



FCC TEST REPORT

FCC ID: 2BXNV-AT510S

On Behalf of

Satlock Logistica y Seguridad SAS

GPS Asset Tracker

Model No.: AT510S

Prepared for : Satlock Logistica y Seguridad SAS
Address : AV 4 # 6 NORTE - 67 OF 507 ED SIGLO XXI Cali - Valle, Colombia

Prepared By : Shenzhen PSI Testing Co., Ltd.
Address : 1-2/F., Building 5, Yudafu Industrial Park, No.10, Xingye West Road,
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Date of Test : July 2, 2026–July 27, 2026
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TEST REPORT DECLARATION

Applicant : Satlock Logistica y Seguridad SAS
Address : AV 4 # 6 NORTE - 67 OF 507 ED SIGLO XXI Cali - Valle, Colombia
Manufacturer : Shenzhen ATelematics Technology Co., Limited
Address : 3rd Floor, Building A3, Longhe Industrial Zone, Longgang District, Shenzhen, Guangdong Province, China
EUT Description : GPS Asset Tracker
(A) Model No. : AT510S
(B) Trademark : N/A

Measurement Standard Used:

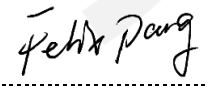
FCC CFR Title 47 Part 2
FCC CFR Title 47 Part 22 Subpart H
FCC CFR Title 47 Part 24 Subpart E
FCC CFR Title 47 Part 27
ANSI C63.26:2015

Test Result: PASS

The device described above is tested by Shenzhen PSI Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The test results are contained in this test report and Shenzhen PSI Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen PSI Testing Co., Ltd.

Tested by (name + signature).....:	Felix Pang Test Engineer	
Approved by (name + signature).....:	Simple Guan Project Manager	
Date of issue.....:	July 27, 2026	

Revision History

Revision	Issue Date	Revisions	Revised By
V0	July 27, 2026	Initial released Issue	Felix Pang



1 Test Summary

Test Item	Section in CFR 47	Result
RF Exposure (SAR)	Part 1.1307 Part 2.1091	Pass* (Please refer to MPE Report)
Transmitter Radiated Power (EIRP/ERP)	Part 2.1046 part22.913(a) (5) Part 24.232 (c) Part 27.50 (d)(4) Part 27.50 (h)	Pass
Peak-To-Average Ratio	Part 2.1046 Part 22.913(d) Part 24.232 (d) Part 27.50(d)	Pass
Modulation Characteristics	Part 2.1047	N/A
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917 Part 24.238 Part 27.53(a)	Pass
Spurious Emissions at Antenna Terminal	Part 2.1051 Part 22.917 (a) Part 24.238 (a) Part 27.53 (h)	Pass
Field Strength of Spurious Radiation	Part 2.1053 Part 22.917 (a) Part 24.238 (a) Part 27.53 (h)	Pass
Frequency stability	Part 2.1055(a)(1)(b) Part 2.1055(d)(1)(2)	Pass

Note: 1. P is an abbreviation for Pass.

2. F is an abbreviation for Fail.

3. N/A is an abbreviation for Not Applicable.

4. Conclusion determination rules of this report: Unless there are clear provisions on measurement uncertainty in the standard or customer requirements, decision by actual test data without considering measurement uncertainty.

2 General Information

2.1 General Description of EUT

Description of Device (EUT)

Description	: GPS Asset Tracker
Model Number	: AT510S
Diff	: N/A
Test Voltage	: DC 3.7V from battery, DC 12V from Power Supply.

Support Networks	: LTE
Support Bands	: FDD LTE: Band 2/4/5/7/66 LTE Band 2: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
Channel Bandwidth	: LTE Band 5: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
TX Frequency	: LTE Band 2: 1850~1910MHz LTE Band 4: 1710~1755MHz LTE Band 5: 824~849MHz LTE Band 7: 2500~2570 MHz LTE Band 66: 1710~1780 MHz
Modulation type	: QPSK, 16QAM
Antenna type	: Internal Antenna
Antenna Type	: Maximum Gain is 2.96dBi for LTE Band 2 Maximum Gain is 2.96dBi for LTE Band 4 Maximum Gain is -11.93dBi for LTE Band 5 Maximum Gain is -4.58dBi for LTE Band 7 Maximum Gain is 2.96dBi for LTE Band 66
Software version	: N/A
Hardware version	: N/A

Remark: 1. The worst-case simultaneous transmission configuration was evaluated with no non-compliance found. Results in this report are only for 4G function, and there is no other transmitter involved.

