

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5861860

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>SEQUENCE:</b>	2

**CONVEYING PARTY DATA**

Name	Execution Date
WONG INNOVATIONS LTD.	03/13/2019

**RECEIVING PARTY DATA**

<b>Name:</b>	SONY EUROPE LIMITED
<b>Street Address:</b>	THE HEIGHTS
<b>Internal Address:</b>	BROOKLANDS, WEYBRIDGE
<b>City:</b>	SURREY
<b>State/Country:</b>	UNITED KINGDOM
<b>Postal Code:</b>	KT13 0XW

**PROPERTY NUMBERS Total: 1**

Property Type	Number
<b>Application Number:</b>	16620871

**CORRESPONDENCE DATA****Fax Number:**

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<b>ATTORNEY DOCKET NUMBER:</b>	13563US01
<b>NAME OF SUBMITTER:</b>	LYSSA TARASENKO
<b>SIGNATURE:</b>	/Lyssa Tarasenko/
<b>DATE SIGNED:</b>	12/11/2019

**Total Attachments: 42**

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[REDACTED] FULL ASSIGNMENT FROM ASSIGNEE TO SONY  
EUROPE LIMITED, [REDACTED]

WHEREAS, [REDACTED] the attached APPENDIX (hereinafter referred to as "APPENDIX"), have invented certain new and useful improvements in the invention(s) listed on the same, for which an application for Letters Patent was executed on the priority date included thereon;

[REDACTED]

AND WHEREAS, SONY EUROPE LIMITED; a corporation organized and existing under the laws of the United Kingdom, with offices at The Heights, Brooklands, Weybridge, Surrey, KT13 0XW, United Kingdom (hereinafter referenced as "ASSIGNEE SEU"), in accordance with a preexisting agreement or mutual understanding, is desirous of acquiring the entire right, title and interest in, to and under said invention(s), said application(s) disclosing the invention(s) and in, to and under any Letters Patent or similar legal protection which may be granted therefor in any and all countries worldwide (including in the territory of the United States of America) held by ASSIGNEE as the sole owner to the rights by this assignment;

[REDACTED]

[REDACTED]

Assignment [REDACTED] Assigned to SEU [REDACTED]

[REDACTED]

[REDACTED]

CONCURRENTLY HEREWITH, after good and valuable consideration or in consideration of the recognized value of any past and/or potential collaborative projects in the future, the receipt and sufficiency of which are hereby acknowledged, ASSIGNEE has already assigned by other means to said ASSIGNEE SEU, or by these presents do hereby presently assign, sell and transfer unto said ASSIGNEE SEU, its successors, assigns, and legal representatives, the entire right, title and interest in the said invention(s), said application(s), including any divisions, continuations, substitutions and renewals thereof, and in and to any and all Letters Patent which may be granted for said invention(s), in any country (including the territory of the United States of America), and in and to any and all priority rights and/or convention rights under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements, and to any other benefits accruing or to accrue to ASSIGNEE with respect to the filing of applications for patents or securing of patents or other industrial property protection throughout the world (including in the territory of the United States of America) in respect of the inventions which are subjects of the applications for Letters Patent described herein, and this conveyance of interest includes the right for the ASSIGNEE SEU, or its successors, assigns, and/or legal representatives, to bring, make, oppose, defend, appeal proceedings, claims or actions and obtain relief (and to retain any damages recovered) in respect of any infringement, or any other cause of action arising from ownership, of any of the Patents or any patents granted on any of the applications for patents or filed as aforesaid, whether occurring before, on or after the date of this agreement.

[REDACTED]

Assignment

Assignee to SEU

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Assignment [REDACTED] Assignee to SEU [REDACTED]

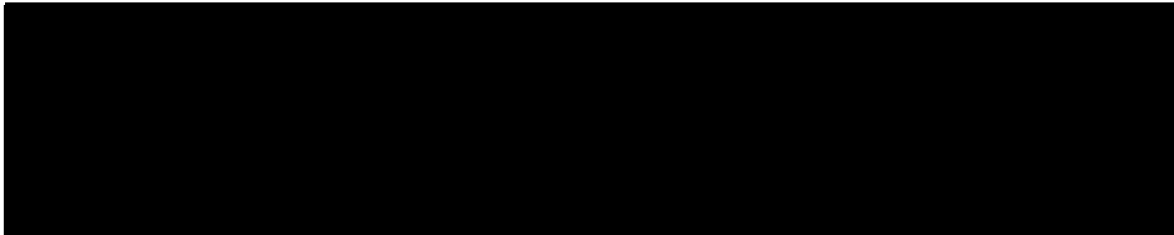
The undersigned [REDACTED] ASSIGNEE and ASSIGNEE SEU hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale;

And the undersigned [REDACTED] ASSIGNEE and ASSIGNEE SEU hereby authorize and request the attorney(s) of record in this application to insert on the APPENDIX any further identification, including the filing date and application number of the country in which an application for Letters Patent has been or will be subsequently filed, which may be necessary or desirable in order to comply with the rules of the patent office of that country for recordation of this document.

This Assignment Agreement shall be governed by and construed under the laws of the State of New York, United States of America, without regard to conflict of laws principles, all rights and remedies being governed by said laws.

Assignment [redacted] Assignee to SEU [redacted]

This assignment executed on the dates indicated below.



Wong Innovations Ltd.

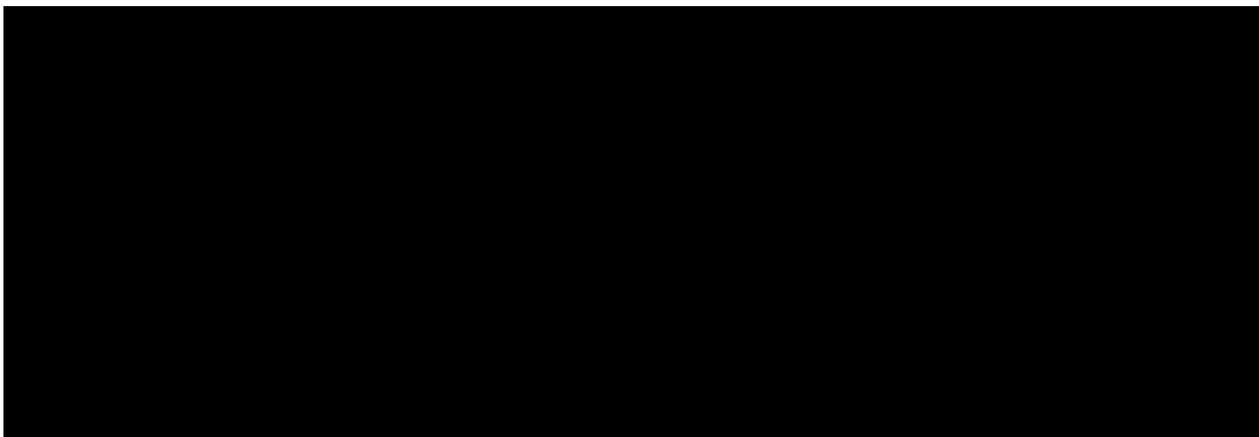
Date: 13/03/2019  
[DD/MONTH/YYYY]

By: [Signature]  
Name: *Shin Horng Wong*  
Title: *Director*  
As duly authorized officer

SONY EUROPE LIMITED

Date: 19 March 2019  
[DD/MONTH/YYYY]

By: [Signature]  
Name: *Matthias Koblitz*  
Title: *Intellectual Property Senior Manager*  
As duly authorized officer



APPENDIX

Title	Inventors	Sony IPE ref.	Application Number	Filing Date	Priority Date
Reduced Measurement for LC-MTC	Wong, Shin Horng; Beale, Martin Warwick	I-15-097-WO-PCT	PCT/EP2016/067391	21 Jul 2016	14 Aug 2015
Reduced Measurement for LC-MTC	Wong, Shin Horng; Beale, Martin Warwick	I-15-097-EP-EPT	16744349.8	21 Jul 2016	14 Aug 2015
Reduced Measurement for LC-MTC	Wong, Shin Horng; Beale, Martin Warwick	I-15-097-EP-FWFW	15181121.3	14 Aug 2015	14 Aug 2015
Reduced Measurement for LC-MTC	Wong, Shin Horng; Beale, Martin Warwick	I-15-097-US-PCT	15/746044	21 Jul 2016	14 Aug 2015
MPDCC Scrambling in Coverage Enhanced LC-MTC	Wong, Shin Horng; Beale, Martin Warwick	I-15-098-EP-EPT	16751504.8	21 Jul 2016	14 Aug 2015
MPDCC Scrambling in Coverage Enhanced LC-MTC	Wong, Shin Horng; Beale, Martin Warwick	I-15-098-WO-PCT	PCT/EP2016/067390	21 Jul 2016	14 Aug 2015
MPDCC Scrambling in Coverage Enhanced LC-MTC	Wong, Shin Horng; Beale, Martin Warwick	I-15-098-EP-FWFW	15181174.2	14 Aug 2015	14 Aug 2015
MPDCC Scrambling in Coverage Enhanced LC-MTC	Wong, Shin Horng; Beale, Martin Warwick	I-15-098-US-PCT	15/743113	21 Jul 2016	14 Aug 2015
Repetition Level Arrangement in MPDCC Search Space	Wong, Shin Horng	I-15-099-EP-FWFW	15181168.4	14 Aug 2015	14 Aug 2015
Repetition Level Arrangement in MPDCC Search Space	Wong, Shin Horng	I-15-099-US-PCT	15/746114	30 Jun 2016	14 Aug 2015
Repetition Level Arrangement in MPDCC Search Space	Wong, Shin Horng	I-15-099-EP-EPT	16734342.5	30 Jun 2016	14 Aug 2015
Repetition Level Arrangement in MPDCC Search Space	Wong, Shin Horng	I-15-099-WO-PCT	PCT/EP2016/065308	30 Jun 2016	14 Aug 2015
LC-MTC HARQ Resource for Message 3 E	Wong, Shin Horng	I-15-106-WO-PCT	PCT/EP2016/072506	22 Sep 2016	25 Sep 2015
LC-MTC HARQ Resource for Message 3 E	Wong, Shin Horng	I-15-106-US-PCT	15/751313	22 Sep 2016	25 Sep 2015
LC-MTC HARQ Resource for Message 3 E	Wong, Shin Horng	I-15-106-EP-FWFW	15186962.5	25 Sep 2015	25 Sep 2015
LC-MTC HARQ Resource for Message 3 E	Wong, Shin Horng	I-15-106-EP-EPT	16778013.7	22 Sep 2016	25 Sep 2015



