Exhibit AA: Claim Charts for SNQs 1-8

Claim Charts: SNQs 1 and 2

SNQ1: Claims 1-6 and 16 (Jokinen)

SNQ2: Claims 2-3 (Jokinen with either Nevo or Bridgelall)

Claim Element	Prior Art
[1.0] A method for data transmission over first and second media that overlap in frequency, comprising:	Whether or not the preamble is limiting, it is disclosed by Jokinen. By way of background, Jokinen discloses a method by which radio capacity is divided dynamically between packet radio service and circuit switched service (*first and second media*) in a TDMA system in which two-way traffic (including *data transmission*) between base stations and mobile stations takes place in time slots on predetermined channels. Ex. 1004, 1:6-12; *see also id.*, Abstract ("The invention relates to a method aiming at **dynamic division of the radio capacity in a TDMA system dynamically between packet radio service and circuit switched service**."). With respect to *media that overlap in frequency*, Jokinen also discloses that the packet switched and circuit switched services share the same (*i.e.*, overlap in) frequency. Ex. 1004, 1:21-28 ("Considering burst-form data services, circuit switching does not exploit the channel optimally. Therefore **packet radio services are used alongside existing circuit switched services in cellular networks**. Since the existing radio band cannot be expanded, **packet radio services must be fitted into the same band as circuit switched services**. Thus a certain amount of capacity has to be taken from circuit switched services for packet radio services."); 3:18-47; 6:47-49 ("The above examples 1 and 2 can be used in combination so as to ensure that both circuit switched services and packet radio services **share the channel capacity** in a 'fair' manner."); Abstract; FIG. 1. The packet switched and circuit switched services are "media" because they define communication channels over which a transmitter may transmit data to a receiver, and through which the data is propagated. *See* Ex. 1003, ¶¶ 64-69. That is, they are transmission media. Additionally, they conform to communications standards for transmission on those channels.
[1.1] computing one or more time division multiple access (TDMA) time-slot channels to be shared between the first and second media for data transmission;	Jokinen, as discussed above in claim element [1.0], discloses a method by which radio capacity is divided dynamically between packet radio service and circuit switched service in a TDMA system in which two-way traffic between base stations and mobile stations takes place in time slots on predetermined channels. Ex. 1004, 1:6-12; *see also id.*, Abstract ("The invention relates to a method aiming at **dynamic division of the radio capacity in a TDMA system** dynamically between packet radio service and circuit switched service."). The dynamic allocation or division of capacity via time slots discloses *computing one or more time division multiple access (TDMA) time-slot channels* (*see, e.g.*, Ex. 1004, FIG. 1, Abstract, 1:21-28, 4:9-20, 5:50-6:12, 6:19-20, 6:47-60), and as discussed throughout, the capacity is *shared between the first and second media for data transmission* (*see, e.g.*, discussion of claim elements [1.0], [1.2], and [1.3]). *See also* Ex. 1003, ¶ 72. Because Jokinen uses TDMA time-slots, a POSITA would recognize that

Claim Element	Prior Art
	those slots are computed (and subsequently used in the dynamic allocation or division of capacity). *See* EX1003, ¶ 99. In particular, Jokinen teaches that capacity (in the form of TDMA time-slots) is to be shared between (*i.e.*, taken from or given to) packet radio services and circuit switched services. Ex. 1004, 1:21-28, 4:9-20. Jokinen also teaches that this capacity is to be "shared" in a fair manner. Ex. 1004, 6:47-49 ("The above examples 1 and 2 can be used in combination so as to ensure that both circuit switched services and packet radio services **share the channel capacity** in a 'fair' manner."); *see also id.*, 3:21-26 ("In this case the easiest method is that **one time slot or multiple time slots** is/are allocated permanently to packet radio traffic, and the rest of the time slots are reserved for circuit switched services. However, it is **possible to divide the capacity even more flexibly** between circuit switched service and packet radio service."). *See also* discussion of claim elements [1.2] and [1.3], and claim 5.
[1.2] allocating one or more time-slot channels to the first medium for data transmission;	Jokinen discloses this limitation. In particular, Jokinen discloses that in a basic mode of operation, the packet radio service (*first medium*) is *allocated* a predetermined first number of *time slots*. Ex. 1004, 4:9-20 ("In a basic mode **the base station system (BSS) 12 reserves for packet radio service a predetermined first number of time slots** and for circuit switched service a predetermined second number of time slots. The base station system 12 monitors the capacity required for each service, and allocates to packet radio service and/or circuit switched service, on the basis of a predetermined criterion, one or more additional free time slot/slots, while deallocating a corresponding number of time slots from the other service. The base station system 12 also transmits to a mobile station 18 information regarding the division of radio capacity between packet radio service and circuit switched service."); *see also* Abstract, 5:50-6:7; 6:47-49; Ex. 1003, ¶¶ 71-78. *See also* discussion of claim element [1.1].
[1.3] allocating one or more of the remaining time-slot channels to the second medium for data transmission; and	Jokinen discloses this limitation. In particular, Jokinen discloses that in a basic mode of operation, the circuit switched service (*second medium*) is *allocated* a predetermined second number of *time slots* – the slots that *remain* after allocating a predetermined first number of time slots to the packet radio service. Ex. 1004, 4:9-20 ("In a basic mode **the base station system (BSS) 12 reserves** for packet radio service a predetermined first number of time slots and **for circuit switched service a predetermined second number of time slots**. The base station system 12 monitors the capacity required for each service, and allocates to packet radio service and/or circuit switched service, on the basis of a predetermined criterion, one or more additional free time slot/slots, while deallocating a corresponding number of time slots from the other service. The base station system 12 also transmits to a mobile station 18 information regarding the division of radio capacity between packet radio service and circuit switched service."); *see also* Abstract, 5:50-6:7; 6:47-49; Ex. 1003, ¶¶ 71-78. *See also* discussion of claim elements [1.1] and [1.2].

Claim Element	Prior Art
[1.4] dynamically adjusting a number of time-slot channels assigned to one of the first and second media during the data transmission to remain within limits of a desired level of service.	Jokinen discloses this limitation. In particular, Jokinen discloses using traffic measurement as a criterion to dynamically reallocate time-slot channels (*i.e.*, to *dynamically adjust a number of time-slot channels assigned to the first/second media*) to one or the other of the packet radio service and the circuit switched service. Ex. 1004, Abstract ("The invention relates to a method aiming at **dynamic division of the radio capacity in a TDMA system** dynamically between packet radio service and circuit switched service."); Abstract ("**When the traffic requirement** of packet radio service increases, information regarding this is obtained by means of a request from a mobile station or through **traffic measurement** at the base transceiver station. **This information is used as a criterion** in allocating more time slots to packet radio service."); *see also id.*, 1:61-64 ("According to the invention, this is done by using the characteristics of Claim 1 by **allocating dynamically** more capacity, **i.e. more time slots**, **to the** form of **service requiring it** at a given time."), 4:9-20; *see also* Ex. 1003, ¶ 99. For example, Jokinen discloses (in its Example 2) that when a channel's utilization ratio exceeds a threshold value – and the "service level weakens" – that another time slot may be allocated, or on the other hand, if the utilization ratio decreases below a threshold, a time slot may be deallocated. Ex. 1004, 5:60-6:3 ("In the utilization of a channel there is a certain **percentage limit**, and at a **utilization ratio higher than this** the channel becomes **overloaded** and **the service level weakens**. If the utilization ratio of a channel reaches this value, **another time slot must be reserved for traffic**…. When the utilization ratio of a channel decreases and reaches another, lower, level, one of the time slots in packet radio use can be deallocated."); *see also id.*, claim 1 ("on the basis of a predetermined criterion, said base transceiver station allocates at least one additional time slot to one of the packet radio service and circuit switched service, said predetermined criterion comprising any one of the following: … a certain threshold value is reached in a traffic measurement performed at said base transceiver station.") and claim 7 ("A method according to claim 1, characterized in that said predetermined criterion comprises threshold values obtained by traffic measuring occurring at one of said base transceiver stations and that, when the traffic of the service concerned increases to above a predetermined first threshold value at least one additional time slot is allocated to this service and, when the traffic of the service concerned drops to below a predetermined second threshold value, a corresponding number of time slots are deallocated from this service."). A POSITA would understand from this that dynamically adjusting the time slots based on traffic measurements (for example) is performed in order to remain within limits of a *desired level of service*, and that it is done so *during the data transmission*. Ex. 1003, ¶ 74; Ex. 1004, 5:50-6:3. The utilization ratio threshold disclosed in Jokinen is set so that if the service quality is too low, then allocating more time slots will improve the quality. *Id.* Additionally, it would have been obvious to a POSITA at the time of the alleged invention to perform the dynamic adjustment of time slots based on traffic measurements as described in Jokinen in order to remain within limits of a desired level of service. Ex. 1003, ¶ 99. This is because the amount of time slots a service is allocated has a direct impact on the traffic measurements and the ensuing quality of service of the service. *Id.*