Test channel:

Operation bands	Channel Bandwidth (MHz)	Frequencies under Test					
		Channel Low	CH Fre (MHz)	Channel Mid	CH Fre (MHz)	Channel High	CH Fre (MHz)
Band 2	1.4	18607	1850.7	18900	1880	19193	1909.3
	3	18615	1851.5	18900	1880	19185	1908.5
	5	18625	1852.5	18900	1880	19175	1907.5
	10	18650	1855	18900	1880	19150	1905
	15	18675	1857.5	18900	1880	19125	1902.5
	20	18700	1860	18900	1880	19100	1900
Band 4	1.4	19957	1710.7	20175	1732.5	20393	1754.3
	3	19965	1711.5	20175	1732.5	20385	1753.5
	5	19975	1712.5	20175	1732.5	20375	1752.5
	10	20000	1715	20175	1732.5	20350	1750
	15	20025	1717.5	20175	1732.5	20325	1747.5
	20	20050	1720	20175	1732.5	20300	1745
Band 5	1.4	20407	824.7	20525	836.5	20643	848.3
	3	20415	825.5	20525	836.5	20635	847.5
	5	20425	826.5	20525	836.5	20625	846.5
	10	20450	829.0	20525	836.5	20600	844.0
Band 7	5	20775	2502.5	21100	2535.0	21425	2567.5
	10	20800	2505.0	21100	2535.0	21400	2565.0
	15	20825	2507.5	21100	2535.0	21375	2562.5
	20	20850	2510.0	21100	2535.0	21350	2560.0
Band 66	1.4	131979	1710.7	132322	1745.0	132665	1779.3
	3	131987	1711.5	132322	1745.0	132657	1778.5
	5	131997	1712.5	132322	1745.0	132647	1777.5
	10	132022	1715.0	132322	1745.0	132622	1775.0
	15	132047	1717.5	132322	1745.0	132597	1772.5
	20	132072	1720.0	132322	1745.0	132572	1770.0

LTE										
Test Case	BW	Modulation				RB		CH		
		QPSK	16QAM	64QAM	256QAM	1	Full	L	M	VH
Transmitter Conducted Output Power And ERP/EIRP	all	Y	Y	/	/	Y	Y	Y	Y	Y
Frequency Stability	all	Y	Y	/	/	/	Y	Y	Y	Y
Peak to Average Ratio	all	Y	Y	/	/	/	Y	/	Y	/
Occupied Bandwidth	all	Y	Y	/	/	/	Y	/	Y	/
Conducted Spurious Emissions	all	Y	Y	/	/	Y	/	Y	/	Y
Conducted Band Edge	all	Y	Y	/	/	Y	Y	Y	/	Y
Radiated Spurious Emission	worst case									
Note: 1. The mark " Y " means that this configuration is chosen for testing. 2. The mark " / " means that this bandwidth is not supported. 3. The device is investigated from 30Hz to 10 times of fundamental signal for radiated spurious emission test underdifferent RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.										

2.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is filing to comply with Section Part 22 subpart H, FCC CFR Title 47 Part 24 Subpart E and Part 27 of the FCC CFR 47 Rules.

2.3 Test Methodology

Both conducted and radiated testing were performed according to the procedures document on TIA/EIA 603-F and FCC CFR 47.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057

2.4 Test Facility

Shenzhen PSI Testing Co., Ltd.

1-2/F., Building 5, Yudafu Industrial Park, No.10, Xingye West Road, Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China

September 13, 2023 File on Federal Communication Commission

Registration Number: 916281

Designation Number: CN1362

September 21, 2023 Certificated by IC

Registration Number: 31123

CAB identifier: CN0158

2.5 Accessories of Device (EUT)

Accessories	:	N/A
Manufacturer	:	N/A
Model	:	N/A
Ratings	:	N/A

2.6 Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification
1.	N/A	N/A	N/A	N/A	N/A
2.	N/A	N/A	N/A	N/A	N/A

2.7 Test Conditions

Items	Required	Actual
Temperature range:	15-35℃	26℃
Humidity range:	25-75%	54%
Pressure range:	86-106kPa	101kPa

2.8 Measurement Uncertainty

(95% confidence levels, k=2)

Item	Uncertainty
Uncertainty for Power Line Conducted Emissions Test	2.13dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	4.07dB
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	4.51dB
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 18GHz)	5.07dB
Uncertainty for Radiation Emission test in 3m chamber (18GHz to 40GHz)	5.21dB
Uncertainty for radio frequency	48.24KHz
Uncertainty for conducted RF Power	0.41dB
Uncertainty for Power Spectral Density	0.39 dB
Occupied-Bandwidth	968Hz
Duty cycle	1%
Conducted-Spurious Emission	1.26dB