PDSCCH & UL HARQ ACK/NACK Collision in Coverage Enhanced Operation for LC-MTC	Wong, Shin Horng;Beale, Martin Warwick	I-15-111-EP-FW/F	15186972.4	25 Sep 2015	25 Sep 2015
PDSCCH & UL HARQ ACK/NACK Collision in Coverage Enhanced Operation for LC-MTC	Wong, Shin Horng;Beale, Martin Warwick	I-15-111-WO-PCT	PCT/EP2016/072743	23 Sep 2016	25 Sep 2015
PDSCCH & UL HARQ ACK/NACK Collision in Coverage Enhanced Operation for LC-MTC	Wong, Shin Horng;Beale, Martin Warwick	I-15-111-EP-EPT	16770754.6	23 Sep 2016	25 Sep 2015
PDSCCH & UL HARQ ACK/NACK Collision in Coverage Enhanced Operation for LC-MTC	Wong, Shin Horng;Beale, Martin Warwick	I-15-111-US-PCT	157751645	23 Sep 2016	25 Sep 2015
LC-MTC Paging for Multiple Coverage Enhancement Levels	Wong, Shin Horng	I-15-113-WO-PCT	PCT/EP2016/072441	21 Sep 2016	25 Sep 2015
LC-MTC Paging for Multiple Coverage Enhancement Levels	Wong, Shin Horng	I-15-113-US-PCT	157748764	21 Sep 2016	25 Sep 2015
LC-MTC Paging for Multiple Coverage Enhancement Levels	Wong, Shin Horng	I-15-113-EP-EPT	16775546.1	21 Sep 2016	25 Sep 2015
LC-MTC Paging for Multiple Coverage Enhancement Levels	Wong, Shin Horng	I-15-113-EP-FW/F	15186982.3	25 Sep 2015	25 Sep 2015
MPPDCCH with reduced CRC	Beale, Martin Warwick;Wong, Shin Horng	I-15-114-WO-PCT	PCT/EP2016/071208	08 Sep 2016	25 Sep 2015
MPPDCCH with reduced CRC	Beale, Martin Warwick;Wong, Shin Horng	I-15-114-US-PCT	157751635	08 Sep 2016	25 Sep 2015
MPPDCCH with reduced CRC	Beale, Martin Warwick;Wong, Shin Horng	I-15-114-EP-EPT	16768777.6	08 Sep 2016	25 Sep 2015
MPPDCCH with reduced CRC	Beale, Martin Warwick;Wong, Shin Horng	I-15-114-EP-FW/F[1]	15187000.3	25 Sep 2015	25 Sep 2015

MPPDCCCH with reduced CRC	Beale, Martin Warwick;Wong, Shin Hornig	I-15-114-EP- FPWF	15186986.4	25 Sep 2015	25 Sep 2015
Reduced Network Initiated RACH Access for Coverage	Wong, Shin Hornig	I-15-115-EP- FPWF	15186988.0	25 Sep 2015	25 Sep 2015
Enhanced LC-MTC					
Reduced Network Initiated RACH Access for Coverage	Wong, Shin Hornig	I-15-115-WO- PCT	PCT/EP2016/069824	22 Aug 2016	25 Sep 2015
Enhanced LC-MTC					
Reduced Network Initiated RACH Access for Coverage	Wong, Shin Hornig	I-15-115-US- PCT	15/751357	22 Aug 2016	25 Sep 2015
Enhanced LC-MTC					
Reduced Network Initiated RACH Access for Coverage	Wong, Shin Hornig	I-15-115-EP- EPT	16754500.3	22 Aug 2016	25 Sep 2015
Enhanced LC-MTC					
Reduced Network Initiated RACH Access for Coverage	Beale, Martin Warwick;Wong, Shin Hornig	I-15-116-US- PCT	15/751502	22 Aug 2016	25 Sep 2015
HARQ search space for MTC					
HARQ search space for MTC	Beale, Martin Warwick;Wong, Shin Hornig	I-15-116-WO- PCT	PCT/EP2016/069825	22 Aug 2016	25 Sep 2015
HARQ search space for MTC	Beale, Martin Warwick;Wong, Shin Hornig	I-15-116-EP- EPT	16754501.1	22 Aug 2016	25 Sep 2015
HARQ search space for MTC	Beale, Martin Warwick;Wong, Shin Hornig	I-15-116-EP- FPWF	15186989.8	25 Sep 2015	25 Sep 2015
Determination of physical transmission format as a function of UE speed	Beale, Martin Warwick;Wong, Shin Hornig;Wei, Yuxin	I-15-117-EP- EPT	16756682.7	22 Aug 2016	25 Sep 2015
Determination of physical transmission format as a function of UE speed	Beale, Martin Warwick;Wong, Shin Hornig;Wei, Yuxin	I-15-117-WO- PCT	PCT/EP2016/069826	22 Aug 2016	25 Sep 2015
Determination of physical transmission format as a function of UE speed	Beale, Martin Warwick;Wong, Shin Hornig;Wei, Yuxin	I-15-117-EP- FPWF	15186993.0	25 Sep 2015	25 Sep 2015

Determination of physical transmission format as a function of UE speed	Beale, Martin Warwick;Wong, Shin Hornig,Wei, Yuxin	I-15-117-US- PCT	15/751510	22 Aug 2016	25 Sep 2015
Adapting the Total Number of HARQ Processes for LC-MTC	Wong, Shin Martin Warwick	I-15-141-WO- PCT	PCT/EP2016/074605	13 Oct 2016	04 Nov 2015
Adapting the Total Number of HARQ Processes for LC-MTC	Wong, Shin Martin Warwick	I-15-141-EP- EPWF	15193082.3	04 Nov 2015	04 Nov 2015
Adapting the Total Number of HARQ Processes for LC-MTC	Wong, Shin Martin Warwick	I-15-141-US- CNT	16/194395	19 Nov 2018	04 Nov 2015
Adapting the Total Number of HARQ Processes for LC-MTC	Wong, Shin Martin Warwick	I-15-141-US- CIP	15/342831	03 Nov 2016	04 Nov 2015
Adapting the Total Number of HARQ Processes for LC-MTC	Wong, Shin Martin Warwick	I-15-141-EP- EPT	16/81444.1	13 Oct 2016	04 Nov 2015
Implicit DRX command using RLC	Martin, Brian Alexander;Beale, Martin Warwick;Wong, Shin Hornig;Tsuda, Shinichiro	I-15-130-EP- EPT	16/84454.7	14 Oct 2016	05 Nov 2015
Implicit DRX command using RLC	Martin, Brian Alexander;Beale, Martin Warwick;Wong, Shin Hornig;Tsuda, Shinichiro	I-15-130-US- PCT	15/771526	14 Oct 2016	05 Nov 2015
Implicit DRX command using RLC	Martin, Brian Alexander;Beale, Martin Warwick;Wong, Shin Hornig;Tsuda, Shinichiro	I-15-130-EP- EPWF	15193159.9	05 Nov 2015	05 Nov 2015
Implicit DRX command using RLC	Martin, Brian Alexander;Beale, Martin Warwick;Wong, Shin Hornig;Tsuda, Shinichiro	I-15-130-WO- PCT	PCT/EP2016/074766	14 Oct 2016	05 Nov 2015
P-RNTI partitioning for paging of MTC devices	Martin, Brian Alexander;Beale, Martin Warwick;Wong, Shin Hornig;Tsuda, Shinichiro	I-15-140-EP- EPT	16/784475.2	17 Oct 2016	06 Nov 2015
P-RNTI partitioning for paging of MTC devices	Martin, Brian Alexander;Beale, Martin Warwick;Wong, Shin Hornig;Tsuda, Shinichiro	I-15-140-US- PCT	15/771509	17 Oct 2016	06 Nov 2015

P-RNTI partitioning for paging of MTC devices	Martin, Brian Alexander;Beale, Martin Warwick;Wong, Shin	I-15-140-WO- PCT	PCT/EP2016/074897	17 Oct 2016	06 Nov 2015
P-RNTI partitioning for paging of MTC devices	Horng;Tsuda, Shinichiro Martin, Brian Alexander;Beale, Martin Warwick;Wong, Shin	I-15-140-EP- FPWF	15193556.6	06 Nov 2015	06 Nov 2015
High Priority Narrowband for NB-IoT operations	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Tsuda, Shinichiro	I-15-142-US- PCT	15/770843	13 Oct 2016	06 Nov 2015
High Priority Narrowband for NB-IoT operations	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Tsuda, Shinichiro	I-15-142-EP- FPWF	15193556.5	06 Nov 2015	06 Nov 2015
High Priority Narrowband for NB-IoT operations	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Tsuda, Shinichiro	I-15-142-WO- PCT	PCT/EP2016/074592	13 Oct 2016	06 Nov 2015
High Priority Narrowband for NB-IoT operations	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Tsuda, Shinichiro	I-15-142-EP- EPT	15784433.1	13 Oct 2016	06 Nov 2015
RV cycling for Frequency Hopped System	Beale, Martin Warwick;Wong, Shin Horng	I-15-147-EP- EPT	16791040.5	07 Nov 2016	19 Nov 2015
RV cycling for Frequency Hopped System	Beale, Martin Warwick;Wong, Shin Horng	I-15-147-WO- PCT	PCT/EP2016/076794	07 Nov 2016	19 Nov 2015
RV cycling for Frequency Hopped System	Beale, Martin Warwick;Wong, Shin Horng	I-15-147-US- PSP	62/257591	19 Nov 2015	19 Nov 2015
RV cycling for Frequency Hopped System	Beale, Martin Warwick;Wong, Shin Horng	I-15-147-US- PCT	15/775051	07 Nov 2016	19 Nov 2015
NB-IoT Uplink Subcarrier Spacing Type Indicator	Wong, Shin Horng;Beale, Martin Warwick	I-15-161-US- CNT11	15/635499	08 Dec 2017	11 Jan 2016

NB-IoT Uplink Subcarrier Spacing Type Indicator	Wong, Shin Horng;Beale, Martin Warwick	I-15-161-US-CNT21	16/207215	03 Dec 2018	11 Jan 2016
NB-IoT Uplink Subcarrier Spacing Type Indicator	Wong, Shin Horng;Beale, Martin Warwick	I-15-161-EP-EPT	16822207.3	28 Dec 2015	11 Jan 2016
NB-IoT Uplink Subcarrier Spacing Type Indicator	Wong, Shin Horng;Beale, Martin Warwick	I-15-161-WO-PCT	PCT/EP2016/082762	28 Dec 2015	11 Jan 2016
NB-IoT Uplink Subcarrier Spacing Type Indicator	Wong, Shin Horng;Beale, Martin Warwick	I-15-161-EP-FWPF	16150823.9	11 Jan 2016	11 Jan 2016
NB-IoT Uplink Subcarrier Spacing Type Indicator	Wong, Shin Horng;Beale, Martin Warwick	I-15-161-US-CNT	15/615511	06 Jun 2017	11 Jan 2016
Multiple NB-IoT Band Congestion Control and Cycling of barring bitmap for NB-IoT	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander	I-15-160-EP-FWPF	16150966.6	12 Jan 2016	12 Jan 2016
Multiple NB-IoT Band Congestion Control and Cycling of barring bitmap for NB-IoT	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander	I-15-160-US-PCT	16/067462	28 Dec 2016	12 Jan 2016
Multiple NB-IoT Band Congestion Control and Cycling of barring bitmap for NB-IoT	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander	I-15-160-EP-EPT	16822206.5	28 Dec 2016	12 Jan 2016
Multiple NB-IoT Band Congestion Control and Cycling of barring bitmap for NB-IoT	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander	I-15-160-WO-PCT	PCT/EP2016/082758	28 Dec 2016	12 Jan 2016
NB-IoT Standalone/Inband Cell (Re)selection and Indication of idle mode measured results for NB-IoT	Beale, Martin Warwick;Wong, Shin Horng;Martin, Brian Alexander	I-15-163-EP-EPT	16826071.9	28 Dec 2016	12 Jan 2016
NB-IoT Standalone/Inband Cell (Re)selection and Indication of idle mode measured results for NB-IoT	Beale, Martin Warwick;Wong, Shin Horng;Martin, Brian Alexander	I-15-163-WO-PCT	PCT/EP2016/082757	28 Dec 2016	12 Jan 2016