Claim Element	Prior Art
	Therefore, a POSITA would have been motivated to adjust the time slots in order to remain within limits of a desired level of service. *Id.* Therefore, Jokinen discloses claim 1 as a whole. (SNQ 1.)
[2.0] The method of claim 1, wherein at least one of the first and second media conforms to an 802.11 specification.	With respect to claim 1, see above. Jokinen discloses a packet switched radio service. *See, e.g.*, Ex. 1004, Abstract ("The invention relates to a method aiming at dynamic division of the radio capacity in a TDMA system dynamically between **packet radio service** and circuit switched service."), 4:9-20. A POSITA would have understood at the time of the invention that an example of a radio service to use as Jokinen's packet switched radio service was a service adhering to the 802.11 specification. Ex. 1003, ¶ 100. It would have been obvious to a POSITA to conform the packet radio service to an 802.11 specification, at least because it is a simple substitution of one known element (a packet radio service such as disclosed in Jokinen) for another (a service adhering to an 802.11 specification) to obtain predictable results, and it is an obvious-to-try example of a packet switched radio service. Additionally, 802.11 was common, popular, and well-known as of the priority date of the '040 Patent, and would have been an obvious choice for a POSITA implementing a packet-based radio service. *Id.* Therefore, Jokinen alone discloses claim 2 as a whole. (SNQ 1.) * * * This limitation is further disclosed by each of the 802.11 and Bluetooth references. *See* Ex. 1003, ¶¶ 87-91 (discussing the Bluetooth and 802.11 References); *see also* Ex. 1003, ¶¶ 92-94. Nevo discloses a wireless device capable of communicating over first and second wireless networks in a coordinated manner, and specifically discloses as examples of the first and second wireless networks, networks conforming to 802.11 and Bluetooth specifications. Ex. 1007, Abstract ("A wireless device is provided with at least one wireless transceiver and at least one controller manager to transmit and receive signals wirelessly to and from network devices of a first and second wireless network, in a coordinated manner, in accordance with a first and a second protocol respectively."); claim 8 ("The apparatus of claim 1, wherein the first and the second protocol are two protocols selected from a group consisting of **Bluetooth**, **802.11** frequency hopping, **802.11** direct sequence, **802.11a**, **802.11b**, and Home RF."). And Nevo discloses a general need in the field (as background to its invention) to operate concurrently in multiple wireless protocols, including Bluetooth and 802.11. Ex. 1007, 1:40-50 ("A need has emerged in a number of applications that it is desirable for a device to be able to operate "concurrently" in multiple wireless protocols. One such applications is having a notebook computer being able to communicate with peripheral devices such as a phone, a printer, a scanner and the like, in accordance with **the Bluetooth protocol**; and with other computing devices, such as other peer computers or servers, communication devices, such as modems or adapters,

Claim Element	Prior Art
	and networking devices, such as gateways, routers, switches and the like, in accordance with one of **the 802.11 protocols** or Home RF."). One problem with doing so, however, is interference that results from transmitting at the same time on both protocols. Ex. 1007, 1:52-57 ("However, the need cannot be met by simply providing the device with multiple transmitters, one for each protocol. The reason is because if multiple ones of these transmitters were to transmit at the same time. The transmitters are going to **interfere with each other**, resulting in corruption and/or loss of data, as well as degradation in performance."). Bridgelall discloses a dual mode mobile unit that is arranged to communicate in either a first or second data communications standard, such as combined Bluetooth and 802.11 operation. Ex. 1010, Abstract; 1:41-48 ("It is an object of the present invention to provide a dual mode mobile unit capable of operating in **both the 802.11 system and in a Bluetooth system** for communications between the dual mode mobile unit and other units using either system. It is a further object of the invention to provide methods whereby **802.11 systems and Bluetooth systems** can co-exist without signal interference."); 1:56-59 ("The mobile unit uses the first wireless protocol to reserve a transmission time interval in a frame of the first wireless protocol for purposes of operating under the second wireless protocol. During the reserved time interval the mobile unit operates under the second wireless protocol to send and receive signals."). Accordingly, each of Nevo and Bridgelall teach a device that uses both 802.11 and Bluetooth together, each teaches that a known problem was to handle interference resulting from the overlapping frequency of these protocols, and therefore, a POSITA would have been motivated in view of each of these references to utilize the time slot allocation methods of Jokinen with one or both of an 802.11 and Bluetooth protocol as one of the first or second media. *See* Ex. 1003, ¶¶ 102-111 (motivation to combine); *see also* Request at Section II.A.3. Therefore, the combination of Jokinen and either Nevo or Bridgelall disclose claim 2 as a whole. (SNQ 2.)
[3.0] The method of claim 1, wherein at least one of the first and second media conforms to a Bluetooth specification.	With respect to claim 1, see above. Jokinen teaches, or would have suggested, "wherein at least one of the first and second media conforms to a Bluetooth specification." Jokinen does not specifically refer to Bluetooth, but a POSITA would have been aware of this protocol as of the time of the invention, and been motivated to use it. *See* Ex. 1003, ¶ 100. A POSITA would have understood at the time of the invention that Bluetooth is a popular type of radio-based service. It would have been obvious to a POSITA substitute the packet radio service with a radio service that conforms to a Bluetooth specification, at least because it is a simple substitution of one known element (a packet radio service such as disclosed in Jokinen) for another (a radio service adhering to a Bluetooth specification) to obtain predictable results, and it is an obvious-to-try example of a radio service. *Id.*