3 Test Instruments list

Item	Equipment	Manufacturer	Model No.	Serial No.	Firmware Version	Last Cal.	Cal. Interval
1.	9*6*6 anechoic chamber	SKET	9*6*6	N/A	/	2025.12.18	3 Year
2.	Test Receiver	Rohde&Schwarz	ESCI 7	101032/003	4.42 SP3	2025.12.18	1 Year
3.	L.I.S.N.#1	Rohde&Schwarz	ENV 216	102282	/	2025.12.18	1 Year
4.	L.I.S.N.#2	EMCO	3810-2	00094944	/	2025.12.18	1 Year
5.	Loop Antenna	Schwarz beck	FMZB 1519B	00128	/	2025.01.02	2 Year
6.	Bilog Antenna	Schwarz beck	VULB 9168	01448	/	2025.01.02	2 Year
7.	Spectrum Analyzer	Rohde&Schwarz	FSV40-N	101648	3.70	2025.12.18	1 Year
8.	Horn Antenna	Schwarz beck	BBHA 9120 D	02706	/	2025.01.02	2 Year
9.	Amplifier	SKET	LNPA_0118 G-50	SK2022032901	/	2025.12.18	1 Year
10.	Horn Antenna	Schwarz beck	BBHA 9170	00946	/	2024.12.31	2 Year
11.	Amplifier	SKET	LNPA_1840 G-50	SK2019040302	/	2025.12.18	1 Year
12.	RF Power Probe	Rohde&Schwarz	NRP-Z11	1138.3004.02-1111533-Fz	/	2025.12.18	1 Year
13.	RF Sensor Unit	Tachoy	TR1029-2	20220428P008	/	2025.12.18	1 Year
14.	Spectrum Analyzer	Agilent	N9020A	MY51281067	A.14.03	2025.12.18	1 Year
15.	Temp. & Humid Chamber	Auchno	9606	/	/	2025.12.18	1 Year
16.	Regulated DC Power Supply	Xinouhua	ADC120V10 A	202211251638	/	2025.12.18	1 Year
17.	Cable	SKET	Cable-RE-1	#02/#03	/	2025.12.18	1 Year
18.	Cable	SKET	Cable-RE-2	#01	/	2025.12.18	1 Year
19.	Cable	SKET	Cable-RE-3	#04	/	2025.12.18	1 Year
20.	Cable	SKET	Cable-CE-1	A-E-24	/	2025.12.18	1 Year
21.	6dB Attenuator	Schwarzbeck	DGA 9552N 6dB	CK4186	/	2025.12.18	1 Year
22.	Power meter	Agilent	E4419B	GB40202121	/	2025.12.18	1 Year
23.	Comprehensive Test Instrument	Rohde&Schwarz	CMW 500	145266	/	2025.12.18	1 Year
For Test Software Information							
Item	Software Name	Manufacturer			Version		
RE	EZ EMC	Farad			PSI-3A1		
CE	EZ EMC	Farad			PSI-3A1		
RF	RTS	TACHOY			V1.0.0		

4 System test configuration

4.1 Test mode

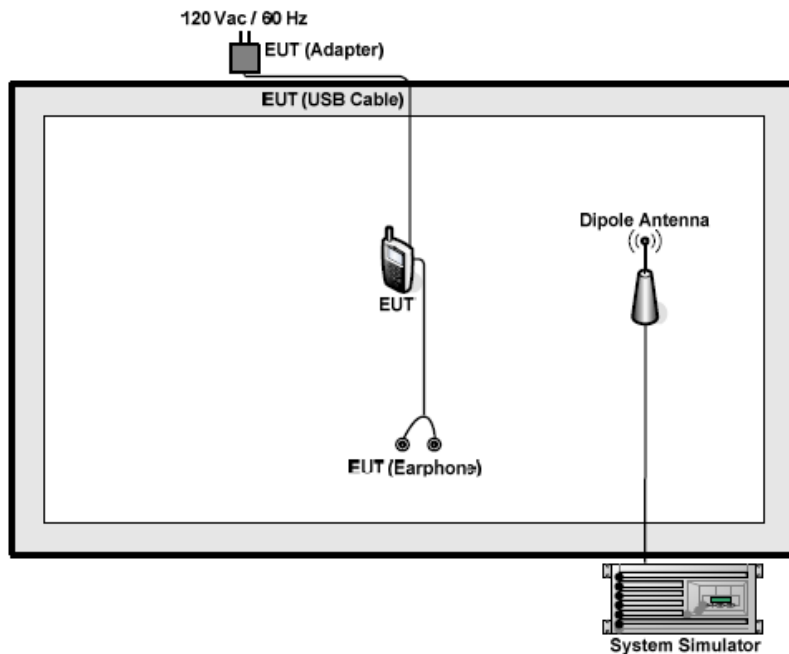
During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Test modes		
Band	Radiated	Conducted
LTE Band 2	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
LTE Band 4	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
LTE Band 5	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
LTE Band 7	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
LTE Band 66	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link

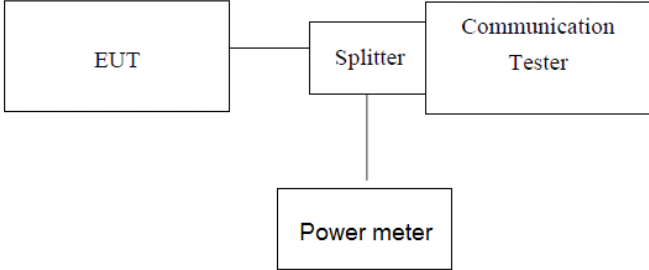
Note: Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas License Digital Systems v03r1 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

