

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference P074/WO	FOR FURTHER ACTION		See item 4 below
International application No. PCT/IL2015/000025	International filing date (<i>day/month/year</i>) 13 May 2015 (13.05.2015)	Priority date (<i>day/month/year</i>) 20 May 2014 (20.05.2014)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant SATIFY LTD.			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																								
<p>3. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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	Date of issuance of this report 22 November 2016 (22.11.2016)
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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

To: <p style="text-align: center;">INGEL Gil Alef. Gimel. - Intellectual Property Consulting Ltd. P.O.Box 2079 Rehovot 7612002 Israel</p>
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Date of mailing (<i>day/month/year</i>)	30 Aug 2015
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Applicant's or agent's file reference P074/WO	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/IL2015/000025	International filing date (<i>day/month/year</i>) 13 May 2015	Priority date (<i>day/month/year</i>) 20 May 2014
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International Patent Classification (IPC) or both national classification and IPC IPC (2015.01) H04B 1/10
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Applicant SATIXFY LTD.

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA: Israel Patent Office Technology Park, Bldg.5, Malcha, Jerusalem, 9695101, Israel Facsimile No. 972-2-5651616	Date of completion of this opinion 30 Aug 2015	Authorized officer DAVIDI Ariel Telephone No. 972-2-5651727
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/IL2015/000025

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed.
 - a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13*ter*.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13*ter*.1(a)).
 - on paper or in the form of an image file (Rule 13*ter*.1(b) and Administrative Instructions, Section 713).
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-7	YES
	Claims	NO
Inventive step (IS)	Claims	YES
	Claims 1-7	NO
Industrial applicability (IA)	Claims 1-7	YES
	Claims	NO

2. Citations and explanations:

1. Reference is made to the following documents:

D1: WO 2013/127688A2 (FRAUNHOFER GES FORSCHUNG) 2013-09-06

D2: US 6,504,855 B1 (MATSUNAGA OSAMU) 2003-01-07

Regarding the independent claims:

2. The present application does not meet the criteria of **Article 33(1) PCT**, because the subject-matter of **Claims 1, 6** does not involve an inventive step, in the sense of **Article 33(3) PCT**.

2.1 Referring to Claim 1

Document D1 discloses the following technical features (in the wordings of claim 1):

A method for reducing interference to transmissions (D1: Abstract; page 5, lines 10-11; page 7, line 31-page 8, line 13; page 11, line 22-page 12, line 2), **occurring due to other transmissions sent from/to neighboring satellites using same frequencies and/or interference that occur due to other communications transmitted along different satellite's beams using the same frequencies** (D1: page.1, lines 17-33; page 11, line 22-page 12, line 2), **wherein said method employing full dummy frames that should be transmitted in a TDM continuous satellite forward channel** (D1: page 7, line 32-page 8, line 13; page 11, line 22-page 12, line 2).

Document D1 does not disclose the features by which **the method comprises the step of replacing full dummy frames that should be transmitted in a TDM continuous satellite forward channel, by dummy frames' headers**.

However document D2 disclose **a method for reducing interference to transmissions** (D2: Abstract; col.2, lines 53-56), **wherein the method comprises the step of replacing full dummy frames that should be transmitted in a TDM continuous satellite forward channel, by dummy frames' headers** (D2: col.8, lines 1-6; col.11, lines 49-53, 57-61). It would be an obvious matter for person skilled in the art to replace the full dummy frames, that disclosed in document D1, by dummy frames' headers, as it is taught from document D2 for improving the transmission efficiency.

Therefore Claim 1 does not involve an inventive step.

- 2.2 The additional features that claim 6 comprises with respect to claim 1 is **a receiver configured for use in a satellite communications network, wherein said receiver is operative to receive communications**

But these features are disclosed in document D1 (see Abstract; page 1, lines 7-9; page 14, lines 1-6; page 21, lines 12-23)

Therefore **Claim 6** also does not involve an inventive step.

Regarding the dependent claims

3. The subject-matter of **Claims 2, 5, 7** does not involve an inventive step, in the sense of **Article 33(3) PCT** for the following reasons:
- 3.1. Referring to **Claim 2** - document D1 further discloses **a step of inserting at least one pilot sequence** (D1: page 7, lines 18-21; page 7, line 32-page 8, line 2; page 8, lines 9-10; page 11, line 33-page 12, line 2; page 12, lines 21-23; page 17, lines 20-24; page 18, lines 5-7). But document D1 does not disclose that the insertion of the pilot sequence is at at least one gap formed when a full dummy frame associated with said dummy frame's header and comprises a respective payload, was replaced with a dummy frame's header. It would be an obvious matter for person skilled in the art to insert the pilot sequence at the gap formed when the full dummy frame was replaced with a dummy frame's header, for reducing the interference to transmissions and further for improving the transmission efficiency.
- 3.2. Referring to **Claim 5** - document D1 further discloses **a step of inserting dummy frames at at least one of the satellite's transmission beams, when there is data available for transmission along that at least one beam** (D1: page 7, lines 32-34; page 11, lines 29-30).
- 3.3. Referring to **Claim 7** - document D1 further discloses that **the receiver is further configured to receive communications in which at least one pilot sequence was inserted** (D1: Abstract; page 1, lines 7-9; page 7, lines 18-21; page 7, line 32-page 8, line 2; page 8, lines 9-10; page 11, line 33-page 12, line 2; page 12, lines 21-23; page 14, lines 1-6; page 17, lines 20-24; page 18, lines 5-7; page 21, lines 12-23). But document D1 does not disclose that the insertion of the pilot sequence is at at least one gap formed when a full dummy frame associated with said dummy frame's header and comprises a respective payload, had been replaced with the dummy frame's header. It would be an obvious matter for person skilled in the art to insert the pilot sequence at the gap formed when the full dummy frame was replaced with a dummy frame's header, for reducing the interference to transmissions and further for improving the transmission efficiency.
4. Dependent **Claims 3, 4** do not contain any features, which in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect to inventive step in the sense of **Article 33(3) PCT**, because of these features do not yield any surprising technical effect.
5. **Industrial Applicable**
Claims 1-7 are industrially applicable, and therefore the requirements of **Article 33(4)**

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PCT are met.