56.22	-41.19	0.000076	0.050000	-0.049924	256	1.25	V	AVE	Axis 3 - high channel
7083.000	34.95	25.36	7.32	36.09	53.00	-44.41	0.000036	0.050000	-0.049964	254	1.31	V	AVE	Axis 3 - high channel
7870.000	35.08	25.22	7.90	36.68	54.44	-42.97	0.000050	0.050000	-0.049950	256	1.31	V	AVE	Axis 3 - high channel
1574.000	75.06	26.30	3.07	25.28	77.11	-20.30	0.009327	0.050000	-0.040673	231	1.13	H	AVE	Axis 3 - high channel
2361.000	59.60	26.33	3.86	29.39	66.52	-30.88	0.000816	0.050000	-0.049184	235	1.15	H	AVE	Axis 3 - high channel
3148.000	39.09	26.26	4.65	30.57	48.05	-49.36	0.000012	0.050000	-0.049988	236	1.16	H	AVE	Axis 3 - high channel
3935.000	40.14	26.01	5.35	31.98	51.46	-45.95	0.000025	0.050000	-0.049975	239	1.14	H	AVE	Axis 3 - high channel
4722.000	33.36	25.83	5.89	32.80	46.22	-51.19	0.000008	0.050000	-0.049992	235	1.12	H	AVE	Axis 3 - high channel

Note : Readings at ground floor not recorded.



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Radiated Test Set-Up

DNB Job Number:	96134	Date:	29 Oct 2019	Specification [X] FCC Part 27 [X] RSS-130 [X] ANSI C63.26:2015
Customer:	CovertTrack Inc			
Model Number:	STLTHV			
Description:				