4.2 Configuration of Tested System



4.3 Transmitter Radiated Power (EIRP/ERP)

Test Requirement:	FCC part22.913(a) (5), FCC part24.232(b) and FCC Part 27.50 (d)(4)/(h)/(c)
Test Method:	ANSI C63.26:2015
Limit:	LTE Band 2: 2W(33.01dBm) LTE Band 4: 1W(30.00dBm) LTE Band 5: 7W(38.45dBm) LTE Band 7: 2W(33.01dBm) LTE Band 66: 1W(30.00dBm)
Test setup:	 <i>Note: Measurement setup for testing on Antenna connector</i>
Test Procedure:	Description of the Conducted Output Power Measurement The EUT is coupled to the SS with attenuator through power splitter; the RF load attached to EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. A system simulator is used to establish communication with the EUT, and its parameters are set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported. The relevant equation for determining the conducted measured value is: Conducted Output Power Value (dBm) = Measured Value (dBm) + Path Loss (dB) where: Conducted Output Power Value = final conducted measured value in the conducted power test, in dBm; Measured Value = measured conducted power received by spectrum analyzer or power meter, in dBm; Path Loss = signal attenuation in the connecting cable between the transmitter and spectrum analyzer or power meter, including external cable loss, in dB; During the test, the data of Path Loss (dB) is added in the spectrum analyzer or power meter, so Measured Value (dBm) is the final values which contains the data of Path Loss (dB). For example: In the conducted output power test, when measured value for GSM850 is 24.7 dBm, and path loss is 8.5 dB, then final conducted output power value is: Conducted Output Power Value (dBm) = 24.7 dBm + 8.5 dB = 33.2 dBm Description of the Transmitter Radiated Power Measurement In many cases, the RF output power limits for licensed digital transmission devices is specified in terms of effective radiated power (ERP) or equivalent isotropic radiated power (EIRP). Typically, ERP is specified when the operating frequency is less than or equal to 1 GHz and EIRP is specified when the operating frequency is greater than 1 GHz. Both are determined by adding the transmit antenna gain to the

conducted RF output power with the primary difference between the two being that when determining the ERP, the transmit antenna gain is referenced to a dipole antenna (i.e., dBd) whereas when determining the EIRP, the transmit antenna gain is referenced to an isotropic antenna (dBi).

Final measurement calculation as below:

The relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$$\text{ERP/EIRP} = \text{PMeas} + \text{GT} - \text{LC}$$

where:

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);

PMeas = measured transmitter output power or PSD, in dBm or dBW; GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP); dBd (ERP)=dBi (EIRP) -2.15 dB

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

For example:

In the EIRP test, when PMeas value for GSM1900 is 30.2 dBm, LC is 0.6 dB, and GT is -3.4 dB, then final EIRP value is:

$$\text{EIRP for GSM1900} = 30.2 \text{ dBm} - 3.4 \text{ dBi} - 0.6 \text{ dB} = 26.2 \text{ dBm}$$

The relevant equation for determining the ERP/EIRP from the radiated RF output power is:

$$\text{ERP/EIRP (dBm)} = \text{SA Read Value (dBm)} + \text{Correction Factor (dB)}$$

where:

ERP/EIRP = effective or equivalent radiated power, in dBm;

SA Read Value = measured transmitter power received by EMI receiver or spectrum analyzer, in dBm; Correction Factor = total correction factor including cable loss, in dB;

During the test, the data of Correction Factor (dB) is added in the EMI receiver or spectrum analyzer, so SA Read Value (dBm) is the final values which contains the data of Correction Factor (dB).

For example:

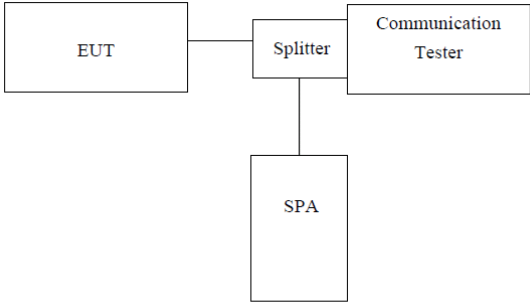
In the ERP test, when SA read value for GSM850 is 21dBm, and correction factor is 8dB, then final ERP value for GSM850 is:

$$\text{ERP (dBm)} = 21\text{dBm} + 8\text{dB} = 29\text{dBm}$$

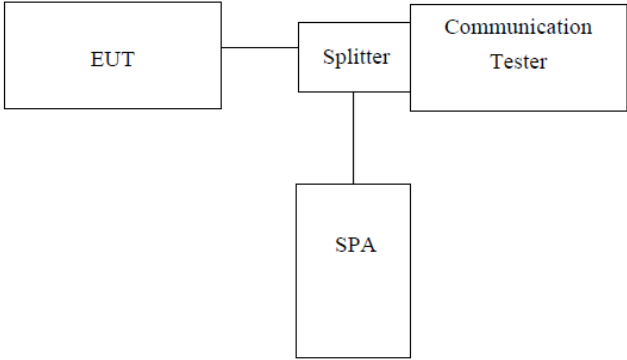
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass (Please refer to ANNEX for the test results)