Claim Element	Prior Art
	Therefore, Jokinen alone discloses claim 3 as a whole. (SNQ 1.) * * * This limitation is further disclosed by one or more of the 802.11 and Bluetooth references. *See* discussion above of claim 2 (referring to both 802.11 and Bluetooth with respect to Nevo and Bridgelall). Therefore, the combination of Jokinen and one or more of Nevo and Bridgelall disclose claim 3 as a whole. (SNQ 2.)
[4.0] The method of claim 1, further comprising determining the desired level of service for one of the first and second media during the data transmission.	With respect to claim 1, see above. *See also* discussion above regarding claim element [1.4] ("dynamically adjusting a number of time-slot channels … to remain within limits of a desired level of service."). Jokinen's teachings regarding dynamic allocation based on a desired level of service also disclose *determining the desired level of service.* As discussed above, Jokinen discloses, and it would have been obvious to a POSITA at the time of the alleged invention, dynamically adjusting time-slots based on traffic measurements in order to remain within limits of a desired level of service. For example, as discussed above, Jokinen discloses (in its Example 2) that when a channel's utilization ratio exceeds a threshold value – and the "service level weakens" – that another time slot may be allocated. Ex. 1004, 5:60-6:3; *see also id.*, 6:8-13 ("The determination of the threshold values may be based on long-term follow-up of traffic. Alternatively it may be variable in such a manner that by using the measuring results obtained within a specified past time period the threshold values are updated regularly."); claim 9; Ex. 1003, ¶¶ 74, 78. At a utilization ratio above the threshold, the service level weakens to a point where additional resources (time slots) are allocated. *See id*; Ex. 1003, ¶ 100. The setting of the utilization ratio threshold, therefore, *determines the desired level of service* for one of the packet radio service and circuit switched service (*i.e.*, the *first and second media during data transmission*). *Id.* A POSITA would also have been motivated to determine a desired level of service for one of the packet radio service and circuit switched service, e.g., based on a user's preference settings, other users or other network constraints, etc., so that the user could obtain a reasonable level of service while also ensuring other network traffic is properly prioritized. Ex. 1003, ¶ 100. Differential levels of service to maintain network traffic was well known by this time. A POSITA would also understand that the utilization ratio threshold would be adjusted based on the desired level of service. *Id.* Therefore, Jokinen discloses claim 4 as a whole. (SNQ 1.)
[5.0] The method of claim 1, wherein the	With respect to claim 1, see above.

Claim Element	Prior Art
dynamic adjusting comprises:	With respect to "the dynamic adjusting" step, see particularly claim element [1.4].
[5.1] determining available time-slot resources;	See discussion above with respect to claim element [1.1]. Jokinen discloses that free time slots, or time slots deallocated from the other service are available for use. Ex. 1004, 4:12-17 ("The base station system 12 monitors the capacity required for each service, and allocates to packet radio service and/or circuit switched service, on the basis of a predetermined criterion, one or more additional free time slot/slots, while deallocating a corresponding number of time slots from the other service."); 5:53-54 ("The other time slots are used for circuit switched services, or they are free."); *see also* 5:8-16 ("The base station controller 16 of the base station system 12 checks whether there are free traffic channels, whereupon a channel in the use of packet radio service is released for circuit switched calls as follows. If a free traffic channel is found, the mobile station 18 is given a free channel as soon as it needs a channel. If a free channel is not found, reallocation of the packet radio channel is initiated and the channel is allocated to circuit switched use immediately when needed."); 5:17-28 ("The base station system 12 needs a channel before it transmits an Assignment Request to the mobile station 18. The system will have ample time to reallocate the channel before the transmission of the Assignment Request. Within the time between the Assignment Request and the Channel Required message, signaling takes place on the signaling channel, in which case the channel in the use of packet radio service can be used until the Channel Required message is transmitted. After the channel has been taken into the use of circuit switched service and after the circuit switched call is completed, the channel is free and is reallocated to packet radio service."). A POSITA would understand this to mean that available time slot resources are *determined*, because determining these resources is a preliminary step to allocating time slots to a service needing more capacity, and is the reason for the base station system 12 monitoring the capacity required for each service. Ex. 1003, ¶ 100. Additionally, it would be obvious to determine available time slot resources, for these same reasons – in order to be able to effectively allocate time slots to a service needing more capacity. That is, even if Jokinen is not read to literally disclose this step (which it does disclose), a POSITA would have been motivated to modify it so that the step (i.e., determining available time-slot resources) is performed, for the reasons above. *Id.*
[5.2] detecting the medium that fails to meet said desired level of service;	See discussion above regarding claim element [1.4] and claim 4. Jokinen discloses *detecting* by monitoring a service to determine if it is overloaded, causing the service level to weaken. Ex. 1004, 5:60-63 ("In the utilization of a channel there is a certain percentage limit, and at a utilization ratio higher than this the channel becomes overloaded and the service level weakens.").
[5.3] allocating the medium to a configuration having	See discussion above regarding claim element [1.4]. Jokinen discloses, as a result of determining the service is overloaded, dynamically allocating additional time slots to that service. Ex. 1004, 1:61-64 ("According to the

Claim Element	Prior Art
additional time slots; and	invention, this is done by using the characteristics of Claim 1 by allocating dynamically more capacity, i.e. more time slots, to the form of service requiring it at a given time."); 5:63-65 ("If the utilization ratio of a channel reaches this value, another time slot must be reserved for traffic."). The specification of time slots allocated to a service is a *configuration*. *See* Ex. 1004, 2:10-16 ("The capacity required by each service is monitored in the base station system (BSS), which is in a known manner made up of base transceiver stations (BTS) and base station controllers (BSC), and from which information is transmitted to the mobile station regarding the channel configurations, i.e. the allocation of radio capacity (which channel is in the use of which service)."); Ex. 1003, ¶ 100*; see also* discussion of claim element [5.4] below.
[5.4] transmitting a channel assignment message including information on the allocated configuration with the additional time slots.	See discussion below regarding claims 6 and 16. Jokinen discloses transmitting information regarding the division of radio capacity between packet radio service and circuit switched service, *i.e.*, channel configurations. Ex. 1004, 2:10-16 ("[I]nformation is transmitted to the mobile station regarding the channel configurations, i.e. the allocation of radio capacity (which channel is in the use of which service)."); 4:17-20 ("The base station system 12 also transmits to a mobile station 18 information regarding the division of radio capacity between packet radio service and circuit switched service."). A POSITA would understand these transmissions to constitute a *channel assignment message*. Ex. 1003, ¶ 100. Therefore, Jokinen discloses claim 5 as a whole. (SNQ 1.)
[6.0] The method of claim 5, further comprising instructing transceivers for the first and second media to communicate only in their previously presentedly [sic, newly] allocated time-slots.	With respect to claim 5, see above. Jokinen discloses transmitting information regarding the division of radio capacity between packet radio service and circuit switched service, i.e., channel configurations. This may be sent from a base station system to the mobile station, which will control the usage of the packet radio service and circuit switched service. Ex. 1004, 2:10-16 ("The capacity required by each service is monitored in the base station system (BSS), which is in a known manner made up of base transceiver stations (BTS) and base station controllers (BSC), and from which information is transmitted to the mobile station regarding the channel configurations, i.e. the allocation of radio capacity (which channel is in the use of which service)."); *see also id.*, 4:17-20 ("The base station system 12 also transmits to a mobile station 18 information regarding the division of radio capacity between packet radio service and circuit switched service."); 5:29-33 ("The base station system 12 keeps the mobile station 18 informed of the division of radio capacity, i.e. transmits to the mobile station information as to which channels are in the use of which service (i.e. it transmits information regarding so-called channel configurations)."); claim 13 ("A mobile telecommunication system according to claim 12, characterized in that the base station system comprises means for transmit[t]ing to at least one of said mobile stations information regarding the division of radio capacity between packet radio service