NB-IoT Standalone/Inband Cell (Re)selection and Indication of Idle mode	Beale, Martin Warwick;Wong, Shin Horng;Martin, Brian Alexander	I-15-163-EP- FWWF	16150979.9	12 Jan 2016	12 Jan 2016
Measured results for NB-IoT	Beale, Martin Warwick;Wong, Shin Horng;Martin, Brian Alexander	I-15-163-US- PCT	16/066123	28 Dec 2016	12 Jan 2016
NB-IoT Standalone/Inband Cell (Re)selection and Indication of Idle mode	Wong, Shin Horng;Beale, Alexander	I-16-012-US- PCT	16/075538	03 Feb 2017	05 Feb 2016
Measured results for NB-IoT	Wong, Shin Horng;Beale, Alexander	I-16-012-US- PCT	16/075538	03 Feb 2017	05 Feb 2016
dycNB-PBCH Antenna Port Determination in NB-IoT	Wong, Shin Horng;Beale, Alexander	I-16-012-EP- PCT	16/154577.7	05 Feb 2016	05 Feb 2016
NB-PBCH Antenna Port Determination in NB-IoT	Wong, Shin Horng;Beale, Alexander	I-16-012-EP- FWWF	16/154577.7	05 Feb 2016	05 Feb 2016
dycNB-PBCH Antenna Port Determination in NB-IoT	Wong, Shin Horng;Beale, Alexander	I-16-012-WO- PCT	PCT/EP2017/052462	03 Feb 2017	05 Feb 2016
Determination in NB-IoT	Wong, Shin Horng;Beale, Alexander	I-16-012-EP- PCT	17702414.8	03 Feb 2017	05 Feb 2016
dycNB-PBCH Antenna Port Determination in NB-IoT	Wong, Shin Horng;Beale, Alexander	I-16-012-EP- EPT	16/154582.7	05 Feb 2016	05 Feb 2016
Determination in NB-IoT	Wong, Shin Horng;Beale, Alexander	I-16-013-EP- FWWF	16/154582.7	05 Feb 2016	05 Feb 2016
Repetition for Long TTI in NB-IoT	Wong, Shin Horng;Beale, Alexander	I-16-013-EP- EPT	17702411.4	03 Feb 2017	05 Feb 2016
Repetition for Long TTI in NB-IoT	Wong, Shin Horng;Beale, Alexander	I-16-013-US- CNT11	15/834552	07 Dec 2017	05 Feb 2016
Repetition for Long TTI in NB-IoT	Wong, Shin Horng;Beale, Alexander	I-16-013-US- CNT11	15/834552	07 Dec 2017	05 Feb 2016
Repetition for Long TTI in NB-IoT	Wong, Shin Horng;Beale, Alexander	I-16-013-US- CNT	15/815087	06 Jun 2017	05 Feb 2016
Repetition for Long TTI in NB-IoT	Wong, Shin Horng;Beale, Alexander	I-16-013-WO- PCT	PCT/EP2017/052454	03 Feb 2017	05 Feb 2016
Repetition for Long TTI in NB-IoT	Wong, Shin Horng;Beale, Alexander	I-16-013-WO- PCT	PCT/EP2017/052551	03 Feb 2017	05 Feb 2016
Reduced complexity decoding of NB-PDCCCH	Beale, Martin Warwick;Wong, Shin Horng	I-16-023-EP- EPT	17702655.6	06 Feb 2017	25 Feb 2016
Reduced complexity decoding of NB-PDCCCH	Beale, Martin Warwick;Wong, Shin Horng	I-16-023-EP- FWWF	16/157489.2	25 Feb 2016	25 Feb 2016

Reduced complexity decoding of NB-PDCCCH	Beale, Martin Warwick;Wong, Shin Hong	I-16-023-US- PCT	16/078016	06 Feb 2017	25 Feb 2016
Collision Handling in NB-IoT	Wong, Shin Hong;Beale, Martin Warwick;Priyanto, Basuki	I-16-030-EP- EPT	17708298.9	07 Mar 2017	11 Mar 2016
Collision Handling in NB-IoT	Wong, Shin Hong;Beale, Martin Warwick;Priyanto, Basuki	I-16-030-WO- PCT	PCT/EP2017/055341	07 Mar 2017	11 Mar 2016
Collision Handling in NB-IoT	Wong, Shin Hong;Beale, Martin Warwick;Priyanto, Basuki	I-16-030-EP- FPWF	16160019.2	11 Mar 2016	11 Mar 2016
Collision Handling in NB-IoT	Wong, Shin Hong;Beale, Martin Warwick;Priyanto, Basuki	I-16-030-EP- FPWF[1]	16164756.5	11 Apr 2016	11 Mar 2016
Collision Handling in NB-IoT	Wong, Shin Hong;Beale, Martin Warwick;Priyanto, Basuki	I-16-030-US- PCT	16/079238	07 Mar 2017	11 Mar 2016
NB-PDCCCH Repetitions in CSS for Paging in NB-IoT	Wong, Shin Hong;Beale, Martin Warwick	I-16-033-EP- EPT	17703188.7	09 Feb 2017	11 Mar 2016
NB-PDCCCH Repetitions in CSS for Paging in NB-IoT	Wong, Shin Hong;Beale, Martin Warwick	I-16-033-US- PCT	16/078645	09 Feb 2017	11 Mar 2016
NB-PDCCCH Repetitions in CSS for Paging in NB-IoT	Wong, Shin Hong;Beale, Martin Warwick	I-16-033-WO- PCT	PCT/EP2017/052874	09 Feb 2017	11 Mar 2016
NB-PDCCCH Repetitions in CSS for Paging in NB-IoT	Wong, Shin Hong;Beale, Martin Warwick	I-16-033-EP- FPWF	16160026.7	11 Mar 2016	11 Mar 2016
Frequency offset indication	Beale, Martin Warwick;Wong, Shin Hong;Priyanto, Basuki	I-16-031-WO- PCT	PCT/EP2017/055581	09 Mar 2017	15 Mar 2016
Frequency offset indication	Beale, Martin Warwick;Wong, Shin Hong;Priyanto, Basuki	I-16-031-EP- FPWF[2]	16471552.9	26 Mar 2016	15 Mar 2016
Frequency offset indication	Beale, Martin Warwick;Wong, Shin Hong;Priyanto, Basuki	I-16-031-EP- FPWF[1]	16163943.0	05 Apr 2016	15 Mar 2016

Frequency offset indication	Beale, Martin Warwick;Wong, Shin Horng;Priyanto, Basuki	I-16-031-EP- FPWF	16160533.2	15 Mrz 2016	15 Mrz 2016
Frequency offset indication	Beale, Martin Warwick;Wong, Shin Horng;Priyanto, Basuki	I-16-031-EP- EPT	17709447.1	09 Mrz 2017	15 Mrz 2016
Frequency offset indication	Beale, Martin Warwick;Wong, Shin Horng;Priyanto, Basuki	I-16-031-US- CNT	15/65461.1	19 Jul 2017	15 Mrz 2016
Distinguishing Paging Occasions in NB-IoT	Wong, Shin Horng;Beale, Martin Warwick	I-16-041-TW- NP	106107628	08 Mrz 2017	05 Apr 2016
Distinguishing Paging Occasions in NB-IoT	Wong, Shin Horng;Beale, Martin Warwick	I-16-041-WO- PCT	PCT/EP2017/057758	31 Mrz 2017	05 Apr 2016
Distinguishing Paging Occasions in NB-IoT	Wong, Shin Horng;Beale, Martin Warwick	I-16-041-EP- FPWF	16163933.1	05 Apr 2016	05 Apr 2016
Distinguishing Paging Occasions in NB-IoT	Wong, Shin Horng;Beale, Martin Warwick	I-16-041-US- PCT	16/091273	31 Mrz 2017	05 Apr 2016
Distinguishing Paging Occasions in NB-IoT	Wong, Shin Horng;Beale, Martin Warwick	I-16-041-EP- EPT	17713703.1	31 Mrz 2017	05 Apr 2016
Variable Msg3 size transmission	Beale, Martin Warwick;Wong, Shin Horng	I-16-043-EP- FPWF	16163808.5	05 Apr 2016	05 Apr 2016
Variable Msg3 size transmission	Beale, Martin Warwick;Wong, Shin Horng	I-16-043-WO- PCT	PCT/EP2017/057990	04 Apr 2017	05 Apr 2016
Variable Msg3 size transmission	Beale, Martin Warwick;Wong, Shin Horng	I-16-043-EP- EPT	17715162.8	04 Apr 2017	05 Apr 2016
Variable Msg3 size transmission	Beale, Martin Warwick;Wong, Shin Horng	I-16-043-US- PCT	16/091182	04 Apr 2017	05 Apr 2016
Flexible frame structure for NR	Wong, Shin Horng;Beale, Martin Warwick;Aungsin, Samuel Aseanbeng	I-16-067-EP- EPT	17721102.6	27 Apr 2017	13 Mai 2016



Flexible frame structure for NR	Wong, Shin Horng; Beale, Martin Warwick; Atungsihi, Samuel Asangbeng	I-16-067-WO-PCT	PCT/EP2017/060113	27 Apr 2017	13 Mai 2016
Flexible frame structure for NR	Wong, Shin Horng; Beale, Martin Warwick; Atungsihi, Samuel Asangbeng	I-16-067-EP-FW/F	16169734.7	13 Mai 2016	13 Mai 2016
Flexible frame structure for NR	Wong, Shin Horng; Beale, Martin Warwick; Amungsihi, Samuel Asangbeng	I-16-067-US-PCT	16/098134	27 Apr 2017	13 Mai 2016
Energy Efficient Transmit & Receive Points for High Speed Train	Wong, Shin Horng; Beale, Martin Warwick	I-16-079-EP-FW/F	16182891.8	04 Aug 2016	04 Aug 2016
Energy Efficient Transmit & Receive Points for High Speed Train	Wong, Shin Horng; Beale, Martin Warwick	I-16-079-US-PCT	16/321036	03 Aug 2017	04 Aug 2016
Energy Efficient Transmit & Receive Points for High Speed Train	Wong, Shin Horng; Beale, Martin Warwick	I-16-079-EP-EPT	17748759.2	03 Aug 2017	04 Aug 2016
Energy Efficient Transmit & Receive Points for High Speed Train	Wong, Shin Horng; Beale, Martin Warwick	I-16-079-WO-PCT	PCT/EP2017/069755	03 Aug 2017	04 Aug 2016
UE Speed Dependent Uplink Reference Signal Transmission for Mobility in NR	Wong, Shin Horng; Martin, Brian Alexander; Beale, Martin Warwick; Wei, Yuxin; Wakabayashi, Hideji; Kosta, Chrysovalantis	I-16-088-US-PCT	16/322970	05 Jul 2017	10 Aug 2016
UE Speed Dependent Uplink Reference Signal Transmission for Mobility in NR	Wong, Shin Horng; Martin, Brian Alexander; Beale, Martin Warwick; Wei, Yuxin; Wakabayashi, Hideji; Kosta, Chrysovalantis	I-16-088-WO-PCT	PCT/EP2017/066834	05 Jul 2017	10 Aug 2016