4.4 Peak-to-Average Ratio

Test Requirement:	Part 22.913(d), FCC part24.232(d) and FCC part27.50(d)(5)/(c)
Test Method:	ANSI C63.26:2015
Test Limit:	Used complementary cumulative distribution function (CCDF) of analyzer to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time
Test setup:	 <i>Note: Measurement setup for testing on Antenna connector</i>
Test Procedure:	1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.7. 2. The EUT was connected to spectrum and system simulator via a power divider 3. Using the CCDF measurement of spectrum analyzer; 4. Set $RBW \geq OBW$ or specified reference bandwidth; 5. Set the number of counts to a value that stabilizes the measured CCDF curve; 6. Set the measurement interval as 1ms 7. Record the maximum PAPR level associated with a probability of 0.1%.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass (Please refer to ANNEX for the test results)

4.5 Occupy Bandwidth

Test Requirement:	FCC part22.913(a), FCC part24.232(b) and FCC part27.53(a)
Test Method:	ANSI C63.26:2015
Test setup:	 <i>Note: Measurement setup for testing on Antenna connector</i>
Test Procedure:	1.The EUT's output RF connector was connected with a short cable to the spectrum analyzer, set center frequency to channel center frequency. 2.RBW was set to about 1%-5% of emission OBW, VBW$\geq$ 3 X RBW. 3.Set spectrum analyzer detection mode to peak, and the trace mode to max hold. 4. Use the 99% OBW function, The 99% power OBW can be found on the plot, determine the “-26dB amplitude” as equal to reference value -26dB.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass (Please refer to ANNEX for the test results)

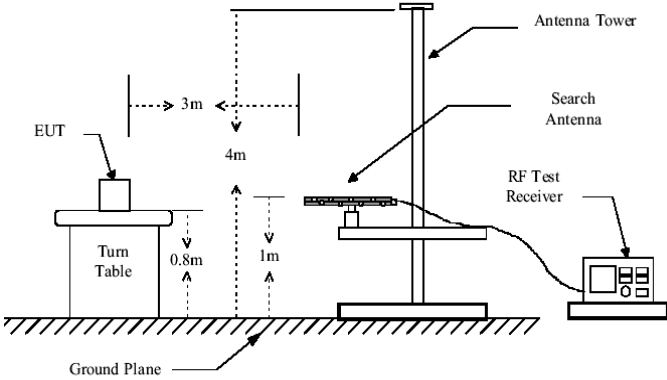
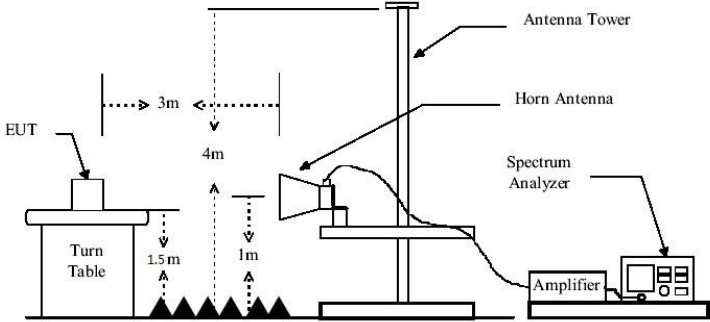
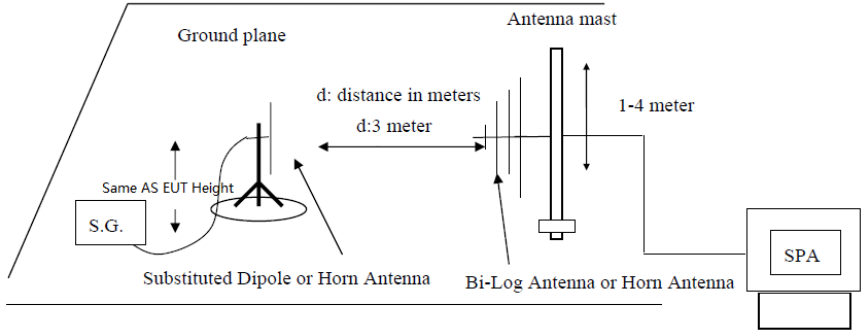
4.6 MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 24E & Part 27 there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

4.7 Out of band emission at antenna terminals

Test Requirement:	FCC part22.913(a), FCC part24.238(a), FCC part27.53(h)
Test Method:	ANSI C63.26:2015
Limit:	Band B2/B4/B5/B7/B66:-13dBm
Test setup:	<pre> graph LR EUT[EUT] --- Splitter[Splitter] Splitter --- CT[Communication Tester] Splitter --- Filter[Filter] Filter --- SPA[SPA] </pre> <i>Note: Measurement setup for testing on Antenna connector</i>
Test Procedure:	1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic. 3 For the out of band: Set the RBW=1MHz, VBW = 3MHz, Start=30MHz, Stop= 10th harmonic. 4 Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass (Please refer to ANNEX for the test results)

4.8 Field strength of spurious radiation measurement

Test Requirement:	FCC part22.913(a), FCC part24.238(a), FCC part27.53(h)
Test Method:	ANSI C63.26:2015
Limit:	Band B2/B4/B5/B7/B66:-13dBm
Test setup:	Below 1GHz  Above 1GHz  Substituted method: 