RADIATED EMISSIONS TEST SET UP BELOW 1 GHZ



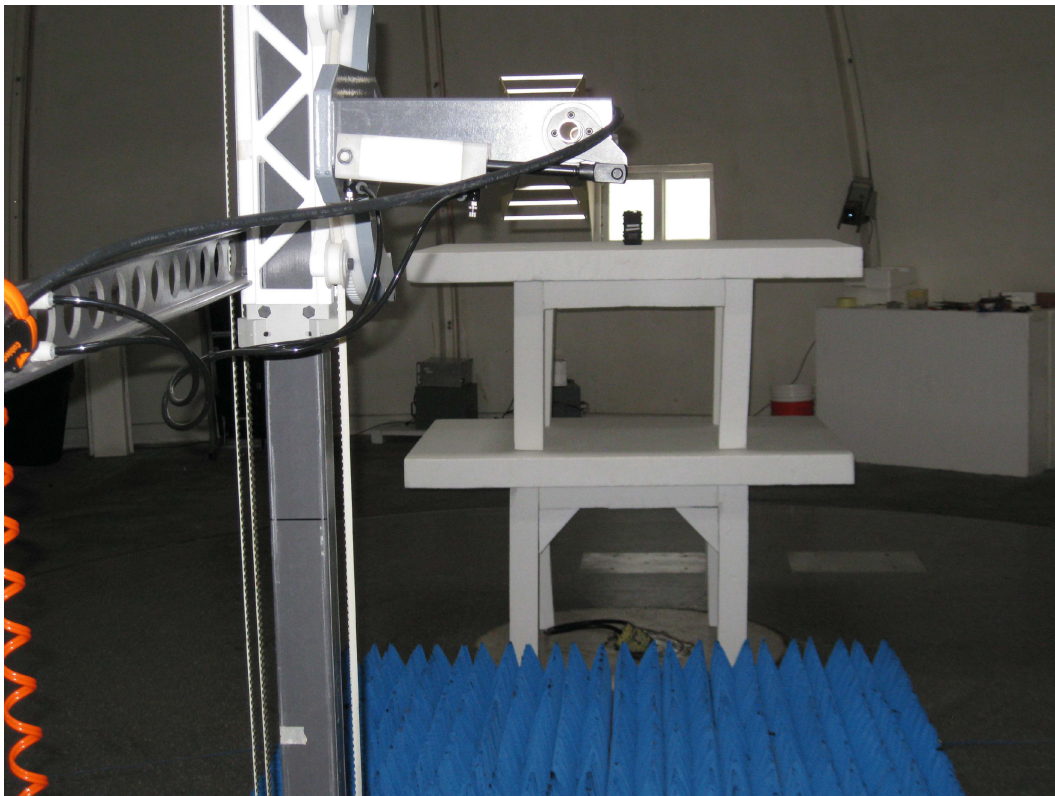



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Radiated Test Set-Up

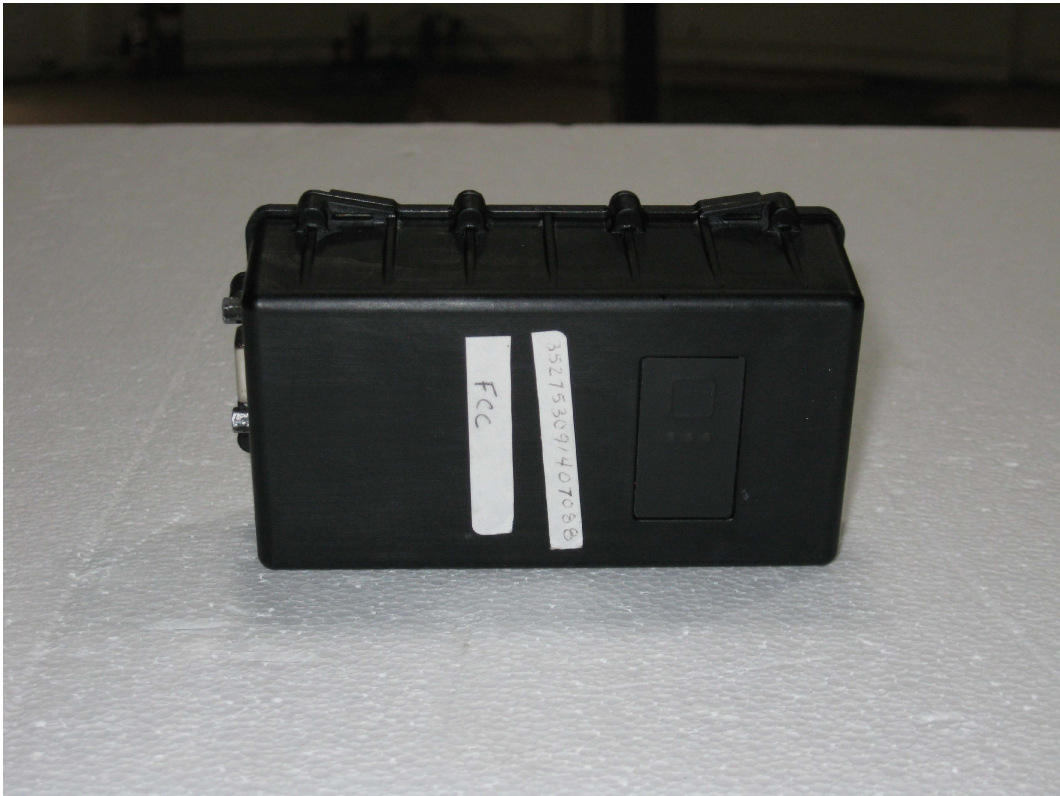
DNB Job Number:	96134	Date:	29 Oct 2019	Specification [X] FCC Part 27 [X] RSS-130 [X] ANSI C63.26:2015
Customer:	CovertTrack Inc			
Model Number:	STLTHV			
Description:				


RADIATED EMISSIONS TEST SET UP ABOVE 1 GHZ



	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	Radiated Test Set-Up	
DNB Job Number:	96134	Date: 29 Oct 2019	Specification
Customer:	CovertTrack Inc		<input checked="" type="checkbox"/> FCC Part 27
Model Number:	STLTHV		<input checked="" type="checkbox"/> RSS-130
Description:			<input checked="" type="checkbox"/> ANSI C63.26:2015


RADIATED EMISSIONS TEST SET UP - X AXIS (Axis 1)



	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	Radiated Test Set-Up	
DNB Job Number:	96134	Date: 29 Oct 2019	Specification
Customer:	CovertTrack Inc		<input checked="" type="checkbox"/> FCC Part 27
Model Number:	STLTHV		<input checked="" type="checkbox"/> RSS-130
Description:			<input checked="" type="checkbox"/> ANSI C63.26:2015

RADIATED EMISSIONS TEST SET UP - Y AXIS (Axis 2)



	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	Radiated Test Set-Up	
DNB Job Number:	96134	Date: 29 Oct 2019	Specification
Customer:	CovertTrack Inc		<input checked="" type="checkbox"/> FCC Part 27
Model Number:	STLTHV		<input checked="" type="checkbox"/> RSS-130
Description:			<input checked="" type="checkbox"/> ANSI C63.26:2015

RADIATED EMISSIONS TEST SET UP - Z AXIS (Axis 3)



End of Report UT96134B-003