UE Speed Dependent Uplink Reference Signal Transmission for Mobility in NR	Wong, Shin Hornig;Martin, Brian Alexander;Beale, Martin Warwick;Wei, Yuxin;Wakabayashi, Hideji;Kosta, Chrysovalantis	I-16-088-EP- FFWF	16183540.0	10 Aug 2015	10 Aug 2016
UE Speed Dependent Uplink Reference Signal Transmission for Mobility in NR	Wong, Shin Hornig;Martin, Brian Alexander;Beale, Martin Warwick;Wei, Yuxin;Wakabayashi, Hideji;Kosta, Chrysovalantis	I-16-088-EP- EPT	17734373.8	05 Jul 2017	10 Aug 2016
Power Saving OTDOA in MTC	Wong, Shin Hornig;Martin, Brian Warwick;Martin, Brian Alexander	I-16-107-US- PCT	161524126	13 Jul 2017	10 Aug 2016
Power Saving OTDOA in MTC	Wong, Shin Hornig;Martin, Brian Warwick;Martin, Martin Warwick;Martin, Brian Alexander	I-16-107-EP- EPT	17736976.6	13 Jul 2017	10 Aug 2016
Power Saving OTDOA in MTC	Wong, Shin Hornig;Martin, Brian Warwick;Martin, Martin Warwick;Martin, Brian Alexander	I-16-107-EP- FFWF	16183546.7	10 Aug 2016	10 Aug 2016
Power Saving OTDOA in MTC	Wong, Shin Hornig;Martin, Brian Warwick;Martin, Martin Warwick;Martin, Brian Alexander	I-16-107-WO- PCT	PCT/EP2017/057746	13 Jul 2017	10 Aug 2016
Inactive RRC State Uplink Feedback for New Radio	Wong, Shin Hornig;Martin, Brian Alexander;Beale, Martin Warwick;Wei, Yuxin;Berggren, Anders;Nord, Lars	I-16-082-EP- FFWF	16183726.5	13 Aug 2016	11 Aug 2016
Inactive RRC State Uplink Feedback for New Radio	Wong, Shin Hornig;Martin, Brian Alexander;Beale, Martin Warwick;Wei, Yuxin;Berggren, Anders;Nord, Lars	I-16-082-WO- PCT	PCT/EP2017/069003	27 Jul 2017	11 Aug 2016

Inactive RRC State Uplink Feedback for New Radio	Wong, Shin Hornig;Martin, Brian Alexander;Beale, Martin Warwick;Wei, Yuxin;Berggren, Anders;Nord, Lars	I-16-082-EP- EPT	17749670.0	27 Jul 2017	11 Aug 2016
Inactive RRC State Uplink Feedback for New Radio	Wong, Shin Hornig;Martin, Brian Alexander;Beale, Martin Warwick;Wei, Yuxin;Berggren, Anders;Nord, Lars	I-16-082-US- PCT	16/324574	27 Jul 2017	11 Aug 2016
Uplink based handover location based trigger	Martin, Brian Alexander;Wong, Shin Hornig;Beale, Martin Warwick;Wei, Yuxin;Wakabayashi, Hideji;Kosta, Chrysovalantis	I-16-093-US- PCT	16/323534	14 Jul 2017	11 Aug 2016
Uplink based handover location based trigger	Martin, Brian Alexander;Wong, Shin Hornig;Beale, Martin Warwick;Wei, Yuxin;Wakabayashi, Hideji;Kosta, Chrysovalantis	I-16-093-EP- EPT	17742712.7	14 Jul 2017	11 Aug 2016
Uplink based handover location based trigger	Martin, Brian Alexander;Wong, Shin Hornig;Beale, Martin Warwick;Wei, Yuxin;Wakabayashi, Hideji;Kosta, Chrysovalantis	I-16-093-WO- PCT	PCT/EP2017/067875	14 Jul 2017	11 Aug 2016

Uplink based handover location based trigger	Martin, Brian Alexander;Wong, Shin Horng;Beale, Martin Warwick;Wei, Yuxin;Wakabayashi, Hidegi;Kosta, Chrysovalantis	I-16-093-EP- FFWF	16183702.6	11 Aug 2016	11 Aug 2016
UE specific Supplementary PRS for MTC	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander	I-16-103-EP- EPT	17743293.6	17 Jul 2017	12 Aug 2016
UE specific Supplementary PRS for MTC	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander	I-16-103-US- PCT	16/324917	17 Jul 2017	12 Aug 2016
UE specific Supplementary PRS for MTC	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander	I-16-103-EP- FFWF	16184042.6	12 Aug 2016	12 Aug 2016
UE specific Supplementary PRS for MTC	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander	I-16-103-WO- PCT	PCT/EP2017/067987	17 Jul 2017	12 Aug 2016
Positioning using beam sweeping	Beale, Martin Warwick;Wong, Shin Horng	I-16-113-WO- PCT	PCT/EP2017/068260	19 Jul 2017	12 Aug 2016
Positioning using beam sweeping	Beale, Martin Warwick;Wong, Shin Horng	I-16-113-EP- FFWF	16184120.0	12 Aug 2016	12 Aug 2016
Positioning using beam sweeping	Beale, Martin Warwick;Wong, Shin Horng	I-16-113-US- PCT	16/324646	19 Jul 2017	12 Aug 2016
Positioning using beam sweeping	Beale, Martin Warwick;Wong, Shin Horng	I-16-113-EP- EPT	17748677.6	19 Jul 2017	12 Aug 2016
Beam Sweeping Rhythm in NR	Wong, Shin Horng;Beale, Martin Warwick	I-16-118-US- PCT	16/323779	19 Jul 2017	12 Aug 2016
Beam Sweeping Rhythm in NR	Wong, Shin Horng;Beale, Martin Warwick	I-16-118-EP- FFWF	16184118.4	12 Aug 2016	12 Aug 2016
Beam Sweeping Rhythm in NR	Wong, Shin Horng;Beale, Martin Warwick	I-16-118-WO- PCT	PCT/EP2017/068256	19 Jul 2017	12 Aug 2016

Beam Sweeping Rhythm in NR	Wong, Shin Horng;Beale, Martin Warwick	I-16-118-EP-EPT	17742421.5	19 Jul 2017	12 Aug 2016
Positioning using dithered base station transmissions	Beale, Martin Warwick;Wong, Shin Horng	I-16-125-WO-PCT	PCT/EP2017/070231	09 Aug 2017	12 Aug 2016
Positioning using dithered base station transmissions	Beale, Martin Warwick;Wong, Shin Horng	I-16-125-EP-FWF	16183980.8	12 Aug 2016	12 Aug 2016
Positioning using dithered base station transmissions	Beale, Martin Warwick;Wong, Shin Horng	I-16-125-US-PCT	16/323265	09 Aug 2017	12 Aug 2016
Positioning using dithered base station transmissions	Beale, Martin Warwick;Wong, Shin Horng	I-16-125-EP-EPT	17754311.3	09 Aug 2017	12 Aug 2016
NUC Indicator for NR	Wong, Shin Horng;Beale, Martin Warwick;Atungsin, Samuel Asanbeng	I-16-129-US-PCT	16/323526	18 Aug 2017	19 Aug 2016
NUC Indicator for NR	Wong, Shin Horng;Beale, Martin Warwick;Atungsin, Samuel Asanbeng	I-16-129-WO-PCT	PCT/EP2017/070978	18 Aug 2017	19 Aug 2016
NUC Indicator for NR	Wong, Shin Horng;Beale, Martin Warwick;Atungsin, Samuel Asanbeng	I-16-129-EP-EPT	17752150.7	18 Aug 2017	19 Aug 2016
NUC Indicator for NR	Wong, Shin Horng;Beale, Martin Warwick;Atungsin, Samuel Asanbeng	I-16-129-EP-FWF	16185036.7	19 Aug 2016	19 Aug 2016
Multi Control Channel in eMBB transmission	Wong, Shin Horng;Beale, Martin Warwick;Atungsin, Samuel Asanbeng	I-16-147-WO-NP	106125758	31 Jul 2017	15 Sep 2016
Multi Control Channel in eMBB transmission	Wong, Shin Horng;Beale, Martin Warwick;Atungsin, Samuel Asanbeng	I-16-147-WO-PCT	PCT/EP2017/071636	29 Aug 2017	15 Sep 2016

Multi Control Channel in eMIBB transmission	Wong, Shin Horng; Beale, Martin Warwick; Atungsihi, Samuel Asangbeng	I-16-147-EP-FPWF	16189083.5		15 Sep 2016	15 Sep 2016
Multi Control Channel in eMIBB transmission	Wong, Shin Horng; Beale, Martin Warwick; Atungsihi, Samuel Asangbeng	I-16-147-US-PCT	161831139		29 Aug 2017	15 Sep 2016
Multi Control Channel in eMIBB transmission	Wong, Shin Horng; Beale, Martin Warwick; Atungsihi, Samuel Asangbeng	I-16-147-EP-EPT	17755548.9		29 Aug 2017	15 Sep 2016
Resource Indication for Wide Bandwidth femTC	Wong, Shin Horng; Beale, Martin Warwick	I-16-159-EP-FPWF	16191540.0		29 Sep 2016	29 Sep 2016
Resource Indication for Wide Bandwidth femTC	Wong, Shin Horng; Beale, Martin Warwick	I-16-159-WO-PCT	PCT/EP2017/073172		14 Sep 2017	29 Sep 2015
Resource Indication for Wide Bandwidth femTC	Wong, Shin Horng; Beale, Martin Warwick	I-16-159-EP-EPT	PCT/EP2017/073172		14 Sep 2017	29 Sep 2015
Resource Indication for Wide Bandwidth femTC	Wong, Shin Horng; Beale, Martin Warwick	I-16-159-US-PCT	PCT/EP2017/073172		14 Sep 2017	29 Sep 2015
Bundle Status Indicator for HD-FDD HARQ Feedback	Wong, Shin Horng; Beale, Martin Warwick	I-16-148-WO-PCT	PCT/EP2017/073461		18 Sep 2017	30 Sep 2016
Bundle Status Indicator for HD-FDD HARQ Feedback	Wong, Shin Horng; Beale, Martin Warwick	I-16-148-US-PCT	PCT/EP2017/073461		18 Sep 2017	30 Sep 2016
Bundle Status Indicator for HD-FDD HARQ Feedback	Wong, Shin Horng; Beale, Martin Warwick	I-16-148-EP-EPT	PCT/EP2017/073461		18 Sep 2017	30 Sep 2016
Bundle Status Indicator for HD-FDD HARQ Feedback	Wong, Shin Horng; Beale, Martin Warwick	I-16-148-EP-FPWF	16191974.1		30 Sep 2016	30 Sep 2016
Bundle Status Indicator for HD-FDD HARQ Feedback	Wong, Shin Horng; Beale, Martin Warwick	I-16-163-WO-PCT	PCT/EP2017/072025		01 Sep 2017	30 Sep 2016