Test Procedure:	1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. 4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. $\text{ERP / EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Measurement Data(Worst case):

QPSK Mode:

Test mode:	LTE Band 2(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3861.66	Vertical	-37.18	-13.00	Pass
5791.29	V	-39.25		
7722.51	V	-37.85		
9652.97	V	-43.45		
11584.00	V	-37.63		
3862.35	Horizontal	-38.72	-13.00	Pass
5792.93	H	-42.41		
7722.95	H	-44.54		
9654.62	H	-45.93		
11585.27	H	-37.80		
Test mode:	LTE Band 2(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3919.70	Vertical	-36.96	-13.00	Pass
5880.28	V	-39.69		
7840.46	V	-37.96		
9800.22	V	-43.68		
11759.36	V	-37.51		
3919.28	Horizontal	-38.81	-13.00	Pass
5880.16	H	-42.19		
7839.74	H	-44.47		
9799.30	H	-46.02		
11760.24	H	-38.30		
Test mode:	LTE Band 2(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3979.24	Vertical	-37.13	-13.00	Pass
5967.90	V	-39.81		
7957.88	V	-37.54		
9947.23	V	-43.40		
11936.24	V	-38.13		
3978.39	Horizontal	-39.07	-13.00	Pass
5968.37	H	-42.16		
7956.88	H	-44.81		
9946.04	H	-46.11		
11935.25	H	-38.21		

Test mode:	LTE Band 4(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4221.54	Vertical	-37.12	-13.00	Pass
6331.16	V	-38.96		
8443.55	V	-37.68		
10552.88	V	-43.32		
12664.36	V	-37.87		
4221.88	Horizontal	-39.19	-13.00	Pass
6330.91	H	-42.90		
8441.65	H	-44.59		
10554.98	H	-45.54		
12664.06	H	-37.73		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4264.91	Vertical	-37.05	-13.00	Pass
6397.86	V	-39.03		
8529.26	V	-38.06		
10663.20	V	-43.40		
12794.43	V	-38.41		
4264.41	Horizontal	-39.03	-13.00	Pass
6397.78	H	-42.91		
8529.68	H	-44.77		
10663.17	H	-46.48		
12794.51	H	-37.87		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4264.91	Vertical	-37.05	-13.00	Pass
6397.86	V	-39.03		
8529.26	V	-38.06		
10663.20	V	-43.40		
12794.43	V	-38.41		
4264.41	Horizontal	-39.03	-13.00	Pass
6397.78	H	-42.91		
8529.68	H	-44.77		
10663.17	H	-46.48		
12794.51	H	-37.87		

Test mode:	LTE Band 5(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1739.77	Vertical	-36.85	-13.00	Pass
2609.66	V	-37.37		
3478.11	V	-36.66		
4348.75	V	-38.32		
5217.75	V	-38.00		
1738.12	Horizontal	-36.89	-13.00	Pass
2608.21	H	-36.57		
3477.94	H	-36.71		
4349.74	H	-38.32		
5216.85	H	-38.62		
Test mode:	LTE Band 5(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1762.43	Vertical	-36.56	-13.00	Pass
2644.22	V	-36.82		
3526.13	V	-36.65		
4406.94	V	-37.73		
5289.07	V	-38.21		
1763.00	Horizontal	-36.44	-13.00	Pass
2644.31	H	-36.99		
3526.51	H	-36.84		
4407.22	H	-38.43		
5288.34	H	-37.76		
Test mode:	LTE Band 5(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1786.94	Vertical	-36.45	-13.00	Pass
2680.30	V	-36.88		
3573.06	V	-37.36		
4466.05	V	-38.29		
5359.46	V	-37.93		
1786.06	Horizontal	-37.08	-13.00	Pass
2679.87	H	-36.86		
3572.78	H	-37.38		
4465.75	H	-38.25		
5360.29	H	-38.41		

Test mode:	LTE Band 7(5MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
5244.53	Vertical	-36.71	-13.00	Pass
7868.67	V	-39.47		
10491.25	V	-38.13		
13112.98	V	-43.80		
15734.81	V	-38.24		
5244.54	Horizontal	-38.98	-13.00	Pass
7867.87	H	-43.05		
10491.42	H	-44.65		
13113.67	H	-46.26		
15734.32	H	-38.01		
Test mode:	LTE Band 7(5MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
5310.23	Vertical	-36.74	-13.00	Pass
7964.47	V	-39.47		
10620.72	V	-38.29		
13274.25	V	-43.13		
15929.42	V	-38.48		
5309.90	Horizontal	-39.16	-13.00	Pass
7964.71	H	-42.86		
10620.26	H	-45.12		
13275.12	H	-46.08		
15930.53	H	-38.23		
Test mode:	LTE Band 7(5MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
5375.37	Vertical	-36.95	-13.00	Pass
8062.47	V	-39.50		
10749.98	V	-38.00		
13437.13	V	-43.00		
16124.59	V	-38.02		
5374.91	Horizontal	-39.26	-13.00	Pass
8062.44	H	-42.55		
10750.52	H	-45.15		
13438.22	H	-46.15		
16125.46	H	-38.60		