Claim Element	Prior Art
	and circuit switched service."); Ex. 1003, ¶ 100. A POSITA would understand that upon receiving the configurations indicating usage for the time slots, that the transceivers for the first and second media would be instructed to communicate in their currently allocated time slots. This would also be obvious to a POSITA because instructing the transceivers to communicate only in their allocated time slots would prevent interference issues that may arise if a transceiver communicated in a time slot allocated to a different transceiver. *Id.* Therefore, Jokinen discloses claim 6 as a whole. (SNQ 1.)
[16.0] The method of claim 1, further comprising instructing transceivers for the first and second media to communicate only in their allocated time-slot channels.	With respect to claim 1, see above. See above regarding claim 6. Jokinen discloses transmitting information regarding the division of radio capacity between packet radio service and circuit switched service, *i.e.*, channel configurations. This may be sent from a base station system to the mobile station, which will control the usage of the packet radio service and circuit switched service. Ex. 1004, 2:10-16 ("The capacity required by each service is monitored in the base station system (BSS), which is in a known manner made up of base transceiver stations (BTS) and base station controllers (BSC), and from which information is transmitted to the mobile station regarding the channel configurations, i.e. the allocation of radio capacity (which channel is in the use of which service)."); *see also id.*, 4:17-20 ("The base station system 12 also transmits to a mobile station 18 information regarding the division of radio capacity between packet radio service and circuit switched service."); 5:29-33 ("The base station system 12 keeps the mobile station 18 informed of the division of radio capacity, i.e. transmits to the mobile station information as to which channels are in the use of which service (i.e. it transmits information regarding so-called channel configurations)."); claim 13 ("A mobile telecommunication system according to claim 12, characterized in that the base station system comprises means for transmit[t]ing to at least one of said mobile stations information regarding the division of radio capacity between packet radio service and circuit switched service."); Ex. 1003, ¶ 100. A POSITA would understand that upon receiving the configurations indicating usage for the time slots, that the transceivers for the first and second media would be instructed to communicate in their currently allocated time slots. This would also be obvious to a POSITA because instructing the transceivers to communicate only in their allocated time slots would prevent interference issues that may arise if a transceiver communicated in a time slot allocated to a different transceiver. *Id.* Therefore, Jokinen discloses claim 16 as a whole. (SNQ 1.)

Claim Charts: SNQs 3, 4, 5, and 6

SNQ3: Claims 1-6 and 16 (Joeressen)

SNQ4: Claims 1-6 and 16 (Joeressen and Stanwood)

SNQ5: Claims 2-3 (Joeressen with either Nevo or Bridgelall)

SNQ6: Claims 2-3 (Joeressen and Stanwood with either Nevo or Bridgelall)

Claim Element	Prior Art
[1.0] A method for data transmission over first and second media that overlap in frequency, comprising:	Whether or not the preamble is limiting, it is disclosed by Joeressen. By way of background, Joeressen discloses a method by which a terminal can operate (including *data transmission*) in two different communication networks (*first and second media*) simultaneously. Ex. 1005, Abstract ("A terminal for **simultaneously operating** in a **first** mobile radio communications network and a **second different** radio communications network."); 6:39-56 ("The terminal 100 acts as an interface between the mobile and LPRF networks and it operates simultaneously in both. However, concurrent activities and especially **concurrent transmission by the mobile terminal 100 in the mobile network 106 and in the LPRF network 2 may cause interference** and type approval difficulties.... The controller 60 in the mobile terminal 100 **can synchronise the two networks** by shifting the LPRF timing relative to the mobile network. This preferably **aligns the timings**."). Joeressen also discloses that the two different communication networks *overlap in frequency*. Ex. 1005, 2:61-62 ("The transceivers transmit and receive, in this example, in a microwave frequency band, illustratively 2.4 GHz."). The LPRF network is described as a Bluetooth low power radio frequency (LPRF) network (*see* Ex. 1005, 1:29-31), and Bluetooth is known to also use the 2.4 GHz band. *See also* Ex. 1005, 1:43-46 ("The timing of the second radio communications network is such that the timing of the mobile communications network and the timing of the second radio communications network can be aligned. This allows the two networks to be easily integrated through the terminal."); 6:39-44 ("The terminal 100 acts as an interface between the mobile and LPRF networks and it operates simultaneously in both. However, concurrent activities and especially concurrent transmission by the mobile terminal 100 in the mobile network 106 and in the LPRF network 2 **may cause interference** and type approval difficulties."). A POSITA would understand this to encompass cases where the first and second mobile radio communications networks overlap in frequency. *See* Ex. 1003, ¶ 115. In addition, it would be obvious to a POSITA that such a case would be applicable to the teachings of Joeressen, at least because the interference concerns that Joeressen addresses would be especially heightened where the frequencies of the networks overlap. *Id.* Transmissions over the mobile and LRPF networks are transmission over "media" because they define communication channels over which a transmitter may transmit data to a receiver, and through which the data is propagated. *See* Ex. 1003, ¶¶ 64-69. That is,

Claim Element	Prior Art
	they are transmission media. Additionally, they conform to communications standards for transmission on those channels.
[1.1] computing one or more time division multiple access (TDMA) time-slot channels to be shared between the first and second media for data transmission;	Joeressen, as discussed above in claim element [1.0], discloses a method by which a terminal can operate in two different communication networks simultaneously. This is performed by shifting or aligning the timing of communication in each network. Ex. 1005, Abstract ("A terminal for simultaneously operating in a first mobile radio communications network and a second different radio communications network."); 6:39-56 ("The terminal 100 acts as an interface between the mobile and LPRF networks and it operates simultaneously in both. However, concurrent activities and especially concurrent transmission by the mobile terminal 100 in the mobile network 106 and in the LPRF network 2 may cause interference and type approval difficulties.... The controller 60 in the mobile terminal 100 can synchronise the two networks by **shifting the LPRF timing relative to the mobile network**. This preferably **aligns the timings**."); Ex. 1003, ¶ 82. In particular, and with respect to *computing one or more time division multiple access (TDMA) time-slot channels to be shared between the first and second media for data transmission*, Joeressen teaches that TDMA time slots are allocated to the two different networks in such a way that the time slots of the LPRF network fit within the timing of the mobile network, so that even though the length of the time slots are different the two networks can be integrated. Ex. 1005, 5:26 ("The mobile network 106 is typically **a TDMA network**."); 5:42-54 ("The **LPRF slot length** used by the mobile terminal 100 is chosen so that synchronisation between the mobile network and the LPRF network is possible. The length l of the LPRF time slot is chosen so that a whole number of LPRF time slots fit into one time frame of the mobile network 106 or a multiple number of such time frames. A super-frame in the LPRF network will have this whole number of slots. Consequently when a super-frame is cyclically repeated in the LPRF network, the relationship between the slots of the LPRF network and the slots of the mobile network is specified. The beginning of each super-frame is preferably aligned with the beginning of a time frame in the mobile network."); 6:57-7:8 ("One possible algorithm for **determining an allocation pattern such that the mobile terminal does not transmit simultaneously in both networks will now be described**. The control unit 80 is informed by the phone unit 62 when the mobile terminal 100 will next transmit and receive in the mobile network 106. Having identified the period of next transmission by the mobile terminal in the mobile network, the control unit 80 can create **an allocation pattern by allocating any LPRF time slots** which are wholly or partly contemporaneous with this period to transmission by the slave units in the LPRF network, that is reception by the mobile terminal (master unit). The **remaining LPRF slots** are then allocated to either transmission or reception by the mobile terminal in the LPRF network."); Ex. 1003, ¶ 82 ("A POSTA would recognized that Joeressen' s determinations and allocations include computing one or more time division multiple access (TDMA) time-slot channels, as well as dynamically adjusting the time slots"). *See also*:

Claim Element	Prior Art
	Ex. 1005, FIG. 6 (illustrating the time frame used in the mobile communications network), FIG. 7 (illustrating the allocation of LPRF time slots in an LPRF communications network integrated with a first GSM mobile communications network), FIG. 8 (illustrating the allocation of LPRF time slots in an LPRF communications network integrated with a second GSM mobile communications network), FIG. 9 (illustrating the allocation of LPRF time slots in an LPRF communications network integrated with a PDC or D-AMPS mobile communications network), and FIG. 10 (illustrating how the common time frame of the LPRF communications system can be shifted). *See also* discussion of claim elements [1.2] and [1.3].
[1.2] allocating one or more time-slot channels to the first medium for data transmission;	Joeressen discloses this limitation. In particular, Joeressen discloses that the mobile network 106 (*first medium*) can *transmit* or receive in one or more *time slots*. Ex. 1005, 5:26-36 ("The mobile network 106 is typically a TDMA network. FIG. 6 illustrates the common timing system 110 used in the mobile network. The system cyclically repeats a time frame as time frames 112 and 114 etc. Each of the **mobile time frames 112 and 114** are **subdivided into mobile time slots 116, 118, 120 . . . 130** each having a length L. Each **mobile slot** is used for the **transmission** of a message from a mobile terminal to a base station or from a base station to a mobile terminal. The terminal 100 in the mobile network 106 will generally transmit one message and receive one message each frame."); 7:58-60 ("In this example the **mobile time slot** in which the mobile terminal transmits in the mobile network changes from slot 3 to slot 6."). A POSITA would have understood that in order for the mobile network to transmit or receive in these time slots, the time slots had to be *allocated* to the mobile network. Additionally, it would have been obvious to a POSITA at the time of the alleged invention to allocate one or more time slots to the mobile network in order to ensure that the mobile network could safely and efficiently (e.g., without interference) transmit and receive in those time slots. *See* Ex. 1003, ¶ 115. *See also*: Ex. 1005, FIG. 6 (illustrating the time frame used in the mobile communications network), FIG. 7 (illustrating the allocation of LPRF time slots in an LPRF communications network integrated with a first GSM mobile communications network), FIG. 8 (illustrating the allocation of LPRF time slots in an LPRF communications network integrated with a second GSM mobile communications network), FIG. 9 (illustrating the allocation of LPRF time slots in an LPRF communications network integrated with a PDC or D-AMPS mobile communications network), and FIG. 10 (illustrating how the common time frame of the LPRF communications system can be shifted). *See also* discussion of claim element [1.1].
[1.3] allocating one or more of the remaining time-slot channels to the	Joeressen discloses this limitation. In particular, Joeressen discloses that the LPRF network (*second medium*) can *transmit* or receive in one or more *allocated time slots* in which the mobile network is not also transmitting. Ex. 1005, 4:54-56 ("The controller 60 in a master transceiver unit defines the allocation patterns by **allocating time slots** in the

Claim Element	Prior Art
second medium for data transmission; and	common LPRF time frame."); 6:59-7:3 ("The control unit 80 is informed by the phone unit 62 when the mobile terminal 100 will next transmit and receive in the mobile network 106. Having identified the period of next transmission by the mobile terminal in the mobile network, the control unit 80 can create **an allocation pattern by allocating any LPRF time slots** which are wholly or partly contemporaneous with this period to transmission by the slave units in the LPRF network, that is reception by the mobile terminal (master unit). The remaining LPRF slots are then allocated to either transmission or reception by the mobile terminal in the LPRF network."); 7:9-11 ("The master unit (mobile terminal 100) in the LPRF network may or may not be allowed to receive packets when the mobile terminal is transmitting in the mobile network."). *See also*: Ex. 1005, FIG. 6 (illustrating the time frame used in the mobile communications network), FIG. 7 (illustrating the allocation of LPRF time slots in an LPRF communications network integrated with a first GSM mobile communications network), FIG. 8 (illustrating the allocation of LPRF time slots in an LPRF communications network integrated with a second GSM mobile communications network), FIG. 9 (illustrating the allocation of LPRF time slots in an LPRF communications network integrated with a PDC or D-AMPS mobile communications network), and FIG. 10 (illustrating how the common time frame of the LPRF communications system can be shifted). *See also* discussion of claim elements [1.1] and [1.2].
[1.4] dynamically adjusting a number of time-slot channels assigned to one of the first and second media during the data transmission to remain within limits of a desired level of service.	Joeressen discloses this limitation. In particular, Joeressen discloses an allocation pattern that defines the time slots on which the LPRF network may receive or transmit. Therefore, the time slots on which the mobile network may transmit are also defined, since they may not both transmit concurrently and in some embodiments may not receive while one is transmitting. *See* Request at Section II.B.1; Ex. 1003, ¶ 115. With respect to "*dynamically adjusting…*" the number of time slots assigned to the first and second media, the allocation pattern of Joeressen is "preferably variable," and may vary, for example, based on whether a device requires higher communication rates or real time communication (i.e., a particular desired level of service). Ex. 1005, 1:57-58 ("**The allocation pattern is preferably variable**."); 1:63-67 ("The terminal by defining the allocation pattern is capable of avoiding critical concurrent activities by the terminal in the first and second communication networks."); 6:23-27 ("Thus the slot length used by the mobile terminal in the LPRF network may be fixed permanently or may be varied in the future when the mobile terminal moves into different mobile network environments."); 7:12-15 ("**The allocation pattern may depend upon the type and number of devices** which are active as slave units in the LPRF network. Particular devices **may require higher communication rates or real time communication** for example."); Claim 10 ("A terminal as claimed in claim 2, wherein **said allocation patterns are variable** being controlled by said second transceiver means.").

Claim Element	Prior Art
	A POSITA would understand from this that varying the allocation pattern based on device service requirements (for example, for a higher communication rate or real time communication) is performed in order to remain within limits of a desired level of service. Ex. 1003, ¶ 115. That is, a POSITA would understand that the disclosure regarding varying allocation pattern teaches, or would have suggested, *dynamically adjusting time-slot channels to remain within limits of a desired level of service*. Additionally, it would have been obvious to a POSITA at the time of the invention to perform the dynamic adjustment of time slots based on device service requirements such as described in Joeressen in order to remain within limits of a desired level of service. Ex. 1003, ¶ 115. In particular, it would have been obvious at the time of the invention to provide guaranteed quality of service (QoS) to ensure real time communication (which Joeressen mentions), and one obvious way to do so is to dynamically adjust time slots to remain within limits of a desired level of service, *i.e.*, to guarantee a particular QoS. *Id.*; *see also* Ex. 1005, 7:12-15. Therefore, Joeressen discloses claim 1 as a whole. (SNQ 3.) * * * In addition, Stanwood discloses an adaptive time division duplexing system where time slots are adaptively or dynamically allocated based on service and user needs, such as channel bandwidth needs or requirements of a given service or user type. Ex. 1006, 4:61-5:1 ("In contrast to the TDD systems of the prior art which have time slots dedicated for either uplink or downlink transmissions, the present ATDD invention dynamically changes the time slot designation as either an uplink or downlink transmission period. Consequently, the uplink/downlink bandwidth allocation can be changed to accommodate the uplink/downlink bandwidth requirements of the link.");5:15-21 ("An alternative frame-based approach similarly allows the system to dynamically allocate a first number of time slots of a frame for downlink (alternatively uplink) transmissions only, however the remaining time slots of the frame may be allocated for either uplink or downlink transmissions, depending upon the channel bandwidth needs."); 7:14-16 ("The present ATDD invention flexibly and dynamically allocates time slots for either uplink or downlink transmissions in response to the changing bandwidth needs of the communication links."); 7:21-24 ("The present ATDD method and apparatus adapts the time slot uplink/downlink ratio to meet the uplink/downlink bandwidth requirements of a given service and for a given user type."); *see also* Ex. 1003, Section VIII.C. A POSITA would have been motivated to modify the method of Joeressen to use the dynamic allocation approach of Stanwood. Ex. 1003, ¶¶ 118-120. In particular, a POSITA would use the teaching of Stanwood that dynamic allocation of time slots may be performed to meet bandwidth requirements of a given service and/or user type, i.e., in order to remain within limits of a desired level of service. *Id.* This is so at least because it is a simple substitution of one known element (varying the time slot allocation pattern as disclosed in Joeressen) for another (dynamically adjusting time slots to meet bandwidth requirements) to obtain predictable results. *Id.* Stanwood provides for dynamic allocation techniques that are applicable to the system of Joeressen, which states that it uses an