HARQ repair of punctured eMBB transmissions	Beale, Martin Warwick;Wong, Shin Horng;Atungsiri, Samuel Asangbeng	I-16-163-US-PCT	PCT/EP2017/072025	01 Sep 2017	30 Sep 2016
HARQ repair of punctured eMBB transmissions	Beale, Martin Warwick;Wong, Shin Horng;Atungsiri, Samuel Asangbeng	I-16-163-EP-EPT	PCT/EP2017/072025	01 Sep 2017	30 Sep 2016
HARQ repair of punctured eMBB transmissions	Beale, Martin Warwick;Wong, Shin Horng;Atungsiri, Samuel Asangbeng	I-16-163-EP-FWPF	16191978.2	30 Sep 2016	30 Sep 2016
SSD transmission of eMBB	Atungsiri, Samuel Asangbeng;Beale, Martin Warwick;Wong, Shin Horng	I-16-164-WO-PCT	PCT/EP2017/073508	18 Sep 2017	30 Sep 2016
SSD transmission of eMBB	Atungsiri, Samuel Asangbeng;Beale, Martin Warwick;Wong, Shin Horng	I-16-164-EP-FWPF	16191997.2	30 Sep 2016	30 Sep 2016
SSD transmission of eMBB	Atungsiri, Samuel Asangbeng;Beale, Martin Warwick;Wong, Shin Horng	I-16-164-US-PCT	PCT/EP2017/073508	18 Sep 2017	30 Sep 2016
SSD transmission of eMBB	Atungsiri, Samuel Asangbeng;Beale, Martin Warwick;Wong, Shin Horng	I-16-164-EP-EPT	PCT/EP2017/073508	18 Sep 2017	30 Sep 2016
SC-MCCH Change Notification in femTC & eNB-IoT	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Sharma, Vivek	I-16-166-EP-EPT	PCT/EP2017/073483	18 Sep 2017	30 Sep 2016
SC-MCCH Change Notification in femTC & eNB-IoT	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Sharma, Vivek	I-16-166-TW-NP	106126771	08 Aug 2017	30 Sep 2016

SC-MCCH Change Notification in femTC & eNB-IoT	Wong, Shin Horng; Beale, Martin Warwick; Martin, Brian Alexander; Sharma, Vivek	I-16-166-EP-FWFF	16191990.7	30 Sep 2016	30 Sep 2016
SC-MCCH Change Notification in femTC & eNB-IoT	Wong, Shin Horng; Beale, Martin Warwick; Martin, Brian Alexander; Sharma, Vivek	I-16-166-US-PCT	PCT/EP2017/073483	18 Sep 2017	30 Sep 2016
SC-MCCH Change Notification in femTC & eNB-IoT	Wong, Shin Horng; Beale, Martin Warwick; Martin, Brian Alexander; Sharma, Vivek	I-16-166-WO-PCT	PCT/EP2017/073483	18 Sep 2017	30 Sep 2016
HARQ Process Exchange in HARQ-ACK Bundling Retransmissions	Wong, Shin Horng; Beale, Martin Warwick	I-16-180-EP-FWFF	16197188.2	03 Nov 2016	03 Nov 2016
HARQ Process Exchange in HARQ-ACK Bundling Retransmissions	Wong, Shin Horng; Beale, Martin Warwick	I-16-180-WO-PCT	PCT/EP2017/075076	03 Oct 2017	03 Nov 2016
Cell quality evaluation using multiple beam measurements	Martin, Brian Alexander; Beale, Martin Warwick; Wong, Shin Horng; Wei, Yuxin; Atungsihi, Samuel Asangbeng; Sharma, Vivek; Wakabayashi, Hideji; Tsuda, Shinichiro; Kosta, Chrysovalantis	I-16-182-EP-FWFF	16197339.1	04 Nov 2016	04 Nov 2016
Cell quality evaluation using multiple beam measurements	Martin, Brian Alexander; Beale, Martin Warwick; Wong, Shin Horng; Wei, Yuxin; Atungsihi, Samuel Asangbeng; Sharma, Vivek; Wakabayashi, Hideji; Tsuda, Shinichiro; Kosta, Chrysovalantis	I-16-182-WO-PCT	PCT/EP2017/076260	13 Oct 2017	04 Nov 2016



Failback Beam Operation in NR	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Sharma, Vivek	I-16-184-WO-PCT	PCT/EP2017/077977	01 Nov 2017	11 Nov 2016
Failback Beam Operation in NR	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Sharma, Vivek	I-16-184-EP-FWFF	16198547.8	11 Nov 2016	11 Nov 2016
Transmission that enables the detection of URLLC afflicted eMBB transmissions	Atungsiri, Samuel Horng;Beale, Martin Warwick	I-16-187-WO-PCT	PCT/EP2017/075546	06 Oct 2017	11 Nov 2016
Transmission that enables the detection of URLLC afflicted eMBB transmissions	Atungsiri, Samuel Asangbeng;Wong, Shin Horng;Beale, Martin Warwick	I-16-187-EP-FWFF	16198538.7	11 Nov 2016	11 Nov 2016
High speed tolerant PBCH for NR	Atungsiri, Samuel Asangbeng;Beale, Martin Warwick;Wong, Shin Horng	I-16-202-EP-FWFF	16206517.1	22 Dez 2016	22 Dez 2016
High speed tolerant PBCH for NR	Atungsiri, Samuel Asangbeng;Beale, Martin Warwick;Wong, Shin Horng	I-16-202-WO-PCT	PCT/EP2017/083955	20 Dez 2017	22 Dez 2016
Signal Space Diversity Interleaving	Beale, Martin Warwick;Atungsiri, Samuel Asangbeng;Wong, Shin Horng	I-16-149-EP-FWFF	16206874.6	23 Dez 2016	23 Dez 2016
Signal Space Diversity Interleaving	Beale, Martin Warwick;Atungsiri, Samuel Asangbeng;Wong, Shin Horng	I-16-149-WO-PCT	PCT/EP2017/081523	05 Dez 2017	23 Dez 2016

RRC Inactive State Paging for downlink transmission	Martin, Brian Alexander,Wong, Shin Horng;Beale, Martin Warwick;Wei, Yuxin;Sharma, Vivek;Tsuda, Shinichiro;Wakabayashi, Hideji;Berggren, Anders	I-16-207-WO- PCT	PCT/EP2017/080828	29 Nov 2017	23 Dez 2016
RRC Inactive State Paging for downlink transmission	Martin, Brian Alexander,Wong, Shin Horng;Beale, Martin Warwick;Wei, Yuxin;Sharma, Vivek;Tsuda, Shinichiro;Wakabayashi, Hideji;Berggren, Anders	I-16-207-EP- FFWF	16206769.8	23 Dez 2016	23 Dez 2016
Mobility handling in Inter-RAT NR-LTE coexistence	Sharma, Vivek;Beale, Martin Warwick;Martin, Brian Alexander;Wong, Shin Horng;Wakabayashi, Hideji;Tsuda, Shinichiro	I-16-214-WO- PCT	PCT/EP2018/050031	02 Jan 2018	04 Jan 2017
Mobility handling in Inter-RAT NR-LTE coexistence	Sharma, Vivek;Beale, Martin Warwick;Martin, Brian Alexander;Wong, Shin Horng;Wakabayashi, Hideji;Tsuda, Shinichiro	I-16-214-EP- FFWF	17150280.0	04 Jan 2017	04 Jan 2017
PRACH Beam Ramping in NR	Wong, Shin Horng;Beale, Martin Warwick	I-16-196-WO- PCT	PCT/EP2017/081502	05 Dez 2017	05 Jan 2017
PRACH Beam Ramping in NR	Wong, Shin Horng;Beale, Martin Warwick	I-16-196-EP- FFWF	17150485.5	05 Jan 2017	05 Jan 2017

Triggering of mobility reference signals measurements using cell specific reference signals	Martin, Brian Alexander;Wong, Shin Horng;Beale, Martin Warwick;Wei, Yuxin;Sharma, Vivek;Tsuda, Shinichiro;Wakabayashi, Hideji	I-16-208-EP- FPWF	17150481.4	05 Jan 2017	05 Jan 2017
Triggering of mobility reference signals measurements using cell specific reference signals	Martin, Brian Alexander;Wong, Shin Horng;Beale, Martin Warwick;Wei, Yuxin;Sharma, Vivek;Tsuda, Shinichiro;Wakabayashi, Hideji	I-16-208-WO- PCT	PCT/EP2017/083279	18 Dez 2017	05 Jan 2017
Inter-RAT Scheduling for NR-LTE Interworking	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Sharma, Vivek;Wakabayashi, Hideji;Tsuda, Shinichiro	I-16-210-WO- PCT	PCT/EP2017/081501	05 Dez 2017	05 Jan 2017
Inter-RAT Scheduling for NR-LTE Interworking	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Sharma, Vivek;Wakabayashi, Hideji;Tsuda, Shinichiro	I-16-210-EP- FPWF	17150482.2	05 Jan 2017	05 Jan 2017
Alternative Downlink Control Channel Resources in NR	Wong, Shin Horng;Beale, Martin Warwick;Atungsiti, Samuel Asanbeng	I-16-197-WO- PCT	PCT/EP2017/081542	05 Dez 2017	06 Jan 2017
Alternative Downlink Control Channel Resources in NR	Wong, Shin Horng;Beale, Martin Warwick;Atungsiti, Samuel Asanbeng	I-16-197-EP- FPWF	17150570.4	06 Jan 2017	06 Jan 2017