Test mode:	LTE Band 66(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4220.07	Vertical	-36.78	-13.00	Pass
6330.62	V	-39.30		
8444.25	V	-38.27		
10553.48	V	-43.32		
12664.96	V	-38.51		
4220.21	Horizontal	-39.47	-13.00	Pass
6331.47	H	-42.86		
8442.21	H	-44.73		
10554.96	H	-45.68		
12663.35	H	-38.08		
Test mode:	LTE Band 66(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4264.49	Vertical	-37.20	-13.00	Pass
6397.28	V	-38.96		
8530.42	V	-38.07		
10662.74	V	-43.24		
12795.71	V	-38.22		
4264.36	Horizontal	-38.84	-13.00	Pass
6397.33	H	-42.66		
8530.50	H	-45.14		
10661.79	H	-45.79		
12795.67	H	-38.36		
Test mode:	LTE Band 66(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4308.53	Vertical	-37.22	-13.00	Pass
6462.24	V	-39.35		
8616.73	V	-37.64		
10770.86	V	-43.69		
12925.36	V	-38.12		
4307.85	Horizontal	-38.68	-13.00	Pass
6462.18	H	-42.45		
8617.10	H	-44.80		
10772.21	H	-46.28		
12925.36	H	-37.71		

Remark :

- 1 The emission behaviour belongs to narrowband spurious emission, all modes investigated and only worst case is reported.
- 2 Remark"---" means that the emission level is too low (20dB lower than the limit) to be measured
- 3 The emission levels of below 1 GHz are very lower (20dB lower than the limit) than the limit and not show in test report.

Measurement Data(Worst case):

16 QAM Mode:

Test mode:	LTE Band 2 (1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3862.66	Vertical	-36.98	-13.00	Pass
5791.91	V	-39.00		
7722.85	V	-37.64		
9652.96	V	-43.49		
11585.47	V	-38.22		
3862.81	Horizontal	-38.95	-13.00	Pass
5792.44	H	-42.16		
7722.64	H	-44.96		
9653.38	H	-46.28		
11585.33	H	-37.96		
Test mode:	LTE Band 2 (1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3919.39	Vertical	-36.95	-13.00	Pass
5880.17	V	-39.68		
7839.68	V	-37.73		
9799.63	V	-42.99		
11759.66	V	-38.39		
3919.94	Horizontal	-38.76	-13.00	Pass
5879.36	H	-42.46		
7839.90	H	-45.12		
9800.55	H	-46.25		
11760.37	H	-38.07		
Test mode:	LTE Band 2 (1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3978.50	Vertical	-36.71	-13.00	Pass
5967.85	V	-39.24		
7957.08	V	-38.35		
9946.90	V	-42.81		
11936.28	V	-37.75		
3978.10	Horizontal	-38.88	-13.00	Pass
5968.58	H	-42.26		
7957.77	H	-45.04		
9946.86	H	-45.86		
11935.43	H	-37.93		

Test mode:	LTE Band 4(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4221.75	Vertical	-37.01	-13.00	Pass
6330.85	V	-39.46		
8441.77	V	-38.05		
10554.48	V	-43.36		
12665.07	V	-37.72		
4220.74	Horizontal	-39.07	-13.00	Pass
6332.95	H	-42.61		
8441.83	H	-44.94		
10552.33	H	-45.90		
12665.10	H	-37.58		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4264.99	Vertical	-36.63	-13.00	Pass
6397.17	V	-39.87		
8530.46	V	-38.08		
10662.21	V	-43.32		
12794.52	V	-37.86		
4264.35	Horizontal	-38.76	-13.00	Pass
6396.95	H	-42.42		
8530.14	H	-44.93		
10662.61	H	-45.70		
12795.60	H	-38.16		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4308.57	Vertical	-37.05	-13.00	Pass
6463.12	V	-39.61		
8617.29	V	-38.14		
10771.63	V	-42.95		
12925.10	V	-38.45		
4308.19	Horizontal	-39.37	-13.00	Pass
6462.24	H	-42.83		
8617.07	H	-44.92		
10771.02	H	-45.77		
12925.42	H	-38.17		

Test mode:	LTE Band 5(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1738.21	Vertical	-36.61	-13.00	Pass
2609.19	V	-37.22		
3478.02	V	-37.19		
4349.76	V	-38.67		
5219.21	V	-38.26		
1739.79	Horizontal	-36.64	-13.00	Pass
2609.54	H	-36.76		
3480.04	H	-37.05		
4349.08	H	-38.60		
5218.80	H	-38.68		
Test mode:	LTE Band 5(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1762.90	Vertical	-36.84	-13.00	Pass
2644.46	V	-37.20		
3526.64	V	-37.46		
4407.65	V	-38.48		
5288.66	V	-38.21		
1762.79	Horizontal	-36.12	-13.00	Pass
2644.24	H	-37.01		
3525.74	H	-36.76		
4408.16	H	-37.75		
5289.66	H	-37.87		
Test mode:	LTE Band 5(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1786.32	Vertical	-36.64	-13.00	Pass
2680.42	V	-36.65		
3573.06	V	-36.90		
4466.18	V	-38.22		
5359.61	V	-38.29		
1785.98	Horizontal	-36.23	-13.00	Pass
2680.59	H	-36.66		
3573.14	H	-37.60		
4466.88	H	-38.09		
5360.39	H	-38.17		