Claim Element	Prior Art
	allocation pattern that is "preferably variable." *See* Ex. 1005, 1:57-58; *see also* Ex. 1003, Sections VIII.B-C. Therefore, Joeressen in view of Stanwood discloses claim 1 as a whole. (SNQ 4.)
[2.0] The method of claim 1, wherein at least one of the first and second media conforms to an 802.11 specification.	With respect to claim 1, see above. Joeressen discloses a mobile radio communications network, such as GSM, DCS 1800, D-AMPS or PDC. Ex. 1005, 4:62-64 ("GSM, DCS 1800, D-AMPS or PDC"). A POSITA would have understood at the time of the alleged invention that an example of a mobile radio communications network is a network adhering to the 802.11 specification. It would have been obvious to a POSITA to implement Joeressen to conform the mobile radio communications network to an 802.11 specification, at least because it is a simple substitution of one known element (a mobile radio communications network such as disclosed in Joeressen) for another (a radio service adhering to an 802.11 specification) to obtain predictable results, and it is an obvious-to-try example of a mobile radio communications network. For example, as of the priority date, 802.11 was a common radio network that a POSITA would have been motivated to apply to Joeressen's teachings. Ex. 1003, ¶ 116; *see also* Request at Section I.A.3. Therefore, Joeressen alone or in view of Stanwood discloses claim 2 as a whole. (SNQs 3-4.) * * * This limitation is further disclosed by each of the 802.11 and Bluetooth references. *See* Ex. 1003, ¶¶ 87-91 (discussing the Bluetooth and 802.11 References); *see also* Ex. 1003, ¶¶ 92-94. Nevo discloses a wireless device capable of communicating over first and second wireless networks in a coordinated manner, and specifically discloses as examples of the first and second wireless networks, networks conforming to 802.11 and Bluetooth specifications. Ex. 1007, Abstract ("A wireless device is provided with at least one wireless transceiver and at least one controller manager to transmit and receive signals wirelessly to and from network devices of a first and second wireless network, in a coordinated manner, in accordance with a first and a second protocol respectively."); claim 8 ("The apparatus of claim 1, wherein the first and the second protocol are two protocols selected from a group consisting of Bluetooth, 802.11 frequency hopping, 802.11 direct sequence, 802.11a, 802.11b, and Home RF."). And Nevo discloses a general need in the field (as background to its invention) to operate concurrently in multiple wireless protocols, including Bluetooth and 802.11. Ex. 1007, 1:40-50 ("A need has emerged in a number of applications that it is desirable for a device to be able to operate "concurrently" in multiple wireless protocols. One such applications is having a notebook computer being able to communicate with peripheral devices such as a phone, a printer, a scanner and the like, in accordance with the Bluetooth protocol; and with other computing devices, such as other peer computers or servers, communication devices, such as modems or adapters,

Claim Element	Prior Art
	and networking devices, such as gateways, routers, switches and the like, in accordance with one of the 802.11 protocols or Home RF."). One problem with doing so, however, is interference that results from transmitting at the same time on both protocols. Ex. 1007, 1:52-57 ("However, the need cannot be met by simply providing the device with multiple transmitters, one for each protocol. The reason is because if multiple ones of these transmitters were to transmit at the same time. The transmitters are going to interfere with each other, resulting in corruption and/or loss of data, as well as degradation in performance."). Bridgelall discloses a dual mode mobile unit is arranged to communicate in either a first or second data communications standard, such as combined Bluetooth and 802.11 operation. Ex. 1010, Abstract; 1:41-48 ("It is an object of the present invention to provide a dual mode mobile unit capable of operating in both the 802.11 system and in a Bluetooth system for communications between the dual mode mobile unit and other units using either system. It is a further object of the invention to provide methods whereby 802.11 systems and Bluetooth systems can co-exist without signal interference."); 1:56-59 ("The mobile unit uses the first wireless protocol to reserve a transmission time interval in a frame of the first wireless protocol for purposes of operating under the second wireless protocol. During the reserved time interval the mobile unit operates under the second wireless protocol to send and receive signals."). Accordingly, each of Nevo and Bridgelall teach a device that uses both 802.11 and Bluetooth together, each teaches that a known problem was to handle interference resulting from the overlapping frequency of these protocols, and therefore, a POSITA would have been motivated in view of each of these references to utilize the method of Joeressen with one or both of an 802.11 and Bluetooth protocol as one of the networks. *See* Ex. 1003, ¶¶138-139. Therefore, the combination of Joeressen alone or in view of Stanwood and either Nevo or Bridgelall disclose claim 2 as a whole. (SNQs 5-6.)
[3.0] The method of claim 1, wherein at least one of the first and second media conforms to a Bluetooth specification.	With respect to claim 1, see above. Joeressen discloses this claim. The **LPRF network** is described as a *Bluetooth* low power radio frequency (LPRF) network. *See* Ex. 1005, 1:29-31, 6:10-17; Ex. 1003, ¶116. Therefore, Joeressen alone or in view of Stanwood discloses claim 3 as a whole. (SNQs 3-4.) * * * *See also* discussion above of claim 2 (referring to both 802.11 and Bluetooth with respect to Nevo and Bridgelall). Therefore, the combination of Joeressen alone or in view of Stanwood and either Nevo or Bridgelall disclose claim 3 as a whole. (SNQs 5-6.).

Claim Element	Prior Art
[4.0] The method of claim 1, further comprising determining the desired level of service for one of the first and second media during the data transmission.	With respect to claim 1, see above. See also discussion above regarding claim element [1.4] ("dynamically adjusting a number of time-slot channels … to remain within limits of a desired level of service."). Joeressen's teachings relating to variable allocation based on a desired level of service also disclose *determining the desired level of service*. As discussed above, Joeressen discloses, and it would have been obvious to a POSITA at the time of the alleged invention, varying the allocation pattern based on device service requirements (for example, for a higher communication rate or real time communication) in order to remain within limits of a desired level of service. *See* Ex. 1003, ¶ 115; Ex. 1005, 1:57-58, 1:63-67, 6:23-27, 7:12-15, FIGs. 6-10. To do so, a POSITA would understand that the desired level of service for one of the mobile network and the LPRF network would be determined, and it would have been obvious to so determine the desired level of service. Ex. 1003, ¶ 116. Therefore, Joeressen discloses claim 4 as a whole. (SNQ 3.) * * * Additionally, as discussed above, Stanwood discloses dynamically adjusting time slots based on a desired level of service, and it would have been obvious to include this teaching in the method of Joeressen. *See* claim element [1.4] ("dynamically adjusting a number of time-slot channels … to remain within limits of a desired level of service."); Ex. 1003, ¶¶ 118-124. In addition, Stanwood discloses determining the bandwidth requirement of a given channel, i.e., determining the desired level of service. Ex. 1006, 8:9-11 ("As described in more detail hereinbelow, the average bandwidth requirement for a given channel can be calculated using a variety of techniques."); 8:14-17 ("Thus, once the average bandwidth requirement for a given link is determined, the time slot allocation can be established for that link using the present ATDD invention."); 8:26-30 ("As an alternative to establishing the time slot ratio upon link installation, the ATDD method and apparatus of the present invention can also adaptively and dynamically change the time slot ratio for a link based upon the constantly varying service and user bandwidth requirements."). It would also have been obvious to a POSITA to include this teaching of determining the bandwidth requirement of a channel (*i.e.*, determining the desired level of service) into the method of Joeressen for at least the same reasons as discussed above. Therefore, Joeressen in view of Stanwood discloses claim 4 as a whole. (SNQ 4.)
[5.0] The method of claim 1, wherein the dynamic adjusting comprises:	With respect to claim 1, see above. With respect to "the dynamic adjusting" step, see particularly claim element [1.4].