Flexible FDD operation using TDD band	Wong, Shin Hornq; Beale, Martin Warwick; Martin, Brian Alexander; Sharma, Vivek; Wakabayashi, Hideji; Tsuda, Shinichiro	I-16-201-WO-PCT	PCT/EP2017/083899	20 Dez 2017	06 Jan 2017
Flexible FDD operation using TDD band	Wong, Shin Hornq; Beale, Martin Warwick; Martin, Brian Alexander; Sharma, Vivek; Wakabayashi, Hideji; Tsuda, Shinichiro	I-16-201-EP-FWFF	17150567.0	06 Jan 2017	06 Jan 2017
URLLC HARQ feedback operation	Beale, Martin Warwick; Atungsir, Samuel Asangbeng; Wong, Shin Hornq	I-16-205-EP-FWFF	17150730.4	09 Jan 2017	09 Jan 2017
URLLC HARQ feedback operation	Beale, Martin Warwick; Atungsir, Samuel Asangbeng; Wong, Shin Hornq	I-16-205-WO-PCT	PCT/EP2017/083875	20 Dez 2017	09 Jan 2017
RRC Inactive State Paging for uplink tracking signal reconfiguration	Martin, Brian Alexander; Wong, Shin Hornq; Beale, Martin Warwick; Wei, Yuxin; Sharma, Vivek; Tsuda, Shinichiro; Wakabayashi, Hideji; Berggren, Anders	I-16-217-WO-PCT	PCT/EP2017/082858	14 Dez 2017	12 Jan 2017
RRC Inactive State Paging for uplink tracking signal reconfiguration	Martin, Brian Alexander; Wong, Shin Hornq; Beale, Martin Warwick; Wei, Yuxin; Sharma, Vivek; Tsuda, Shinichiro; Wakabayashi, Hideji; Berggren, Anders	I-16-217-EP-FWFF	17151167.8	12 Jan 2017	12 Jan 2017

New UE ID and blind detection method	Martin, Brian Alexander;Wong, Shin Hornq;Beale, Martin Warwick;Wei, Yuxin;Sharma, Vivek;Tsuda, Shinichiro;Wakabayashi, Hideji;Atungsiri, Samuel Asangbeng	I-17-009-EP- FFWF	17154636.9	03 Feb 2017	03 Feb 2017
New UE ID and blind detection method	Martin, Brian Alexander;Wong, Shin Hornq;Beale, Martin Warwick;Wei, Yuxin;Sharma, Vivek;Tsuda, Shinichiro;Wakabayashi, Hideji;Atungsiri, Samuel Asangbeng	I-17-009-WO- PCT	PCT/EP2018/052489	01 Feb 2018	03 Feb 2017
URLLC back indication of PDSCH	Beale, Martin Warwick;Atungsiri, Samuel Asangbeng;Wong, Shin Hornq	I-17-012-EP- FFWF	17154893.6	06 Feb 2017	06 Feb 2017
URLLC back indication of PDSCH	Beale, Martin Warwick;Atungsiri, Samuel Asangbeng;Wong, Shin Hornq	I-17-012-WO- PCT	PCT/EP2018/052110	29 Jan 2018	06 Feb 2017
Dynamic rescheduling of HARQ feedback resources	Wong, Shin Hornq;Beale, Martin Warwick;Atungsiri, Samuel Asangbeng	I-17-015-EP- FFWF	17155750.7	10 Feb 2017	10 Feb 2017
Dynamic rescheduling of HARQ feedback resources	Wong, Shin Hornq;Beale, Martin Warwick;Atungsiri, Samuel Asangbeng	I-17-015-WO- PCT	PCT/EP2018/053231	08 Feb 2018	10 Feb 2017

URLLC Self Pre-emption	Wong, Shin Horng;Beale, Martin Warwick;Atungstri, Samuel Asangbeng;Martin, Brian Alexander;Sharma, Vivek	I-17-026-WO-PCT	PCT/EP2018/057078	20 Mar 2018	22 Mar 2017
Shared Uplink Grant Free Resource	Wong, Shin Horng;Beale, Martin Warwick;Sharma, Vivek;Martin, Brian Alexander	I-17-027-EP-FWFF	17162411.7	22 Mar 2017	22 Mar 2017
Shared Uplink Grant Free Resource	Wong, Shin Horng;Beale, Martin Warwick;Sharma, Vivek;Martin, Brian Alexander	I-17-027-TW-NP	107103238	30 Jan 2018	22 Mar 2017
Shared Uplink Grant Free Resource	Wong, Shin Horng;Beale, Martin Warwick;Sharma, Vivek;Martin, Brian Alexander	I-17-027-WO-PCT	PCT/EP2018/057080	20 Mar 2018	22 Mar 2017
Transmission of early termination of repetition indicator	Wong, Shin Horng;Beale, Martin Warwick	I-17-028-EP-FWFF	17162668.2	23 Mar 2017	23 Mar 2017
Transmission of early termination of repetition indicator	Wong, Shin Horng;Beale, Martin Warwick	I-17-028-WO-PCT	PCT/EP2018/057368	22 Mar 2018	23 Mar 2017
SLSS anchor narrowband for relay	Martin, Brian Alexander;Wong, Shin Horng;Beale, Martin Warwick;Uchiyama, Hiromasa;Wakabayashi, Hideji;Tsuda, Shinichiro	I-17-029-EP-FWFF	17162886.0	24 Mar 2017	24 Mar 2017

SISS anchor narrowband for relay	Martin, Brian Alexander,Wong, Shin Homg;Beale, Martin Warwick;Uchiyama, Hiromasa;Wakabayashi, Hideji;Tsuda, Shinichiro	I-17-029-WO- PCT	PCT/EP2018/057366	22	24	22	24	22	24
Sub-PRB Transmission schemes for eMTC	Beale, Martin Warwick;Wong, Shin Homg;Atungsiiri, Samuel Asangbeng;Priyanto, Basuki	I-17-032-WO- PCT	PCT/EP2018/057147	21	24	21	24	21	24
Sub-PRB Transmission schemes for eMTC	Beale, Martin Warwick;Wong, Shin Homg;Atungsiiri, Samuel Asangbeng;Priyanto, Basuki	I-17-032-EP- FPWF	171622920.7	24	24	24	24	24	24
Shared Uplink Grant Free Resource higher layer impacts - cipher keys during handover	Sharma, Vivek;Beale, Martin Warwick;Wong, Shin Homg;Martin, Brian Alexander	I-17-033-EP- FPWF	17163832.3	30	30	30	30	30	30
Shared Uplink Grant Free Resource higher layer impacts - cipher keys during handover	Sharma, Vivek;Beale, Martin Warwick;Wong, Shin Homg;Martin, Brian Alexander	I-17-033-WO- PCT	PCT/EP2018/057768	27	30	27	30	27	30
Shared Uplink Grant Free Resource higher layer impacts - Secondary eNB to Master eNB	Sharma, Vivek;Beale, Martin Warwick;Wong, Shin Homg;Martin, Brian Alexander	I-17-040-WO- PCT	PCT/EP2018/057784	27	30	27	30	27	30
Shared Uplink Grant Fee Resource higher layer impacts - Secondary eNB to Master eNB	Sharma, Vivek;Beale, Martin Warwick;Wong, Shin Homg;Martin, Brian Alexander	I-17-040-EP- FPWF	17163988.3	30	30	30	30	30	30
Per CE level Access barring	Sharma, Vivek;Martin, Brian Alexander;Wong, Shin Homg;Beale, Martin Warwick	I-17-035-EP- FPWF	17164062.6	31	31	31	31	31	31

Per CE level Access barring	Sharma, Vivek; Martin, Brian Alexander; Wong, Shin Horng; Beale, Martin Warwick	I-17-035-WO-PCT	PCT/EP2018/058105	29 Mar 2018	31 Mar 2017
Open Loop Power control for remote device	Martin, Brian Alexander; Wong, Shin Horng; Beale, Martin Warwick; Uchiyama, Hiromasa; Wakabayashi, Hideji; Tsuda, Shinichiro	I-17-036-EP-FWF	17164263.0	31 Mar 2017	31 Mar 2017
Open Loop Power control for remote device	Martin, Brian Alexander; Wong, Shin Horng; Beale, Martin Warwick; Uchiyama, Hiromasa; Wakabayashi, Hideji; Tsuda, Shinichiro	I-17-036-WO-PCT	PCT/EP2018/055089	01 Mar 2018	31 Mar 2017
NB-IOT dual threshold for idle mode measurements	Martin, Brian Alexander; Wong, Shin Horng; Sharma, Vivek; Beale, Martin Warwick	I-17-053-EP-FWF	17168564.7	27 Apr 2017	27 Apr 2017
NB-IOT dual threshold for idle mode measurements	Martin, Brian Alexander; Wong, Shin Horng; Sharma, Vivek; Beale, Martin Warwick	I-17-053-WO-PCT	PCT/EP2018/055921	09 Mar 2018	27 Apr 2017
Pre-emption Indicator Resource Granularity for URLLC/eMBB Multiplexing	Wong, Shin Horng; Beale, Martin Warwick; Atungsiri, Samuel Asangbeng	I-17-055-EP-FWF	17169347.6	03 Mar 2017	03 Mar 2017
Pre-emption Indicator Resource Granularity for URLLC/eMBB Multiplexing	Wong, Shin Horng; Beale, Martin Warwick; Atungsiri, Samuel Asangbeng	I-17-055-WO-PCT	PCT/EP2018/061197	02 Mar 2018	03 Mar 2017



DRX based Wake Up Signal for MTC	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Priyanto, Basuki;Mazloum, Naftseh	I-17-052-EP- FFWF	17169577.8	04 Mai 2017	04 Mai 2017
DRX based Wake Up Signal for MTC	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Priyanto, Basuki;Mazloum, Naftseh	I-17-052-WO- PCT	PCT/EP2018/061301	03 Mai 2018	04 Mai 2017
Enhanced Synchronisation Channels for MTC	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Priyanto, Basuki;Mazloum, Naftseh	I-17-054-EP- FFWF	17169821.0	05 Mai 2017	05 Mai 2017
Enhanced Synchronisation Channels for MTC	Wong, Shin Horng;Beale, Martin Warwick;Martin, Brian Alexander;Priyanto, Basuki;Mazloum, Naftseh	I-17-054-WO- PCT	PCT/EP2018/061213	02 Mai 2018	05 Mai 2017
Demodulation reference symbols for NR-PBCH	Atungsiiri, Samuel Asangbeng;Beale, Martin Warwick;Wong, Shin Horng	I-17-057-WO- PCT	PCT/EP2018/061578	04 Mai 2018	05 Mai 2017
Demodulation reference symbols for NR-PBCH	Atungsiiri, Samuel Asangbeng;Beale, Martin Warwick;Wong, Shin Horng	I-17-057-EP- FFWF	17169834.3	05 Mai 2017	05 Mai 2017
DRX cycles for WUS and WUS reliability monitoring	Beale, Martin Warwick;Wong, Shin Horng;Martin, Brian Alexander;Priyanto, Basuki;Mazloum, Naftseh	I-17-059-EP- FFWF	17169835.0	05 Mai 2017	05 Mai 2017
DRX cycles for WUS and WUS reliability monitoring	Beale, Martin Warwick;Wong, Shin Horng;Martin, Brian Alexander;Priyanto, Basuki;Mazloum, Naftseh	I-17-059-WO- PCT	PCT/EP2018/061179	02 Mai 2018	05 Mai 2017