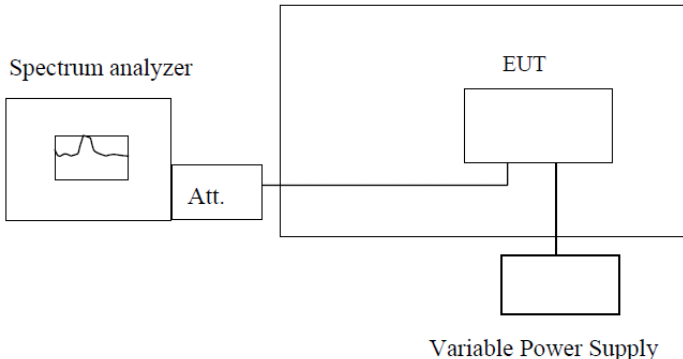
Test mode:	LTE Band 7 (5MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
5245.28	Vertical	-36.92	-13.00	Pass
7866.55	V	-39.11		
10489.01	V	-38.27		
13112.67	V	-43.29		
15733.54	V	-37.77		
5244.94	Horizontal	-39.20	-13.00	Pass
7868.49	H	-42.40		
10489.05	H	-45.30		
13111.14	H	-46.02		
15735.83	H	-38.49		
Test mode:	LTE Band 7 (5MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
5309.93	Vertical	-36.79	-13.00	Pass
7964.70	V	-39.30		
10620.30	V	-38.34		
13275.49	V	-43.69		
15929.28	V	-38.00		
5310.68	Horizontal	-39.06	-13.00	Pass
7964.58	H	-43.00		
10619.25	H	-44.58		
13274.73	H	-46.36		
15929.67	H	-38.34		
Test mode:	LTE Band 7 (5MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
5374.61	Vertical	-36.82	-13.00	Pass
8061.87	V	-38.98		
10750.18	V	-37.80		
13436.80	V	-43.37		
16124.49	V	-38.47		
5374.39	Horizontal	-39.19	-13.00	Pass
8063.18	H	-42.72		
10750.74	H	-44.89		
13437.83	H	-45.96		
16125.33	H	-37.92		

Test mode:	LTE Band 66 (1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4220.08	Vertical	-36.53	-13.00	Pass
6333.28	V	-39.91		
8443.84	V	-38.03		
10553.94	V	-43.35		
12665.59	V	-38.43		
4222.06	Horizontal	-39.19	-13.00	Pass
6331.73	H	-42.72		
8443.40	H	-45.21		
10552.42	H	-46.42		
12663.91	H	-38.17		
Test mode:	LTE Band 66 (1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4264.79	Vertical	-36.55	-13.00	Pass
6397.75	V	-39.43		
8529.87	V	-38.46		
10662.18	V	-43.28		
12795.13	V	-37.73		
4264.94	Horizontal	-39.27	-13.00	Pass
6396.87	H	-42.96		
8529.79	H	-44.56		
10662.22	H	-45.80		
12794.68	H	-37.88		
Test mode:	LTE Band 66 (1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4308.28	Vertical	-36.80	-13.00	Pass
6463.13	V	-39.29		
8617.04	V	-38.15		
10771.27	V	-43.47		
12925.33	V	-37.71		
4307.91	Horizontal	-39.42	-13.00	Pass
6462.41	H	-42.82		
8617.70	H	-44.84		
10772.01	H	-45.63		
12925.24	H	-37.78		

Remark :

- 1 The emission behaviour belongs to narrowband spurious emission, all modes investigated and only worst case is reported.
- 2 Remark"---" means that the emission level is too low (20dB lower than the limit) to be measured
- 3 The emission levels of below 1 GHz are very lower (20dB lower than the limit) than the limit and not show in test report.

4.9 Frequency stability

Test Requirement:	FCC Part 2.1055(a)(1)(b), FCC Part 2.1055(d)(1)(2), FCC Part 27.54
Test Method:	ANSI C63.26:2015
Limit:	2.5ppm(Part 22) Within the authorized bands of operation(Part 24, Part 27)
Test setup:	Temperature Chamber  Variable Power Supply Note : Measurement setup for testing on Antenna connector
Test procedure:	1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to –20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass (Please refer to ANNEX for the test results)

5 Photos of test setup

Reference to the **psi2606174-C01-R01** appendix I Test Setup Photo for details.

6 Photos of EUT

Reference to the **psi2606174-C01-R01** appendix II external photos and appendix III internal photos for details.

----- END OF REPORT-----