Claim Element	Prior Art
[5.1] determining available time-slot resources;	See discussion above with respect to claim element [1.1]. Joeressen discloses that the mobile network 106 can transmit or receive in one or more time slots. Ex. 1005, 5:26-36 ("**The mobile network 106** is typically a TDMA network. FIG. 6 illustrates the common timing system 110 used in **the mobile network**. The system cyclically repeats a time frame as time frames 112 and 114 etc. Each of the mobile time frames 112 and 114 are subdivided into mobile **time slots 116, 118, 120 . . . 130** each having a length L. Each mobile **slot** is used for the transmission of a message from a mobile terminal to a base station or from a base station to a mobile terminal. The terminal 100 in **the mobile network 106** will generally transmit one message and receive one message each frame."); 7:58-60 ("In this example the mobile **time slot** in which the mobile terminal transmits in **the mobile network** changes from **slot 3 to slot 6**."); *see also id.*, 6:28-29 ("The control unit also determines suitable allocation patterns for the super-frame."). *See also*: Ex. 1005, FIG. 6 (illustrating the time frame used in the mobile communications network), FIG. 7 (illustrating the allocation of LPRF time slots in an LPRF communications network integrated with a first GSM mobile communications network), FIG. 8 (illustrating the allocation of LPRF time slots in an LPRF communications network integrated with a second GSM mobile communications network), FIG. 9 (illustrating the allocation of LPRF time slots in an LPRF communications network integrated with a PDC or D-AMPS mobile communications network), and FIG. 10 (illustrating how the common time frame of the LPRF communications system can be shifted). A POSITA would understand this to mean that available time slot resources are determined, because determining these resources is a preliminary step to allocating time slots to a service needing more capacity (*see* claim elements [1.4] and [5.3]). Ex. 1003, ¶ 116. Additionally, it would be obvious to determine available time slot resources, for these same reasons – in order to be able to effectively allocate time slots to a service needing more capacity. *Id.*
[5.2] detecting the medium that fails to meet said desired level of service;	See discussion above regarding claim element [1.4] and claim 4. As discussed above (*see* claim element [1.4]), Joeressen discloses that the allocation pattern is preferably variable, and may vary, for example, based on whether a device requires higher communication rates or real time communication (*i.e.*, a particular desired level of service). Ex. 1005, 1:57-58 ("The allocation pattern is preferably variable."); 7:12-15 ("The allocation pattern may depend upon the type and number of devices which are active as slave units in the LPRF network. Particular devices may require higher communication rates or real time communication for example."). Stanwood also discloses dynamic allocation based on service requirements. *See* discussion of claim element [1.4] above. It would be obvious to a POSITA that in order to vary allocation patterns based on service requirements, the system would also monitor the service requirements and detect when the desired level of service is not met. Ex. 1003, ¶ 116.

Claim Element	Prior Art
[5.3] allocating the medium to a configuration having additional time slots; and	See discussion above regarding claim element [1.4]. As discussed above (*see* claim element [1.4]), Joeressen discloses varying the time slot allocation pattern in view of service requirements. Ex. 1005, 1:57-58 ("The allocation pattern is preferably variable."); 7:12-15 ("The allocation pattern may depend upon the type and number of devices which are active as slave units in the LPRF network. Particular devices may require higher communication rates or real time communication for example."). Stanwood also discloses dynamic allocation based on service requirements. *See* claim element [1.4] above. It would be obvious to a POSITA that in order to vary allocation patterns based on service requirements, the system would allocation additional time slots to ensure that service requirements can be met. Ex. 1003, ¶ 116. *See also* discussion of claim element [5.4].
[5.4] transmitting a channel assignment message including information on the allocated configuration with the additional time slots.	See discussion below regarding claims 6 and 16. Joeressen discloses providing the allocation pattern to the transceiver unit 40. Ex. 1005, 6:28-38 ("The control unit also determines suitable allocation patterns for the super-frame. The allocation patterns and the super-frame size are then provided to the transceiver unit 40. This transceiver unit acts as a master unit in the LPRF network. Its activity is controlled by the parameters: super-frame size, slot length l and the allocation patterns. The master also transmits the super-frame size and allocation patterns to the slave units. The slot length/will also be transmitted if it is not fixed for the network. Thus all the units in the LPRF network have the necessary parameters to synchronise with the mobile network."). As discussed, the allocation pattern determines which time slots are allowed for use by the second communication network and therefore, implicitly, which are allowed for use by the first communication network. Therefore, Joeressen alone or in view of Stanwood discloses claim 5 as a whole. (SNQs 3-4.)
[6.0] The method of claim 5, further comprising instructing transceivers for the first and second media to communicate only in their previously presentedly [sic, newly] allocated time-slots.	With respect to claim 5, see above. Joeressen discloses providing the allocation pattern to the transceiver unit 40. Ex. 1005, 6:28-38 ("The control unit also determines suitable allocation patterns for the super-frame. The allocation patterns and the super-frame size are then provided to the transceiver unit 40. This transceiver unit acts as a master unit in the LPRF network. Its activity is controlled by the parameters: super-frame size, slot length l and the allocation patterns. The master also transmits the super-frame size and allocation patterns to the slave units. The slot length/will also be transmitted if it is not fixed for the network. Thus all the units in the LPRF network have the necessary parameters to synchronise with the mobile network."). The allocation pattern determines which time slots are allowed for use by the second communication network and therefore, which are allowed for use by the first communication network. And Joeressen recognizes concurrent transmission "may

Claim Element	Prior Art
	cause interference." Ex. 1005, 6:39-44. A POSITA would recognize from these disclosures that the transceivers only communicate in their allocated slots. Ex. 1003, ¶ 116. Therefore, Joeressen alone or in view of Stanwood discloses claim 6 as a whole. (SNQs 3-4.)
[16.0] The method of claim 1, further comprising instructing transceivers for the first and second media to communicate only in their allocated time-slot channels.	With respect to claim 1, see above. See above regarding claim 6. Joeressen discloses providing the allocation pattern to the transceiver unit 40. Ex. 1005, 6:28-38 ("The control unit also determines suitable allocation patterns for the super-frame. The allocation patterns and the super-frame size are then provided to the transceiver unit 40. This transceiver unit acts as a master unit in the LPRF network. Its activity is controlled by the parameters: super-frame size, slot length l and the allocation patterns. The master also transmits the super-frame size and allocation patterns to the slave units. The slot length/will also be transmitted if it is not fixed for the network. Thus all the units in the LPRF network have the necessary parameters to synchronise with the mobile network."). As discussed, the allocation pattern determines which time slots are allowed for use by the second communication network and therefore, which are allowed for use by the first communication network, in order to avoid interference. A POSITA would recognize from these disclosures that the transceivers only communicate in their allocated slots. Ex. 1003, ¶ 116. Therefore, Joeressen alone or in view of Stanwood discloses claim 16 as a whole. (SNQs 3-4.)

Claim Charts: SNQs 7 and 8

SNQ7: Claims 1-6 and 16 (Jokinen and Joeressen)

SNQ8: Claims 2-3 (Jokinen and Joeressen with either Nevo or Bridgelall)

As discussed above, each of Jokinen (SNQ 1) and Joeressen (SNQ 3) teach or suggest claims 1-6 and 16. Moreover, each of Jokinen and Joeressen alone (SNQs 1 and 3) teach or suggest claims 2-3. Additionally, each of Jokinen and Joeressen in combination with either Nevo or Bridgelall (SNQs 2 and 5) teach or suggest claims 2-3.