Conveying the Synchronisation Block Index via NR-PBCH Demodulation reference symbols	Atungisiri, Samuel Asangbeng;Wong, Shin Horng;Beale, Martin Warwick	I-17-073-EP- FFWF	17176479.8	16 Jun 2017	16 Jun 2017
Conveying the Synchronisation Block Index via NR-PBCH Demodulation reference symbols	Atungisiri, Samuel Asangbeng;Wong, Shin Horng;Beale, Martin Warwick	I-17-073-WO- PCT	PCT/EP2018/063683	24 Mar 2018	16 Jun 2017
Pre-emption resource set for common pre-emption indicator	Wong, Shin Horng;Atungisiri, Samuel Asangbeng	I-17-074-WO- PCT	PCT/EP2018/064763	05 Jun 2018	16 Jun 2017
Pre-emption resource set for common pre-emption indicator	Wong, Shin Horng;Atungisiri, Samuel Asangbeng	I-17-074-EP- FFWF	17176495.4	16 Jun 2017	16 Jun 2017
Non text based PWS	Sharma, Vivek;Martin, Brian Alexander;Tsuda, Shinichiro;Wakabayashi, Hideji;Wong, Shin Horng	I-17-076-EP- FFWF	17177683.4	23 Jun 2017	23 Jun 2017
Non text based PWS	Sharma, Vivek;Martin, Brian Alexander;Tsuda, Shinichiro;Wakabayashi, Hideji;Wong, Shin Horng	I-17-076-WO- PCT	PCT/EP2018/065798	14 Jun 2018	23 Jun 2017
Configuration of NR-PDCP for MCG SRB1	Sharma, Vivek;Wakabayashi, Hideji;Tsuda, Shinichiro;Wong, Shin Horng;Beale, Martin Warwick	I-17-106-WO- PCT	PCT/EP2018/070897	01 Aug 2018	01 Aug 2017
Configuration of NR-PDCP for MCG SRB1	Sharma, Vivek;Wakabayashi, Hideji;Tsuda, Shinichiro;Wong, Shin Horng;Beale, Martin Warwick	I-17-106-EP- FFWF	17184361.8	01 Aug 2017	01 Aug 2017

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**PATENT**

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Supplementary Uplink transmission for NR	Wong, Shin Horng, Sharma, Vivek; Beale, Martin Warwick; Atungsir, Samuel Asangbeng	I-17-108-EP- FFWF	17185819.4	10 Aug 2017	10 Aug 2017
Supplementary Uplink transmission for NR	Wong, Shin Horng; Sharma, Vivek; Beale, Martin Warwick; Atungsir, Samuel Asangbeng	I-17-108-TW- NP	107127278	06 Aug 2018	10 Aug 2017
Supplementary Uplink transmission for NR	Wong, Shin Horng; Sharma, Vivek; Beale, Martin Warwick; Atungsir, Samuel Asangbeng	I-17-108-WO- PCT	PCT/EP2018/070888	01 Aug 2018	10 Aug 2017
Dynamic Frequency Hopping Pattern for MTC	Wong, Shin Horng; Sharma, Vivek; Beale, Martin Warwick; Atungsir, Samuel Asangbeng	I-17-112-WO- PCT	PCT/EP2018/071382	07 Aug 2018	10 Aug 2017
Dynamic Frequency Hopping Pattern for MTC	Wong, Shin Horng; Beale, Martin Warwick; Bitran, Yigal; Semel, Lavi; Elzas, Hovav	I-17-112-EP- FFWF	17185809.5	10 Aug 2017	10 Aug 2017
Wake Up Signal Sequence for IoT	Atungsir, Samuel Asangbeng; Wong, Shin Horng; Beale, Martin Warwick; Sharma, Vivek	I-17-116-EP- FFWF	17186065.3	11 Aug 2017	11 Aug 2017
Wake Up Signal Sequence for IoT	Atungsir, Samuel Asangbeng; Wong, Shin Horng; Beale, Martin Warwick; Sharma, Vivek	I-17-116-WO- PCT	PCT/EP2018/071659	09 Aug 2018	11 Aug 2017
Use of slot format indication (SFI) for NR WUS	Beale, Martin Warwick; Wong, Shin Horng; Sharma, Vivek; Atungsir, Samuel Asangbeng	I-17-117-EP- FFWF	17186062.0	11 Aug 2017	11 Aug 2017

Use of slot format indication (SFI) for NR WUS	Beale, Martin Warwick;Wong, Shin Horng;Sharma, Vivek;Atungsir, Samuel Asangbeng	I-17-117-WO- PCT	PCT/EP2018/070903	01 Aug 2018	11 Aug 2017
Power Saving Signal transmissions in eDRX	Wong, Shin Horng;Beale, Martin Warwick;Atungsir, Samuel Asangbeng	I-17-130-WO- PCT	PCT/EP2018/075788	24 Sep 2018	28 Sep 2017
Power Saving Signal transmissions in eDRX	Wong, Shin Horng;Beale, Martin Warwick;Atungsir, Samuel Asangbeng	I-17-130-EP- FPWF	17193861.6	28 Sep 2017	28 Sep 2017
NR Slot Format Configuration Conflicts	Wong, Shin Horng;Shimezawa, Kazuyuki	I-17-135-WO- PCT	PCT/EP2018/072137	15 Aug 2018	29 Sep 2017
NR Slot Format Configuration Conflicts	Wong, Shin Horng;Shimezawa, Kazuyuki	I-17-135-EP- FPWF	17194261.8	29 Sep 2017	29 Sep 2017
Configurable Indicator in Synchronisation Signal	Wong, Shin Horng;Beale, Martin Warwick;Atungsir, Samuel Asangbeng	I-17-160-WO- PCT	PCT/EP2018/081246	14 Nov 2018	14 Nov 2017
Configurable Indicator in Synchronisation Signal	Wong, Shin Horng;Beale, Martin Warwick;Atungsir, Samuel Asangbeng	I-17-160-EP- FPWF	17201748.5	14 Nov 2017	14 Nov 2017
WUS Formats Selection	Wong, Shin Horng;Beale, Martin Warwick;Atungsir, Samuel Asangbeng	I-17-166-EP- FPWF	17201751.9	14 Nov 2017	14 Nov 2017
WUS Formats Selection	Wong, Shin Horng;Beale, Martin Warwick;Atungsir, Samuel Asangbeng	I-17-166-WO- PCT	PCT/EP2018/081254	14 Nov 2018	14 Nov 2017

UE specific WUS validity timer	Sharma, Vivek;Wong, Shin Horng;Beale, Martin Warwick;Atungsiri, Samuel Asangbeng	I-17-164-EP-FWF	17201966.3	15 Nov 2017	15 Nov 2017
UE specific WUS validity timer	Sharma, Vivek;Wong, Shin Horng;Beale, Martin Warwick;Atungsiri, Samuel Asangbeng	I-17-164-WO-PCT	PCT/EP2018/080667	08 Nov 2018	15 Nov 2017
Managing of multiple WUS Configurations per UE	Sharma, Vivek;Wong, Shin Horng;Beale, Martin Warwick;Atungsiri, Samuel Asangbeng	I-17-167-WO-PCT	PCT/EP2018/081383	15 Nov 2018	15 Nov 2017
Managing of multiple WUS Configurations per UE	Sharma, Vivek;Wong, Shin Horng;Beale, Martin Warwick;Atungsiri, Samuel Asangbeng	I-17-167-EP-FWF	17201973.9	15 Nov 2017	15 Nov 2017
CCI table incorporating 64QAM and repetition	Beale, Martin Warwick;Wong, Shin Horng	I-17-168-EP-FWF	17202196.6	16 Nov 2017	16 Nov 2017
CCI table incorporating 64QAM and repetition	Beale, Martin Warwick;Wong, Shin Horng	I-17-168-WO-PCT	PCT/EP2018/081464	15 Nov 2018	16 Nov 2017
Modulation symbol repetition & Precoding for eMTC	Wong, Shin Horng;Beale, Martin Warwick;Atungsiri, Samuel Asangbeng;Shimezawa, Kazuyuki	I-17-172-WO-PCT	PCT/EP2018/081402	15 Nov 2018	17 Nov 2017
Modulation symbol repetition & Precoding for eMTC	Wong, Shin Horng;Beale, Martin Warwick;Atungsiri, Samuel Asangbeng;Shimezawa, Kazuyuki	I-17-172-EP-FWF	17202456.4	17 Nov 2017	17 Nov 2017
Frequency Hopping for Wake Up Signal	Beale, Martin Warwick;Wong, Shin Horng;Atungsiri, Samuel Asangbeng	I-17-173-WO-PCT	PCT/EP2018/080807	09 Nov 2018	17 Nov 2017

Frequency Hopping for Wake Up Signal	Beale, Martin Warwick;Wong, Shin Horng;Atungshih, Samuel Asangheng	I-17-173-EP- FFWF	17202451.5	17 Nov 2017	17 Nov 2017
Explicit UL HARQ-ACK Indicator for URLLC	Wong, Shin Horng;Beale, Martin Warwick;Shimezawa, Kazuyuki;Sharma, Vivek	I-18-010-WO- PCT	PCT/EP2019/050962	15 Jan 2019	19 Jan 2018
Explicit UL HARQ-ACK Indicator for URLLC	Wong, Shin Horng;Beale, Martin Warwick;Shimezawa, Kazuyuki;Sharma, Vivek	I-18-010-EP- FFWF	18152655.9	19 Jan 2018	19 Jan 2018
Early Uplink Data Transmission CSS for MTC	Wong, Shin Horng;Beale, Martin Warwick	I-18-004-WO- PCT	PCT/EP2019/052514	01 Feb 2019	02 Feb 2018
Early Uplink Data Transmission CSS for MTC	Wong, Shin Horng;Beale, Martin Warwick	I-18-004-EP- FFWF	18154993.2	02 Feb 2018	02 Feb 2018
Uplink Grant for Early Data Transmission	Wong, Shin Horng;Beale, Martin Warwick	I-18-005-EP- FFWF	18154998.1	02 Feb 2018	02 Feb 2018
Uplink Grant for Early Data Transmission	Wong, Shin Horng;Beale, Martin Warwick	I-18-005-WO- PCT	PCT/EP2019/052517	01 Feb 2019	02 Feb 2018
WUS Candidate Indicator	Wong, Shin Horng;Beale, Martin Warwick	I-17-200-WO- PCT	PCT/EP2019/053180	08 Feb 2019	15 Feb 2018
WUS Candidate Indicator	Wong, Shin Horng;Beale, Martin Warwick	I-17-200-EP- FFWF	18157017.7	15 Feb 2018	15 Feb 2018
Use of NB-IoT WUS for eMTC	Beale, Martin Warwick;Wong, Shin Horng	I-17-201-EP- FFWF	18157018.5	15 Feb 2018	15 Feb 2018
Use of NB-IoT WUS for eMTC	Beale, Martin Warwick;Wong, Shin Horng	I-17-201-WO- PCT	PCT/EP2019/053590	13 Feb 2019	15 Feb 2018
WUS Candidate Indicator Transmission	Wong, Shin Horng;Beale, Martin Warwick	I-18-022-EP- FFWF	18157021.9	15 Feb 2018	15 Feb 2018
WUS Candidate Indicator Transmission	Wong, Shin Horng;Beale, Martin Warwick	I-18-022-WO- PCT	PCT/EP2019/053583	13 Feb 2019	15 Feb 2018
Early PUSCH Repetition Termination Search Space	Wong, Shin Horng;Beale, Martin Warwick	I-18-003-WO- PCT	PCT/EP2019/053188	08 Feb 2019	16 Feb 2018

Early PUSCH Repetition Termination Search Space	Wong, Shin Horng;Beale, Martin Warwick	I-18-003-EP-FWFF	18157260.3	16 Feb 2018	16 Feb 2018
Narrowband Offset Indicator	Wong, Shin Horng;Beale, Martin Warwick;Phyanto, Basuki	I-18-025-EP-FWFF	18157251.2	16 Feb 2018	16 Feb 2018
Narrowband Offset Indicator	Wong, Shin Horng;Beale, Martin Warwick;Phyanto, Basuki	I-18-025-WO-PCT	PCT/EP2019/053688	14 Feb 2019	16 Feb 2018
Reception of eMTC transmission in soft buffer parts	Beale, Martin Warwick;Wong, Shin Horng;Phyanto, Basuki	I-18-027-EP-FWFF	18157261.1	16 Feb 2018	16 Feb 2018
Reception of eMTC transmission in soft buffer parts	Beale, Martin Warwick;Wong, Shin Horng;Phyanto, Basuki	I-18-027-WO-PCT	PCT/EP2019/053334	11 Feb 2019	16 Feb 2018
Subcarrier allocation for Msg3 transmission in eMTC	Wong, Shin Horng;Beale, Martin Warwick	I-18-053-EP-FWFF	18166205.7	06 Apr 2018	06 Apr 2018
Resource Allocation for variable TBS in Message 3	Wong, Shin Horng;Beale, Martin Warwick	I-18-054-EP-FWFF	18166211.5	06 Apr 2018	06 Apr 2018
Early Data Transmission	Wong, Shin Horng;Beale, Martin Warwick	I-18-060-EP-FWFF	18167615.6	16 Apr 2018	16 Apr 2018
Method of Indicating Information in enhanced Synchronisation Signal for eMTC					
Transmission of scaled PUSCH repetition in Msg3 EDT	Wong, Shin Horng;Beale, Martin Warwick	I-18-070-EP-FWFF	18171936.0	11 Mai 2018	11 Mai 2018
Critical message handling in the same DRB	Sharma, Vivek;Abungsiri, Samuel Asangbeng;Wong, Shin Horng;Shimozawa, Kazuyuki;Wakabayashi, Hideji	I-18-071-EP-FWFF	18172380.0	15 Mai 2018	15 Mai 2018
Multi-levels Downlink Pre-emption Indicator	Wong, Shin Horng	I-18-085-EP-FWFF	18180486.5	28 Jun 2018	28 Jun 2018

Time Overlapped PDCCH candidates in the same Repetition Level for URLLC	Wong, Shin Horng;Beale, Martin Warwick;Shimezawa, Kazuyuki;Awad, Yassin Aden	I-18-091-EP- FFWF	18185543.8	25 Jul 2018	25 Jul 2018
Multiple uplink transmission parameters for URLLC & eMBB capable UE	Wong, Shin Horng;Beale, Martin Warwick;Shimezawa, Kazuyuki;Awad, Yassin Aden	I-18-093-EP- FFWF	18185553.7	25 Jul 2018	25 Jul 2018
Intra-UE processing pre-emption of eMBB by URLLC transmission	Wong, Shin Horng;Beale, Martin Warwick	I-18-099-EP- FFWF	18185592.5	25 Jul 2018	25 Jul 2018
Power saving techniques for multiple active bandwidth part (BWP) in NR	Awad, Yassin Aden;Wong, Shin Horng;Shimezawa, Kazuyuki;Sharma, Vivek;Beale, Martin Warwick	I-18-092-EP- FFWF	18185912.5	26 Jul 2018	26 Jul 2018
Activation and deactivation methods for multiple bandwidth parts (BWP) in NR	Awad, Yassin Aden;Wong, Shin Horng;Shimezawa, Kazuyuki;Sharma, Vivek;Beale, Martin Warwick	I-18-094-EP- FFWF	18185911.7	26 Jul 2018	26 Jul 2018
Early Data Transmission via Paging for MTC	Wong, Shin Horng;Beale, Martin Warwick;Sharma, Vivek;Awad, Yassin Aden	I-18-111-EP- FFWF	18188364.6	09 Aug 2018	09 Aug 2018
Feedback for Downlink Early Data Transmission in MTC	Wong, Shin Horng;Beale, Martin Warwick;Sharma, Vivek;Awad, Yassin Aden	I-18-115-EP- FFWF	18188365.3	09 Aug 2018	09 Aug 2018
Early Data Transmission via Message 2 for MTC	Wong, Shin Horng;Beale, Martin Warwick;Sharma, Vivek;Awad, Yassin Aden	I-18-116-EP- FFWF	18188366.1	09 Aug 2018	09 Aug 2018
Permission to use grant free resources for A-MTC	Beale, Martin Warwick;Wong, Shin Horng;Phyanto, Basuki	I-18-122-EP- FFWF	18188600.3	10 Aug 2018	10 Aug 2018



Beam failure reporting and Radio Link Monitoring for multiple active bandwidth parts (BWP) in NR	Awad, Yassin Aden; Wong, Shin Horng; Shimezawa, Kazuyuki; Sharma, Vivek; Beale, Martin Warwick	I-18-123-EP- FPWF	18195309.2	18 Sep 2018	18 Sep 2018
Enhancement of channel coding for PDCCH repetition	Shimezawa, Kazuyuki; Beale, Martin Warwick; Wong, Shin Horng; Awad, Yassin Aden	I-18-124-EP- FPWF	18197353.8	27 Sep 2018	27 Sep 2018
Rules for URLLC traffic scheduling on uplink	Sharma, Vivek; Wong, Shin Horng; Awad, Yassin Aden	I-18-133-EP- FPWF	18197373.6	27 Sep 2018	27 Sep 2018
Multiple configuration of UL grant free for URLLC	Shimezawa, Kazuyuki; Wong, Shin Horng; Beale, Martin Warwick	I-18-140-EP- FPWF	18197372.8	27 Sep 2018	27 Sep 2018
Uplink Pre-emption Indicator Monitoring	Wong, Shin Horng; Beale, Martin Warwick; Shimezawa, Kazuyuki	I-18-139-EP- FPWF	18197779.4	28 Sep 2018	28 Sep 2018
Dynamic Sub-Paging Occasions for A-MTC	Wong, Shin Horng; Beale, Martin Warwick	I-18-141-EP- FPWF	18197768.7	28 Sep 2018	28 Sep 2018
HARQ operation in Pre-configured Uplink Resource in A-MTC	Wong, Shin Horng; Beale, Martin Warwick	I-18-142-EP- FPWF	18197765.3	28 Sep 2018	28 Sep 2018
HARQ operation when multiple transport blocks are scheduled by MPDCCCH	Beale, Martin Warwick; Wong, Shin Horng	I-18-159-EP- FPWF	18204003.0	01 Nov 2018	01 Nov 2018
Enhanced Scheduling Request for URLLC	Wong, Shin Horng; Beale, Martin Warwick	I-18-160-EP- FPWF	18204002.2	01 Nov 2018	01 Nov 2018
Intra-UE prioritization and Multiplexing solutions for handling a mixture of different traffic for IoT in 5G system	Awad, Yassin Aden; Sharma, Vivek; Wong, Shin Horng; Wei, Yuxin; Shimezawa, Kazuyuki	I-18-180-EP- FPWF	18214944.3	20 Dec 2018	20 Dec 2018

Orphan symbol in repetition transmission for URLLC	Shimezawa, Kazuyuki;Wong, Shin Horng;Beale, Martin Warwick	I-18-194-US-PSP	62/790770	10 Jan 2019	10 Jan 2019
Orphan symbol in repetition transmission for URLLC	Shimezawa, Kazuyuki;Wong, Shin Horng;Beale, Martin Warwick	I-18-194-EP-FFWF	19151297.9	10 Jan 2019	10 Jan 2019
2 Segments PUSCH Repetition across slot boundary	Wong, Shin Horng;Beale, Martin Warwick;Shimezawa, Kazuyuki	I-18-198-EP-FFWF	19151270.6	10 Jan 2019	10 Jan 2019
Dynamic DRX ON Duration	Wong, Shin Horng;Beale, Martin Warwick	I-18-189-EP-FFWF	19151357.1	11 Jan 2019	11 Jan 2019
DRX phases in inactivity period	Wong, Shin Horng;Beale, Martin Warwick	I-18-218-EP-FFWF11	19157544.8	15 Feb 2019	11 Jan 2019
DRX phases in inactivity period	Wong, Shin Horng;Beale, Martin Warwick	I-18-218-EP-FFWF	19151487.6	11 Jan 2019	11 Jan 2019
Dynamic Grant Intra-UE Packet Collisions	Wong, Shin Horng;Awad, Yassin Aden	I-19-001-EP-FFWF	19152670.6	18 Jan 2019	18 Jan 2019
Variable RSRP-based PUR timing advance validity determination	Beale, Martin Warwick;Wong, Shin Horng	I-18-217-EP-FFWF	19156775.9	12 Feb 2019	12 Feb 2019
Pre-configured Uplink Resource Configuration Change	Wong, Shin Horng;Beale, Martin Warwick;Privanto, Basuki	I-19-033-EP-FFWF	19157131.4	14 Feb 2019	14 Feb 2019
Transmission of Msg3 quality report in a restricted number of bits	Beale, Martin Warwick;Wong, Shin Horng;Privanto, Basuki	I-19-034-EP-FFWF	19157325.2	14 Feb 2019	14 Feb 2019
Indication of switching MCS table for uplink Intra-UE prioritization and Multiplexing for different URLLC traffic in 5G system	Awad, Yassin Aden;Sharma, Vivek;Wei, Yuxin;Wong, Shin Horng;Wakabayashi, Hideji	I-19-035-EP-FFWF	19157326.0	14 Feb 2019	14 Feb 2019

Assignment Inventor to Assignee to SFU to Sony Corp.

Relaxed measurements in CONNECTED/IDLE/INACTIVE mode in multi beam scenario	Sharma, Vivek; Beale, Martin Warwick; Wei, Yuxin; Wong, Shin Horng; Awad, Yassin Aden	1-19-036-EP-FFWF	19157287.4	14 Feb 2019	14 Feb 2019
Conditional RRM Measurement for Power Saving	Wong, Shin Horng; Beale, Martin Warwick; Sharma, Vivek	1-19-037-EP-FFWF	19157314.6	14 Feb 2019	14 Feb 2019