In addition, the combination or Jokinen and Joeressen **(SNQ 7)** teaches or would have suggested claims 1-6 and 16, and that this combination alone, or in further combination with one or more of Nevo and Bridgelall **(SNQ 8)**, teaches or suggests claims 2-3. This follows from the claim charts provided above for the respective SNQs. For example, with respect to claim element [1.4], Jokinen provides for dynamic allocation techniques that are applicable to the system of Joeressen, which uses an allocation pattern that is "preferably variable." *See* Ex. 1004, 4:9-20 and 5:50-6:13; Ex. 1005, 1:57-58; *see also* Ex. 1003, Sections VIII.A-B. And with respect to claim 3, Joeressen explicitly discloses Bluetooth as a transmission medium. Ex. 1005, 1:29-31.

As explained in the Request and the Geier Declaration (Ex. 1003), a POSITA would have been motivated to combine Jokinen and Joeressen, for example, by including Jokinen's teachings of dynamic allocation of time slots within the system of Joeressen for integrating two communications networks. Jokinen provides for dynamic allocation techniques that are applicable to the system of Joeressen. *See* Ex. 1003, ¶¶ 143-148, 153. Likewise a POSITA would have been motivated to modify Jokinen to use local area networks (LANs) as its time-allocated radio services, as disclosed in Joeressen. That is, the combinations of SNQs 7 and 8 can be applied with either reference as the base. *See id.*

Jokinen and Joeressen are analogous art and each sets forth the benefits of its invention. These stated benefits provide a POSITA motivations to combine these references. For instance, Jokinen provides a method by which radio capacity is divided dynamically between packet radio service and circuit switched service. Ex. 1004, Abstract. This results in improved efficiency, as the capacity of the radio channel may be better exploited. The teachings of Joeressen provide a terminal for simultaneously operating in a first mobile radio communications network and a second different radio communications network. Ex. 1005, Abstract. Specifically, Joeressen explains how to integrate the first and second radio communications network for simultaneous operation. A combination of Jokinen and Joeressen is nothing more than combining prior art elements according to known methods to yield predictable results and/or a simple substation of one known element for another to obtain predictable results. The radio networks, TDMA time slot allocation, and other components of Joeressen are similar to those in Jokinen, and could readily be combined or substituted by a POSITA. Ex. 1003, ¶¶ 145-147. For the same reasons, such a combination also uses or applies a known technique to improve similar devices in the same way. *Id.* And Jokinen's time slot allocation teachings would improve the Bluetooth-based systems of Joeressen by improving the allocation of bandwidth, thereby better exploiting the capacity of a radio channel. *See, e.g.*, Ex. 1004, 1:56-58 ("The purpose of the invention is to indicate a method by which the capacity of a radio channel can be better exploited.").

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The **Admitted Prior Art** further supports the invalidity grounds of SNQs 7 and 8. The admissions in the '040 Patent confirm that numerous claimed features were known, and that the background knowledge of a POSITA would have been significant. *See* Ex. 1003, ¶¶ 92-96 and 149-151; Request at Section I.A.3 (Admitted Prior Art). And the Admitted Prior Art – including its discussion of known problems with interference and efforts in the field to address these problems – confirms the motivation to combine set forth with respect to the 802.11 and Bluetooth references. *See* Ex. 1003, ¶ 96; Request at Section I.A.3.[1] The admissions confirm that the Bluetooth and 802.11 standards were known, it was known that they operate in overlapping frequencies, there was an existing demand for Bluetooth and 802.11 to coexist, and it was known to take measures to reduce their interference. *See id.* Relevant portions of the Admitted Prior Art are identified in the claim charts below.

[1] This also applies to SNQs 2, 5, and 6 and the motivation discussed therein.

Claim Element	Prior Art
[1.0] A method for data transmission over first and second media that overlap in frequency, comprising:	*See* discussion of claim element [1.0] in SNQs 1 and 3. *See also* Admitted Prior Art - Ex. 1001, 1:6-39 ("Because of a high demand for both wireless PANs and LANs, it's important that Bluetooth and 802.11 coexist in close proximity. A current problem, though, is that the two standards operate in the same 2.4 GHz unlicensed radio band and equally use frequency hopping modulation. This commonality poses a strong potential for radio frequency interference") ("Much design effort in Bluetooth … went toward avoiding conflict with other transmission schemes") ("Additionally, other wireless products such as GPS can also cause interference. Bluetooth works in the 2.4-GHz range of the radio band, which is not licensed by the FCC and is inhabited by cell phones, baby monitors and the IEEE 802.11 LAN."); *see also* Ex. 1003, ¶¶ 92-96.
[1.1] computing one or more time division multiple access (TDMA) time-slot channels to be shared between the first and second media for data transmission;	*See* discussion of claim element [1.1] in SNQs 1 and 3.
[1.2] allocating one or more time-slot channels to the first medium for data transmission;	*See* discussion of claim element [1.2] in SNQs 1 and 3.
[1.3] allocating one or more of the remaining time-slot channels to the second medium for data transmission; and	*See* discussion of claim element [1.3] in SNQs 1 and 3.
[1.4] dynamically adjusting a number of time-slot channels assigned to one of the first and second media during the data transmission to remain within limits of a desired level of service.	*See* discussion of claim element [1.4] in SNQs 1 and 3.
[2.0] The method of claim 1, wherein at least one of the first and second media conforms to an 802.11 specification.	*See* discussion of claim 2 in SNQs 1-3 and 5. *See also* Admitted Prior Art - Ex. 1001, 1:6-67 ("IEEE 802.11 is a wireless LAN standard approved by IEEE a couple years ago and operates at higher data rates over longer distances using more power. Companies today are strongly benefiting from using 802.11-compliant wireless LANs to support efficient mobile communications between handheld data collectors and corporate IS databases.") ("Because of a high demand for both wireless PANs

Claim Element	Prior Art
	and LANs, it's important that Bluetooth and 802.11 coexist in close proximity.") ("Much design effort in Bluetooth … went toward avoiding conflict with other transmission schemes"); *see also* Ex. 1003, ¶¶ 92-96.
[3.0] The method of claim 1, wherein at least one of the first and second media conforms to a Bluetooth specification.	*See* discussion of claim 3 in SNQs 1-3 and 5. *See also* Admitted Prior Art - Ex. 1001, 1:6-39 ("The number of products incorporating the recently approved Bluetooth wireless standard is expected to explode during the first couple years of the new millennium. Bluetooth, which establishes wireless connections between devices such as mobile phones, PDAs, and headsets, operates at relatively low data rates over short distances using very little power.") ("Because of a high demand for both wireless PANs and LANs, it's important that Bluetooth and 802.11 coexist in close proximity.") ("Much design effort in Bluetooth … went toward avoiding conflict with other transmission schemes"); *see also* Ex. 1003, ¶¶ 92-96.
[4.0] The method of claim 1, further comprising determining the desired level of service for one of the first and second media during the data transmission.	*See* discussion of claim 4 in SNQs 1 and 3.
[5.0] The method of claim 1, wherein the dynamic adjusting comprises:	*See* discussion of claim element [5.0] in SNQs 1 and 3.
[5.1] determining available time-slot resources;	*See* discussion of claim element [5.1] in SNQs 1 and 3.
[5.2] detecting the medium that fails to meet said desired level of service;	*See* discussion of claim element [5.2] in SNQs 1 and 3.
[5.3] allocating the medium to a configuration having additional time slots; and	*See* discussion of claim element [5.3] in SNQs 1 and 3.
[5.4] transmitting a channel assignment message including information on the	*See* discussion of claim element [5.4] in SNQs 1 and 3.

Claim Element	Prior Art
allocated configuration with the additional time slots.	
[6.0] The method of claim 5, further comprising instructing transceivers for the first and second media to communicate only in their previously presentedly [sic, newly] allocated time-slots.	*See* discussion of claim 6 in SNQs 1 and 3.
[16.0] The method of claim 1, further comprising instructing transceivers for the first and second media to communicate only in their allocated time-slot channels.	*See* discussion of claim 16 in SNQs 1 and 3.